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An Audit Report on

**Performance Measures,
Implementation of Prior Audit
Recommendations, and Trends at
the Department of Transportation**

August 2012
Report No. 12-049



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Overall Conclusion

This audit focused on the accuracy of selected Department of Transportation (Department) performance measures, as well as the status of the Department's implementation of prior audit recommendations related to those performance measures and trends in those performance measures.

The Department reported reliable performance measure results for all five performance measures tested for fiscal year 2011 and the first two quarters of fiscal year 2012. A result is considered reliable if it is certified or certified with qualification. Table 1 summarizes the results of the performance measures tested.

Background Information

The Department's mission is to provide safe and efficient movement of people and goods, enhance economic viability, and improve the quality of life for the people who travel in the state of Texas by maintaining existing roadways and collaborating with private and local entities to plan, design, build, and maintain expanded transportation infrastructure.

In fiscal year 2012, the Department was appropriated \$10,478,758,866 and had a cap of 12,087 full-time equivalent (FTE) positions. In the second quarter of fiscal year 2012, the Department employed 11,675 FTEs.

Table 1

Department of Transportation (Agency No. 601)

Related Objective or Strategy, Classification	Description of Performance Measure	Fiscal Year	Results Reported in the Automated Budget and Evaluation System of Texas (ABEST)	Results ^a
A.1.1, Output	Dollar Volume of Construction Contracts Awarded in Fiscal Year (Millions)	2011	\$3,496.79 ^b	Certified with Qualification
		2012 - First Two Quarters	\$1,403.53 ^b	Certified with Qualification
B, Outcome	Percent of Construction Projects Completed on Budget	2011	96.69%	Certified with Qualification
C, Outcome	Percent of Bridges Rated in Good Condition or Higher	2011	80.50%	Certified with Qualification
C, Outcome	Statewide Maintenance Assessment Program Condition Score	2011	78.92	Certified with Qualification
D, Outcome	Number of Fatalities Per 100,000,000 Miles Traveled	2011	1.29	Certified with Qualification

^a A performance measure is **certified** if reported performance is accurate within plus or minus 5 percent of actual performance and if it appears that controls to ensure accuracy are in place for collecting and reporting performance data.

A performance measure is **certified with qualification** when reported performance appears accurate but the controls over data collection and reporting are not adequate to ensure continued accuracy. A performance measure is also certified with qualification when controls are strong but source documentation is unavailable for testing. A performance measure is also certified with qualification if agency calculation of performance deviated from the measure definition but caused less than a 5 percent difference between the number reported to ABEST and the correct performance measure result.

A performance measure is **inaccurate** when the actual performance is not within 5 percent of reported performance, or when there is more than a 5 percent error rate in the sample of documentation tested. A performance measure is also inaccurate if the agency's calculation deviated from the measure definition and caused more than a 5 percent difference between the number reported to ABEST and the correct performance measure result.

A **factors prevented certification** designation is used if documentation is unavailable and controls are not adequate to ensure accuracy. This designation also will be used when there is a deviation from the performance measure definition and the auditor cannot determine the correct performance measure result.

^b ABEST amounts are rounded to millions of dollars. The actual results were \$3,496,779,692 for fiscal year 2011 and \$1,403,532,265 for the first two quarters of fiscal year 2012.

Dollar Volume of Construction Contracts Awarded in Fiscal Year (Millions) Performance Measure

This performance measure was certified with qualification because the results the Department reported were accurate within 5 percent, but the Department did not consistently document its review of its calculation. In addition, of three prior State Auditor's Office recommendations related to this performance measure, the Department has fully implemented one recommendation and partially implemented another recommendation; the third recommendation is no longer applicable.

The dollar volume of construction contracts the Department awards fluctuates significantly from quarter to quarter, and the Department exceeded the target for this performance measure once from fiscal year 2007 through fiscal year 2011. During fiscal year 2011 and the first two quarters of fiscal year 2012, the 10 contractors that received the highest dollar amount of contract awards were awarded 162 contracts totaling nearly \$2.4 billion.

Percent of Construction Projects Completed on Budget Performance Measure

This performance measure was certified with qualification because, although the results the Department reported were accurate within 5 percent, the Department deviated from the Automated Budget and Evaluation System of Texas (ABEST) definition for the performance measure by considering projects with a cost increase that exceeded 1 percent to be on budget. Additionally, the Department's review was not adequate to help ensure that it included all completed contracts in the performance measure.

The title of the performance measure also may potentially mislead users of the information regarding the performance measure. The methodology for this performance measure is narrowly defined to count only budget overruns caused by change orders for rework or delay due to design error. If all project costs were included in the methodology, 53.15 percent of projects completed during fiscal year 2011 would have been completed within 1 percent of the original award amount.

From fiscal year 2007 through fiscal year 2011, this performance measure fluctuated between 91.37 percent and 98.88 percent, and the Department exceeded the target for this performance once (in fiscal year 2007).

Percent of Bridges Rated in Good Condition or Higher Performance Measure

This performance measure was certified with qualification because the results the Department reported were accurate within 5 percent, but the Department did not have a process for ensuring that it included all bridges in its bridge inspection database and did not have documented review controls to help ensure accurate reporting. In addition, of six prior State Auditor's Office recommendations related to this performance measure, the Department has partially implemented five and fully implemented one.

The percent of bridges rated in good condition or higher increased from 77.70 percent in fiscal year 2007 to 80.50 percent in fiscal year 2011. The Department rated 88.68 percent of on-system bridges (bridges on the state highway system that the Department maintains) as in good condition or higher. The Department rated 65.07 percent of off-system bridges (bridges not on the state highway system that a local government maintains) as in good condition or higher.

Statewide Maintenance Assessment Program Condition Score Performance Measure

This performance measure was certified with qualification because the results the Department reported were accurate within 5 percent, but the Department did not have a documented review process to help ensure the accuracy of its performance measure calculation.

For fiscal years 2007 through 2011, the Statewide Maintenance Assessment Program Condition Score was consistently just below the target of 80 (the level the Department considers to be good). For fiscal year 2011, interstate highways had a condition score of 82.97, and non-interstate highways had a condition score of 78.49.

Number of Fatalities Per 100,000,000 Miles Traveled Performance Measure

This performance measure was certified with qualification because, although the results the Department reported were accurate within 5 percent, the Department did not have edit checks to prevent errors in manual data entry and it did not consistently document its review of the information entered into its Crash Records Information System.

The number of fatalities per 100,000,000 miles traveled has decreased from 1.50 in fiscal year 2007 to 1.29 in fiscal year 2011. For fiscal year 2011, the Department based its calculation of the number of fatalities per 100,000,000 miles traveled on 3,023 fatalities in the state during the reporting year.

Auditors communicated other, less significant issues to Department management separately in writing.

Summary of Management's Response

The Department agreed with the recommendations in this report.

Summary of Information Technology Review

Auditors assessed information technology controls over the Department's information systems and the automated processes the Department used for performance measure data. Auditors evaluated general information technology controls, including access controls and disaster recovery. Auditors also reviewed application controls, including input and processing controls.

Auditors determined that the data in the information systems the Department used in its performance measure calculations for fiscal year 2011 and the first two quarters of fiscal year 2012 was sufficiently reliable for the purposes of this audit.

Summary of Objectives, Scope, and Methodology

The objectives of this audit were to:

- Verify the accuracy of, and evaluate trends in, selected performance measures that the Department uses.
- Determine whether the Department has adequate control systems over the collection, calculation, and reporting of its performance measures.

The scope of this audit covered five key performance measure results that the Department reported for fiscal year 2011 and the first two quarters of fiscal year 2012 (September 2011 through February 2012).

The audit methodology included selecting five key performance measure results for fiscal year 2011 and the first two quarters of fiscal year 2012, auditing reported performance measure results for accuracy and adherence to definitions, analyzing trends in the performance measures, evaluating controls over performance measure calculation processes, testing documentation, analyzing definitions and inputs into performance measures, and assessing the reliability of data obtained from the Department's information systems that supported performance measure data. The assessment of data reliability included determining population reasonableness, reviewing queries used to generate data and calculate performance measures, performing logical access control testing, and interviewing Department employees knowledgeable about the data and systems.

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Detailed Results

Chapter 1

Dollar Volume of Construction Contracts Awarded in Fiscal Year (Millions) Performance Measure

Dollar Volume of Construction Contracts Awarded in Fiscal Year (Millions)
Automated Budget and Evaluation System of Texas (ABEST) Definition

“Cumulative low bid total of construction contracts awarded by the Commission within a TxDOT fiscal year (September 1 through August 31).”

Performance Measure Results. The Dollar Volume of Construction Contracts Awarded in Fiscal Year (Millions) performance measures that the Department of Transportation (Department) reported for fiscal year 2011 and the first two quarters of fiscal year 2012 were accurate within 5 percent of the actual results. However, the performance measures were certified with qualification because the Department did not consistently document its reviews of the Dollar Volume of Construction Contracts Awarded in Fiscal Year (Millions) performance measure.

Implementation Status of Prior Audit Recommendations. Table 2 lists the Department’s implementation status for the three prior audit recommendations in *An Audit Report on Performance Measures at the Department of Transportation* (State Auditor’s Office Report Number 09-008, October 2008) that auditors tested. Those recommendations were related to the Dollar Volume of Construction Contracts Awarded in Fiscal Year (Millions) performance measure.

Table 2

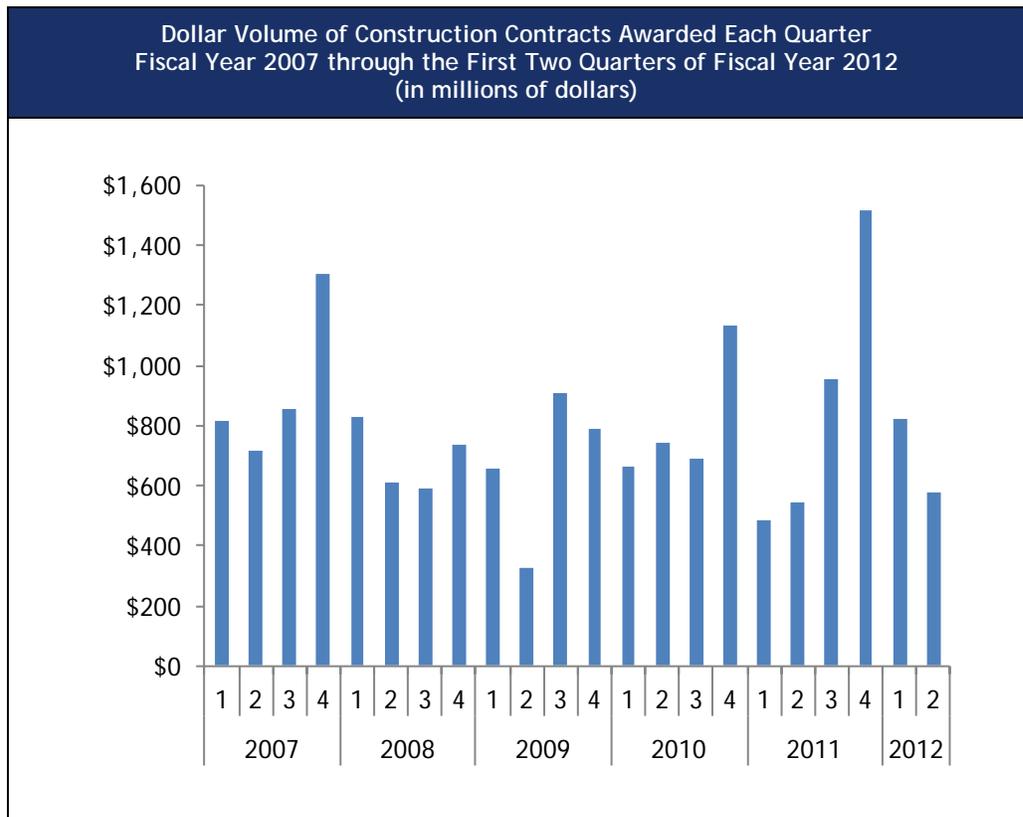
Status of Implementation of Prior Audit Recommendations		
Recommendation	Implementation Status	Auditor Comments
The Department should maintain supporting documentation for each reporting period, including supporting documentation for all updates entered into automated systems that affect reporting period totals and data on awarded contracts and dollar amounts.	Fully Implemented	The Department maintains supporting documentation.
The Department should implement and document a process to review the collection, calculation, and reporting of this performance measure prior to submission to the ABEST coordinator.	Partially Implemented	The Department conducted a formal documented review on an inconsistent basis, and it does not have a written policy requiring a review.

Status of Implementation of Prior Audit Recommendations		
Recommendation	Implementation Status	Auditor Comments
The Department should ensure it compiles the reported measure according to the measure definition by including all contracts the Texas Transportation Commission awards (including contracts subsequently canceled) in its calculation of this performance measure.	No Longer Applicable	Auditors re-evaluated the original recommendation and, although the Department excludes certain contract information from its calculation, auditors determined that the exclusions were appropriate based on the ABEST definition elements, including the purpose and data source.

Trend Analysis. Based on information the Department reported in ABEST, there have been significant fluctuations in the dollar volume of construction contracts awarded between quarters in the same fiscal year. There were also significant fluctuations among the amounts awarded from year to year.

Figure 1 shows the Dollar Volume of Construction Contracts Awarded (Millions) reported results in ABEST for each quarter from fiscal year 2007 through the second quarter of fiscal year 2012.

Figure 1

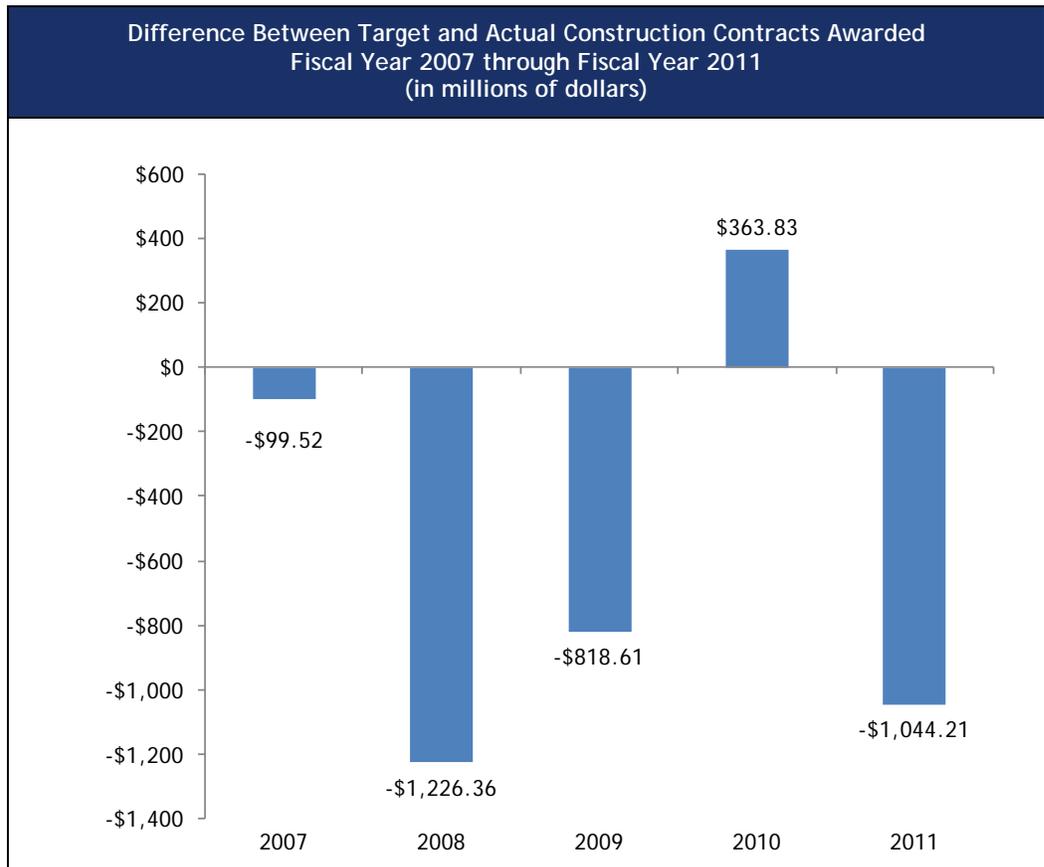


Source: ABEST.

There has also been significant variation between the ABEST target and the actual dollar volume awarded each fiscal year. Fiscal year 2007 was the only fiscal year in which the dollar volume of awards was within 5 percent of the target, and fiscal year 2010 was the only year that awards exceeded the target (by \$363.83 million or 12.7 percent).

Figure 2 shows the differences between the Department’s target and actual reported results for the Dollar Volume of Construction Contracts Awarded (Millions) from fiscal year 2007 through fiscal year 2011.

Figure 2

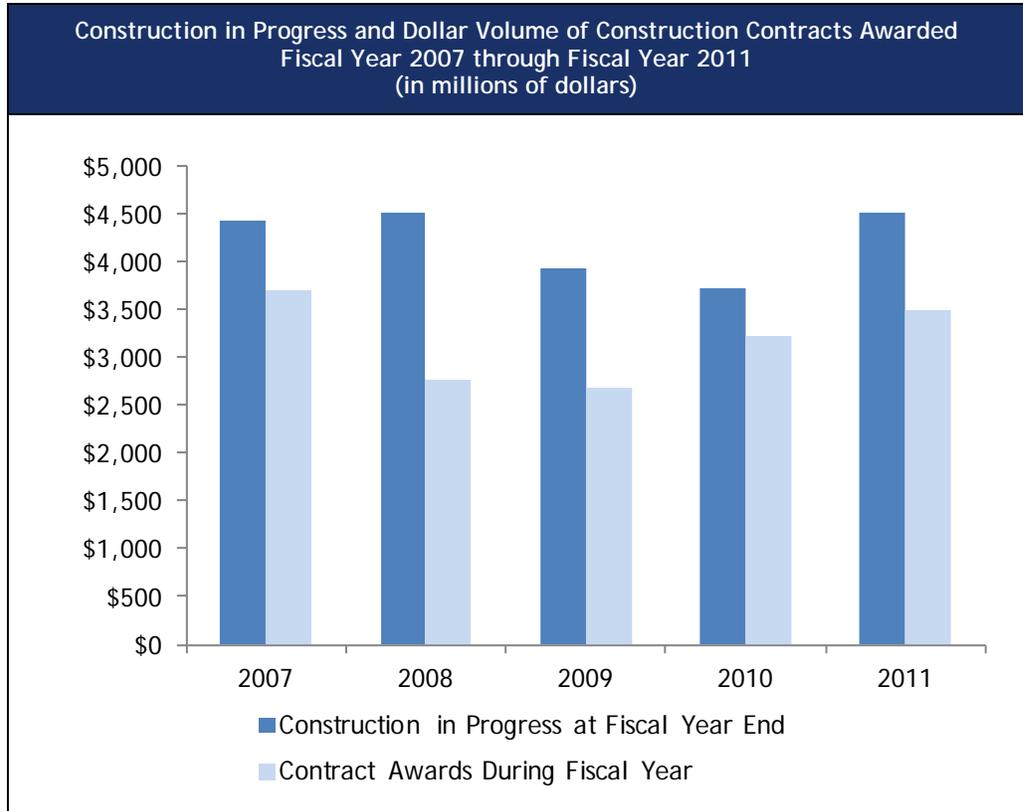


Source: ABEST.

Construction in progress at the end of the fiscal year exceeded the dollar volume of contracts awarded for each of the last five fiscal years. At the end of fiscal year 2011, \$4,508.42 million in construction was in progress.

Figure 3 shows the amount of construction in progress at the end of each fiscal year and the Department's reported amounts for the Dollar Volume of Construction Contracts Awarded (Millions) from fiscal year 2007 through fiscal year 2011.

Figure 3



Sources: The Department's annual financial reports for fiscal years 2007 through 2011 and ABEST.

Table 3 shows the 10 contractors that received the largest dollar volume of awards during fiscal year 2011 and the first two quarters of fiscal year 2012.

Table 3

Ten Contractors That Received the Largest Dollar Volume of Awards During Fiscal Year 2011 and the First Two Quarters of Fiscal Year 2012			
	Contractor	Total Amount Awarded	Number of Contracts Awarded
1	Williams Brothers Construction Co., Inc.	\$ 484,975,742.13	6
2	Webber, LLC	441,190,002.64	8
3	James Construction Group, LLC	400,866,084.75	7
4	The Lane Construction Corporation	239,975,145.86	6
5	J.D. Abrams, L.P.	233,154,931.95	4
6	Ballenger Construction Company	180,748,764.13	16
7	Hunter Industries, Ltd.	110,063,296.88	39
8	Angel Brothers Enterprises, Ltd.	95,016,928.90	42
9	Sundt Construction, Inc.	85,422,908.08	2
10	Big Creek Construction, Ltd.	81,729,649.85	32
	Totals	\$2,353,143,455.17	162

Source: The Department.

Recommendation

The Department should develop and implement policies and procedures for a review process to help ensure that it accurately calculates and reports in ABEST the Dollar Volume of Construction Contracts Awarded in Fiscal Year (Millions) performance measure.

Management's Response

The department will implement and document a process to review the collection, calculation, and reporting of this performance measure prior to submission to the ABEST coordinator.

Target Date: To be implemented in FY 2013 prior to the end of the first quarter.

Responsible Person: Director, Construction Division

Percent of Construction Contracts Completed on Budget Performance Measure

Percent of Construction Contracts Completed on Budget ABEST Definition

"The number of contracts completed with less than a one percent increase in cost for change work orders or delay due to design error compared to the total number of contracts completed."

Performance Measure Results. The Percent of Construction Contracts Completed on Budget performance measure that the Department reported for fiscal year 2011 was accurate within 5 percent of the actual results. However, the performance measure was certified with qualification because of the following weaknesses in internal control:

- The Department reported that it completed 96.69 percent of projects on budget in fiscal year 2011. However, an error in the Department's calculations resulted in a departure from the ABEST definition and methodology. Specifically, the Department's calculation counted projects with a cost increase that exceeded 1 percent to be on budget, while it counted projects with a less than 1 percent cost increase to be over budget. Auditors recalculated the performance measure using the ABEST methodology and determined that 96.91 percent of projects were completed on budget.
- The Department did not include all completed contracts in its calculation. It included 845 projects, but it excluded 28 projects that district offices did not report as completed in a timely manner. The Department's review was not adequate to help ensure that it included all completed projects in its calculation of this performance measure, and the Department had no policy requiring a review.

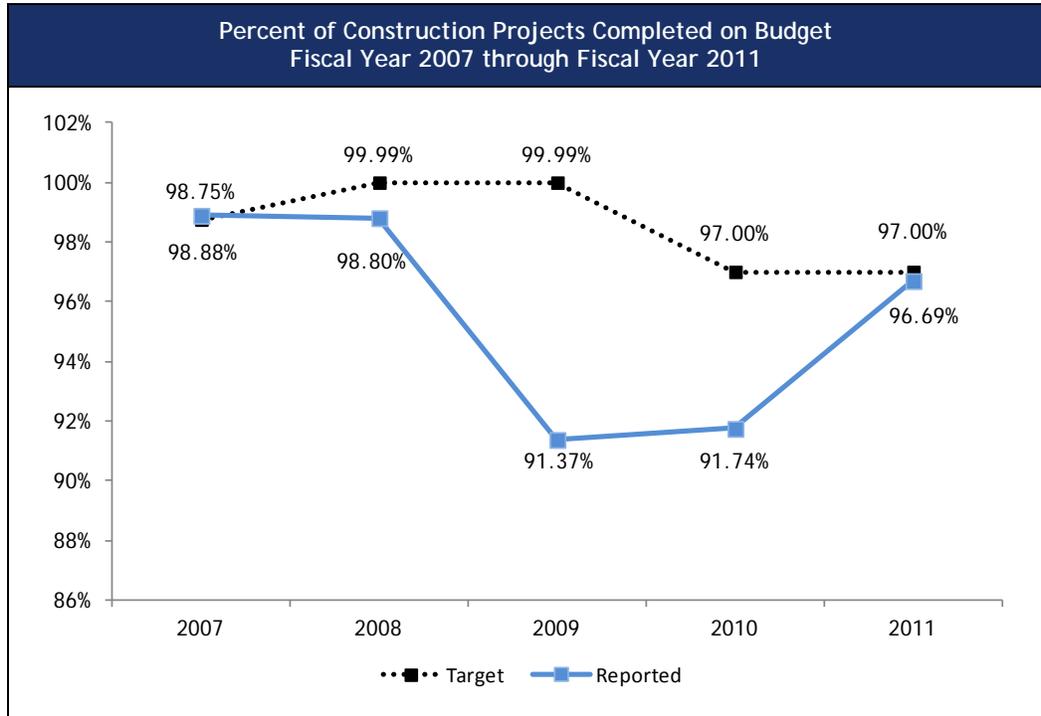
Additionally, the title of the performance measure may potentially mislead users of the information regarding the performance measure. The performance measure is narrowly defined in ABEST to count only budget overruns caused by change work orders for rework or delay due to design error, regardless of the final cost. Auditors compared the final cost on all contract items to the original award amount and determined that 53.15 percent of projects completed during fiscal year 2011 were completed within 1 percent of the original award amount.

The Department completed 873 projects in fiscal year 2011, and 55 of them had change orders for rework or delay due to design error. Of those 55 projects, 28 had a cost increase that exceeded 1 percent.

Trend Analysis. The percentage of construction projects completed on budget, as defined by the Department, has exceeded 90 percent for each year from fiscal year 2007 through fiscal year 2011.

Figure 4 shows the Department’s target and actual reported results for Percent of Construction Projects Completed on Budget from fiscal year 2007 through fiscal year 2011.

Figure 4



Source: ABEST.

Of those five fiscal years, fiscal year 2007 was the only year in which the Department exceeded the target for the Percent of Construction Contracts Completed on Budget performance measure. In fiscal years 2009 and 2010, the Department was not within 5 percent of the target for this performance measure. Those were also the two fiscal years with the lowest reported percentage of construction projects completed on budget, with results of 91.37 percent reported for fiscal year 2009 and 91.74 percent reported for fiscal year 2010.

Recommendations

The Department should:

- Coordinate with the Legislative Budget Board to either (1) modify the title for the Percent of Construction Contracts Completed on Budget performance measure so that the title is consistent with the definition or (2) modify that performance measure's definition and methodology to provide more meaningful information to the users of the ABEST results by not restricting the calculation to only cost variances caused by change in work orders or delay due to design error.
- Calculate the Percent of Construction Contracts Completed on Budget performance measure in accordance with the ABEST definition, specifically by counting contracts with cost increases that exceed 1 percent as over budget.
- Develop and implement policies and procedures for a review process that helps to ensure that the Percent of Construction Contracts Completed on Budget performance measure calculation considers all construction contracts completed during the year and that the Department accurately calculates and reports that performance measure in ABEST.

Management's Response

TxDOT coordinated with the LBB and the Governor's Office in Spring 2010 to change the definition of the Percent of Construction Contracts Completed on Budget performance measure for the FY 12-13 Biennium. The new definition is now "the number of contracts completed with a ten percent or less increase in cost over the original contract award amount."

The department will implement and document a process to review the collection, calculation and reporting of this performance measure prior to submission to the ABEST coordinator.

Target Date: To be implemented in FY 2013 prior to the end of the first quarter.

Responsible Person: Director, Construction Division

Percent of Bridges Rated in Good Condition or Higher Performance Measure

Percent of Bridges Rated in Good Condition or Higher ABEST Definition

"The number of on-system and off-system bridges not identified as structurally deficient, functionally obsolete, or substandard for load in the Bridge Inspection Database as a percentage of the total number of on-system and off-system bridges in the state."

On-system and Off-system Bridges

On-system bridges are located on the designated state highway system, maintained by the Department, and are typically funded with a combination of federal and state or state-only funds.

Off-system bridges are not part of the designated state highway system and are under the direct jurisdiction of the local government such as a county, city, or other political subdivision of the state, or special district with authority to finance a highway improvement project.

Source: The Department's 2010 Report on Texas Bridges.

Bridge Condition Categories

Structurally Deficient - A bridge that (1) has an extreme restriction on its load-carrying capacity, (2) shows deterioration that is severe enough to reduce the bridge's load-carrying capacity beneath its original as-built capacity, (3) is closed, or (4) is frequently over-topped during flooding.

Functionally Obsolete - A bridge that fails to meet its design criteria in any one of the following areas: deck geometry, load-carrying capacity, vertical or horizontal clearances, or approach roadway alignment.

Substandard Load - A bridge that is not structurally deficient or functionally obsolete but is load-restricted because its original as-built capacity was not designed to carry the current state legal load.

Source: The Department's 2010 Report on Texas Bridges.

Performance Measure Results. The Percent of Bridges Rated in Good Condition or Higher performance measure that the Department reported for fiscal year 2011 was accurate within 5 percent of the actual results. However, the performance measure was certified with qualification because of the following weaknesses in internal control:

- The Department relies on district offices to add new on-system bridges to its bridge inspection database (see text box for more information on on-system bridges). However, it does not have a process to help ensure that district offices add newly constructed bridges to the bridge inspection database in a timely manner. Additionally, the Department relies on local governments to report off-system bridges opened to traffic, as required by Texas Transportation Code, Section 201.804, but it is unable to enforce compliance with that requirement. Although those weaknesses may result in incomplete information regarding the number of bridges, 13,300 bridges rated as good or higher would have to be missing from the bridge inspection database to affect the performance measure by 5 percent.
- The Department did not have documented review controls to help ensure that it calculated this performance measure correctly and reports accurate data in ABEST.

The performance measure calculation identifies the number of bridges that are not structurally deficient, functionally obsolete, or substandard load (see text box for more information about condition categories) and divides that number by the total number of bridges in the bridge inspection database to determine the percentage rated as good or higher.

Although not mentioned in the ABEST definition or methodology, the Department includes in its calculation only bridges that the National Bridge Inspection Standards requires to be inspected, which means that the Department excludes

bridges without vehicular traffic from its calculation. In addition, bridges built, reconstructed, or widened within the last 10 years are not eligible for funding under the federal Highway Bridge Program; as a result, the Department automatically excludes those bridges from the number of bridges that are not structurally deficient or functionally obsolete. Although those

considerations are reasonable, this is not consistent with the performance measure definition in ABEST.

For fiscal year 2011, the Department reported in ABEST that 80.50 percent of bridges were rated in good or higher condition. The Department identified 51,808 total bridge structures: 33,883 on-system bridges (88.68 percent of which were rated in good condition or higher) and 17,925 off-system bridges (65.07 percent of which were rated in good condition or higher).

Implementation Status of Prior Audit Recommendations. Table 4 lists the Department's implementation status for the six prior audit recommendations in *An Audit Report on the Department of Transportation's Bridge Inspection Program* (State Auditor's Office Report Number 10-017, December 2009) that auditors tested. Those recommendations were related to the Percent of Bridges Rated in Good Condition or Higher performance measure.

Table 4

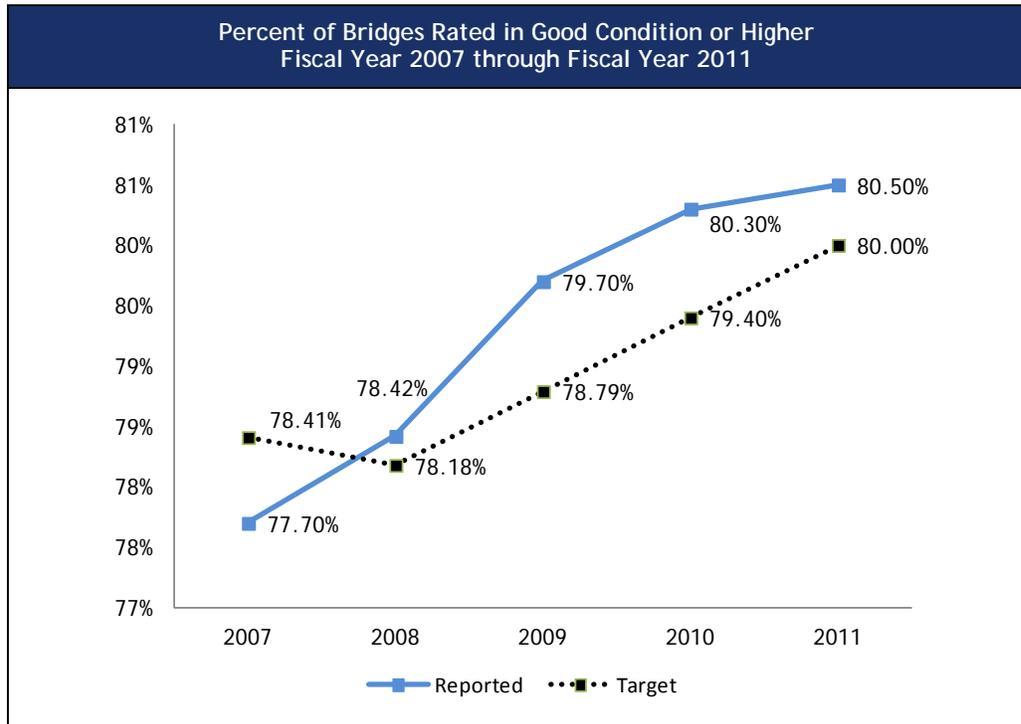
Status of Implementation of Prior Audit Recommendations		
Recommendation	Implementation Status	Auditor Comments
The Department should develop a quality control/quality assurance section in its <i>Bridge Inspection Manual</i> that includes certain information.	Partially Implemented	The Department has developed policies and procedures, but they are still in draft form. The Department expected to publish the updated manual with these changes in July 2012.
The Department should ensure that its Bridge Division regularly monitors the districts' compliance with the Department's quality control/quality assurance policies and procedures. The Department could consider linking the district engineer's performance evaluation to compliance with quality control/quality assurance policies and procedures.	Partially Implemented	The Department reported that it began monitoring the districts' compliance in September 2011, but the reviews have not been documented.
The Department should change the edit on the inspection date field in [Bridge Inventory, Inspection, and Appraisal Program] BRINSAP to flag for review any inspection date that is entered more than 90 days after the completion of the inspection. Also, this field should not allow for any future dates to be entered.	Partially Implemented	The Department replaced BRINSAP with the PonTex system and implemented an edit check to help ensure that the inspection date field does not accept future dates. However, PonTex does not flag for review any inspection date that is entered more than 90 days after the completion of the inspection.
The Department should ensure that staff have appropriate segregation of duties and can perform key duties in the event of staff absences.	Partially Implemented	The Department has a designated backup for the update and reporting process. However, auditors determined that at least one PonTex developer still had access to develop code and move it into production.
The Department should limit PonTex application programmers' access to the Bridge Division's production data.	Partially Implemented	PonTex developers do not have direct edit access to the bridge inspection database production data. However, at least one PonTex developer had access to the production data.

Status of Implementation of Prior Audit Recommendations		
Recommendation	Implementation Status	Auditor Comments
The Department should re-evaluate the resources needed to comply with the current quality control and quality assurance requirements in its <i>Bridge Inspection Manual</i> at the Bridge Division and district office levels.	Fully Implemented	The Department created a full-time quality control/quality assurance position to address this issue.

Trend Analysis. Based on analysis of the data in ABEST, the Department did not meet the target for the Percent of Bridges Rated in Good Condition or Higher performance measure for fiscal year 2007; however, it met or exceeded the target for fiscal years 2008 through 2011. The Percent of Bridges Rated in Good Condition or Higher improved each year during that time period from 77.70 percent in fiscal year 2007 to 80.50 percent in fiscal year 2011.

Figure 5 shows the Department’s target and actual reported results for the Percent of Bridges Rated in Good Condition or Higher performance measure for fiscal years 2007 through 2011.

Figure 5



Source: ABEST.

Recommendations

The Department should:

- Develop and implement a documented process to help ensure that it includes all on-system bridges in its bridge inspection database.
- Incorporate within the ABEST definition for the Percent of Bridges Rated in Good Condition or Higher performance measure the data limitations caused by the Department relying on local entities to identify new off-system bridges.
- Develop and implement policies and procedures for a review process to help ensure that it accurately calculates and reports the Percent of Bridges Rated in Good Condition or Higher performance measure in ABEST.
- Either (1) Follow the ABEST methodology for calculating the Percent of Bridges Rated in Good Condition or Higher performance measure or (2) coordinate with the Legislative Budget Board to update the ABEST methodology for that performance measure to reflect the methodology the Department uses by identifying which bridges will be excluded.
- Formally approve a quality control/quality assurance section in its *Bridge Inspection Manual*.
- Establish a control within PonTex that flags for review any inspection date entered more than 90 days after the completion of the inspection.
- Establish appropriate segregation of duties within the bridge inspection database by limiting programmers' access to production data.

Management's Response

To assist in the clarification of this measure the department submitted a modification request of the ABEST definition for the Percent of Bridges Rated Good Condition or Higher performance measure to the Legislative Budget Board (LBB) and the Governor's Office outlining the data limitations present in the reported value.

The department received official approval of the measure definition change from the LBB on June 26, 2012 for the FY 2014-2015 biennium. LBB's determination to implement this modification for the current fiscal is pending. The modified data limitation section now reads,

“Specific bridge condition data are collected and input in the Bridge Inspection Database on the two-year safety inspection frequency. A lag may occur in database updates that show the improved bridge (rehabilitation or replacement) condition. TxDOT maintains data on bridges off the state highway system. It is possible that some off-system bridges built by counties or municipalities may not be reported to TxDOT and therefore not included within this measure. The performance measure does not include bridges that are not eligible for the Highway Bridge Program (HBP), including privately owned bridges, pedestrian bridges, utility bridges, railroad bridges, and federally owned bridges. In addition, under the federal ten-year rule, bridges in the inventory with a date of construction or a date of major reconstruction occurring within the past 10 years will not be considered as structurally deficient or functionally obsolete and not eligible for the HBP.”

Reports have been added to PonTex that identify bridges where more than 90 days have passed since the completion of an inspection and the required inspection data has not been updated. These reports were added to PonTex in July 2012 and will be available for statewide use in August 2012.

TxDOT has reviewed access levels for programmers and has determined that one programmer had access privileges that were inappropriate. These privileges for this programmer have been removed. Furthermore, TxDOT requires Controlled Data Changes and structure changes to be documented. These tasks are performed by database administrators through a controlled change process. The responsible business parties are required to document these changes and management is required to provide approvals before IT is notified.

The Bridge Division will continue to evaluate its procedures for measure reporting and plans to take the following corrective action:

- *The Bridge Division is developing written procedures to be followed to verify that completed bridges entered into SiteManager are entered into the Bridge Inspection Database in a timely manner. The procedures also will document responsibilities, time frames and steps to be taken when omissions from the database are discovered.*
- *The Bridge Division is developing written procedures to be followed to review and verify performance measure reports. The procedures will*

include identifying the persons who carried out each step of the review process.

- *The TxDOT Bridge Inspection Manual, with a quality control/quality assurance section, is scheduled for publication in September 2012.*

Target Date: December 31, 2012. Responsible Person: Director, Bridge Division

Statewide Maintenance Assessment Program Condition Score Performance Measure

**Statewide Maintenance
Assessment Program Condition
Score
ABEST Definition**

"The Statewide Maintenance Assessment Program provides for the evaluation of 23 elements of the highway infrastructure divided into three main components; Pavement, Traffic Operations, and Roadside. Elements are rated on a scale of one to five on randomly selected one-mile sections. Approximately 5% of the Non-Interstate System and 10% of the Interstate System are evaluated."

**Statewide Maintenance
Assessment Program Element
Rating and Score**

Five - Excellent, 100
Four - Good, 80
Three - Fair, 60
Two - Poor, 40
One - Fail, 20
Zero - Not applicable

Performance Measure Results. The Statewide Maintenance Assessment Program Condition Score performance measure that the Department reported for fiscal year 2011 was accurate within 5 percent of the actual results. However, the performance measure was certified with qualification because the Department did not have a documented review process to help ensure the continued accuracy of its performance measure calculations and the results it submits to ABEST.

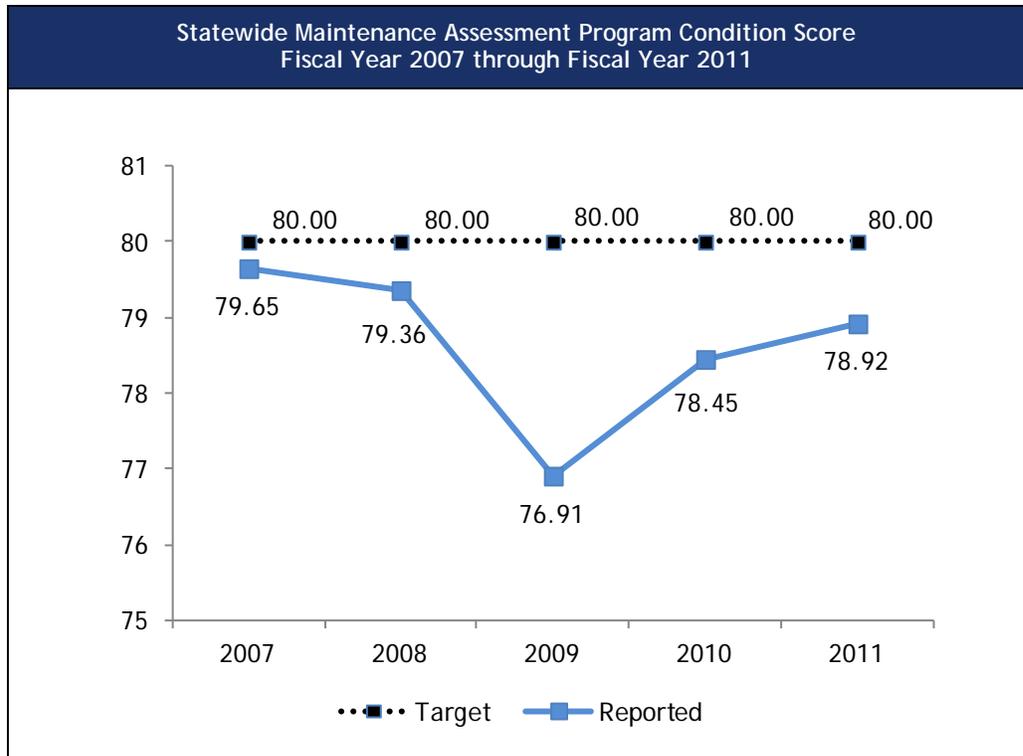
The performance measure rates the condition of Texas highways on a scale in which 100 represents excellent condition, 80 represents good condition, and 60 represents fair condition. The target in ABEST is 80. For each of several thousand inspection points, where an inspection point is a one-mile section of highway, inspectors evaluate each of the 23 infrastructure elements on a scale of 1 to 5. The Department randomly selects approximately 5 percent of the non-interstate system roadway segments and 10 percent of the interstate system roadway segments as inspection points each year. The Department calculates the statewide score using a weighted average of each element and component for all of the roadways inspected in the state.

For fiscal year 2011, the Department accurately reported the condition score as 78.92, which is between fair and good. Interstate highways had a condition score of 82.97 (between good and excellent) and non-interstate highways had a condition score of 78.49 (between fair and good).

Trend Analysis. The Statewide Maintenance Assessment Program Condition Score fluctuated from a low of 76.91 to a high of 79.65 between fiscal year 2007 and fiscal year 2011. The score was below the target of 80 in each of those fiscal years, but it was consistently within 5 percent of the target.

Figure 6 shows the Department's target and actual reported results for the Statewide Maintenance Assessment Program Condition Score performance measure for fiscal years 2007 through 2011.

Figure 6

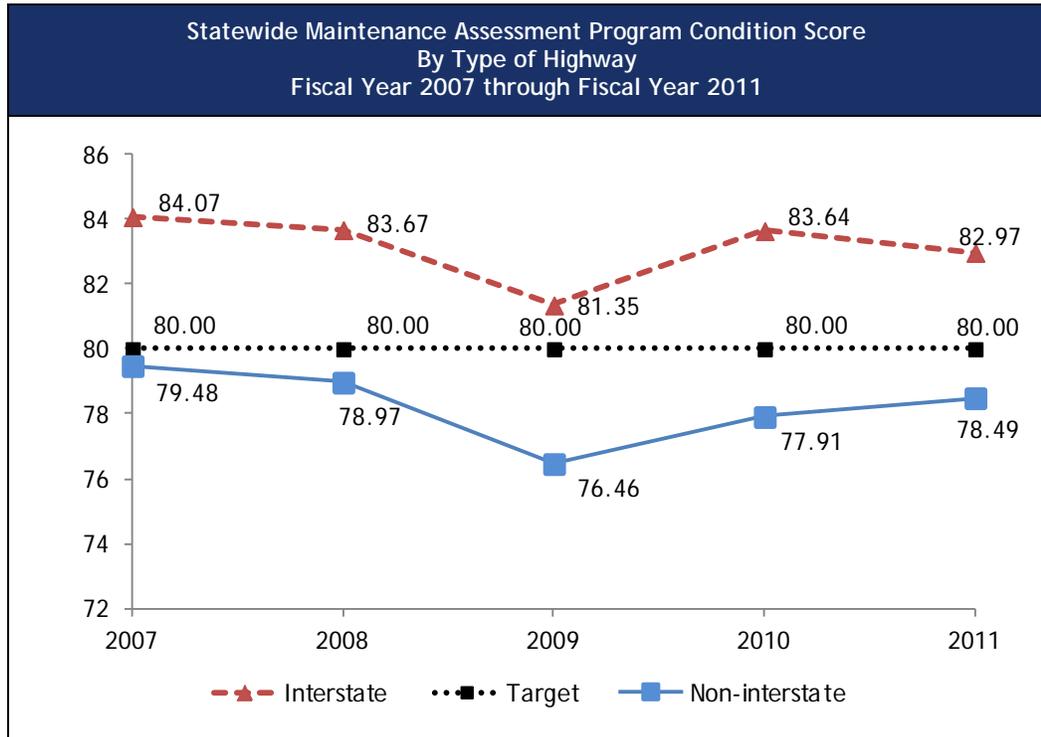


Source: ABEST.

Based on performance measure results reported in ABEST from fiscal year 2007 through fiscal year 2011, the Statewide Maintenance Assessment Program Condition Score has had little variation. Department information indicates that interstate highways have consistently been above the target of good condition, while the non-interstate highways have been just below the target of good condition.

Figure 7 shows the Statewide Maintenance Assessment Program Condition Score for highways on the interstate system and highways not on the interstate system for fiscal years 2007 through 2011.

Figure 7



Sources: ABEST and the Department's historical maintenance summary reports.

Recommendation

The Department should develop and implement policies and procedures for a documented review of the Statewide Maintenance Assessment Program Condition Score performance measure calculation and reporting to help ensure that it accurately reports that performance measure in ABEST.

Management's Response

The Maintenance Division will continue to evaluate its procedures for measure reporting and plans to take the following corrective action:

1. Distribute TxMAP results to the district and allow the district 10 days to review and identify any possible discrepancies and report these discrepancies to the division. The division will review the associated inspection sheets and determine if there are any computer entry discrepancies. If not, the division will contact the district and coordinate a review of the roadway in question within 10 days.

Target Date: To be implemented immediately, with first field inspection scheduled on July 23, 2012. Responsible Person: Director, Maintenance Division

2. The MMS support personnel will manually calculate and compare 1 district's scores each fiscal year to the scores in MMS to validate the MMS is accurately calculating the scores based on the inspector's rating. Every 5 years the overall scores for all districts will be verified manually to make sure the overall statewide scores are being accurately calculated.

Target Date: To be implemented in FY 2013 prior to first inspection scheduled in FY 2013. Responsible Person: Director, Maintenance Division

Number of Fatalities per 100,000,000 Miles Traveled Performance Measure

**Number of Fatalities per
100,000,000 Miles Traveled
ABEST Definition**

"The number of fatalities per 100,000,000 vehicles miles traveled in the state."

Performance Measure Results. The Number of Fatalities per 100,000,000 Miles Traveled performance measure that the Department reported for fiscal year 2011 was accurate within 5 percent of the actual results. However, the performance measure was certified with qualification because the Department did not have edit checks in its Crash Records Information System during the scope of the audit for manual data entry into that system; this resulted in an incorrect date of death being entered for 1 (2 percent) of 47 crash records tested. The Department also did not consistently retain documented evidence of its review of data entered into the Crash Records Information System; it documented only data input errors that it corrected.

The Department calculates the Number of Fatalities per 100,000,000 Miles Traveled performance measure using two components: total statewide traffic fatalities and total annual statewide vehicle miles traveled. Data for those two components are reported on a calendar year basis. As a result, fiscal year 2011 results reported in ABEST were based on calendar year 2010 data.

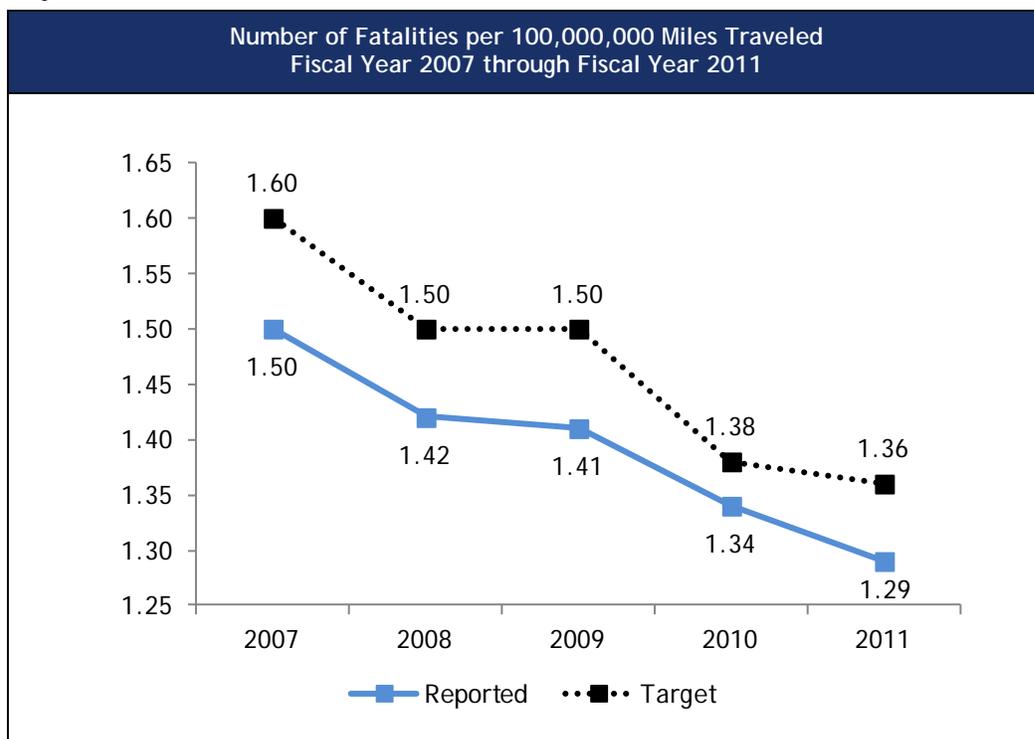
The performance measure is reported per 100,000,000 miles for consistency with federal reporting requirements. The performance measure is calculated as the number of fatalities, divided by annual vehicle miles traveled in millions, multiplied by 100. That methodology is consistent with ABEST.

In calendar year 2010, annual vehicle miles traveled totaled 234,260.23 million miles and traffic-related deaths totaled 3,028. The Department reported the performance measure based on 3,023 deaths, which was accurate at the time it reported the performance measure; the difference, which was caused by subsequent reclassifications of accident-related information, had minimal effect on the reported performance measure results. The performance measure was accurately reported as 1.29 deaths per 100,000,000 miles traveled for fiscal year 2011.

Trend Analysis. During fiscal years 2007 through 2011, the Number of Fatalities per 100,000,000 Miles Traveled performance measure results were lower than the targets. The fatality rate decreased each year during that five-year period. For four of these five fiscal years, the variances between the performance measure results and the targets exceeded 5 percent.

Figure 8 shows the Department’s target and actual reported results for the Number of Fatalities per 100,000,000 Miles Traveled performance measure for fiscal years 2007 through 2011.

Figure 8



Source: ABEST.

The National Highway Traffic Safety Administration reports fatality rates per 100 million miles. The federal government requires all states to use 100 million vehicle miles traveled in reporting their fatality rates for comparison purposes. Table 5 shows the population, number of traffic fatalities in 2009, annual vehicle miles traveled in 2009, and the fatality rate in 2009 for all 50 states and the District of Columbia.

Table 5

Traffic Fatality Information by State					
State	2010 Population Size	Population Ranking	2009 Number of Fatalities	2009 Vehicle Miles Traveled (VMT) (in millions)	2009 Fatalities Rate per 100 Million VMT
Montana	989,415	44	221	11,011	2.01
Louisiana	4,533,372	25	821	44,863	1.83
South Carolina	4,625,364	24	894	49,130	1.82
West Virginia	1,852,994	37	356	19,606	1.82
Arkansas	2,915,918	32	585	33,219	1.76
Mississippi	2,967,297	31	700	40,427	1.73
North Dakota	672,591	48	140	8,154	1.72
Kentucky	4,339,367	26	791	47,355	1.67
Oklahoma	3,751,351	28	738	46,997	1.57
Alabama	4,779,736	23	848	56,061	1.51
Idaho	1,567,582	39	226	15,531	1.46
Tennessee	6,346,105	17	989	70,226	1.41
Wyoming	563,626	51	134	9,568	1.40
New Mexico	2,059,179	36	361	26,013	1.39
South Dakota	814,180	46	131	9,606	1.36
Texas	25,145,561	2	3,071	230,411	1.33
Florida	18,801,310	4	2,558	194,660	1.31
Arizona	6,392,017	16	807	61,628	1.31
Kansas	2,853,118	33	386	29,499	1.31
Alaska	710,231	47	64	4,933	1.30
Delaware	897,934	45	116	9,080	1.28
Missouri	5,988,927	18	878	69,003	1.27
North Carolina	9,535,483	10	1,314	104,260	1.26
Pennsylvania	12,702,379	6	1,256	103,880	1.21
Iowa	3,046,355	30	372	31,065	1.20
Nevada	2,700,551	35	243	20,454	1.19
Georgia	9,687,653	9	1,284	109,258	1.18
Nebraska	1,826,341	38	223	19,359	1.15
Oregon	3,831,074	27	377	33,972	1.11
Maine	1,328,361	41	159	14,491	1.10
Hawaii	1,360,301	40	109	9,973	1.09

Traffic Fatality Information by State					
State	2010 Population Size	Population Ranking	2009 Number of Fatalities	2009 Vehicle Miles Traveled (VMT) (in millions)	2009 Fatalities Rate per 100 Million VMT
Rhode Island	1,052,567	43	83	8,250	1.01
Colorado	5,029,196	22	465	46,276	1.00
Maryland	5,773,552	19	547	55,293	0.99
Vermont	625,741	49	74	7,646	0.97
Wisconsin	5,686,986	20	561	58,157	0.96
California	37,253,956	1	3,081	324,486	0.95
Virginia	8,001,024	12	757	80,927	0.94
Utah	2,763,885	34	244	26,264	0.93
Ohio	11,536,504	7	1,021	110,642	0.92
Michigan	9,883,640	8	871	96,769	0.90
Indiana	6,483,802	15	693	76,628	0.90
New York	19,378,102	3	1,156	133,491	0.87
Washington	6,724,540	13	492	56,417	0.87
Illinois	12,830,632	5	911	105,846	0.86
New Hampshire	1,316,470	42	110	12,975	0.85
New Jersey	8,791,894	11	583	73,029	0.80
District of Columbia	601,723	50	29	3,608	0.80
Minnesota	5,303,925	21	421	56,872	0.74
Connecticut	3,574,097	29	223	31,420	0.71
Massachusetts	6,547,629	14	334	54,812	0.61
USA	308,745,538	N/A	33,808	2,953,501	1.14

Sources: The National Highway Traffic Safety Administration, the Federal Highway Administration, and the United States 2010 census Web site.

Recommendation

The Department should consistently maintain documented evidence of its review of all fatal crash reports.

Management's Response

The department concurs with this finding and will continue to review fatal crash reports as contained in the Crash Records Information System (CRIS) to detect and correct errors in manual data entry. This is an emphasis area in our handling of crash data. The department has amended our practice to review all the fatal crash reports beginning in 2012. So at any one time, all the fatal reports that we've received will have either been reviewed or are in

the review process. Of the 1,363 fatal crash reports that have been received to date for 2012, reviews have been completed on 1,200. The department has also added two data fields in our Fatal Report Documentation Database that will allow us to determine when a fatal crash report was reviewed and who completed the review.

Target Date: Complete. Responsible Person: Director, Traffic Operations Division

Appendices

Appendix 1

Objectives, Scope, and Methodology

Objectives

The objectives of this audit were to:

- Verify the accuracy of, and evaluate trends in, selected performance measures that the Department of Transportation (Department) uses.
- Determine whether the Department has adequate control systems over the collection, calculation, and reporting of its performance measures.

Scope

The scope of this audit covered five key performance measure results that the Department reported for fiscal year 2011 and the first two quarters of fiscal year 2012 (September 2011 through February 2012).

Methodology

The audit methodology included selecting five key performance measure results for fiscal year 2011 and the first two quarters of fiscal year 2012, auditing reported results for accuracy and adherence to definitions, analyzing trends in performance measure, evaluating controls over performance measure calculation processes, testing documentation, analyzing definitions and inputs into performance measures, and assessing the reliability of data obtained from the Department's information systems that supported performance measure data.

Auditors assessed the reliability of Department data by (1) determining population completeness and reasonableness, (2) reviewing queries used to generate data and calculate the performance measures, (3) performing access control testing, and (4) interviewing Department employees knowledgeable about the data and systems. Auditors determined that the data was sufficiently reliable for the purposes of this audit.

Information collected and reviewed included the following:

- Performance measure data stored in multiple Department information systems, databases, and spreadsheets.
- Department information technology system reports and code.
- Department policies and procedures.

- Texas Transportation Commission meeting transcripts and reports.

Procedures and tests conducted included the following:

- Interviewing Department staff to gain an understanding of the processes the Department used to calculate performance measures.
- Evaluating the adequacy of policies and procedures to determine whether they were adequate to help ensure correct calculation of performance measures.
- Auditing performance measure calculations for accuracy and to determine whether the calculations were consistent with the methodology from the Automated Budget and Evaluation System of Texas (ABEST).
- Testing a sample of documentation to verify the accuracy of reported performance.
- Reviewing queries used to gather data and calculate performance measures.
- Analyzing trends in the reported performance measure results.
- Analyzing performance measure definitions and evaluating the data that goes into the calculation.
- Performing access control testing.

Criteria used included the following:

- *Guide to Performance Measure Management*, 2012 Edition (State Auditor's Office Report No. 12-333, March 2012).
- ABEST performance measure definitions.
- Department policies and procedures.

Project Information

Audit fieldwork was conducted from April 2012 through June 2012. We conducted this performance audit in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

The following members of the State Auditor's staff performed the audit:

- Jules Hunter, CPA, CIA (Project Manager)
- Matthew Byrnes, CIDA (Assistant Project Manager)
- Shahpar M. Ali, CPA, M/SBT
- Jason Carter
- Michael A. Gieringer, CFE
- Arnton W. Gray
- Kathryn K. Hawkins, CFE
- Barrett Sundberg, CPA, CIA
- Charles P. Dunlap, Jr., CPA (Quality Control Reviewer)
- James Timberlake, CIA (Audit Manager)

Toll Revenue in Fiscal Year 2011

Table 6 shows the toll revenue that regional mobility authorities and the Central Texas Turnpike System reported in fiscal year 2011. Those toll revenues are collected by toll authorities under agreements with the State of Texas and are not necessarily available for appropriation to the Department of Transportation.

Table 6

Toll Revenue in Fiscal Year 2011	
Toll Authority	Revenue
Harris County Toll Road Authority	\$481,346,000
North Texas Tollway Authority	389,664,791
Central Texas Turnpike System	68,802,457
Central Texas Regional Mobility Authority	21,295,082
Total	\$961,108,330

Sources: Financial reports from the Harris County Toll Road Authority, the North Texas Tollway Authority, the Central Texas Turnpike System, and the Central Texas Regional Mobility Authority.

Copies of this report have been distributed to the following:

Legislative Audit Committee

The Honorable David Dewhurst, Lieutenant Governor, Joint Chair

The Honorable Joe Straus III, Speaker of the House, Joint Chair

The Honorable Steve Ogden, Senate Finance Committee

The Honorable Thomas “Tommy” Williams, Member, Texas Senate

The Honorable Jim Pitts, House Appropriations Committee

The Honorable Harvey Hilderbran, House Ways and Means Committee

Office of the Governor

The Honorable Rick Perry, Governor

Department of Transportation

Members of the Texas Transportation Commission

Mr. Ted Houghton, Chair

Mr. Jeff Austin, III

Mr. William Meadows

Mr. Jeff Moseley

Mr. Fred Underwood

Mr. Phil Wilson, Executive Director



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