Introduction

This report was prepared for the Transportation Commission, TxDOT Administration and Management. The report presents the results of the Traffic Data Collection Audit which was conducted as part of the Fiscal Year 2009 Audit Plan. The objective of the audit was to determine if the department’s traffic data collection function is effectively managed and in compliance with the requirements.

Scope

Audit team included Dennis Olson (Staff Auditor) with Raymond Martinez (Auditor-in-Charge) providing oversight for the audit. The audit work was conducted during the period of September 2009 through March 2010. All work was conducted in conformance with the International Standards for the Professional Practice of Internal Auditing of The Institute of Internal Auditors.

Audit work included interviews with Transportation Planning and Programming Division (TPP) employees, interviews with Federal Highway Administration (FHWA) Texas Division representatives and reviews of various documents including the federal laws, federal guidelines, policies, procedures and supporting documentation.

This audit was not focused on forecasting, modeling or areas recently audited by the TPP Internal Auditor (i.e. the federal work program, data transmission and contract management).

Background

TPP is responsible for managing the department’s system for collecting, analyzing and reporting highway traffic data based on certain federal requirements. The Traffic Analysis, Data Management and Administration Sections of TPP work together to manage this system. The directors in these sections have been in their positions from 2 to 5 years. Traffic data is reported to the federal government and it impacts the state’s federal apportionment. Traffic data is used to help make decisions about the planning, construction, operation and maintenance of the roadways. Traffic data is also reported to the public.

TxDOT has had a traffic monitoring system for decades. The system includes a combination of about 300 permanent sites and about 75,000 to 95,000 short term counts per year. The two types of counts complement each other. Permanent sites provide 24 hours per day / 7 days per week counts which are used to convert nearby short term counts to Average Annual Daily Traffic (AADT) estimates. Trends for short term counts provide one factor in the selection of the location of new permanent sites. The traffic data the department currently collects includes volume (axle counts), classification (volume and type of vehicle) and weight-in-motion or WIM (classification and weight) data. FHWA observes some of these traffic collection efforts, meets with TPP staff periodically and reviews the traffic data that is reported on an annual basis to the federal government. Federal funds are the primary source of funding for the traffic data.
collection function. These funds are part of a federal work program and annual performance reports on the use of these funds are submitted to the federal government.

**Opinion**

Overall, we think that TPP is effectively managing the traffic data collection function and the function is being performed in compliance with the applicable requirements.

**Results**

Our review of the traffic data collection function (e.g. planning, collecting data, analyzing data, performing maintenance and reporting data) indicates that there are goals in place, processes are performed to achieve the goals and mitigate risks and oversight is provided by TPP and FHWA in order to effectively manage the function. The goals of the traffic data collection function are to comply with the federal requirements, provide an accurate count of the traffic to help the department make the best decisions for the roadways (short-term and long-term) and provide good customer service. The processes to provide accurate counts include meeting with the districts and metropolitan planning organizations, identifying changes in the roadways and new improvements, analyzing trends, reviewing various maps and conducting roadway surveys.

Our review of the traffic data collection function and limited testing indicates that processes are in place which can reasonably be expected to ensure compliance with the requirements and we found evidence that the department is complying with the federal requirements we selected for review. These requirements include: 1) states receiving federal funds must have a Traffic Monitoring System to collect traffic data, 2) the system must cover all public roads, with certain exceptions, 3) equipment used for data collection must be tested at specified intervals, 4) field operations must be documented, 5) data must be retained for a specified period, 6) factors used to adjust short term counts must be reviewed and updated at specified intervals, 7) procedures to edit and adjust traffic data must be documented and 8) the traffic data is required to be submitted to FHWA by the established deadline.

We also identified five examples of recent improvements: 1) in 2008, two overdue federal work program performance reports were filed and subsequent reports have been filed annually, 2) in recent years, annual traffic data has been reported to FHWA by the deadline, 3) after 2006, FHWA had no major exceptions and fewer review comments on the annual traffic data, 4) a contract for a software package was awarded to replace manual analysis, 5) a manual short term counting schedule was replaced with an automated schedule and 5) an electronic system was developed to track the custody and maintenance of portable short-term counters.

**Closing Comments**

The results of this audit were discussed with the TPP Division Director in an exit conference held on April 8, 2010. At the exit conference, it was noted that TPP is currently working on utilizing traffic data from the intelligent transportation system (ITS) centers to supplement its existing data and is scheduled to update their Traffic Data and Analysis Manual by the end of this calendar year. The results were also discussed with the Assistant Executive Director for Engineering Operations in a briefing held on April 13, 2010. At the briefing, it was noted that the Administration may want to consider revisiting the department’s strategy of installing WIM
counters only during major rehabilitation or new construction projects (to minimize the cost of installation) because the opportunities to install additional WIM counters in major rehabilitation or new construction projects may be reduced in the near future.

We thank those contacted during this audit for their assistance and cooperation.