Texas Department of Transportation

Management and Organizational Review
Final Report

INTRODUCTION and PART I

May 26, 2010

Grant Thornton

Introduction

Early in 2009, following Sunset Review of the Texas Department of Transportation (TxDOT), TxDOT leaders decided to undertake a top-down review of the Department's management and organization. The Management and Organizational Review (MOR), which began at the end of June 2009, was intended to result in recommendations regarding:

- TxDOT organizational structure and staffing, focusing on management levels (i.e., Administration, divisions, offices, districts, regions);
- Ways to improve the organization's transparency, accountability and communications; and
- Ways to improve the organization's efficiency.

From the outset of this effort, the MOR team reported directly to the Texas Transportation Commission, which provided guidance on the work being performed, the project scope and interaction with stakeholders.

This Introduction briefly characterizes the TxDOT environment in which the MOR was performed, describes the MOR scope and presents the assessment approach. In addition, it describes the *Report* purpose and structure.

Assessment environment

The environment in which TxDOT operates is changing substantially. As a result, TxDOT itself faces significant change.

The population of Texas is growing rapidly – especially in a few already-congested metropolitan and urban centers – thus taxing the existing transportation system. Population growth is expected to continue "outpacing the nation by a wide margin through 2040. The Texas State Data Center projects that by 2040, Texas will be home to 35.8 million people, roughly the size of present-day California."[1] Among the additional factors shaping the TxDOT environment are the troubled economy, changing public expectations regarding public sector transparency and accountability, heightened sensitivity regarding government spending, evolving expectations regarding the modes of transportation (e.g., the increased interest in rail), and expectations for increased local control over transportation project selection and development. While the State faces increasing needs for transportation infrastructure to serve its citizens, TxDOT is challenged to obtain funds needed to maintain the existing assets, to continue to build new capability and to articulate what is required to fund transportation needs for the foreseeable future.

As TxDOT leaders work to respond to these external forces, they also have faced increasing scrutiny – accompanied by multiple studies and audits – and criticism. In response, TxDOT leadership has instituted multiple, parallel change initiatives within the organization, including:

---

[1] *TxDOT 2011-2015 Strategic Plan Draft* Posted for Public Comment, April 16, 2010; internal reference: "The Texas State Data Center releases multiple population projections and recommends using the "0.5 Scenario" for long-term planning purposes. This scenario assumes that long-term in-migration will be half that of the 1990s, a period of high growth in the state.

- Implementing a regional model to try to improve efficiency by eliminating redundancy in the field organizations, by better sizing the workforce and by sharing resources across historic geographic boundaries;

- Planning and implementing new performance measures for the Department;

- Undertaking additional work groups to try to improve upon the current transportation planning process;

- Increasing efforts to communicate with external stakeholders;

- Instituting a Department-wide hiring freeze (in 2008), which disproportionately affects parts of the organization with high turnover and does not necessarily result in appropriate reductions based upon geographical needs or on skill and level of staff; and

- Rapidly implementing additional tools to try to improve tracking and availability of data relating to transportation projects.

Of all these considerations, the one most consistently identified as a driver for change in TxDOT, and as an inhibitor to TxDOT's ability to perform its mission, is availability of funding to meet Texas transportation needs.

Funding needs

In May 2008, Texas Transportation Commission Chair Deirdre Delisi, "at the request of Texas Governor Rick Perry, appointed a volunteer committee of 12 experienced and respected business leaders designated as the 2030 Committee. The Committee's charge was to provide an independent, authoritative assessment of the state's transportation infrastructure and mobility needs from 2009 to 2030."[2] The 2030 Committee determined that the State requires $315 billion from 2009 through 2030 (or $14.3 billion per year, in 2008 dollars) to meet pavement, bridges, urban mobility, and rural mobility and safety needs.[3] Despite the 2030 Committee's findings, some members of the transportation community hold differing views on the actual amount of funding required to sustain the State's transportation system for this period.[4]

---

[2] *Texas Transportation Needs Summary*, 2030 Committee, February 2009 (http://texas2030committee.tamu.edu/documents/final_022609_execsummary.pdf)

[3] "The 2030 Committee research team provided a comprehensive analysis of estimated transportation needs, associated costs in 2008 dollars and resulting benefits from highway maintenance (pavements and bridges), urban mobility, and rural mobility and safety. This analysis was used as a tool to estimate the level of investment needed, but the funding could be spent on multiple transportation modes." *Texas Transportation Needs Summary*, 2030 Committee, February 2009

[4] "In 2006, after asking the state's metropolitan planning organizations (MPOs) to identify road improvements necessary to bring congestion to acceptable levels by 2030, TxDOT identified a highway funding gap of $86 billion by 2030. The state's MPOs estimated the combined dollar amount needed to be $188 billion. TxDOT estimated that in the same time frame, $102 billion would be available from existing funding sources. A state auditor's report on the projected funding gap revised downward the $86 billion total figure after determining that $8.6 billion should not have been included in the total. The report revised the total projected funding gap to $77.4 billion. The report concluded that while the projected funding gap could help assess highway funding needs generally, it should not be used to make policy or funding decisions because it contained costs that should not have been included, a mathematical error, and additional undocumented costs. In a 2006 report, the Governor's Business Council projected an even lower funding gap of $66 billion over 25 years." House Research Organization Focus Report: *Highway Funding in Texas: A Status Report,* House Research Organization, February 23, 2009 (http://www.hro.house.state.tx.us/focus/HighwayFund81-5.pdf)

The lack of agreement on the amount of funding needed to meet Texas transportation requirements leads to a certain amount of discomfort with TxDOT requests for increased funding. In addition, mistrust of TxDOT and issues around the consistency and completeness of communications on this issue inhibits commitment to additional funding. Some stakeholders said that "TxDOT isn't broken, it's just broke." Others said that TxDOT isn't sufficiently high-functioning to know if it has the resources required to do the job needed. Still others expressed that whether or not TxDOT has enough funding, until the Department is more transparent and has improved its operations, it would be difficult to justify an increase in funding.

Sources of funds

TxDOT is funded through Federal, State and private equity sources and has access to short-term borrowing through its commercial paper program. Fund 6 – the State Highway Fund – is the primary highway funding mechanism, collecting the vast majority of highway-related revenue from federal reimbursements, state motor fuels taxes, motor vehicle registrations and various fees.[5]

In addition, the Department has access to Proposition 12 and 14 and Texas Mobility Fund bond funds for use on projects that meet specific criteria. Proposition 12 bonds are bonds TxDOT can issue that are backed by the General Revenue Fund (which means that both principal and debt service are repaid out of General Revenue Fund). Proposition 14 bonds are bonds TxDOT can issue that are backed by the State Highway Fund (which means that both principal and debt service are repaid out of State Highway Fund). The Texas Mobility Fund is a revolving fund to provide a method of financing for the construction, reconstruction, acquisition and expansion of state highways, including costs of any necessary design and costs of acquisition of rights-of-way. This fund may also be used to provide state participation in the payment of a portion of the costs of constructing and providing publicly owned toll roads and other public transportation projects in accordance with procedures, standards and limitations established by law.   TxDOT also uses the following debt programs: Central Texas Turnpike System and the Private Activity Bond Surface Transportation (PABST) Corporation.[6]

TxDOT funding situation

At present, State Highway Fund revenues are not as stable as in previous years, nor are they continuing to increase at the same pace as in the past. In addition, from 2005 through 2007, TxDOT used a combination of State Highway Fund revenues and bond funding for operations and capital investments. During this period their expenditures for these areas outpaced revenues, resulting in TxDOT using approximately $700 million of reserves to pay for operating and project expenses during this period. This resulted in two issues. First, when TxDOT bumped up spending through the use of bond funding, baseline expectations for TxDOT spending levels in any given year were

---

[5] House Research Organization Focus Report: *Highway Funding in Texas: A Status Report,* House Research Organization, February 23, 2009 (http://www.hro.house.state.tx.us/focus/HighwayFund81-5.pdf)

[6] The Central Texas Turnpike System is an enterprise fund used to design, construct, operate and expand turnpike projects as part of the State's highway system, and it currently comprises State Highway 45 North, Loop1 and State Highway 130 (Segments 1-4). PABST is used to promote and develop new and expanded public transportation facilities and systems including the issuance of bonds for comprehensive development agreement proposers approved by the Texas Transportation Commission.

raised both inside and outside the organization, even though that approach was not sustainable and represented a marked deviation from historical spending levels. Second, TxDOT incurred a significant debt service burden associated with the bonds it issued – and that servicing reduces the availability of General Revenue and Fund 6 dollars for TxDOT to use for operations and new projects. The end effect is that TxDOT's available budget (for maintenance, new projects, etc.) is effectively lower than it would have been before the bond funding was issued.   At the same time maintenance requirements are increasing as a result of having increased the size of the highway system (every new road brought into the system must be maintained.

Some of the distrust that exists for TxDOT results from issues related to financing (e.g., what is perceived to be a $1.1 billion accounting error, what is perceived to be an increasing reliance on toll roads to pay for Texas highway infrastructure), for TxDOT to make progress in improving its funding situation, it must reform and improve its business practices as a foundation.

Assessment scope

Given TxDOT size and complexity – and taking into consideration concerns raised by various stakeholders before and during the review period – the first step in the project was to refine the scope and approach based upon initial interviews with key stakeholders. As a result, by early August 2009, the number of interviews included in the project plan increased by a factor of four to obtain much broader input. Additionally, the MOR team planned to assess TxDOT efficiency via diagnostic reviews of seven significant business processes:

- Plan
- Design
- Build
- Human resources (HR)
- Information technology (IT) – as it is used to support mission accomplishment
- Financial management (FM)
- Communications

These high-level management reviews focus on key dimensions of each business process area, with the intention of identifying opportunities for improvement and of determining whether a deeper exploration is merited.

Early in 2010, the Commission amended the project scope, adding a diagnostic review of the procurement process area. This review included consideration of TxDOT participation with minority and woman-owned businesses, Historically Underutilized Businesses (HUBs) and Disadvantaged Business Enterprises (DBEs). The Commission also requested a compensation study of 38 representative TxDOT positions as a basis for assessing TxDOT's ability to attract and retain people with the talent, skills and experience needed to fill those roles. In conjunction with these changes, the Commission requested additional stakeholder interviews.

Through the interview process that began in July 2009, stakeholders raised numerous questions and topics that they believe should be addressed, but that were outside the MOR scope. Examples include:

- Innovative financing strategies and the quality of application of these mechanisms;

- Engineering effectiveness and practices (e.g., appropriate cost for a bridge construction process); and
- Full assessment of potential cost savings across TxDOT.

The MOR team apprised the Commission of these requests and concerns; however, the MOR scope remains a review of the organization's management as described above.

Assessment approach

The MOR began with extensive data gathering through a combination of interviews, an employee survey, focus groups and government furnished information (GFI).

Stakeholder interviews. A critical part of data gathering was confidential interviews with more than 200 stakeholders from inside and outside TxDOT. The MOR team, working with the Commission and taking into consideration early interview input, developed a list that included representatives of Metropolitan Planning Organizations (MPOs), other transportation authorities, transportation-related associations, the State of Texas, the Texas Legislature, the US Congress, county judges and federal agencies. In addition, the MOR team interviewed the members of TxDOT Administration, all TxDOT division and office directors, all district engineers, several former TxDOT executive directors, regional leadership team members and a cross section of staff from each of four district offices. As the MOR progressed, additional members of the Legislature were added to the list, as were representatives of small, minority-owned and disadvantaged businesses or associations.

Through these interviews, the team gathered information on the responsibilities of various TxDOT organizational elements, on how TxDOT manages its operations, and on what it's doing well and in what areas it could improve. The initial data gathering efforts helped to refine the remaining portions of the work plan, highlighting areas that warranted additional review and informing development of an all-employee survey, which was disseminated to all TxDOT employees in September 2009.
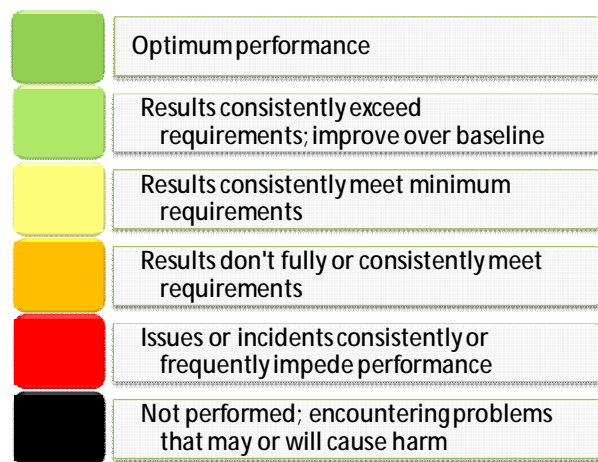
Employee survey. The confidential all-employee survey gathered input from TxDOT employees on the organization's management, culture, morale and organizational structure. The survey included an open-ended response question to allow employees to provide feedback on topics not covered in the survey or to expand on areas of individual importance. Fifty-five percent of TxDOT staff – 6,905 individuals – responded to the survey (5,564 online, 1,341 by mail). Respondents represented all major elements of TxDOT:

- 21% from divisions;
- 20% from offices;
- 47% from districts;
- 9% from regions; and
- 3% from administration.

Of this group, approximately 3,286 (2,711 online, 575 hard-copy) respondents provided written responses to the open-ended question. These responses provided insight into areas of concern to TxDOT employees and to opportunities to improve TxDOT operations.

Focus groups and GFI. In parallel with the interviews and survey process, the MOR team gathered and analyzed extensive documentation and data regarding TxDOT. Based upon the team's analysis of this information, coupled with input received via interviews, the team conducted focus group sessions with TxDOT subject matter experts (SMEs) to gather more detailed input, especially regarding the business process diagnostics. The team conducted similar sessions and also one-on-one meetings later in the process to validate data and the team's understanding of how TxDOT works. The team also conducted follow-up meetings with selected external agencies to gather more information related to the assessment.

For the business process diagnostics, the MOR team identified key dimensions for each business process, gathered and assessed information about how TxDOT performs the function and rated each key dimension using a qualitative scale. This scale is presented in Figure 1.

	Optimum performance
	Results consistently exceed requirements; improve over baseline
	Results consistently meet minimum requirements
	Results don't fully or consistently meet requirements
	Issues or incidents consistently or frequently impede performance
	Not performed; encountering problems that may or will cause harm

Figure 1: Qualitative rating scale

As the assessment progressed, the team compared the repository of information resulting from this process with industry standards and accepted practices to help assess the overall health and performance of each business process area.

Document organization

This *Texas Department of Transportation Management and Organizational Review Final Report* encapsulates the MOR results. It is intended to convey the MOR team recommendations to improve TxDOT efficiency, transparency, accountability and communication and to explain the basis for those recommendations. The *Report* is organized into four principal parts:

- **PART I**. This part of the document presents organization-wide observations, findings and recommendations. It comprises the following sections:
  - **Section 1 – Leadership and culture**: presents overall comments and observations regarding TxDOT culture, and regarding the current management approach and leadership style.
  - **Section 2 – Implementing change**: highlights two change initiatives currently underway at TxDOT to illustrate the organization's approach to defining and implementing such initiatives.

- o **Section 3 – Organization structure**: presents recommendations regarding the TxDOT organizational structure at the management levels.
- o **Section 4 – Compensation study**: presents findings from the compensation review of 38 representative leadership positions.
- o **Section 5 – Recommendations**: summarizes all recommendations resulting from the MOR, including those from the preceding sections and from the business process diagnostics presented in Part II.

- **PART II**. This part of the document presents detailed results of the business process diagnostics. Each section introduces a business process area, summarizes the way in which TxDOT performs and manages the associated responsibilities, presents MOR observations and findings based upon a qualitative assessment of key dimensions, and presents associated recommendations. It comprises the following sections:
  - o **Section 1 – Plan, design and build**;
  - o **Section 2 – Human resources**;
  - o **Section 3 – Information technology**;
  - o **Section 4 – Financial management**;
  - o **Section 5 – Procurement**; and
  - o **Section 6 – Communications**.

- **APPENDICES**. This part presents additional detail and supporting information directly related to content in PART I and PART II.

- **SUPPLEMENTAL MATERIALS**. This part presents additional materials related to the MOR. Materials in this section are:
  - o Recommendations from prior reviews and audits; and
  - o Introduction to change management practices.

This page intentionally left blank.

PART I

Table of contents

Table of tables

Table of figures

Section 1: Leadership and culture

TxDOT has a singular, deeply entrenched culture that reflects 93 years of service dedicated to providing top notch transportation infrastructure to the State of Texas. This culture, and the ways in which the organization is led and managed, are fundamental considerations in the MOR as they affect every aspect of TxDOT performance. The unifying thread through all the MOR observations and recommendations is the way in which leadership and management practices and cultural norms affect TxDOT behavior and efficacy. Changes in this area are the essential underpinning to achieving meaningful improvements in the areas of effectiveness, efficiency, communications and transparency.

Subsections 1.1 through 1.3 characterize TxDOT culture and the changing environment TxDOT in which TxDOT must operate. Building upon that foundation, subsection 1.4 presents observations regarding TxDOT leadership and management. Subsection 1.5 presents recommendations related to TxDOT leadership and management.

1.1 Pride in accomplishment

One of the most striking aspects of TxDOT is how consistently people within the organization talk about their pride in the organization and their commitment to the work they do. A great many TxDOT employees have spent their entire careers in the organization, starting with summer jobs or internships while they still were in school. Speaking with individual TxDOT employees, it is very clear that many of them see their role as much more than "just a job." TxDOT employees speak passionately of their commitment to the State, of their drive to deliver the best quality services and projects, of their attachment to each other within the TxDOT "family" and of their view of TxDOT's role in their individual communities.

Similarly, throughout the interviews, individuals from all stakeholder groups strongly commended TxDOT employees – especially those in their local areas – for their hard work and dedication.

What also is striking is that many of the most ardent TxDOT employees indicate that they no longer feel proud of their organization.

Over recent years, TxDOT has been subject to increasing criticism from the public, from the Legislature, from community leaders and others. For people who have committed their lives to doing the work they love, and who see themselves as continuing to do the same things that were deemed a success in earlier years, this can be demoralizing and confusing.

May 26, 2010

1.2   TxDOT culture

The Texas Highway Department, precursor to the current Department, was created on April 4, 1917, following enactment of the Federal Aid Road Act of 1916.[7] In 1921, the US Congress amended the Federal Aid to Road Act of 1916 to require the states to take control of design, construction and maintenance of state highways by 1925. As a result, on January 1, 1924, the Texas Highway Department took full control of maintaining the state highways in Texas. In 1991, the Texas State Department of Highways and Transportation became the Texas Department of Transportation in recognition of the full range of transportation modes for which it is responsible.

Based upon published history of TxDOT, the organization's culture gelled very early. The early engineering leaders who aggressively worked to develop roads and highways across the State shaped the culture significantly. It also was affected by external forces, such as World Wars I and II, and the massive investment in highway development across the US. Cultural elements noted in the early history of the organization that still are apparent today include:

- Decentralized organization and decision making, coupled with the belief that Austin (i.e., headquarters) should only provide policy guidance;
- Very broad span of control coupled with centralized decision authority for the Executive Director (ED);
- Frugality and economy, which affect the mindset around investment and also keep the spending focus on putting funds directly into roadways, bridges and other transportation facilities;
- Organization as a culture and entity separate from other state agencies;
- Organization as a place for a career, with most promotions occurring from within;
- Organization as a home for engineers who graduated from the University of Texas (UT) or Texas A&M; and
- Extension of work ethics to personal life and identification with the organization extending beyond work role or boundaries.

The world in which TxDOT is operating has changed significantly over recent years. These changes include:

- Increased volatility, sophistication and complexity of transportation funding;
- Rapidly increasing population in Texas, mostly in a handful of already congested urban and metropolitan areas;
- Evolving expectations regarding the type and availability of transportation required to meet public needs;
- Increasing recognition of the scope and importance of the role other transportation authorities play in the State's transportation future; and
- Changing public expectations regarding availability of information regarding transportation and for government transparency in general.

---

[7] The Federal Aid Road Act of 1916, 39 Stat. 355, was enacted on July 11, 1916, and was the first federal highway funding legislation.

This is where TxDOT's culture can still be a tremendous strength, but also can act as a tremendous inhibitor to internal change and to the ability to understand, accept and respond to an evolving external environment.

1.3   The challenge

Conversations with TxDOT's senior leaders reveal a deep-seated belief that TxDOT is doing all the right things and that criticisms leveled against the organization will decline when TxDOT is better able to demonstrate to people how right the organization is. While this belief might be understandable – in context of the organization's culture and people's individual commitments to the work they are doing – it is counter to meaningful self-examination and redirection of the organization. This does not mean that leaders in the organization are not initiating change. Rather, it means that the way change is undertaken and the nature of the changes undertaken are driven out of the long-standing viewpoints and operating models.

Meaningful adjustment in TxDOT cannot occur without leaders who understand and accept that the organization's performance and management is not meeting expectations. TxDOT requires leaders who truly believe that the world has changed and that TxDOT also must change. The leadership also must conceptualize what that future organization should look like and should do, and must successfully motivate staff to go that direction. Furthermore, the leadership needs to bring management discipline to the organization in ways that may go counter to the existing culture and to their own perceptions of their roles and value in the organization.

1.4   Observations

The observations presented in this subsection are drawn from all aspects of the MOR data collection effort, including interviews with internal and external stakeholders, the employee survey, review of TxDOT-provided documents and data, and focus group discussions on specific topics.

1.4.1   TxDOT leadership

Today, both internal to TxDOT and externally, there is a noticeable divide between field staff (districts, regions) and Headquarters. Within Headquarters there is a divide between divisions and offices and the Administration. To some degree, this kind of division is to be expected as the conditions, relationships and roles vary significantly from one part of the organization to another. However, at TxDOT these divisions appear to be growing and to be adversely affecting employee morale and effectiveness.

Individually, each of TxDOT's senior leaders (the Administration) is held in high regard by many people. Many are respected as "exceptional engineers." Collectively, their contributions to the organization's success over the course of their careers and their willingness to work extremely hard are frequently noted and are respected.

However, the following issues and concerns with senior leadership are widespread:

- Perceived as not addressing the big issues and as intervening in day-to-day engineering and operating decisions and problems that are not appropriate to the Administration's role in the organization;
- Perceived as not trusting other TxDOT staff, especially Headquarters staff, and of being a very closed group that will only talk with each other and that talks down to or bypasses others in the organization;
- Perceived as not setting clear expectations or goals and as managing reactively, which manifests in "second guessing," redirection or cancellation of initiatives very late in their development – after significant time and effort is expended by the involved individual or organization element;
- Perceived as not setting tone of accountability for the organization, including not consistently holding themselves accountable for following organization policies and processes;
- Perceived as not being open to feedback, open dialogue or challenges – people expressed fear of saying "no";
- Perceived as out of touch with staff concerns and morale; and
- Perceived as lacking respect for governing bodies (e.g., Transportation Commission, Legislature) and as not consistently being responsive to guidance or requests from these entities.

Additionally, TxDOT's senior leadership appears to have adopted a relatively paternalistic view of TxDOT employees as a whole. Examples of this are the public commitment not to require staff to relocate as the organization reorganizes into the regional structure and the commitment that no one would suffer financially or lose their job as a result of such changes, which were undertaken to cut budgets and streamline the organization. The choice to use an across-the-board hiring freeze to reduce full-time equivalents (FTEs) instead of a more targeted approach to reduce staff is another example. While these choices once again reflect a deep commitment to the welfare of individual employees, consistent with the TxDOT culture, this approach is not necessarily appreciated nor is it in keeping with the organization's fiduciary responsibility as a public agency.

1.4.2   Strategy and vision

An essential role of senior leadership in any organization is setting, communicating and overseeing implementation of a strategic vision. TxDOT currently has two version of its 2009 – 2013 strategic plan, a Legislative Budget Board version, which is designed to comply with State requirements and a public version which TxDOT developed as a tool to communicate with external stakeholders.[8] TxDOT clearly must comply with statutory and regulatory requirements. However, these documents do not fulfill the need for a single strategy for the organization that links the organization mission to goals and objectives, which in turn become the basis for discrete performance targets and measures.

---

[8] TxDOT internet: http://www.dot.state.tx.us/about_us/strategic_plan.htm

Similarly, a well-thought-out strategy is the foundation for decision making, investment choices, motivating performance, and conceptualizing and implementing change.

TxDOT is currently developing its 2011-2015 Strategic Plan. As part of the process, the Department is updating its strategic direction statements, including its mission, vision, values, goals and strategies and is developing a list of recommended performance measures and performance targets. These were presented to the Texas Transportation Commission in March 2010, are being circulated for public comment as of May 2010 and are expected to be submitted to the Legislative Budget Board and the Governor's Office in early July 2010.

TxDOT mission. While the individuals the MOR team interviewed each believed they understood the TxDOT mission, responses about what that mission is varied substantially. A clear, shared understanding of the organization's mission is fundamental to setting direction for, motivating and measuring performance of staff and to providing the context in which decisions are made within the Department. Also, TxDOT is expected to maintain the existing transportation system, to address new needs for transportation infrastructure and to increase the focus on non-highway transportation (i.e., rail) in a fiscally constrained environment. A shared understanding of TxDOT mission among external stakeholders is also essential as a basis for determining funding requirements and investment priorities, for obtaining needed funds and/or for guiding TxDOT participation in non-traditional funding mechanisms and with other transit organizations.

TxDOT's current mission statement is: "To work cooperatively to provide safe, effective and efficient movement of people and goods."[9]

As part of the 2011-2015 Strategic Plan development process, the TxDOT mission statement that was adopted in draft form in September 2009 is: "Emphasizing cooperation, accountability and transparency, we will provide a safe, efficient, cost-effective, and environmentally sensitive statewide transportation system for the movement of people and goods." This mission is so broad that it allows stakeholders to set expectations for the agency that it doesn't have the staff or funding to meet. Moreover, it doesn't support any clear prioritization of one activity over another.

Through its data gathering, the MOR team heard clearly there is a need to synchronize the TxDOT mission with the funding that it receives or secures to execute its mission. These prioritization themes heard are as follows:

- TxDOT should continue to be a transportation, rather than highway, Department, focusing on all modes of transportation. But it will have limited funding for—and should have limited focus on—non-highway modes, with the emphasis in these areas being on vision, coordination, policy making, and partnership. Among the non-highway modes, rail is most critical and in this area, high-speed rail for connectivity is most important.

---

[9] TxDOT internet: http://www.dot.state.tx.us/about_us/mission.htm

- TxDOT should operate as the coordinating body for all modes of transportation across all entities, without infringing on the rights of local government.
- TxDOT should provide expertise in creative finance mechanisms for use in state transportation infrastructure projects and to provide advice to other agencies, upon their request, regarding creative financing mechanisms to pay for State transportation infrastructure.
- There are, in effect, already different though equally important missions for roadway activities in rural and urban regions. In the one, we need to focus primarily on safety and maintenance; in the other, congestion relief and connectivity are most important. These four areas of work—safety, maintenance, congestion relief, and connectivity— across the system are highest priority.
- TxDOT should maintain its engineering leadership, providing technical engineering expertise to other transportation agencies as requested, and leading interaction with State transportation think tanks; and it should continue to have a role in design and build, but it should also recognize that other agencies may lead projects

These areas of focus for a mission statement are not out-of-sync with the goals adopted for TxDOT in draft form in September 2009. Those goals emphasize:

- Partnering;
- Facilitating multimodal transportation funding strategies; and
- And within roadways, maintaining the existing Texas transportation system, relieving congestion, enhancing connectivity, and safety.

The MOR team proposed that TxDOT's mission statement be more narrow in scope to reflect its areas of priority and limited funding. Having a more targeted mission statement will provide a framework for organizational recommendations and for monitoring impact of those recommendations and success of the agency generally. The proposed mission statement is: Provide safe and efficient movement of people and goods, enhance economic viability, and improve the quality of life for the people that 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.

Although an alternate mission statement was proposed, TxDOT has continued forward with its development and review of an updated strategic plan. This plan won't reflect the MOR recommendations and seems to be driven in large part by deadlines and speed. As an example, the performance measures incorporated therein are established based on data TxDOT has access to, rather than mechanisms for effectively understanding whether TxDOT is accomplishing its mission.

Transportation vision. As external stakeholders reflect upon their expectations of TxDOT, one of the consistent themes was the importance of TxDOT being the leader in developing and maintaining a statewide transportation vision for Texas. Expectations for a transportation vision go far beyond the scope of the Strategic Plan or the transportation programming documents developed today. While those documents fulfill certain requirements, they do not reflect the results of a concentrated effort to project transportation needs for the State and the ways in which evolving transportation

capabilities might be used to meet those needs. Such a vision – developed in conjunction with other stakeholders – could provide context for setting project priorities, for obtaining funding, for making investments and for integrating transportation initiatives across the state to achieve overall goals.

1.4.3   Management

TxDOT culture directly affects the approach and efficacy of TxDOT management, across the organization. Many of the observations here are noted in more specific examples in the business process diagnostic results.

- **Operating model**. The TxDOT operating model currently has characteristics of both extreme decentralization and extreme centralization. Historically, a great deal of authority and autonomy has been delegated to district engineers (DEs). However, decentralization is not limited to the DEs and is of such a degree that it stifles accountability across the organization. At the same time, senior leadership has centralized decision authority in a way that is undermining employee confidence and morale as senior leaders bypass subordinate managers and responsible staff to directly make decisions and provide guidance to supported individuals and organization elements.

- **Problem correction versus accountability and improvement**. TxDOT staff are geared to solving problems as they arise – both because of the problem-solving mindset associated with the engineering culture and also to keep problems from "being noticed." People perceive that it is not acceptable for problems to be acknowledged or for anyone to "get in trouble" for causing a problem. Consequences of this approach include: (1) lack of appropriate accountability, (2) problems may not be raised to appropriate levels in the organization, and (3) one-off "fixes" don't lead to consistent or to increasingly efficient ways to address an issue and don't enable a more proactive approach to prevent recurring issues. Additionally, as might be expected, this approach doesn't lead to tracking trends or developing long term solutions and/or changes that might prevent recurring problems.

- **Performance management**. TxDOT managers and employees report discomfort with providing negative reviews or feedback, either informally or as part of the formal performance review process, because of how close people's relationships are with one another. This behavior is evident in the grade inflation reflected in TxDOT performance reviews (described in HR diagnostic review). As with some of the other observations, this is another example of a way in which the very strength of TxDOT's culture also undermines effective management in the organization.

- **Innovation and diverse experience**. At the leadership levels, the TxDOT workforce is notably homogenous. A high percentage of TxDOT managers and executives have spent all or a significant portion of their careers in the agency and also share similar educational backgrounds. This is characteristic of the culture, but means that a great many people in key positions know one way of operating – the TxDOT way. This does not mean that no managers or executives have good ideas that could help the organization, but it does mean that it can be difficult to believe that alternative ways of operating can be adopted in the organization. During the course of the MOR, it was not unusual to hear that enhanced management disciplines or requirements for consistent application of tools across the organization "would not work in TxDOT."

- **Headquarters versus field**. As already noted, some division between headquarters and field staff is to be expected. However, TxDOT leadership repeatedly chooses to bypass the Headquarters divisions and offices in favor of working only with the field to effect change. One example of this is regionalization, which conceptually is intended to realign functions across the entire organization. However, change was undertaken with the districts first – without defining how the new regions would interact with, be supported by or otherwise affect division operating models and requirements. Similarly, the performance management initiative focused on districts. While it can be argued that work performed in the districts constitutes the lion's share of TxDOT's mission, consistently dismissing the Headquarters elements as too hard to work with or as being unreceptive to change exacerbates issues with morale, increases confusion over roles and responsibilities, and does nothing to motivate people in those elements to participate in or to champion change. Beyond that, as will be illustrated in Section 2, lack of an organization-wide view of change is one of the characteristics that impedes achieving real improvement or getting the greatest value out of change initiatives at TxDOT.

- **Engineering focus**. There is no question that engineering is a core discipline for TxDOT or that it will continue to be essential to the organization's performance. Stakeholders from many groups praised the depth of expertise that TxDOT's engineering staff possesses and shares across the state. However, a healthy organization requires deep expertise in a variety of disciplines. As one interviewee put this, "You wouldn't field a football team with all quarterbacks, no matter how great the players were." TxDOT leadership is perceived as neither valuing nor respecting non-engineers. By-products of this engineering-centric culture include: (1) professionals with other relevant expertise have difficulty "being heard" within the leadership and management teams; (2) a tendency to fill roles with engineers, even if that requires attempting to retrain an engineer in a completely new discipline, instead of recognizing the need to hire appropriate experts; and (3) a tendency to use engineer compensation and job classifications as the benchmark against which all other experts are measured, which doesn't reflect the realities of the employment market or the value of non-engineering expertise.

Clearly TxDOT employees are accomplishing a great deal of work. However, in the absence of relevant metrics, performance reporting, management disciplines and controls – deployed across the organization – it isn't possible to determine whether work is being done effectively or efficiently. It also isn't possible to identify broadly the opportunities to improve performance, which could not only be good for the organization but also could enhance job satisfaction for TxDOT employees. Certainly there are many examples of TxDOT "heroes" who pour extreme effort into righting wrongs and meeting deadlines to enable success. These people could be much more effective if the requirement to be heroic diminished and their tremendous capabilities and enthusiasm was used more effectively and for higher value earlier and/or throughout a project or initiative.

One of the concerns very frequently voiced within TxDOT is that quality is all too often sacrificed to speed or to quantity. TxDOT leadership appears to be tasking the organization by an internally set, deadline-driven approach instead of tasking to achieve outcomes or to reach deadlines that require high performance, but that have a reasoned basis. TxDOT leaders have expressed a sense of urgency to address the concerns expressed by the Sunset Commission, members of the Legislature and other

stakeholders. However, if concerns are addressed piecemeal and in a rush, without considering more systemically what needs to be done to achieve targeted improvements across the organization, results are unlikely to endure – or to address the concerns that spurred the action.

1.5   Recommendations

The following recommendations apply to the management and leadership area.

- Commit to a transformational change period at TxDOT, with executive-level champions, clearly defined goals and objectives, and acceptance of the time and investment required to implement significant improvement.

- Review role Texas Transportation Commission should play during the transformational change period (e.g., oversight role versus policy-making role). In advance of undertaking change, clearly define responsibilities, expectations and boundaries on Commission involvement versus those of Department leadership.

- Cultivate a leadership team with diverse educational and professional backgrounds and the depth and breadth of skills and experience needed to set a clear vision and to guide the organization through a period of significant change. These skills and experience include:
  - Specialized technical and functional expertise;
  - Business-oriented understanding of appropriate management tools and techniques to enable visibility and accountability that drive enhanced efficiency and effectiveness;
  - Leadership skills needed to operate effectively in an environment requiring sensitivity to diverse stakeholders.

- Integrate change agent(s) into the senior leadership team and empower them with authority to plan and lead change.

- Provide strategic leadership, including:
  - Holding senior leadership accountable for providing strategic guidance, for monitoring and controlling work at a level appropriate to their roles, and for working effectively through supporting layers of the organization to effect management and delivery at a more granular level;
  - Articulating a strategic vision for TxDOT, in context of the agreed-upon mission and goals; and
  - Developing a vision for transportation for the State of Texas.

- Adopt appropriate management disciplines across the organization and support these with enabling methodologies, tools and training.

- Adopt an enterprise view – to drive accountability, to assess performance, to define and implement improvements, and to manage strategic assets.

- Cultivate a culture of respect in which people internal to TxDOT, at all levels, adhere to required processes and checkpoints to help organization efficiently achieve its mission and to enable greater accountability and effectiveness.

- Cultivate a culture of respect for external governing bodies that recognizes the difference between providing information and input versus arguing with or ignoring guidance. Reconsider communications styles.

May 26, 2010

- Develop a value-oriented culture by making cost more transparent across the organization and by looking at projects and initiatives in terms of return on investment and total cost of ownership.

- Develop a performance-based culture, making the definition of clear performance measures that support TxDOT mission and goals part of every initiative and every performance plan.

- Tackle the recommended changes through a well-thought-out, enterprise-wide plan that balances achieving near-term results with the thoughtful sequencing of priorities, dependencies and investments. Avoid tackling recommended changes in a piecemeal or reactive way that results in wasted resources, greater churn for staff, inability to integrate related components to deliver value or similar results that undermine the overall impact of change initiatives.

Section 2:   Implementing change

2.1   Overview

Change management is a structured approach to transition from a current state of operations to a desired future state. Review of internal and external audit reports published since 2005 revealed that specific recommendations and/or areas of concern have been identified repeatedly but have not been acted upon or have not been acted upon effectively. (*Part IV, Supplemental Information*, presents examples of prior audit recommendations that are not yet fully implemented.) Some of these same concerns and recommendations appear in this report.

TxDOT currently has multiple initiatives underway with the goal of improving the organization's effectiveness and efficiency. As might be expected given the preceding discussion of culture and management approaches, Department change initiatives tend to be fragmented. They often have the following characteristics:

- *Lack clear and complete definition* of the underlying problem, of targeted objectives or outcomes and of context with other initiatives or with Department mission and goals;
- *Lack enterprise view* even when the initiative has enterprise-wide implications;
- *Initiated reactively* to address criticisms or perceived problems, without performing meaningful root cause analysis or looking more holistically at the organization before determining what "solution" to pursue;
- *Demonstrate weak solution development* which includes defining a course of action without determining full requirements, not performing an informed assessment of alternatives and feasibility, and/or without a disciplined evaluation of project cost, total cost of ownership (TCO) or of expected return on investment;
- *Rely upon poorly defined implementation plans* that tend to be deadline driven versus outcome driven; and
- *Lack consideration of best practices* to the detriment of achieving desired results.

To illustrate the TxDOT approach to conceptualizing and implementing change, the following subsections highlight two significant initiatives currently underway: regionalization and the Primavera 6 (P6) implementation.

2.2   Regionalization

Pre-Sunset external audits (conducted by Deloitte LLP, the Dye Management Group and Cambridge Systematics, Inc.) identified key improvement areas for TxDOT. In response, the Department began considering consolidation and/or regionalization to improve efficiency. This led to a decision to develop Regional Support Centers (RSCs) to support district activities. Early associated TxDOT planning documents state that regionalization was intended "to recast TxDOT to meet its strategic

outcomes in a more transparent and accountable manner…,"[10] focusing on organizational clarity, identifying key risks, increasing focus on outcomes and establishing outcome accountability.

2.2.1   Background

While Deloitte Consulting, LLP, the Dye Management Group and Cambridge Systematics, Inc. were conducting their reviews, selected DEs had high-level discussions with Ric Williamson, then Chair of the Texas Transportation Commission, regarding how best to structure the Department. This group decided TxDOT should establish regions that would consolidate all specialty engineering functions to allow districts to focus on core project delivery. In this model, regions, headed by regional executives, would be responsible for planning (programming, innovative finance, multi-model systems, long-range planning), project development (environmental studies, consultant contracts, design review, pavement evaluation, traffic operations engineering, right-of-way, bridge design, bridge inspection, construction support) and support (HR, safety, purchasing, equipment, accounting, IT, facilities, sign shops, warehousing) for their respective geographical areas of responsibility. Districts would focus on design, construction, maintenance and operations; essentially operating as engineering hubs. In this model regions also were expected to oversee district operations.

Subsequently, as a pilot for the regional model, the Dallas and Fort Worth DEs asked their staff to develop a high-level plan for consolidating the Dallas/Fort Worth area into the North Region. The pilot approach was to turn the Dallas District into the Dallas/Fort Worth District and to change the Fort Worth District into North Region headquarters. The pilot was not implemented.

2.2.2   Implementation

The implementation chronology, as the MOR team observed that it is being implemented, is presented in Figure 2-1.
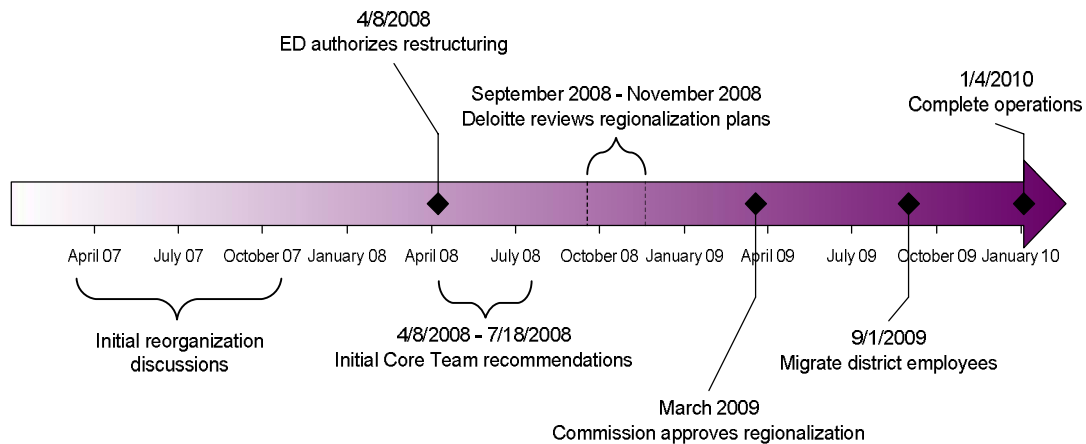
Figure 2-1: Regionalization (Phase 1): Implementation chronology

---

[10] TxDOT Restructuring Plan, April 30, 2008

On April 8, 2008, the TxDOT Executive Director authorized three teams to study restructuring:

- Executive Team with membership including select members of the administration and select DEs to oversee the restructuring process;
- Core Team comprising of select DEs and Division Directors to determine the regions' roles and develop the restructuring plans; and
- Resource Team comprising select operations personnel from districts and divisions to support the Core Team with information and expertise.

The Core Team was given approximately 6 weeks to develop a more detailed regionalization plan in accordance with their charter. Through July 2008, well beyond the planned 6-week timeframe, the Core Team worked to develop a list of proposed Department outcomes intended to accomplish the recommendations set forth in the Sunset report and determined what level of the organization should be responsible for each outcome. The Core Team also conducted a high-level staffing analysis and recommended organizational changes, supplying the Administration with recommended organizational charts.

The Core Team's initial recommendation was to consolidate 22 existing divisions and offices into 14, and to develop RSCs, reducing support staff Department-wide by 25 percent. This equated to a statewide FTE reduction of 1,112 FTEs (762 in districts and 350 in divisions) or 7.45 percent of total TxDOT staff. The team recommended the following revised roles and responsibilities in a new organization structure:

- Districts would focus on project delivery and daily operations, including design, construction, maintenance and operation of the transportation system;
- All functions that support those core activities would be moved to the region or would be centralized in divisions;
- RSCs to consolidate project delivery support and daily operational support functions in order to realize economies of scale, eliminate redundant services and increase accountability; and
- Division operations would include statewide planning and policy development, statewide compliance reviews, grant application and management activities, regulatory functions and technology systems support.

The Core Team recommendations generated significant push back from divisions. Ultimately the Core Team recommended that TxDOT restructure in phases, with Phase I encompassing changes at the district level and RSC establishment.

On July 18, 2008, after receiving the Core Team's recommendation, the ED published a memorandum to all employees that outlined his direction with regard to restructuring and regionalization. In the memo he agreed with the concept of restructuring, agreed with the phased approach, requested detailed plans, named Interim Regional Directors (IRDs) and set a deadline to submit detailed Phase I plans to the Administration by September 8, 2008.

Implementation activities that occurred after that point included:

- At the September 2008 Commission Workshop, the TxDOT ED briefed the Texas Transportation Commission on restructuring efforts. In this briefing, the ED committed to publish the restructuring plan to allow employees an opportunity to provide input before moving forward, to bring forward a minute order establishing the regions "around the first of the year"[11] and to have the regions fully operational within 6 to 8 months of Commission approval.

- On December 1, 2008, the ED submitted the regionalization plan to all TxDOT employees for review and comment.

- On February 17, 2009, the IRDs finalized the updated plan after receiving employee feedback.

- In March 2009, as recommended in the Deloitte Consulting, LLP report, TxDOT performed a cost/benefit analysis of the proposed regionalization plan.

- At their March 2009 meeting, the Commission approved the regionalization effort as defined to that point, with the Administration responsible for defining the remaining details concerning staffing and processes.

- During June and July 2009 TxDOT hired permanent Regional Directors (RDs).

- On September 1, 2009, TxDOT migrated selected district employees to RSCs. Regional employees were directed to continue operating under district procedures, with minor changes, until the RSCs were fully operational.

As TxDOT started to implement regionalization, RSC staff began developing detailed standard operating procedures (SOPs) and began to more clearly identify expectations around which functions would be handled by districts, regions and divisions. As part of developing SOPs, the regions created service level agreements (SLAs) and standards of uniformity (SOUs) with DEs in each district, helping to establish a common understanding of service expectations. Although there wasn't an overall project schedule for regionalization, interim milestones were established for particular project activities. SOP, SLA and SOU development was targeted for January 1, 2010. To develop all SOPs, SLAs and SOUs within this targeted timeframe, the RDs divided responsibilities among the four regions. Most SOPs were submitted for review around the January 2010 timeframe. On February 26, 2010, the Assistant Executive Director (AED) for Field and District Operations approved the SOPs for immediate implementation. With this approval, the region in charge of each SOP was responsible for executing a training and rollout plan by April 1, 2010 (3 months later than the original deadline).

Since that point, the AED for District and Field Operations has extended the deadline for rollout to May 1, 2010. This revised deadline has been missed, although as of the end of May 2010, regions are finalizing and executing training plans. Most training includes a meeting with the affected division

---

[11] Amadeo Saenz, Jr., briefing to Texas Transportation Commission, Commission workshop, September 24, 2008

resources and meetings with each region and their associated districts through VTCs. Those SOPs with limited process changes will have minimal training, while those with more significant process changes are planning more in-depth training initiatives. The regions are finalizing training by scheduling sessions with districts that were not able to attend previous training sessions due to schedule conflicts.

2.2.3   Findings

Regions are taking steps to standardize processes and to share best practices and resources, as recommended in the pre-Sunset audits. Positive results of regionalization to date include:

- ***Regional leadership personnel seem dedicated to establish the RSCs and work extra hours to meet this goal.*** They are excited for the opportunity to make improvements, see it as a way to be a part of the solution to correct TxDOT's issues and are working hard to make a positive impact.

- ***The concepts of shared services, eliminating redundancy and sharing best practices have merit.*** TxDOT has reduced FTEs required for support functions. TxDOT reports approximately 500 fewer support personnel are needed to accomplish the Department's activities. However, it is unclear if the personnel no longer needed for support functions have been eliminated from the Department or if they have been moved to new roles in the districts. In addition, recent analysis regarding regional performance in fleet repair orders shows that the Department is now able to do more work with fewer people. Specifically, repair order cycle time decreased by 12 percent with 33 percent fewer staff supporting the effort.

- ***Implementation of SLAs and best practices through new SOPs has improved consistency and accountability.*** As examples:
    o   The Environmental Affairs Division has improved Department-wide environmental processes by clearly defining SOUs and having resources in the region dedicated to environmental review. While this initiative did not require regionalization, regionalization provided an opportunity to rethink about processes and task staffing and to make such an improvement.
    o   Regional Leadership Team (RLT) meetings provide a forum to make more strategic business decisions and increase accountability throughout district and field operations.

However, regionalization timelines were set arbitrarily and inconsistently, and despite all potential and realized benefits of regionalization, there remain implementation and leadership issues.

- ***TxDOT failed to establish clear objectives and metrics for defining successful implementation.*** For example, while regions were designed to reduce redundancy and improve efficiency, as a result of employee pressure, the Administration changed its cost-cutting stance to say that no one would lose their job as a result of regionalization. Further, as a result of push back from functional experts in the field, the target for personnel reductions moved from 762 FTE to 466 FTE (originally calling for 711 FTE in the regions, but final allocations providing 905 FTE). The regions have 775 FTE as of April 10, 2010,

though it is likely that the Department has additional resources in districts that did not move to the regions. Many of the actual cost savings identified for the regionalization effort are more attributable to holding people and districts accountable, largely through RLT meetings, and through other process improvements that do not rely upon regionalization.

The Department has presented misleading information regarding the magnitude of cost savings or cost avoidance that can be attributed to regionalization (as documented in the Pennies to the Pavement briefing, given to the Commission at the February 2010 Commission meeting). It is difficult to clearly establish the degree to which current staffing reductions are directly attributable to regionalization. The analysis presented for cost savings (in February 2010) simply compared the approved Operational Budgets in the Budget Information System (BIS) to the actual Operational Budgets in BIS. This does not serve as evidence that it was regionalization, rather than the hiring freeze, that resulted in cost savings (given that regions are not yet fully implemented as of May 2010, it's difficult to attribute all savings to regionalization).

Cost savings and cost avoidances reported as a result of regionalization (in the Pennies to the Pavement briefing) do not seem to be attributable to the new regional structure. Reported cost savings and cost avoidances associated with regionalization, together with the MOR team's assessment of the genesis of the savings, is as follows:

- TxDOT claims that regionalization resulted in approximately $90 million in costs savings due to reduced staff during FY2008. This is before regional plans were finalized and before anyone was hired for or moved to regional positions.

- TxDOT claims that regionalization resulted in $1.9 million savings as a result of moving to needs-based purchasing for IT capital assets and replacing only failed or obsolete equipment. This is not due to regionalization. Rather this revised plan established IT capital purchasing standards and holds districts accountable to those standards.

- TxDOT claims that regionalization resulted in $39.4 million savings in avoided maintenance costs due to fleet reductions (708 pieces sold from the fleet and associated maintenance costs avoided). While these savings are attributed to regionalization, fleet management is consolidated under the General Services Division (GSD). GSD could have analyzed and managed the fleet to achieve these savings without the regional structure.

- TxDOT claims that regionalization resulted in $1.4 million in cost avoidance by reducing state vehicle use. The decision to limit vehicle use is an example of a decision resulting from focused analysis conducted by the RLT that could have been conducted without the regional structure. At this point, vehicles have not been brought under the regional structure and districts remain custodians of vehicles (the new SOPs state the regions will be the custodians and distribute to districts based on operational needs, but this is yet to be implemented).

- TxDOT claims that regionalization resulted in $1.6 million in returned revenue for damage claims. These savings are a result of increasing district accountability for damage claims and are not related to any regional functions (the RSCs only assist in damage claims processing from an accounting perspective).

As of February 2010, TxDOT projected that these savings would equal $251 million over FY2010 and FY2011 (with claimed actual savings totaling $203.6 million for FY2008 and FY2009). These

savings are beneficial for the Department, but, as referenced above, they are not attributable to the regionalization effort. Because of the way TxDOT is tracking regionalization activities and savings, it is unclear what will be the actual savings resulting from the effort.

TxDOT set implementation dates arbitrarily and sequenced implementation activities inefficiently. Our review of materials related to implementation shows no rationale regarding how key milestones were set by the administration or how they expected those responsible to complete assigned tasks within the given timelines. Though conversations began in 2007, the Department planned full implementation to be completed just 6 months after approval from the Commission. During this 6-month time period, all of the relevant details for implementation needed to be established including, for instance, which sub-functions would be managed at the district, region and division levels; documenting SOPs; and training all affected region, district and division staff. When milestones were set for particular activities, the Department was not able to execute to those milestones. As an example, when the Department "stood up" the regions in September 2009, they moved people to the regions but continued to operate under district procedures for at least eight months. These planning and implementation issues have led to confusion and low morale for staff surrounding the regionalization effort.

There is no authoritative source to determine the definition of regions, resulting in confusion when districts, divisions and regions disagree about plans, activities, or tasks.

- There is still confusion between districts, regions, and divisions about new roles and responsibilities and what functions should be regionalized. As regions developed SOPs, decisions regarding newly-established responsibilities seemed more like bargaining between the groups involved, than a structured decision-making approach.

- Absent a position management system at TxDOT, there is no objective source of information to determine who should be moved to the RSCs based upon their responsibilities and workload. DEs were to move staff who perform regionalized functions more than 50 percent of their time to the RSCs. However, the MOR team heard anecdotally that DEs were able redistribute work to alter that percentage so they could retain individuals they wanted and reposition those they didn't.

- There was no particular guidance regarding stakeholder involvement throughout the implementation processes. Anecdotally, we heard that those brought in during the implementation process were told they could not participate if they did not agree with regionalization. As a result, divisions were not consistently brought into discussions regarding regionalization in a timely manner. This has caused implementation delays when developing SOPs and system issues when updating system infrastructure to account for the regional structure.

As regionalization evolves, there is potential for further contention between districts and regions. Regions will be responsible for allocating resources based on project priorities across multiple districts, thereby assigning regional priorities as they allocate staff (resource allocation being a role previously played by districts). This is a departure from the principle under which most believe regionalization is operating – that regions are strictly in a district support role.

2.2.4   P6

The Sunset Commission identified a need for increased transparency and accountability around transportation projects, and for TxDOT to communicate with the public regarding the status of several thousand projects (defined by Controlling Control Section Job numbers - CCSJs) that are under development.   In response to this recommendation, TxDOT undertook implementation of Primavera Professional Project Management, version 6 (P6) to provide Department-wide visibility into project status and to gather project data into a single location for easier external reporting. In addition, the P6 system is intended to support decisions around project selection, portfolio management, project scheduling and staff utilization based on different funding scenarios.

2.2.5   Background

TxDOT's Design and Construction Information System (DCIS), the system of record for construction cost estimate and letting date information, is not sufficient to communicate project status to the public because it does not track status and allow other functionality, such as managing resources. In June 2008, TxDOT started documenting key milestones in the Project Development Management System (PDMS) approach to improving project transparency. TxDOT posted this milestone information on the internet via Project Tracker by September 2008. In November 2008 TxDOT began working toward a more robust reporting capability by evaluating candidate tools. P6 was selected as the tool that best fit TxDOT's needs, based on contractor facilitation support for tool selection.

2.2.6   Implementation

In November 2008, TxDOT began evaluating project management tools to improve transparency and visibility in project development activities. In December 2008 TxDOT established a Core Team for implementation of this project management tool Department-wide. This group concluded that P6 was the best tool for the Department. In January 2009 TxDOT started working with a contractor, IMS, to develop P6 for TxDOT specifications. TxDOT then established a Resource Team, with representatives from most divisions, to serve as SMEs for the first 6 months of project development.

The implementation chronology, as the MOR team observed that it is being implemented, is presented in Figure 2-2.
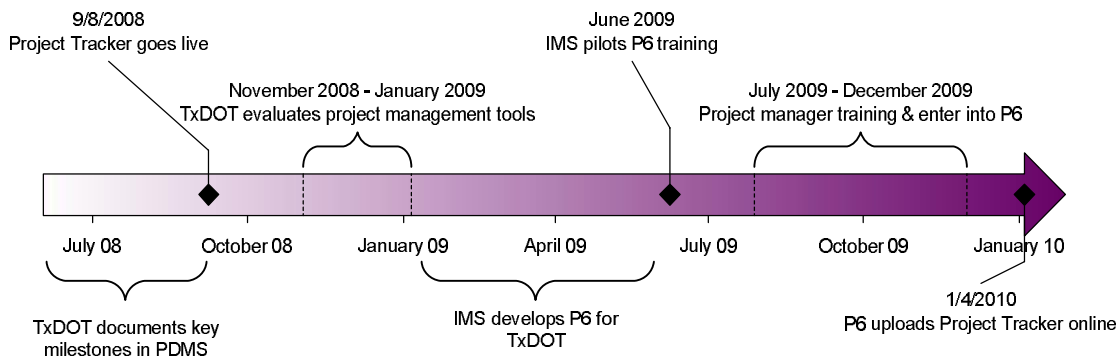
Figure 2-2: P6 implementation chronology

In July 2009, IMS began its rollout of customized P6 training for those within the department that were licensed users. Training focused on how to use P6, troubleshooting, user preferences, entering activities, creating relationships and creating a baseline. IMS developed an executive training course, a 3- day class for project managers, a 2-day course for resource managers and an online course for team members (those simply entering their time allocations). DEs and TP&D Directors identified resources within the district that they felt required such training.[12]

Project managers and resource managers then entered projects in P6, starting with one of three templates developed varying in project complexity. By September 1, 2009, data entry was complete for all projects set to let through August 2011; data entry was complete for all projects in active development by December 1, 2009. TxDOT continues to add projects to P6 and to refine data in P6. While project managers and resource managers were entering project information into P6, TxDOT established an interim P6 Management Office (PMO) based on the initial Core Team.

The initial milestone the administration established for P6 implementation was January 4, 2010. The intent was to post current project development activities from P6 on Project Tracker once implementation was complete. P6 actually started feeding Project Tracker starting on March 26, 2010. The P6 Core Team is conducting quality assurance and quality control on the data in P6. As of April 9, 2010, 2,814 projects (defined by CCSJs) have a valid baseline and are uploaded to Project Tracker while 3,790 do not have a valid baseline and, therefore, are not uploaded to Project Tracker.

2.2.7   Findings

---

[12] After the initial training, conducted in July and August 2009, the Department continued training to support project managers entering projects in P6. From July 1, 2009 to February 15, 2010, 436 employees attended Course DES 300 (for Project Managers), 206 Course DES 302 (for Resource Managers), 568 users employees attended a course called Setting User Preferences in Primavera 6.2, and 740 employees attended a course called Using Progress Sheets to Update Projects in Primavera 6.2), while some individuals attended multiple sessions. In February, the PMO completed four executive training sessions for districts (DE, deputy district engineer [DDE], and some transportation planning and development [TPD] Directors) and regions (Directors and Assistant Directors). As of April 2010, the PMO has not yet finished with training for project managers and has up to seven more sessions scheduled based on requests located in Odessa, Austin, Houston, and Dallas.

P6 has the potential for significant Department-wide improvements in project management and resource allocation. P6 leadership seem dedicated to implementing the tool and are working hard to do so.

The possibilities using P6 are vast and provide TxDOT the ability to track and communicate project information. P6 can help districts manage project timelines and provides the ability to track resource utilization across the state to better identify needs and hold individuals accountable. The Department will have information related to both estimating the level of effort needed to complete project delivery activities, as well as the role (or skill set) needed for each project delivery activity. They can also better forecast the in-house staffing needs as well as consultant needs. P6 will also institute consistency in how projects are managed across districts.

However, as TxDOT rushes to implement this tool, the Department is overlooking its critical need to focus on stronger project management methodologies, P6 implementation timelines seem unrealistic and P6 is not fully operational past its initial deadline.

The Department rushed to provide "project transparency" to the detriment of clearly defining objectives and requirements for a solution that would provide more effective project management and resource allocation across the Department. There does not appear to be a defined set of requirements for tool selection nor does there appear to be a clear roadmap for integration with other systems.

TxDOT seemingly rushed to post Project Tracker online as a "band-aid" to provide transparency into the TxDOT planning process without changing anything about the process or how projects are managed. Information included in Project Tracker includes relatively misleading project information because letting dates were set arbitrarily. In addition, Project Tracker went dormant for months, starting on October 4, 2009 when TxDOT stopped updating PDMS awaiting P6 implementation. Even with the rushed timelines, the Department missed their target implementation date by almost three months.

Similar to regionalization, TxDOT did not account for time between final definition development and training and full-scale implementation. Overall, P6 was not fully operational as a project management tool, using all functionality scoped for use, by the original January 2010 deadline. As of May 2010, not all users are trained on the tool and districts are not consistently using it. Districts have identified people still requiring training, who will likely be trained in the next couple of months.

TxDOT was not able to accurately track project status or resource allocation due to a lack of reliable project information. By December 4, 2009, well after much of the initial P6 training was complete, only 250 of the 2,100 licensed users had entered any time in P6. This issue persists, though to a lesser degree. Also, while most projects under development are in P6, only 43% meet the established QC/QA requirements and are thus uploading to Project Tracker. Similarly, there remain issues with project data fidelity. It is hard to say that with these issues outstanding that there has been a successful full implementation.

The intense focus on the P6 tool has overcome the critical need to focus on stronger project management and project scheduling. P6 is a project management tool with great functionality

that can significantly help TxDOT. However, it is just a tool, not a project management methodology. TxDOT has historically set project letting dates without considering all necessary activities and associated timelines. As a result, TxDOT only successfully delivers projects as scheduled a fraction of the time (as discussed in Section 4.2.2 Plan observations and findings). TxDOT will need to change the culture and how projects are managed to properly use P6 as a project management tool.

P6 implementation has focused on having people get their projects into the tool, not any other particular outcome. Users were trained in July and August of 2009 and had their first deadline for project entry approximately one month later (September 1st). Therefore, those responsible for entering projects into P6 did exactly what administration requested and simply entered their projects into the tool. However, they do not seem to have more reliable project milestone information now than they did before. Entering poor or inconsistent data into P6 and not ensuring the quality of project milestone and resource usage information will result in poor project management analysis. Anecdotally, the MOR team heard that staff were "refining" the information they have been entering and maintaining for projects to make it tell the story they thought it needed to tell.

As a result of P6, project and resource managers, previously responsible for setting a let date and backing into other key milestones, are suddenly responsible for allocating resources based on specific hours required to complete tasks. However, they have not been given much new training or guidance on how to develop detailed project baselines based on project development activities. Anecdotally, the MOR team heard that these managers are now reluctant to enter baselines for new projects (those without previously established letting dates), because the administration is focused on maintaining project baselines once entered into P6 without providing flexibility to account for unforeseen events such as new environmental discoveries, changed resource availability, and modified priorities and the project managers will now be held accountable for all milestones set in P6.

TxDOT is developing the PMO around those involved in developing the P6 tool, not personnel with project management expertise. To that point, the PMO office, which most organizations use as a Project Management Office, is called the P6 Project Management Office (based on a memo from John Barton to all DEs, Regional Directors, Division Directors and Office Directors dated September 9, 2009).

While we recognize that P6 implementation is ongoing, the department does not seem to be working towards recommendations made to this point in the Primavera P6 Readiness Assessment conducted by Innovative Management Solutions submitted on January 29, 2009. Specifically, this report recommends training project managers on scheduling and general project management skills (as outlined by the Project Management Institute's publication of the Project Management Body of Knowledge (PMBOK)) and developing a Project Management Office (PMO) with individuals trained in project controls, scheduling, and project management professional (PMP) certifications. As discussed above, TxDOT has seemingly ignored such recommendations and has not provided additional project management or scheduling training to anyone, especially those in PMO roles, outside of training on the P6 tool.

2.3   Recommendations

Before implementing a change initiative, TxDOT must establish and articulate a clear purpose, logical timeline for implementation with associated milestones and performance measures.

Timelines should be associated with other planned agency change initiatives to appropriately sequence initiatives and activities. Baseline performance data and targets should be critical components for deciding to undertake an initiative. Progress against targets should be tracked throughout implementation to allow for course corrections and decisions to be made around whether to continue forward in implementing change. Finally, any change initiative requires a clear champion who will provide the required support (including personnel and resources) to accomplish the goals of the initiative and a project leader who will be held accountable for its successful implementation. (*Part IV, Supplemental Information*, presents a summary of change management best practices.)

Section 3:   Organizational structure evaluation and recommendations

3.1   Introduction to organizational review

The Texas Transportation Commission asked Grant Thornton to review TxDOT's organizational structure, particularly paying attention to the leadership levels and providing recommendations on how to improve the efficiency and effectiveness of the Department.

3.2   TxDOT's organization structure

The Texas Legislature through House Bill 2 established the Texas Highway Department in 1917.

In 1991, the Highway Department became the Department of Transportation, responsible for all statewide transportation. TxDOT acquired the Department of Aviation and the Motor Vehicle Commission in 1991, railroad planning and motor-carrier responsibilities in 1995 and the Texas Turnpike Authority in 1997.

As per House Bill 2, TxDOT vested a three-member commission (later expanded to a five-member commission) with administrative control of the department. The Texas Transportation Commissioners:

- Oversee and direct activities of the Texas Department of Transportation to strategically plan, design, construct, administer and maintain multimodal transportation systems including general aviation airports, turnpikes and toll ways.
- Meet with civic, State, Federal and international governmental officials and the public on transportation-related matters and ensures cooperative working relationships among participants are established and maintained.
- Conduct periodic or special commission meetings to review and approve multimodal transportation projects and related funding activities.
- Attend public hearings, civic and State functions; delivers speeches, writes articles and presents information at meetings, conferences or conventions to promote, interpret and clarify services, exchange ideas and accomplish agency objectives.
- Consult with agency staff and others in government, education, business and private organizations to discuss issues and resolve issues and coordinate activities.
- Oversee and direct investigations and audits or hearings to resolve complaints, grievances, or improve agency methods/services.
- Oversee administration of budget and directs and monitors expenditures of departmental funds/grants.
- Review and analyze legislation, laws and public policy and recommends or approves changes to promote and support interests of the general population, as well as special interest groups.

The Department's Audit Office reports directly to the Texas Transportation Commission.

As of April, 2010, TxDOT's has 12,057employees, with 2,142 employees in headquarters functions (in Austin) and 9,141employees in 25 districts (or district-run area or field offices) located around the State. The current organization chart is shown in Figure 3-1.
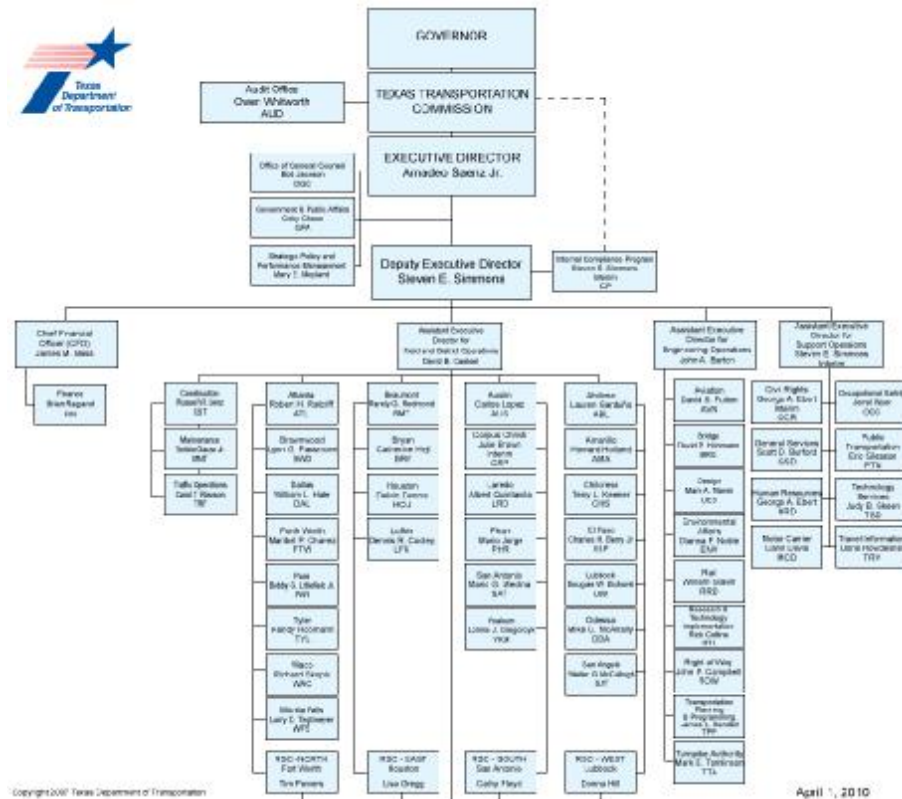
Figure 3-1: Current TxDOT organization chart

3.2.1   TxDOT's senior leadership

The most senior leaders in TxDOT are called the TxDOT "administration." The administration is comprised of the following:

- Executive Director;
- General Counsel;
- Deputy Executive Director;
- Assistant Executive Director for Field and District Operations;
- Assistant Executive Director for Engineering Operations;
- Assistant Executive Director for Support Operations; and
- Chief Financial Officer.

This group is responsible for day to day management and oversight of TxDOT. The responsibilities of these offices and individuals are described below.

The **Executive Director** is responsible for oversight of operations and support activities in the Department; and compliance with all laws and regulations. In addition the executive director liaises with Legislature and Commission to represent the Department and receive direction.

The **Office of General Counsel (OGC)** reports directly to the executive director and serves as the highest level staff legal advisor to the Texas Transportation Commission (Commission), Administration and Department employees. OGC is responsible for researching complex legal issues and rendering oral or written opinions, briefs, interpretations and counsel. OGC directs a staff that advises the Department on the compliance and interpretation of Federal and State laws, rules and regulations pertaining to departmental contracting activities. The office also analyzes and drafts legislation, rules and regulations pertaining to the operations and policies of the Department and participates in all phases of rulemaking and advises on legal sufficiency. In addition, OGC oversees and directs risk assessments in areas of responsibility of potential fraud, waste and abuse and in conjunction with the Administration develops and implements policies and procedures to identify, prevent and eliminate fraud, waste and abuse.

The D**eputy Executive Director** reports to the executive director and assists in overseeing and directing activities of the Texas Department of Transportation to strategically plan, design, construct, administer and maintain multimodal transportation systems including general aviation airports, turnpikes and toll ways. The deputy executive director acts as consultant to District Engineers, Division Directors, and Office Directors to facilitate the operations of the Department.

The C**hief Financial Officer (CFO)** reports to the deputy executive director and provides vision, leadership and strategic direction for the Department's financial functions. The CFO oversees activities of the Finance Division and serves as Chief Investment Officer. The CFO oversees the State Infrastructure Bank program, the programming and scheduling of all transportation projects and the letting management activities associated with project delivery. In addition, the CFO formulates and implements policies and procedures for Department budget and financial activities to ensure compliance with State and Federal laws, rules and regulations concerning fiscal management of government funds and resources. He oversees formulation, presentation and monitoring of the Department operating budget. It is the CFO's responsibility to develop long-range fiscal policies and adjust budget projections in conjunction with Administration guidance; to oversee preparation of financial summaries and forecasts reflecting income and expenditures; and to oversee receipt, disbursement, deposit and accounting of Department funds.

TxDOT has three assistant executive directors (AEDs), each reporting to the deputy executive director of the Department. The duties of the AEDs are as follows:

- The **assistant executive director for field and district operations** oversees all field activities and personnel, overseeing the 25 districts, 4 regions and the following divisions Construction, Maintenance and Traffic Operations. This AED assists in directing the planning process for the districts, establishes operating objectives and directs field and some division executive managers in achievement of Department goals.
- The **assistant executive director for engineering operations** directs and reviews the performance of Division and Office Directors in support of the engineering operations of

the Department, overseeing the following divisions: Aviation, Bridge, Design, Environmental Affairs, Rail, Right of Way, Transportation Planning and Programming and Texas Turnpike Authority and the Office of Research and Technology Implementation. This AED also assists in directing the planning process for the agency, establishes overall operating objectives and directs division executive managers in achievement of Department goals.

- The **assistant executive director for support operations** oversees and coordinates administration of related programs and acts as consultant to District Engineers, Division Directors, and Office Directors to facilitate the support operations of the Department, overseeing the following divisions: General Services, Human Resources, Motor Carrier, Occupational Safety, Public Transportation, Technology Services and Travel and the Office Civil Rights. This AED provides information on technical merits of programs, appropriation of resources, transportation issues and agency programs and policies.

3.2.2   Headquarters organization

TxDOT's headquarters organization includes two offices and a division that report directly to the executive director. These staff units include:

- Office of General Counsel;
- Office of Strategic Policy and Performance Management; and
- Government and Public Affairs Division.

In addition, TxDOT has 20 divisions and 2 offices that report to the AEDs and CFO. The divisions are led by directors that set department policy and support districts in project delivery, as necessary.

3.2.3   Field organization

TxDOT's field operations are structured around geographic *districts* to deliver transportation solutions to their defined geographic location. Each of these districts includes similar functions focused on transportation planning, project design, environmental studies, construction oversight and maintenance for on-system roadways.

From 1932 to 1982, there were 25 districts. In 1982, one of these—in Del Rio—was closed and the Department operated its field activities through 24 districts. In 1991, Comptroller John Sharp recommended reducing the number of districts to no more than 12, primarily to save money. The resulting 1991 report did not suggest how new district boundaries were to be drawn, but recommended the elimination of district offices and the reduction of district staff. Comptroller Sharp estimated these changes would result in an annual savings of $21 million and a reduction of 535 full-time equivalent staff. The Legislature enacted the recommendation in a special session in 1991. Local areas slated for elimination fought back hard through the rural-dominated legislature. In 1993 (during the next legislative session), the Legislature removed the requirement to redraw district boundaries, and the process led to the creation of the Laredo District in 1994, returning TxDOT to 25 districts, the maximum number of districts that TxDOT is permitted.[13]

---

[13] Transportation Code Chapter 201 § 201.105. Department Districts states "The commission shall divide the state into not more than 25 districts for the purpose of the performance of the department's duties" and "The

Districts are managed by district engineers. District engineers must be licensed as a professional engineer in the state of Texas. They are responsible for providing executive-level direction, management and engineering oversight of all activities in a district, including transportation planning, operations, right-of-way, design, construction, inspection, maintenance, safety and environmental functions, as well as administrative and support activities. They are responsible for the preparation of funding, planning, right-of-way, construction, maintenance and operation agreements with cities, counties, transit agencies, metropolitan planning organizations, regional mobility authorities and/or private entities. The district engineer is to provide leadership in the maintenance of the highways and bridges and oversee a viable preventive maintenance program to extend the service life of equipment and facilities. In addition, the district engineer meets with state agency representatives, local political subdivisions, and public and private interest groups to plan and develop work programs and support transportation systems planning and services and other transportation efforts.

Until February 2009, district engineers reported directly to TxDOT's Executive Director. Currently, district engineers report to the Assistant Executive Director for Field and District Operations.

In addition to districts, the department created a new field support structure through a region approach. TxDOT is implementing four *Regional Support Centers (RSCs)* to consolidate support personnel and resources among its 25 districts. The RSCs are intended to improve efficiency of support activities and help share workload across districts within the region. Each region supports four to eight districts, depending on district size, and provides operational support (purchasing, accounting, IT, etc.) and project delivery support (right-of-way, design coordination, environmental review, etc.).

Each RSC is led by a Regional Director and two Assistant Regional Directors, one for Operations Support and one for Project Delivery Support. The regions report to the Assistant Executive Director for Field and District Operations.

3.2.4   Recent change initiatives

TxDOT has undertaken a number of temporary and permanent organizational changes recently. Permanent organizational changes include:

- The 81st Legislature moved the Automobile Burglary and Theft Prevention Authority (ABTPA), Motor Vehicle Division (MVD) and Vehicle Title and Registration (VTR) Divisions from TxDOT to the newly created Department of Motor Vehicles (DMV) effective November 1, 2009
- TxDOT created a new field support structure through a region approach. TxDOT is implementing four *Regional Support Centers* to consolidate support personnel and resources among its 25 districts. Implementation began in late 2007 and continues through May 2010);

---

commission shall determine the number of department offices necessary for maintenance and construction personnel in a district."

- The ***AED for field and district operations*** position was created in February 2008. One year later, in February 2009, the district engineers were realigned to report to this AED rather than the executive director. In September, 2009 three divisions: construction, maintenance and traffic operations were also realigned to report to this position. As the RSCs were created in 2009 and 2010, they were brought under the director of the AED for field and district operations, resulting in this position overseeing all field operations as well as select significant headquarters functions.
- The ***Office of Strategic Planning and Performance Management (SPPM)*** office was created in February 2009 to develop and implement TxDOT's performance management system.
- TxDOT is developing a ***P6 Management Office (PMO)*** under the Design Division to support implementation, training, and oversight of the new project management tool, P6. As of May 2010, the Design Division Director is determining the best candidate to lead this office (based on recent interviews). Once the new PMO Director is hired, he or she, along with the Design Division Director, will determine the office's structure and hire the remaining resources.

Temporary organizational changes include:

- The ***AED for innovative project development*** retired in August 2009. This position was responsible for developing and operating turnpike projects; coordinating and planning rail projects; public private partnerships; pass-through finance agreements; long-term transportation planning; and coordination with local toll authorities and metropolitan planning organizations (MPOs). The AED for innovative project development oversaw two divisions: Transportation Planning and Programming and the Texas Turnpike Authority. After the AED retired, oversight of these divisions and duties was transferred to the AED for engineering operations.

In addition to the aforementioned organizational changes:

- The Disadvantaged Business Enterprise (DBE) and Small Business Enterprise (SBE) certification programs and DBE compliance oversight, elements of Business Outreach and Program Services, were moved from GSD to the Office of Civil Rights.
- TxDOT previously merged the Bridge and Design divisions and the Construction and Maintenance Divisions. These organizational reforms were reversed when TxDOT came under the direction of a new executive director.
- During restructuring discussions, which ultimately led to regionalization, the department considered consolidating divisions from 22 to 14 by developing a centralized structure for statewide operations that included merging like functions (outlined in the TxDOT Restructuring Plan of April 30, 2008). Statewide operations included in divisions included statewide planning and policy development, statewide compliance reviews, grant activities, regulatory functions, specialized products and management systems support. TxDOT ultimately decided to restructure in phases and consolidating divisions, considered Phase II, was held until after the department established the RSCs.

Staffing levels in the department have decreased lately due to a hiring freeze. While it is always a good idea to improve efficiency and reduce staff to the extent possible, reductions due to attrition do not necessarily result in strategic cuts and often result in fewer front-line workers and increasing ratios of mid-level managers to direct service providers. The department is looking to strategically align resources with need and has embarked on several efforts to align staff to workload and/or to set productivity targets for staff. Through the OneDOT staffing approach, districts identified resource needs based on projected workload and the department plans to share resources across districts based on need. However, districts were allocated FTE based on their attrition rate so as to not unsettle staff.

3.2.5   Requirements

Some aspects of TxDOT's organizational structure are governed by external drivers and requirements, including:

- Transportation Code Chapter 201
  - § 201.105. Department Districts (includes guidance that "The commission shall divide the state into not more than 25 districts for the purpose of the performance of the department's duties" and "The commission shall determine the number of department offices necessary for maintenance and construction personnel in a district.")
  - § 201.108. Internal Auditor (includes guidance that "The commission shall appoint an internal auditor for the department" and "The auditor shall report directly to the commission on the conduct of department affairs.")
  - § 201.202. Divisions; Division Personnel. (includes guidance that "The Commission shall organize the department into divisions to accomplish the department's functions and the duties assigned to it, including divisions for: aviation; highways and roads; public transportation; and motor vehicle titles and registration.")
- 81st Legislature language
  - Internal Audit. The Department of Transportation shall maintain an internal auditing program in compliance with the provisions of the Texas Internal Auditing Act, which shall incorporate, at a minimum, the assignment of an internal auditor at each district office and within each division of the department. Each internal auditor assigned pursuant to this provision shall report either directly to the Commissioners of the Department of Transportation or to the internal auditor appointed pursuant to Government Code § 2102.006.
  - An internal auditor whose duty station is assigned pursuant to this provision may consider suggestions from a District Engineer in developing proposals for the department's annual audit plan.
- Senate Bill 970 effective on June 19, 2009 removed the requirement for the ED to be a Professional Engineer. The bill specifically revises Section 201.301 of Transportation Code.
- During the 81st Legislature's 2009 session, Senate Bill 1382 was passed which requires TxDOT to create a long-term plan for a statewide passenger rail system. As per TxDOT, "this will include annual updates on existing and proposed passenger rail systems, analysis of potential interconnectivity problems, and ridership projections. To help with this function, the department created a Rail Division." Texas Public Employee, November 2009: *Transportation in the 81st Session of the Texas State Legislature*, TxDOT

3.3   Organization structure guiding principles

The team structured its organization recommendations effort around a series of foundational principles.

1. ***Organizational structure should align to organizational mission, goals and objectives***. The form of the organization should align as closely as possible to the mission(s) the organization seeks to achieve. Recurring problems can be a symptom of the organization's not having clearly thought out what its overall mission and goals are. Without visiting the overall mission, redesign is usually highly reactive and a very short-term fix. Without focusing on the mission in designing organizational structure, the path to accomplishing it is probably longer than necessary.

2. ***Appropriate spans of control to allow for effective management and oversight***. There is no particular right number of subordinates for a supervisor—nonetheless, identifying the level of control and determining whether it is appropriate for the circumstance is critical. Factors that will affect levels of control include: geographic proximity, capability of workers and complexity of task, similarity of task, capability of the supervisor, and the availability of information technology to automatically collect data and support operational decision making and oversight.

3. ***Logical splits between centralization and decentralization to get to operational efficiency/economy of scale***. In geographically-disparate operational areas, decentralization of operations helps to support flexible, efficient project delivery. However, strong, central oversight is required to promote consistency and quality performance across an organization.

4. ***Clear owners for policy setting, project delivery oversight and project delivery are necessary***. As independence is required for effective oversight, project delivery cannot be undertaken by the same organizational unit responsible for oversight. However, there are certain cases where project delivery activities require specialized subject matter expertise that is more appropriately located in a central entity for economies of scale. In these cases, there must be a clearly delineated owner of such activities for effective accountability, meaning the function cannot be centrally located with some decentralized operations.

5. In keeping with the current organizational structure to the extent that it makes sense, use a ***functional structure that groups similar jobs together when geographically reasonable***.

3.4   Findings, observations and recommendations

3.4.1   Commission structure

TxDOT's leadership issues seem to primarily lie with organization's full-time leadership, rather than the Commission. However, there seems to be a conflict of interest in the organizational alignment of the Commissioners' aides. The aides are intended to be the eyes and ears of the Commissioners, providing information on the status of departmental activities. And yet the aides report to the

Executive Director, the individual most accountable for successful Department operations. This has the potential of putting aides in situations where they would not want to report information that could reflect poorly on a member of administration if that member also is able to influence their year-end performance evaluation.

In order to eliminate the potential conflict of interest that arises from having the Commissioners' aides report to TxDOT's administration, *the Commissioners' aides should report directly to the Commissioners, with their performance evaluations completed by the Commissioners but all required personnel management activities facilitated by the HR Director*. Figure 3-2 illustrates the proposed Commission structure.
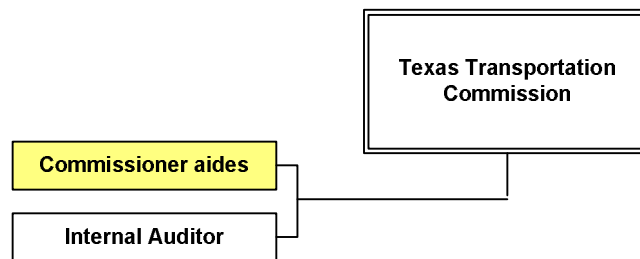
Figure 3-2: Proposed Commission staff functions

3.4.2   Engineer(ing) focus

TxDOT has a strong engineering bias and is led almost exclusively by engineers—45 of 62 leadership positions are held by individuals with a professional engineer's license as are 4 of 6 members of the administration.

Although TxDOT is an organization that must focus on engineering skills and capabilities in order to deliver its required services, as an organization of approximately 12,000 FTEs with an $8.5 billion yearly budget (average over the last five years) TxDOT must focus on its internal operations and financial management in addition to its service delivery. This need is reinforced by the poor evaluations that resulted from some of the MOR reviews of support operations, the Department's growing financial concerns from both inside and outside the organization (i.e., that there are too few funds available to accomplish the mission) and the lack of confidence in TxDOT's ability to demonstrative innovative financial management expressed by those stakeholders with whom the MOR team spoke.

To respond to the engineering bias that is evidenced in its organizational chart and organizational culture, *the Agency should align the senior leadership team of the Department under its three primary areas of activity: operations, organizational support, and financial management.*
Figure 3-3 illustrates the proposed senior leadership organization.

```
        ┌──────────────────────┐
        │  Executive Director  │
        └──────────┬───────────┘
        ┌──────────┼──────────┐
┌───────────┐ ┌───────────┐ ┌───────────┐
│   Chief   │ │   Chief   │ │   Chief   │
│Administration│ │ Financial │ │Operations │
│  Officer  │ │  Officer  │ │  Officer  │
└───────────┘ └───────────┘ └───────────┘
```
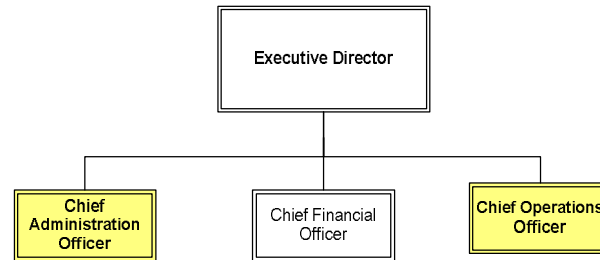
Figure 3-3: Proposed senior leadership organization

3.4.3 CFO organizational structure is not aligned to current environment and mission

Particularly in times of reduced revenue, creative finance mechanisms are an essential part of being able to deliver transportation solutions to the state (e.g., though partnerships with RMAs, debt underwriting for toll authorizes, public-private partnerships). Prior subsections have discussed the changing role of Finance in TxDOT and the criticality of having a strong finance group to support this portion of the Department's activities.

The first organizational structure principle referenced above is "organizational structure should align to organizational mission, goals and objectives." In these changing times, the role of the CFO should include a significant focus on innovative financing and debt management activities. The current organizational structure does not support this prioritization, with the CFO having a one to one supervisor-supervisee ratio as he oversees only the Director of Finance and the Financial Management Division.

To provide TxDOT the tools it needs to garner resources in this changing financial landscape, *the Department should break its debt management section away from the Finance Division, providing increased visibility into the roles and responsibilities of this Office and allowing the leader of the debt management section to be recruited and recognized as a senior position, with skills and experience commensurate with what's required to effectively manage this function for TxDOT*.

With the increasing focus on alternative mechanisms to finance transportation, *TxDOT requires an office and personnel with experience in innovative financing solutions. This office should oversee CDA agreements, develop new mechanisms for financing transportation solutions, and work with the Administration and Legislature to provide authority to the Department to use such mechanisms*. In accordance with these responsibilities, the innovative finance office would perform duties related to CDAs, RMAs and toll roads currently performed by the Texas Turnpike Authority Division (TTA). Figure 3-4 illustrates the proposed CFO organization.

To improve process oversight by the Finance Division, *TxDOT should align D/D/O/R finance personnel under the Finance Division (as recommended in the Financial Management*

business process diagnostic). While finance personnel can be physically located in and support each D/D/O/R, they should all report to the Finance Division, and ultimately, to the CFO in order to increase accountability and responsibility.
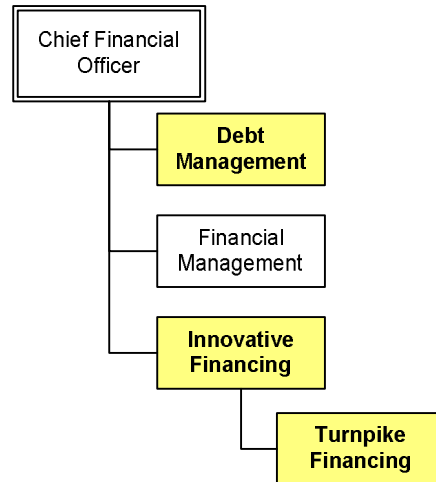
Figure 3-4: Proposed CFO organization

3.4.4   Letting management not a core finance function

Functions performed by the current Letting Management group are not typical finance functions, focusing more on reviewing project information and coordinating planning activities than on evaluating financial data or financing mechanisms.

The Letting Management group was moved to the Finance Division (effective April 1, 2008) to provide improved oversight of the project delivery process, ensure that projects going to letting have sufficient funding and introduce controls to the fulfillment of annual letting lists. During the letting process, the AED for Engineering Operations (ACOO) reviews the proposed letting list.

The Letting Management group also makes sure that districts are only taking projects to letting that are identified in their 12-month letting schedule. However, letting management is more closely linked to project planning and execution than to financial processes. The AED for Field and District Operations is accountable for project delivery, as this position oversees the districts' and regions' operational execution. The AED review during letting is to make sure the department is letting projects that are in line with their priorities (i.e., staying within the zone of "need-to-haves" rather than "nice-to-haves"). Given the role of an AED in letting and oversight, it is appropriate to ***hold the ACOO for Field and District Operations accountable for project letting schedules and delivery by placing the Letting Management group as a staff function under that position***. This group is also organizing district plans and doing some non-finance related work to prepare projects for letting. Figure 3-5 shows the proposed alignment of the Letting Management group.
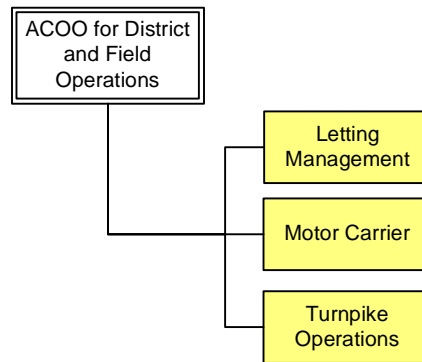
Figure 3-5: Proposed alignment of letting management group

3.4.5   No coordinated approach to planning for statewide transportation

TxDOT involves a variety of organizational entities in its planning process. TPP is responsible for overseeing the development of the department's planning documents (e.g., UTP and STIP). SPPM houses the group that previously included experts in transportation visioning. At this juncture, neither division is focused on long-term planning activities or establishing strategic policy guidance for transportation. TPP does not have a structured approach to connect a statewide transportation planning vision to individual plan documents. Data analysis and reporting functions are separated in the department (i.e., Systems Planning and Program Management, and Traffic Analysis sections of the current TPP and Traffic Operations Division). Further, there is no unit responsible for maintaining statewide transportation needs and monitoring the economic impact of transportation investments. This results in inconsistent and out-of-date department-wide planning activities and programs (provided in more detail in the Plan observations and findings section).

TxDOT requires an owner of the statewide transportation vision, accountable for coordinating plans among different modes of transportation, and with expected future transportation innovations. ***The ACOO for Transportation Vision and Planning will bring together transportation planning and programming, transportation forecasting and analysis, multimodal transportation and rail activities to create a unified transportation vision for the state's future. The agency should establish a Transportation Forecasting and Analysis Office responsible for researching and identifying the state's needs in the long- and mid-term; and for coordinating with administration and TPP in developing the Department's plans***. This new Office should house staff with experience in economics and future forecasting models and transportation planning and development specialists.

In order to effectively craft a transportation vision for the state, ***the activities that the state supports in all modes of transportation need to be coordinated at the highest level to identify synergies and opportunities***. While TxDOT is primarily engaged in grants management in its non-highway transportation modes, even grants should be coordinated to support a broader vision rather than single instances of local projects. Public Transportation Division primarily performs grant management responsibilities rather than coordinating the use of alternate transportation modes in transportation planning and project development. The Aviation Division and Traffic Operations

Division also oversee grants. The Gulf Intercoastal Waterway section of the TPP Multi-Modal group administers the state's duties as the non-federal sponsor of the Gulf Intercoastal Waterway and provides support for the Port Authority Advisory Committee. Due to the current and expected future size and scope of different transportation modes, TxDOT should keep the Rail Division separate from the rest of the Multi-Modal group.

Figure 3-6 illustrates the proposed ACOO for Transportation Vision and Planning organization.
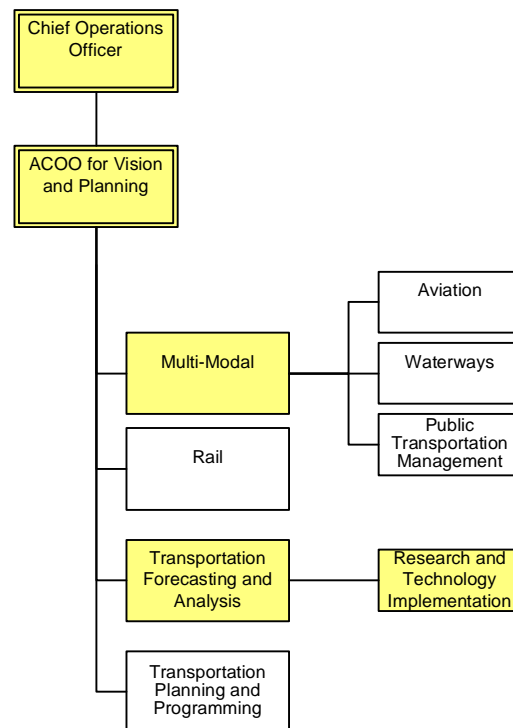
Figure 3-6: Proposed ACOO for Transportation Vision and Planning organization

Activities currently under TPP are realigned under the new Vision and Planning group to provide a more focused concentration on operational goals. The Data Management, Systems Planning and Program Management, Traffic Analysis, and Statewide Planning and Programming sections of the current TPP align to the new Transportation Planning and Programming group. The Gulf Intracoastal Waterway and Bicycle and Pedestrian sections under the current TPP align to the Multi-Modal Transportation group.

3.4.6 Minimized accountability as a result of blurred delivery and oversight responsibilities

As referenced in our functional reviews (Sections 5-10), while divisions are generally responsible for policy-setting, there is no consistent process for policy oversight, which is necessary for high-quality and consistent policy application and sustained department performance. Moreover, divisions lack the authority to provide delivery oversight (i.e., oversight of policy execution). During project reviews prior to lettings, divisions are not able to hold districts accountable for errors or general poor performance as compared to established standards. Moreover, they are often expected to assist

districts in making projects acceptable for letting. This does not incentivize the districts to improve performance and does not allow administration to truly understand department-wide performance. Because divisions support project delivery, there is no clear accountability for project delivery.

Coordination and communication between the divisions and districts is often ad hoc and initiated by the districts when there is a question or issue that needs to be resolved. Division resources have project delivery support roles and are not able to proactively set standards or best practices. Further, divisions do not have the appropriate authority to enforce project delivery standards or best practices. Therefore, neither divisions nor districts have accountability for the entire project delivery process.

The agency should *separate project delivery from policy-setting and oversight, centralizing policy and standards development and oversight in the divisions and offices, with project delivery decentralized in the regions and districts.* This separation between oversight and delivery is expected to achieve the following:

- Improved delivery standardization and accountability;

- Increased opportunities for adapting processes and procedures as needed to adopt best practices, and/or improve performance; and

- Reduced redundancies.

With this change, divisions are responsible only for: setting policy and guidance for the relevant subject matter or functional areas; performing quality reviews on a sample of work products to ensure that policies are effective and executed in a common manner; serving as subject matter experts as required (especially for training initiatives, system development and complex issues); and maintaining the systems and tools required for effective performance of the relevant function. Divisions would not assist in project delivery unless personnel were needed for complex projects, specialty knowledge, or to support knowledge sharing activities.

District and field operations are responsible only for; identifying, developing, and ensuring quality for projects within their geographic area; coordinating with local stakeholders for project needs and issues; and providing internal support to those conducting the associated activities.

Regions should serve as operational support and resource coordinators to share services across districts, a similar role to their current function. This function would be extended to all resources, beyond designers, who facilitate project development and, therefore, support activities, projects and districts based on need; such resources would include, for instance, environmental agents at the districts, traffic engineering, advanced planning activities, etc. Essentially, the regions would help share resources for all activities that involve fluctuating workload and limited requirements for specific geographic location (i.e., designing a project from another district vs. performing construction oversight far from the local office).

The department is already moving towards a similar model by consolidating right of way duties under the region and moving aspects of environmental documentation review to the regions. However, they have not taken a consistent, structured approach to such changes. Given the responsibilities identified above, TxDOT should develop a more consistent approach for handling project delivery activities. Districts should be responsible for ensuring quality of all project requirements, including designs, right of way maps, and environmental documentation. Those overseeing and managing such resources should be responsible for quality control of such activities. Divisions should then conduct a compliance review on a subset of district work products for all project requirements. For example, when a designer completes the PS&E package, the internal district review serves as the final in-process check to make sure it meets the standards set forth by the Design Division. While this process should be consistent for all project work products, environmental documentation review may need to be centralized to conform to FHWA requirements regarding a certifying agent within the department. TxDOT should continue in its current direction regarding environmental documentation review and strive to comply with the model described above as much as possible.

In addition, ownership for all specific activities would be fully centralized or fully decentralized, eliminating the hybrid model that does not support accountability. As such, the finance personnel in the regions would be realigned to Financial Management and human resources personnel would be realigned to Human Resources (though these personnel would report to a different office, the recommendation is not that they be relocated from their current locations in districts and regions). Purchasing and warehousing duties should be aligned under General Services Division to improve operational efficiency and increase economies of scale.

In order to clearly divide policy and oversight for delivery TxDOT should **align all divisions involved in operational areas under one group** (i.e., to return the organization to the structure that it had in September 2009, prior to moving three divisions under the AED for District and Field Operations).

To maintain project delivery responsibilities under one organization unit **align the Motor Carrier Division and responsibilities related to the Austin Toll-road (currently under TTA) as staff positions under the ACOO for Field and District Operations.** The Motor Carrier Division is responsible for operations related to coordinating overweight vehicle use of the current transportation system. Similarly, the Austin Toll-road is part of the current transportation system. Therefore, these areas focus on and coordinate with field and district operations as they relate to the use of the transportation system.

This recommendation would create a span of control for the ACOO for Field and District Operations of 32 direct reports. Given the organization structure as defined, this should not pose a problem regarding our principle of appropriate spans of control for effective management and oversight. Divisions will be responsible for a majority oversight and reporting of district and region performance. The ACOO for Field and District Operations will serve more of communication and coordination function than a typical direct management and oversight role, allowing for a larger span of control than normal.

Figure 3-7 illustrates the proposed COO organization that separates delivery and oversight functions.
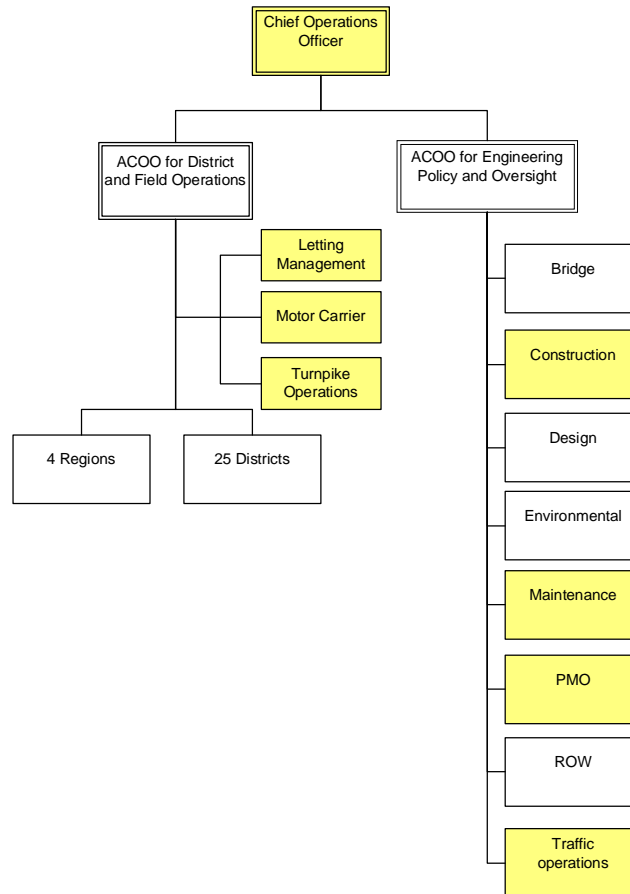
Figure 3-7: Proposed organization to separate delivery and oversight functions

3.4.7   Communications are scattered, and lack quality assurance

Communications has many different purposes and there are no necessary synergies between government relations and support for citizen outreach and communications. Currently, the government relations function of GPA is overshadowing the other roles the office plays (e.g., internal communications leadership and support). External stakeholders wonder why the department needs such a large (almost 50 FTE) group to communicate with government, state, and foreign stakeholders, which furthers the poor transparency perception of the department. In reality, less than half of those resources are focused on government relations, while the remaining work to help the department develop a meaningful and consistent message to internal and external stakeholders.

Separate government relations and communications; communications should focus on policy and tool development and oversight and marketing for the Department. Government activities are rather discrete from this. Separation of these duties provides for single, focused mission for each group and limits potential competing priorities. Because communication has recently proven to be such a large issue for the department, they need to focus equally on two separate, but equally important, missions.

As shown in Figure 3-8, the new communications group would be under the Chief Administrative Officer to be consistent with other department-wide support functions. The government relations group would report directly to the Executive Director to serve as the Departments contact for Federal, State, Local and foreign government entities and international business and interest groups.

```
┌─────────────────┐
│      Chief      │
│  Administration │
│     Officer     │
└─────────────────┘
         │
         │    ┌────────────────┐    • Communications, Strategy & Policy
         └────│ Communications │    • Publications & Production
              └────────────────┘    • Community Relations
                                    • Field Support
```
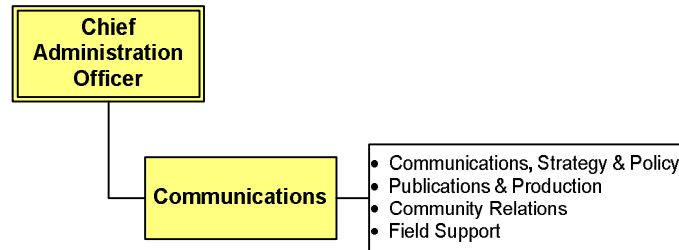
Figure 3-8: Proposed Communications Division

```
┌─────────────────────┐
│                     │
│  Executive Director │
│                     │         ┌──────────────────────────┐
│                     │         │      General Counsel       │
└─────────────────────┘         └──────────────────────────┘
         │                      ┌──────────────────────────┐
         └──────────────────────│   Government Relations     │
                                └──────────────────────────┘
                                ┌──────────────────────────┐
                                │   Strategic Planning and   │
                                │  Performance Management    │
                                └──────────────────────────┘
```
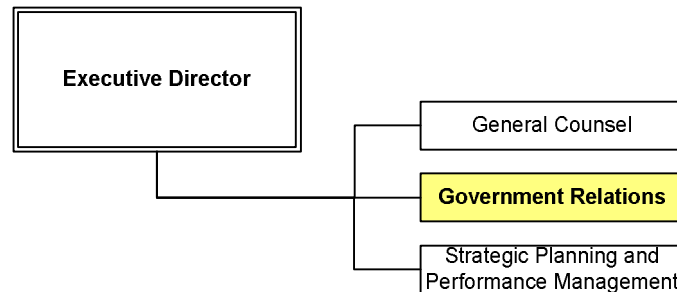
Figure 3-9: Proposed Government Relations Office

3.4.8   No centralized oversight of contracting

There is limited governance and oversight for contracting processes (as discussed in Section 9). Those employees currently issuing contracts are not procurement officials and are not well trained or proficient in contract skills, such as contract management and negotiation (as discussed in Section 9).

Add increased execution oversight to GSD's contract responsibility, under procurement experts and not engineers, to increase accountability and oversight of contracting functions. The contract management group will perform the following responsibilities: oversee all contracting including policy, oversight, and develop all standardized contract documents for districts, divisions, regions, and offices; oversee professional service contracts, negotiations, particularly for indefinite deliverable contracts (though likely not required for work authorizations); and review all districts AFAs that involve funding, including all divisions (e.g., Traffic Operations, Bridge, TTA).

Establish processes to monitor and formally report on contracting activity, including negotiations and awards. This will improve transparency as TxDOT currently monitors only 20% of contracts.

3.4.9 Synergies between HUB and DBE programs not realized though often working to same objectives with same constituent groups

HUB and DBE program administration duties are interrelated but separated between OCR and GSD, which makes it difficult for HUB and DBE coordinators to communicate and share information. ***Move DBE program management from OCR under General Services*** (the Division that provides contract oversight and manages the HUB program) to improve operational efficiency. Duties currently performed by the Construction Division in support of the HUB and DBE program will remain a vital operation as this is where most dollars are spent. Figure 3-10 illustrates the proposed internal auditor/compliance program organization.

```
┌──────────────────┐
│      Chief       │
│  Administration  │
│     Officer      │
└──────────────────┘
        │
        │
   ┌──────────────────┐
   │ General Services │
   │                  │
   └──────────────────┘
            │
            │
       ┌──────────────────┐
       │  HUB and DBE     │
       │   Program        │
       │  Management      │
       └──────────────────┘
```
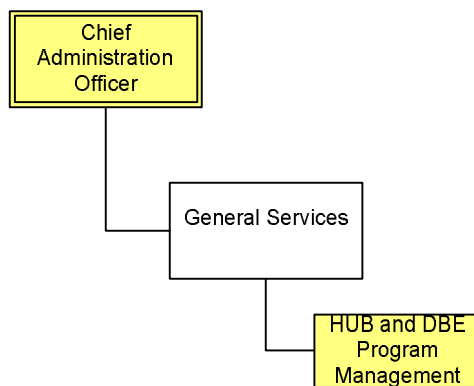
Figure 3-10: Proposed HUB/DBE Coordinator Division

3.5 Organizational recommendations summary

Based on recommendations discussed above, Figure 3-11 represents the proposed organization chart for the Department.
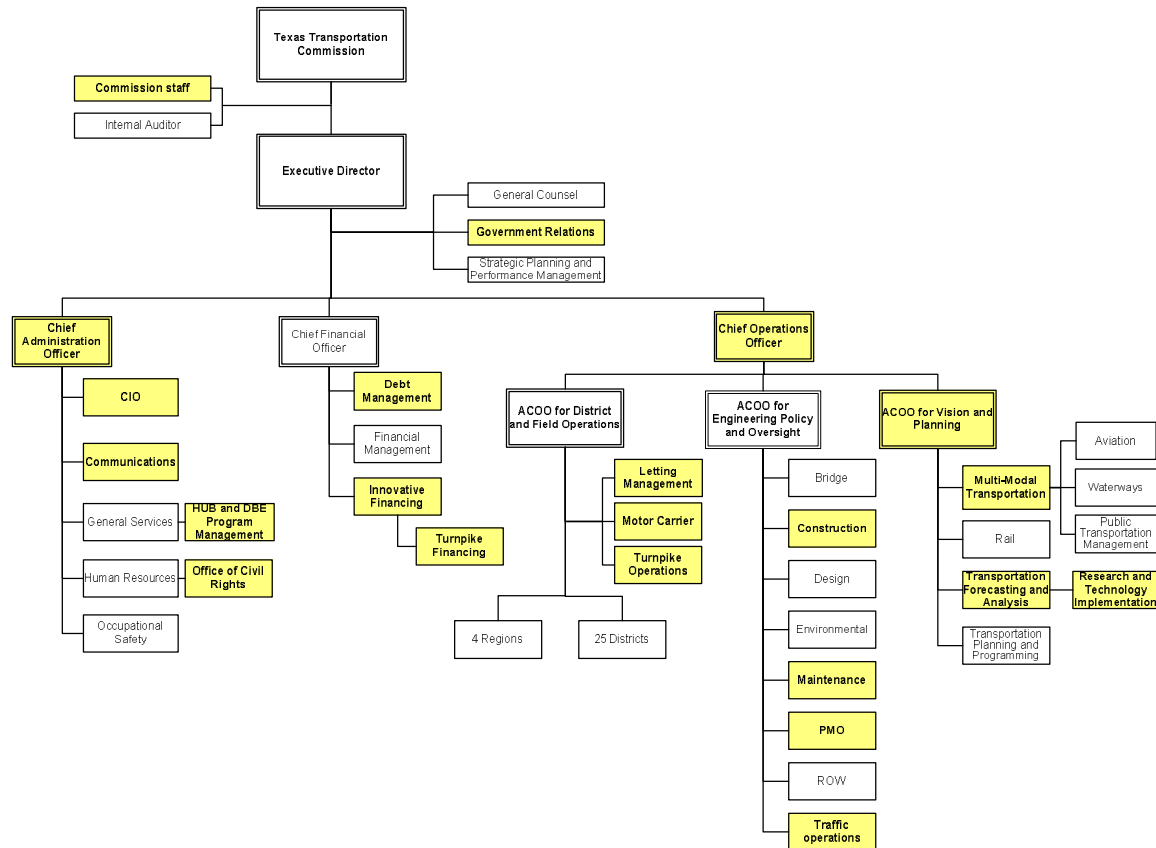
Figure 3-11: Proposed organization chart

3.5.1 TxDOT's senior leadership

The current TxDOT organization chart has six executives in roles that are senior to the district engineers and division directors (Executive Director, Deputy Executive Director, 3 AEDs and the CFO). In addition, TxDOT has a seventh executive position (the AED for innovative project development) that is temporarily unfilled while TxDOT awaits the results of the MOR. The proposed organization chart similarly has seven FTEs for TxDOT senior managerial executives (Executive Director, COO, CAO, CFO and 3 ACOOs). However, given that the positions are not the same (nor are qualifications and duties), the Department should conduct open recruitments for the new leadership positions.

As shown in Figure 3-12, the proposed organization chart creates the following executive positions:

- Executive Director;
- Chief Operations Officer;
- Chief Administration Officer; and
- Chief Financial Officer.
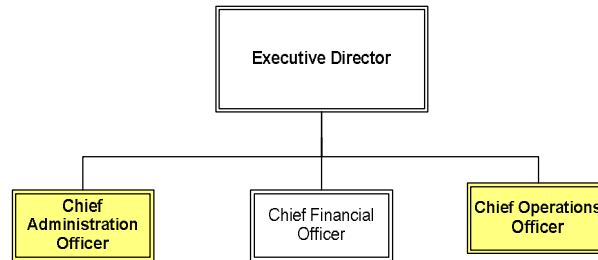
Figure 3-12: Proposed executive organization

This group is responsible for day to day management and oversight of TxDOT. The responsibilities of these offices and individuals are described below.

Executive Director	
Responsibilities	• Operations and support activity oversight • Compliance with all laws and regulations • Liaison with Legislature and Commission to represent Department and receive direction
Direct reports	• Chief Administration Officer • Chief Financial Officer • Chief Operations Officer • Office of General Counsel • Government Relations Office • Office of Strategic Planning and Performance Management

Chief Operations Officer	
Responsibilities	• Engineering operation policies, programs and operating strategies direction, management and implementation • Direction of the long-range and short-range planning process for the department, ensuring a comprehensive transportation solution • Development of inter-district corridors • Resource allocation oversight and direction for district project delivery to ensure adequate support • Compliance for engineering policies and procedures • Consultant to Transportation Directors to facilitate the operations of the Department • Oversight of activities to strategically plan, design, construct, administer and maintain multimodal transportation systems
Direct reports	• Assistant Chief Operations Officer for District and Field Operations • Assistant Chief Operations Officer for Engineering Policy and Oversight • Assistant Chief Operations Officer for Transportation Vision and Planning

Chief Administrative Officer	
Responsibilities	Directs, manages and implements policies, programs and operating strategies for support operations
Direct reports	• Chief Information Officer

	• Communications Division Director • HR Director • General Services Division Director • Occupational Safety Division Director

Chief Financial Officer	
Responsibilities	• Strategic direction for the Department's financial management functions • Policy formulation and implementation for Department budget and financial activities in compliance with State and Federal laws, rules and regulations • Oversight of formulation, presentation and monitoring activities of the Department operating and letting budget • Oversight of activities to receive, disburse, deposit and account for Department funds • Coordination with legislative and state regulatory representatives regarding LARs, auditing of financial reports and compliance with accepted accounting and financial reporting standards
Direct reports	• Debt Management Division Director • Financial Management Division Director • Innovative Financing Strategies Division Director

3.5.2 Headquarters organization

Reporting to the Executive Director:

TxDOT's headquarters organization includes 3 offices that report directly to the Executive Director: Office of General Counsel, Government Relations Office, and Office of Strategic Planning and Performance Management. The following tables list high level responsibilities of the Executive Director offices.

Office of General Counsel	
Responsibilities	• Legal advisor to the Texas Transportation Commission, the Administration and Department employees • Certifying official for all matters filed with the Secretary of State • Liaison with the Office of Attorney General in Department litigation and any other legal issues • Appointed Agent for Service by the Commission for out-of-state motorist lawsuits • Advice preparation for proposed Commission agenda, Minute Orders and toll road issues

Government Relations Office	
Responsibilities	• Department's contact for Federal, State, and Local government entities, foreign governments, public/private businesses and interest groups regarding all matters having an international impact • Coordination of the Department's interaction with members of the Texas Legislature, U.S. Congress, Governor's office, and various state and federal agencies

Office of Strategic Planning and Performance Management	
Responsibilities	• Performance management and reporting program for the Department • Performance measure development, tracking and reporting, facilitating changes as necessary • Organization strategic planning lead

Reporting to the Chief Financial Officer:

There will be three divisions under the CFO as shown in Figure 3-13: Debt Management Division, Financial Management Division and Innovative Finance Division.
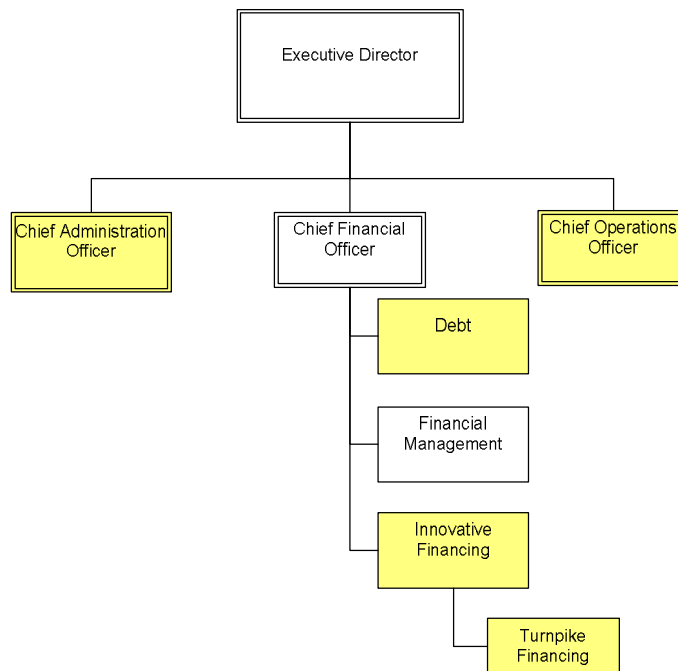
Figure 3-13: Proposed CFO organization

The following tables list high level responsibilities of the CFO divisions.

Debt Management Division	
Responsibilities	• Direct activities related to the department's debt programs, including issuance, monitoring, debt service, disclosure, and compliance with resolutions • Maintain adherence to project revenue bon covenants • Manage the State Infrastructure Bank loan program • Oversight of bond proceed and project revenue bond trust estate investments

Financial Management Division	
Responsibilities	• Payments Management - for all Division/Office payments, perform the coordination of the verification of receipt of goods or services, auditing, and entry of payments into FIMS, submission of data to the Comptroller of Public Accounts, and maintaining appropriate records for service and equipment supply payments; coordinate work of

	districts in these areas through policies and procedures • Accounting Management - Prepare the financial statements for the Department and the Central Texas Turnpike System and respond to auditors' inquiries regarding those statements • Funds Management - Coordinate the development of, and monitor, budget and Full-Time Equivalent related activity for the Legislative Appropriations Requests, operating budgets, and the quarterly performance measure reports and monitoring the appropriation balances and spending forecast to ensure funds are continuously available • Develop and maintain the department's cash forecast

Innovative Finance Division	
Responsibilities	• Direct activities related to potential financing mechanisms to fund the transportation system • Administer or participate in the department's innovative financing programs, such as toll credits, toll equity, pass through tolls, and comprehensive development agreements • Implement federal innovative techniques to accelerate construction programs and provide for effective funding management

Reporting to the Chief Administrative Officer:

As shown in Figure 3-14, there will be five divisions/offices that report to the CAO: Office of the Chief Information Officer, Communications Division, General Services Division, Human Resources Division and Occupational Safety Division.
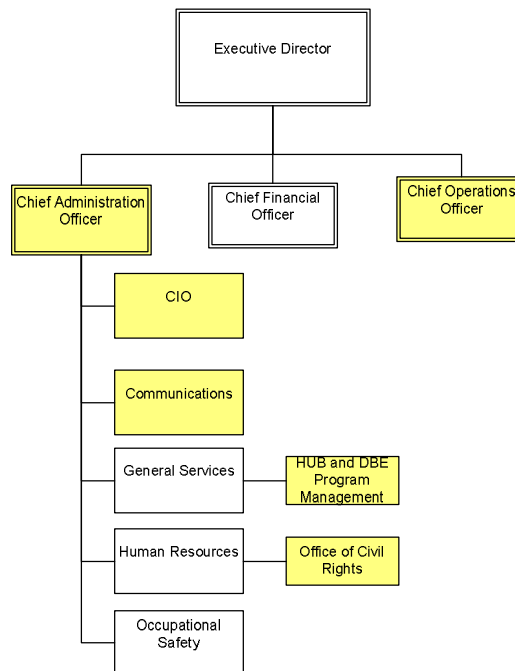
Figure 3-14: Proposed CAO organization

The following tables list high level responsibilities of the CAO organization.

Office of Chief Information Officer	
Responsibilities	- Set IT strategy and planning - Manage IT budget and priorities - Skill development requirements and professional development track for IT professionals and align in organization to facilitate community of excellence and promote most efficient IT reuse - IT Project management, development support, procurement and operations maintenance - IT policies, procedures, standards and enterprise architecture

Communications Division	
Responsibilities	- TxDOT's communication strategy (determine what to say, when to say it, and how to say it) - Strategic Communications Plan implementation - Policy and procedure development - Internal and external communications and customer service coordination - Department-wide and statewide communications including all forms of media, ED videos, TNews, email blasts, etc. - Consistent messaging across all TxDOT communication channels - Policy and design, including TxDOT's intranet and internet sites - Support for districts in media relations, community relations/outreach, and development of communications - Business development, public awareness, public conferences, the Keep Texas Moving campaign and the web

General Services Division	
Responsibilities	- Purchasing execution - Contract services policy and oversight - Property management - Online services - DBE and HUB coordination and outreach

Human Resources Division	
Responsibilities	- HR policy and guidance - Workforce planning - Classifications - Position management - Succession planning - Time management/payroll - Headquarters and Austin Human Resource functions that include staffing, hiring, dismissal, and performance management - Training programs and budget - Current Office of Civil Rights activities, excluding DBE program activities

Occupational Safety Division	
Responsibilities	• Policy and procedure development • Hazard Communication Program and Hazardous Materials Awareness Program • Regularly scheduled and by-request safety/HAZMAT audits of TxDOT facilities and work sites • Health and safety of all TxDOT employees, including industrial hygiene programs, indoor air quality, defensive driving and training for over-the-road vehicles • Workers' compensation program • Drug and alcohol testing program • Management of claims made against the Department arising from operation of motor-driven vehicles and equipment and from use of tangible personal or real property

Reporting to the Chief Operations Officer:

There are three additional TxDOT executives reflected in the proposed organization chart who will report to the COO shown in Figure 3-15, including: Assistant Chief Operations Officer for District and Field Operations; Assistant Chief Operations Officer for Engineering Policy and Oversight; and Assistant Chief Operations Officer for Transportation Vision and Planning.
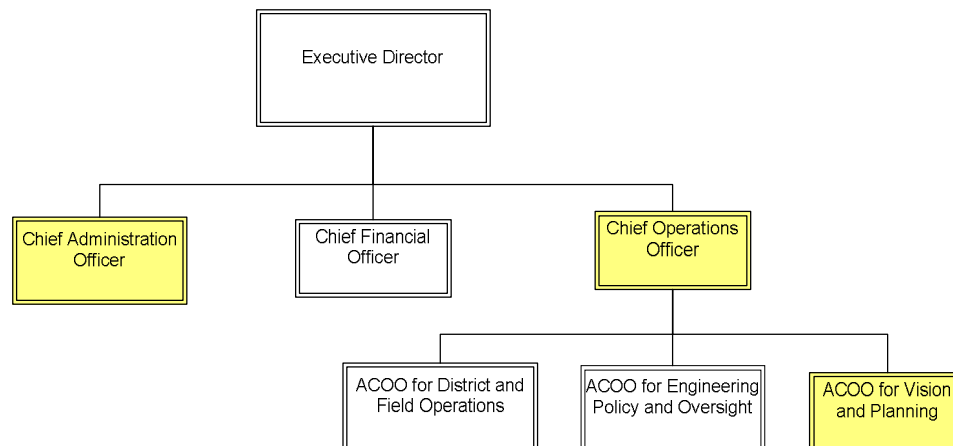
Figure 3-15: Proposed COO organization

The following tables list high level responsibilities of the COO organization.

Assistant Chief Operations Officer for District and Field Operations	
Responsibilities	Coordination, guidance and support for district and field operations, including: • Ensure the effective delivery of transportation projects across the state in accordance with established policies • Oversee resource coordination across districts to make sure each is appropriately supported based on needs • Does not include direct oversight of all field operations—oversight for particular field activities is provided by the policy and oversight activities within the divisions

Assistant Chief Operations Officer for Engineering Policy and Oversight	
Responsibilities	Policy and oversight for major transportation and engineering initiatives, including: • Establish standards and overall direction for policy and oversight activities throughout the department • Coordinate with District and Field Operations to ensure policies are realistic given actual delivery

Assistant Chief Operations Officer for Transportation Vision and Planning	
Responsibilities	• Oversee and manage the long-range and mid-range transportation planning process for the department • Oversee and manage data support, research, forecasting and modeling used for planning purposes and formulating policies and procedures • Identify key transportation issues around the country and the globe with potential for impact in Texas • Oversee and manage transportation modes other than highways • Coordinate with other ACOOs to ensure visions and plans are in accordance with established policy and project delivery efforts

Reporting to the ACOO for District and Field Operations:

As shown in Figure 3-16, the existing districts and regions will report to the ACOO for District and Field Operations. In addition, the Letting Management Office will report to the ACOO for District and Field Operations.
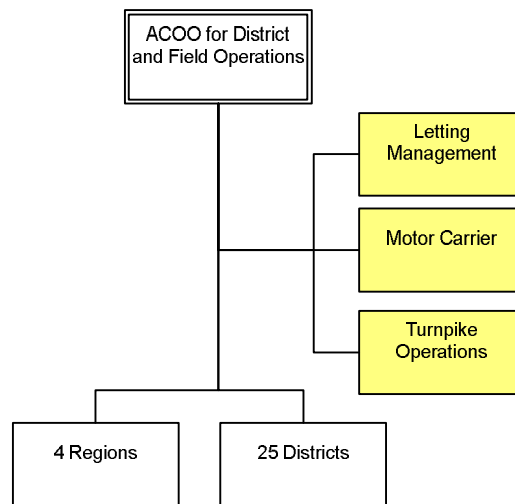
Figure 3-16: ACOO for District and Field Operations organization

The following tables list high level responsibilities of the ACOO for District and Field Operations organization. See subsection 3.5.3 for high level responsibilities for regions and districts in field operations.

Letting Management Office	
Responsibilities	• Coordination of letting activities in conjunction with district project planning

	• Initiate letting data collection to gather projects from districts
	• Coordinate district development of yearly and monthly proposed letting lists
	• Review district submissions to make sure they are within letting caps, in an approved STIP, and have the appropriate funding source associated in DCIS
	• Coordinates necessary reviews of letting lists (e.g., Finance Division to ensure appropriate cash flows exist and ACOO for District and Field Operations to ensure the list is in line with operations direction)
	• Coordinate letting lists with applicable divisions for review and approval/clearance
	• Distribute and post plans, as appropriate
	• Transfer letting responsibilities to the Construction Division

Motor Carrier Division	
Responsibilities	• Oversee and manage activities related to commercial motor carrier registrations • Oversee and manage activities related to permits for over-sized, over-weight and super-heavy loads, coordinating routes with the districts, as necessary

Turnpike operations	
Responsibilities	• Oversee day-to-day turnpike operations (e.g., Austin toll road)

Reporting to the ACOO for Engineering Policy and Oversight:

As shown in Figure 3-17, eight divisions/offices will report to the ACOO for Engineering Policy and Oversight, including the Bridge, Construction, Design, Environmental, Maintenance, Right-of-Way and Traffic Operations Divisions, and the Project Management Office (PMO).

```
                    ACOO for
                Engineering Policy
                 and Oversight
                        │
                        ├──── Bridge
                        │
                        ├──── Construction
                        │
                        ├──── Design
                        │
                        ├──── Environmental
                        │
                        ├──── Maintenance
                        │
                        ├──── PMO
                        │
                        ├──── ROW
                        │
                        └──── Traffic
                              operations
```
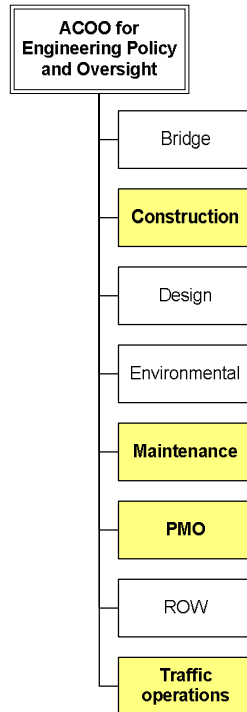
Figure 3-17: ACOO for Engineering Policy and Oversight organization

The following tables list high level responsibilities of the ACOO for Engineering Policy and Oversight organization.

Bridge Division	

Responsibilities	• Policy and procedure development
	• Project development
	    o Critical bridge replacement and rehabilitation needs identification
	    o Programs of work preparation and preliminary planning of structures
	    o Administration of federal Highway Bridge Program
	• Bridge design and design support
	• Federal bridge safety inspection program administration
	• Bridge structural steel inspection

Construction Division	
Responsibilities	• Policy and procedure development • Contractor prequalification • Construction and maintenance contract administration and management • Contractor claims and dispute resolution • Davis-Bacon and Related Acts (DBRA) administration and contractor labor-related Issues • Materials and pavements, including testing and quality assurance

Design Division	
Responsibilities	• Policy and procedure development • Plan development • Field coordination, including final PS&E review for districts • Procurement of architectural, engineering and surveying services • Roadway and geometric design guideline development • Value engineering studies • Landscape programs and design assistance • Design policy and procedure development and expert assistance

Environmental Division	
Responsibilities	• Policy and procedure development • Environmental management and compliance • Transportation planning as it affects environmental resources • Final environmental documentation review to prepare projects for letting • Cultural resource management, including coordination with cultural resource agencies and federally recognized tribes • Natural resource management, including plants, animals, water, air, solid waste and HAZMAT

Maintenance Division	
Responsibilities	• Maintenance policies and procedures, including routine maintenance contracting, emergency contracting and the State Use Program • Emergency management operations, including FEMA program activities • Statewide facilities engineering/architectural services and facilities management activities • Building maintenance and repairs, housekeeping and security for the Austin headquarters facilities • Vegetation management

Right of Way Division	
Responsibilities	• Right-of-way acquisition • Policy and procedure development • Management of right-of-way budget (Strategy 102) • Surplus Real Property program and Highway Beautification program administration • Right-of-way map maintenance

Traffic Operations Division	
Responsibilities	• Policy and procedure development • Crash records, including collection, maintenance, classification and release • Traffic engineering studies • Traffic management and safety • Highway Safety Plan and Texas Traffic Safety Program development and administration • Grant administration

Project Management Office	
Responsibilities	• Program management policy, guidance and tools (e.g., P6) • Subject matter experts for project management training • Project delivery assistance and project management expertise for districts • P6 subject matter experts and schedule management

Reporting to the ACOO for Transportation Vision and Planning:

As shown in Figure 3-18, four divisions will report to the ACOO for Transportation Planning and Vision: Multi-Modal Transportation Division; Rail Division; Transportation Forecasting and Analysis Division; and Transportation Planning and Programming Division.
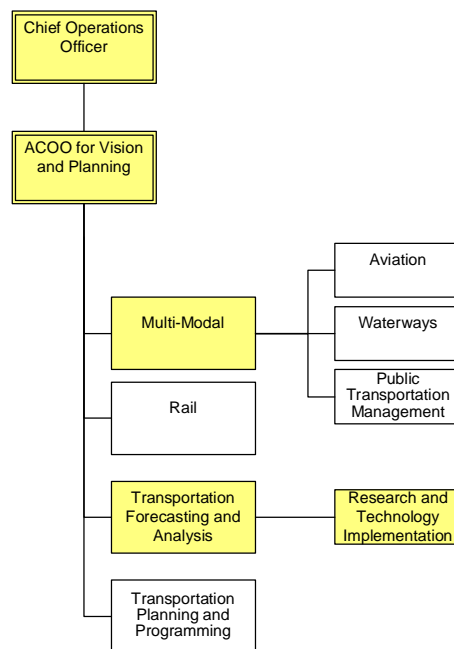
Figure 3-18: ACOO for Transportation Vision and Planning organization

The following tables list high level responsibilities of the ACOO for Transportation Vision and Planning organization.

Multi-Modal Division	

Responsibilities	• Policy and procedure development
	• Plan development and maintenance for all modes
	• Aviation
	  o Flight services and private charter requests for state employees
	  o Aircraft maintenance and line services
	  o Grant administration
	• Waterways
	• Public transportation
	  o Grant management

	o Planning and coordination of public transportation services
	o Public transportation elements of planning documents (STIP, UTP, etc.)
	o Planning and oversight of the state's public transportation fleet needs

Rail Division	
Responsibilities	• Highway-rail grade crossing safety improvements
	• Rail operations and safety
	• Coordination and review of PS&E and project management and oversight for state and federally funded rail projects
	• State and district railroad maps

Transportation Forecasting and Analysis Division	
Responsibilities	• Travel demand modeling and economic forecasting
	• Investment scenario development to define outcome-based, long-range transportation solutions, including potential funding sources
	• Statewide scenario planning and funding estimates
	• Identification of economic benefit of transportation plans
	• Corridor planning
	• Research program coordination
	• Identification of key transportation issues around the country and the globe with potential for impact in Texas

Transportation Planning and Programming Division	
Responsibilities	• Strategic planning and prioritization process management for the Department (TTP, MTP and STIP)
	• Facilitation of evaluation and prioritization of transportation programs, projects, services and initiatives
	• Revisions to the Department's mission and goals to meet the future long range goals of the Department
	• Central focal point for all Department data analysis, data verification and validation, and the sole source for submitting all reportable data (State and Federal)

3.5.3 Field organization

In the proposed organization chart as shown in Figure 3-19, TxDOT field operations continue to be structured around geographic *districts* to deliver transportation solutions to their defined geographic location. In the current TxDOT organization chart, district engineers report through the AED for Field and District Operations and the Deputy Executive Director to the Executive Director. In the proposed organization chart, district engineers similarly report through two executives (the ACOO for Field and District Operations and the COO) under the Executive Director.
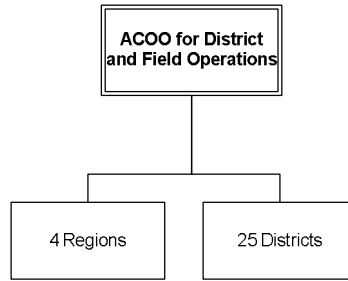
Figure 3-19: Proposed field organization

The following tables list high level responsibilities of the field organization.

Districts	

Responsibilities	• Deliver transportation solutions to their defined geographic location:
	    o Transportation planning
	    o Project design
	    o Environmental studies
	    o Construction oversight
	    o Maintenance for on-system roadways
	• Perform all project delivery functions, and not rely on divisions to provide project delivery support (other than specialized functions such as ROW negotiations)

Regions	

Responsibilities	• Provide centralized support functions:
	    o IT
	    o HR
	    o Purchasing
	    o Accounting
	    o Equipment management
	• Resource coordination for project delivery functions:
	    o Design
	    o Environmental
	    o ROW
	    o Bridge design
	    o Traffic operations

3.6   Next step considerations

This subsection lists the following recommended next steps for TxDOT to consider when implementing the proposed organization structure:

• Continue to progress the regionalization concept to further consolidate similar functions, provide increased oversight, and share resources across geographic areas. Continue to use SOPs and SLAs to support a more matrix management structure, where resources supporting project development may not report directly to the district responsible for such projects. As the Department consolidates support functions under four regions, they can extend that approach and eventually have one entity support districts for administrative functions.

- Develop a central organizational entity to oversee resource management and personnel deployment, currently conducted by each region, in order to efficiently support fluctuating resource needs

- Consider developing a grant management group to consolidate the functions currently performed in several divisions and offices (e.g., Aviation Division and Public Transportation Division).

- Consider moving the Travel Information Division functions under the Communications section to group like functions and improve efficiency and economies of scale. The Travel Information Division primarily performs communication functions including producing external publications, developing audiovisual content, and directly communicating with the public.

While the MOR focused on the organization structure at TxDOT, we acknowledge that there are external partners that receive state and federal funds for transportation activities. It is worth reviewing other entities that receive state funding, such as Regional Mobility Authorities (RMAs). During stakeholder interviews we heard that the purpose of RMAs appears to overlap that of TxDOT.

This page intentionally left blank.

Section 4: Compensation study on select leadership positions

4.1 Introduction

Grant Thornton's Compensation and Benefits Consulting practice conducted a comprehensive review of compensation and benefits, comparing 38 representative TxDOT positions with those of comparably skilled individuals in other public sector organizations and with individuals in private industry, as a basis for understanding what compensation may be required to retain critical personnel within TxDOT and to attract needed talent from external sources to fulfill TxDOT mission and to effect change.

The positions studied through are:

- The 7 members of TxDOT's Administration
- The 23 Division Directors
- General Counsel
- Internal Auditor
- Three representative categories of District Engineers
  - o **Rural**. Abilene, Amarillo, Brownwood, Childress, Laredo, Odessa, San Angelo, Wichita Falls
  - o **Urban**. Atlanta, Beaumont, Bryan, Corpus Christi, El Paso, Lubbock, Lufkin, Paris, Pharr, Tyler, Waco, Yoakum
  - o **Metropolitan**. Austin, Dallas, Fort Worth, Houston, San Antonio
- Three representative region positions
  - o **Regional Director**
  - o **Assistant Regional Director, Operations Support**
  - o **Assistant Regional Director, Project Delivery Support**

To conduct the study, the team reviewed base salary data and benefits and benefit structures and compared total rewards (i.e., base salaries, benefits and, where applicable, annual incentive pay) to other public and private sector entities.

The team conducted a custom salary survey of select public sector transportation entities in the State of Texas to serve as one set of data for the base salary data comparison. In addition, the team compared TxDOT base salaries to market position summaries and published surveys when job descriptions were comparable. Benefits comprised employee health insurance, paid time off (PTO), retirement plan(s) (i.e., defined benefit plans, defined contribution plans, 401(k) plans, and 457 plans) and post-retirement medical coverage.

4.2   Base salary review

4.2.1   Approach

To obtain annualized base compensation market data on benchmark jobs included in the study, the team compared job descriptions provided by TxDOT to market position summaries provided in published surveys and to positions identified through the custom survey. For published survey data, the team matched jobs based on responsibilities, job scope and reporting relationship (not just position title). (While comparisons were made to the degree possible, no two jobs are completely alike and, for some positions, there are some inherent differences between public and private sector duties.) Positions identified through the custom survey were matched to TxDOT positions through respondent matching insomuch as participants were provided with summary descriptions (drafted using actual TxDOT job descriptions) and asked to provide an assessment of the level of match when compared to the summary provided ("less responsibility," "closely matches," or "more responsibility").

Published survey data consisted of base salaries from companies in the service industry sector, where available. The team attempted to use survey matches from all published surveys for each job. However, some jobs did not have relevant matches in certain surveys. Therefore, the number of survey matches varies by job. Published surveys included:

- 2009 AASHTO Salary Survey
- 2007 Central Texas Regional Mobility Authority Survey
- 2009 Dietrich 2009 Engineering Executive Salary Survey
- 2008 Economic Research Institute Survey of Tax-Exempt Organizations
- 2008 Hay Employee Benefit Survey
- 2009 Kaiser Healthcare Survey
- 2007 Mercer Finance, Accounting and Legal
- 2007 Mercer Human Resources
- 2007 Mercer Marketing and Communication
- 2007 Mercer Information Technology
- 2008 Mercer Executive Survey
- 2008 State Auditor's Office Classification Study of Exempt Positions
- 2009 Tolling Authorities' Compensation Survey
- 2008 Wage Access Survey of US For-Profit and Not-for-Profit Organizations
- 2009 Watson Wyatt Middle Management Report
- 2008 Watson Wyatt Report on Employee Benefits
- 2009 Watson Wyatt Top Management Report

Custom survey respondents included:

- Alamo Regional Mobility Authority (RMA)
- Central Texas Regional Mobility Authority (RMA)
- City of Wichita Falls, Texas (MPO)
- Capital Metropolitan Transportation Authority
- Dallas Area Rapid Transit - (DART)

- North Central Texas Council of Governments – Dallas Ft. Worth (MPO)
- The T - Ft. Worth
- Jefferson/Orange/Hardin Counties (MPO)
- Lubbock Metropolitan Planning Organization (MPO)
- Metropolitan Transit Authority
- North Texas Tollway Authority
- San Antonio – Bexar County Metropolitan Planning (MPO)
- VIA Metropolitan Transit
- Laredo Urban Transportation Study (MPO)
- Houston – Galveston Area Council (MPO)

With TxDOT positions matched to positions in the public and private sectors, base salary data was gathered. For published surveys, data is broken out by public (government / not-for-profit) and private sector (for-profit) organizations. Published public sector data were combined with custom survey data to create a composite public sector average. Private sector data were shown separately. TxDOT base salaries were compared to the market median (50th percentile) to determine competitiveness with both private and public sector organizations. For this comparison, using the median rather than a simple average (i.e., mean) removes the potential impact of extremely high or low values. When comparisons resulted in base salaries being plus or minus 15 percent of market, this was generally considered to be competitive.

4.2.2   Observations

The following chart compares TxDOT base salaries to market median (50th percentile) for public and private sector data. (Market data were aged to a common date of January 1, 2010 based on 2009 salary increase projections of 2.0% to ensure consistent "point-in-time" comparisons.)

Table 4-1 compares TxDOT base salaries to market median by reporting TxDOT's incumbent salary as a percentage of the market median salary. Those salaries that fall within the "competitive" range (+/- 15%) are shaded in grey. Those that fall outside of the competitive range by being above competitive range are shaded in green, those that are more than 15% below the median (and outside the competitive range) are shaded orange. For example, TxDOT's General Counsel has a base salary of $139,000. Compared to the public sector market median of $149,000, TxDOT's salary is 93% of the market median ($139,000 divided by $149,000 = 93%). This is within the competitive range and the resulting percentage is shaded grey.

Title	Incumbent Base Salary (000s)	Base Salary (in thousands)			
		Public Sector		Private Sector	
		Median	% of Median	Median	% of Median
Executive Director	$192	$185	104%	$381	51%
Deputy Executive Director	$170	$143	119%	$149	114%
Chief Financial Officer	$166	$151	110%	$178	93%
General Counsel	$139	$149	94%	$341	41%

Title	Incumbent Base Salary (000s)	Base Salary (in thousands)			
		Public Sector		Private Sector	
		Median	% of Median	Median	% of Median
Internal Auditor	$123	$117	105%	$180	68%
Assistant Executive Director for Field and District Operations	$166	$144	115%	$154	107%
Assistant Executive Director for Engineering Operations	$166	$142	117%	$154	107%
Assistant Executive Director for Innovative Project Development	$151	$167	90%	$292	52%
Assistant Executive Director for Support Operations	$166	$134	123%	$270	61%
Division Director - Aviation	$120	$102	117%	$104	115%
Division Director - Bridge	$126	$115	110%	$144	87%
Division Director - Civil Rights	$119	$81	148%	$97	122%
Division Director - Construction	$150	$145	103%	$158	95%
Division Director - Design	$153	$135	113%	$151	101%
Division Director - Environmental Affairs	$153	$110	139%	$130	118%
Division Director - Finance	$145	$118	122%	$196	74%
Division Director - General Services	$127	$123	103%	$178	71%
Division Director - Government & Public Affairs	$129	$121	107%	$216	60%
Division Director - Human Resources	$127	$108	118%	$162	78%
Division Director - Maintenance	$132	$129	102%	$147	90%
Division Director - Motor Carrier	$117	$103	114%	$100	117%
Division Director - Occupational Safety	$119	$107	111%	$131	90%
Division Director - Public Transportation	$130	$119	109%	$178	73%
Division Director - Rail	$114	$113	101%	$104	109%
Division Director - Research and Technology Implementation	$115	$119	96%	$123	93%
Division Director - Right-of-way	$113	$98	115%	$104	108%
Division Director - Strategic Policy and Performance Management	$144	$117	123%	$196	73%
Division Director - Technology Services	$143	$125	114%	$154	93%
Division Director - Traffic Operations	$126	$122	103%	$144	87%
Division Director - Transportation Planning and Programming	$144	$123	117%	$151	95%
Division Director - Travel Information	$110	$87	126%	$127	87%
Division Director - Turnpike Authority	$141	$135	104%	$151	93%
District Engineer – Rural	$133	$123	109%	$124	108%
District Engineer - Urban	$136	$124	110%	$125	109%
District Engineer - Metropolitan	$148	$133	111%	$134	110%
Regional Support Center Director	$108	$117	92%		
RCS Operations Manager	$98	$98	99%		
RCS Project Delivery Support Manager	$107	$98	109%		

Table 4-1: Comparison of TxDOT base salaries to market median for public and private sector

4.3   Benefits review

To assess the competitiveness of TxDOT's total rewards, a comprehensive benefits review was required.

4.3.1   Approach

Published market data was used to assess the value and prevalence of the various types of benefit plans offered by both private and public sector employers. Public sector market data were obtained from organizations included in the custom survey. Private sector data consisted of service companies with employee populations in excess of 2,500 employees. Market data were adjusted to reflect budgeted benefit cost increases reported by participants in order to compare data on a current basis.

4.3.2   Observations

This section examines the competitiveness of each of the quantifiable benefits received by employees. As a Texas State Agency, TxDOT participates in the Texas Employee Group Benefits Program (GBP) which offers:

- Retirement plans
    - Defined benefit retirement plan
    - 401(k) plan
    - 457 plan
- Paid time off
    - Sick leave (accrue 12 days per year)
    - Vacation (accrue 8 to 21 hours per month depending on service)
    - Up to 13 paid holidays[14]
- Additional benefits
    - Post-retirement medical coverage
    - Voluntary AD&D
    - Long-term care
- Health & welfare plans
    - Comprehensive Health Insurance (PPO & 3 HMOs)
    - State Kids Insurance Program (SKIP)
    - Prescription Drug Program
    - Dental Insurance
    - Short-term Disability Insurance
    - Long-term Disability Insurance
    - Basic Life Insurance
    - Optional-Term Life Insurance
    - Flexible Spending Account (FSA)

---

[14] The number of holidays depends on whether a holiday falls on a weekend. If so, the number of days could change.

These were evaluated by comparing the market value of the TxDOT defined benefit retirement plan, paid time off, post-retirement medical coverage and health insurance coverage to public and private employers.

4.3.2.1 Retirement benefits overview

TxDOT offers a defined benefit and defined contribution retirement plans to its employees under the Employee Retirement System (ERS) of Texas. The highlights of each of these plans is shown below in Table 4-2.

Defined benefit plan:
- TxDOT employees are required to contribute 6.5 % of their monthly salary on a pre-tax basis into the State retirement account after the 90th day of employment   - Employee contributions are credited 5% interest annually   - The State will contribute 6.95% of each eligible employee's compensation into the Employee Retirement System (ERS) account   - Employees become vested at age 65 if they been employed by the State for a minimum of 10 years or if they meet the rule of 80 (age plus service equals 80)   - If employed after 09/01/2009, each eligible employee will be entitled to a lifetime monthly annuity equal to highest average 48 months of salary times 2.3% per year of service; if the employee meets the rule of 80 and retires before age 60, the benefit is reduced 5% for each year s/he retires before age 60 (capped at 25%)
Defined contribution plan:
- TxDOT sponsors 401(k) plan and 457 plans (referred to as the Texas Saver Program) for its employees   - Employees may contribute up to the Federally allowed limits each year ($16,500 for 2010 unless the employee is over age 50, in which case s/he may contribute an additional $5,500 into the plan)   - The State does not contribute to either the 401(k) or 457 plan   - Employee contributions are 100% vested at all times

Table 4-2: ERS of Texas defined benefit and defined contribution retirement plans

In comparison to the retirement plans offered to Texas State employees, the team found:

- Approximately 75% of the **public sector employers** surveyed sponsor a defined benefit plan. In these plans, employer contribution as a percentage of pay averaged 9.2%. The most prevalent vesting schedule for the defined benefit plans (that of 62.5% of the respondents) is 5-year cliff vesting. These public sector employers sponsored a defined contribution plan 58% of the time. However, only 33% sponsored both a defined benefit and a defined contribution plan.
- Of the **private sector employers** represented in surveys, only 42.4% offered a defined benefit plan. In these defined benefit plans, the market prevalence is to provide benefits equal to highest average 60 months of salary times 2.01% per year of service. Based on the market data, 97.2% of service companies in the surveys offer a defined contribution plan.

Of these companies, 84.1% make company contributions to the plan in the form of either matching contributions or profit sharing. The average annual employer contribution is 3.7% of pay. For a majority of these companies (58%), the defined contribution plan represents the only form of retirement benefit.

Since TxDOT"s defined contribution plans are noncontributory, the defined benefit plan represents the only form of retirement benefit that receives employer contributions.

4.3.2.2 Retirement benefits comparison

TxDOT's defined benefit plan formula produces a higher benefit accrual rate than the private sector defined benefit plans included reviewed. This outcome is attributable to the service multiplier (2.3% versus 2.01 %) and final average pay formula (48 months versus 60 months) employed in the TxDOT defined benefit plan.

The TxDOT pension plan accrued benefits become vested and payable at age 65 if the employee works a minimum of 10 years and keeps his contribution on account with the Texas Employee Retirement System (ERS) unless s/he meets the rule of 80. If the employee has 10 years of service and meets the rule of 80, the employee may retire with an unreduced benefit. Based on our review of private sector plans, a private sector employee in a similar plan becomes vested after 5 years of service and is eligible to retire with an unreduced benefit beginning at age 62. However, the employee may retire as early as age 55 with a reduced benefit (4.7% for each year retired before age 62).

Because of TxDOT's multiplier permissable and retirement ages, TxDOT's benefits outweigh those from the private sector market.

Although TxDOT's defined benefit plan does not offer a lump benefit, Table 4-3 illustrates the value of TxDOT pension plan viewed as lump sum benefit in comparison to the lump sum benefit accrual under a defined contribution or 401(k) plan.

Assumptions:

- Begin employment at age 40
- Retire at age 60
- 401(k) employer contribution rate of 3.7% of annual pay
- Beginning salary of $150,000
- Ending salary of $298,471
- Interest rate of 5%
- Annual compensation increase rate of 3.5%
- TxDOT computation excludes mandatory employee contribution rate of 6.5%, therefore benefit value was based solely on employer contributions
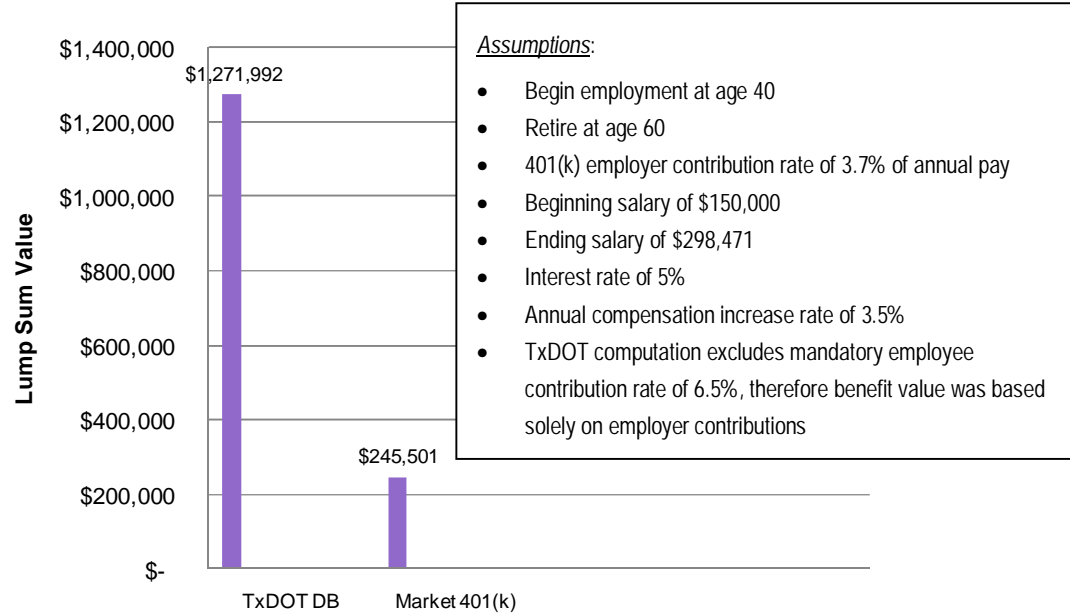
	Annual Benefit		
Gross Benefit 126,075	1,703,273	Lump Sums	Percent of Comp
Employee share	31,923	431,281	25.68%
Net Employer share	94,152	1,271,992	6.50%
ER 3.7% 401(k)	18,172	245,501	19.18%
Excess over ER 3.7% 401(k)	75,980	1,026,491	3.70%

Table 4-3: Value of TxDOT pension plan viewed as lump sum benefit in comparison to the lump sum benefit accrual under a defined contribution or 401(k) plan

4.3.2.3 Paid-time Off (PTO)

At TxDOT time-off benefits consist of sick leave, holidays and annual leave (vacation). TxDOT's PTO benefits exceed both the private and public sector markets in which they compete for management talent.

Between 5 and10 years of services, TxDOT provides 40 days of PTO (12 sick days, 13 holidays, and 15 vacation days). At an annual salary of $150,000, this is valued at $23,077. The comparative private sector market average provides 37.5 days of PTO (11 sick days, 10 holidays and 16.5 vacation days). At an annual salary of $150,000, this is valued at $21,635. The table 4-4 provides data of TxDOT's vacation accrual.

| Years | TXDOT | | | Published Data | | | Private | Public |
	Hours Accrued	Annual Accrual	Days	Hay[15]	BLS	Wyatt[16]	Market Average	Average
0-2	8	96	12		11	14	12.5	10
2-5	9	108	13.5		11	14	12.5	12
5-10	10	120	15		15	18	16.5	15
10-15	11	132	16.5		18	21	19.5	19
15-20	13	156	19.5	21	18	21	20	21
20-25	15	180	22.5		22	24	23	21
25-30	17	204	25.5			24	24	25
30-35	19	228	28.5			24	24	25
35	21	252	31.5			24	24	30

Table 4-4: TxDOT vacation accrual

4.3.2.4 *Post-retirement medical*

TxDOT employees are eligible to receive post retiree medical coverage if they are employed at least 10 years and are 65 years old or if they meet the rule of 80. Pursuant to the market data, only 22% of private sector service companies surveyed offered post-retiree medical benefits to its retirees. However, post-retirement medical benefits were found to be more prevalent (67%) in the public sector market.

Of those companies providing, 100% of the private sector employers require employee cost sharing; 50% of the public sector employers required some amount of employee contribution. Average contribution rates for those employers who share in the cost for employee only coverage is 31%. A key advantage of the TxDOT post-retirement medical benefit program is that 100% of the employee coverage and 50% of the eligible spouse coverage is paid by the State. This data is presented in table 4-5.

| | TxDOT | | Private market (under 65) | | Private market (over 65) | |
	Retiree cost	Employer cost	Retiree cost	Employer cost	Retiree cost	Employer cost
Retiree only	$0.00	$385.38	$298.00	$480.00	$151.00	$227.00
Retiree and spouse	$220.32	$605.70	$679.00	$877.00	$318.00	$416.00

Table 4-5: Retiree cost comparison

Using the data reported in October 2009 ERS GASB 43 Actuarial Report performed by Rudd & Wisdom, Inc.[17], the annualized value of TxDOT's post-retirement medical benefits was determined to be approximately $27,227 per year for an employee currently 40 years of age. This amount

---

[15] Hay 2008 Survey (Service Companies)

[16] Wyatt 2008 Survey - Service Companies 2,500+ Employees

[17] Rudd & Wisdom, Inc. serves as TxDOT's healthcare actuaries on the Post-Retirement Medical Plan

represents the annuitized value of the total healthcare cost a retiree would incur if such cost was not insured.

Based on the projected per capita healthcare cost (adjusted by the cost trends shown in the table below), the team determined that an employee currently 40 years of age and retiring at age 60 would incur $367,838 in medical expenses between ages 60 and 84 (see appendix for detail calculation). On the assumption that this expense would be covered under TxDOT's post retirement medical plan, the annualized value was reached by dividing the expense by an assumed 13.51 annuity factor. This value represents the amount an employee currently age 40 would have to accrue each year (until age 60) in order to fund this medical expense. This data is presented in table 4-6.

Fiscal year	Annual rate of increase
2011	7.9%
2012	7.5%
2013	7.0%
2014	6.0%
2015 and beyond	5.5%

Table 4-6: Health benefit cost trends

4.3.2.5 Health insurance

TxDOT provides each eligible employee health insurance coverage through Blue Cross and Blue Shield of Texas (Health Select). Employees may switch to one of three Health Maintenance Organizations (HMOs) offered if they live in the particular area in which the HMO serves. TxDOT pays 100% of the health care premium for employees and 50% of the premium for eligible dependents. The majority of service companies require employee cost sharing.

- 82% require cost-sharing for employee-only coverage, with an average contribution of $77.43/month (versus $0 by TxDOT)
- 98% require cost-sharing for family coverage, with an average contribution of $277.00/month (versus $367.84 by TxDOT for the PPO option)

This data is presented in table 4-7 and 4-8.

Coverage	Market Average[18]	TxDOT
Employee Only	$77.43 (Employer cost $346.24/month or $4,155/year)	$0.00 (TxDOT cost $385.38/month or $4,625/year)
Employee and family	$277.80	$367.84

Table 4-7: Monthly employee costs for Preferred Provider Organizations (PPOs)

---

[18] The employee only average uses data from 2009 Kaiser Healthcare Survey, 2008 Hay Employee Benefit Survey and 2008 Watson Wyatt Report on Employee Benefits. The employee and family average uses data from the 2009 Kaiser Healthcare Survey and 2008 Hay Employee Benefit Survey.

Coverage	Market Average [19]	TxDOT		
		Community First	First Care Waco	Scott & White
Employee Only	$77.28	$0	$0	$0
Employee and family	$269.54	$340.22	$412.68	$409.88

Table 4-8: Monthly employee costs for Health Maintenance Organizations (HMOs)

4.3.3   Benefit value comparison

To assess the value of TxDOT's total rewards, the team calculated an estimated annualized value of the following benefits using market data, employer cost information and actuarial reports provided by TxDOT:

- Retirement program;
- Paid-time off;
- Post-retirement health insurance; and
- Health insurance.

As illustrated below, TxDOT's benefit value (expressed as a percentage of pay) exceeds the value of benefits provided by both the public and private sector markets. These results are attributable to:

- TxDOT's defined benefit retirement plan;
- TxDOT's generous PTO policy; and
- TxDOT paying 100% of the premium for employee-only health care coverage (for both current and retired personnel).

TxDOT's overall benefit program value represents approximately 56% of annual pay for an employee making an annual salary of $150,000. This exceeds the private sector market by a range of 18% to 35% depending on the type of retirement benefit plans offered by private sector employers. This information is presented in Table 4-9.

Benefit category	Private			TxDOT
	Defined benefit and defined contribution	Defined benefit only	Defined contribution only	
*Defined benefit retirement	$ 26,400	$ 26,400	$ -	$ 29,700
Defined contribution	$ 5,550	$ -	$ 5,550	$ -
PTO	$ 21,635	$ 21,635	$ 21,635	$ 23,077
Health care (annual)	$ 4,152	$ 4,152	$ 4,152	$ 4,624

[19] The employee only averages use data from 2009 Kaiser Healthcare Survey, 2008 Hay Employee Benefit Survey and 2008 Watson Wyatt Report on Employee Benefits. The employee and family averages use data from the 2009 Kaiser Healthcare Survey and 2008 Hay Employee Benefit Survey.

Post-retirement medical (annual)	$ -	$ -	$ -	$ 27,227
Total	$ 57,737	$ 52,187	$ 31,337	$ 84,628
% of pay	38%	35%	21%	56%

Table 4-9: Comparison of TxDOT benefit value to private sector market

4.4   Total rewards review

In this section, the MOR team reviews the competitiveness of TxDOT's total rewards program to both public and private sector markets.

4.4.1   Approach

To review total rewards, incentive compensation must be reviewed in addition to base salary and benefits. TxDOT provides a one-time merit payment (paid in a lump sum) for employees who consistently exceed expectations. The one-time annual payment ranges from $500 to $3,000. For purposes of the total rewards analysis, the MOR team included the midpoint (i.e., $1,750) as an annual incentive opportunity for TxDOT employees. An annualized value was determined on the following benefits: defined benefit plan, medical plan, post-retirement medical plan and paid-time off (PTO)

The results of the base salary and benefits reviews were combined to assess the value of TxDOT's total rewards (which comprise base salary, annual incentive compensation, where appropriate, and benefits expressed as a percentage of annual pay). The sum of values for each of the benefits were then expressed as a percentage of base salary in order to provide a basis of comparison to market. The same approach was used to determine the benefit value for the market. Total rewards value (for both market and TxDOT) was calculated by adding the benefit value percentages to the annualized compensation for each job.

4.4.2   Observations

On average, TxDOT's one-time merit payment represents an incentive opportunity of approximately 2% of base salary among the jobs examined. Incentive opportunities are not prevalent among public sector organizations. Public sector data from published surveys showed less than 20% of jobs examined receiving incentive opportunities, with payouts average approximately 6% of base salary. However, annual incentive opportunities are very prevalent among private sector organizations, with almost 95% of the jobs examined being eligible for incentive opportunities and 76% actually providing a payout. The average incentive payout for these jobs is approximately 34% of base salary based on published survey data. Incentive opportunities reported in the public and private sector surveys are included in the total rewards review. In table 4-10 the MOR team is reporting summary incentive statistics on a job by job basis. Where natural groupings exist, such as Division Directors, the MOR team is providing incentive opportunities for the group as a whole. Statistics are not provided for positions with insufficient data.

	Actual payout (% of base salary)		% of Organizations Providing Payout		Eligibility	Target Opportunity
	Public	Private	Public	Private	Both public and private*	
Executive Director	12.1%	71.8%	57.1%	72.2%	74.9%	85.3%
Deputy Executive Director	N/A	N/A	N/A	N/A	N/A	N/A
Chief Financial Officer	32.7%	84.4%	41.4%	67.2%	75.8%	55.6%
General Counsel	31.1%	70.0%	38.7%	71.4%	78.8%	47.9%
Internal Auditor	9.7%	31.4%	25.0%	77.2%	80.5%	29.8%
Assistant Executive Directors (4)	5.6%	46.6%	17.4%	72.8%	79.9%	37.7%
Division Directors (23)	3.0%	26.5%	14.9%	77.8%	74.0%	29.3%

* Not available separately for public and private sectors

Table 4-10: TxDOT on-time merit payments

As outlined in the benefits review, TxDOT's benefit value was calculated to be approximately 56% of annual pay. The equivalent salary value was added to TxDOT's base salaries to determine total rewards value. Market total rewards value was derived by multiplying the market weighted average benefit cost of 30% by base salary data, and adding this amount to market total cash compensation. The following compares TxDOT's total rewards value to market.

Table 4-11 illustrates TxDOT's total rewards in comparison to market median. Those salaries that fall within the "competitive" range (+/- 15%) are shaded in grey. Those that fall outside of the competitive range by being above competitive range are shaded in green, those that are more than 15% below the median (and outside the competitive range) are shaded orange.

Title	Incumbent Total Rewards	Total Rewards			
		Public Sector		Private Sector	
		Median	% of Median	Median	% of Median
Executive Director	$295	$244	121%	$595	50%
Deputy Executive Director	$268	$186	144%	$193	138%
Chief Financial Officer	$261	$196	133%	$298	87%
General Counsel	$223	$193	115%	$555	40%
Internal Auditor	$202	$153	132%	$278	73%
Assistant Executive Director for Field and District Operations	$261	$187	140%	$221	118%
Assistant Executive Director for Engineering Operations	$261	$185	141%	$221	118%

Title	Incumbent Total Rewards	Total Rewards			
		Public Sector		Private Sector	
		Median	% of Median	Median	% of Median
Assistant Executive Director for Innovative Project Development	$237	$217	109%	$473	50%
Assistant Executive Director for Support Operations	$261	$175	149%	$351	74%
Division Director - Aviation	$196	$133	147%	$141	139%
Division Director - Bridge	$200	$149	134%	$208	96%
Division Director - Civil Rights	$194	$105	186%	$137	141%
Division Director - Construction	$236	$188	126%	$224	106%
Division Director - Design	$241	$176	137%	$217	111%
Division Director - Environmental Affairs	$241	$143	168%	$180	134%
Division Director - Finance	$228	$155	148%	$271	84%
Division Director - General Services	$204	$160	128%	$272	75%
Division Director - Government & Public Affairs	$207	$157	132%	$346	60%
Division Director - Human Resources	$204	$140	145%	$241	85%
Division Director - Maintenance	$209	$168	124%	$219	95%
Division Director - Motor Carrier	$188	$134	140%	$131	143%
Division Director - Occupational Safety	$194	$140	139%	$185	105%
Division Director - Public Transportation	$208	$155	134%	$272	76%
Division Director - Rail	$187	$147	127%	$141	132%
Division Director - Research and Technology Implementation	$191	$155	123%	$173	110%
Division Director - Right-of-way	$181	$127	142%	$141	128%
Division Director - Strategic Policy and Performance Management	$231	$153	151%	$345	67%
Division Director - Technology Services	$227	$163	140%	$225	101%
Division Director - Traffic Operations	$200	$159	126%	$208	96%
Division Director - Transportation Planning and Programming	$227	$160	142%	$217	105%
Division Director - Travel Information	$184	$115	159%	$203	90%
Division Director - Turnpike Authority	$223	$176	127%	$217	103%
District Engineer - Rural	$211	$159	132%	$161	131%
District Engineer - Urban	$214	$161	133%	$162	132%
District Engineer - Metropolitan	$234	$173	135%	$175	134%
Regional Support Center Director	$177	$133	133%		
RCS Operations Manager	$164	$128	128%		
RCS Project Delivery Support Manager	$178	$128	139%		

Table 4-11: TxDOT's total rewards in comparison to market median

4.5   Proposed Positions

In Section 4.5, the MOR team made organizational recommendations that included proposing new positions. This subsection presents the expected appropriate base salary for the new positions.

4.5.1   Positions reviewed

Chief Operations Officer

The Chief Operations Officer is expected to:

- Direct, manage and implement policies, programs and operating strategies for engineering operations;
- Oversee and direct activities to strategically plan, design, construct, administer and maintain multimodal transportation systems;
- Oversee development of inter-district corridors;
- Oversee and directs resource allocations for district project delivery to ensure adequate support;
- Oversee compliance for engineering policies and procedures and
- Act as consultant to Transportation Directors to facilitate the operations of the Department.
- The COO's direct reports include:
  - Assistant Chief Operations Officer for Field and District Operations;
  - Assistant Chief Operations Officer for Engineering; and
  - Assistant Chief Operations Officer for Transportation Vision and Planning.

Chief Administrative Officer

The Chief Administrative Officer will:

- Direct, manages and implement policies, programs and operating strategies for support operations
- The CAO's direct reports include:
  - Chief Information Officer
  - Communications Division Director
  - General Services Division Director
  - HR Director
  - Occupational Safety Division Director

Assistant Chief Operations Officer for Transportation Vision and Planning

The Assistant Chief Operations Officer for Transportation Vision and Planning will:

- Manage and oversees the long-range and short-range transportation planning process for the department
- Oversee operations related to traffic analysis systems and data support for planning and formulating policies and procedures

May 26, 2010

- Oversee and manage transportation research, forecasting and models for planning and formulating policies and procedures

Chief Information Officer

The Chief Information Officer will:

- Direct and coordinate information systems planning and functions, including all phases of systems design, programming, installation and operations
- Review and evaluate project feasibility studies based on management's requirements and priorities
- Oversee IT standards and enterprise architecture for the department
- Define skill development requirements and professional development track for IT professionals and align in organization to facilitate community of excellence and promote most efficient use
- Provide project management, development support, procurement and operations maintenance
- Maintain IT standards and enterprise architecture
- Provide tier I technical support
- Manage budget and priorities

Director, Government Relations Office

The Director of the Government Relations Office will:

- Serve as the Department's contact for Federal, State, and Local government entities, foreign governments, public/private businesses and interest groups regarding all matters having an international impact
- Handle the department's interaction with members of the Texas Legislature, U.S. Congress, Governor's office, and various state and federal agencies

Communications Division Director

The Director of the Communications Division will:

- Lead efforts to establish TxDOT's communication strategy (determine what to say, when to say it, and how to say it)
- Oversee implementing the Strategic Communications Plan
- Coordinate internal and external communications and customer service
- Manage department-wide and statewide communications including all forms of media, ED videos, TNews, email blasts, etc. to ensure that the media is reporting on TxDOT news accurately and in a timely fashion
- Ensure consistent messaging across all TxDOT communication channels
- Set policy and design and maintain TxDOT's intranet and internet sites
- Support all districts in media relations, community relations/outreach, and development of communications

Debt Management Office Director

The Director of the Debt Management Office will:

- Direct activities related to the department's debt programs, including issuance, monitoring, debt service, disclosure, and compliance with resolutions
- Maintain adherence to project revenue bon covenants
- Manage the State Infrastructure Bank loan program
- Oversight of bond proceed and project revenue bond trust estate investments

Innovative Finance Office Director

The Director of the Innovative Finance Office will:

- Direct activities related to potential financing mechanisms to fund the transportation system
- Administer or participate in the department's innovative financing programs, such as toll credits, toll equity, pass through tolls, and comprehensive development agreements
- Implement federal innovative techniques to accelerate construction programs and provide for effective funding management

4.5.2   Comparative salaries

Table 4-12 provides a comparison between base salary and total rewards between individuals in similar positions in the public and private sector.

Title	Base Salary		Total Rewards	
	Public Median (000s)	Private Median (000s)	Public Median (000s)	Private Median (000s)
Chief Operations Officer	$207	$375	$273	$637
Chief Administration Officer	$153	$187	$207	$271
Assistant Chief Operations Officer for Transportation Vision and Planning	$186	$237	$249	$373
Chief Information Officer	$155	$209	$202	$309
Director, Government Relations Office	$171	$213	$226	$314
Communications Division Director	$151	$155	$211	$219
Debt Management Office Director	$154	$145	$203	$220
Innovative Finance Office Director	$154	$145	$203	$220

Table 4-12: Comparison of salaries between the public and private sector

4.6   Findings

4.6.1   Base Salary

Compared to other public sector organizations, TxDOT base salaries were 111% of public sector organizations, or 11% above median. This is within a competitive range of +/- 15% of market median and is considered competitive. Base salaries for approximately 32% of TxDOT jobs were above market median, primarily among the Division Director roles.

Compared to private sector organizations, TxDOT's overall base salaries were 90% of private sector organizations, or 10% below market median. While this is below median, it is still within a competitive range of +/- 15%. Base salaries for approximately 33% of TxDOT jobs were below market median and base salaries for 9% (or three jobs) were above median. Jobs above median of the private sector market include 1) Division Director - Civil Rights, 2) Division Director – Environmental Affairs, and 3) Division Director - Motor Carrier.

4.6.2   Benefits

The overall value of TxDOT's benefits program represents approximately 56% of annual base pay for an employee with an annual salary of approximately $150,000. Based on the review results, this exceeds the market by a range of 18% to 35%, depending on the type of retirement plan(s) offered.

4.6.2.1 Retirement Benefits

Overall, the benefits provided under TxDOT's retirement program are very competitive compared to private and public sector markets and can be considered a principal benefit. According to the market data, the most prevalent form of retirement benefit (96%) offered by employers is a defined contribution plan. Only 42% of private sector service organizations reporting offered a defined benefit plan. The majority of these organizations (97%) combined their defined benefit plan with a defined contribution plan. However, the defined benefit plan was found to be more prevalent in public sector organizations (75%) versus private sector.

The annualized value of TxDOT's defined benefit plan (expressed as a percentage of annual pay) was higher than those organizations sponsoring defined benefit plans (19% vs. 17%) and significantly higher than those organizations sponsoring a defined contribution plan as their only form of retirement benefit (19% vs. 3.7%). The difference in benefit value can be attributed to the fact that:

- TxDOT's defined benefit formula (2.3% X Years of Service X 48 month's final average pay) produces a significantly higher benefit accrual than market 20 based on the fact that TxDOT's formula employs a higher service multiplier (2.3% vs. 2.1%) and

- The formula provides for an unreduced benefit if retirement occurs between ages 60 and 65 (assuming rule of 80 is met) compared to market, which reduces benefits 4.47% for each year an employee retires prior to age 65.

---

[20] Based on the market data, the most prevalent define benefit formula was 2.1% X years of service X 60 months final average pay

Although TxDOT's retirement benefits are higher than market, both the public and private sector plans provide for a significantly shorter vesting schedule. The most prevalent vesting schedule offered by both private and public sector employers was five-year cliff vesting. This is significantly shorter than TxDOT's vesting schedule which requires an employee to reach the age of 65 with 10 years of service or meet the rule of 80 (which requires a minimum of 10 years of service and the combination of age and years of service to be at least 80 to vest).

4.6.2.2 Paid-Time Off (PTO)

Overall, TxDOT's PTO policy was found to be competitive with both the private and public sector markets. TxDOT provides 40 days of PTO, compared to average market data[21] showing 37.5 days of PTO at between 5 and 10 years of service.

4.6.2.3 Post-retirement medical benefits

TxDOT's post-retirement medical plan can be considered a key benefit. Data from Hay Group's Benefits Prevalence Report [22]confirms that the percentage of private sector employers offering retiree medical benefits fell from 62% in 1994 to 52% in 2009. However, such benefits continue to be more prevalent in public sector organizations as confirm by the market data obtained in our review which indicated that only 22% of private sector service companies offered post-retirement medical benefits versus 67% of the public sector organizations. Of those companies providing such coverage, 100% of private sector employers and 50% of public sector organizations required the employee to share in the cost. Under the TxDOT post-retirement medical plan, TxDOT pays 100% of the employee only premium for post-retirement medical coverage.

To determine the value of the post-retirement medical plan, the team calculated the annualized value of the benefit based on the per capita health care cost an individual would have incurred during retirement. Such cost represents the medical claims a retiree would have to pay for if not insured. Based on health care cost trends, it is estimated that a retiree would incur approximately $367,838 in medical expenses between ages 60 and 84. Based on the assumption that this expense would be covered under the post-retirement medical plan, it was determine that such benefit would have annualize value of approximately $27,000 per year for an employee who is currently 40 years of age (see appendix for detail calculation).

4.6.2.4 Medical benefits

Based on the market data, the majority of service companies reporting require employee cost sharing:

- 82% require cost-sharing for employee-only coverage; average contribution of $77.43/month vs. $0 by TxDOT
- 98% require cost-sharing for family coverage; average contribution of $277.00/month vs. $367.84 by TxDOT (Health Select)

---

[21] Market data was based on the following survey reports – Bureau Labor Statistic PTO report, 2008 Hay Benefit Report, 2008 Watson Wyatt Report on Employee Benefits

[22] Hay Group is a global management consulting firm with over 2,600 employees working in 85 offices in 47 countries who work with private, public and not-for-profit sectors, across every major industry line.

4.6.3 Total Rewards

As defined, Total Rewards is comprised of base salary, annual incentives, and the value of benefits provided by the organization.

Compared to public sector organizations, TxDOT's total rewards (compensation plus benefits) are above market median – 137% of market median. In comparison to private sector markets, TxDOT's total rewards are 101% of market median when an employee is fully vested in benefits, which is within the competitive range of +/-15%. However, total rewards for approximately 30% of TxDOT jobs were found to be below the private sector market median. Total rewards for approximately 33% of TxDOT jobs were found to be above private sector market median. The remainder of jobs examined were found to be competitive with the market median.

4.6.4 Conclusion

A significant portion of TxDOT's total rewards reach its employees by way of its benefits (most notably defined benefit retirement and post-retirement medical coverage). However the benefits are only considered of significant value if staff meet their vesting requirements. As noted by the market data, an average employee in the private sector becomes fully vested in his/her retirement benefits after 5 years of service. Under the TxDOT retirement plan, the employee must either meet the rule of 80 or reach the age of 65 with 10 years of service to vest. This could have a significant impact on attracting management talent if one views the probability of vesting in these benefits as unobtainable. This is further compounded by the fact that TxDOT does not provide any matching contributions to their defined contribution plan, whereby the majority of private sector employers (84.1%) do provide matching contributions. Although the retirement benefits are significant upon meeting the vesting requirements, such benefits may have little value to an employee upon their initial hire. If TxDOT were interested in being able to attract market leaders who were not interested in long-term service, it should consider asking for Legislative authority to provide salary in lieu of benefits for TxDOT's most senior leaders.

Section 5: Recommendations summary

This Report presents a wide range of recommendations. PART I recommendations are generally more sweeping in nature as they primarily address TxDOT leadership and management. PART II recommendations are more detailed as these recommendations are associated with the particular business processes the MOR team reviewed. This section summarizes all recommendations, focusing on the recurring themes that are shared across most or all of the areas reviewed.

5.1 Implementation planning considerations

The Texas Transportation Commission will determine which MOR recommendations to implement. As the Commission plans for implementation, it is important to understand that the MOR recommendations are not best addressed one at a time or even one functional area at a time. Recognizing the commonalities and cross-cutting nature of some of the recommended improvements is important to effective implementation planning. In considering relationships among recommendations, TxDOT's leadership will note that some recommendations share root causes and some seemingly independent recommendations may share solution approaches. Thinking through relationships among any recommendations the Commission adopts will make a difference in the efficiency with which change is undertaken and also in the likely value and success of the change effort.

In addition, as implementation planning progresses, leaders will need to consider:

- **Priorities**. Identifying which recommendations and potential outcomes are most important to the organization is an essential piece of implementation planning. However, ultimately, the highest priority efforts may not be the first that TxDOT tackles as other factors also will figure into sequencing.

- **Dependencies**. Successful implementation of some recommendations will be dependent upon other changes, which is one of the factors that could cause some higher priority recommendations not to be tackled first. For example, some of the management recommendations may rely upon access to better data. It is preferable to tackle these issues as part of a comprehensive implementation strategy than it is to develop a new "better" data source to enable a single recommendation or set of recommendations.

- **Implementation time and complexity**. In some cases, TxDOT may be able to achieve real improvement by implementing relatively simple changes within a short time period. For example, recommendations that do not touch multiple areas of the organization are inherently less complex than those that impact the entire organization or that require fundamental cultural adjustment to achieve. During implementation planning, consideration should be given to achieving near-term successes and value by tackling "low hanging fruit" in parallel with undertaking a well-planned approach to those changes that are more complex and/or that will take much longer to implement.

- **Investment**. Clearly some recommendations will be more costly (in terms of staff involvement as well as financial resources) than others. Implementation planning should take this factor into consideration as well, balancing available resources against the other

factors. Also, TxDOT does not have the luxury of closing its doors while it undertakes change. To ensure continuation of day-to-day operations without any major degradation requires that implementation efforts be sequenced logically and with recognition of all workload and processes that may be affected.

5.2   Organizational design recommendations

From its inception, the MOR was expected to result in recommendations to improve TxDOT's organizational design at the management levels. This area is addressed in full in Section 3. Broadly, organizational redesign recommendations include:

- Modifying the senior leadership (Administration) structure to increase the relative importance of the enterprise support responsibilities; to strengthen the relationships among the senior leadership team with the ED; and to adopt a more business-oriented model.

- Supporting a greater and more appropriate leadership role for HR and IT functions.

- Improving the functional alignment and accountability within the Headquarters.

- Strengthening the separation of policy and oversight from project implementation and operations.

- Creating a dedicated project management organization to emphasize the critical importance of this discipline within TxDOT.

That said, the organizational design is not the fundamental issue at TxDOT. While the Department may realize some improvement through the recommended changes, the more fundamental organizational issues that the MOR team identified have to do with organization culture, leadership and management. For example, rearranging the organization structure will not in itself result in HR and IT or other non-engineering support leaders having an appropriate "place at the table" at TxDOT. Achieving this will require real cultural change within the organization, especially at the top leadership level, and requires leaders with an understanding of and a commitment to realizing the value of non-engineering leaders and their functions.

Furthermore, TxDOT does not need to rush toward reorganization (a la regionalization) as a way to address issues that may be addressed in other ways. TxDOT employees are already sufficiently stressed by changes that have been undertaken and by the atmosphere in which they work. They have been asked repeatedly to rush to implement various changes on tight timelines, leaving them somewhat change-weary. To be effective, as TxDOT undertakes implementation of any of the MOR recommendations, it is important that people be provided consistent direction against a well-thought-out plan.

5.3   Major themes

As noted earlier in this *Report*, certain themes pervade much of the findings and recommendations.

Leadership. The core issue for TxDOT at this moment is the need for senior leaders who truly understand and accept that TxDOT's traditional ways of operating – and improvements achieved through tweaking those traditional approaches – are not meeting expectations. This core group must

provide the strategic vision needed to set the organization on a renewed path and to motivate TxDOT staff to believe in that vision. They also need to set the tone for cultural modifications within the Department, including adopting more of a business mindset and practices.

Strategic management and accountability. TxDOT does not align its activities to the organization's stated mission, goals or objectives. Nor do strategic planning documents contain the substance needed to serve an appropriate foundational role for mission execution and performance review. Establishing a clear strategic vision – for the future of Texas transportation statewide and for the Department – is extremely important at this time. Using that strategic vision as a basis for defining goals, objectives and performance measures, and to provide context to identifying priorities, making investment decisions and undertaking other changes is another foundational improvement needed at TxDOT.

Planning and implementing change. Whether the change initiative is an individual internal project or in response to the collective MOR recommendations, TxDOT needs to significantly improve the discipline with which it plans and implements change.

- *First*, change initiatives should be evaluated in context of the enterprise as a whole. Even projects that seem to be negligible investments can turn out to duplicate work already performed or that is underway, may conflict with other initiatives already adopted and/or may not be represent the highest and best use of resources at a given moment. Aggregate many "insignificant" initiatives that bypass this evaluation step and an organization can find that a great deal of time, money and energy is being devoted to relatively low-value work.

- *Second*, TxDOT needs to apply well-established "best" practices to improve the structure and discipline used to: identify problems define solutions, assess alternatives and their feasibility, analyze investment costs and total cost of ownership, plan and control implementations and follow through to verify that initiatives are delivering the value promised and are meeting performance measures.

- *Third*, TxDOT needs to improve communications to stakeholders affected by change initiatives, taking an organized and proactive approach not only to sharing information, but also to soliciting and acting upon feedback.

- *Fourth*, TxDOT needs to think of change initiatives from a portfolio standpoint, weighing priorities (set based upon visible criteria) against other considerations to appropriately sequence change, allocate resources and obtain value.

Management – Across the board, TxDOT needs to improve the management discipline, controls and approaches used in the organization. While there is a real role for decentralized responsibility in TxDOT in some respects, decentralization is so extreme that people are not held accountable for adhering to defined practices, processes and procedures. This is both costly and high risk for the organization. Stakeholders increasingly expect TxDOT to operate with more of a business mindset, bringing transparency to data, processes, standards and costs internally in a way that helps enable accountability and continuing improvement and efficiency over time. The following list highlights recommendations to improve management effectiveness (in no particular order).

- Create appropriate mechanisms to **allow people across the organization to provide feedback** if they believe policies, processes or standards are flawed or could simply be improved; encourage people to engage; and hold offices of primary responsibility (OPRs) responsible for seriously considering this feedback.

- **Redefine the governance structure** to be a truly effective extension of management instead of primarily functioning in a limited compliance review role. Although TxDOT may consider governance needs by individual process area, leadership should look at these recommendations in aggregate to bring some degree of consistency (where it makes sense) to stage gate reviews, participation expectations, roles and authority. TxDOT should tackle overall governance design thoughtfully, to avoid proliferating governance bodies that are time consuming, may require the participation of the same key staff and/or that may end up with overlapping spheres of responsibility if they are designed independently for each area. Hold people accountable for quality participation in governance bodies.
  - o Empower organizational elements responsible for providing policy guidance and oversight to require compliance and/or follow-through on recommendations.
  - o Clearly articulate the charters, expectations, performance measures and authority for each organization element.

- **Implement project management discipline** across the organization. Sound project management principles are well established across the world. The Project Management Institute (PMI), Project Management Body of Knowledge (PMBOK) is a widely accepted standard for all the foundational practices identified with sound project management. TxDOT does not need to reinvent this discipline. Rather, TxDOT needs to adopt an approach; develop (or purchase) appropriate courses; train staff; instantiate the project management approach in tools, methods and processes; and hold people accountable for using these practices across the organization.
  - o Decrease **reliance on the "hero" model** as a way to meet deadlines and to complete work. As TxDOT improves its planning and project management disciplines, and as the organization implements clear and appropriate guidance and standards across the organization, the need to divert people from planned work to handle emergencies should diminish. With better planning and discipline, TxDOT should be able to better leverage the available staff to deliver better results, should be able to share knowledge more readily across new and/or less experienced staff, and should find it easier to maintain or improve quality as processes are more repeatable.
  - o TxDOT should **track and evaluate results** for all types of projects, looking at trends at multiple levels as a way to identify improved practices to adopt more widely across the organization and to identify problem areas that may need to be addressed. Among the factors that TxDOT should routinely monitor are:
    - § Product quality
    - § Planned versus actual cost
    - § Planned versus actual schedule
    - § Scope management
    - § Return on investment
    - § Achievement of goals
    - § Performance against performance measures or SLAs

- **Bring visibility to costs** across the organization (e.g., activity-based costing, activity-based management) and use this information to inform decisions.

- Clearly define **performance expectations** – in context of the organization's mission, goals and objectives – for all levels of the organization and hold people accountable for meeting

those expectations. When performance is not meeting expectations, exercise sound management practices to try to improve the individual's performance. If issues persist, take prompt action.

- o Fairly and realistically evaluate staff performance. Allocate benefits and rewards based on performance and results against articulated standards.
- o Emphasize speed coupled with excellence and quality versus volume or meeting arbitrarily set deadlines.

- Institutionalize a culture of improvement and channeled creativity. Create mechanisms that foster sharing of best practices and thoughtful adoption of these practices organization wide.

5.4   Business process diagnostics

As noted at the beginning of this section, PART II presents the detailed results of the eight business process diagnostics. This subsection highlights key recommendations for each of these areas, above and beyond the common themes presented in subsection 5.3.

5.4.1   Transportation Plan, Design and Build

Design and Build are core competency areas for TxDOT and represent the heart of TxDOT's mission and performance. Plan processes are lengthy and confusing. Moreover, TxDOT isn't executing its plans and programs as they are established. Although TxDOT recently completed work on revised Plan and programming processes and these recommendations are designed to improve upon the previous guidance, the organization should nonetheless consider redefining how Plan and programming are executed from the ground up. Another concern around the Plan area is that the basis for decision making about which projects make it into various programming documents are not transparent inside TxDOT or to external stakeholders. TxDOT should improve the way in which it sets and uses priorities throughout this process and should define and publish the criteria for prioritization. Other improvements recommended for this process are: (1) ensure more consistent and clear communications throughout the process, including providing stakeholders feedback regarding their projects; (2) improve the quality of project management through the life cycle, reducing reliance upon over-programming to ensure an adequate number of projects reach letting; and (3) improved identification of project priorities and delivery based upon these priorities.

5.4.2   Human resources

Fundamentally, TxDOT needs to treat HR as a strategic contributor to the organization's overall success. The HR Director and supporting staff need to be empowered to use their expertise to implement a more powerful and valuable HR support system. TxDOT leadership needs to work with the HR Director and staff to tie expectations for HR management (HRM) to the TxDOT mission and goals, to set clear expectations about the value HRM will deliver, and to identify and implement discrete performance measures against which HRM will be evaluated.

5.4.3   Information technology

Similar to HR, TxDOT needs to escalate the role that IT leadership plays in the organization and to view and use IT as a strategic asset to help TxDOT better achieve its mission. TxDOT needs to hire a Chief Information Officer (CIO) with the appropriate level of experience and leadership ability to

fulfill this role, which links the business of TxDOT to the technology enabling that vision. The CIO should develop an enterprise view of IT within the organization, define a target architecture (business or process, data, technical) that supports TxDOT strategy. The CIO should then lead development of a rationale plan to incrementally move TxDOT toward that target environment. As with HR, the CIO and supporting elements of the organization should be held to well-defined expectations regarding the value they will deliver, performance measures, etc. The CIO should assess ways to strengthen the skills, experience and professional development of technology professionals at TxDOT to enhance their experience and to improve organizational performance. Finally, TxDOT should seek ways that technology can be used to automate existing manual functions or ways in which it might support other forms of streamlining or process changes to increase effectiveness and efficiency.

5.4.4   Procurement

TxDOT's letting activities are a critical component of its engineering delivery and are generally well run. Purchasing is centrally managed with appropriate oversight. Professional services, or consultant contracts, however, are established without strict adherence to policies and procedures.

Recognizing inconsistent process application, TxDOT should develop standardized processes and approaches to form a single procurement architecture for all procurement activities and deploy training on processes and procedures to all who have signature authority on contracts or who are responsible for contract compliance monitoring. In addition, in order to improve its oversight of procurement activities, TxDOT needs a comprehensive procurement database capable of capturing, maintaining, and reporting critical information and data.

5.4.5   Communications

The essence of recommendations to improve communications, both internal and external to the Department, is that TxDOT needs to adopt a more disciplined, proactive approach to planning, developing and managing communications. To begin with, TxDOT should develop a comprehensive communications plan, taking into consideration stakeholders, message content and requirements, periodicity of communications, channels, and supporting processes (e.g., content generation, review, release). Additionally, TxDOT should improve the transparency, quality and consistency of its communications by rethinking presentation, availability of accurate data, timeliness and awareness of what people actually want versus inundating people with data.

Another element in improving communications is tracking all communications, complaints, inquiries, etc. While TxDOT current stores outgoing communications in a document management system, this does not fulfill the role of a tracking system that would bring visibility to who is seeking information (or to whom TxDOT is sending information), what is needed, when it is requested, when it is provided, etc. By looking at this data organization wide, TxDOT can identify trends that can be used to help tune the communications plan, to identify types of data and information most often needed, to better present information via public or internal channels, and to inform other change or improvement initiatives at TxDOT.

Based on MOR interviews, most stakeholders don't trust TxDOT communications. Reasons for this vary, but include lack of consistency, failure to respond timely, failure to provide relevant response, too much data and too little information. Of greater concern and impact is a perception that TxDOT leaders and managers want to control the results of their communications and thus "spin" their responses instead of simply providing information and letting people formulate their own opinions. A similarly significant concern in this area is the belief that TxDOT leaders are not honest about communicating their mistakes – leaving other to uncover and point out problems when they occur. Improving communications in these areas is another component of cultural change within TxDOT.

Texas Department of Transportation

Management and Organizational Review
Report
PART II

May 26, 2010

Grant Thornton

This page intentionally left blank.

Table of contents

Table of tables

Table of figures

.

Section 1:   Plan, Design and Build

This section presents a high-level diagnostic review of three TxDOT business processes: Plan, Design and Build. These three processes – along with Use, Maintain and Manage – constitute TxDOT's core responsibility and are tightly interwoven. The assessment focused on the management aspects of these business processes, taking into consideration how effectively they enable mission achievement. This is not a technical review of TxDOT engineering methods, nor is it a review of choices regarding which projects to pursue.

Subsection 1.1 introduces the Plan, Design and Build business processes generically, based upon industry standards and accepted practices, to establish a baseline view of these functions. Subsection 1.2 presents an overview of how TxDOT performs Plan, Design and Build, including identifying requirements that govern these areas, documenting roles and responsibilities within the organization, and presenting a high-level view of TxDOT practices and processes. Subsections 1.3 through 1.5 summarize assessment observations and findings for Plan, Design and Build, respectively. Subsection 1.6 presents recommendations for future action for these three business processes.

1.1   Introduction to Plan, Design and Build

Transportation planning is the process of identifying statewide transportation needs across all transportation modes, prioritizing those needs, developing potential solutions to respond to the needs and sequencing the solutions as appropriate based on fiscal constraints. Design is an integral component of this process, moving from preliminary consideration of design factors as needs are assessed and projects identified, through increasingly detailed levels of design for specific projects, and culminating in letting and project construction. Moving a transportation project from planning through design and to letting and construction may take years, or even decades, depending upon the project scale and magnitude of effort required.

1.1.1   Plan documents

Transportation planning is subject to both Federal and state requirements, in addition to policies and procedures specific to the involved transportation agency. The results of the transportation planning process are embodied in several primary documents presenting the Department's transportation program (defining specific projects as part of their plan):

- **Long-Range Transportation Plan –** Federal law requires all states to develop long-range transportation plans; some states also legislatively mandate long-range planning. The state transportation department develops the long-range plan to communicate the state's goals and direction governing transportation projects over a period of typically 20 years or more. While there is no specified frequency for updating these plans, the Federal standard is that they are "continually evaluated, revised and periodically updated." The preferred interval for updates is every 5 years.

- **Metropolitan Transportation Plan(s) (MTP)** – Federal law requires each Metropolitan Planning Organization (MPO) to develop and maintain an MTP as a long-range, multi-modal transportation plan for the MPO's jurisdiction. The MTP identifies policies, programs and projects to accomplish adopted goals and to guide expenditures of state and federal funds. MTPs are fiscally constrained, based upon internal revenue forecast models or based upon models developed by the state transportation department. The MTP is updated every 5 years – or every 4 years for non-attainment areas – and typically covers a 20- to 25-year period.

- **Mid-Range Project Development Program** – Some states develop project development programming documentation to guide project development and construction for a specified time period.

- **Statewide Transportation Improvement Program (STIP)** –The Federal government requires each state to prepare a STIP to identify the state's mid-range project priorities as a basis for obtaining federal assistance. The STIP is fiscally constrained and addresses at least a 4-year period. The STIP is a compilation of Transportation Improvement Programs (TIPs) developed by MPOs, for their jurisdictions, and for areas not covered by MPOs. The Federal Highway Administration (FHWA) and Federal Transit Administration (FTA) use the STIP as a requirement for allocating federal funds; only projects in the STIP are eligible for this assistance. The STIP must be updated at least every 4 years.

1.1.2 Process overview

These documents are related to a continuing Plan and Design process, which can be looked at in terms of long-range, mid-range and short-range activities, highlighted in Figure 1-1. Long-range planning identifies a state's overall direction regarding transportation projects and encompasses the initial steps to develop large-scale projects. During mid-range planning, a state moves those projects identified as priorities further along the continuum of activities necessary to gain final approval to begin project construction. This includes performing environmental studies, determining right-of-way requirements, developing preliminary designs, updating project estimates and related work. Through short-range planning, the department verifies budget and cash flows, finalizes project plans and clearances, and prepares for letting the construction contract.
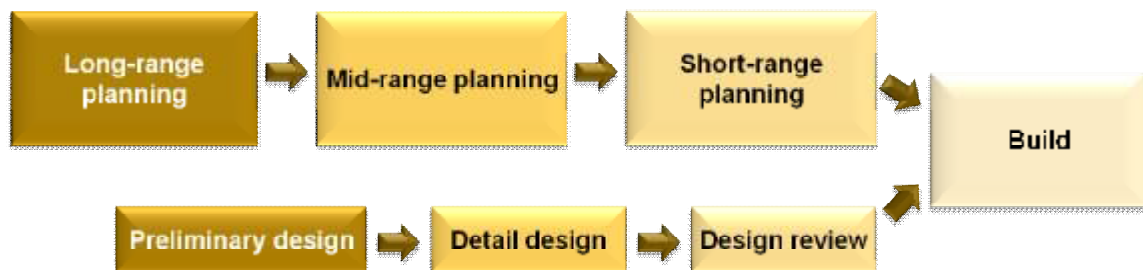
Figure 1-1: Plan and Design lifecycle

1.2   TxDOT Plan, Design and Build

This section presents an overview of the Plan, Design and Build business processes at TxDOT. Subsection 1.2.1 identifies the requirements that govern these processes. Subsection 1.2.2 describes Plan, Design and Build roles and responsibilities within TxDOT. Subsection 1.2.3 introduces TxDOT processes and approaches to these functions.

1.2.1   Plan, Design and Build requirements

Plan, Design and Build are subject to both Federal and state guidelines. From a management perspective, the principal governing documents are:

- **Federal transportation legislation**: Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) and its predecessors, the Transportation Equity Act for the 21st Century (TEA-21) and the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, specify the transportation systems on which certain Federal funds can be used;
- **Environmental policies:**
  - National Environmental Policy Act (NEPA) requires government agencies to consider environmental issues prior to making any major decisions on Federally funded projects;
  - The Clean Air Act Amendments (CAAA) of 1990 define Environmental Protection Agency (EPA) responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer;
- **FHWA regulations:** Title 23, Code of Federal Regulations, Chapter 1, Federal Highway Administration, Department of Transportation
  - Subchapter A -- General Management and Administration
  - Subchapter B -- Payment Procedures
  - Subchapter C -- Civil Rights
  - Subchapter D -- National Highway Institute
  - Subchapter E – Planning and Research
  - Subchapter F -- Transportation Infrastructure Management
  - Subchapter G -- Engineering and Traffic Operations
  - Subchapter H -- Right-Of-Way and Environment
  - Subchapter I -- Public Transportation
  - Subchapter J -- Highway Safety
  - Subchapter K -- Intelligent Transportation Systems
- **Texas Administrative Code:**
  - Title 43, Part 1, Chapter 21, Subchapter B for right-of-way utility adjustments, relocation or removal
  - Title 43, Part 1, Chapter 9, Subchapter A, Rule 9.2, claims and dispute resolution process
  - Title 43, Part 1, Chapter 2, environmental policy
  - Title 43, Part 1, Chapter 11, design

- o   Title 43, Part 1, Chapter 15, transportation planning and programming[1]
- **Texas Transportation Code:** Chapter 223.0041, award of construction contracts to lowest bidder, Chapter 201, Subchapter H, Plans and Projects, Chapter 201.103 Comprehensive System of Highways and Roads and Chapter 201.601 Statewide Transportation Plan
- **TxDOT guidance:**
  - o   *Construction Contract Administration Manual* specifies project management and project close-out processes
  - o   *Letting Manual* (Finance Division)
  - o   *Environmental Manual* (Environmental Affairs Division)
  - o   *Right-of-Way Manual* (Right-of-Way Division)
  - o   *Project Development Process Manual* (Design Division)
  - o   *Professional Services Contract Management Process Manual* (Design Division)
  - o   *Design Resource and Contract Management* (regions)
- **Other:** *National Standards for Design – A Policy on the Geometric Design of Highways and Streets* (The AASHTO Green Book) sets design standards for roads on the National Highway System (NHS)

1.2.2   Roles and responsibilities

TxDOT responsibilities for Plan, Design and Build functions are principally decentralized. The Transportation Commission and TxDOT Administration set goals and direction for planning. Additionally, funds are programmed using a top-down, formula-based approach to allocated funds to districts and to MPOs. Beyond that, however, district engineers and their staff are largely autonomous. They are responsible for bottom-up identification of needs, projects and priorities, and for project development. District engineers and staff are expected to collaborate with the MPO(s) in their districts and to gather input from other external stakeholders. Districts perform most project development activities independently, with limited oversight from TxDOT headquarters staff. Additionally, districts are responsible for managing Build activities.

Table 1-1 summarizes TxDOT roles and responsibilities related to Plan, Design and Build.

Plan, Design, Build Process	Organization Element	Responsibility
Long-range planning	Texas Transportation Commission	- Provides statewide guidance and direction for transportation projects as documented in the SLRTP - Approves transportation projects as documented in the UTP and financial forecasts associated with the UTP
	TxDOT Administration	Supports the Commission in providing statewide guidance and manages the day-to-day department operations in support of that guidance
	Transportation Planning and Programming Division, Statewide Planning and Programming Management Section	Coordinates SLRTP development

---

[1] At the May 27, 2010, Commission Meeting, TxDOT staff will propose repeal of this administrative rule and its replacement with a new Chapter 16, Planning and Development of Transportation Projects.

Plan, Design, Build Process	Organization Element	Responsibility
	Transportation Planning and Programming Division, Data Management and Traffic Analysis Sections	Conducts transportation analysis
	MPO	Conducts public outreach Identifies policies, programs and projects for development documented in the MTP
	District, District Engineer	• Oversees coordination between the district and local stakeholders • Ensures planning activities are in line with the department's long-range plans
	District, Transportation Planning and Development	Coordinates long-range district planning activities
	Environmental Affairs Division, Project Management and District Liaison Section	Supports districts with project development, as necessary
	Right of way Division, Map, Survey, Utility Section	Supports districts with project development, as necessary
	Design Division, Field Coordination	Supports districts with project development, as necessary
	Bridge Division, Project Development Section	Determines bridge replacement and rehabilitation needs
	Finance Division, Funds Management Section	Develops funding projections and allocations Coordinates development of the UTP
Mid-range planning	Texas Transportation Commission	Reviews and adopts transportation projects as documented in the STIP
	TxDOT Administration	Oversees the day-to-day department operations in support of department priorities
	Transportation Planning and Programming Division, Statewide Planning and Programming Management Section	Coordinates STIP development
	MPO	Identifies projects for development documented in the MPO TIP
	District, District Engineer	• Oversees coordination between the district and local stakeholders • Ensures planning activities are in line with the department's mid-range plans
	District, Transportation Planning and Development	• Coordinates mid-range district planning activities • Identifies projects for development documented in the District TIP for non-MPO areas
	Region, Regional Directors	Facilitates the identification of project priorities documented in the Project Development Plan
	Region, Design Resource Coordinators	Coordinates internal design and consultant resources
	Region, Regional Right of way Manager	Supports districts with project development, as necessary
	Environmental Affairs Division, Project Management and District Liaison Section	Supports districts with project development, as necessary
	Right of way Division, Map, Survey, Utility Section	Supports districts with project development, as necessary
	Design Division, Field Coordination	Supports districts with project development, as necessary

Plan, Design, Build Process	Organization Element	Responsibility
	Bridge Division, Project Development Section	• Designs bridge projects • Supports districts with project development, as necessary
	Finance Division, Funds Management Section	Develops funding projections and allocations used during STIP development
Short-range planning	Texas Transportation Commission	Approves yearly letting schedule by minute order
	TxDOT Administration	Approves yearly letting schedule for submission to the Commission
	District, District Engineer	Identifies projects for development documented in the monthly letting schedule
	District, Transportation Planning and Development	• Coordinates short-range district planning activities • Identifies projects for development documented in the yearly letting schedule
	Region, Regional Right of way Manager	Reviews right of way plans prior to letting
	Environmental Affairs Division, Project Management and District Liaison Section	• Reviews and certifies CE, EA, and EIS environmental documentation prior to letting • Coordinates submission of all environmental documentation to the FHWA
	Design Division, Field Coordination	Coordinates submission of all PS&Es to the FHWA
	Traffic Division, Traffic Engineering Section	Reviews PS&Es in coordination with the Design Division
	Finance Division, Programming and Letting Section	Coordinates districts plans in preparation for letting
Design resource coordination	Region, Design Resource Coordinator	Manages design resource sharing across districts
	District, Transportation Planning and Development Director	• Requests resources • Completes the design work agreement
Preliminary design	District, Transportation Planning and Development Section	Oversees and conducts preliminary design activities
	Design Division, Field Coordination	• Supports districts with project design, as necessary • Review district preliminary designs
	Bridge Division, Design Section	Supports preliminary design activities
Detail design	District, Transportation Planning and Development Section	Oversees and conducts detail design activities
Design review	District, Transportation Planning and Development Section	Conducts district design review
	Design Division, Field Coordination	Reviews plans, specifications, and estimates (PS&E) for non-district review projects (rehabilitation and preventative maintenance) prior to letting
	Bridge Division, Project Development Section	Supports PS&E review, as necessary
Build: Contract award	Texas Transportation Commission	Provides approval authority to execute contracts on behalf of the Department.
	Finance Division, Programming and Letting Branch	Advertises project bids
	Construction Division, Construction Section	• Oversees letting and contract execution • Updates the Letting Manual
Build: Construction oversight	Construction Division, Contract Administration and Claims Section	• Provides guidance when districts have contract questions or contractor issues • Provides contract negotiation assistance • Provides scheduling support and training • Updates Construction Contract Administration Manual

May 26, 2010

Plan, Design, Build Process	Organization Element	Responsibility
	Construction Division, Construction Section	• Audits 10% of district change orders once a month • Audits 100% of all change orders from one month for every district • Conducts periodic field reviews
	District Construction Office	• Supports area office during project activities • Reviews and approves project estimates once a month • Audits project records and documentation every six months or at least once during the course of a project.
	District Area Office	• Area engineer has overall responsibility for project execution, including schedule monitoring and change order executions • Construction auditor and construction record keeper conduct periodic reviews during the course of the project • Construction inspectors are responsible for entering daily work reports into Site Manager.
Build: Contract completion	District Construction Office	• Construction record auditor(s) review final project documentation • Stores project records
	District Area Office	Responsible engineer signs off on the final as-build plans
Build: Claims and dispute resolution	Construction Division, Contract Administration and Claims Section	Facilitates the Contracts Claims Committee and supports the districts in resolution of claims and disputes.
	Contract Claims Committee	Resolves all disputes that were unable to be resolved at the district level. The committee has four members - a chair plus three other individuals. The chair is the AED for Engineering Operations, and the General Services Division Director is also a standing member. The other two members are district engineers who are not involved with the disputed project.
	District Construction Office: Responsible project engineer and any other relevant personnel (district construction division director, district engineer)	Attempts to resolve any claim or dispute.

Table 1-1: Plan, Design and Build roles and responsibilities

1.2.3 TxDOT Plan, Design and Build process overview

Working from the structure introduced in Section 5.1, this subsection introduces the TxDOT approach to performing Plan, Design and Build activities. Figure 1-2 presents the Plan lifecycle.

Figure 1-2: Plan life cycle

1.2.3.1 Long-range plan process

The Texas Transportation Commission and the TxDOT Administration establish long-range goals for the state's transportation needs. These are documented in the *Statewide Long Range Transportation Plan* (SLRTP), which is prepared by the Transportation Planning and Programming (TPP) Division. The SLRTP is the product of outreach to the public and to other government entities in the state. This plan is federally mandated; while the update frequency is not stipulated, the informal expectation is for updates at least every 10 years. TxDOT last updated the plan in 1994(when it was the Texas Transportation Plan [TTP]), but is now in the process of revising the plan with the intent to present the final draft to the Commission in November 2010.

MPOs document their long-range plans in *Metropolitan Transportation Plans* (MTPs), which are fiscally constrained. MPOs that don't have their own revenue forecasting and modeling capability rely upon TxDOT forecasts.

In addition to the formal long-range planning documents, MPOs and district engineers and staff continuously collect public input on transportation needs. They also assess other conditions – e.g., air quality, congestion – with support from TPP to identify additional transportation needs. Based upon the combined requirements identified by TxDOT staff and by MPOs, district staff works with the MPOs to identify potential projects to address identified transportation needs. District staff begins preliminary design work on candidate projects to represent the project concepts, taking into consideration environmental, right-of-way and public impacts.

Ultimately, districts submit a subset of projects to the TxDOT Finance Division for inclusion in the UTP, an 11-year program containing specific projects the Commission approves for development or construction. Districts use TxDOT-established revenue projections and funding distribution by category (defined in Appendix H) to identify specific projects that fit within their allocations. In addition, TxDOT headquarters divisions (e.g., Bridge Division) may submit projects for inclusion in the UTP. TxDOT typically updates the UTP annually. However, there was recently a three year gap with no revisions, until the most recent UTP was approved by the Commission in April 2010.

1.2.3.2   Mid-range plan process

During this period, TxDOT district, regional and headquarters staff continue project development activities for projects in the UTP. These include development of more detailed designs, right-of-way planning and environmental assessments and clearances.

This is the window addressed in the STIP, which reflects all projects funded with federal funds, as well as regionally significant projects that will be funded with non-federal funds. MPOs develop TIPs to document their projects and districts develop TIPs to document projects in the district, but outside of the MPO(s) area of responsibility. TIPs are intended to reflect a consensus on priorities based upon input from citizens living in the affected area, local elected officials, local transportation agency representatives and TxDOT representatives. Districts and MPOs send their TIPs to TPP, where they are compiled into the STIP.

1.2.3.3   Short-range plan process

Work in this period is focused on readying projects for letting. TxDOT district staff has primary responsibility for activities in this phase, but receive support and oversight from regional and headquarters division staff as applicable. During this phase, district staff develops letting schedules based upon the current approved STIP and that reflect district assessments of priorities, project readiness for letting and alignment with funding caps. Districts submit their annual letting schedules to the Finance Division to be considered for inclusion in the TxDOT letting schedule, which Finance develops and submits to the Administration for approval.

Based upon the annual letting schedule, each month the districts submit their proposed letting lists for the upcoming 3-month window to the Finance Division for further review. This review involves numerous TxDOT headquarters elements:

- The **Finance Division, Programming and Letting Section**, verifies the projects fit within letting caps, qualify for associated funding categories and are consistent with the annual schedule and STIP. Finance compiles a list of projects that they submit to the AED, Engineering Operations for review and approval.

- **AED, Engineering Operations** may remove projects that don't fit with TxDOT direction or that he believes are not likely to be let within the letting month. He also may postpone projects to balance payment requirements through the year and/or based upon input from the CFO.

- Concurrently with the AED, Engineering Operations review, the **CFO** compares the monthly letting list by fund source to funding forecasts to determine whether funds are available for the project.

- The approved list then returns to the Finance, Programming and Letting Section, which generates the approved letting schedule for the upcoming 1 to 2 months and distributes this to the Environmental and Design Divisions for final approval.

    o **Environmental Affairs Division** or Regional Support Centers (RSC) secure clearance for approved projects.

    o **Design Division** reviews project plans, specifications and estimates to ensure all planning was appropriately completed.

- After receiving these approvals, the **Finance, Programming and Letting Section**, requests obligation authority from the FHWA for projects receiving federal funds.

- Subsequently, **Programming and Letting Section** advertises the project and it goes to letting; once that is complete, responsibility for the project shifts to the **Construction Division**.

Note that TxDOT generally considers TIP and STIP development as short-range planning and programming activities. However, based on the MOR team's review of current activities, the Department uses the 1-year letting timeframe to actively plan and prioritize projects. Therefore, the MOR team used this time period to define short-range planning and included TIP and STIP development in mid-range planning.

TxDOT has had several initiatives to improve the Plan process. Most recently, in 2009 TxDOT initiated two committees to work on improving this process. Although the committee work is complete, the impact of recommended changes is not yet visible. TxDOT submitted rule changes to the Texas Register on March 5, 2010, public comments were due by April 19, 2010 and they have yet to be adopted. While the proposed rule changes potentially impact recommendations included in this report, it is not yet possible to understand their true impact on the Department given its performance against current standards.

1.2.3.4   Environmental

Environmental processes are interwoven into the planning process and generally continue through construction completion. The National Environmental Policy Act (NEPA) of 1969 requires agencies, particularly those receiving federal funding, to consider environmental issues in full view of the public prior to making any major decisions on federally funded projects. To achieve this, NEPA requires an assessment of environmental impacts of proposed projects and consideration of alternatives. Where impacts cannot be avoided, impact must be minimized or mitigated. During environmental review, specific areas of concern include socioeconomic factors, historic properties, archeological resources, vegetation, water quality, noise, hazardous materials, visual aesthetics, endangered species and indirect or cumulative impacts.

Districts must develop environmental documentation that provides an appropriate level of information regarding a project's social, economic and environmental impacts, and that presents the

basis for choices regarding a project's construction, location, design and mitigation. In addition, the document should describe interagency coordination and public involvement.

Before approving a project for letting, the Environmental Affairs Division reviews the district's environmental and public involvement documentation. RSCs review and certify programmatic categorical exclusions, which are the simplest and most common type of environmental documentation. FHWA is the final decision-maker on all projects receiving federal funds. They ultimately review all environmental documentation and the related public involvement documentation to issue all approvals, findings of no significant impact, and records of decisions.

1.2.3.5   Right-of-way

Additional right-of-way may need to be acquired to accommodate projects and/or for projects that affect existing public utility facilities. If utilities exist on the identified right-of-way, TxDOT must work with the utility company to remedy the impacts, reimburse eligible utility costs and re-establish public utility services.

TxDOT typically cannot begin construction on a project until all associated right-of-way acquisition is complete. TxDOT acquires required right of way through two primary methods:

1. Negotiated agreement for purchase of required property at the state-approved value (appraised value or acceptable counter offer by the property owner); or

2. Through administrative or legal condemnation proceedings; condemnation proceedings often incur significant time and expense to complete.

To prepare for right-of-way acquisition, district right of way agents develop right-of-way maps. RSC staff develop cost estimates by surveying the number of plots, assessing whether they are residential or commercial, or by developing estimates based on average right-of-way costs as a factor of construction costs. These maps and cost estimates are updated throughout the project development and delivery stages of the right-of-way project lifecycle as more detailed designs are developed. Districts generate and approve final right-of-way maps based on project schematics and final designs and submit the approved project maps to the RSCs. Districts coordinate with affected utility companies regarding the location of existing utilities and any proposed new utility locations for a project corridor.

1.2.3.6   Design process
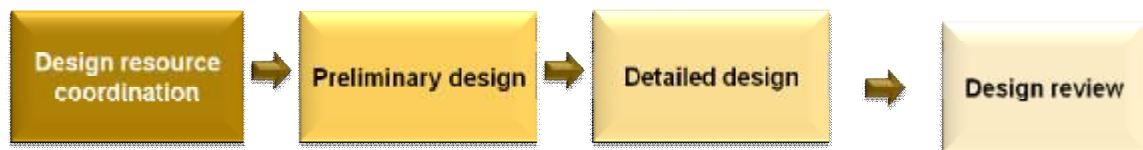
Figure 1-3: Design life cycle

The purpose of the design process, depicted in Figure 1-3, is to develop the final plans, specifications and estimates (PS&E) package for a project and to deliver it to construction by a scheduled letting date. Some complex projects may involve many engineering and related disciplines, including roadway geometry, bridge design, pavement design, land surveys, right-of-way acquisition and relocation, environmental impacts, hydraulics, landscaping and traffic control. Effective design resource coordination is required to deploy TxDOT design and support resources effectively, efficiently and fully before outsourcing, always taking into consideration the requirement to outsource at least 35 percent of design work, as mandated by the Texas Transportation Code.

Project designs become progressively more detailed as a project moves through the lifecycle. After the district or MPO identifies a need, potential project alignments move into the preliminary design phase. The product of the preliminary design process is selection of a preferred design and a description of the location and major design features of the recommended project. Subsequently, a project moves into the detailed design phase. The product of this phase is a complete PS&E package ready for the solicitation of construction bids and subsequent construction. Through a design review, TxDOT validates that the proposed work is in compliance with TxDOT, State and Federal guidelines, standards and procedures. Design reviews also help eliminate errors, discrepancies or omissions that may result in uncertainty or confusion in the field or become a basis for claims by contractors.

1.2.3.7   Build process

The purpose of the Build process is to award and manage construction contracts to build the State's transportation infrastructure. As of April 2010, TxDOT has 1,172 active construction contracts worth $9,695,382,422.00.[2]   The Build lifecycle comprises contract award, construction oversight, contract completion, and claims and dispute resolution. Figure 1-4 presents the build lifecycle.
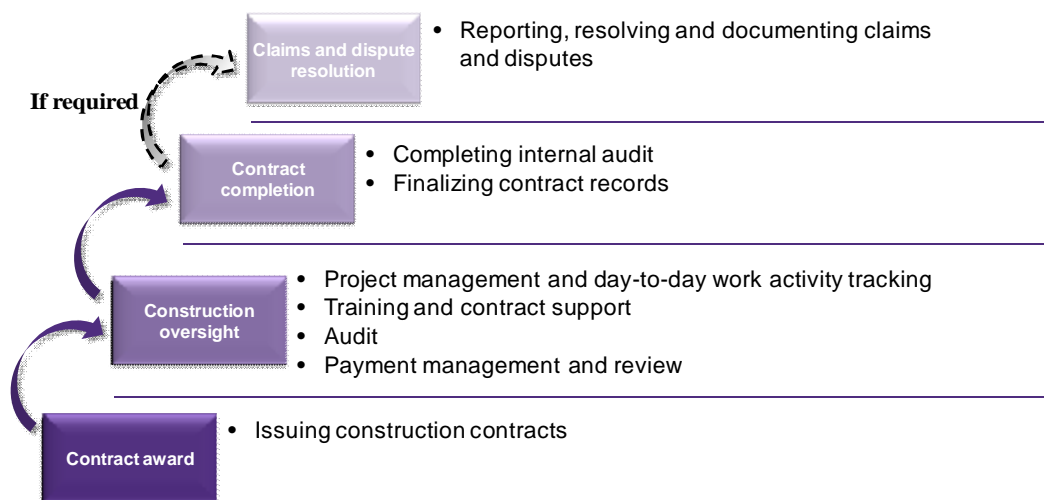
Figure 1-4: Build process lifecycle

---

[2] Figures are based on a 12 month rolling average.

Contract award. Build begins when construction contracts are awarded during the bid opening process. The Construction Division manages bid opening, which occurs every month over a 2-day period. During bid opening, a pre-selected group of projects from across the districts are awarded to the lowest bidder on each project. Within the Construction Division, the Construction Section has primary responsibility for all construction contract awards, including pre-letting, letting and post-letting activities. This Section also develops and maintains the TxDOT *Letting Manual*, which governs the letting process. The Contract Administration and Claims Section and the Contract Letting and Contractor Prequalification Section also are involved in the contract award process.

Construction oversight. Area offices have primary responsibility for day to day management of all construction projects. The Construction Division provides support and limited oversight to the construction activities occurring in the districts.

- **Project management and day-to-day work activity tracking**. Responsibilities in area offices include tracking project progress, managing the contractor relationship, inspecting projects and meeting TxDOT and Federal contract requirements. Each area office has an area engineer who assigns the project manager and inspectors to each project.

- **Training and contract support.** The Construction Division, Contract Administration and Claims Section, supports districts during this stage by providing project scheduling support and training. The Division maintains the Construction Contract Administration Manual and assists districts with contract negotiations and with any issues that may arise during a project, although districts have authority to decide how to resolve any issues.

- **Audits.** The Construction Section staff has an ongoing audit responsibility related to these projects. Monthly, they audit 10 percent of district change orders. Once a year, they audit a one-month period of all changes orders from every district.

- **Payment management and review.** Once a month, each district office reviews and approves monthly project estimates prior to sending them to the Finance Division to generate contractor payment. Every 6 months, or at least once during the course of every project, district construction record auditors audit project records and documentation. Each area office has a construction record auditor and/or a construction record keeper who conduct periodic reviews and audits during the course of a project. In addition construction record keepers generate the monthly estimates in Site Manager.

Contract completion. After a project is complete, the area and district office work together to complete the final project audit, archive project documents and complete all required paperwork.

Claims and dispute resolution. If a contractor has any claims or disputes related to a completed project, the claims and dispute resolution process provides a standard and formal means to resolve the issue. Districts have the authority to negotiate and resolve all claims and disputes. If a district is not able to reach a resolution, the claim or dispute is sent to the Contract Administration and Claims section, which manages the claims and dispute resolution process. Claims not resolved at the district level are brought before the Contract Claims Committee.

1.3   Plan observations and findings

This subsection presents the result of the Plan diagnostic review.

1.3.1   Assessment summary

The business process diagnostic encompassed the following assessment points:

- Management and leadership;
- Policies, procedures and processes;
- Organizational structure and alignment;
- Support systems and data;
- Long-range planning;
- Mid-range planning;
- Short-range planning;
- Environmental; and
- Right-of-way.

The MOR team rated each assessment point using a **qualitative** scale, defined in Table 1-5.

	Optimum performance
	Results consistently exceed requirements; improve over baseline
	Results consistently meet minimum requirements
	Results don't fully or consistently meet requirements
	Issues or incidents consistently or frequently impede performance
	Not performed; encountering problems that may or will cause harm

Table 1-2: Qualitative rating scale

Table 1-3 summarizes the plan assessment ratings. The remainder of subsection 1.3.1 presents the basis for each of these ratings.

Process dimensions	Assessment factors	Rating
Management and leadership	- Consistent, disciplined application of appropriate management techniques to deliver targeted results; - Clear lines of authority; - Clear, appropriate and effective planning processes and structure; and - Effective and motivational leadership of people to develop skills, encourage high productivity and require quality delivery of services.	

Process dimensions	Assessment factors	Rating
Policies, procedures and processes	• Clarity; • Relevance; • Currency; • Standardization; and • Effective and timely communication.	
Organizational structure and alignment	• Logical integrity of functional alignment and groupings of work; • Clear responsibility for coordination and communication; • Clear accountability for consistent delivery of planning services; and • Efficient use of resources.	
Support systems and data	• Data availability; • Data fidelity and accuracy; and • System functionality and interoperability.	
Long-range planning	• Processes for developing plans are documented and followed; • Long-range plans are current, are appropriate and are used to guide supporting behavior; and • Processes for defining priorities are clearly established, followed and maintained.	
Mid-range planning	• Clearly defined processes for defining priorities that are implemented across the organization; and • Alignment of actual performance with projected priorities and timing in the TIPs and STIP.	
Short-range planning	• Appropriate management of project development to meet letting schedules; and • Alignment of actual performance with the annual letting schedule.	
Right-of-way	• Well-defined management processes, procedures and standards; and • Timely and effective inclusion in project development.	
Environmental	• Well-defined management processes, procedures and standards; and • Timely and effective inclusion in project development.	

Table 1-3: Plan qualitative ratings

1.3.1.1   Plan management and leadership

The overall rating for Plan management and leadership is "orange" (results don't fully or consistently meet requirements). TxDOT's highly decentralized approach to this function is not accompanied by the oversight, controls and management processes needed to verify timely, consistent and quality preparation of the highest priority projects for letting. Additionally, the current approach relies upon project volume – over-programming (developing projects above projected funding levels) to make up for projects that are not ready when planned – to compensate for this so letting schedules are fulfilled. This approach is frustrating to staff who want to support delivery of quality projects to meet TxDOT goals, but who sacrifice quality work to quantity of throughput. TxDOT does have initiatives underway to improve the project management tools and processes used in this area.

1.3.1.1.1   Key activities

This area focuses on how Plan functions are managed and led within TxDOT. Effective management and leadership is expected to encompass:

- Governance;
- Application of appropriate management principles (cost, risk, priorities, controls);

- Leadership of people; and
- Thought leadership.

1.3.1.1.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished, interview results, focus group input and accepted planning practices.

Management techniques and planning processes. The decentralized model that TxDOT uses for Plan activities is not accompanied with sufficient oversight, reviews or controls to ensure results are aligned with state and organization-wide goals and priorities.

- For example, districts are able to develop and ultimately projects are let because they are ready for construction, even when they are not the highest priority projects for the state.
- TxDOT does not have clearly defined milestones throughout the project development lifecycle that promote timely completion of priority projects. The primary milestone driving TxDOT staff is meeting the scheduled letting date. This often results in districts coordinating with divisions to "crash" on project development in the last few months before letting is meant to occur. The implementation of P6, currently underway, could significantly improve the use of milestone reviews and the project management behavior within TxDOT – depending on how it is implemented, how staff are trained and what performance expectations are set and measured.
- As a related issue, management expects a certain amount of projects will not be ready to let as scheduled so they use over-programming (i.e., initiating planning for far more projects than actually will be let) systemically to ensure a sufficient number of projects are ready to let consistent with funding availability and cash flows.[3] While this technique might be an appropriate safeguard when used judiciously, TxDOT does not set a standard percentage to act as an appropriate cushion. This increases workload without necessarily providing commensurate quality and value and without necessarily aligning with stated goals and priorities. TxDOT has initiated a Project Development Plan (previously called "where we want to be") that should start to improve this behavior.
- TxDOT also relies upon over-programming to accommodate unexpected circumstances, such as increased revenues or projects being held from letting, instead of using a transparent, clearly defined process to make choices in these situations.

Lines of authority. Lines of authority associated with the Plan process are clearly defined, with most authority for project development and letting assigned to the districts. While districts and MPOs communicate and coordinate with one another on the front end of the planning process, MPOs are not involved in letting, which plays a significant role in the final determination of which projects are completed. This can create issues when expectations based upon early planning efforts

---

[3] The *Developing Projects: Moving Texas Forward the "One DOT" Way* document shows approximately $4B in backlog for FY 2011-2015 in Table 1 and approximately $6B in "backlog of shovel ready projects" in Figure 2. The *Project Development Plan* presentation, slide 6, shows $5.8B funded projects for FY2010 – 2013, $6.8B if funding becomes available (i.e., backlog), and another $2.5B (backlog) that could be developed with $374M in consultant funding.

are not met and coordination isn't carried through the entire lifecycle. Proposed rule changes should improve this condition by clearly defining the division of roles and responsibilities between districts and MPOs.

Leadership of people. The current management approach results in people expending considerable effort on a relatively high number of projects that will never be let. This results in people expending effort on quantity at the possible expense of quality in their work. Additionally, at the division level, this contributes to an inability to appropriately focus on setting, communicating and enforcing policy.

1.3.1.2 Plan policies, procedures and processes

The overall rating for Plan policies, procedures and processes is "orange" (results don't fully or consistently meet requirements). While federal and state guidance is clear, TxDOT internal guidance is not well defined to facilitate consistent and understandable planning. For example, while the letting process is well documented from an administrative standpoint, there is no documentation regarding how to assess project priorities. As another example, while policies are documented, the specific procedures that need to be followed to implement policy are not. Similarly, standards are not well defined and documented. To address this for environmental processes, the Environmental Affairs Division has undertaken development of Standards of Uniformity (SOUs) to bring more standardization and consistency to environmental review.

1.3.1.2.1 Key activities

As with many other functional areas, Plan relies heavily upon well thought-out, documented and communicated policies and the supporting procedures that guide policy implementation. The key activity in this area is the development, maintenance, dissemination and communication of a complete, appropriate body of policies and procedures to guide planning work across TxDOT.

1.3.1.2.2 Observations and findings

Findings in this subsection reflect information gathered from TxDOT, interviews and focus groups.

- **Clarity and relevance**. To the extent that processes and procedures are documented, they appear to be clearly written. However, documentation of detailed procedures is limited to functions that are more administrative in nature (e.g., letting administration, STIP compilation). A number of the manuals now in use are written at a very high level and do not provide detailed guidance to help staff consistently, efficiently tackle implementation of policies (e.g., how to obtain a specific permit). Similarly, TxDOT lacks documentation of defined processes and standards explaining how projects are prioritized, how projects are selected for implementation or how those decisions are refreshed throughout the Plan lifecycle. Finally, TxDOT has few standards at this point to inform people of expectations that must be met for their work to pass review. This is an area that the Environmental Affairs Division has tackled through SOU development to clearly communicate those standards throughout the organization.
- **Currency**. TxDOT's policies and guidelines related to Plan responsibilities is kept current.
- **Standardization.** On the surface, Plan activities are conducted consistently across TxDOT. However, at a more granular level, approaches vary district to district. As noted already, the

level of detail and type of content in the governing TxDOT documents does not promote standard approaches across TxDOT.

- **Communication**. Even the best of policies, procedures and standards are only effective to the degree that they are communicated, taught – and enforced – in an organization. The level of guidance in the current TxDOT documentation is not conducive to training or regular updates to keep people aware of changing requirements, improved processes, etc. To the extent that TxDOT staff are working now to develop and implement improved processes and procedures, there is not a model to train staff across the organization in what these guidelines are, how to use them or on expectations for compliance.

One of the effects of this situation is that rather than predictably and consistently building quality into planning and design documents throughout the process, issues or lack of compliance with standards and expectations may not be identified until the end of the lifecycle. At that time, TxDOT staff are making the choice to reject projects or to grant exceptions that could have been avoided through a more proactive and informative approach.

1.3.1.3   Plan organizational structure and alignment

The overall rating for plan organizational structure and alignment is "orange" (results don't fully or consistently meet requirements). While the official assignment of planning responsibilities within TxDOT is clear and understood, the actual implementation of planning responsibilities works differently. Although districts have primary responsibility, and a high degree of autonomy, for this work, divisions often are drawn into delivery-related activities to try to complete project development to meet letting schedules. This undermines accountability in the organization. Additionally, while districts and divisions have a clear understanding of expectations around communications with external stakeholders, internal communication and coordination requirements are handled in a more varied and individually-driven manner. TxDOT is working to improve in this area via procedures that the RSCs define to more clearly define the division of responsibilities between the district, region, and division.

1.3.1.3.1   Key activities

Organizational structure and alignment identifies who in the organization is involved in planning activities and in what way. The structure groups tasks and staff logically to deliver effective, consistent results. There should be clear and appropriate lines of communication, accountability and authority to execute planning responsibilities.

1.3.1.3.2   Observations and findings

Functional alignment. In theory, Plan responsibilities are clearly and appropriately identified with specified organization elements. However, in practice, the division between oversight and delivery becomes blurred. Responsibilities frequently shift as division staff are driven to assume certain delivery responsibilities in order to ensure projects meet letting schedules.

Coordination and communication. People have a good understanding of what communications are authorized and expected with external stakeholders at the district and division levels. However,

within TxDOT, expectations and requirements for internal communication and coordination are not well defined or understood. As a result, performance in this area varies substantially depending on the individuals involved.

Accountability. Under the decentralized structure that TxDOT uses for Plan, districts have a great deal of autonomy throughout the process. However, they historically have not been equally accountable for the results they deliver. This is related to the concerns noted earlier regarding the singular focus on meeting letting schedules versus a broader and more disciplined approach to pushing priority projects through the process in a timely manner. If projects are not developed appropriately or on schedule and the planned letting date is approaching, divisions are expected to compensate for this performance – and are considered responsible for projects not meeting the letting schedules. This blurs any sense of accountability for how work proceeds at each step of the process. The SOUs being implemented by the Environmental Affairs Division are starting to break this pattern – keeping accountability where it belongs, while providing an appropriate level of support and guidance to help districts succeed.

Efficient use of resources. Design personnel, a primary resource during planning activities, are now shared by the districts to allow for workload fluctuations. This is an improvement in the way that personnel are deployed and is expected to lead to greater efficiency.

1.3.1.4   Planning support systems and data

The overall rating for plan support systems and data is "red" (issues or incidents consistently or frequently impede performance). TxDOT has very limited tools to support the Plan process. Until recently, TxDOT had no formal mechanism to track the planning process. TxDOT now is implementing P6 with the intent of using it for this purpose, but it's not clear whether this will result in the desired improvements. The information in the existing system, and the way in which it is entered, is questionable. Additionally, the full range of data relevant to the function is not available from an integrated source.

1.3.1.4.1   Key activities

This area encompasses the adoption and use of appropriate tools and methods, including IT-enabled tools, to support efficient operations and communications. It also includes use of databases to support data collection; to improve data reliability, accuracy and availability; to support required reporting; and to enable valuable analytics to identify trends and to help understand and resolve issues.

1.3.1.4.2   Observations and findings

Up to now, TxDOT primarily has relied upon DCIS (Design Construction Information System) and upon spreadsheets or other informal tracking mechanisms to manage planning and project data. DCIS is used to track letting dates and funding. Over the past year and a half, TxDOT has been implementing Primavera Professional Project Management System, version 6 (P6), a robust and widely accepted project management tool. P6 is intended to track project progress through the

development process, up to letting. During the fall of 2009, district staff was tasked to manually enter data on their projects into P6 within fairly tight deadlines.

Data availability. Until the implementation of P6, districts had little data available regarding project progress or status.   The P6 initiative should improve the availability of needed project-related data, although issues with information included in P6 exist(project milestones not derived through project scheduling activities, rather they are backed into from a specified let date). (Please see the discussion of P6 that appears in the *Implementing Change* discussion, in PART I, Section 2 of the MOR *Report*). Additionally, the full suite of relevant data that should or could be used to manage projects does not reside in a single database.

Data fidelity and accuracy. As P6 becomes the primary source of data to track and manage projects, how the data is entered becomes extremely important. The type of information in P6 is adversely affected by how the initial data conversion and entry process was accomplished through the fall of 2009 and by the assumptions embedded in the data that was entered (i.e., driven backwards from target letting dates versus driven forward based upon a defined project management approach). Additionally, staff are not consistently entering project status data at this point.

Functionality and interoperability. The systems being used to support the Plan process are not integrated; P6 was implemented as a standalone system. Additionally, P6 functionality is not fully implemented or used at this point. For example, identifying and managing priority projects is still largely a manual process. P6 does not currently include a way to identify priority projects (e.g., preferred letting, approved backlog). Districts still use the Project Development Plan (spreadsheet) to track project priorities.

1.3.1.5   Long-range planning

The overall rating for long-range planning is "orange" (results don't fully or consistently meet requirements). TxDOT seeks to deliver transportation projects that are important to the state and that are in line with the organization mission and goals. However, the formal SLRTP for the State of Texas is significantly out of date and has little correlation to the priorities TxDOT is pursuing. Additionally, TxDOT does not have clearly defined processes or procedures that guide how projects are prioritized for inclusion in the UTP, nor for forecasting funding within the 1- to 10-year time frame. Lacking these, districts independently (in collaboration with local stakeholders) prioritize projects and pursue project development based on district-by-district judgments. TxDOT may be missing opportunities to better align project investments with long-term goals across the state. Proposed rule changes for the Plan process are intended to lead to a more structured approach for identifying priority projects based on how they promote the Department's stated goals.

1.3.1.5.1   Key activities

Long-range planning is used to set the State's direction regarding transportation and to begin development of large-scale projects. Key activities within long-range planning include:

- Developing and documenting statewide transportation vision and goals in the SLRTP;

- Identifying long-term transportation needs and beginning the process of assessing these needs and aligning them into defined projects; and
- Documenting a set of projects and priorities within the UTP.

1.3.1.5.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished, interviews and review of accepted long-range planning practices.

Developing plans. The degree of clarity and definition around how to develop long-range plans and to perform long-range planning varies.

- An SLRTP is being developed now, but TxDOT has not produced an equivalent document since 1994. This suggests that there is not a well-established process guideline SLTRP development.
- Districts, divisions and MPOs are well aware, at a high level, of the work they need to do related to the UTP, although as noted earlier these processes and procedures are not documented in detail.
- The TRENDS model will help forecast expected funding for out years (beyond 10 years); although the accuracy of the underlying assumptions will affect the resulting forecasts.
- TxDOT does not have processes or procedures defined to forecast and allocate funding within the 0 to 10-year time frame.

Determining priorities. TxDOT does not have a structured process to determine project priorities statewide. TxDOT last attempted to determine statewide priorities through work groups established in 2002 and 2003 to establish a statewide list of prioritized corridor segments for Category 2 and Category 3 funding. The work groups were unable to come to consensus on criteria to rank corridor segments statewide. As a result was that districts were allowed to prioritize their projects and the work group was to then prioritize the results into subgroups; however, they were not required to arrive at a single consolidated list.

Over the last 2 decades the Department has shifted from centralized control of system prioritization to a more decentralized model. Initially, decisions regarding larger projects (mostly in urban and metropolitan areas) were made centrally using a type of cost/benefit analysis. However, districts were able to improve their cost/benefit ratios by securing local funding to supplement state funding, thus decreasing the cost to the Department and improving its cost/benefit calculation. Around 2002 - 2003 the Commission began giving more control to local areas around project selection.

Today, districts remain responsible for prioritizing projects (working with other local officials and stakeholders) as they submit these to the UTP. The first statewide check on project priorities comes late in the development process, during the pre-letting reviews, when the AED, Engineering Operations, reviews the monthly letting schedules. While this provides a limited opportunity to look at planned projects in a broader context, it doesn't constitute a statewide view and isn't reliant upon a consistent, transparent set of criteria.

These findings are consistent with the Sunset Advisory Commission report, which states that while the UTP includes a (600-page) list of projects, it "does not provide any information about which projects are most important to the state's overarching transportation goals. All projects listed within the same year of the document bear equal important to TxDOT's central office staff, who are responsible for approving each stage of district implementation activities, such as environmental and right-of-way work."[4]

Current and relevant long-range plans. As noted previously, TxDOT is creating an SLRTP now; the predecessor document dates from 1994. Review of the existing document shows a limited correlation between the stated vision and goals and the actual priorities TxDOT is pursuing. Similarly, there are few controls in the Plan process to verify that individual projects are defined and selected in light of such a vision. While districts certainly seek to undertake projects of high value to their communities and to the state, they don't have all the tools they would need to understand their choices in light of a broader vision and set of goals.

Rule changes, currently proposed by TxDOT, may improve issues with identifying statewide priorities and providing measurable outcomes for project selection. Specifically, the rule changes state the SLRTP must identify measurable targets and priority projects and corridors. The proposed rules also require planning documents to include prioritized project lists based on specified project selection criteria.

1.3.1.6   Mid-range planning

The overall rating for mid-range planning is "red" (issues or incidents consistently or frequently impede performance). As with long-range planning, TxDOT does not have defined criteria or a process for determining project priorities, in this case as projects are selected for the TIP and STIP. Once projects are in the STIP, TxDOT delivery of these projects within the planned timeframes is comparatively low. Further, TxDOT over-programming resulted in concerns over the 2008-2011 STIP, which was not fiscally constrained to line up with projected revenues. TxDOT anticipates that proposed rule changes will improve performance in this area.

1.3.1.6.1   Key activities

During mid-range planning, the districts continue design, construction planning, right-of-way and environmental work on projects that remain a priority for the State. The MPOs and districts identify mid-range projects in the STIP, along with the estimated costs and recommended implementation dates.

1.3.1.6.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished, interviews, and review of accepted mid-range planning practices.

---

[4] *Sunset Advisory Commission Final Report*, July 2009, page 25.

Defining priorities. As with long-range planning, TxDOT does not use documented, transparent processes or standards to guide definition of priorities. The decentralized approach to Plan functions continues at this stage with each district independently determining how to prioritize projects for inclusion in the TIP. Furthermore, once projects are in the STIP, districts essentially treat the STIP as a menu and are able to choose projects to develop from any of the 4 years covered in the STIP without formal review.

Alignment of performance with plans. Language in the STIP implies that once projects are in that document they will be built. TxDOT has maintained that the commitment to implement a project really isn't final until letting. The disconnect between those two messages creates a degree of confusion and misaligned expectations with external stakeholders.

Statewide, TxDOT lets a fraction of what is listed in the STIP for a given year. Of all individually listed projects in the STIP, only 29.95 percent of projects in FY07 and 49.19 percent in FY06 were actually let in or before their identified letting year. Of all projects, including those grouped or otherwise not individually listed in the STIP, 78.21 percent of projects in FY07 and 77.89 percent in FY06 were actually let in their identified letting year. By comparison, in FY09 Arizona delivered 96 percent of projects in their STIP, Ohio delivered 95 percent of their listed projects, and Florida delivered 97 percent of their projects.

The FHWA identified that the 2008-2011 STIP is over-programmed and is not in line with revenue forecasts. FHWA raised questions regarding the financial summaries when they originally approved the STIP. On October 9, 2009, FHWA sent a letter to TxDOT regarding this issue because the 2010 letting schedule programmed $1.5 billion, while TxDOT had slated $6.1 billion for the same year in the STIP. While Proposition 12 money could be used to bridge about $900 million in 2010 and another $900 million in 2011, there was a shortfall of $3.7 billion. As a result of this, FHWA and the FTA will not act on an updated or amended MTP or STIP that does not reflect the changed revenue situation. TxDOT is working to update planning documented based on a timeline submitted to the FHWA.

1.3.1.7   Short-range planning

The overall rating for short-range planning is "red" (issues or incidents consistently or frequently impede performance). The cumulative impact of limited controls; lack of a transparent and consistent scheme for establishing, tracking and managing project priorities statewide; and limited project management discipline is felt as projects approach targeted letting dates. TxDOT actually lets 85 percent (based on a 4-year average) of projects that are included in the letting schedule projected 1-2 months in advance of letting.

1.3.1.7.1   Key activities

The key activities in short-range planning include:

- Finalizing project plans;

- Obtaining clearances;
- Verifying funding and finalizing the funding source;
- Performing final review of projects prior to letting to verify projects are consistent with organizational goals and that they will be ready by the proposed letter date; and funding in preparation for letting; and
- Letting the construction contract.

1.3.1.7.2   Observations and findings

Management of project development. As noted in previous subsections, TxDOT does not have a strong project development methodology, supporting tools or culture to guide projects through development. The cumulative effect of this becomes very apparent in the short-term planning phase, as projects face hard deadlines in the annual letting schedule and approved letting list. Over the past 4 years, TxDOT has let approximately 85 percent of projects in the approved letting list generated 1-2 months prior to letting. TxDOT attributes the changes to PS&E errors, design changes, funding issues and changes in direction from the Administration. Districts often cite lack of environmental clearance as the most common reason for projects not letting on time, although less than 3 percent of projects annually are pulled from letting due to environmental clearances.

In an effort to introduce appropriate controls over letting, TxDOT recently added CFO review of the proposed letting list to ensure sufficient cash flows to pay for the proposed letting. While this has helped ensure that letting is based on actual revenues, this review has results in projects on the letting schedule being delayed due to lack of funds. The additional review step also reduced division review time to prepare projects for letting.

Internal stakeholders (e.g., Environmental, Right-of-way) are not effectively involved during project development, resulting in either a scramble to prepare projects for letting or projects going to letting not meeting internal standards. TxDOT's success in meeting deadlines seems to rely on willingness to engage in crisis management, rather than as a result of a disciplined, well-paced process. When letting timelines get tight, TxDOT staff put other work on hold to expedite the lagging projects.

Lack of project prioritization affects the ability of the Environmental and Right-of-Way Divisions, now including the RSCs, to assist with project development. Effectively, these divisions receive un-prioritized requirements from the districts and MPOs (49 sets of requirements). Although only a fraction of potential projects are let, the divisions must examine all potential projects. For example, from 2005 through 2008, districts conducted right-of-way surveys for an average of 4,235 parcels per year, including revisions, and acquired 1,775 parcels per year on average (42 percent of the total surveyed). The Right-of-Way Division had to allocate resources to support all 4,235 surveys.

1.3.1.8   Right-of-way

The overall rating for right-of-way support is "orange" (results don't fully or consistently meet requirements). Fundamentally, TxDOT does not have a strong track record of accurately estimating costs associated with right-of-way acquisition or utility relocation; does not include right-of-way costs in project estimates; is not accountable for performing right-of-way activities at specified points in

project development to assure right-of-way acquisition prior to letting. Additionally, there is limited accountability for right-of-way budgets allocated to districts. Right-of-way expenditures previously balanced statewide, but as the right-of-way budget declines and projected costs exceed that budget, the ability to informally balance this budget diminishes. TxDOT recently revised right-of-way processes to centralize functions and improve accountability. However, it is unknown to what extent these changes will improve the core issues of including right-of-way costs for decision making and initiating right-of-way activities early enough in the process to reduce overall costs.

1.3.1.8.1   Key activities

The right-of way function entails acquiring property by purchasing it from property owners or through eminent domain proceedings. If utilities exist on the identified right-of-way, the process includes working with utility company to relocate the utilities and potentially acquiring additional right-of-way for such relocation.

1.3.1.8.2   Observations and findings

For FY05 through FY08, TxDOT spent on average $565 million annually on right-of-way acquisition and utility relocation. As with other elements of the Plan business process, planning for right-of-way acquisition and utility relocation is a decentralized function. The current approach to acquiring right-of-way and managing costs associated with this presents several problems.

Lack of overall standards or guidance. While the Right-of-Way Division provides high-level guidance for this function, these are not sufficiently specific to drive consistent behavior across the organization. Each district makes independent determinations about when to begin activities related to right-of-way during the planning process. FHWA expects 100 percent of right-of-way to have been acquired and utilities relocated when a project is let; however, according to the Right-of-Way Division, only approximately 50 to 60 percent of TxDOT projects meet this standard. In instances where right-of-way acquisition is incomplete prior to letting, TxDOT may pay more for right-of-way at negotiations because they have lower bargaining power with individuals, businesses and utility companies. Untimely right-of-way considerations also increase the likelihood of acquiring right-of-way through eminent domain legal proceedings, increasing overall costs and requiring additional time.

Costs not included in project estimates. Districts are not required to include estimates for right-of-way acquisition or for utility relocation in their project cost estimates. Right-of-way acquisition and utility relocation can be extremely expensive (e.g., Katy Freeway project right-of-way cost $1.2 billion). Without factoring these costs into the total project funding requirement, decisions about the feasibility and value of a project may be artificially positive.

Inaccurate estimates. Typically districts do not estimate right-of-way costs based on project specifics, but rather assume right-of-way represents 12 percent of total construction costs. Given this practice, right-of-way acquisition estimates can be grossly inaccurate. Katy Freeway is the largest example of inaccuracy, with right-of-way acquisition and utility relocation costs of over $1.2 billion, while estimates were closer to $600 million. There are many other examples of projects with

overruns exceeding $10 million and even doubling the original estimates. Actual annual statewide averages ranged from 15 to 22 percent of total construction costs from FY05 through FY09.

Overruns in right-of-way costs ultimately affect the availability of funds for other transportation projects. For instance, when Dallas let a project with $4,450,380 in estimated right-of-way costs that ended up costing $14,020,126, that equals $9,569,746 of work that the Department can no longer do or another project that must be delayed because there isn't enough funding left for right-of-way (more examples included in Appendix H).

Limited accountability. Each district is allocated funds to use to acquire right-of-way and to relocate utilities. Districts may exceed this allocation. Historically, the total expenditures for right-of-way tended to balance out across the TxDOT, as soon districts overspent and other under-spent their allocations. More recently, though, the cost for right-of-way has not decreased in pace with the decreasing budget, placing TxDOT in jeopardy of exceeding the right-of-way budget. For FY10, the projected right-of-way budget was $255 million, while initial district projections of needed fund were more than triple that amount. The new RSCs will have a more active role in overseeing district right-of-way budgets, but it is unclear how successful this will be as districts have not previously had to include consideration of right-of-way budgets in project letting decisions.

Construction delays. Districts sometimes cite utility adjustments as a major cause for construction delays, which could be avoided given earlier and more dedicated utility coordination. At the November 18, 2009, Commission workshop, TxDOT discussed that a majority of projects are delayed for utility reasons. The Executive Director (ED) suggested there may be value in evaluating the process and having utilities relocated before construction begins. As of the submission of this report, no action has been taken as follow-up.

Poor coordination and correlation to plans. While in many cases TxDOT doesn't complete right-of-way acquisition prior to letting, in other cases they initiate right-of-way acquisition in advance of receiving funding for a project. This investment may or may not deliver value over the long run, depending upon whether the project ever is actually funded and let.

1.3.1.9   Environmental

The overall rating for environmental support is "orange" (results don't fully or consistently meet requirements). TxDOT environmental standards and processes do not require timely consideration of environmental requirements and preparation of documentation throughout the development process. This becomes an issue as projects approach their scheduled letting date. When significant work must be done to keep a project on schedule, this diverts Division staff to help address the issues. Late preparation of documents increases the possibility of inadequate or incomplete documentation, which can lead to downstream costs through cancelled or delayed projects, litigation and/or repeating the environmental clearance process.

1.3.1.9.1   Key activities

Environmental planning may result in four different types of environmental clearances, depending upon the degree of potential environmental impact. Environmental clearances may take from 3 months to 5 years to complete; most require 3-12 months to complete. To perform this function, Districts, with support from the Environmental Affairs Division:

- Perform public outreach relating to the potential impacts;
- Assess environmental impacts, including social, economic and environmental factors; and
- Develop appropriate documentation.

1.3.1.9.2   Observations and findings

Delays in obtaining environmental clearances are frequently cited within TxDOT as being the cause of project delays.

Process clarity. TxDOT has documentation regarding environmental requirements and processes, but has lacked detailed procedures to effectively aid districts in conducting environmental and public involvement activities. Recently, the Environmental Affairs Division developed SOUs to improve the Programmatic Categorical Exclusion (PCE) review process and to increase standardization and consistency of environmental reviews. Those involved in the process (districts and the Division) agree that this has significantly improved cycle time for PCE review and has improved overall PCE documentation quality. The Division plans to develop SOUs for the remaining environmental document types.

Standards. As with right-of-way, districts are not required to execute environmental planning steps at specified times in the project development lifecycle. When environmental processes are not included in planning at appropriate times, projects may experience increased costs and delays, and the quality of the environmental studies may also be reduced. Poor environmental studies can lead to litigation, further escalating project costs. The Environmental Affairs Division cited a number of examples, including that of a recent design-bid-build contract (DBBC) was terminated because of a poor environmental study that needed to be redone. The contract had been let and the contractor had crews allocated. It cost $796,485 to terminate the contract, which still was substantially less than incurring the monthly fixed costs for delaying the project.

Timeliness. Environmental documents are often received late by the Environmental Affairs Division in preparation for letting, meaning that the document was submitted after the prescribed submittal date in the Environmental Tracking System (ETS). Between FY2006 and FY2008 documents were received late 36 percent of the time on average. In FY2009, this percentage rose dramatically to 62 percent. This illustrates the untimely coordination with the Environmental Affairs Division during project development and significantly impacts the division's ability to promote quality documentation based on established standards, particularly given the pressure to make sure projects meet their originally scheduled letting date.

Dependence on external participants. Issues during the environmental process may stem from Federal or State agencies that must review environmental documentation before TxDOT can let a

project. For example, data provided during stakeholder interviews shows that issues exist with Texas Parks and Wildlife Department (TPWD). During FY 2008, TxDOT coordinated 807 projects for potential impacts to wildlife habitat. TPWD is supposed to review and comment on environmental documents within 45 days of receiving them. However, TPWD only reviewed 31 percent of these projects within the 45 days. Approximately 64 percent of the reviews were received late, with the average review time taking more than 108 days, and the remaining 5% received no responses. During this same year, TxDOT submitted 662 projects for potential impacts to animal and plant species. Only 26 percent of the time TxDOT received those reviews within 45 days, 47 percent were received late, with an average review time of 168 days, and TxDOT received no response on 27 percent of projects.

1.4   Design observations and findings

This subsection presents the result of the Design diagnostic review.

1.4.1   Assessment summary

The business process diagnostic encompassed the following assessment points:

- Management and leadership;
- Policies, procedures and processes;
- Organizational structure and alignment;
- Support systems and data;
- Design resource coordination;
- Preliminary design;
- Detailed design; and
- Design review.

The MOR team rated each assessment point using a **qualitative** scale, defined in Table 1-4.

Table 1-4: Qualitative rating scale

Table 1-5 summarizes the design assessment ratings. The remainder of subsection 1.4.1 presents the basis for each of these ratings.

Process dimensions	Assessment factors	Rating
Management and leadership	• Consistent, disciplined application of appropriate management techniques to deliver targeted results; • Clear lines of authority; and • Effective and motivational leadership of people to develop skills, encourage high productivity and require quality.	
Policies, procedures and processes	• Completeness; • Clarity; • Relevance; • Currency; • Standardization; and • Effective and timely communication.	
Organizational structure and alignment	• Integrity of functional alignment and groupings of work, • Clear responsibility for coordination and communication; Clear accountability for consistent delivery of design services; and • Economies of scale.	
Support systems and data	• Data availability; • Data fidelity and accuracy; and • System functionality and interoperability.	
Design resource coordination	• Effectiveness of resource allocations; • Appropriate tools in place to facilitate coordination; and • Clear, accurate, up-to-date, standardized policies and procedures.	
Preliminary design	• Defined and followed processes; and • Clear, accurate, up-to-date and standardized policies and procedures.	
Detail design	• Defined and followed process; • Clear, accurate, up-to-date and standardized policies and procedures; and • Effective performance management.	
Design review	• Defined and followed process; • Clear, accurate, up-to-date and standardized policies and procedures; and • Effective performance management.	

Table 1-5: Design qualitative ratings

1.4.1.1   *Design management and leadership*

The overall rating for Design management and leadership is "yellow" (results consistently meet minimum requirements). This is based on the fact that TxDOT has implemented reasonable management techniques to monitor the progress and quality of design work throughout the project lifecycle. In addition, the P6 implementation is expected to enable tracking of designer performance against established milestones.

1.4.1.1.1 Key activities

This area focuses on how Design functions are managed and led within TxDOT. Effective management and leadership is expected to encompass:

- Governance;
- Application of appropriate management principles (cost, risk, priorities, controls);
- Leadership of people; and
- Thought leadership.

1.4.1.1.2 Observations and findings

Overall, the leadership and management of the Design function are meeting expectations. TxDOT has implemented reasonable management techniques to monitor the progress and quality of design work throughout the project lifecycle. In accordance with guidance from the Design Division, TxDOT design staff adheres to defined milestones at which their design work is reviewed prior to proceeding to the next stage. The P6 implementation is expected to enable tracking of designer performance against established milestones. TxDOT has calculated performance measures for designer productivity, but has not yet implemented these measures.

Staff morale was adversely affected by regionalization as staff were unsure about their job responsibilities.

1.4.1.2 Design management policies, procedures and processes

The overall rating for Design policies, procedures and processes is "yellow" (results consistently meet minimum requirements). This is because, overall, documentation of design standards, policies and procedures appears to be appropriate, current and presented in a manner that enables its use to guide work.

1.4.1.2.1 Key activities

As with many other functional areas, Design relies heavily upon well thought-out, documented and communicated policies and the supporting procedures that guide policy implementation. The key activity in this area is the development, maintenance, dissemination and communication of a complete, appropriate body of policies and procedures to guide design work across TxDOT.

1.4.1.2.2 Observations and findings

Based upon interviews with staff from the Design Division and with district design staff, documentation of design standards, policies and procedures appears to be appropriate, current and presented in a manner that enables its use to guide work. With the implementation of regions, some processes and guidelines are changing, so documentation is temporarily inconsistent with day-to-day expectations. However, documents are being updated to reflect these changes.

Staff are trained on design standards and procedures and appear to follow these consistently across the organization.

1.4.1.3   Design organizational structure and alignment

The overall rating for design organizational structure and alignment is "yellow" (results consistently meet minimum requirements). The organizational structure is well-aligned functionally and recent changes that facilitate structured resource sharing are expected to improve the efficient deployment of staff across TxDOT. While there is room for improvement in the areas of communication and coordination, this organization structure meets expectations.

1.4.1.3.1   Key activities

Organizational structure and alignment identifies who in the organization is involved in design duties and in what way. The structure groups tasks and assigns staff logically to efficiently deliver effective, consistent results and clearly and appropriately defines the lines of communication, accountability and authority to execute design responsibilities. Assignments are less effective with formally untrained designers managing intricate project development.

1.4.1.3.2   Observations and findings

Functional alignment and economies of scale. Design staff are assigned to design teams in each of the district offices. With the recent implementation of regional offices, regional design resource coordinators monitor and manage design requirements across district boundaries to better balance workload fluctuations. If a district needs design assistance, they work through the regional design resource coordinator to identify the type and availability of needed staff. Design resource coordinators verify that the project is on an approved project list, and then locate the needed staff – within the region, across regions, or within a division (e.g., Design or Bridge Division). Resource sharing arrangements are formalized through Design Work Agreements, which specify regional design resource coordination responsibilities, agreed-upon service levels and timelines.

Experienced designers function as project managers, responsible for the timely coordination of all project development activities to prepare a project for letting. However, these individuals are given limited project management training outside of on-the-job-training. This results in issues with ineffective project management practices, particularly as bad habits are transferred to future generations of project managers.

Accountability. As with other areas within TxDOT, individual accountability is limited by the quality of performance reviews and the lack of consistent feedback or consequences related to the quality of work. Based upon initial experience with the resource sharing arrangements, this accountability may improve since specific expectations are documented in the Design Work Agreement.

Communication and coordination. The quality of communication and coordination varies across TxDOT based upon individual and district expectations. During PS&E reviews, the Design Division finds that many designs often have the same type of issues, which might be avoided if district design staff and the Design Division coordinated more effectively. For example, the design classification is defined by a series of factors (e.g., type of location, traffic conditions). Often designers base their

May 26, 2010

specifications on the wrong design classification. Clear responsibility for initiating communications and coordination is not defined.

1.4.1.3.3   Design support systems and data

The overall rating for design support systems and data is "yellow" (results consistently meet minimum requirements). This rating is based on the fact that designers are able to accomplish their tasks given the information and systems they currently use. P6 should improve data analysis and reporting capabilities regarding designer performance against established timeframes. However, the department still does not have a single source to enter and track design consultant information.

1.4.1.3.4   Key activities

This area encompasses the adoption and use of appropriate tools and methods, including IT-enabled tools, to support efficient operations and communications. It also includes use of electronic database to support data collection; to improve data reliability, accuracy and availability; to support required reporting; and to enable valuable analytics to identify trends and to help understand and resolve issues.

1.4.1.3.5   Observations and findings

Data availability. TxDOT design staff rely primarily upon DCIS and P6 to access information on project status and funding. P6 is to be used to track design resource utilization and design review milestones. The P6 tool is a robust project management tool that will improve the data available to support design operations. However, as previously discussed, TxDOT design staff will not be able to use the tool most effectively if the information included is no more comprehensive or well-founded than before (e.g., setting a letting date and backing into project milestones without improved project management techniques).

System functionality. Responsibility for managing consultant design services contracts has moved to regions, but they do not have a single contract management system. Rather, regions use unique databases and/or spreadsheets to accomplish this work. The informal tools used to track and manage consultant design services contracts require manual entry of contract information, such as work authorizations, expirations dates, invoice frequency, paid to date, and approved and obligated money. TxDOT is rolling out and testing the PS_CAMS system, which will serve as a central, statewide repository for contract information. Centralizing contract information at the region and eventually in PS_CAMS will give staff the ability to better analyze and monitor contracts.

1.4.1.4   Design resource coordination

The overall rating for design resource coordination is "yellow" (results consistently meet minimum requirements). TxDOT has made significant strides in accommodating workload fluctuations while district design staff remains relatively constant. Sharing resources across the state is an effective use of resources. These newly defined processes also introduce improved standards for establishing expectations. However, the workload measures that drive much decision-making during resource coordination were developed inappropriately and are not yet attributable to individual designers.

1.4.1.4.1   Key activities

As part of design resource coordination, districts request design resources from the Regional Coordination staff based on project need. The region determines the design and support staff allocations using P6 based on productivity targets as measured by estimated construction costs. Regions can assign a designer from the requesting district, another district within the region, another district within the State, or a design consultant (which, by Texas Transportation Code, is required for 35% of design work).

1.4.1.4.2   Observations and findings

Effectiveness. The Department is sharing resources statewide improves resource utilization and balance during workload fluctuations. Districts go through the regional coordination staff to for resource assistance. Resource coordination improves the department's ability to meet its need for developing projects in a more effective manner.

Appropriate tools. Design Work Agreements that establish expectations for all parties involved in resource sharing are an effective tool to have resources support districts to which they do not report. This is a new practice within the department and can be extended for other inter-department resource sharing.

Productivity targets are being implemented to better understand and appropriately allocate resources, but without much testing or enforcement. The initial analysis found that the appropriate workload is about $5 million of design work per designer. This workload target failed to take into account that the type of project can drastically impact a designer's workload ability. This analysis was not based on a statistically valid sample for actual work completed and is likely skewed by all the design work completed ahead of schedule due to ARRA funding. TxDOT is currently analyzing requirements by design type and estimates that, which shows the average workload is closer to $5.6 million. There is limited data to support this estimated level, rather it was derived from district leadership estimates synthesized by regional employees. Analysis based only on historic output is incomplete because it does not consider employee's actual potential because it only shows their achievement given current standards (i.e., if expectations are low, employees may meet expectations while actually being able to complete more) and the quality of designs developed to determine the correlation between production and quality.

TxDOT is not tracking output for each designer, but assess targets for design teams overall, which limits the usefulness of workload standard calculations. The department believes P6 will help track individual performance and allow them to identify those designers not meeting their goals, but these goals are unofficial and not performance requirements.

Policies and procedures.   Recently developed Design Resource and Contract Management procedures provide a structured and detailed approach for coordinating resources. Though regional implementation and training was delayed as compared to initial milestones, these procedures are in place and training is complete for impacted staff.

1.4.1.5   Preliminary design

The overall rating for preliminary design is "yellow" (results consistently meet minimum requirements). The department consistently performs design concept conferences or other public involvement necessary to identify high-level design requirements.

1.4.1.5.1   Key activities

The goal of preliminary design is to begin developing an engineering solution to satisfy the public's transportation needs. Key activities of preliminary design include convening a design concept conference, which is a meeting to establish and agree on fundamental aspects, concepts, and preliminary design criteria of a project. Preliminary design closely correlates to long-range Plan activities, as these will inform the need and potential impacts in consideration during preliminary design activities.

1.4.1.5.2   Observations and findings

The department consistently performs design concept conferences or other public involvement necessary to identify high-level design requirements. The preliminary design process is well-defined in the Project Development Process Manual. Stakeholder interviews revealed no issues with current preliminary design processes or procedures.

1.4.1.6   Detail design

The overall rating for detail design is "yellow" (results consistently meet minimum requirements). While this was not a review regarding technical design efforts, the periodic detail design status reviews are consistent with policies directed by the Design Division. However, the Department does not explicitly measure a project's detailed designs compared to its initial intent.

1.4.1.6.1   Key activities

In detail design, the district design team develops a complete PS&E package to prepare for the solicitation of construction bids and subsequent construction. Detail design closely correlates to mid-range Plan activities, as these will better inform the detailed requirements to develop a successful design.

1.4.1.6.2   Observations and findings

Processes and procedures surrounding the detail design phase of work are well defined and consistently followed. Periodic detail design status reviews are consistent with policies directed by the Design Division and enable more effective input from internal and potentially external stakeholders.

There are, however, no consistent standards for measuring designers' performance against these standards and no well-defined design quality control, quality assurance and quality verification processes. Typically, TxDOT measures designers' performance based on the task completion—the number of environmental clearances, schematics and number of right-of-way maps completed. P6 is expected to help measure designer performance compared to expected timeframes, which will be a valuable performance measure.

The MOR Team was told anecdotally that depending on the project criteria, TxDOT designs may not be effectively scoped and designers may design projects to "gold standards", unnecessarily driving up construction costs. However, there is no conclusive evidence to demonstrate this finding. Based on TxDOT's contract change order tracking data, approximately 25 percent of changes are due to design changes of some kind, but because the detailed cause of these errors is not tracked in the database, it is unclear how many of these errors are attributable to over-design. Clear objectives and standards and accountability for designers' performance (including a more robust performance evaluation program) would mitigate any issues that might exist with over–designing.

1.4.1.7   Design review

The overall rating for design review is "orange" (results don't fully or consistently meet requirements). TxDOT has multiple review layers that seem to be redundant rather than complimentary and that remove some amount of accountability for designer performance.

1.4.1.7.1   Key activities

During design review, the district design team reviews the PS&E package before submitting to the Design Division, typically two to three months prior to the scheduled letting. The Field Coordination Section in the Design Division reviews the package before submitting to the FHWA. If the PS&E requires minor changes, typically the Design Division corrects them, but if more significant changes are required, they jointly rework the package with the district. Design review closely correlates to short-range Plan activities, as districts and divisions prepare projects for letting.

1.4.1.7.2   Observations and findings

Final PS&E review by the Design Division in preparation for letting results in a lack of accountability and inefficiency in the design review process. The Design Division is reviewing based on the same standards as those used during district review and, accordingly, the Division's findings should be caught by the district. Common findings are wrong design classification, including wrong design speed or area conditions. This review, like other similar division reviews in preparation for letting, will work to help the district in any way possible to make sure they meet their scheduled letting date. By fixing the districts' errors, the Design Division does not hold the districts accountable for their mistakes or for poor quality.

Processes and procedures are well-defined in the PS&E Preparation Manual and consistently followed. These typical practices include the Design Division helping districts finalize PS&E packages for final submission to the FHWA.

1.5   Build observations and findings
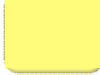
This subsection presents the results of the Build diagnostic review.

1.5.1 Assessment summary

The business process diagnostic encompassed the following assessment points:

- Management and leadership;
- Policies, procedures and processes;
- Organizational structure and alignment;
- Support systems and data;
- Contract award;
- Construction oversight;
- Claims and disputes; and
- Contract completion.

The MOR team rated each assessment point using a **qualitative** scale, defined in Table 1-6.

(green)	Optimum performance
(light green)	Results consistently exceed requirements; improve over baseline
(yellow)	Results consistently meet minimum requirements
(orange)	Results don't fully or consistently meet requirements
(red)	Issues or incidents consistently or frequently impede performance
(black)	Not performed; encountering problems that may or will cause harm

Table 1-6: Qualitative rating scale

Table 1-7 summarizes the build assessment ratings. The remainder of subsection 1.5.1 presents the basis for each of these ratings.

Process dimensions	Assessment factors	Rating
Management and leadership	• Clear lines of authority; • Level of authority; and • Staff morale.	(yellow)
Policies, procedures and processes	• Completeness; • Clarity; • Relevance; • Currency; • Standardization; and • Effective and timely communication	(yellow)
Organizational structure and alignment	• Integrity of functional alignment and groupings of work; • Clear responsibility for coordination and communication; and • Clear accountability for consistent delivery of Build services.	(orange)

Process dimensions	Assessment factors	Rating

Support systems and data	• Data availability;
	  Data fidelity and accuracy; and
	  System functionality and interoperability.	

Contract award	• Defined, implemented, fair and unbiased contract award process implemented in such a way as to support timely letting; and • Clear, accurate, up-to-date and standardized policies and procedures that are followed to adequately mitigate risk.	
Construction oversight	• Clear, accurate, up-to-date and standardized policies and procedures to assist in completing projects on time, on budget and to quality specifications; • Project management standards, practices and tools in place, trained on and used consistently; and • Efficiency of oversight activities.	
Contract completion	• Clear, accurate, up-to-date and followed policies and procedures; and • Timely and consistent process execution.	
Claims and disputes	• Defined and implemented processes; • Clear, accurate, up-to-date and standardized policies and procedures; and • Timeliness.	

Table 1-7: Build qualitative ratings

1.5.1.1 Build management and leadership

The overall rating for Build management and leadership is "yellow" (results consistently meet minimum requirements). There is clear leadership for the function and the Construction division is working to right-size the inspector staff in the districts (the key workforce for the "construction oversight" part of the lifecycle), to reduce the delays in contract closeout (a critical component in the "contract completion" portion of the lifecycle) and to introduce more standardization in project scheduling tools to the Build process. However, TxDOT lacks clearly established lines of authority for escalating questions or issues from the district to the Construction Division.

1.5.1.1.1 Key activities

This area focuses on how Build functions are managed and lead within TxDOT. Effective management and leadership provide strategic direction for TxDOT Build activities. Key activities of Build management and leadership are providing advice and guidance regarding work activities; and making key decisions regarding Build management. Management should also apply appropriate management principles to the Build process, including cost, risk, priorities and controls.

1.5.1.1.2 Observations and findings

Findings in this subsection reflect information TxDOT furnished, interviews, and accepted management practices.

Lines and levels of authority. Districts and the Construction Division have established clear lines of authority, but there are no clearly established lines or levels of authority for escalating questions or issues from the district to the Construction Division. Staff in the Construction Division have appropriate authority to solve and resolve problems and issues.

Staff morale. Based on on-site interviews, staff morale varies from district to district and office to office. Staff morale tended to be lower is districts where staff did not feel they had enough people to complete the work requested of them. TxDOT is currently working to address workload issues through the staffing model developed by the Construction Division.

1.5.1.2   Build management policies, procedures and processes

The overall rating for Build policies, procedures and processes is "yellow" (results consistently meet minimum requirements). Build management policies, procedures and processes received a yellow rating because policies and procedures are well-documented in the *Letting Manual* and the *Construction Contract Administration Manual*, which contain the relevant policies, processes and procedures necessary to support Build processes. However, the Construction Division does not have the authority to enforce standard applications of policies and procedures across the districts.

1.5.1.2.1   Key activities

As with many other functional areas, the Build process relies heavily upon well thought-out, documented and communicated policies and the supporting procedures that guide policy implementation. The key activities in this area are the development, maintenance, dissemination and communication of a complete, appropriate body of policies and procedures to guide Build work across TxDOT.

The two operating manuals TxDOT uses for the Build process are the *Letting Manual* and the *Construction Contract Administration Manual*.

1.5.1.2.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished, interview results, review of operating manuals and accepted Build practices.

Completeness and relevance. Policies and procedures are well-documented in the *Letting Manual* and the *Construction Contract Administration Manual*, which contain the relevant policies, processes and procedures necessary to support Build processes.

Currency and clarity. TxDOT policies and procedures in the Build process area are current and reflect the manner in which Build processes function.

Standardization. The Construction Division does not have the authority to enforce standard applications of policies and procedures across the districts. Instead, the Division relies on multiple project reviews by auditors. For example, monthly estimates are reviewed three times at the area office level before they are sent to the District for another review. Districts do not have a standard policy or process for when to contact the Construction Division, and so the Construction Division awaits calls from districts if construction activities become problematic.

Effective and timely communication. Build policies, procedures and processes are enacted using effective and timely communication.

1.5.1.3   Build organizational structure and alignment

The overall rating for Build organizational structure and alignment is "orange" (results don't fully or consistently meet requirements). Build organizational structure and alignment was rated orange because the district construction sections do not have a method or tool to balance their staff and workload numbers. The Construction Division developed a staffing model to project construction inspector needs based on the dollar value of construction workload from September 2009 to March 2014. As a result of Grant Thornton's analysis on the model, the MOR team determined that TxDOT has been slightly but consistently understaffed in construction inspectors since 2006. District construction sections do not have a method or tool to balance their staff and workload numbers, leading to imbalances in work efforts. The impacts of these imbalances are not readily apparent, calling into question whether "required" staffing levels are accurate.

In addition, coordination and communication between the Construction Division and the district construction sections is ad hoc. The districts normally initiative communication when they have a question or issue that needs to be resolved. The Construction Division is expected to provide process oversight (rather than only policy), yet does not have the ability to enforce accountability and authority over the districts.

1.5.1.3.1   Key activities

Organizational structure and alignment includes identifying who in the organization is involved in Build duties and in what way; grouping tasks and assigning staff logically to efficiently deliver effective, consistent results; and defining clear and appropriate lines of communication, accountability and authority to execute Build responsibilities.

1.5.1.3.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished, interview results and organizational design principles.

Functional alignment and groupings of work. In October 2009, TxDOT in large part removed the distinction between maintenance inspectors and construction inspectors to allow for greater flexibility in assigning responsibilities to the inspection workforce. TxDOT reclassified construction inspectors and maintenance inspectors as General Engineering Technicians. As of March 2010, TxDOT had 75 FTEs classified as Construction Inspectors.   Reclassifying construction inspectors and maintenance inspectors has provided flexibility in managing the changing demands of construction and maintenance workloads. In addition, it has provided the opportunity for inspectors to engage in different work roles and responsibilities.

In an effort to right-size the inspector workforce, the Construction Division developed a staffing model to project construction inspector needs based on the dollar value of construction workload from September 2009 to March 2014. The Division applied the staffing model to TxDOT's 25 districts. The Construction Division analyzed HR staffing data to determine the difference between current construction inspectors (estimated at 1,151) and estimated needs, estimating that TxDOT needed 1,946 inspectors as of September 2009 based on the then-current actual construction workload volume of $10.5 billion. Grant Thornton applied the staffing model to past letting dollars to review how those needs compare with today's perceived shortage. See Appendix L for the methodology.
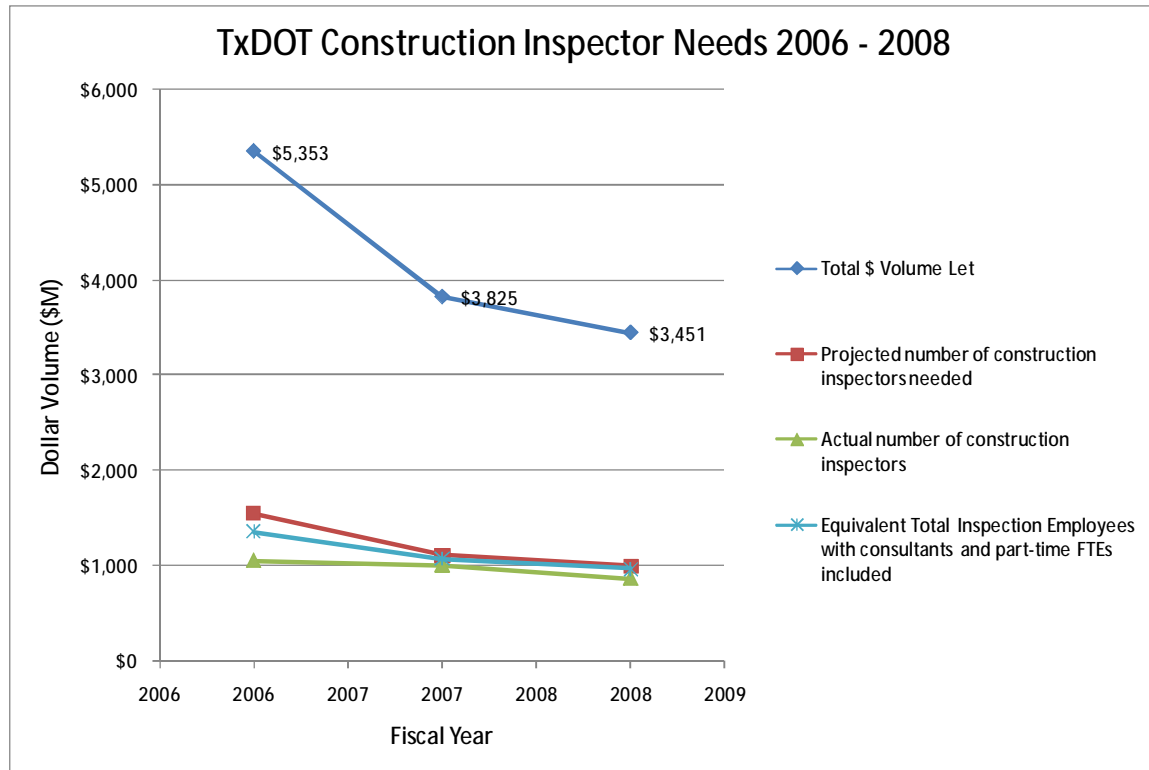
Figure 1-5: TxDOT construction inspector needs 2006 - 20008

Figure 1-5 presents the results of Grant Thornton's analysis. As per the model, TxDOT has been slightly but consistently understaffed in construction inspectors since 2006. The MOR team understands that TxDOT has used consultant field testing and inspection personnel, part-time FTEs and maintenance FTEs to close some of its staffing gap in the past. District construction sections do not have a method or tool to balance staff and workload numbers, leading to imbalances in work efforts. This makes it difficult to identify staffing requirements for a construction project, and could potentially result in under- or over-worked staff.

Responsibility for coordination and communication. Coordination and communication between the Construction Division and the district construction sections is ad hoc. The districts normally initiate communication when they have a question or issue that needs to be resolved.

Accountability for consistent delivery of Build services. The Districts and area offices are held accountable for consistent delivery of Build services. They are held accountable through the contractor monthly estimates and through Daily Work Reports in Site Manager.

1.5.1.4   Build support systems and data

The overall rating for Build support systems and data is "yellow" (results consistently meet minimum requirements). Build support systems and data received a yellow rating because Build systems and data seem to have good fidelity and accuracy. However, the letting process is very manual and all Build systems rely on some degree of manual data input, which opens systems to the possibility of data entry error. TxDOT is moving to electronic bid submission, but relies on personnel to hand enter bid prices and quantities from proposals not submitted via the electronic bidding system.

TxDOT measures Build performance using two primary criteria: on-time based on the original schedule and on-budget based on the original award amount. Projects are measured using a color-coded score card, where projects delivered within 5 percent of original schedule and award amount are "green," projects delivered within 10 percent of original schedule and award amount are "yellow" and projects delivered over 10 percent of original schedule and award amount are "red." The scorecard provides visibility into the initial planned value of projects, the actual project value at award and the actual cost at completion. In addition, the scorecard allows TxDOT to track delayed completion, the amount of delays and what caused the delays to occur. Scorecard data is available for each district and the Texas Turnpike Authority.

1.5.1.4.1   Key activities

This area encompasses the adoption and use of appropriate tools and methods to support efficient operations and communications. It also includes use of electronic database to support data collection; to improve data reliability, accuracy and availability; to support required reporting; and to enable valuable analytics to identify trends and to help understand and resolve issues.

1.5.1.4.2   Observations and findings

Findings in this subsection information TxDOT furnished and data inquiries.

Data availability. The letting process is very manual. TxDOT is moving to electronic bid submission, but relies on personnel to hand enter bid prices and quantities from proposals not submitted via the electronic bidding system.

Data fidelity and accuracy. Site Manager and the systems used in the letting process (DCIS, CMCS, Electronic Bidding System) seem to effectively support the Build process by providing timely, accurate data. However, all Build systems rely on some degree of manual input of data, which opens systems to the possibility of data entry error.

System functionality/interoperability. Project managers and inspectors complete day-to-day project management in Site Manager. Site Manager is an AASHTO software product developed to

provide states with a comprehensive automated construction management system. The software assists in performing the following business activities:

- Project record keeping and daily work reports;
- Estimate processing and finalization;
- Processing contractor payments;
- Materials management;
- Contract administration;
- Change orders; and
- Management reporting.

The Maintenance and Construction Divisions have started discussions to move all maintenance projects to Site Manager, although no formal transition plan is in place. This is an important step to tracking all TxDOT projects – construction and maintenance in one system.

Build processes also use a variety of enterprise-wide systems that link together the plan, design and Build processes. A diagram showing systems used during the Build process, including how they relate to plan and design processes, can be found in Appendix K Site Manager is functional and useful project management software for project managers and inspectors in the field. However, as evidenced by the multiple versions of Primavera products across the construction division and the districts there is a lack of standardization of scheduling software and methodologies across the districts. The Department is in the process of transitioning to P6 for project scheduling. The Construction Division has not transitioned project scheduling from P3 to P6 because of concerns around software access controls. Specifically, the software's common database structure allows a user to overwrite key data inadvertently and provides no opportunity for the user to undo his/her mistake. In P3, such an issue is less likely because users pull data from multiple databases (i.e., less opportunity to overwrite a file in a single database because of poor file naming conventions). The Construction Division is currently working on a solution that will allow them to successfully use the common database in P6.

1.5.1.5   Contract award

The overall rating for contract award is "yellow" (results consistently meet minimum requirements). Contract award received a yellow rating because the letting process is well-understood and documented, guided by Texas law and TxDOT's internal policies, and operates effectively. However, State-funded projects under $300,000 may be let through two different contracting processes and tracked through two different systems and method for a single project type, depending on whether the project is funded by maintenance dollars or construction dollars. In addition, the Construction Division lacks an effective knowledge-sharing process for letting day activities.

1.5.1.5.1   Key activities

As part of contract award, TxDOT is required to advertise bid opportunities. The Department also receives, verifies and evaluates bid proposals based on cost, responsiveness and responsibility. Finally, they award the contracts to the apparent successful bidders.

1.5.1.5.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished and interview results.

Support for timely letting. The letting process is well-understood and documented, guided by Texas law and TxDOT's internal policies.

There are no standard guidelines for the district to determine when to let a State-funded project with maintenance dollars or construction dollars. If a project is State funded and its associated contractor costs will be under $300,000, the same type of project (e.g., seal coat or overlay) may be let through two different contracting processes and tracked through two different systems and methods. Site Manager manages and tracks all construction projects, and all maintenance projects are tracked through hand-written diaries with project estimates are entered into the construction and maintenance contract system (CMCS). So long as project data are maintained through different systems using different standards and processes, having a single type of project track as either construction or maintenance precludes TxDOT's being able to easily pull comprehensive project data about, for instance, the number of overlays completed or to adopt best practices for project management.

Policies and procedures. Overall, the Construction Division does an excellent job of carrying out letting policies and procedures as Federal, State and TxDOT code and regulations, prescribes them. However, the Construction Division lacks an effective knowledge-sharing process for letting day activities. The individual in charge of letting has been with the Department for over 20 years and has never missed a letting day. TxDOT personnel involved with letting have a good understanding of their own responsibilities but are not easily able to take over other individuals' duties. As a result, absences are highly discouraged on letting day, and the letting process may not run as smoothly if staff have to perform tasks that are unfamiliar.

1.5.1.6   Construction oversight

The overall rating for construction oversight is "orange" (results don't fully or consistently meet requirements). Construction oversight is rated orange due to a lack of project management training and standardized project management processes and procedures.

1.5.1.6.1   Key activities

During construction oversight, the project managers provide comprehensive management and day-to-day oversight of construction contractors and their activities. The project managers must also identify and mitigate risks before they impact the project cost or timeline.

1.5.1.6.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished and interview results.

Policies and procedures. There is no standard reporting structure from the area office to the district office to the Construction Division. Communication between the construction offices

May 26, 2010

happens on an informal, as needed basis. Similarly, there is not a defined process or policy to escalate risks or issues from the districts to the Construction Division. The districts call the division when they feel need help. The Construction Contact Administration Manual does not include risk management policies or procedures.

Project management standards, practices and tools. Project management practices are not standardized among project managers and construction inspectors. This could lead to a potential situation where the project managers and construction inspectors do not have the tools and techniques to effectively mitigate project concerns and issues before they impact the cost or schedule of the project. There is no requirement for a project manager to have project management training before prior to leading and managing consultant construction work.

Efficiency of oversight activities. Each construction project undergoes multiple reviews conducted at different levels in the organization. The reviews are uncoordinated and not tracked or consolidated in a single location. Given the lack of coordination, different levels of the organization (area office, district office or Construction Division) could each look at the same area of the project while leaving other areas or aspects untouched. When the team reviewed contract completion data to understand how effectively contracts were managed during performance periods, the data showed that; from 2007 to 2009, TxDOT completed only 43% of projects within 5% the original schedule, and 63% of projects within 5% of the original award amount. The most significant reason for project delays in terms of the number of projects affected was TxDOT requesting additional work.

1.5.1.7   Contract completion

The overall rating for contract completion is "yellow" (results consistently meet minimum). Contract completion received a yellow rating because TxDOT follows all the required policies and procedures. However, contract completion is not consistent and does not occur within prescribed time limits. TxDOT began making closeout a priority in FY 2008, and, as a result, has significantly improved the number of contracts that are closed out within the 60-day time limit. Table 1-8 shows contract closeout over the last four years.

Fiscal year	Percent completed within 60 day goal
2007	38%
2008	46%
2009	70%
2010	85%

Table 1-8: Contract closeout rates

1.5.1.7.1   Key activities

Contract completion involves conducting the final inspection of projects and giving final notification to the contractor that the project is completed. The project manager completes the final project and paperwork, and the Construction Division audits the paperwork.

1.5.1.7.2   Observations and findings

Policies and procedures. TxDOT does not conduct contractor evaluations at the end of construction projects. Two states DOT's, Florida and Oregon, currently conduct contractor evaluations.

Process execution. TxDOT measures projects using two primary criteria: on-time based on the original schedule and on-budget based on the original award amount. Projects are measured using a color-coded score card, where projects delivered within 5 percent of original schedule and award amount are "green," projects delivered within 10 percent of original schedule and award amount are "yellow" and projects delivered over 10 percent of original schedule and award amount are "red."

Between 2007 and 2009 TxDOT completed 1,120 projects (43 percent) within 5 percent of original schedule 1,644 projects (63 percent) were completed within 5 percent of the original award amount. The biggest reason for schedule slippage is "additional work desired by TxDOT."[5] The next three biggest reasons for schedule slippage (in terms of the number of projects affected) are: contractor delays untimely utility relocation and consultant design error.[6] The reasons for schedule slippage that are out of TxDOT's control (unfavorable weather, acts of God and material shortages) comprise only 4.65 percent of all project delays[7]. Table 1-9 provides TxDOT on-time and on-budget performance data over time.

TxDOT on-time and on-budget performance over time[8]						
Year	Projects within 5% of original time estimate	Projects between 6% and 10% of original time estimate	Projects over 10% of original time estimate	Projects within 5% of original award amount	Projects between 6% and 10% of original award amount	Projects over 10% of original award amount
2007	43%	5%	53%	58%	17%	26%
2008	40%	6%	53%	61%	14%	25%

---

[5] "Const_perf_measr" – spreadsheet downloaded from Construction Division crossroads site in April, 2010.

[6] "Const_perf_measr" – spreadsheet downloaded from Construction Division crossroads site in April, 2010.

[7] "Const_perf_measr" – spreadsheet downloaded from Construction Division crossroads site in April, 2010.

[8] The MOR Team used TxDOT's internal reporting measures to obtain data to populate this table. TxDOT Tracker, which provides performance measures to the public reports on-time and on-budget data using two criteria: projects within 10% of awarded contract time and contract amount, and projects over 10% of awarded contract time and contract amount.

TxDOT on-time and on-budget performance over time[8]						
2009	46%	4%	49%	70%	12%	18%

Table 1-9: TxDOT on-time and on-budget performance over time

1.5.1.8   Claims and dispute resolution

The overall rating for claims and dispute resolution is "light green" (results consistently exceed requirements; improve over baseline). Claims and dispute resolution received a light green rating because TxDOT follows all required policies and procedures, provides training on its policies and procedures and the MOR team heard anecdotally that TxDOT is seen as a model for dispute resolution. However, the Texas Administration Code does not provide guidance on a timeline for claims and dispute resolution, and therefore, TxDOT's guidance does not include timelines. It can take up to a year to resolve contractor claims.

1.5.1.8.1   Key activities

If contractors have a claim or dispute against TxDOT, the formal claims and dispute resolution process provides them with a clear process for getting their issues resolved. Key activities for claims and dispute resolution are defined in the Texas Administrative Code Title 43, Part 1, Chapter 9, Subchapter A Rule 9.2.

1.5.1.8.2   Observations and findings

Findings in this subsection reflect information gathered via the Texas Administrative Code and interview results.

Processes. The claims and dispute resolution is guided by the Texas Administration Code, and TxDOT has a documented procedure based on the guidance. However, the Texas Administration Code does not provide guidance on a timeline for claims and dispute resolution, and therefore, TxDOT's guidance does not include timelines.

Policies and procedures: TxDOT follows Texas Administrative Code (TAC) Title 43, Part 1, Chapter 9, Subchapter A Rule 9.2 for the claims and dispute resolution process. The TAC is clear, accurate and up-to-date.

Timeliness. There is an 8-12 month backlog in reviewing and resolving claims and disputes. This is an issue because small "mom and pop" firms have a hard time waiting that long to get resolution to their claims.   The Construction Division is using P6 software to assign resources to specific tasks within the claims and disputes process. By assigning specific resources to specific tasks, the head of contract claims and administration is identifying the components of the claims and dispute process that are inefficient and improve the efficiency and expediency of the entire process. The value of identifying efficiencies and expediting the claims and dispute process is that "mom and pop" firms

will not have to wait as long to resolve their claims and will be more willing to bid on TxDOT work in the future.

1.6   Recommendations

1.6.1   Plan recommendations

Table 1-10 summarizes the recommendations for the TxDOT plan function.

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
1.1	Develop and adhere to a structured process to establish statewide project priorities, including: • Developing criteria on which to prioritize projects across the State; • Documenting statewide priorities, including decision-making rationale, reflecting projects that best serve the Texas transportation system; • Managing work at districts and in headquarters divisions by priority project lists to minimize delays and wasted effort; and • Developing performance measures based on achieving statewide goals.	*Short-, mid- and long-range planning.* Improves transparency and communication with external stakeholders regarding TxDOT plans. Improves efficiency and reduce wasted costs due to expending finite resources on low priority projects.
1.2	Develop a clear, transparent and disciplined process to accommodate unexpected issues including: • Developing criteria for allowable over-programming as a percent of total yearly programming; and • Developing more accurate communication plans.	*Mid-range planning.* Improves transparency and communication with external stakeholders regarding TxDOT plans. Improves efficiency and reduces wasted costs due to expending resources on low-priority projects. Increases likelihood of taking advantage of unexpected revenue while minimizing risk of wasting resources on projects that never get developed.
1.3	Establish performance measures and appropriate project management discipline to focus on delivering projects on time to reduce the need for over-programming.	*Mid-range planning.* Improve district effectiveness and reduce wasted costs due to expending resources on low-priority projects.
1.4	Include all project costs, in addition to construction costs, in project planning and programming activities.	*Right-of-way.* Improve the ability to effectively plan transportation projects, resulting in more accurate and predictable expectations for project development.
1.5	Hold districts accountable for their budgets, to include final project costs and impact on the overall TxDOT budget (i.e., apply all construction, right-of-way and	*Right-of-way.* Better align district expenditures to funding allocations, which is originally based on leadership's determination for where the Department's resources should go.

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
	utility adjustment costs to the district budget).	
1.6	Create performance plans that hold district leadership accountable for: • Documenting project prioritization with rationale for prioritization (in the case they need to reprioritize); • Focusing district resources on priority projects first; • Developing a clearly defined process to limit projects a district can work on that are outside fiscal constraints; • Holding districts accountable for work on projects that never let or excess costs for those not let on time; and • Requiring clear, formal approval for changing plans and timelines.	*Short-, mid- and long-range planning and right-of-way.* Improve district effectiveness and reduce wasted costs due to expending resources on low-priority projects.
1.7	Require districts to actively communicate with affected stakeholders, particularly MPOs, regarding timeline or priority adjustments (e.g., rationale for changed plans).	*Communication.* Improve communication with external stakeholders regarding project status and expectations.
1.8	Reduce overall department costs associated with right-of-way acquisition and environmental issues by: • Developing and adhering to more defined right-of-way and environmental project milestones for approval prior to letting; • Conduct Environmental Affairs Division status meetings for projects of a certain importance, either political or magnitude; • Define and hold districts accountable to acceptable standards for parcels outstanding at letting; and • Hold districts accountable for environmental documentation.	*Right-of-way and environmental.* Reduce overall department costs associated with right-of-way acquisition and environmental issues. Improve on-time project delivery.
1.9	Develop right-of-way cost estimates using consistent process that includes, for instance, estimating number of parcels and number of commercial/residential properties.	*Environmental.* Improve the ability to effectively plan transportation projects, resulting in more accurate and predictable expectations for project development.
1.10	Document procedures for right-of-way and environmental (similar to environmental SOUs) to clarify roles and responsibilities	*Right-of-way and environmental.* Improve district accountability for project development which will improve quality and on-time delivery. Will also provide clear delineation of responsibilities so

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
	and provide district agents more clear guidance on how to actuate associated regulations and policies. Conduct training on these newly developed procedures.	the divisions can focus on policy development and oversight, continuously working to provide the districts better guidance.

Table 1-10: Plan recommendations

1.6.2   Design recommendations

Table 1-11 summarizes the recommendations for the TxDOT Design function.

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
1.11	Establish a clear training project management curriculum. Standardize training efforts to provide clear requirements about who should be trained on which tool (e.g., P6 trainees).	*Detail design.* Improve overall project management capabilities, which will improve project predictability, stakeholder expectations and likely reduce overall project timelines.
1.12	Develop and publish consistent standards by which the district can measure designer performance.	*Detail design.* Improve accountability, thus improving the quality of designs. Could also reduce costs associated with change orders during construction and reduce project delays associated with poor quality designs.
1.13	Hold districts accountable for their designs and use the Design Division to review district designs only by sample.	*Design review.* Improve the quality of designs which can reduce costs associated with change orders during construction and reduce project delays associated with poor quality designs.

Table 1-11: Design recommendations

1.6.3   Build recommendations

Table 1-12 summarizes the recommendations for the TxDOT Build function.

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
1.14	Implement a formal knowledge sharing and documentation process for letting so that any individual, provided they had the right experience, could step into any role on bid day.	*Policies, processes and procedures and contract award.* The Construction Division lacks an effective knowledge sharing process for letting day activities. They rely on specific people with specific knowledge to conduct the letting day activities. If one of these people is absent from work on letting day, letting day activities are

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
		significantly disrupted or even delayed.
1.15	Develop and require adherence to project management standards and tools; provide training on standards and software; require use on projects.	*Construction oversight.* Project management practices are not standardized among project managers and construction inspectors. Project managers and inspectors are not required to have any specific project management training prior to stepping into that role. Also, scheduling tools and methods are not standardized across districts.
1.16	Standardize construction and maintenance project definitions so that similar projects are managed in the same manner and through the same systems.	*Contract award.* The same type of project (e.g., seal coat or overlay) may be let through two different contracting processes , managed according to different standards and tracked through different systems (depending on type of funds used). Using different processes for similar projects precludes TxDOT from gleaning lessons learned from all similar projects to move toward best practices. Moreover, it has the potential of creating reporting difficulties or inaccuracies.
1.17	Implement accountability for performance and reduce the number of project data audits conducted through the life of a project.	*Construction oversight.* Each construction project undergoes multiple reviews conducted at different levels in the organization. The reviews are uncoordinated and are not tracked or consolidated in a single location. Implementing accountability for performance and reducing the number of project data audits will prevent different levels of the organization (area office, district office or Construction Division) from looking at the same area of the project while leaving other areas or aspects untouched.
1.18	Develop a unified approach to staffing in conjunction with HRD that associates staff allocations with need and that allows staff to be moved to areas of greatest need when appropriate; resource sharing is already occurring between districts in an informal manner.	*Construction oversight.* District construction inspector FTE allocations are tied to workload, resulting in under- or over-utilized staff. Districts are beginning to share FTEs to minimize the number of underutilized staff, but there is not yet a formal policy or process in place for this practice. An increase in construction workload without a corresponding increase in FTE support specifically impacts construction inspectors, since the Administration does not allow to inspection work to be contracted out. As a result, during periods of high construction volume, inspectors focus on the critical jobs, potentially compromising other work. Developing a unified approach to staffing that allows staff to be moved to areas of greatest need maximizes efficiency of resources

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
		and minimizes underutilized or overworked staff.
1.19	Track all project data, information and records in a single system – possibly Site Manager – regardless of whether for a maintenance or construction project, to create a single record for all TxDOT projects and to increase transparency.	*Construction oversight.* All construction projects are tracked and paid through Site Manager, while maintenance projects are tracked through hand-written diaries and paid out through the mainframe system. Tracking all project data, information and records in Site Manager will increase transparency and make it easier to track the progress of TxDOT's projects.
1.20	Implement guidelines for issue escalation from the districts to the Construction Division.	*Construction oversight.* There is currently no standard reporting structure from the area office to the district office to the Construction Division. Districts contact the division whenever they have a contract or contractor issue, but they are not required to do so and may choose to resolve an issue on their own that may warrant or need attention from the division. With clear and direct guidelines in place, the districts would know when to contact the division, and the division would remain informed of any important issues. This minimizes the risk of districts handling contract or contractor situations in a manner that would not be in the best interest of TxDOT.
1.21	Institute a standard project manager training curriculum. A standard project manager training curriculum will provide project managers with tools and methodology grounded in best practices for managing projects of varying size and complexity; and enhance the knowledge of construction inspectors and project managers who have learned to manage projects through years of on the job experience.	*Construction oversight.* TxDOT's construction project managers are not required to take project management courses prior to leading and managing consultant construction work. TxDOT's i-Way online learning program offers project management training courses that are among the most popular courses offered, but these courses are not formally required.
1.22	Eliminate the backlog of claims and disputes.	*Claims and dispute resolution.* There is an 8-12 month backlog in reviewing and resolving claims and disputes. TxDOT depends on contractors of all sizes to successfully complete construction projects. Prolonged claim and dispute resolution cycles may eventually prevent smaller construction firms from seeking business with TxDOT.

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
1.23	Identify and hold to a reasonable timeline for claim and dispute resolution.	*Claims and dispute resolution.* Currently, there is an 8-12 month backlog in reviewing and resolving claims and disputes. Prolonged claim and dispute resolution cycles may eventually prevent smaller construction firms from seeking business with TxDOT.

Table 1-12: Build recommendations

May 26, 2010

Section 2:   Human resources business process diagnostic

This section presents a high-level diagnostic review of TxDOT human resource management (HRM) processes and practices, both from the standpoint of how HRM supports TxDOT mission achievement and of how HRM responsibilities are managed and delivered within the organization. Subsection 2.1 introduces the HRM function generically, based upon industry standards and accepted practices. Subsection 2.2 presents an overview of TxDOT HRM requirements, practices, processes and roles and responsibilities. Subsection 2.3 summarizes assessment observations and findings for HRM. Subsection 2.4 presents recommendations for future action.

2.1   Introduction to Human Resources Management

HRM embodies the idea that people are an organization's most valuable asset, as it is people who actually perform the mission. Effective HRM is a strategic component of an organization, and HRM processes and goals should tie directly to the organization's overall strategy and goals. Fundamentally, HRM should be a disciplined and insightful approach to attracting, developing, managing and maintaining staff necessary to achieve organization goals and to support the organization's personnel. Through HRM, organizations can:

- Translate mission requirements into workforce requirements;
- Assess gaps between future needs and current state, looking at multiple aspects of a workforce, including size, performance and scalability;
- Support the current mission while planning and preparing for the future;
- Connect workforce planning to other change enablers, such as business simplification, improved operating practices and adoption of new technologies;
- Build a workforce planning capability to continually shape the workforce in response to environmental influences, changing mission priorities and technological progress; and
- Integrate and align workforce planning activities with other planning functions across the organization.

2.1.1   HRM overview

HRM comprises a number of functions that effectively represent the personnel management lifecycle, including:

- Workforce planning and personnel cost planning;
- Recruiting;
- Selection;
- Induction (including orientation and on-boarding);
- Position management;
- Training and development;
- Separations;

- Personnel administration;
- Compensation and benefits management;
- Performance management;
- Time management;
- Payroll; and
- Succession planning.

These functions can be aligned to six principal phases: plan, acquire, align, develop, transition and sustain. Figure 2-1 presents the phases and functions, their relationships and their primary components.

TRANSITION
- **Separations**
  - process voluntary administrative separations
  - process involuntary administrative separations
  - process retirements

DEVELOP
- **Training & development**
  - provide programs to improve employee performance and productivity
  - cultivate organization's ability to attract and retain employees
  - deliver programs that promote employee satisfaction

ALIGN
- **Position management**
  - design and control of organization position structure
  - reflects logical balance in different scenarios
  - consideration of grade levels for involved positions

ACQUIRE
- **Recruiting**
  - identify people with needed skills and experience
  - provide guidelines to source the best recruits
- **Selection**
  - establish framework for implementing state and federal employment laws
  - advertise positions; screen and interview candidates; and select individuals to hire
- **Induction (orientation and on-boarding)**

PLAN
- **Workforce planning**
  - identify minimum essential manpower/conduct personnel cost planning
  - inclusive process involving collaborative participation
  - develop information that can help make decisions
  - help solve staffing problems related to managed position movement

Compensation & Benefits Management
Performance Management

SUSTAIN

Succession planning

Figure 2-1: HRM lifecycle and principal functions

All organizations manage their human resources to varying degrees, but not all manage their workforce. **Planning** focuses on integrating and aligning strategic business objectives and workforce needs via a documented strategic workforce plan that enhances workforce capability, commitment and alignment to drive results. HRM planning begins with the organizational strategic planning. Based upon the organization's strategic objectives, HRM workforce planning experts can begin identifying the workforce competencies required to meet the designated objectives. HRM planning culminates in comprehensive feedback to senior leadership on what needs to happen from a human resources perspective in order to meet strategic objectives.

Through the strategic workforce plan, the organization has information needed to efficiently undertake the **acquiring** phase, which includes recruiting, hiring and initially orienting people to the organization. The strategic workforce plan should segment organization roles based upon importance (e.g., strategic, critical, core, support). This segmentation forms the basis for action plans and priorities for filling roles through **recruiting.** Recruiting uses multiple techniques, tailored to specific workforce needs at the time, to locate and attract people with the needed skill sets in

accordance with the strategic workforce plan. Once an initial candidate pool is recruited, the **selecting** process should identify the best people to meet the organization's strategic workforce needs in a timely manner. A sound selection process also ensures that all local, State and Federal laws and regulations governing hiring practices are met, and helps shield the organization from litigation risks. Finally, through the **induction** process, the organization in-processes new hires – again ensuring compliance with governing laws and regulations – and provides new hires initial information to help them successfully join the organization.

Aligning the workforce involves designing and controlling an organization's position structure to blend employee skills and assignments to successfully carry out the organization's strategic objectives within constraints (e.g., financial constraints). Alignment results in the optimal mix of employees needed to carry out an organization's strategic, critical, core and support functions, recognizing that a workforce should contain both fully trained employees and trainees, and both supervisors and subordinates. Developing and managing these optimal ratios happens through **position management**, which links workforce data back to the strategic workforce plan. This linkage between align and plan phases allows an organization to have people with the right skills in the right place at the right time.

The **develop** phase, which encompasses staff **training and development,** is a key component in attracting, retaining and improving the performance of employees. Training and development programs should be developed to maintain or grow people's capabilities, as well as to help the organization attain its stated strategic objectives.

During the **transition** phase the organization out-processes employees via involuntary **separation,** voluntary separation or retirement. These actions should be driven by organizational processes and policies and by applicable State and/or Federal laws. Data derived from this phase should be used in the plan phase when developing the strategic workforce plan. To meet the organization's strategic objectives, the data will inform senior leadership and HRM professionals of the priorities for replacing staff when they are lost to attrition.

The **sustain** phase encompasses transactional functions to maintain, evaluate, reward, discipline and manage the workforce (e.g., **compensation and benefits management, performance management, time management, payroll**). These functions should be driven by processes and by applicable State and/or Federal laws. In addition to the transactional functions, this phase includes **succession planning**, which recognizes that some roles are too strategic or essential to be filled in a reactive way when someone leaves the organization. Succession planning identifies these roles, the potential time frames when each might need to be filled, the characteristics required to succeed in the role and candidates for the role. Succession planning is critically connected to the organization's strategic workforce plan. As the organization's strategic objectives change, the succession plan information will change. As changes occur, a new gap analysis is conducted to determine the strategies to close the gaps and develop new action plans.

2.1.2 Importance of HRM to TxDOT

Against a backdrop of decreased revenue, changing mission requirements and increased public expectations, TxDOT must be agile and strive to attain the highest possible level of performance in a more constrained environment. These challenges already have had a significant effect on TxDOT personnel and staffing; the organization will continue to require adaptations in the size, composition, capabilities and deployment of the TxDOT workforce.

Within TxDOT, HRM professionals must advocate for, lead and play a strategic role in human resources and workforce planning initiatives and in resolving related issues. This strategic role is imperative to maintaining a workforce that is aligned with, supports and reinforces TxDOT's mission, goals and performance expectations.

2.2 TxDOT HRM

Subsection 2.2 provides an overview of human resource management at TxDOT, and contains the following information:

- Federal, State and TxDOT requirements that govern the function;
- Roles and responsibilities;
- Process overview; and
- Best practices and initiatives.

2.2.1 Requirements

TxDOT HRM practices are governed by a wide range of requirements, including Federal and State laws. HRM requirements include, but are not limited to:

- Age Discrimination in Employment Act of 1967 (ADEA);
- Americans with Disabilities Act of 1990, Titles I and V;
- Civil Rights Act of 1964, Title VII (Pub. L. 88-352) (Title VII), as amended, as it appears in volume 42 of the United States Code, beginning at section 2000e. Civil Rights Act of 1991
- Civil Rights Act of 1991, Sections 102 and 103;
- Code of Federal Regulations, Chemical Testing (46 C.F.R., Part 16), Controlled Substances and Alcohol Use and Testing (49 C.F.R., Part 382), Procedures for Transportation Workplace Drug Testing Programs (49 C.F.R., Part 40);
- Drug-Free Workplace, 41 U.S.C., Sections 701-707;
- Equal Employment Opportunity Commission Regulations from Code of Federal Regulations;
- The Equal Pay Act of 1963 (EPA);
- Family and Medical Leave Act of 1993, 29 C.F.R., Part 825;
- Federal Pregnancy Discrimination Act of 1978;
- Genetic Information Nondiscrimination Act of 2008 (GINA);
- Rehabilitation Act of 1973, Sections 501 and 505;
- Texas Administrative Code, Titles 28, 34, 40 and 43;
- Texas Administrative Code, Sections 4.50-4.56, Sick Leave Program;
- Texas Administrative Code, Sections 169.2, Required Elements of Drug Abuse Policy; and 4.30-4.46, Substance Abuse Program;

- Texas Education Code, Sections 8, 19 and 51;
- Texas Family Code, Section 261;
- Texas Government Code, Sections 62, 403, 411, 431, 551, 552, 554, 556, 572, 573, 610, 613-615, 617, 651, 655, 656, 658-660, 662-664, 666, 667, 669-672, 803, 805, 811-815, 822, 2009, 2052, 2054, 2109, 2113, 2252, 2254, 2262;
- Texas Health and Safety Code, Sections 62 and 85;
- Texas Human Resources Code, Sections 61 and 115;
- Texas Insurance Code, Section 1551;
- Texas Labor Code Sections 21, 22, 52, 62, 101, 103, 201, 205, 207, 208, 209, 211, 402, 404, 408, 409, 412, 415 and 501;
- Texas Occupations Code, Sections 301 and 303; and
- Uniformed Services Employment and Reemployment Rights Act of 1994 (USERRA) (Public Law 103-353).

In addition, personnel policies are influenced by precedents set through Federal court rulings, State Interpretations and Technical Updates and by Opinions of the Texas Attorney General.

TxDOT HRD maintains two principal documents governing HRM policies and procedures:

- *Human Resources (HR) Manual*, revised September 2009; and
- *HRO Reference Guide*, revised July 2009.

2.2.2 Roles and responsibilities

Within TxDOT, HRM is the responsibility of the Human Resources Division (HRD) and of district human resources officers (HRO).

- HRD staff are divided into two components:
  - o **Headquarters HRD** staff who establish policies and procedures for all TxDOT HRM activities; and
  - o **Austin Central HR Operations** staff who report to the Deputy Director, HRD, and who provide day-to-day HRM support for TxDOT headquarters staff within the Administration, divisions and offices.
  - o The HRD Director reports to the AED for Support Operations.
- The district HROs, provide day-to-day HRM support to district staff and regional offices and report to their respective DEs, who in turn report to the AED for Field and District Operations.

In addition, two standing committees perform selected HRM functions:

- **Business Title Classification Committee (BTCC)** oversees the TxDOT job classifications structure and functional business job description system. On January 25, 2010, the BTCC voting membership changed from seven voting members (three DEs and four headquarters division directors) to eight, with the addition of the Director HRD as a voting member. The BTCC currently is chaired by one of the participating DEs and meets approximately every other month.

- **Standing Committee on Training (SCOT)** reviews all new and proposed training. Training is evaluated for Department benefits and availability to engage the greatest number of employees in development opportunities. Currently, there are 6 voting members (2 District Engineers, 3 Division Directors and 1 Office Director who serves as the SCOT Chair) and 2 ex-officio members (1 from HRD Training, Quality and Development and the Assistant Executive Director for Support Operations).

All told, 149 HRM professionals work in TxDOT – 63 in the HRD, 78 in the districts and 8 in the Regional Support Centers. [9] Figure 2-2 illustrates the current placement and reporting lines for TxDOT HRM staff.
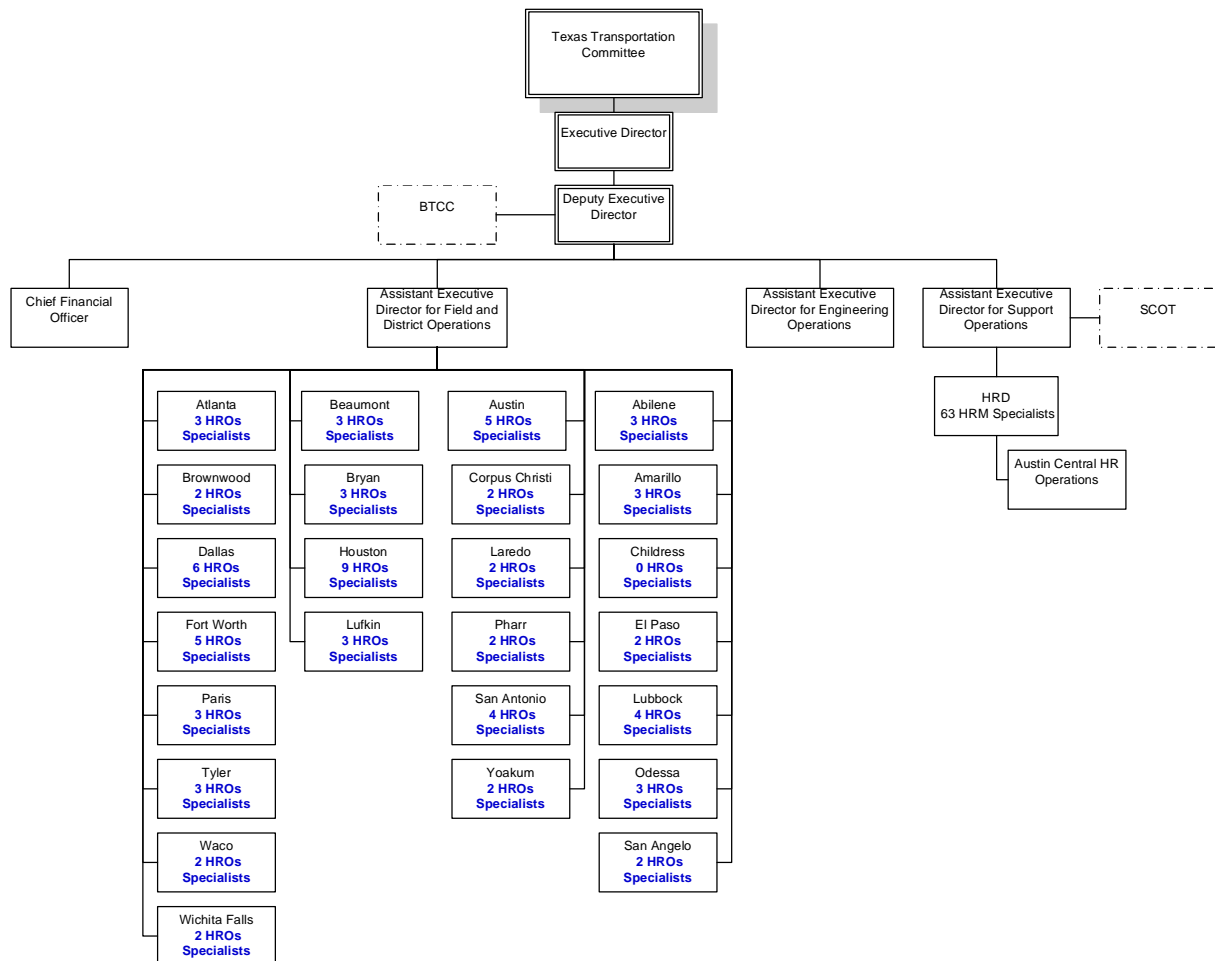
Figure 2-2: TxDOT HRM organizational alignment

---

[9] Information derived from TxDOT furnished HR On-line information (EmpCnt_Divisions_JobCodes_28OCT09 and EmpCnt_Districts_Regions_JobCodes_28OCT09).

2.2.3   HRM process overview

This assessment focused on the HRM functions shown in Figure 2-3, with the exception of compensation and benefits management. This subsection briefly describes how TxDOT performs each of these functions. These descriptions reflect input from government-furnished information (GFI), from interviews and from focus group sessions conducted to gather and validate more detailed information. Appendix C provides a complete overview of all HRM processes.
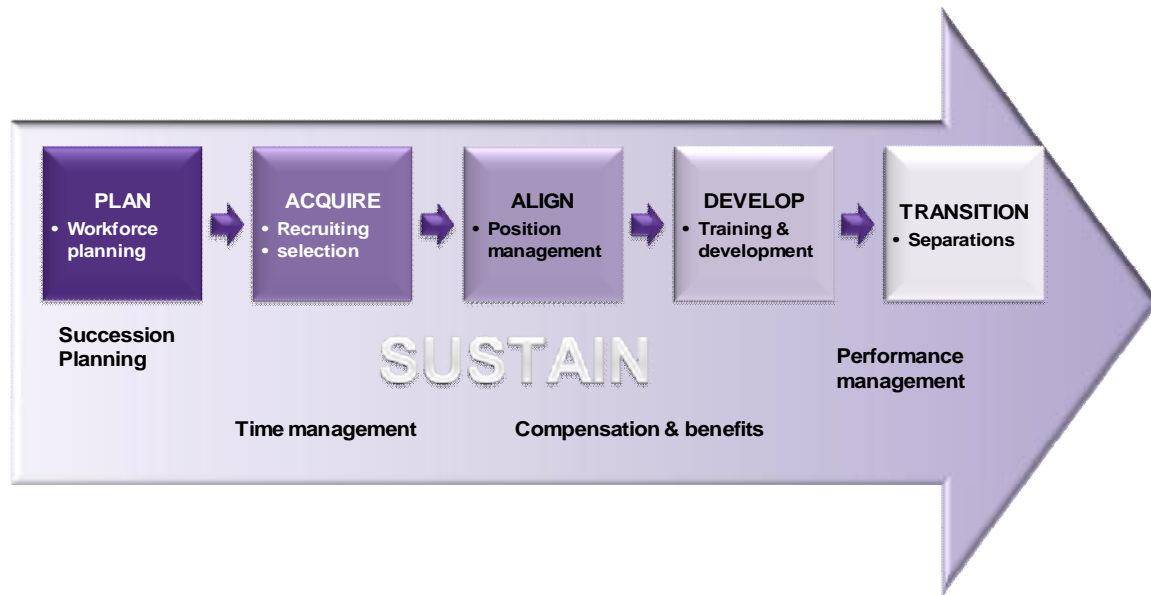
Figure 2-3: TxDOT HRM function

2.2.3.1   Plan

Workforce planning. In 2006, the Human Resources Division began providing department workforce summaries. The impetus behind this was to mirror similar data-driven methodologies used by the State Auditor's Office and the Legislative Budget Board in examining the department's workforce composition and movement.

Under Texas Government Code, Section 2056.002, state agencies must conduct a strategic planning staffing analysis and develop a workforce plan. TxDOT's Workforce Plan 2007-2011 details the future staffing outlook including department competency gap analysis and its strategy development for optimum workforce management. . Every biennium TxDOT submits a full-time equivalent (FTE) request through the Legislative Appropriations Request (LAR). TxDOT then allocates staff to districts, divisions, offices, and regions (D/D/O/R) based on historical data.

2.2.3.2   Acquire

Recruiting. The TxDOT *Human Resource (HR) Manual* and the *HRO Reference Guide* provide policies and procedures for recruiting. The TxDOT *Human Resource (HR) Manual* states that the purpose of recruiting is "to attract qualified employees from diverse backgrounds to meet the Department's

staffing needs."[10] The recruiting process begins when a hiring supervisor identifies a need. The hiring supervisor submits a justification through the appropriate supervision channels to the district engineer, division director, office director or regional director (DE/DD/OD/RD), requesting approval to hire. If the request is approved, the DE/DD/OD/RD seeks approval from the appropriate AED to post the job requisition (JR). If the AED approves the JR posting, notification flows back down the chain to the hiring supervisor, who coordinates with the applicable HR support office to post the JR. In coordination with the applicable HR support office, the hiring supervisor next develops a pre-interview packet and JR documenting the essential duties and minimum required qualifications, competencies and experience. The hiring supervisor also develops interview questions, preferred answers, point values and job simulation. The hiring supervisor submits the complete packet to the applicable HR support office for review and approval. Once approved, the applicable HR support office releases all received applications to the hiring supervisor to begin the screening and interview process.

In addition to this approach to posting openings, HRD manages various recruiting programs. Some of these target students, such as the high school and college cooperative education programs, college internship program and conditional grant program. TxDOT also recruits temporary staff to fill non-supervisory positions for no longer than 24 months. Regional recruiting teams, with representatives from each D/D/O/R, also participate in recruiting events within their respective geographic areas. These regional recruiting teams initially screen and interview interested persons, may make conditional job offers for selected vacancies (with prior DE/DD/OD/RD approval) and provide information regarding hiring actions to the HRD Employment Opportunities Section.

Selection. Upon closing of a posted JR, HR receives and processes all applications, reviews a diversity report and confers with the hiring supervisor to determine if a diverse applicant pool exists. If so, HR or hiring supervisors will conduct an initial screening of TxDOT HR Online applications and paper applications to determine which applicants meet the minimum requirements of education, experience, and licenses/certifications as listed on the job requisition.. If a diverse applicant pool does not exist, the matter is referred to the DE/DD/OD/RD, who may approve the non-diverse applicant pool or who may direct that the JR be extended or reposted for an additional 10 days. Following this, the hiring supervisor does a secondary screening by rating competencies (knowledge, skills, abilities, and other attributes) for all applications that met the minimum requirements. The hiring supervisor then compiles a list of applicants to interview; the list of applicants is rank ordered according to their total points awarded. Hiring supervisors determine how many applicants to interview based on the rank ordered list. TxDOT recommends interviewing at least three applicants, but there is no minimum or maximum limit. The interview list is then submitted to HR for validation. Subsequently, the hiring supervisor interviews selected applicants, scores interviewee responses, verifies education and conducts employment verification, makes a recommendation regarding applicant, prepares a justification for the recommendation, finalizes a selection packet and submits the selection packet to HR for approval. Following HR approval, the hiring supervisor sends the selection packet to the DE/DD/OD/RD for approval. After DE/DD/OD/RD approval, the hiring supervisor, designee, or HRO make a conditional offer to the approved

---

[10] TxDOT Human Resources Manual, Chapter 1 — Hiring Practices Section 4 — Recruiting, Revised September 2009

candidate. If the selected candidate accepts the offer and passes all conditional requirements, the hiring supervisor makes a firm offer and sets a start date. The process ends when the hiring supervisor notifies all remaining applicants of their non-selection. When hiring supervisors fill a position, they give the selection packet to their HRO to keep as an official record for a period of two (2) years from the final job closing date.

2.2.3.3   Align

Position management. TxDOT does not currently use position management in HRM or budget operations. It employs a department committee (the BTCC) whose primary responsibility is to oversee business job descriptions (BJDs). The BJD system is aligned with the State Classification Plan that classifies state job positions and sets appropriate salary compensation scales.

The HR On-Line system (PeopleSoft) is used to monitor correct employee to job classification matching at the D/D/O/R aggregate level.

2.2.3.4   Develop

Training and development. TxDOT has well-established training and development programs that can offer a tremendous benefit to employees. Some programs are centrally controlled and executed by the HRD. These courses include on-line training, video teleconference (VTC) training and instructor-led classroom training on a variety of topics. In addition to the centrally administered programs, D/D/O/Rs independently develop training and are responsible for the Tuition Assistance Program (TAP), with the exception of the masters program. The TAP provides opportunities for employees to pursue an associate, bachelors, masters, or doctoral degree on a full-time or part-time basis. TxDOT provides educational opportunities through five programs: the non-degree program, the job related degree program, the non-job related degree program, the degree completion program and the master's degree program. Of these, HRD centrally manages the master's program through full-time study.

Each year HRD conducts a training needs assessment by canvassing all supervisors to identify training requirements. From this needs assessment HRD develops the program need and budget request for all centrally managed training and development needs. HRD submits the budget request to the Finance Division and Administration through the department's annual budget submittal process. The budget request is reviewed and returned with an initial budget allocation. In addition to the HRD-TQD managed training, each respective D/D/O/R will receive funding based on historical spending and may request additional funding for their specific training and TAP needs.

For HRD managed training, the Division uses industry-standard learning methodologies for developing training based on best practice models ISD (Instructional Systems Development) and ADDIE (Analysis, Design, Development, Implementation, Evaluation). HRD managed training is either developed in-house or via contract and delivered either using in-house subject matter experts or contracted sources. D/D/O/Rs may also contract for their own specific training sessions or to have training developed.

D/D/O/Rs routinely contract for their own specific training sessions or to have training developed, but "actual deliveries versus stated needs from the annual survey reflect that the needed training is not delivered in many cases."[11] Current policy requires that training course and program approval resides with the SCOT, but this policy is not always followed. D/D/O/R specific training may not meet HRD-TQD established quality standards.

According to HRD-TQD, TxDOT's centrally managed training is assessed by having an evaluation form sent to the immediate supervisor of an employee 90 days after the training. The supervisor rates whether the training had any impact on the employees' performance on the job. The data are consolidated by course and used by program administrators to make adjustments in learning objectives, curriculum, testing, etc.

D/D/O/R-specific training (delivered or sponsored) does not gather any end of course evaluation information.

2.2.3.5 Sustain

Compensation. TxDOT uses two payroll time management systems—an internal time sheet system and the State Uniform Statewide Payroll/Personnel System (USPS). Employees complete monthly time sheets. Every district, division, office, region and all district maintenance sections, have a designated employee to enter time from internal time sheets into USPS. Time-entry is done by the designee instead of each employee because employees do not have access to the statewide system.

Performance management. TxDOT's performance management process comprises four phases:

- Phase 1 – Employee performance planning (evaluators develop performance plans with all their employees using business job descriptions as a basis for selecting training and Form 1938, Employee Evaluation to record the information);
- Phase 2 – Review employee performance (evaluators informally coach their employees on their job performance and behavior);
- Phase 3 – Rate employee performance (evaluators conduct end-of-period reviews (annually or as required by the HR Manual) for each employee using Form 1938); and
- Phase 4 – Sign, review and file employee evaluations (evaluators discuss their ratings and comments with each employee).

TxDOT uses performance ratings as part of the basis for awarding incentives, such as merit salary increases and one-time merit payments. These incentives are awarded at DE/DD/OD/RD discretion, who individually manage funds allocated to their respective organizations for this purpose.

Succession planning. The purpose of succession planning is to ensure that there are experienced and capable employees that are prepared to assume strategic organizational roles as they become

---

[11] TxDOT (HRD-TQD) Memorandum to Grant Thornton, Subject: Submitted Recommendations to HR Management: Consolidation of Training Functions and Staffing Recommendations, 16 November 2009

open. TxDOT does not have a formal Succession Planning process or model to identify and develop internal personnel with the potential to fill strategic, key, or critical organizational positions.

2.3   Observations and findings

Subsection 6.3 presents an overall assessment of the human resource management business process area together with associated observations and findings. The MOR team assessed each functional area on the components of its business process lifecycle as defined in subsection 6.2.3 in addition to four overarching organization and management elements:

- Management and leadership;
- Policies, procedures and processes;
- Organizational structure and alignment; and
- Support systems and data.

For each assessment area the subsection below provides a brief definition, key activities, assessment factors and observations and findings. Subsection 6.3.1 presents the results of the human resource management assessment.

2.3.1   Assessment summary

The MOR team rated each assessment point using a **qualitative** scale, defined in Table 2-1.

(green)	Optimum performance
(light green)	Results consistently exceed requirements; improve over baseline
(yellow)	Results consistently meet minimum requirements
(orange)	Results don't fully or consistently meet requirements
(red)	Issues or incidents consistently or frequently impede performance
(black)	Not performed; encountering problems that may or will cause harm

Table 2-1: Qualitative rating scale

Table 2-2 summarizes the human resources assessment ratings. The remainder of subsection 2.3 presents the basis for each of these ratings.

Process dimensions	Assessment factors	Rating
Management and leadership	• Consistent, disciplined application of appropriate HRM practices to meet organizational mission, goals, and objectives; • Ability to determine function's effectiveness in support of organizational mission, goals, and objectives; • Clear, appropriate, effective governance processes and structure; and • Effective leadership in managing workforce issues.	
Policies, procedures and processes	• Completeness; • Clarity; • Currency; • Standardization; and • Communication (effectiveness and timeliness).	
Organizational structure and alignment	• Logical integrity of functional alignment and groupings of work; • Clear responsibility for coordination and communication; • Clear accountability for consistent delivery of HRM services; and • Adherence to mandated human resources staffing ratio.	
Support systems and data	• Data availability; • Data quality, fidelity and accuracy; and • System functionality.	
Plan: workforce planning	• Staffing analysis conducted to determine appropriate methods for achieving strategic organizational objectives; • Traceable FTE needs (numbers and skills) from workload to discrete positions; and • FTE allocations managed at an organizational level to meet strategic organizational objectives.	
Acquire: recruiting	• Degree to which TxDOT recruiting strategy delivers candidates with the needed skill sets when and where they are needed; • Effectiveness of student-oriented recruiting programs at delivering TxDOT employees; and • Recruiting strategies aligned to meet the organizational objectives.	
Acquire: selection (hiring)	• Process cycle time from need identification to making a job offer; • Process efficiency; and • Process effectiveness.	
Align: position management	• Effectiveness of position management processes and procedures; • Presence of an documented position structure; and • Evidence that the position structure is actively used to manage within the organization.	
Develop: training and development	• Availability of training and development programs for all TxDOT employees; • Training quality meets training development standards; • Perceived value of training to the organization; and • Cost effectiveness and efficient use of finite resources to deliver quality training across the organization.	
Sustain: performance management	• Performance goals and standards aligned with organizational goals; • Performance plans appropriate to individual roles; Consistent and objective employee evaluation; and • Use of rewards and discipline as motivators.	
Sustain: succession planning	• Critical TxDOT positions are identified – including the characteristics and skills required to effectively fill these positions in the future; • A disciplined and fairly objective process is followed to identify and assess possible successors for each critical position; and • A process exists to recognize, develop and retain top leadership in the organization – including cultivating potential successors for specific positions.	

Table 2-2: HRM qualitative ratings

2.3.2   HRM management and leadership

The overall rating for HRM management and leadership is "orange" (results don't fully or consistently meet requirements). While most necessary day-to-day HRM-related work is being performed, policies and procedures are not consistently followed across the organization, which puts TxDOT at substantial risk legally. Additionally, limited coordination across the organization and lack of accountability in the way HRM is structured – coupled with limited availability of appropriate tools to implement HRM functions – means that HRM delivery is not as efficient as is desirable. Furthermore, lack of consistent direction and treatment in HRM-related matters does not promote staff morale nor does it promote the integrity and quality of workforce planning.

2.3.2.1   *Key activities*

This area focuses on how HRM functions are managed and led within TxDOT. Effective management and leadership is expected to encompass:

- Providing strategic direction for TxDOT activities;
- Applying appropriate management principles (cost, risk, priorities, controls);
- Providing thought leadership and training; and
- Applying governance principles to ongoing activities.

2.3.2.2   *Observations and findings*

Findings in this subsection reflect information TxDOT furnished, interview results, focus group input and accepted HRM practices.

Application of HRM practices. TxDOT leadership does not treat HRM as a strategic function within the organization, leaving HRD leadership out of decisions that directly affect the workforce and that involve core HRM functions. For example, HR has limited involvement in regionalization implementation planning, which had significant ramifications for TxDOT staff and for workforce planning. Similarly, HR's involvement in planning for the hiring freeze, which also had significant ramifications for staff and for workforce planning, was limited. Until recently, HRD had no voice on the BTCC, which is responsible for all decisions regarding position classifications. The recent revision to make the Director, HRD, a voting member is a positive step. Related to the limited participation of HRM professionals in related decisions and planning, there are not HR-related performance measures in use at TxDOT. This is inconsistent with the role that HRM should play in supporting mission achievement.

Human resource management effectiveness. HRD makes limited use of tools and techniques to support, measure and/or improve HRM efficiency or performance. As with many other parts of TxDOT, HRD does not generally have or use performance targets and measures; the one exception being a target of 60 days between JR posting and filling a position. Without clearly stated, measurable goals tied to the organization's objectives, there is no meaningful way for management or HR professionals to determine if they are effective.

Governance. The governance structure for HRM functions is minimally defined and does not promote consistent, efficient HRM action. For example:

- There is no HRM charter, which could clarify the strategic role of HRM functions, the scope of responsibilities, and the assignment of authority and accountability;
- The BTCC makes decisions regarding position classification based upon perceived organizational equity (hierarchically, in relation to engineering skills) rather than making these decisions impartially, using an appropriate defined process and drawing upon relevant HRM expertise in a way that realistically addresses all skills the organization needs (e.g., finance, technology);
- District HROs report separately into the organization, with no accountability to HRD to execute policies and processes consistently across organization; and
- Austin Central HR Operations staff appear to function much of the time as an independent team instead of as part of the HRD to which they belong.

Management effectiveness. HRD makes limited use of tools and techniques to support, measure and/or improve HRM efficiency or performance. As with many other parts of TxDOT, HRD does not generally have or use performance targets and measures; the one exception being a target of 60 days between JR posting and filling a position. Without clearly stated, measurable goals tied to the organization's objectives, there is no meaningful way for management or HR staff to determine if they are effective.

Staff leadership. TxDOT faces difficult choices regarding how to achieve and maintain the right number of staff with the right skills in the right locations to fit the evolving mission and to deliver maximum value within tight fiscal constraints. While HRD can advise on these matters, to date the Administration rarely seeks input from HRD on ways to address these HRM-related issues. A number of relatively recent choices – correcting an FTE overage via a hiring chill instead of via reductions in force, allowing choices regarding which staff would stay in districts and which would join regions, guaranteeing staff they would not change classification or location as a result of regionalization – indicate a degree of unwillingness to actively and comprehensively manage the TxDOT workforce under current conditions. While on one hand this reflects the deeply valued commitment and kinship among TxDOT employees, on another hand it is inconsistent with leading a public sector organization funded by taxpayers. Additionally, these choices don't appear to allay the fears or raise the confidence of current employees.

2.3.3 HRM policies, procedures and processes

The overall rating for HRM policies, procedures and processes is "orange" (results don't fully or consistently meet requirements). HRD maintains a complete set of HRM policies and procedures as required to legally execute HRM responsibilities and to guide execution of HRM duties. However, the quality, consistency and currency of the documentation vary, as does actual implementation of documented guidance.

2.3.3.1   Key activities

As with many other functional areas, HRM relies heavily upon well-thought-out, documented and communicated policies and the supporting procedures that guide policy implementation. There are two key activities in this area. The first is HRD development, maintenance, dissemination and communication of a complete, appropriate body of policies and procedures to guide HRM work across TxDOT. The second is implementation of consistent policies and procedures across the organization.

2.3.3.2   Observations and findings

Findings in this area reflect information TxDOT furnished, interview results, review of operating manuals, focus group input and accepted HRM practices. The MOR team reviewed the HR Manual, the HRO Reference Guide and a sample of State statutes; compared procedures and processes TxDOT staff reported using for various tasks to the corresponding documented procedures; and sampled data associated with HRM responsibilities.

Completeness and clarity. TxDOT has a complete set of HRM-related policies and procedures that is adequate to get core HRM responsibilities accomplished. However, not all of the documentation is current and quality, clarity and completeness of documentation varies.

Currency. HRD does not have a structured approach to identifying changes, updating documentation and sharing changes across the organization. Rather, HRD updates to policies and procedures are based upon a mechanical process, without clear consideration of logical drivers for why policy changes might be needed. Furthermore, HRD staff are uncertain of how changes are identified, developed and/or recommended, which also works against maintaining current, accurate documentation.

Standardization. Policies, procedures and processes are not uniformly enforced across TxDOT. District HROs and DEs regularly deviate from documented requirements, particularly in the areas of hiring, performance management and disciplinary actions. HRD does not have unfettered authority over processes to ensure their consistent application across the organization. In some cases, this results in HRD leaders and staff, as well as individuals from other parts of TxDOT (such as the Office of the General Counsel) spending considerable time working through HR-related issues, only to have their guidance disregarded by the people responsible for implementing it.

Communication. HRD relies primarily upon the TxDOT intranet site to share policies, procedures and processes, rather than actively disseminating these standards or updates to them. Additionally, little or no formal training is available to HRD staff regarding policies and procedures. These factors both contribute to failure to adhere to standards, and also increase risk to the organization.

2.3.4   HRM organizational structure and alignment

The overall rating for HRM organizational structure and alignment is "orange" (results don't fully or consistently meet requirements). As noted already, HRM responsibilities within TxDOT are divided

among two groups of HRM professionals and two standing committees led by and primarily staffed by non-HRM individuals. The result of this fragmentation is lack of clear accountability for adhering to HRM policies, procedures and guidance. This not only puts the organization at risk, it is less than efficient when time is spent developing guidance or exploring issues, only to have the resulting direction ignored. Furthermore, this fragmentation of core HRM functions – such as position management – dilutes the effective application of HRM as a strategic tool for the organization to support mission attainment.

2.3.4.1   Key activities

Organizational structure and alignment includes:

- Identifying who in the organization is involved in HRM duties and in what way;
- Grouping tasks and assigning staff logically to efficiently deliver effective, consistent results; and
- Defining clear and appropriate lines of communication, accountability and authority to execute HRM responsibilities.

2.3.4.2   Observations and findings

Functional alignment. For the most part, HR professionals generally perform the HRM functions assigned. However, the functional alignment of various HRM functions is not most efficient. The vast majority of inefficiency stems from how TxDOT, in general, is structured and the current policies in place to manage HRM practices. These inefficiencies revolve around three key areas: training and development; HR resource alignment; and policy and procedure accountability. Within training and development, the function is fractured between a centrally managed program and D/D/O specific training and development. This alignment allows for various program inefficiencies, such as alignment of training and budget needs to meet organizational strategic objectives, duplication of efforts, a lack of standardized training, the failed purpose of the SCOT, etc. With regards to HR resource alignment, HR personnel either report to HRD or a district engineer. This alignment hinders the HRD Director from properly managing and directing HR resources because they are district resources and report to the district engineer. This misalignment directly impacts the last inefficiency of accountability. District HROs apply HRM policies and procedures differently and are not accountable to the HRD Director. Additionally, HRM counsel is not always followed with regards to disciplinary actions.

Coordination and communication. TxDOT leadership demonstrates varying expectations and practices regarding coordination across major organization elements. HRM-related matters affecting TxDOT staff and HRD participation in these plans and decisions are not consistently coordinated at the senior levels of the organization. Examples of this include the lack of HRD involvement in key staff-related plans and decisions (e.g., regionalization planning and in lack of consistent coordination at the Administration level (e.g., notifying the AED/Support Operations when another AED is tasking HRD to participate in work groups or other initiatives). These behaviors are also indicators that the importance and appropriate role of HRM are not clearly understood within TxDOT.

Similarly, the sub-par communication of policies and procedures to all HRM professionals at TxDOT reflects a lack of clear understanding of communications and coordination responsibilities within HRD.

Accountability for consistent delivery. The current organization structure fragments HRM responsibility and accountability, thus impairing consistent delivery of HRM-related services and decisions. As noted already, District HROs are clearly accountable to DEs, but are not held accountable to HRD, which is where HRM core expertise resides and which is source of governing policies and procedures. The Austin Central HR Operations staff function as independent unit (consistent with the long-established method of operating for this function), despite being part of HRD – again demonstrating limited accountability to HRD guidance. Both the SCOT and the BTCC perform core HRM functions with limited HRD input.

Adherence to mandated human resource staff ratio. "State agencies with 500 or more full-time-equivalent employees are required to have a human resources employee-to-staff ratio of not more than one human resources employee for every 85 staff members. The phrase 'human resources employee' does not include an employee whose primary job function is enforcement of Title VI or Title VII of the Civil Rights Act of 1964."[12] Headcount data from October 28, 2009, indicates that TxDOT is one FTE over the mandated maximum HR staff-to-employee ratio (at 86 TxDOT staff per HR employee). However, this level of HR staffing exceeds the ratios viewed as a benchmark for comparably sized organizations. A 2008 Society of Human Resource Management Human Capital Benchmarking Study identifies the median HR-to-employee ratio for organizations of 500 people or more as 0.86. Based on this 0.86 benchmark, TxDOT's human resource allocations would be 110 vice the 149 currently assigned to assist the October 28, 2009 headcount of 12,820 employees. In comparison, the North Carolina Department of Transportation (NCDOT) employs 68 HR staff for an organization of 12,900 FTE; a ratio of one HR professional per 190 NCDOT employees.

2.3.5   HRM support systems and data

The overall rating for HRM support systems and data is "orange" (results don't fully or consistently meet requirements). The primary automated tool supporting TxDOT HRM is HR On-line, a PeopleSoft system. While HR On-line has significant functionality, it does not support all HRM functions, the main function being position management. At the same time, HR On-line has some capabilities that are not fully used by TxDOT HRM staff, such as training and development documentation and position related information for licenses and certifications. Additionally, not all data in the system is updated in a timely fashion. The failure to appropriately document key HRM information within the "system of record" is inexcusable. This lack of accountability amongst HR professionals coupled with the lack of support from D/D/O/Rs when information is required hinders HRD's ability to perform its responsibilities.

---

[12] Texas Human Resources Management Statutes Inventory, 2010–2011 Biennium, A Management Resource for State Agencies and Institutions of Higher Education.

2.3.5.1   Key activities

This area encompasses the adoption and use of appropriate tools and methods, including IT-enabled tools, to support efficient operations and communications. It also includes use of electronic database to support data collection; to improve data reliability, accuracy and availability; to support required reporting; and to enable valuable analytics to identify trends and to help understand and resolve issues.

2.3.5.2   Observations and findings

TxDOT uses nine systems to support HRM functions across the organization. While the primary system is HR On-line, other systems are used to support training, worker's compensation, time management, TxDOT payroll, and vacation and sick leave.

Data availability. Hiring data in HR On-line not updated in a timely manner. Analysis identified data anomalies of various status codes used to track hiring actions. Inquiries uncovered that the status codes are not updated as required. TxDOT HRM professionals do not fully use available HR On-line data and functionality to support their work. For example, while HR On-line is the system of record for documentation of TxDOT training programs, the decentralized approach to training management and the lack of accountability for adhering to standards across the organization results in inconsistent tracking and/or reporting of training delivered; the inability to reproduce training attendance rosters or timely training notifications; incomplete archiving of course evaluations; and inability to ensure employees receive proper credit for completed training. A recent HRD-TQD audit of the Hot-Mix certification database in HR On-line showed less than 33 percent of personnel requiring this license as having it.[13]   These examples highlight how accurate recording of training information does not occur on a consistent basis. The lack of properly recorded training information places TxDOT in jeopardy of non-compliance with State record retention requirements.

Data quality. The accuracy of the HR On-line system FTE data is suspect. On queries received certain status codes, job codes or titles analyzed seemed abnormal. Investigation of the data produced a different number. This number was obtained by the organization having to call each district to verify the amount of employees performing in the suspect job codes and titles.

System functionality. HR On-line functionality does not support position management-related queries. Requested data queries for specific position type data (job codes and titles) below the D/D/O level could not be produced to show exactly where each LBB authorized FTE is allocated within the organization. In addition, queries to show allocations versus headcount, by position, could not be produced. The delivered HR On-line PeopleSoft system currently in use did include the Position Management module, but TxDOT did not implement due to payroll, budgeting and Financials data being in different systems. The new ERP system will include this module and contain necessary data elements to perform position management.

---

[13] TxDOT (HRD-TQD) Memorandum to Grant Thornton, Subject: Submitted Recommendations to HR Management: Consolidation of Training Functions and Staffing Recommendations, November 16, 2009

2.3.6   Workforce planning

The overall rating for workforce planning is "orange" (results don't fully or consistently meet requirements). Within TxDOT, workforce planning – to the extent this function is done – is divided between the BTCC, HRD and informal mechanisms (e.g., ad hoc planning efforts related to specific organizational initiatives). Fundamentally, TxDOT does not have a cohesive, disciplined workforce planning approach – led and/or coordinated by appropriate HRM professionals – to tie workforce requirements to the organization's mission, budget, constraints, etc. While the organization has a nominal workforce plan, this document does not support workforce planning nor does it document a viable or actionable plan to manage the workforce for current and anticipated needs. The HRD workforce plan resembles a demographic report and is not used appropriately as a workforce planning tool. Decisions regarding FTE allocation, staff classifications and related matters are made based upon historical data and/or upon the experience and judgment of individuals not schooled in workforce planning and not constrained by the context of a workforce planning approach or discipline.

2.3.6.1   Key activities

Key workforce planning activities include:

- Systematically identifying the minimum essential manpower required to effectively and economically accomplish the organization mission within specified constraints;
- Developing information required to support informed short- and long-term decisions;
- Solving staffing problems related to movement of positions into, around and out of TxDOT; and
- Planning to meet future needs.

2.3.6.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished, interview results, review of the State Auditor's Office workforce planning guide, and accepted HRM workforce planning practices. Workforce management relates to how TxDOT determines what resource types are needed in what numbers, in what locations, for what roles. Recently, the AED for Field and District Operations, working with Regional Directors and District Engineers developed a OneDOT concept that answers these questions for the districts. This is a very positive initiative at TxDOT to appropriately address workforce planning for at least one element of the organization. However, one key organizational entity was not involved in this workforce management exercise: HRD.

Staffing analysis. TxDOT lacks an effective means to properly and accurately determine human resource requirements and skills required to execute its mission. The most recent OneDOT concept attempts this, but the remaining parts of the organization lack any means to accomplish this. Additionally, TxDOT does not have a comprehensive staffing plan that ties staffing to mission, goals, strategies, funding, changing work force and similar factors, to meet the requirements stipulated in Texas Government Code, Section 2056.002 (Strategic Plans).

FTE traceability. FTE are managed at an aggregate level, without regard to the level and skills associated with the FTE allocation. The organization cannot track FTE allocations to discrete positions.

Management of FTE allocations. HRD is not effectively leading or participating in workforce planning for TxDOT. The HRD workforce plan does not include strategies or an actionable plan to strategically manage workforce requirements and HRD representatives are effectively not a part of TxDOT decision-making regarding workforce planning and related issues. Rather, HRD participation in key workforce planning-related areas – such as planning FTE requirements for the new regions, resource leveling plans or efforts to control the numbers of FTEs – typically occurs only after the impact of choices become an HR issue. This does not constitute a proactive approach that uses workforce planning as a tool to help achieve TxDOT objectives.

2.3.7   Recruiting

The overall rating for recruiting is a "yellow" (results consistently meet minimum requirements). TxDOT recruiting is intended to attract qualified employees from diverse backgrounds to meet all of the Department's staffing needs. The current recruiting focus is on attracting new graduates in the information technology and engineering disciplines. TxDOT's main competitor for this young talent is the private sector. Many factors influence the Department's ability to compete with the private sector (e.g., ability to guarantee jobs long in advance of start dates, ability to match salaries, inability to pay relocation expenses). Without these tools, TxDOT struggles to attract and retain top talent.

2.3.7.1   Key activities

Recruiting is a critical function in TxDOT, where a large, highly skilled and diverse workforce is essential to meeting mission requirements. Key activities within recruiting include:

- Identifying and securing people with needed skills and experience;
- Advertising job requisitions that clearly communicate requirements and that reach and appeal to the needed candidate pool; and
- Providing and implementing guidelines for how and when to source the best candidates, internally or externally.

2.3.7.2   Observations and findings

Recruiting and selection, the next functional area to be assessed, operate hand-in-hand. For this assessment, recruiting scope begins with hiring supervisor identification of a requirement and ends with a posted or advertised JR.

Success in attracting candidates with needed skills and effectiveness of recruiting programs.
Data from HR On-line suggests that TxDOT recruiting processes are succeeding in this respect. For a rolling 12-month period in which TxDOT filled 664 positions, 11,696 external applicants responded and 3,615 internal employees applied. This suggests that TxDOT JRs are reaching a significant pool of potential hires.

1. The recruiting effectiveness and return on investment to TxDOT is unknown; data regarding the number of hires via contact at a career fair is not always documented; periodically HRD will spot check hired applicants with resumes obtained from a career fair
2. Regardless of recruiting efforts, job requisition postings are reaching the public; TxDOT received over 11,000 applications for 664 advertised positions.

TxDOT lacks a recruiting focus targeted to strategic, key, and critical positions, as defined in a strategic workforce plan; with 81 percent of TxDOT key leadership staff (DE and D/O director level and above) having over 20 years of service, an exodus of any magnitude could leave TxDOT with many key positions to fill.

2.3.8   Selection (hiring)

The overall rating for selection is "orange" (results don't fully or consistently meet requirements). As noted in subsection 6.3.7, recruiting and selection work hand-in-hand to deliver staff with required skills to meet TxDOT needs. The TxDOT selection process, which was designed to try to ensure fair and objective candidate selection, is rigid, prescriptive and labor intensive. Despite all that, the process is vulnerable to circumvention, thus undermining the original intent. Beyond that, the current process significantly favors internal applicants for open positions over candidates from outside TxDOT. The organization culture, the shared experience of TxDOT and the strong bond formed among TxDOT staff is extremely valuable. However, leavening that with individuals who bring experience from other organizations that might suggest new ways to work is also important, especially as TxDOT faces a rapidly changing environment.

2.3.8.1   Key activities

Selection begins with when a JR posting closes and concludes when a candidate accepts an offer to join TxDOT and all of the applicants not selected for the role have been notified. Key activities within this portion of the HRM lifecycle include:

- Establishing a framework to implement State and Federal employment laws and regulations through the selection process;
- Receiving, tracking and screening applications;
- Interviewing candidates;
- Selecting individuals to hire;
- Extending offers to selected individuals; and
- Communicating non-selection to other applicants.

2.3.8.2   Observations and findings

As noted in subsection 6.3.7, Recruiting, selection and recruiting work hand-in-hand. Some observations in this subsection encompass the two processes together.

The selection process in use now was defined and implemented approximately 18 years ago at the direction of the Texas Transportation Commission to address issues that surfaced at that time. Before 1993, the selection process was loosely defined and frequently was not followed, leading to informal and unsupported candidates selections that caused legal issues for TxDOT. The process now in use was intended to ensure consistency and fairness and to reduce legal exposure. The

interview scoring process implemented as part of this change was intended to remove all possible subjectivity from the interview process, however, a byproduct of this approach is that it separates consideration of applicant experience (expressed in their application) from the interview stage to the detriment of outside applicants and to the diversity of the TxDOT workforce.

The hiring process, as defined and executed now, is too rigid, complex and slow to meet expectations.

Cycle time. The general impression among TxDOT hiring managers is that the cycle time for hiring is too long to support their needs. This impression is not necessarily backed up with hard data. Process measures HRD uses to track and manage the selection process don't include all of the process time that elapses from the standpoint of the people who require staff. The stated goal is to make a conditional offer of employment within 60 calendar days from the date a JR closes. HRD meets this requirement (with an average cycle time of 42.77 days for a recent sample), but total process time, including the time invested before a JR is posted, is not measured. Responsibility for delays that lengthen the end-to-end process time is shared with hiring managers who frequently delay preparing needed documentation because they find the requirements onerous and cumbersome, which slows the overall process.

Process efficiency. The selection process has been subject to little review or revision during the past 18 years to improve its effectiveness and/or to bring it current with the TxDOT environment, public expectations and best practices. The process involves 49 process steps, and requires 7 reviews and 6 approvals. HRM staff make choices that should be informed, at least in part, by subject matter expertise that they do not have. For example, HR staff make judgments on hiring recommendations, interview questions and preferred answers. In addition, HR staff sometimes overturns subject matter expert (SME) interview scoring and professional recommendations even when the selection process was executed as mandated.

In addition to the primary hiring process, TxDOT also uses a Rapid Hire program to accelerate hiring for critical staffing needs in pre-approved job titles. Feedback suggests that hiring managers are using this program in a way that goes beyond its intended purpose so they can avoid the time and cumbersome nature of the primary hiring process.

Process effectiveness and objectivity. The process and requirements for defining interview questions and conducting interviews are not effective at "ensuring" objective recommendations. The interview process requires the use of pre-approved interview questions and preferred answers. Feedback received through interviews and focus groups indicates that TxDOT hiring managers are taught that the applicant responses must *match* the preferred answers, which is not the case. This practice resulted from a desire to mitigate risks previously encountered, yet the internal hiring process guidance does not state this. Because hiring managers are taught that applicant interview responses must match, a hiring manager's professional judgment in selecting the candidate that will best meet his or her needs might be limited or even negated. During an interview, a candidate might respond with a response that is actually better than the preferred response, but interviewers can't score accordingly and remain in compliance with defined process.

Applicants familiar with the interview process may "game" the system to reach their desired results by filing Open Records requests to obtain approved interview questions and preferred answers from prior interviews for similar positions. Another workaround that is sometimes used is for the interviewer to document the approved responses instead of the actual responses in the interview.

Another issue with the selection process is that once the hiring manager finishes reviewing applications to identify the applicants to be interviewed, the application itself is no longer considered. External candidates who don't understand this may not realize that they need to repeat information they provided in their applications to have that information considered throughout the full selection process.

The unusually prescriptive and arcane process and its vulnerability to evasion both undermine the value of the process and increase the probability that open positions will be filled by existing TxDOT employees.

Process effectiveness – workforce diversification. Fiscal year (FY) 2009 data indicates that internal TxDOT candidates are overwhelmingly selected for the majority of new jobs, inconsistent with the profile of the applicant pool. Of 15,311 applicants for various job postings, 76.4 percent were external applicants. However, of 664 candidates that TxDOT hired for these positions, 69.4 percent already were TxDOT employees. This means that internal applicants were 7.35 times more likely to be selected for a position than are external applicants. In addition, all 16 key leadership positions (i.e., Directors of the Bridge, Human Resources and Maintenance Divisions, Strategic Policy and Performance Management Office Director, Registration/Title System Director– this position has moved to DMV since FY2009, 7 DEs) advertised in FY 2009 were filled by internal applicants, although external applicants outnumbered internal applicants 2 to 1. Also, those applicants interviewed for these positions favored internal candidates by a margin of approximately 3-to-1. The experience of individuals in leadership positions in TxDOT suggests that this pattern has been true for much longer than FY 2009; currently, only 6 of 58 key leadership positions in TxDOT are filled with individuals who were not employed at TxDOT at the time they were selected for the position.

The bias of the selection process toward internal candidates infers TxDOT is missing many opportunities to hire experienced and highly qualified applicants with experience outside TxDOT. This outside experience could be invaluable in bringing new ideas and techniques into the organization.

2.3.9 Position management

The overall rating for position management is "red" (issues or incidents consistently or frequently impede performance). Although TxDOT has a standing committee tasked with performing position management, the organization effectively does not perform this function (in the spirit of proven HRM discipline and principles). TxDOT lacks a plan or process to govern position management, makes decisions regarding positions and levels without involvement of HRM leadership, lacks tools

to maintain visibility into positions at all levels of the organization and tracks FTE allocations only in terms of number, without consideration of skill or position level. The result of this approach to position management is that it reinforces the status quo and a stovepipe view of the costs and value of FTE within the organization. Additionally, the approach doesn't promote enterprise-wide consideration of the optimum mix of staff to deliver the mission within constraints of budget, specialty skill requirements, and other similar factors.

2.3.9.1   Key activities

Through position management, HRM professionals:

- Design and control the organization position structure to blend skills and assignments to effectively execute the mission;
- Logically balance employee positions needed to perform primary or core functions with those needed to perform support functions, balance fully trained employees with those in training, and balance the mix of supervisors and subordinates;
- Align grade with work requirements; and
- Design a position structure that reflects reasonable and supportable grade levels.

2.3.9.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished, interview results, and accepted HRM practices.

Effectiveness of processes and procedures. Although position management is a core HRM function, HRM staff do not play this role at TxDOT. Rather, the BTCC controls all classifications, including even minor changes to classifications, requests to reclassify individuals and related issues. The BTCC also controls the wage survey. The Director HRD was only recently added to the BTCC as a voting representative, which definitely is a positive change.

It isn't clear that the BTCC is an effective body to make classification choices. BTCC members – primarily DEs and division directors – are not trained in HRM or in position management. Furthermore, members don't always participate in meetings and there is not a defined decision process followed in meetings. Anecdotal evidence suggests that decisions around position classification are affected by perception of equity within the existing, engineering-oriented hierarchy in the organization, making it difficult to appropriately classify experts needed to fulfill critical functions outside the engineering discipline.

Documented position structure. TxDOT does not have a position structure documented to the level required to perform position management as recommended by accepted HRM practices. TxDOT cannot track and manage each position at the lowest organizational level. HR On-line doesn't have this capability and TxDOT has not implemented a solution to fill this gap. Beyond that, TxDOT tracks FTE only by the number allocated, without correlation to skills or levels.

Management against the position structure. TxDOT lacks a consistent, disciplined approach for FTE position management across the organization – each AED independently manages his associated FTE allocations. TxDOT also lacks a plan or accountability regarding type, cost and/or development of appropriate resources across the organization. Finally, HRD has limited involvement in FTE allocations, which impedes the application of proven HRM principles to this area.

2.3.10 Training and development

The overall rating for training and development is "orange" (results don't fully or consistently meet requirements). On the positive side, TxDOT provides extensive training opportunities for many of its staff. Clearly a strong training and development program is essential to an organization with the technical and functional demands that TxDOT faces. Additionally, the availability of extensive training was cited frequently as a benefit of working at TxDOT.

On the other hand, training is not comparably available for employees across non-core skill sets within the organization. Not only does this undermine skill development and staff retention, it erodes staff morale when people perceive that they are valued less or that the opportunities offered them are significantly less than what is offered to other groups. Furthermore, the decentralized approach to funding, selecting, developing and delivering training – as well as to selecting people to participate in training programs – increases the probability of redundancy, unfair administration of training programs and less than optimal use of available funds to benefit the organization and its people.

2.3.10.1 Key activities

A robust training and development program is not only critical to employee morale, it is critical to continued development of people with the skills and insight needed to effectively lead, manage and/or operate TxDOT. Effective training and development programs require:

- Developing and implementing programs to improve employee performance and productivity, attract new employees, retain existing talent and promote employee satisfaction;
- Efficiently spending available resources to deliver the greatest training value to the organization and to its employees; and
- Developing and applying meaningful and measurable training standards to assess program effectiveness.

2.3.10.2 Observations and findings

Findings in this subsection reflect information TxDOT furnished, interview results, and accepted HRM practices.

Training availability. HRD-TQD surveys the organization annually to identify training needs, for which it then requests funding. Despite this effort to identify and address enterprise-wide training requirements, HRD-TQD does not have sufficient resources to fulfill all the identified training

requirements. For FY 2010, HRD-TQD identified $8,074,375 in training requirements and submitted a request for $6,751,460 after considering staff capacity to attend training, historical data, etc. HRD-TQD was allocated $4,480,091, 45 percent less than the identified needs and 34 percent lower than requested. Even with the addition of training programs independently developed in D/D/O/Rs, some groups within the organization have relatively limited access to training to help them improve their performance and to help them develop professionally. Examples of these underserved groups include IT staff, finance staff and HR staff.

Akin to the limited training available for certain specialties, TxDOT training programs around leadership and management do not fully meet organization needs. This is an area – which also relates to succession planning – that members of the Administration currently are addressing in conjunction with HRD.

Training quality. Through many decades of experience, training professionals have developed insights into the effectiveness and appropriateness of various training techniques. This insight can be codified into training standards that help maximize the probability that training will be effective. TxDOT does not require that all of their training be developed according to these proven standards. When HRD-TQD develops or contracts for training, they use industry-standard learning methodologies and evaluation models that reflect best practices. However, training developed by or under contract to D/D/O/Rs may not meet these standards and is typically subject to little to no quality assurance oversight.

Cost effectiveness and accountability. The financial management of funds spent on training and development is inconsistent, impairing accountability and likely sub-optimizing use of funds for this purpose.

Budgeting, accounting and reporting on funds spent on training and development shows discrepancies, such as:

- $648,914 discrepancy between the FY 2008 TxDOT Annual Training Report and the 2008 LTD Spent financial information management system (FIMS) financial data for related TAP strategies;
- $961,656 discrepancy between FY2010 FIMS budget data and HRD-TQD FY2010 allocated training funds by strategy;
- Discrepancy between the HRD budget reflected in FIMS and the budget to which HRD is managing; and
- Not every D/D/O/R budgets for TAP expenditures, but the majority spend TAP funds – resulting in inaccurate budget projections and eroding accountability.

Furthermore, because the training budget and management is decentralized and despite the role of the SCOT in reviewing training programs across the enterprise, D/D/O/Rs are not constrained from developing or contracting for training that (a) duplicates training offered by HRD-TQD or (b) that is not high-priority (or may not even appear) in the enterprise training requirements that HRD-TQD documents annually. As an example, three divisions were simultaneously developing a training course to address the same topic, without knowledge of each others' activities and without HRD-

TQD knowledge – and HRD-TQD already had a course to address this topic. TxDOT does not use an enterprise training budget, allocated to deliver the greatest value to address training needs across the whole organization.

TxDOT also lacks mechanisms, processes or requirements that promote cost management and financial accountability consistently for all training investments. Recent changes to the *HR Manual* require D/D/O/Rs to request TQD approval before developing or delivering new training, but this guidance isn't followed. HRD-TQD recently received word that a division was trying to purchase a training course already available via iWay – when the vendor providing the training referred the would-be purchaser to TQD.

The TAP is an example of a program subject to limited oversight and accountability for funds spent or for education undertaken. Participants of the program are not consistently held accountable for repayment under the tuition reimbursement program – this is left up to local D/D/O/R oversight, but HR professionals are not always made aware of an employee's debt or service commitment and the HR On-line system is incapable of coding or flagging an employee record as having a debt or active service commitment; nor are sponsors and participants held accountable for delivering results for the investment. Anecdotal feedback suggests that the program selection process is neither open nor transparent and may favor employees independent of their qualifications and educational goals. As of August 2009, employees are in debt to TxDOT for approximately $387,000.

Training value. The decentralized administration and delivery of training – and the attendant redundancies and biases – render the training and development programs less than efficient and comprehensive. Lacking an enterprise curriculum or investment approach, limited training is available for non-core specialties in the organization even though these skills and people are important to TxDOT success.

In conjunction with the lack of an enterprise curriculum or investment approach, TxDOTs training programs aren't specifically linked to the mission, goals, or workforce. HRD-TQD links only TQD administered training to the TxDOT budget goals of Plan It, Build It, Maintain It, and Manage It. Furthermore, the training programs do not address the gap between workforce skills versus skills in demand. Linking training and development activities to the organization's mission, goals, and objectives is critical in ensuring the organization is allocating scarce resources towards the proper training based on information captured in a gap analysis. In July 2005, HRD-TQD requested that a skills gap analysis be conducted, but it was not funded.

As noted in the organizational alignment observations, governance of training programs via the SCOT does not align this core HRM function within or under the leadership of HRD. The SCOT was originally established to identify training needs, but has evolved into a decision making body regarding training programs without attendant development of processes, plans and measures to ensure value. Nor does this governance approach enforce accountability or an enterprise view that ties expenditures to documented needs tied to the TxDOT organizational performance. Experienced TxDOT staff suggest that D/D/O/Rs do not always follow internal TxDOT policy and processes and may bypass the SCOT entirely as they implement training programs.

Although HRD-TQD measures the effectiveness of training, TxDOT has failed to fully use the evaluation results to determine the effect on the mission or environment resulting from the improved performance of the trainee. The measures should serve as a gauge to the training program's effectiveness, that is, "What impact has the training achieved?" These impacts can include, for instance, efficiency, effectiveness, morale and/or teamwork improvement.

2.3.11 Performance management

The overall rating for performance management is "orange" (results don't fully or consistently meet requirements). While TxDOT has a comprehensive performance management program in place, it can be argued that the current program does little to motivate high performance, little to discourage low performance and generally is not helping TxDOT achieve organization goals. While everyone has a performance plan, few of these plans are tailored appropriately to individual responsibilities and roles. Similarly, there is a low correlation between individual performance plans and TxDOT mission and goals, although the current performance management initiative intends to rectify this. The extraordinary grade inflation on TxDOT employee evaluations is illustrative of the low value of these evaluations in motivating behavior or in providing constructive feedback to help individuals develop and progress in their careers. Additionally, lack of correlation between high performance and rewards, or between poor performance and corrective action, serves to erode morale and to undermine management credibility and staff accountability.

Overall, TxDOT has a high performing, profoundly dedicated work force - despite the shortcomings in the performance management system. An effective performance management approach could channel the energy of these individuals to provide even greater value to the organization, while enhancing individual morale and job satisfaction.

2.3.11.1 Key activities

A well-designed, fairly administered performance management program that supports organization mission and goals is fundamental to high performance. Performance management entails:

- Communicating job expectations;
- Providing fair, objective feedback on performance;
- Evaluating performance consistently and predictably;
- Encouraging employee skill and career development;
- Rewarding exceptional performance;
- Promptly and consistently addressing unsatisfactory performance; and
- Making employees clearly accountable for achieving results.

2.3.11.2 Observations and findings

Observations and findings regarding performance management are based upon input received during employee interviews and via the employee survey, as well as upon the results of focus-group discussions regarding the process and its effectiveness.

Administration of performance management and evaluation. While HRD has a clearly defined process for identifying expectations and for evaluating performance, this process is not consistently implemented nor well implemented across TxDOT. Symptoms of this issue include:

- ***Grade inflation.*** For the rolling 12-month period ending October 23, 2009, 11.66 percent of TxDOT staff were rated "superior" and 76.42 percent of staff rated "exceed expectations", meaning that 88.06 percent of TxDOT staff perform above average. According to Grote Consulting, a leader in Performance Management design and development, "…for a normal distribution curve to be valid, there must be two pre-conditions. First, there must be a sufficiently large population. … The other condition is that there be random distribution. But in companies, you don't have random distribution. Companies don't hire people at random … or promote people at random (for example, on an alphabetical basis). And companies provide training and coaching to help people improve their performance. Therefore, in a well-managed company with good supervisors and tough performance standards, you should NOT expect a random, bell-shaped curve distribution of appraisal ratings. You should expect a slight positive skew." Grote Consulting recommends an evaluation distribution as follows: "this set of guidelines provides for twice as many people to be rated in the Distinguished and Superior category than in the Needs Improvement and Unsatisfactory categories. It provides a range and not a fixed requirement at every rating level. It provides for a reasonably normal distribution, but one with an appropriate positive skew. And finally, as the heading indicates, the distributions displayed are not rigid requirements, but instead represent the "likely percentage of employees" that will end up in each area."
  - Distinguished—Up to 10%
  - Superior—About 20 – 30%
  - Fully Successful—About 60% or more
  - Needs Improvement—About 10 – 15%
  - Unsatisfactory—Less than 5%

Figure 2-4 represents TxDOT's current ratings distribution, a normal distribution of ratings, and the distribution recommended by Grote Consulting. In this chart it is visually clear that TxDOT's current ratings are inflated. Using the recommended distribution above as a guide, the following percentage distribution was used to calculate where TxDOT's approximate distribution should align for employee evaluations:
  - Superior—5%
  - Exceeds—20%
  - Achieves—62.5%
  - Needs Improvement—10%
  - Unacceptable—2.5%
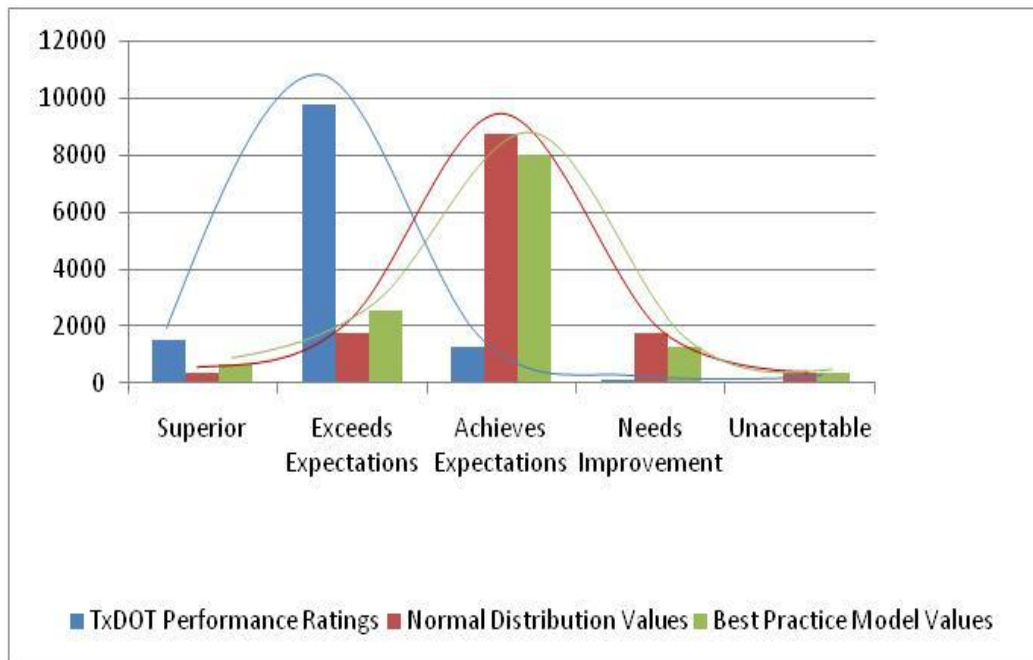
Figure 2-4: TxDOT employee evaluation distribution comparisons

- ***Poorly defined individual performance plans.*** Performance plans were not tailored to individual levels or responsibility, nor correlated to measurable expectations tying to TxDOT mission, strategy and goals. As part of the current performance management initiative, though, TxDOT leaders intend to improve the correlation of individual performance expectations to overall organization measures and goals.

- ***Low value performance evaluations.*** In addition to grade inflation, performance evaluations suffer from other weaknesses. Evaluations are not performed consistently across the organization and no rating leveling is done to improve fairness. Managers are not held accountable for using performance evaluations fairly and effectively as a tool to improve performance and to motivate and reward staff.

- ***Failure to act on poor performance.*** People frequently expressed the feeling that it is impossible to give a bad evaluation because of how close-knit people in TxDOT are. Staff perception of inequitable performance evaluations hurts morale and discourages quality performance. In fact, TxDOT has an extraordinarily dedicated and motivated work force, in large part. Nonetheless, while many of these people work to their own very high standards, their awareness of tolerance for poor performance was still detrimental to their morale.

- ***Performance management system not driving needed behaviors.*** Corollary to the preceding points, the performance management system is not generally seen as helping managers achieve their missions.

Incentives and consequences. Although avenues to administer rewards within a public sector organization are restricted compared to many private sector organizations, TxDOT is not using the available tools to best advantage.

- *Lack of material impact.* Employees find performance evaluations less meaningful when high performance is not rewarded (e.g., merit pay, promotion, other benefits) and low performance is not subject to visible corrective action.
- *Rewards not clearly tied to performance.* Instead of allocating rewards based upon demonstrated exceptional performance by groups or individuals, reward "budgets" are allocated based upon the organization structure. This means that high performers, compared to other TxDOT personnel or teams, may not receive financial rewards if they are competing for these funds with other high performers. Additionally, TxDOT lacks consistent rules for administering rewards. As a result, staff don't consistently perceive that individual receiving rewards actually deserve them.

Use of rewards and discipline as motivators. There often is a mismatch between what management team members perceive as a valued reward for staff performance versus what staff perceive as having value. Additionally, some feedback indicates that managers are not open to feedback from staff or from other managers regarding these perceptions. The result of this is that "rewards" sometimes pressed upon staff are at best are neutral in impact and at worst actually adversely affect morale.

2.3.12 Succession planning

The overall rating for success planning is "black" (not performed; encountering problems that may or will cause harm). TxDOT effectively does not perform succession planning today. As highlighted in the TxDOT Workforce Plan 2009 – 2010, "While the supervisory, midlevel and executive employees collectively make up a small percentage of those eligible to retire, eligibility data forecasts the Department could experience a 34 percent turnover rate in all management levels between now and FY2013. And there could be significant supervisory and upper management staffing adequacy issues by FY2011, if succession planning strategies are not executed timely to provide optimum staffing acquisition, training and development."   TxDOT HRD has sounded the alarm for the Department that a structured succession planning should be a priority or else risk the chance of losing pertinent industry and corporate knowledge. Add to that expectation of turnover the significant changes and challenges that TxDOT faces, which will require rapid development of new leaders – often with different or broader skills than the previous leadership team. Recently members of the Administration, working with the Director HRD, have begun defining a possible leadership development program to start to fulfill one aspect of succession planning. If implemented and effectively managed, this could be a big step forward for the organization. Among state DOTs, the Minnesota DOT was recognized by the FHWA as having a successful succession plan. Other state DOTs, such as New Jersey and New York, also use succession planning to grow and develop future DOT leaders.

2.3.12.1 Key activities

Succession planning encompasses identifying and developing candidates for specific key leadership positions within an organization. This function includes:

- Identifying critical positions in the organization;
- Identifying and assessing, using a defined and disciplined approach, possible successors to hold each of these critical positions; and
- Creating and implementing processes to recognize, develop and train top leadership talent in advance of specific need.

2.3.12.2 Observations and findings

TxDOT lacks a defined, formal mechanism to identify and develop employees for advancement into ever more challenging roles. With 81 percent of TxDOT key leadership staff (DE, division director, office director, regional director, Administration) having over 20 years of service an exodus of any magnitude could leave TxDOT with many key positions to fill and a tremendous loss of organizational knowledge. The organization lacks a process to determine, and has not taken steps to assess, which leadership positions in the organization are critical, what succession time frames might be, what skills and knowledge might be required to effectively fill those positions in a changing world, and who might be candidates to succeed in each critical position.

2.4   Recommendations

Table 2-3 summarizes the recommendations for the TxDOT human resources function.

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
2.1	Align all non-HRD Human Resource personnel ("H" job code series) under the HRD	*Aligning all Human Resource Management personnel under the HRD will allow for the uniform application, accountability, and departmental focus on the processes and procedures of HRD and the support provided to the various D/D/O/R.*
2.2	Quantify the required human capital and skills to execute and support TxDOT's mission • Define and provide clear justification for human capital requirements • Define and measure the work, identify skill requirements and salary groups • Develop an allocation model to distribute human capital requirements based on workload factors (dollars, lane miles, quantities, etc.) • Develop a workforce plan according to guidelines developed by the SAO	*Workforce Planning.* TxDOT does not base its FTE request in the LAR on actual needs, and therefore, the FTE allocation may be either greater than or less than the true FTE requirement. TxDOT does not have a comprehensive staffing plan tied to mission, goals, strategies or funding, and the workforce plan currently produced by HRD lacks strategies and an actionable plan for TxDOT to strategically manage its workforce. HRD is not effectively part of TxDOT's decision-making regarding workforce planning issues. This recommendation would provide TxDOT a thorough understanding of their actual staffing needs, allowing them to make more informed decisions, such as determining where they can reduce staffing, realign staffing, and what specialties they need to hire.

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
2.3	Align recruitment strategies with the workforce plan, including reviewing recruitment methods used for key leadership positions.	*Recruiting.* TxDOT currently posts job openings internally and externally. However, TxDOT does not make a special effort to externally recruit for its key leadership positions. Better recruiting strategies would draw a wide range of applicants to TxDOT, yielding better qualified candidates.
2.4	Redesign the hiring process, including the application, screening and interviewing processes, to increase candidate selection effectiveness and reduce approvals and unnecessary process steps and develop new performance standards to measure efficiency and effectiveness.	*Selection (hiring).* In 1993, the Commission directed TxDOT to improve the hiring process to ensure consistency and fairness in the process and to mitigate legal exposure, and the new process implemented an interview scoring method with the intent of removing all possible subjectivity. The principal hiring approach is rigid, complex and slow, requiring 49 process steps, 7 review steps and 6 approvals. Candidates must answer interview questions exactly correct, which candidates internal to TxDOT understand but those external may not. As a result, it is believed that TxDOT is missing out on experienced and highly qualified external applicants. TxDOT should redesign the hiring process to hire the most qualified applicant rather than just the applicant most familiar with how the process works.
2.5	Eliminate the BTCC and assign classification duties to HRD compensation management.	*Position management.* The BTCC, comprising district engineers and division directors, controls all classifications, the wage survey and any requests to reclassify an individual. A core function of HRM is to perform the functions that the BTCC has assumed. This recommendation is a more efficient use of resources, and these tasks logically fall under the HRM.
2.6	Develop and implement a Position Management process to manage all FTE data at all organizational levels (D/D/O/R, section, etc.) that will: • Identify standardized organizational data structures and codes; • Identify special skills codes (e.g., license, certification); and • Establish a position numbering schema.	*Position management.* TxDOT lacks an effective position management capability to track and manage each position at all organizational levels. Current FTE allocations do not reflect skills or levels, just numbers, and there is no real plan or accountability for the type, cost and/or development of appropriate resources across organization. HRD is not involved in FTE allocations, but rather each AED independently manages respective FTE allocations, which does not provide consistency or defined criteria to maintain oversight of limited resources. A position management process would ensure that TxDOT maintains the number of personnel numbers, skills levels, and grades required in each section, as identified as a result of recommendation 6.1, above.
2.7	Centralize all training and development program delivery within HRD-TQD, including aligning all training funding to	*Training and development.* Currently, each D/D/O/R is responsible for budgeting their training and TAP funds. Within each D/D/O/R, a TAP coordinator and individual supervisors provide oversight of

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
	HRD-TQD. Revise the TAP and training programs to include proper controls for accountability and to enable TxDOT to associate training investments with organizational outcomes.	those receiving TAP funds. By centralizing all training and development program delivery within HRD-TQD, TxDOT will be able to more accurately budget funding, provide fair and equitable training across the D/D/O/Rs based on industry-standard learning and evaluation methodologies and keep consistent records for training attendance, course documentation, certifications and licenses.
2.8	Reconsider the SCOT charter which established the principal requirements. The focus of the SCOT should be strategic to guide and advise HRD-TQD on workforce training needs based on the strategic objectives of TxDOT.	*Training and development.* Approval of training courses and programs resides with the SCOT, which was originally established to identify training needs, but has since morphed into a decision-making body. Based on advice from the SCOT, HRD should create a structure to identify training needs; translate needs into training offerings and delivery; and evaluate, measure and report organizational impact. Centralized HRD-TQD oversight and control will provide the most economical use of department resources and provide accountability for program delivery.
2.9	Institute a results-or outcome-based performance management system for all employees that: • Provides a clear linkage between performance standards, organizational performance metrics and organizational goals • Sets clear expectations • Provides incentive for career development, including both non-financial and financial rewards for good performers • Handles underperformers in a timely manner • Defines tracks based on competencies, such as Leadership, Supervisor, Lead Worker or Individual Contributor	*Performance management.* Currently, the performance management system is ineffective in design and implementation. Individual performance plans are not tailored to levels of responsibility or clearly correlated to measurable expectations that support TxDOT mission, strategy and goals. Subjective performance ratings, and resulting inequities, hurt employee morale and discourage good performance. A results- or outcome-based performance management system would more objectively measure performance and provide greater accountability. Employees would better understand what was expected of them and what they needed to do to further their careers or to receive awards.
2.10	Establish a formal succession planning process that • Links strategic and workforce planning decisions • Analyzes gaps • Identifies talent pools • Develops succession strategies • Implements succession strategies • Monitors and evaluates	*Succession planning.* TxDOT does not have a defined, formal means to develop and prepare employees for advancement or promotion into more challenging roles. A succession planning process would help employees understand what they will need to do to move further ahead in their careers, and it will ensure that TxDOT has a plan in place to cope with retirements without losing valuable knowledge and skills.

Table 2-3: HR recommendations

Section 3: Information technology business process diagnostic

This section presents a high-level diagnostic review of TxDOT IT management processes and practices. It explores how IT is used to support TxDOT mission achievement and business operations, and how IT-related responsibilities are managed and delivered within the organization. This is not a technical review of specific systems or technologies that TxDOT uses. Rather, the assessment focuses on standards, processes, organization, roles and responsibilities and overall architecture.

Subsection 3.1 introduces the IT management function generically, based upon industry standards and accepted practices. Subsection 3.2 presents an overview of TxDOT IT-related requirements, practices, processes and roles and responsibilities. Subsection 3.3 summarizes assessment observations and findings for IT management. Subsection 3.4 presents recommendations for future action.

3.1 Introduction to information technology (IT)

IT management encompasses practices designed to use IT assets and capabilities to support organization strategy and operational requirements so that the organization can meet its mission more efficiently, with higher productivity and value to customers. While IT can provide tremendous value, the history of IT is riddled with huge investments that don't tie well with organization strategy and needs, that aren't used effectively once implemented and/or that never achieve implementation. Given this, many bodies worldwide have studied IT management and have documented IT management models.

3.1.1 IT functions

Effective IT management requires consideration and effective governance of:

- **Business and systems alignment** to enable effective and efficient use of IT to help achieve organization goals and objectives;
- **Solution lifecycle management** to facilitate sound development and delivery of IT products and services that meet user needs;
- **IT infrastructure management** to address activities associated with managing business applications, infrastructure and data; and
- **IT workforce management** to efficiently employ IT staff and to develop staff with the appropriate skills to meet IT needs.

Each of these areas plays a role throughout the technology lifecycle, illustrated in Figure 3-1
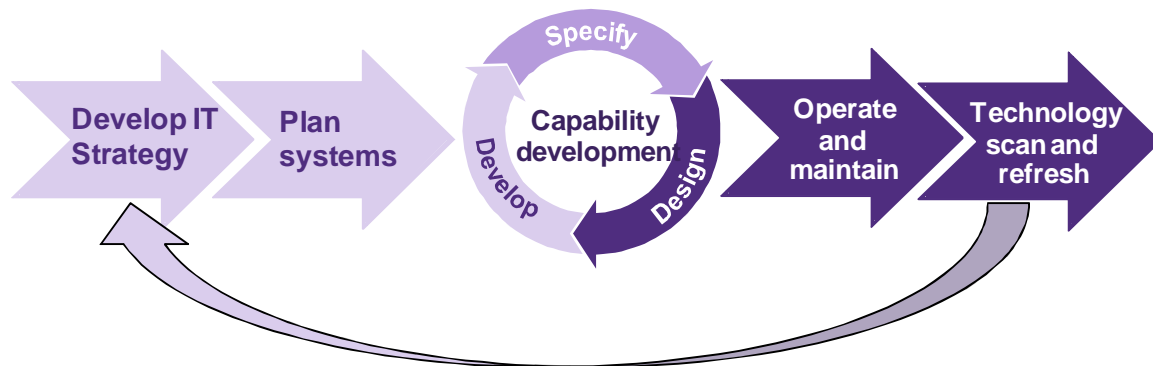
Figure 3-1: Information technology management lifecycle

Briefly, the technology lifecycle begins with the **Strategy** phase, in which the link is made between the organization's overall strategy – reflecting organization mission and goals – to define a supporting IT strategy. Following that is the **Plan** phase, which includes an assessment of the current state of technology, the existing unmet and/or emerging needs that can be supported by technology, a gap analysis between the two and development of specific priorities, business cases and actionable plans to transition from the current state to the desired target state. Working from that plan, the lifecycle enters the **Capability Development** phase. During this phase, which occurs iteratively, organizations further define, design, acquire or develop, and implement desired IT systems and solutions. As implementation is completed, the lifecycle enters the **Operate and Maintain** phase, during which system(s) are used to support on-going operations and IT staff may do maintenance and/or improvements to the fielded capability. This phase also encompasses other forms of on-going support, such as help-desk operations. The lifecycle representation closes out with the **Technology Scan and Refresh** phase, which is an on-going, structured process to assess how adequately fielded and planned systems meet an organization's evolving requirements and what new technologies might allow the organization to meet its goals in ways not previously considered feasible. This phase provides feedback to the strategic link between the organization strategy and the IT strategy and the cycle continues.

3.1.2   Importance of IT to TxDOT

The effective use of IT as a strategic asset to help streamline operations and cut costs; as well as to more effectively house and make available relevant data needed to manage service delivery, support informed decision making and inform internal and external stakeholders. In FY 2010, TxDOT plans to spend at least $138,555,900 on IT assets and services (please see appendix D for IT spend breakdown). This represents a significant investment by the agency. As TxDOT grapples with the challenges already described (e.g., limited funding, evolving mission, increased public expectations), ensuring that those funds are spent to deliver the highest value – or understanding where further investment may be needed to achieve results that justify that investment – is an essential piece of component of good stewardship and sound management. IT is a critical component to TxDOT

business functions and was assessed as the "support systems and data" factor for each business process diagnostic in this report.

3.2   TxDOT IT management

Subsection 3.2 provides an overview of the IT management business function at TxDOT, and contains the following information:

- Requirements;
- Roles and responsibilities;
- Process overview; and
- Best practices and initiatives.

3.2.1   Requirements

Requirements governing TxDOT IT management practices and use of technology include but are not limited to:

- Texas Government Code, Chapter 2054; Information Resources establishes the Department of Information Resources (DIR) and describes State agency IT responsibilities and authority;
- Texas Administrative Code TAC), Title 1, Part 10 requires that State agencies establish Information Resource Managers (IRM) to set and execute IT management policy:
  o   Chapter 201, Planning and Management of Information Resources Technologies
  o   Chapter 202, Information Security Standards
  o   Chapter 203, Management of Electronic Transactions and Signed Records
  o   Chapter 204, Interagency Contracts for Information Resources Technologies
  o   Chapter 211, Information Resources Managers
  o   Chapter 212, Purchases of Commodity Items
  o   Chapter 213, Electronic and Information Resources
  o   Chapter 215, Statewide Technology Centers for Data and Disaster Recovery Services
  o   Chapter 216, Project Management Practices
  o   Chapter 217, Procurement of Information Resources;
- Data Center Service Contract DIR Data Center Services (DCS) provides TxDOT with statewide data center (e.g., mainframe and server operations) and disaster recovery services; and
- Transportation Code Section 223.001, State Purchasing Act, Government Code Section 2157.068, TAC Chapter 212, DIR IT Commodity Purchasing Program govern IT goods and services purchases.

3.2.2   Roles and responsibilities

Within TxDOT, IT management responsibility is shared among several organization elements:

- **Headquarters Technology Services Division (TSD)** staff establish and maintain IT standards, policies and procedures; manage the enterprise hardware and software infrastructure; provide training and guidance to D/D/O/R staff; develop and acquire new applications; maintain legacy applications; and provide technical support (including Tier 2 help desk support – see page 7-8) to the D/D/O/Rs.

- **Regional IT** staff are assuming responsibilities formerly fulfilled by district IT staff, including identifying system requirements, acquiring and/or developing IT solutions, managing the region's IT budget, identifying and administering the region's (and the corresponding districts') IT needs and providing Tier 1 help desk support (see page 7-8).
- **District IT** staff support on-site IT needs (e.g., workstation installation, limited network support) at each district and its respective area and maintenance offices.
- **Division and Office IT** staff have responsibilities comparable to those in the regions, including identifying system requirements, acquiring and/or developing IT solutions, managing their division's or office's IT budget; identifying and administering their organization's IT needs and providing Tier 1 help desk support (see page 7-8).
- **CFO and Finance Division** allocate and oversee the overall budget, including IT, and recommend decisions on budget requests to the Administration.

In total, TSD employs 268 FTEs and there are 285 IT staff assigned to the D/D/O/Rs.

In addition, the **Information Resource Council (IRC)** is chartered to review project requests and to review on-going projects meeting specified thresholds. The IRC, which meets quarterly, is chaired by Director, TSD and comprises 3 members (DED; AED, Support Operations [Director, GSD is currently acting for this vacant position]; and Director, SPPM).

Finally, the **Quality Assurance Team (QAT)** (State group external to TxDOT) comprises representatives from the Legislative Budget Board (LBB), the State Auditor's Office (SAO), and DIR that review, assess risk for, and approve major IT projects.

3.2.3   IT management process overview

Looking at TxDOT IT management in terms of the lifecycle representation in Figure 3-1, TxDOT partially performs the expected IT management functions associated with the Plan, Capability development and Operate and maintain phases. Responsibility for these activities is shared, as noted above, primarily between TSD and D/D/O/R staff. TxDOT does little in the Strategy phase, where responsibility is shared between TSD and the IRC. Although TxDOT performs some functions in the technology scan and refresh phase, where TSD shares responsibility with the D/D/O/Rs, little of these functions is conducted in a formal, concerted effort.

The remainder of this section presents at a high level the way that TxDOT approaches IT management functions.

3.2.3.1   *Strategy*

Strategic planning. In accordance with Legislative mandate, TxDOT develops the agency *Strategic Plan*, which includes the IT strategic plan, each biennium. To develop the IT strategic plan, the TSD Business Services Section gathers IT information regarding technology needs, plans and alignment to agency strategic goals from each D/D/O/R. TSD section directors review the resulting list of needs to identify potential overlaps and to assess high-level future infrastructure requirements to support the needs, and then compile them into the IT strategic plan. TSD also answers standard statewide

questions about agency plans for technology consolidation, IT managed services, security and privacy and green IT. Director, TSD submits this plan to Administration.

3.2.3.2 Plan

System inventory. TSD maintains an inventory of the systems that TSD supports directly and of systems D/D/O/Rs have identified to TSD. This inventory includes 409 systems[14]. The inventory does not include an unknown number of systems developed and maintained by D/D/O/Rs or by vendors directly contracted with by the D/D/O/Rs. Table 3-1 presents a breakdown of systems that appear to support similar functions (not inclusive of all TxDOT systems).

Number of systems	Function supported
34	Contracting and procurement
63	Document management
45	Engineering
37	Financial management and accounting
31	IT administration
9	Traffic analysis
14	Highway data
15	Geographic information systems (GIS)
20	Human resources

Table 3-1: Functions supported by multiple systems

Architecture documentation. TSD is responsible for defining and maintaining enterprise technology architecture documentation for the agency. Beginning with the *Core Technology Architecture* document, TSD defines standards for enterprise technology components, such as enterprise network components, operating systems, hardware components, internet browsers and databases. TSD also defines and maintains geographic information system (GIS) and data architectures that serve similar purposes as the core technology architecture. These enterprise standards govern which technology the D/D/O/Rs may use on the agency's infrastructure. For individual system architecture, TSD staff develop and maintain individual system diagrams (i.e., *TxDOT System Interface Documents* [TSIDs]) for systems they maintain and for D/D/O/R systems that TSD supports. The TSIDs show each system's interfaces with other systems and databases. D/D/O/Rs are responsible for maintaining documentation for the systems they own and develop outside of TSD.

---

[14] The system inventory includes 31 systems now transferred to the Texas Department of Motor Vehicles.

Standards and processes. TSD maintains a number of standards relating to technology and technology projects. Some of these include:

- Business Systems Development & Support (BSDS) System Development Lifecycle (SDLC) Methodology;
- Evaluation and Approval Process for Hardware and Software use within TxDOT;
- Configuration Management Standards for Information Technology Assets;
- Core Technology Architecture standards, exceptions and operating procedures;
- D/D/O Application Development Guide for Non-Enterprise Assets;
- Information Security Procedures;
- Information Technology (IT) Purchasing FAQs;
- IT Replacement Procedures Memorandum;
- Office of Primary Responsibility (OPR) Roles & Responsibilities for IT Assets;
- Printer Naming Standards;
- Project Management Plan Template;
- Project Plan Template for Small and Medium Projects;
- Project Proposal Template for Small and Medium Projects;
- Quality Management Standards For IT Assets; and
- Technical Services Division (TSD) Services Guide.

While TSD has established these standards and guidance, they primarily are used by TSD staff for systems they own and support. The D/D/O/Rs are not required to follow all standards and guidance for systems developed and maintained outside of TSD; the D/D/O/Rs use their own system development lifecycle and project management processes and approaches, though larger IT projects require more stringent requirements than smaller IT projects.

Investment planning. TSD defines the process for D/D/O/Rs to prepare requests for IT projects and to obtain approval of these requests based on direction provided by Finance, LBB, and QAT (see Appendix D for IT governance process flow diagram with description). Depending on the project size (e.g., cost) and complexity (e.g., number of D/D/O/Rs impacted), the D/D/O/Rs obtain funding and then obtain project approval from TSD and/or the IRC. The D/D/O/Rs do not always follow the TSD project approval process for IT projects that cost less than $250,000 and do not require servers.

The following describes how the D/D/O/Rs request funding and approval for IT projects.

Initiation. The D/D/O/R s identify system needs from a variety of sources (e.g., customer needs and legislative mandates). The D/D/O/R s prepare rough estimate of the system needs in terms of scope, expected costs, and level of effort using an Information Resource Request (IRR). The D/D/O/R director approves the IRR and submits it to TSD. TSD logs and reviews the IRR to prepare the initial cost and level of effort estimates. TSD then categorizes (e.g., small, medium or large) the IRR based on these estimates. TSD assigns a project consultant to assist the D/D/O/R with completing subsequent steps of the process.

Funding. If a D/D/O/R needs to secure funding for the IRR, it must obtain funding through TxDOT's budgeting process; if funding already exists for the IRR, the D/D/O/R proceeds with the project approval steps. Finance distributes preliminary budget allocations set by administration to each D/D/O/R. The D/D/O/Rs request changes to preliminary budget allocations based on business need and cost estimates from the IRR, if necessary. Finance reviews change requests to the preliminary budget allocations and recommends approval or denial to the Administration. The Administration approves or denies recommendations to change D/D/O/R preliminary budget allocations. The D/D/O/R updates its budget preparation file based on administration's decision and submits it to Finance. The D/D/O/R must also include the IT project in its Information Technology Detail (ITD), and then submits the ITD to TSD. The D/D/O/Rs must ensure that the information provided in its budget preparation file matches the information provided in its ITD.

If the IT project is classified as a "large" project (i.e., costs over $1m), the D/D/O/R must obtain approval from the QAT. The D/D/O/R prepares project justification documentation required by the DIR Project Delivery Framework (i.e., Business Case and Workbook and Statewide Impact Analysis) that describe the IT project benefit analysis, project selection methodology based on statutory fulfillment, strategic alignment, impact analysis, financial analysis, risk consideration and alternatives analysis. The D/D/O/R's director approves and signs documentation and submits it to the Director, TSD who then approves and signs documentation and submits to the Office of General Counsel (OGC) if necessary, and then to the DED. After all necessary signatures are obtained, TSD submits the documentation to the QAT.

TSD receives each D/D/O/R ITD and uploads this information into the ABEST budgeting system. The Director, TSD submits a summary of the ITD to the IRC for informational purposes. Finance then prepares the legislative appropriations request (LAR) in the ABEST budgeting system based upon the updated D/D/O/R budget preparation files. Finance submits the agency LAR and the ITD together from the ABEST budgeting system to the LBB. After the Legislature passes appropriations bill, funding for the IT project is approved. The QAT gives permission to begin large IT projects and also determines whether they require periodic status monitoring based on project risk. If a D/D/O/R receives funding for the IT project, it must obtain project approval, otherwise it may decide to cancel or postpone the IT project.

Project approval. If an IT project is estimated to cost less than $250k and to require less than 240 days to implement and does not impact other D/D/O/Rs, it is categorized as a "single D/D/O/R project" and requires no further approval; the D/D/O/R may begin implementation. If IT project is estimated to cost less than $250,000 and to require less than 240 days to implement or impacts other D/D/O/Rs (i.e., defined as "enterprise"), it is categorized as a "small" project and requires the D/D/O/R to prepare a Project Proposal and obtain the D/D/O/R director's signature before submitting the IRR and Project Proposal to the Director, TSD who approves or denies project.

If an IT project is estimated to cost between $250,000 and $1m, it is categorized as a "medium" project and requires the D/D/O/R to assign a business project manager to coordinate project approval activities. The D/D/O/R prepares the Project Proposal and obtains the D/D/O/R

director's signature. The D/D/O/R then submits the IRR and Project Proposal to the Director, TSD who then submits them to the IRC, which approves or denies the project.

If an IT project is estimated to cost over $1m, it is categorized as a "large" project and requires the D/D/O/R to assign a business project manager to coordinate project approval activities. The D/D/O/R prepares Project Charter and obtains the D/D/O/R director's signature. The D/D/O/R then submits the IRR, Project Charter, Business Case and Statewide Impact Analysis (the Business Case and Statewide Impact Analysis *should* already been submitted and approved by the QAT during the funding request) to the Director, TSD who then submits them to the IRC, which approves or denies project.

If, under unordinary circumstances, the D/D/O/R did not submit the Business Case and Statewide Impact Analysis to the QAT during the funding request cycle, the D/D/O/R must obtain out-of-cycle funding through Finance and then follow the QAT approval for large projects process.

If approved, the D/D/O/R may begin implementation; if denied, the D/D/O/R may resubmit the appropriate documentation and repeat the approval process, or cancel or postpone the project. The IRC has denied 2 projects within the last 5 years.

3.2.3.3   *Capability development*

Requirements. The D/D/O/Rs are responsible for documenting business and technical requirements for IT projects that they initiate and lead outside of TSD. They use a variety of techniques to specify requirements, such as use cases and tabular lists of narrative requirements. TSD is responsible for documenting business and technical requirements for enterprise IT projects requested by D/D/O/Rs and for projects that TSD initiates and/or leads. The TSD programmer and/or project manager conducts user requirements meetings to further discuss detailed business objectives stated in the IRR (or other supporting documentation) and their impacts on systems, processes and any other relevant information. The TSD programmer and/or project manager then prepares a detailed user requirements document.

Design. The D/D/O/Rs create high-level and detailed system designs for their IT initiatives outside of TSD. TSD design documentation includes data models and TSID designs that illustrate a system's interfaces with other TxDOT systems and external systems, and enterprise database stores. Although TSD is responsible for reviewing designs on enterprise projects to ensure compliance with data and technology architecture standards, many projects (especially projects outsourced to application development vendors) bypass reviews.

Develop and test. TSD and the D/D/O/Rs develop and test systems they are responsible for and acquire needed vendor support when they don't have sufficient numbers of IT staff to undertake a project or when they don't have staff with the needed skills. Each organization produces system documentation (e.g., source code, user guides, training materials) and stores this documentation in their own repository. In some cases, vendors produce the documentation (according to vendor-determined standards) and provide this to TxDOT in accordance with any specified contract

requirement. Although some D/D/O/Rs use the enterprise system documentation repository for system documentation, they are not required to do so.

TSD provides the D/D/O/Rs with a common development environment (the Workgroup Development Environment [WDE]) for use when they are developing solutions that do not have enterprise impacts, but TSD is now in the process of decommissioning the WDE and migrating these solutions to the intranet (Crossroads) platform.

Project management. Each D/D/O/R manages its own technology projects. Many D/D/O/Rs outsource this responsibility if they don't have the appropriate skilled staff available. Additionally, TSD assigns project consultants that provide project management guidance to the D/D/O/R business project manager for projects that the D/D/O/Rs have requested TSD service or for projects categorized as small, medium or large.

Reporting. Large projects are subject to quarterly status reporting to the IRC and to the QAT. Developing organizations also report quarterly to the IRC on medium projects. Small projects are not usually subject to status reporting.

3.2.3.4   *Operate and maintain*

Incident and problem management. To fix system problems and implement improvements, D/D/O/Rs operate Tier 1 helpdesks (i.e., first call from end users) for the applications they own and operate. TSD operates Tier 2 and 3 helpdesks for incidents escalated by D/D/O/R Tier 1 helpdesks. The Team for Texas vendor operates the statewide data center helpdesks for incidents escalated by TSD Tier 3 helpdesks. TSD administers enterprise helpdesk software to track and report incidents and identify problems; some D/D/O/Rs use the enterprise helpdesk software, while others use informal tracking mechanisms (e.g., spreadsheets) to track incidents and problems. TSD helpdesk staff maintains formal and informal procedures for resolving common incidents across the enterprise.

System administration. TSD provides application development and maintenance services to D/D/O/Rs, in addition to enterprise software and infrastructure services. The Team for Texas vendor provides data center operations and administration services (including procurement, installation, maintenance, repair, administration and operation of server hardware, software and databases) for TxDOT systems, with TSD serving as official liaison. TSD provides these services for equipment that is out of scope of the data center consolidation effort (i.e., ITS and process control equipment). D/D/O/Rs provide internal local software and infrastructure services (e.g., workstation installation) with internal IT staff. The Team for Texas vendor also manages backup and recovery, including scheduling and monitoring backup and restore jobs and providing fresh tapes and migrating used tapes out of the tape libraries. Some D/D/O/Rs perform local backups of critical data due to lost confidence in Team for Texas' ability to recover data. The D/D/O/Rs administer some small systems on individual workstations and perform their own backup and recovery procedures for those systems.

Customer service management. TSD provides various services to D/D/O/Rs such as standards, policies, and procedures on IT management practices (e.g., IT budgeting, project management, application development, security, data management), data modeling training, hosts occasional IT conferences to provide opportunity for D/D/O/R IT staff to collaborate on IT best practices and recent developments, provide project consultants to guide D/D/O/Rs through IT project approval and development process, and provides legacy enterprise application maintenance and production support.

Asset and configuration management. TSD performs asset and configuration management for enterprise IT assets, while D/D/O/Rs perform asset management for local IT assets. TSD maintains an inventory of enterprise IT assets, and D/D/O/Rs maintain their own inventories of local IT assets. TSD addresses configuration changes to enterprise assets by discussing changes at weekly technical meetings and by collaborating with the Team for Texas vendor to schedule and implement any enterprise infrastructure changes.

3.2.3.5   Technology scan and refresh

TSD owns and maintains enterprise IT infrastructure components that support agency IT needs (e.g., enterprise software, hardware, networking equipment), and D/D/O/Rs own and maintain local IT infrastructure components (e.g., software, hardware, workstations, printers used solely by the D/D/O/R). The Team for Texas vendor maintains enterprise data center infrastructure components (e.g., servers, databases). TSD is responsible for the architectural design and approval, procurement, and management of enterprise hardware and software, and voice telecommunication systems. TSD also maintains the catalog of approved IT components that are compatible with the core technology architecture.

Emerging technology scan. TSD owns the process of assessing emerging technologies for inclusion into the core technology architecture. TSD and D/D/O/R IT staff informally scan industry for emerging technologies (independent of one another). The D/D/O/Rs submit requests to the TSD Technical Architect for new technology components. TSD section directors participate in the review of proposed components and make recommendations to the Director, TSD for approval. If the Director, TSD denies the request and the requestor appeals, the IRC determines final disposition. If the IRC approves, then the D/D/O/R must fund the requested technology. This situation has never happened, and TSD maintains a listing of exceptions to the core technology architecture. TSD will assess all exceptions to determine if any should be incorporated into the core technology architecture as an enterprise standard.

Refresh. TSD owns process for enterprise technology upgrades and replacement. TSD informally monitors enterprise technology components that need to be upgraded or replaced. In addition, the D/D/O/Rs submit requests to TSD to upgrade and replace enterprise infrastructure components. Similar to the emergency technology scan review process, TSD section directors participate in the review of proposed components and make recommendations to the Director, TSD for final approval. If the Director, TSD denies the request and requestor appeals, the IRC makes final disposition.

3.3   Observations and findings

Subsection 3.3 presents an overall assessment of the IT management business process area together with associated observations and findings.

3.3.1   Assessment summary

The business process diagnostic encompassed the following assessment points:

- Management and leadership;
- Policies, procedures and processes;
- Organizational structure and alignment;
- Support systems and data;
- Develop IT strategy;
- Plan systems;
- Capability development;
- Operate and maintain; and
- Technology scan and refresh.

The MOR team rated each assessment point using a **qualitative** scale, defined in Table 3-2.

	Optimum performance
	Results consistently exceed requirements; improve over baseline
	Results consistently meet minimum requirements
	Results don't fully or consistently meet requirements
	Issues or incidents consistently or frequently impede performance
	Not performed; encountering problems that may or will cause harm

Table 3-2: Qualitative rating scale

Table 3-3 summarizes the IT assessment ratings. The remainder of subsection 3.3 presents the basis for each of these ratings.

Process dimensions	Assessment factors	Rating
Management and leadership	• Clarity, appropriateness, effectiveness of governance processes and structure; • Consistent, disciplined application of appropriate management techniques to deliver targeted results; • Effective and motivational leadership of people to develop skills, encourage high productivity and require quality; and • Demonstrated thought leadership regarding the role and implementation of technology in TxDOT.	

Process dimensions	Assessment factors	Rating
Policies, procedures and processes	• Completeness; • Clarity; • Quality; • Currency; • Consistency; and • Communication.	

Organizational structure and alignment	• Clear definition of roles and responsibilities related to IT management;
	• Appropriate placement of decision authority; and
	• Efficient and effective deployment of technical staff to:
	  o Meet enterprise IT needs;
	  o Drive consistent, disciplined, quality performance; and
	  o Encourage skill development and career development.	

Support systems and data	• Appropriate tools exist and are consistently used to manage work, such as:
	  o Manage IT investments and portfolio,
	  o Manage an accurate, complete system inventory,
	  o Manage IT project schedules and resource allocations,
	  o Manage IT project documentation and source code, and
	  o Manage help desk requests; and
	• Accurate and complete data is available to enable these functions.	

Develop IT strategy	• An enterprise view of technology; • Meaningful links from the TxDOT mission and goals to technology; • Appropriately documented and communicated IT strategy; and • Accountability for IT contribution to mission achievement, as reflected in performance goals and measures.	
Plan systems	• Documented, current enterprise architecture (process, data, technology, performance); • Accurate and complete IT inventory; • Documented target architecture; • Defined plans, priorities and resource allocations tied to TxDOT strategy; and • Quality project initiation documentation.	
Capability development	• Use of an appropriate, current, consistent SDLC; • Complete, current, accurate system-related documentation; • Appropriate application of standards, tools, techniques and best practices; • Disciplined change control and project management; • Effective implementation of milestone reviews; • Timely and cost-effective project completion; and • Well-trained staff with skills necessary to oversee and/or perform activities in this phase.	
Operate and maintain	• Documented incident and problem management processes, roles and responsibilities; • Executing to agreed-upon service levels; • Complete, accurate inventory of IT assets; • Documented IT asset and change management processes, roles and responsibilities; and • Timely and effective customer service.	
Technology scan and refresh	• Process for and evidence of structured reviews of existing capabilities across the organization; • Process for and evidence of structured scans of emerging technologies; • Process for and evidence to an integrated approach to identifying, communicating and making informed decisions about new requirements and opportunities; and • Defined approach for technology refreshment or insertion.	

Table 3-3: IT management qualitative ratings

3.3.2   IT management and leadership

The overall rating for IT management and leadership is "orange" (results don't fully or consistently meet requirements). TxDOT certainly is using technology to support its mission; new systems are being built and existing systems are maintained; and core infrastructure is provided for the organization. However, TxDOT management and leadership does not promote the use of IT as a strategic asset across the enterprise. Additionally, the primary IT organization – TSD – is not empowered to play a meaningful enterprise role nor to require compliance with proven IT approaches and disciplines that lead to better designed, more maintainable and more robust systems. While TxDOT has a defined IT governance process, it is more compliance oriented than empowered or designed to drive the use of IT strategically, taking into consideration organization priorities, available funding and an overall technology architecture.

3.3.2.1   *Key activities*

This area focuses on how IT management functions are managed and led within TxDOT. Effective management and leadership is expected to encompass:

- Governance;
- Application of appropriate management principles (cost, risk, priorities, controls);
- Leadership of people; and
- Thought leadership.

3.3.2.2   *Observations and findings*

The content in this subsection reflects input gained via interviews and via focus groups, assessment of GFI and consideration of accepted IT management practices.

IT governance structure. TxDOT's IT governance structure is minimally effective and is not designed to promote strategic value of IT. Although the governance structure requires reviews for IT projects, these reviews principally are compliance oriented and do not facilitate project consideration based upon an enterprise view of IT investment. For example:

- Funding requests from D/D/O/Rs bypass the IRC and are not weighed against an enterprise view of TxDOT technology architecture, of IT investment priorities or organizational priorities in an organized and informed manner;
- The IRC reviews projects only after their funding is approved;
- The IRC role is geared toward compliance, not toward active management of technology needs, solutions or performance – in the past 5 years, the IRC reviews resulted in denial of only 2 projects; and
- TSD reviews also are geared toward compliance and TSD is not empowered to go beyond this compliance role.

Furthermore, D/D/O/R representatives indicate that they often bypass requirements for documentation and review of "small" projects and for projects that don't require use of a TSD server or other enterprise IT asset.

Use of management techniques. TxDOT does not consistently use appropriate, disciplined management techniques to effectively manage IT across the organization.

From a cost management perspective, the TSD budget is clearly identified, as are costs for major projects and for staff identified as technology resources. However, TxDOT lacks visibility into the total IT spend across the organization. D/D/O/R costs for non-IT staff involved with IT-related projects and for projects that aren't subjected to the governance reviews are not visible.

Related to this, the organization does not use portfolio management or related techniques to prioritize investments in IT and/or to monitor the return on investment or continued value of projects at key points in their lifecycle. Additionally, TxDOT does not have a go/no-go discipline around projects. Rather, once projects are funded, they appear to run with little management intervention and limited review unless they run into difficulty. Given the financial pressures on TxDOT, as well as evolving expectations for TxDOT mission and the availability of new technologies, it is possible that a project undertaken at one point may not continue to be a good investment choice indefinitely.

There is no evidence of organized risk management around IT projects.

Finally, the organization does not use performance measures and goals for IT, nor is there clear accountability for specified results. TSD is responsible for maintaining and delivering core infrastructure capabilities, as well as for maintaining "enterprise" applications. However, these expectations aren't tied to measurable results, and neither TSD nor the D/D/O/Rs use a structured approach to managing and controlling their IT performance in relation to TxDOT mission and goals.

Overall, people communicated a lack of belief that standard disciplines and methodologies offer real value or that they could be implemented across TxDOT.

Leadership. In this case, leadership encompasses direct IT leadership – such as the role played by the TSD Director – and broader TxDOT leadership around IT. Substantial leadership issues impair both the staff and management effectiveness and morale. Accountability, responsibility and authority for the use of IT are not well aligned within the organization.

Beginning with TSD, the Director implemented organizational changes within the Division that reflect recommended best practices and that are intended to encourage productivity and morale. However, the organization has limited authority, but this is not broadly understood or communicated in the organization. This contributes to low regard for the organization and for its staff. Not only is this challenging for people in TSD, this misunderstanding contributes to other weaknesses in how IT projects are approached across the organization since people don't see TSD as being effective and/or don't understand the more disciplined approaches TSD requires to system development and maintenance.

People do not demonstrate accountability for adhering to defined IT management processes and standards. For example, members of the Administration have bypassed these requirements, directing TSD to proceed with systems work without following established IT disciplines. This, too, undermines the morale of the core IT staff.

IT leadership overall, and IT thought leadership as a component of that, is not established or apparently valued in TxDOT. No real IT leader has been identified in TxDOT to set direction for informed, accountable investment in and use of IT to promote mission accomplishment. The TSD Director is assigned to play more of a support role than a leadership role driving the use of technology across TxDOT. IT staff are scattered across TxDOT and lack consistent leadership from experienced technology professionals. Although new ideas regarding the use of technology in TxDOT arise across the organization, there is no effective process used to promote them to benefit the rest of the organization. However, on a very positive note, the TxDOT and specifically the TSD Director play a clear and active thought leadership role around intelligent transportation systems (ITS) in the transportation community.

3.3.3   IT management policies procedures and processes

The overall rating for IT policies, procedures and processes is "orange" (results don't fully or consistently meet requirements). While TSD maintains a body of policies, procedures and standards to govern IT management, there is no requirement for these to be used across TxDOT. Additionally, an initial review of a sample of these policies, procedures and standards indicates that they are not of consistent quality and completeness to fully meet their intended use (see appendix D for a listing of the policies and procedures the MOR team reviewed).

3.3.3.1   Key activities

Planning, developing, implementing and maintaining technology solutions is a complex undertaking that has been studied at length as an engineering and management discipline. Extensive policies, procedures and standards are used to govern the use of IT. This dimension encompasses development, maintenance and implementation of the body of policies, procedures and standards required to guide people who are performing IT-related work or who require IT support.

3.3.3.2   Observations and findings

TSD develops IT management policies and procedures for TxDOT and TSD staff follow these requirements. However, D/D/O/Rs and the Administration don't necessarily follow the published policies and procedures. As noted previously, TSD does not have authority to enforce compliance. While D/D/O/Rs are engaged in planning and implementing systems of all sizes, they may follow TSD guidance, may follow approaches they decide internal to their organizational element or may allow vendors to determine which approaches and standards to apply.

This problem may be exacerbated by the fact that little training is done – and none is required – across the organization on policies, procedures, tool and/or standards.

Based upon a sample of the available guidance, the standards and processes defined for use are of varying clarity, quality, completeness and value.

3.3.4 IT management organizational alignment

The overall rating for IT organizational alignment is "orange" (results don't fully or consistently meet requirements). TxDOT IT management responsibility is decentralized across the organization, which is consistent with the organization of other support functions. This helps create relatively tight bonds within organization units (i.e., D/D/O/Rs), but does not necessarily promote efficiency, accountability or a strategic approach to using IT for the enterprise.

3.3.4.1 Key activities

Organizational structure and alignment includes:

- Identifying who in the organization is involved in IT management in what way;
- Identifying who has decision authority; and
- Defining clear and appropriate lines of authority and accountability.

3.3.4.2 Observations and findings

This subsection presents some weaknesses in the current alignment of IT management responsibilities within TxDOT. However, the lack of visibility into the activities of IT staff outside of TSD limits the ability to fully assess the value of the current decentralized model versus the potential value of a more centralized approach to managing this function and these staff.

Roles and responsibilities. As might be expected with a decentralized model, IT management roles and responsibilities are understood at a very high level, but are not well defined and understood across the organization at a more detailed level. The possible misunderstanding of TSD's role and boundaries was noted earlier in this assessment. D/D/O/Rs set their own expectations for their IT specialists' roles and responsibilities, which may vary substantially depending on the individual organization element and organization leader involved.

Decision authority. As with staff deployment, IT management-related decision authority in TxDOT also is decentralized. While the IRC nominally controls the use of IT in the organization, projects are included in budget requests before they ever reach the IRC. While TSD reviews project documentation for certain project types or sizes, this review is compliance oriented and does not encompass real decision authority. Individual D/D/O/Rs make choices regarding system development without necessarily having to consider a bigger picture view of relative investment priorities, the fit with other TxDOT systems or the appropriate way to implement the desired solution.

IT staff deployment. Information resources staff are deployed across TxDOT to reside in TSD and the D/D/O/Rs. This structure results in accountability to D/D/O/R leadership, but does not enable accountability for IT management to TSD or other technical leadership in the organization.

TxDOT employs relatively few IT specialists. TxDOT IT staff are hired by their respective D/D/O/Rs to perform IT work specific to that organization element. This results in significantly different levels and types of experience being solicited for the organization and being developed by TxDOT IT staff. Regionalization modifies the ways in which TxDOT can employ information resources staff who formerly were in the district offices, beginning to formally enable resource sharing across geographic and organizational boundaries. However, this model is not extended to the enterprise as a whole. The current model doesn't give TxDOT the ability to prioritize and deploy IT staff across all organizational boundaries to deliver greatest value to the organization as a whole. Additionally, this model doesn't give TxDOT a way to deploy IT staff to encourage skill and/or career development, nor does it promote a community of IT professionals within the organization.

3.3.5   IT management support systems and data

The overall rating for IT management support systems and data is "red" (issues or incidents consistently or frequently impede performance). Without appropriate support tools and data to manage IT needs across the agency, the job of effectively and efficiently managing IT becomes challenging. The existence of support tools alone is not enough; if tools are not used by consistent, adopted methodologies, then they will add minimal value. TxDOT does not have the tools to support key IT management activities, such as IT portfolio and investment management. Further, many of the agency's IT management support tools are not used entirely or consistently across the agency, minimizing any economies of scale. The lack of appropriate methodologies and consistent tool use hampers any effort to promote standardization of IT management processes across a large agency such as TxDOT. TxDOT also lacks key data necessary to effectively manage IT, such as a comprehensive inventory of all TxDOT systems and data. Without a view of all existing systems across the agency, there will always be a risk of expending additional resources for redundant systems.

3.3.5.1   Key activities

This area encompasses the adoption and use of appropriate tools and methods, including IT-enabled tools, to support efficient IT management operations and communications. It also includes use of electronic databases to support data collection, to improve data reliability, accuracy and availability, to support required reporting, and to enable valuable analytics to identify trends and to help understand and resolve issues.

3.3.5.2   Observations and findings

Tools. TxDOT staff use some tools to support IT management activities, but these tools are not used consistently across the organization. For example, TSD has an enterprise tool to manage help desk requests. While D/D/O/Rs provide Tier 1 help desk support – i.e., respond to the initial call for help regarding technology-related issues – they do not all use this enterprise tool to log requests. As a result, TSD does not have complete problem data for the organization, which would enable them to analyze trends and issues that might need to be addressed. The organization does not have tools for most of the IT management functions listed above.

From a methodology perspective, TxDOT lacks methodologies related to IT management that make a significant difference in the selection and value of tools to the organization. For example, TxDOT does not have a project management methodology that everyone follows for IT projects. Without such a methodology that sets standards for types of planning required, major milestones or decision points, required lifecycle tasks, etc., the potential effectiveness of project management tools would be lower in any case.

Data. TxDOT has little in the way of centralized repositories to track information relevant to IT management (e.g., problem tracking, inventory, project justifications, system documentation). TSD tracks some of this information, but it is incomplete since they do not have access to – nor the ability to require – complete information. More complete IT management-related data is needed to promote effective IT management, trends analysis and continuous improvement across the organization.

3.3.6   Strategy

The overall rating for strategy is "black" (not performed or encountering problems that may or will cause harm). Although TxDOT meets minimum requirements to document an IT strategy, the organization does not perform the functions commonly associated with this discipline. IT is treated as a cost rather than an investment that should be accountable for delivering measurable value to the organization. IT also is not treated as an enterprise asset with strategic value; rather, it is treated more as a tool, with each solution considered largely independently of the rest of TxDOT technology.

3.3.6.1   Key activities

Strategy sets the foundation for using IT to help the organization meet mission requirements with enhanced timeliness, accuracy and/or cost effectiveness. Key activities in this dimension include:

- Defining links between TxDOT strategy, priorities and goals and the use of technology to achieve these;
- Identifying IT resource levels and priorities at the highest level;
- Establishing high-level performance goals and measures for the use of technology; and
- Defining appropriate governance (i.e., participants, key reviews, role and responsibilities).

3.3.6.2   Observations and findings

Enterprise view of technology. TxDOT does not take an enterprise view of technology. TSD has visibility into major systems and maintains systems-specific drawings for known systems. However, TSD does not have visibility into all the systems being used in TxDOT. The organization does not maintain a technology enterprise architecture, nor are new project requests considered in light of an enterprise view.

Strategy-mission linkage. TxDOT implementation of IT strategy appears to be limited to documentation within the overall *TxDOT Strategic Plan*. This documentation is very limited and appears to be compliance driven. It does not express a link with the mission, nor does it express a vision of how technology can be applied to support that mission. It appears that IT is neither viewed

nor used as a strategic asset of the organization, to be used as an investment on which there should be a verifiable return. Rather, technology appears to be treated as a cost and to be addressed only at a tactical level.

Accountability. TxDOT does not use performance goals or measures as a basis for IT-related decision making or resource allocation. As noted previously, IT governance within TxDOT is poorly defined and structured, also, which further erodes accountability.

3.3.7   Plan

The overall rating for plan is a "red" (issues or incidents consistently or frequently impede performance). The plan phase of the technology lifecycle is very important. This is the phase when strategy is made actionable. Studies of software engineering (i.e., system development) prove that the quality of work done in this phase significantly affects the probability, cost and schedule for downstream development and implementation activities. Yet activities in this phase are often overlooked, dismissed as being unnecessary or rushed as organizations pursue an implemented solution. TxDOT does not perform many of the key activities associated with the plan phase. This means that the organization does not have a complete view of the technologies currently in use and of how they are serving the organization's goals. It also means that TxDOT invests in technology solutions without a way to assess how well that solution fits into organizational priorities or how well it fits with other elements of the TxDOT technology architecture. Additionally, it means that TxDOT does not have a reliable way to confirm that projects are well defined and scoped, that the chosen technical approach or solution is feasible, that the estimated cost is realistic or what the expected return on the investment will be. This approach to implementing technology increases TxDOT risk – of project failure, of incurring increased cost due to vague scope definition or scope creep, of technology incompatibility, of incurring redevelopment costs or higher-than-necessary maintenance costs.

3.3.7.1   Key activities

Key activities of the plan dimension include:

- Documenting the technology inventory and current architecture;
- Defining standards (e.g., technology, process, data);
- Understanding business, data and technical requirements and defining a target architecture to address those requirements;
- Refining high-level performance goals and measures;
- Assessing the gaps between the current and target architectures;
- Developing realistic plans to incrementally bridge those gaps;
- Assessing the feasibility of discrete projects (e.g., "chunks" of capability); and
- Preparing and obtaining approval of business cases to proceed with selected projects in accordance with the overall plan.

3.3.7.2   Observations and findings

The observations and findings in this subsection are based upon input from interviews and focus groups, upon review of available TxDOT documents and consideration of accepted IT management

practices. While governance is an important component of the plan phase, TxDOT IT governance is addressed earlier in this assessment and is not covered again here.

Enterprise architecture. As noted earlier, TxDOT does not have an enterprise view of technology and does not document its enterprise architecture. TSD has system-specific diagrams for "major" systems. These diagrams show the system and its interfaces with other systems.   Naturally, TxDOT does not have a target architecture against which to assess the fit, value and investment priority of new system initiatives. TSD has defined technology standards and limited data standards, which aren't necessarily used by D/D/O/Rs.

System inventory. TxDOT has a partial inventory of systems that reflects "major" systems and some set of smaller systems. No one at TxDOT has insight into all of the systems being used.

Plans and priorities tied to strategy. This area goes hand-in-hand with the absence of an enterprise view of technology and of an articulated strategy for how IT will be used to support the mission. TxDOT does not articulate priorities, plans and resource allocation required to implement IT across the organization to deliver value. Individual D/D/O/Rs pursue technology initiatives with little or no insight into or consideration of how those initiatives fit into the overall technology profile and budget for the organization.

Project initiation documentation. Project initiation documentation is a very important tool in managing the value, risk and cost of technology projects. Quality documentation should reflect a rigorous analytical process that results in clear project scope definition and goals; an informed and realistic assessment of the project's technical risk and feasibility; a reasonably accurate estimate of total cost; and an accompanying projection of return on that investment. TxDOT has limited requirements for project initiation documentation. The documents that are completed tend to be designed to meet minimum compliance requirements associated with certain aspects of the governance process. The quality, content and value of project initiation documentation varies since it is developed in organizational silos, and is not required to comply with a rigorous set of standards.

3.3.8   Capability development

The overall rating for capability development is "orange" (results don't fully or consistently meet requirements). TxDOT is succeeding in planning and implementing IT systems and solutions, despite the low rating for this dimension. However, simply succeeding in fielding and maintaining systems does not demonstrate that the processes and approaches are well chosen or appropriately implemented. Software engineering and system engineering disciplines strive for a high degree of discipline leading to repeatable results. Organizations that lack that discipline operate in what might be termed a "hero" model, which means that their success is dependent upon individual performance. To the extent that individuals responsible for any specific solution succeed – because of their prior experience, innate talents, good luck or other factors – the organization succeeds. However, this approach is high risk. The success of one project in no way predicts the success of other projects, even if they involve the same people. And the quality of the resulting system – which will affect its robustness, maintenance costs and life expectancy – also is unpredictable.

3.3.8.1   Key activities

Once a system or solution is approved, it enters the core system development lifecycle (SDLC) leading to implementation of a capability. Activities in this phase may occur iteratively for a single system or may be performed sequentially one time (although this technique is less used than in the past and doesn't suit all technologies). Key activities include:

- Defining detailed requirements;
- Specifying high-level and detailed designs;
- Acquiring and/or developing the target capability;
- Testing the resulting system or solution; and
- Managing the project.

3.3.8.2   Observations and findings

TxDOT's decentralized approach to IT management (including system development) and the absence of required standards or training increase the organization's technology-related risk and costs. D/D/O/Rs initiate system development efforts to meet their individual organization needs. In some cases, the resulting application or solution is promoted to be an "enterprise" application, at which point it is turned over to TSD to operate and maintain. To the extent that the application in question was not developed using appropriate system engineering practices, supportable tool sets, etc., TSD maintenance costs may be increased or TSD may have to redevelop the application for broad use. As another example, D/D/O/Rs develop and operate systems that are not visible to the rest of the organization and are not subject to standards. Some of these systems reside on individual desktop computers and are not subject to regularly scheduled back-up. If the computer fails, the application and its data will be lost to the organization.

SDLC. TSD has documented an SDLC for technology projects and uses this more consistently than the D/D/O/Rs do. D/D/O/Rs are not required to follow this development approach and may use their own approach, which may be quite informal, or may defer to a vendor's approach. The TSD-defined SDLC appears somewhat dated and is not geared to the iterative development that is generally more appropriate to current technologies. Nor is this SDLC, as documented, geared to tailoring to fit the technology or solution being implemented.

System documentation. Quality documentation of technology solutions is extremely important in clarifying and maintaining scope; in enabling appropriate traceability from requirements through design to the finished product; and in supporting downstream maintenance, enhancements and technology refreshment. TxDOT does not have specific standards governing system documentation, from requirements through testing. The content and quality of system documentation is often left up to vendors, for solutions developed external to TxDOT.

Standards. As noted earlier, TxDOT does not require D/D/O/Rs to follow standards when performing IT management work or when developing solutions. In context of this phase, the absence of standards for disciplined design and development increase the risk that development efforts will fail and that the resulting solutions will be less efficient, maintainable and flexible than well-architected solutions. Since design and development practices evolve, reliance on the expertise

of individual IT specialists to independently and voluntarily follow current "best" practices is unlikely to deliver optimum results.

Change control. Change control is the discipline that manages requests to modify systems that are in development or that have been fielded. Typically, an appropriate group of technical and management staff are involved in analyzing, presenting, reviewing and making decisions about changes – each of which represents additional cost and any of which may represent a substantial revision to the intended scope or utility of the system.

TxDOT implementation of change control is very limited. TSD staff follow change control processes for systems that they manage, but TxDOT does not have a defined change control board or process that is broadly used. Major projects are required to have project boards that are supposed to serve as change control boards for their associated project. However, these boards generally are reactive, meeting to address issues that put the project budget or schedule in jeopardy.

Based on available information, the MOR team could not verify that requirements and designs are reviewed, baselined and controlled. Nor could the team verify that applications are all baselined and controlled.

Project management. TxDOT does not employ a defined project management methodology across the organization and appears to under-value the importance of project management discipline as it relates to IT projects. While people certainly understand in principle the importance of managing schedule and budget, there seems to be a lack of appreciation for how disciplined project management can help meet schedule and budget goals, help reduce risk and help ensure solution quality and value.

TxDOT does not have a consistent and appropriate discipline that people are required to follow regarding resource or schedule baselines, schedule tracking, or cost and schedule reporting. Milestone reviews would be part of such a methodology. As it is, milestone reviews either are not done or are limited and compliance oriented.

Timeliness and cost effectiveness of project completion. The MOR team was unable to obtain statistics regarding original budget versus final cost, original schedule versus final delivery date, project completion versus failure rate, or the total number of technology projects underway. The lack of this type of data impairs the organization's ability to monitor the value of its investments or to understand where performance is sound and where improvement or help is needed. Additionally, this type of data would be valuable in assessing the appropriateness of the governance process as it relates to determining project size (i.e., small, medium, large) and business case accuracy, among other things.

Staff training and effectiveness. TxDOT no doubt has a number of very skilled IT specialists. However, very limited IT-related training is available in-house at TxDOT, nor does TSD generally train staff on standards, tools, techniques or best practices. D/D/O/R staff who undertaking IT

management or project development roles are not required to be trained before performing these duties.

3.3.9 Operate and maintain

The overall rating for operate and maintain is "orange" (results don't fully or consistently meet requirements). TxDOT staff do successfully operate and maintain the existing systems that are used to support mission accomplishment every day across the organization. As is the case in other areas of IT management, operations and maintenance activities are performed with little consistency across the organization. Without visibility to all systems, without appropriate data repositories to track problems and incidents (among other things) and without performance standards or service levels, TxDOT cannot really manage or control operations and maintenance performance or verify that the right emphasis, priorities and investments are applied in this phase.

3.3.9.1 Key activities

This phase is characterized by the following activities:

- Fixing problems and implementing improvements in fielded systems;
- Managing service level delivery;
- Performing system administration;
- Providing customer service; and
- Managing assets (e.g., change, inventory).

3.3.9.2 Observations and findings

Once again, TxDOT staff are maintaining and operating systems that the organization relies upon daily to support mission accomplishment. Nonetheless, this area falls short in the areas of discipline and consistency across the organization. The following observations apply.

Incident and problem management. TxDOT lacks well-defined and efficient problem management, incident management and change management processes and tools.

Service levels. Generally, TxDOT does not use defined service levels as a basis for performance. Speaking broadly about maintenance workload, TSD staff responsible for maintaining major systems often are in a reactive mode as they try to address maintenance and enhancement requirements for systems TSD developed while also dealing with D/D/O/R systems that may have been developed outside of standards and that were subsequently transferred to TSD to maintain and operate.

Inventory, asset and change management. TxDOT does not have a complete inventory of IT assets, nor a defined approach or tools to manage those assets. The lack of a defined change control process and mechanism continues to affect the organization during the operations and maintenance phase.

Customer service. TxDOT uses a decentralized model to provide help desk support to customers. D/D/O/Rs provide Tier 1 support, responding to initial calls from users. Although TSD has enterprise help desk software, approximately half the TxDOT organization doesn't use this system. This impairs TSD's ability to do problem tracking and management. Furthermore, communication to customers regarding progress on maintenance requests or on problem resolution is limited and apparently not a high priority in the organization.

3.3.10 Technology scan and refresh

The overall rating for technology scan and refresh is "black" (not performed or encountering problems that may or will cause harm). TxDOT does not have an effective, consistently used process to review current capabilities, scan emerging technologies, understand evolving business requirements and propose insertion of new technology or solutions to meet those requirements. Rather, identification of new ideas and opportunities to use technology in the organization generally spring from the grass roots level. While this is valuable input, this approach does not promote a comprehensive or systematic review of opportunities to use technology to greater advantage for the organization, in accordance with enterprise priorities and funding.

3.3.10.1 Key activities

Key activities for this phase include:

- Assessing the performance of existing technology capabilities;
- Monitoring and assessing emerging technologies;
- Identifying new requirements and opportunities; and
- Systematically promoting appropriate technology refreshment or insertion into the IT management lifecycle.

3.3.10.2 Observations and findings

TxDOT does not have an effective, consistently used process nor informed review of existing capabilities versus current or emerging requirements across the organization. The organization also does not have an effective approach to regularly and comprehensively scan emerging technologies or techniques and to consider these for application at TxDOT. Among the people interviewed, the majority of respondents indicated either that they didn't consider new technologies or that someone in the D/D/O (usually described as a young person who likes technology or who surfs the web a lot) comes up with ideas and they try them. No one indicated that they turn to TSD for new ideas. In fact, there is some indication that D/D/O/Rs bypass TSD when they have new ideas. Other respondents indicated that they didn't know where to go if they had a requirement for new technology. While the TSD Director understands the value of this process to TxDOT, TSD lacks the resources and time to perform the function today.

While some D/D/O/Rs do identify new technologies and pursue their implementation, there is no process for an integrated approach to identifying, communicating or making informed choices about technology refreshment or insertion. D/D/O/Rs do not consistently share their ideas, either formally or informally, although this may improve for the districts and regions with the new regional structure.

Finally, there seems to be a lack of consensus regarding the value of emerging technologies to TxDOT or on the need for technology refreshment. This is consistent with TxDOT not viewing IT as a strategic enterprise asset needed to support mission attainment or service delivery.

3.4   Recommendations

Table 3-4 summarizes the recommendations for the TxDOT IT management function.

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
3.1	Develop an IT strategy that ties use of technology to TxDOT mission, vision and goals.	*Strategy.* TxDOT currently has no enterprise view of technology. The IT strategic plan documentation is limited and compliance-driven and does not link with mission or vision. TxDOT does not use performance measures and goals as the basis for decision-making and resource allocation. IT is not viewed or used as a strategic asset within the organization or as an investment on which there should be a verifiable return; instead it is viewed and assessed as a cost.
3.2	Based on a more detailed review of processes, IT spending, weaknesses and strengths, redefine IT governance objectives, participants and processes.	*Strategy.* IT governance is poorly structured and defined, minimally effective and not strategic. Project funding requests bypass the IRC, and they are not weighed against enterprise view or organizational priorities in an organized and informed manner. The IRC's role is geared toward compliance, not toward active management of technology needs, solutions or performance. TSD reviews are geared toward compliance because TSD is not empowered to go beyond a compliance role. Furthermore, D/D/Os indicate they frequently bypass requirements for documentation and review of "small" projects (and possibly for "medium" projects if they don't have to use a TSD server or other asset).
3.3	Review IT policies, procedures and standards (including technical guidelines, such as SDLC, and/or tools) for completeness, currency, quality, accuracy, appropriateness to: • Identify gaps and problems; • Identify needed body of documentation; • Develop plan to fill gaps; • Develop appropriate documentation; • Implement policies and procedures across organization; and • Train on policies, procedures and standards.	*Specify, design and build, and operate and maintain.* TSD develops IT management policies and procedures for TxDOT, but D/D/Os do not necessarily follow them and TSD does not have enforcement authority. TxDOT lacks consistent, appropriate SDLC to govern development across organization, and current SDLC appears dated and not geared to the iterative development more appropriate to current technologies or to tailoring to fit technology or solution type. TxDOT lacks specific standards for system documentation, and content and quality are often left up to vendors for externally developed solutions. TxDOT lacks standards for disciplined design and has insufficient quality management practices. For major systems, TSD staff responsible for maintenance often are in reactive mode, trying to address maintenance and change requirements while also dealing with D/D/O/R-grown applications that were developed

Recommendation Number	Recommendation	Lifecycle phase / Value of implementing/justification
		without standards and then transitioned to TSD to maintain and operate. There is no complete or current IT asset inventory or catalog. The help desk model is distributed at Tier 1 level (first call), but approximately half of the organization does not use enterprise help desk software, which then impairs TSD ability to do problem tracking and management.
3.4	Identify, define and implement appropriate management techniques across organization, including: • Project and program management; • Milestone reviews; • Change control/change management; • Workload management; • Risk management; • Issue escalation and resolution; • Technology insertion; • Cost management; and • Portfolio management/investment management.	*Technology scan and refresh.* TxDOT does not consistently use appropriate, disciplined management techniques and they lack visibility into total IT spending in the organization. They are not using portfolio management or other techniques to prioritize investments or monitor return on investment or continued value of projects at key points in lifecycle. Once projects are funded, they appear to run with little intervention and limited review until they run into difficulty. There is a lack of performance goals and measures or clear accountability for specified results. TxDOT has limited change control processes; while TD staff follows change control processes for the systems they manage, TxDOT lacks an overall change control board or process. TxDOT lacks a project management methodology and undervalues the importance of project management discipline. TxDOT does not take an integrated approach to identifying, communicating or making informed decisions about technology refreshment or insertion.
3.5	More clearly define roles and responsibilities for IT organization and participants across TxDOT and identify clear technology lead for agency (CIO) and place individual "at the table" as part of leadership team.	*Management and leadership and organizational structure.* TxDOT has significant leadership issues that impair staff and management effectiveness and morale. The Administration bypasses internal processes and disciplines. TSD has limited authority and their role is not broadly understood or communicated, frequently resulting in low regard for the organization and staff. There is no real IT leader in TxDOT; TSD plays a support role rather than a leadership role. The TSD director has implemented organizational changes internal to TSD that reflect recommended practices and are intended to encourage productivity and morale, but accountability, responsibility and authority not well-aligned, and IT staff is scattered throughout the organization without consistent technical leadership. D/D/O/R staff report to their D/D/O/R leaders, which means that TSD cannot effectively prioritize and deploy IT staff across organizational boundaries to provide greatest value to organization or to deploy IT staff in a way that encourages skills and/or career development.
3.6	Define skill development requirements and professional development track for IT	*Management and leadership.* There is very limited IT training available in-house, and there are no training requirements tied to

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
	professionals and align in organization to facilitate community of excellence and promote most efficient use.	performing roles or undertaking projects.
3.7	Determine enterprise technology vision for TxDOT that includes: • Document current architecture and inventory; • Working from IT strategy, define target vision and architecture (conceptual) for organization; and • Assess gaps between that vision and current world and develop flexible plan to bridge ("chunks", priorities, resources, sequencing).	*Plan.* There is no target vision for IT across TxDOT, including an articulation of priorities, plans and resource allocations. TxDOT lacks an enterprise architectural view and, for major systems, does not have system-specific diagrams showing system and interfaces with other systems. TSD does have defined technology standards, but they are not necessarily used by the D/D/O/Rs. The funding cycle is generally completed before IRC involvement begins.
3.8	Identify appropriate tools to support improved management processes and clarified roles and responsibilities.	*Support systems and data.* TxDOT has some tools in use, but there is no consistent use across organization, reducing the potential effectiveness of project management tools. There is little in the way of centralized repositories for relevant information (e.g., problem tracking, inventory, project justification, system documentation) to promote effective management, trends analysis and continuous improvement.

Table 3-4: IT management recommendations

May 26, 2010

This page intentionally left blank.

Section 4: Financial management business process diagnostic

This section presents a high-level diagnostic review of TxDOT financial management (FM) processes and practices, both from the standpoint of how FM supports TxDOT mission achievement and of how FM responsibilities are managed and delivered within the organization. Examination of funding mechanisms that TxDOT is using to finance infrastructure projects is outside the scope of this review. Subsection 4.1 introduces the FM function generically, based upon industry standards and accepted practices. Subsection 4.2 presents an overview of TxDOT FM requirements, practices, processes and roles and responsibilities. Subsection 4.3 summarizes assessment observations and findings for FM. Subsection 4.4 presents recommendations for future action.

4.1 Introduction to financial management

Financial management encompasses the processes and practices used to manage an organization's financial resources. Effective financial management helps an organization achieve its goals by promoting the effective use of funds. Sound financial management practices also provide reasonable assurance regarding the integrity of financial systems and processes and regarding the appropriate use of controls to maintain that integrity.

4.1.1 Financial management functions

Financial management comprises a number of related functions. Figure 4-1 represents these processes and their relationships with one another.
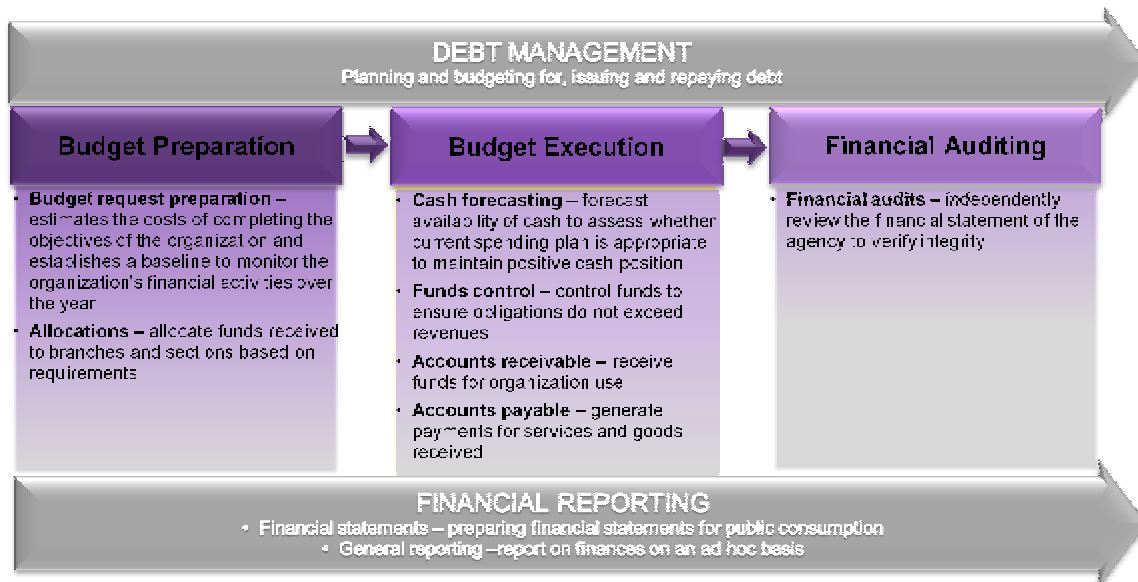
Figure 4-1: FM lifecycle

Budget preparation is the process used to determine how much funding an organization needs to execute its mission and to establish funding available for mission execution. It includes identifying the funding required and developing the funding request. This budget constitutes the baseline against which the organization's financial activities are measured throughout the year. Budget effectiveness and quality is directly related to the accurate understanding of organization needs. Bottom-up budgeting is a process by which needs are determined at the budget execution level (e.g., office level) and consolidated to form a budget. To determine if the estimated budget needs are affordable, organizations also perform a revenue forecast, which provides an estimate for revenues for the year. Organizations should prepare their budgets prior to beginning execution activities to align spending with planned expenditures in the budget and to ensure that those activities in which resources are invested are the highest priority activities.

Budget execution is the process by which funds are used and controlled to achieve organization objectives. Budget execution includes accounting sub-processes such as those for accounts receivable (AR), accounts payable (AP), funds control (to prevent overspending) and end-of-year closeout (which frees unused funds to be applied elsewhere). Done well, budget execution ensures that funds are used effectively and efficiently in accordance with budgeted priorities to meet the organization's most important needs. This requires that transactions are executed well and are subject to appropriate controls, including automated funds control mechanisms that notify management if a budget or appropriation will be overspent. During budget execution, each funding stream should be controlled and accessed separately so that spending is accurately managed.

Financial reporting represents the status of operational and fiscal accountability. Operational accountability for TxDOT is tied to its role as a steward of public resources and its responsibility for complying with the requirements governing use of these financial and capital resources. Fiscal accountability monitors performance against fiscal goals.

Financial auditing independently evaluates the accuracy of financial statements and their compliance with laws and regulations. Financial audits also assess the reliability of financial information, may identify fraud and provide management recommendations that may help improve an organization's business practices.

Debt management comprises the processes used to issue and to repay debt, and the decision-making that underlies these choices.

4.1.2   Importance of financial management at TxDOT

Financial management is of central importance at TxDOT as the organization faces decreasing funding and increasing expectations and needs to build and maintain transportation infrastructure. Sound financial management is essential for TxDOT to address the following requirements:

- **Fiduciary responsibility.** With a total annual budget of $8.4 billion in FY2009, TxDOT has one of the largest budgets in Texas state government. With this funding comes a very public responsibility to be an effective steward of taxpayer dollars. TxDOT is challenged

daily with ensuring that it spends its revenues and that its spending and be explained coherently, accurately and transparently to a wide range of stakeholders;

- **Accounting for multiple sources and types of funds.** TxDOT draws its budget from multiple funding sources, which TxDOT must be able to track and account for at all times;

- **Value for money.** TxDOT must address conflicting trends and requirements to continue to meet the transportation needs of Texas residents and visitors. Revenue generated from the motor fuels tax, which is a primary source of highway funding, has been decreasing in recent years. In the same period, inflation on construction materials was significantly higher than the historical average (according to the Producer Price Index-Urban for Highway and Street Construction, inflation was over 10 percent in 2004, 2005 and 2007). Texas has a very high growth rate and that new population is primarily taking up residence in a handful of urban areas, increasing the demands for congestion relief. The extensive road system for which TxDOT is responsible is aging and requires maintenance to continue to provide the quality of service that the public expects. FM should play a critical role in the decision making process required to stretch limited funds and/or to apply alternative financing approaches to deliver greatest value in transportation;

- **Accurate planning and forecasting.** TxDOT must obtain funds needed to perform its mission and must have a basis for making decisions about where to invest transportation dollars. TxDOT needs accurate revenue forecasting as a basis for requesting funds. The organization also needs accurate revenue forecasting to understand what funds will be available and when so they can plan projects and expenditures accordingly; and

- **Transparency and accountability.** TxDOT has been criticized for errors in accounting and in financial reporting, which have damaged the organization's reputation in recent years. This lack of trust is impeding TxDOT's ability to achieve its mission. Demonstrated strength in the areas of financial reporting, accounting integrity and application of appropriate controls is an essential element required to rebuild the organization's trust and reputation.

4.2   TxDOT financial management

Subsection 8.2 provides an overview of the financial management business function at TxDOT, and contains the following information:

- Federal, State and TxDOT requirements that govern the function;
- Roles and responsibilities;
- Process overview; and
- Best practices and initiatives.

4.2.1   Requirements

TxDOT is required to follow regulations and laws provided in the Texas Constitution, the Texas Government Code and the Texas Transportation Code. Additionally, because they receive Federal funding through the FHWA[15] they must follow regulations provided by the Code of Federal

---

[15] TxDOT also receives federal funding from the Federal Transit Administration, the Federal Aviation Administration, the National Highway Traffic Safety Administration and the Federal Emergency Management Agency.

Regulations, which outlines how states receive Federal reimbursements for transportation projects. Select relevant requirements include:

Federal:

- Office of Management and Budget Circular No. A-87;
- Office of Management and Budget Circular No. A-133;
- U.S. Code, Title 23;
- U.S. Code, Title 31;
- Title 23, Code of Federal Regulations;
- Federal Single Audit Act of 1984;

State:

- Section 7, Article VIII, Texas Constitution;
- Section 49, Article III, Texas Constitution;
- Texas Government Code, Chapters 317, 403, 2054, 2101, 2106 and 2256; and
- Texas Transportation Code, Chapters 201, 222, 227 and 456.

Additionally, TxDOT is subject to oversight by the Legislative Budget Board (LBB). TxDOT must request and obtain approval from LBB and the Governor's Office of Budget, Planning and Policy (GOBPP) for changes to the budget, such as moving money between strategies. TxDOT submits and coordinates its Legislative Appropriations Request (LAR) with LBB and GOBPP prior to approval from the Legislature.

Within TxDOT, the Financial Management Policy Manual provides managers of TxDOT with the policies for payment for goods and services, costs of Departmental activities and maintenance of accounting and financial management records. The Debt Management Policy and Investment Policy governs debt management.

4.2.2 Roles and responsibilities

Within TxDOT, financial management responsibility resides primarily with the Finance Division. FM staff in the D/D/O/Rs share responsibility with the Finance Division for some functions. Table 4-1 presents who is responsible for which elements of each of the primary FM processes.

FM Process	Organization Element	Responsibility
Budget Preparation	Finance Division, Funds Management Section, Budget Branch	Has primary responsibility - oversee entire process, forecast revenues, respond to inquiries from Legislature and Administration
	Finance Division, Funds Management Section, Programming and Letting Branch	Develop letting budget and schedule, working in conjunction with Budget Branch
	Finance Division, Debt Management Section	Plan for debt issuance and repayment
	Region budget analysts	Coordinate budget preparation within their region
Budget Execution	Finance Division, Accounting Management Section	Perform revenue accounting

FM Process	Organization Element	Responsibility
	Finance Division, Payments Management Section	Process vouchers and AP
	Finance Division, Funds Management Section, Budget Branch	Monitor operating budget, perform funds control
	Finance Division, Funds Management Section, Programming and Letting Branch	Track letting progress against the letting allocations
	Regional Accounting Departments, division and office accounting personnel and remaining personnel from District Accounting Departments	Process vouchers, process payroll, process damage claims, pay utilities, process revenue receipts, monitor budget execution
Financial Reporting	Finance Division, Accounting Management Section	Produce annual financial report
	Region budget analysts	Provide data for annual financial report
	D/D/O/R staff	Produce reports specific to their needs or in response to questions
	TxDOT	Anyone may produce reports that include financial data, depending on the nature of the data requested, the source of the request and who the requestor chose to contact in the organization; coordination with Finance Division not required
Financial Auditing	State Auditor's Office (SAO)	Manages TxDOT audit, in coordination with TxDOT Audit Office
	TxDOT Audit Office	Coordinate with the SAO to answer questions and supply data related to the financial audit
Debt Management	Finance Division, Debt Management Section	Responsible for all debt management within TxDOT, including responsibility for State Infrastructure Bank (SIB); determine when to let bonds and when to repay bonds, working in conjunction with the CFO
* 2012 – 2013 LAR marks first time a budget request for development (ROW, Design, etc) and support in the districts will be directly tied to specific planned projects		

Table 4-1: FM roles and responsibilities

As of April 14, 2010, the Finance Division employs approximately 123 FTEs. Districts employ approximately 4 FTEs to perform FM duties and regions employ approximately 106 FTEs for this purpose. Headquarters divisions (other than Finance) employ an additional 19 FTEs to perform FM duties. The Finance Division reports to the TxDOT CFO. As illustrated in Figure 4-2, FM staff within the D/D/O/Rs report to their respective organization leads and are not directly accountable to the Finance Division or to the CFO.

```
                              ┌─────────────────────┐
                              │ Texas Transportation │
                              │     Committee        │
                              └─────────────────────┘
                                       │
                              ┌─────────────────────┐
                              │  Executive Director  │
                              └─────────────────────┘
                                       │
                              ┌─────────────────────┐
                              │  Deputy Executive    │
                              │     Director         │
                              └─────────────────────┘
```

Chief Financial Officer	Assistant Executive Director for Field and District Operations	Assistant Executive Director for Engineering Operations	Assistant Executive Director for Support Operations

Finance Division 123 FTEs		7 FTEs	6 FTEs

Atlanta 0 FTEs	Beaumont 0 FTEs	Austin 1 FTE	Abilene 0 FTEs
Brownwood 0 FTEs	Bryan 0 FTEs	Corpus Christi 0 FTEs	Amarillo 0 FTEs
Dallas 1 FTEs	Houston 0 FTEs	Laredo 0 FTEs	Childress 0 FTEs
Fort Worth 1 FTE	Lufkin 0 FTEs	Pharr 0 FTEs	El Paso 0 FTEs
Paris 0 FTEs		San Antonio 1 FTE	Lubbock 0 FTEs
Tyler 0 FTEs		Yoakum 0 FTEs	Odessa 0 FTEs
Waco 0 FTEs			San Angelo 0 FTEs
Wichita Falls 0 FTEs			
RSC – North 32 FTEs	RSC – East 21 FTEs	RSC – South 23 FTEs	RSC – West 30 FTEs

Figure 4-2: Organizational alignment of FM responsibilities

4.2.3   Financial management process overview

TxDOT staff perform all of the major FM processes identified in Figure 4-1 except for financial auditing. This subsection briefly describes the processes TxDOT uses to perform each relevant FM process.

Budget preparation. Each even-numbered year, TxDOT prepares and submits to the LBB and GOBPP an LAR covering the next biennium. TxDOT generally prepares the LAR based on anticipated revenue, although for the 2010-2011 LAR, they requested funding based on the maximum number of projects TxDOT would be capable of performing during the biennium. The State Legislature prepares a bill summarizing the LARs for every State agency and then vote on this during their session in odd-numbered years. Once TxDOT receives their approved appropriations, the Finance Division and Administration budget the funding internally. The operating budget

includes high-priority items such as personnel, debt service and existing contract payments, as well as any additional items necessary to meet the TxDOT mission day-to-day. The Finance Division also allocates the funds for letting new construction contracts and maintenance contracts valued over $300,000. District letting allocations are allocated based on a formula. The letting allocations are used to manage the amount of contractor payments that will be due in future years.

Budget execution. TxDOT spends available funding to carry out its mission. This includes performing AR and AP operations to track revenues and to process payments for goods and services received. It also includes performing funds control processes to ensure that spending does not exceed appropriations to TxDOT or the amount of cash available. At TxDOT, nearly all funds control processes are manual. Each day the Budget Branch prepares a cash report and monitors the budget strategies. Monthly, the Budget Branch prepares a comprehensive cash forecast and a report on obligation balances for letting compared to the budget. Twice monthly, before contractor and payroll expenditures are processed, the Accounting Management Section also prepares a projections statement. In addition to Finance Division budget execution activities, the Regional Accounting Departments and division and office accounting personnel also monitor spending against the budget within the D/D/O/Rs.

Financial reporting. This includes both an annual financial report and general reporting on an ad hoc basis. The Finance Division prepares its annual financial report and submits them to the Office of the Comptroller of Public Accounts (CPA). Finance Division staff also provide information on an annual basis for inclusion into the Comptroller's comprehensive annual financial report (CAFR), which covers all State agencies. Ad hoc reports are prepared in response to specific requests that may occur at any time. These reports may be prepared by Finance Division staff or by any D/D/O/R, depending on the nature of the data requested, the source of the request and who the requestor chose to contact in the organization. The Finance Division also prepares some financial reports on a regular basis, such as the monthly cash forecast.

Financial audit. The State Auditor's Office (SAO) performs the financial audit of the State CAFR, through which they also audit the TxDOT. TxDOT supports the audit as needed.

Debt management. TxDOT performs debt management, including planning for, issuing and repaying debt. TxDOT is authorized to issue up to $500 million in short-term borrowing instruments, such as commercial paper, to cover cash shortfalls without prior approval from the LBB or GOBPP for specific issuances, although the program is programmatically authorized by the Bond Review Board (BRB) and TxDOT Legislative Rider 24(c). When TxDOT anticipates a low cash balance, the CFO determines when and how much short-term borrowing to issue based upon information available (i.e., cash balance, projected short-term cash needs). In addition, TxDOT may issue bonds under the Propositions 12 and 14 programs, Texas Mobility Fund, and Central Texas Turnpike System. Bonds issued under these programs may be used only if projects meet program criteria, up to the dollar limits imposed by the Legislature. TxDOT calculates debt service payments and produces annual bond issuer reports for the BRB.

TxDOT currently is implementing some initiatives that will improve their current practices, which are listed in the remainder of this subsection. These initiatives may eventually have a positive impact on the observations and findings in this report.

Through a Commission Minute Order issued March 25, 2010, the Texas Transportation Commission authorized the charter for the internal audit subcommittee created January 29, 2009, that will be responsible for reviewing TxDOT's internal controls at the end of each fiscal year. The first annual review under the approved charter should occur at the end of FY 2010. If properly implemented, this initiative will allow TxDOT to align its internal controls procedures to GFOA best practice regarding internal controls.

Based on a Minute Order issued January 29, 2009, TxDOT is in the process of adopting some Sarbanes-Oxley (SOX) principles to enhance the level of accountability for the Department and to increase the reliability of its financial information. Specifically:

- The TxDOT ED and CFO will be required to expand the process of providing certifications to include all financial reports, including the operating budget, investment report and cash forecasting report;
- TxDOT will develop and implement internal controls procedures, including establishing and providing an annual assessment of the internal control structure; and
- TxDOT is developing a code of ethics for senior finance personnel to promote honest and ethical conduct, compliance with applicable rules and regulations, and full, fair, accurate, timely and understandable disclosure in reports and other documents.

The Commission allowed TxDOT to use an external contractor to assess the design of the internal controls and develop a process for the annual control evaluation report, with actual evaluations performed in-house. For this, TxDOT retained Deloitte Consulting, who provided TxDOT with an internal controls design assessment, recommendations to make their controls more effective and test procedures in December 2009. Once these practices have been fully adopted and TxDOT has performed an evaluation of the internal controls in accordance with the plan provided by Deloitte, these SOX principles will contribute to an increased trust in TxDOT's financial information.
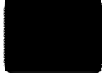
TxDOT is also participating in the CPA's Enterprise Resource Planning (ERP) initiative called ProjectOne. The new ERP system will provide a new accounting system for the State of Texas, and TxDOT is one of the initial agencies transitioning to the new system. At this time, it is unclear which TxDOT systems will be replaced by ERP or how ERP implementation may affect other FM-related systems and interfaces. Over time, this should eventually become a single source of financial data for TxDOT.

4.3   Observations and findings

Subsection 4.3 presents an overall assessment of the financial management business process area together with associated observations and findings.
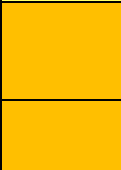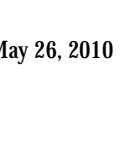
4.3.1   Assessment summary

The MOR team assessed each dimension using a qualitative scale, defined in Table 4-2.

	Optimum performance
	Results consistently exceed requirements; improve over baseline
	Results consistently meet minimum requirements
	Results don't fully or consistently meet requirements
	Issues or incidents consistently or frequently impede performance
	Not performed; encountering problems that may or will cause harm

Table 4-2: Qualitative rating scale

Table 4-3 summarizes the financial management assessment ratings. The remainder of subsection 4.3 presents the basis for each of these ratings.

Process dimensions	Assessment factors	Rating
Management and leadership	• Devising short- and long-term strategies for managing the organization's finance and accounting operations; • Developing plans and methods to achieve these strategies and to support TxDOT mission accomplishment; • Providing advice and guidance regarding work activities; and • Making key decisions regarding financial management.	(orange)
Policies, procedures and processes	• Completeness; • Clarity; • Relevance; • Currency; • Standardization; and • Effective and timely communication.	(yellow)
Organizational structure and alignment	• Logical integrity of functional alignment and groupings of work; • Clear responsibility for coordination and communications; and • Clear accountability for consistent delivery of FM services.	(orange)
Support systems and data	• Data availability; • Data integrity and accuracy; and • System functionality and interfaces.	(orange)
Budget preparation	• Defined and implemented budget preparation process; and • Budget effectiveness, which is the degree to which budget adequately reflects needs and to which spending accurately tracks to budget.	(red)

Process dimensions	Assessment factors	Rating
Budget execution	• How well spending occurred in line with the budget; • Ability to trace expenditures through the system; and • Effective funds control mechanisms.	
Financial statement preparation and reporting	• Annual financial reports completed on time and accurately; • Financial reports cover the right material at the appropriate level of detail; • Financial reports and responses to inquiries answer the questions asked; and • Reports are transparent – data is clearly presented and sources are identified.	
Financial auditing	• A defined and implemented auditing process; Active solicitation of independent opinion(s) of financial reports to improve audit completeness and transparency; and • Regular reviews of internal controls.	
Debt management	• Transparency of debt-related decisions; Timing and accuracy of debt-related reports; and • Program stability.	

Table 4-3: Financial management qualitative ratings

4.3.2   Financial management and leadership

The overall rating for FM management and leadership is "orange" (results don't fully or consistently meet requirements). This rating primarily results from the fact that Finance Division leadership has not clearly delineated roles and responsibilities for their immediate reports, and there are no formal documented processes guiding how Sections interact with each other, the combination of which severely impacts accountability.

4.3.2.1   Key activities

This area focuses on how FM functions are managed and led within TxDOT. Effective FM management and leadership is expected to encompass:

- Devising short- and long-term strategies for managing the organization's finance and accounting operations;
- Developing plans and methods to achieve these strategies and to support TxDOT mission accomplishment;
- Providing advice and guidance regarding work activities; and
- Making key decisions regarding financial management.

4.3.2.2   Observations and findings

The Finance Division reports to the Finance Division director, who reports directly to the CFO. D/D/O/R FM personnel report directly to their D/D/O/R leader and not to the Finance Director or CFO.

Short- and long-term management strategies. As evidenced by the $1.1 billion "accounting" issue identified in 2007, TxDOT has not always implemented a well-established internal controls process. The Department is looking to improve this as part of their internal audit subcommittee charter. Also, letting allocations are established for districts in DCIS, but in the past, districts have

been allowed to spend "out-year" money. Given that funding for future years is not available in the current year, this had the effect of taking money from other districts' letting allocations. TxDOT has not been able to firmly quantify the effect that this has had on every district's allocations, which implies that there is not a sufficient formal process in place to move money between district allocations. The lack of a formal process causes the district allocations to be moving targets, rather than stationary goals.

Plans and methods. There are no documented formal processes regarding how the various Sections of the Finance Division interact with each other. Also, the Finance Division leadership does not clearly delineate roles and responsibilities among their direct reports (Section managers), as evidenced by the fact that it was not clear who should be held responsible as a result of the $1.1 billion "accounting" issue. The combination of these two factors severely hinders accountability, resulting in situations where no one can be held accountable when there are problems.

Key decisions. Most key FM decisions within TxDOT are made by the CFO, who is personally involved in determining the level of projects that will go to letting each month based on his knowledge of anticipated revenues, cash levels, debt requirements and other commitments.

4.3.3   Financial management policies, procedures and processes

The overall rating for FM policies, procedures and processes is "yellow" (results consistently meet minimum requirements). TxDOT has documented many of their policies, processes and procedures in formal manuals and made these manuals available to TxDOT via their internal website. These manuals are kept up to date. However, TxDOT lacks a manual on internal controls processes, which is recommended as a best practice by GFOA and was required as part of the minute order implementing some SOX principles in January 2009. Overall, TxDOT generally meets the assessment factors.

4.3.3.1   Key activities

Effective FM practices rely upon well-thought-out, current documentation of governing policies, procedures and processes. Not only are these important to the consistency and accuracy of the work performed, they are important knowledge transfer mechanisms as staff change within an organization. The key activity in this area is developing, maintaining, disseminating and communicating a complete and appropriate body of policies and procedures to guide FM work across the organization – including documenting internal control procedures.

4.3.3.2   Observations and findings

The Finance Division has documented several processes and procedures, including the following:

- Revenue Accounting Manual;
- Budget Manual;
- Financial Management Policy Manual;
- Payroll Manual;
- Travel Manual;

- Voucher Manual;
- Investment Policy; and
- Debt Management Policy Manual.

These manuals are available on TxDOT's internal website and used by all TxDOT employees who perform FM tasks.

Completeness, clarity and relevance. While all of the manuals capture the processes at a high level, the Budget Manual does not include many of the details and nuances that are necessary to prepare the budget and is primarily geared towards helping the D/D/O/Rs understand the budget process. Also, there are no manuals to address how debt management information is incorporated into FM activities, such as budget preparation. GFOA recommends maintaining an internal controls manual, which "should include some practical means for lower level employees to report instances of management override of controls that could be indicative of fraud."[16] Documentation of internal controls was also required as part of the minute order issued in January 2009 adopting SOX principles.

Standardization. Because the policies and manuals are established centrally by the Finance Division, FM procedures are performed the same way across the D/D/O/Rs.

Currency and communication. The Finance Division manuals are up to date. All manuals except the Payroll Manual were updated in late FY2009 or FY 2010, and the Payroll Manual was updated in August 2006.

4.3.4 Financial management organizational structure and alignment

The overall rating for FM organizational structure and alignment is "orange" (results don't fully or consistently meet requirements). FM activities are supported by a hybrid organizational structure that combines a centralized function within the Finance Division with a decentralized structure where the D/D/O/Rs employ FM personnel who report only to their respective D/D/O/R leader and not to the Finance Division or CFO. This structure has been effective for TxDOT. However, TxDOT allows any D/D/O/R to produce reports or respond to inquiries regarding financial information, and there is no single office responsible for verifying this information before it is released. As a result, there isn't clear accountability for consistent financial information. TxDOT does not consistently meet the assessment factors.

4.3.4.1   Key activities

Organizational structure and alignment involves grouping tasks and assigning personnel in a logical way to efficiently deliver effective, consistent results. The organizational structure should define clear and appropriate lines of communication, accountability and authority to execute FM responsibilities.

---

[16] "Enhancing Management Involvement with Internal Control (2004 and 2008)," http://www.gfoa.org/downloads/caafrmanaginternalcontrol.pdf, accessed 03/23/2010

4.3.4.2   Observations and findings

FM activities are performed in TxDOT by the Finance Division and also in the D/D/O/Rs. The Finance Division maintains primary responsibility for all FM activities. FM personnel within the D/D/O/Rs perform tasks in support of the Finance Division, although these personnel report directly to their respective D/D/O/R leader. Prior to regionalization, the districts maintained their own FM personnel to assist in budget development, process payments, report costs, manage receivables, maintain records of all receipts, reconcile the Department's cash records with those of CPA, perform inventory management and payroll processing, and monitor District budgets. As part of regionalization, all of these tasks moved to the regions, and consequently, all district FM personnel are moving to the regions as well. As of April 14, 2010, only four FM personnel remained in the districts.

Functional alignment. TxDOT employs a hybrid organization structure for this function, with some responsibilities centralized in the Finance Division and other day-to-day responsibilities decentralized to the regions and other divisions. Although the Finance Division does not direct or manage the region or division, there have been no reported problems resulting from this organizational structure, based on periodic checks of transactions processed by personnel outside of the Finance Division. This organizational structure does not support ideal lines of authority, accountability and responsibility. Because the Finance Division does not oversee the tasks performed by D/D/O/R personnel, they cannot control quality or processes fully. While it is not necessary for all FM personnel to physically be in the Finance Division office, they should all report to the Finance Division, and ultimately, to the CFO.

Coordination and communication. Within the Finance Division, the Debt Management Section is not well-integrated into division operations. The MOR Team heard during interviews that the Debt Management Director and the CFO collaborate to make decisions (e.g., when to issue bonds) without notifying other Finance Division staff who may be affected, such as the revenue forecasting function. Communication between the Letting Management branch and the rest of the Finance Division has improved since the Letting Management branch was realigned under Finance.

Accountability for consistent delivery. TxDOT does not have a structure in place to verify financial information provided in reports and in response to inquiries. This is problematic because anyone in TxDOT is authorized to provide financial information without consulting the Finance Division. As a result, incorrect and conflicting information may be released.

4.3.5   Financial management support systems and data

The overall rating for FM support systems and data is "orange" (results don't fully or consistently meet requirements). Because TxDOT does not use a single support system for financial data and existing systems do not all share the same information, financial information produced from different systems may show different numbers. This negatively affects the perceived reliability of TxDOT reports on financial information. Additionally, despite the number of systems that TxDOT uses, a complete picture of relevant financial data is not readily available to users.

4.3.5.1   Key activities

This dimension encompasses the adoption and use of appropriate tools and methods, including IT-enabled tools, to support efficient operations and communications. It also includes the availability of data and tools to ensure the integrity of financial reporting, to provide accurate and timely data regarding financial status, and to enable valuable analytics to identify trends and to help understand and resolve issues.

4.3.5.2   Observations and findings

TxDOT uses numerous systems to support FM functions. The primary systems supporting this area are FIMS, which is the primary accounting system for TxDOT; the Budget Information System (BIS); Contract Information System (CIS); DCIS; and the USAS. The Texas Comptroller of Public Accounts (CPA) has initiated ProjectONE to implement an Enterprise Resource Planning (ERP) financial system across State government. TxDOT is one of the initial agencies that will transition to this new accounting system. At this time, requirements for ProjectONE are being finalized and a fit/gap analysis is currently underway. At the conclusion of the fit/gap analysis, TxDOT expects to learn which of its existing systems supporting FM processes will be replaced by the ERP and also to better understand how ERP implementation may affect other FM-related systems and interfaces.

Data availability. While financial data resides in numerous TxDOT systems (perhaps more than 18), a complete picture of relevant financial data is not readily available to users. For example, project managers in the field cannot easily see a complete financial picture for their projects. They are able to see information that they enter into systems themselves but have to access multiple systems to understand the full picture.

Data integrity and consistency. TxDOT staff use various systems to produce reports tailored for different audiences (e.g., LBB, Legislature, TxDOT Commission) and purposes. However, information entered into one system is not necessarily updated in other systems, effectively keeping data synchronized based upon a system of record as the source. Also, for the CAFR, CPA requires TxDOT to maintain its accounts using two different accounting bases, modified accrual and cash basis. As a result, information in financial reports may vary in response to comparable queries and requirements, depending on which system(s) was used to produce a report. This inconsistency results in frequent and heated criticism of TxDOT as it lends the impression that TxDOT is either not aware of its financial status or is not being truthful in what it reports.

System functionality and interfaces. FIMS and the other systems that TxDOT currently use allow the organization to meet multiple reporting requirements, including those of FHWA for Federal funds applied to transportation projects. At this point, the impact of ProjectONE on financial system functionality and interfaces is unknown, although the goal of ProjectONE is to improve financial integrity and to give the organization a "single set of books." ProjectOne impact on current FM processes, procedures and controls is unknown.

4.3.6   Budget preparation

The overall rating for budget preparation is "red" (issues or incidents consistently or frequently impede performance). For FY2010, TxDOT failed to produce a final operating budget or letting schedule prior to the start of the fiscal year because the Department was continued and its appropriations were granted in a special Legislative session after the regular session had ended. As a result, Department leadership initiated their annual spending and letting without an understanding of the spending caps to which they would be held. The MOR team heard anecdotally from a number of DEs that they might have spent their money differently in the first part of FY2010 if they knew what the latter portion of the fiscal year were to hold.

Even when the budget is published at the start of the year, it is not necessarily final. TxDOT can increase their budget throughout the fiscal year and even after the end of the year to adjust for some situations, such as when revenues are lower than expected or additional federal funding is received. They also can adjust to cover debt service payments of principal for notes issued or money borrowed on a short-term basis. Debt service for short-term borrowing has not historically been adequately budgeted at the start of the year, although it represents a significant portion of the TxDOT budget. TxDOT does not know what its full short-term borrowing requirements will be at the start of the year. However, rather than budgeting anything for this commitment, for FY 2009 TxDOT submitted an ABR in September after the fiscal year closed for the full $339 million that was spent on short-term borrowing debt service during the year. Overall, these issues frequently impede TxDOT's performance based on the assessment criteria.

4.3.6.1   Key activities

Budget preparation involves determining the funds needed to achieve the organization goals. The budget constitutes the baseline against which the organization's financial activities are measured throughout the year. To develop an effective budget, an organization must fully understand and calculate the funding necessary to accomplish its tasks and activities and accurately forecast the revenues that will be available in order to determine if the budget is appropriate.

4.3.6.2   Observations and findings

Budget preparation is the process by which TxDOT determines its funding needs, requests the funds from legislature and allocates the funds throughout the organization. The budget is prepared on a two-year cycle to coincide with the State legislature sessions. TxDOT requests funds, budgets and tracks funds based on budget strategies, which are funding lines dedicated to achieving a specific goal or purpose.

TxDOT assesses its budget needs and prepares an LAR to submit to the LBB and GOBPP every even-numbered year. Historically, TxDOT has prepared its budget based on the prior three to four years of data without exceeding the forecasted revenue. For the FY 2010-2011 LAR, TxDOT requested funding commensurate with the maximum amount of letting and maintenance that the Department could reasonably handle, which was significantly higher than the forecasted revenue.

Once TxDOT receives its final budget from the legislature, they allocate funds to the operating budget. Prior to the FY 2010-2011 biennium, TxDOT had the ability to move money across budget strategies with minimal restrictions, giving them a great deal of freedom to move money as needed to achieve their goals. Starting in FY 2010, TxDOT must seek approval from the LBB and GOBPP to move money across budget strategies. As a result, it is important that the budget be accurate from the start to minimize the need to move funds.

Budget preparation process. Finance Division staff work collaboratively with D/D/O/R representatives to develop the budget. While the process D/D/O/Rs are to follow for budget preparation is documented, the process the Finance Division follows is not documented.

Budget effectiveness. Generally, TxDOT finalizes the operating budget at the start of the new fiscal year. For FY 2010, TxDOT did not finalize the operating budget until late September 2009, which is nearly a month into the fiscal year. They didn't finalize the letting schedule until November 2009. This was because the Department was continued and its appropriations were granted in a special Legislative session after the regular session had ended. However, they did not finalize the allocations into all of the strategies affecting letting until February 2010. This makes planning very difficult for the districts when their goal is a moving target.

The recent decline in State motor fuels tax revenue was not foreseen and challenged TxDOT's comprehensive estimating. As a result, budgeted dollars were much higher than actual dollars available. TxDOT had to cut spending in areas where it could and implement a hiring freeze as a result of the shortfall.

Debt service for short-term borrowing has not historically been adequately budgeted at the start of the year, although it represents a significant portion of the TxDOT budget and is a high-priority item, similar to personnel costs. TxDOT does not know what its full short-term borrowing requirements will be at the start of the year. Furthermore, even though this is a high-priority item, TxDOT does not budget anything for this commitment. For FY 2009, TxDOT submitted an ABR in September after the fiscal year closed for the full $339 million that was spent on short-term borrowing debt service during the year. Although this is an acceptable practice based on Legislative Rider 24(c), debt service is a high-priority item for the Department. By not setting any funding aside for this purpose and instead requesting it after the year is over, TxDOT risks not having the funding available. This is not a sound FM practice. Short-term debt service is projected in future years in the monthly cash report, which indicates that there is some forecasting performed, and this estimate could be a starting point for a budget figure. Beginning in 2010, there is a budget strategy specifically for debt service, but it is too soon to know what the final impact will be.

4.3.7 Budget execution

The overall rating for budget execution is "orange" (results don't fully or consistently meet requirements). TxDOT has historically allowed some districts to overspend their letting allocations while other districts were forced to give up part of their letting allocations to accommodate this. Additionally, letting has not always occurred in line with project prioritization, allowing some lower

priority projects ahead of higher priorities because they were prepared to let the project at that moment. With the Letting Division more visible in FM, controls have been put on this practice such that a district has to remove a project from its priority list or explain why they believe there is extra money in their letting cap in order to add a project to the letting list. This is happening for the first time in 2010, so results are not yet known. TxDOT has manual funds controls to guard against overspending cash or allocations, which introduces an element of human error. Overall, TxDOT does not consistently meet its budget execution assessment factors.

4.3.7.1   Key activities

Budget execution ensures that funds are used effectively and efficiently to meet the most important needs. This requires that transactions are executed well and are subject to appropriate controls and that cash forecasts are accurate. This also includes standard accounting activities such as AR, AP and end of year closeout.

4.3.7.2   Observations and findings

Budget execution is the process by which TxDOT uses and controls the financial resources made available to it for the purpose of achieving its objectives. This includes cash forecasting, accounts receivable and payable, letting and end of year closeout, as well as the funds controls that are implemented throughout the entire process.

Throughout the budget execution process, TxDOT is responsible for funds control, which is the administrative control of funds. This prevents TxDOT from overspending funds or spending funds on items that do not qualify for that particular category of funding. The only automated stop for payments occurs at the State level, in the USAS. USAS will stop a payment if it puts an agency over its total appropriation or if there is no cash available. However, USAS does not distinguish between categories of funding (e.g., Fund 6, Proposition 12 and Proposition 14) when checking for available cash, which means that the system will allow Proposition 12 money to be used for general TxDOT operating expenses. TxDOT also has a number of funds control mechanisms that rely on action by a human being. These include:

- Cash control – Finance checks the cash balance on a daily basis and sends out a report by 8am to all of Finance and to leadership;
- Obligation control – Finance produces a report on a monthly basis for districts to monitor their obligation balances for letting versus proposed limits;
- Strategies – each strategy manager monitors his or her strategies on a daily basis; and
- Projections – Finance produces a cash projection statement about twice a month (before contractor payments on the 10th and before payroll, and more often if cash is low).

Spending in line with the budget and expenditure tracking. Historically, the TxDOT culture – as expressed through the organization's leadership and management approaches – has not promoted a requirement to stay within budget or to be cost conscious and judicious in the use of funds. Rather, people were rewarded based upon their ability to get jobs done, regardless of the need or cost. An example of this is the practice of statewide reconciliation of allowing districts that overspent their letting allocations to "borrow" from out-years, when in fact, they were taking funds

from other districts. However, TxDOT has taken steps to formalize the borrowing process between districts so that smaller districts will eventually recoup the funds. Currently, the districts come together at a "swap fair" to negotiate project letting dates and funding. For instance, a district with a pressing need will ask the other districts if any of them can postpone their project. TxDOT is making this swapping process formal so that each district has an opportunity to get their projects let.

Project letting has never been clearly synchronized with project prioritization. Projects are selected for letting on a monthly basis. If a project that has been slated for letting is not ready for any reason, another project will be selected to take its place. Even if the replacement project was a lower priority project, as long as it is ready for letting, it will move forward in the process. This practice means that projects that are not the highest priority are being let ahead of projects that are the highest priority, which is not a strategically ideal use of funds. As referenced in 8.3.7, the MOR team heard that controls are being put in place, but there is no indication yet as to how well they are working since they were only recently implemented. (Please see additional discussion of this topic in subsection 5.3, Plan.)

Funds control. TxDOT's accounting system, FIMS, does not have automated funds control mechanisms to stop payments that exceed budget authorizations. The only automated funds control is at the State level, where the USAS stops payments that exceed TxDOT's entire appropriation and all available cash. Additionally, USAS does not differentiate between Fund 6, Proposition 12, or Proposition 14 funds and allows Proposition 12 or 14 funds to pay for non-qualifying projects. TxDOT must manipulate USAS by moving Proposition 12 and 14 funds to a different fiscal year in the system so that USAS does not inadvertently use these funds.

4.3.8   Financial statement preparation and reporting

The overall rating for financial statement preparation is "orange" (results don't fully or consistently meet requirements). While the annual financial reports are produced on time and contain the appropriate level of information, general financial reports produced on an ad hoc basis are not always adequate. These reports can be produced by any D/D/O/R and are not verified before they are released. As a result, TxDOT's financial reports do not consistently meet the assessment factors.

4.3.8.1   Key activities

Financial statement preparation includes developing the AFR and preparing other reports both regularly and upon request by the LBB, the Legislature and the Commission. This also includes providing information that demonstrates to key stakeholders and to the public how TxDOT has used public funds to accomplish its mission.

4.3.8.2   Observations and findings

There are two main functions under this sub-process: the AFR and general reporting. The AFR is the annual statement of TxDOT's financial picture, which Finance Division prepares annually and submits to CPA. General reporting involves all other reports of financial information. Some reports are produced regularly, such as the monthly cash forecasting reports and annual report for the BRB. Others are produced on an ad hoc basis in response to public requests, requests from legislature, etc.

These reports can be produced by anyone within TxDOT and do not need to be verified by the Finance Division.

Timeliness and accuracy of reports. The TxDOT Finance Division prepares financial statements annually for CPA. These reports have historically been provided on time. However, the nature of TxDOT business means they may receive bills for services or goods received during the fiscal year months or even years after the fiscal year is over and reported. As a result, TxDOT's financial statements cannot be completely accurate, although they do try to anticipate as many of these bills as they can. CPA requires TxDOT (and all State agencies) to report their financial information using two accounting bases, modified accrual and cash. Also, the Executive Director and Chief Financial Officer now certify the financial statements as a result of TxDOT's adoption of some SOX principles.

Material and appropriateness of level of detail and whether reports answer questions asked. TxDOT has been criticized in the past for providing reports that do not fully answer the question that it has been asked. This stems in part from the fact that anyone in TxDOT may produce a report on financial information, rather than relying on a single office to consolidate and verify information prior to distribution. As a result, the D/D/O/R that receives the question and responds with financial information may not understand how another D/D/O/R's data may impact the response, and the report that is provided does not fully answer the question.

Quality and transparency of reports. TxDOT uses multiple computing systems (e.g., BIS, FIMS) to produce reports containing financial data for various audiences. Additionally, financial information may be reported based on appropriation year, calendar year or fiscal year and may be based on cash accounting or modified accrual accounting. Moreover, financial data for a given period can change, even if the period has ended, dependent upon rules for transaction management. The use of multiple systems as the source for financial data combined with the two types of accounting required by the CPA office and various definitions of "year" make it difficult to reconcile the financial data in various reports TxDOT publishes. Some of these data issues could or may be resolved with the ERP system implementation. However, many could be resolved by simply setting reporting policies that established that every financial report was run based on a particular definition of "year" and off of a single set of books. Reports are not routinely marked with the data source, office that compiled the data or date the data was prepared. Without this information, it is difficult to trace the source in the event that it is necessary to recreate calculations, gather additional data or compare it to another report. This problem is exacerbated by the fact that any D/D/O/R can provide financial reports and that no single office has the responsibility to verify the accuracy of the data.

4.3.9   Financial auditing

The overall rating for financial auditing is "yellow" (results consistently meet minimum requirements). TxDOT works with the State Auditor's Office to coordinate the financial audit. TxDOT is also taking steps to further increase the reliability of its financial information by adopting some SOX principles.

4.3.9.1   Key activities

Financial audits are intended to assess the reliability of financial information, identify fraud if and when it exists, and provide management recommendations that may help improve an organization's business practices. This includes obtaining an external audit and independent opinion of the organization's financial statements and assessing the efficacy of internal controls.

4.3.9.2   Observations and findings

The SAO is responsible for auditing the statewide CAFR, and as part of this, performs a partial audit of select line items of the TxDOT AFR. In order to select the items that they will audit, they perform a risk analysis, and generally select large line items and risky smaller line items. They audit each line item at least once every few years. The SAO are not obligated to complete a full audit of the TxDOT AFR because the information in it is included in the CAFR. TxDOT is currently undergoing an effort to adopt SOX-like principles, which will provide assurance that sufficient internal controls and oversight are in place. The purpose of this effort is to assure external stakeholders that the public's money and trust is safeguarded and used in an effective and efficient manner.

Auditing process and solicitation of independent opinion of financial report. TxDOT submits their AFRs to the CPA office, who summarizes their data with other State agencies in the CAFR. The CAFR is audited in full by the SAO or the SAO's selected independent auditor. By default, the TxDOT AFRs are considered to be audited under this opinion. In addition to the full audit, the SAO conducts a partial audit of the TxDOT AFRs, reviewing riskier line items. TxDOT coordinates all of SAO's audit questions.

Reviews of internal controls. In January 2009, TxDOT implemented an initiative to adopt SOX principles, including developing an annual assessment of the internal control structure. TxDOT decided that the first review should be conducted by an external agency and that subsequent reviews could be performed in-house. TxDOT retained Deloitte Consulting, who provided TxDOT with an internal controls design assessment, recommendations to make their controls more effective and procedures for testing the internal controls in December 2009. Deloitte did not perform the actual test of the internal controls. The Commission also recently established an audit subcommittee, which has also been tasked with ensuring that an annual internal controls review is performed. While the program is new to TxDOT, it is a promising start to regular internal controls reviews.

4.3.10 Debt management

The overall rating for debt management is "orange" (results don't fully or consistently meet requirements). TxDOT issues and repays debt with minimal challenges. However, TxDOT has not historically budgeted adequately for debt service at the beginning of the fiscal year. This may change as a result of the fact that TxDOT must begin tracking debt service as a separate strategy beginning in FY2010, which requires establishing a budget for it in advance of budget execution. Additionally, debt management decisions are not shared throughout the Finance Division in time to include the information on relevant reports, such as the monthly cash forecast. As a result, TxDOT did not consistently meet the assessment factors.

4.3.10.1 Key activities

Debt management comprises the processes used to plan for, issue and repay debt, and the decision-making that underlies these choices. This includes reporting on debt levels and decisions on a regular basis.

4.3.10.2 Observations and findings

TxDOT is authorized to issue bonds, notes and public securities for specific purposes. The Department is programmatically authorized to issue up to $500 million in short-term borrowing instruments to cover cash shortfalls without prior approval from the LBB or GOBPP for each borrowing instance. When TxDOT anticipates a low cash balance, the CFO determines the amount of borrowing necessary and authorizes the transaction. For other debt programs such as Propositions 12 and 14, the Texas Mobility Fund, PABST Corporation and the Central Texas Turnpike System, the Debt Management director and CFO use information produced by the rest of Finance to inform their determine when to issue bonds. However the other areas of Finance are not generally involved with the bond issuance or repayment processes. This can create an issue when the information is not available to inform other reports For instance, the monthly cash forecast is often inaccurate because information regarded anticipated borrowing or debt payments is not available. If the monthly cash forecast is inaccurate, then any decisions informed by this report may be affected.

Transparency of debt-related decisions. Debt-related decisions are made by the Debt Management Section director and the CFO. Information about debt that is planned is often provided to other Finance Division personnel after the fact, which means that it is not always adequately reflected in other reports, such as the monthly cash forecast.

Timing and accuracy of debt reports. TxDOT provides an annual report to the BRB within 2 weeks of the end of the fiscal year. Historically, these reports have been accurate and on time.

Program stability. No concerns have been expressed regarding TxDOT's ability to repay its debt, which is rated favorably in the market. The primary risk to program stability at this point is the fact that TxDOT does not fully budget for anticipated debt service at the start of the fiscal year, specifically for its short-term borrowing program (see subsection 8.3.6.3). This introduces the risk that if funding is not set aside for debt repayment at the start of the fiscal year, then there is a possibility that funds will not be available when they are needed. The program is technically operating within the requirements set forth by Legislative Rider 24(c), but this is not a sound financial management practice. Planning for this debt will be very important for program stability to be sure that all payments are made on time and in full.

4.4   Recommendations

Table 4-4 summarizes the recommendations for the TxDOT FM function.

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
4.1	Organizationally align D/D/O/R FM personnel under the Finance Division.	*Organizational structure.* TxDOT employs a hybrid organization structure for this function, with some responsibilities centralized in the Finance Division and other day-to-day responsibilities decentralized to the regions and other divisions. Because the Finance Division does not oversee the tasks performed by D/D/O/R personnel, they cannot control quality or processes fully. While it is not necessary for all FM personnel to physically be in the Finance Division office, they should all report to the Finance Division, and ultimately, to the CFO in order to increase accountability and responsibility.
4.2	Finalize the budget prior to the beginning of the fiscal year and institute a policy prohibiting letting from occurring prior to finalizing letting caps.	*Budget preparation.* Generally, TxDOT finalizes the operating budget shortly at the start of the new fiscal year. However, for FY 2010, TxDOT did not finalize the operating budget until late September 2009, which is nearly a month into the fiscal year, or the letting schedule until November 2009. They did not finalize the allocations into all of the strategies affecting letting until February 2010. This makes planning very difficult for the districts when their goal is a moving target. The recommendation would eliminate the possibility that districts spend their entire budget or more before they even know what their budgets are. It also provides a clear plan for how TxDOT will achieve its goals during the year.
4.3	Establish employee accountability and performance measures for executing within budget limits.	*Budget execution.* Historically, the TxDOT culture – as expressed through the organization's leadership and management approaches – has not promoted a requirement to stay within budget or to be cost conscious and judicious in the use of funds. Establishing employee accountability and performance measures will help change the cultural mindset and encourage district engineers to choose projects that will allow them to both stay within budget and perform as many high priority projects as they can.
4.4	Hold districts accountable for funds that they borrow by developing a formal tracking system and documentation as is underway.	*Budget execution.* Using a practice called statewide reconciliation, TxDOT allows districts to "borrow" funds from another district. Prior to FY 2010, the amount that districts borrowed were never formally tracked, leading to situations where some districts were shorted on their total funding for the year. A formal tracking system would help promote an equitable spread of funding over time.
4.5	Establish clear, statewide project	*Budget execution.* Project letting has never been clearly

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
	prioritization.	synchronized with project prioritization. Projects are selected for letting on a monthly basis, and projects that are not the highest priority are sometimes let ahead of projects that are the highest priority, which is not a strategically ideal use of funds. Clear prioritization would provide a plan of which projects will be accomplished during the fiscal year and why, and this would also improve the public's trust because they will know what to expect and why certain decisions were made.
4.6	Automate funds control mechanisms to prohibit D/D/O/Rs from overspending their budgets as well as to avoid overspending strategies at a global level.	*Budget execution.* TxDOT's accounting system, FIMS, does not have automated funds control mechanisms to stop payments that exceed budget authorizations. The only automated funds control is at the State level, where the USASstops payments that exceed TxDOT's entire appropriation and all available cash. TxDOT's remaining funds control mechanisms are manual, introducing human error into the system. Automated funds control mechanisms would automatically reject a payment that may cause TxDOT to overspend its budget or a given strategy.
4.7	Implement a single IT system that integrates budget and operations data.	*Supporting systems and data.* TxDOT uses multiple computing systems (e.g., BIS , FIMS) to produce reports containing financial data for various audiences. Consolidating all data to one system would reduce the chance for multiple reports on the same topic to show different information, thereby increasing the reliability of reports and consequently public trust in TxDOT.
4.8	Develop a written internal controls guide.	*Financial auditing.* GFOA recommends an internal controls manual, and documentation of internal controls was also required as part of the minute order issued in January 2009 adopting SOX principles. This recommendation would formalize the internal controls procedures and provide a clear mechanism for reporting possible violations of the controls.
4.9	Budget debt service adequately.	*Budget preparation and debt management.* Debt service, including short-term borrowing, should be budgeted from the beginning of the year to set aside dollars for this high-priority funding item. Beginning in 2010, there is a budget strategy specifically for debt service, and as a result it must be budgeted adequately. Planning for this debt will be very important for program stability to be sure that all payments are made on time and in full.

Table 4-4: FM recommendations

This page intentionally left blank.

Section 5:   Procurement business process diagnostic

This section presents a high-level diagnostic review of TxDOT procurement processes and practices, from the standpoints of how procurement supports TxDOT in accomplishing its mission and of how procurement responsibilities are managed and delivered within the organization. Subsection 5.1 introduces the procurement function generically, based upon industry standards and accepted practices. Subsection 5.2 presents an overview of TxDOT procurement requirements, practices, processes, and roles and responsibilities. Subsection 5.3 summarizes assessment observations and findings for procurement. Subsection 5.4 presents recommendations for future action.

5.1   Introduction to procurement

Procurement is the action or process of acquiring or obtaining services, materiel or property. For the purposes of this assessment, the MOR Team addressed the procurement functions within TxDOT as three distinct functions.

- TxDOT awards all highway construction, maintenance and building construction on the basis of lowest responsive bid. This process known as *letting*. Although awards made via letting are contracts, the MOR Team has distinguished this process from other types of contracting because the requirements and processes used for letting are different from professional services contracting. Most of TxDOT contract expenditures occur in letting;
- *Purchasing* results in the acquisition of goods and services required by TxDOT to support its day-to-day operations; and
- *Contracting* covers the three primary professional service contracts (architecture, engineering and surveying) used within TxDOT. Because TxDOT separates professional service contracts from purchasing, the MOR Team assessed these professional service contracts under the guise of contracting. The team's assessment of contracting focused on professional service contracts because the Department predominantly uses these types of contracts.

Integrated with the Department's procurement function are the Disadvantaged Business Enterprise (DBE) and Historically Underutilized Business (HUB) programs.

- The DBE program was created to provide a level playing field for small minority- and women-owned companies wanting to do business with TxDOT and other agencies receiving federal funds from the U.S. Department of Transportation (DOT). The DBE program is applicable to all Department contracts and purchases funded in whole or in part with Federal funds received from the DOT through the FHWA, Federal Transit Administration (FTA) or the Federal Aviation Administration (FAA). A DBE business must have the following characteristics:

  o At least 51 percent owned by one or more Black Americans, Hispanic Americans, Women, Asian Pacific Americans and/or Native Americans; or

- o In the case of a publicly owned business, at least 51 percent of the stock owned by one or more Black Americans, Hispanic Americans, Women, Asian Pacific Americans and/or Native Americans, and whose management and daily business operations are controlled by one or more of the socially and economically disadvantaged individuals who own it.

- The HUB program was created to provide a level playing field for small minority- and women-owned companies wanting to do business in the State of Texas. HUB program laws require each State agency to make a good faith effort to use minority and woman- owned businesses in fulfilling contracts for highway construction, maintenance, goods and services purchases. Each agency may achieve the annual procurement goals by contracting directly with HUBs or indirectly through subcontracting opportunities, if the subcontractor is a registered HUB with the State of Texas. A HUB business must have the following characteristics:

  - o At least 51 percent owned by an Asian Pacific American, Black American, Hispanic American, Native American and/or American woman;
  - o An entity with its principal place of business in Texas; and
  - o Owner residing in Texas with a proportionate interest that actively participates in the control, operations and management of the entity's affairs.

Note that this review did not cover the **Small Business Enterprise (SBE)** program. The SBE program offers small businesses another avenue of maximizing their opportunities of doing business with TxDOT. The program applies only to highway construction and maintenance projects that are funded entirely by state and/or local funds.

5.1.1 Procurement functions

The procurement process comprises five principal phases: plan for procurements, request and receive offers, evaluate offers, award contracts, and manage contracts. Embedded within these phases are various process controls. Figure 5-1 presents the phases and functions, their relationships and their primary components.

Manage contracts
- Evaluate and review contract
- Enable all parties to meet their obligations required
- Support ongoing day-to-day management, evaluation, transition planning and implementation

Award contracts
- Negotiate contract
- Offer award to the preferred vendor
- Notify bidders
- Define all contract terms to prepare for contract implementation
- Develop the contract

Evaluate offers
- Evaluate offers
- Select the preferred vendor
- Debrief vendors

Request & receive offers
- Develop solicitation from market research
- Receive offers
- Close solicitation
- Manage questions and answers

Plan for procurements
- Identify needs
- Develop goods or services specifications
- Develop procurement strategy and plan

Figure 5-1: Procurement business functions

The *planning* step begins the process and includes tasks such as securing funds, defining requirements, setting the procurement strategy, and determining contract type. This step of the process sets the stage for success for the ensuing procurement.

Immediately following the completion of planning, the required information is released to solicit prospective bidders, establishing the procurement's key dates for responding to the solicitation and *requesting* bids. Questions are responded to and bids, offers, or letters of intent are *received* in response to the solicitation.

The third step of the procurement process is to *evaluate offers*. The majority of protests stem from irregularities or deviations from documented evaluation criteria and actions or undocumented evaluation techniques, making this a critical step. The outcome of the evaluation step is the selection of a vendor.

Once the *contract award* is made the selected and non-selected vendors are notified of the results. If negotiations are required as a result of the award decision, they occur at this stage. The result of contract award is an executed contract signed by both parties involved.

The final step in the procurement process is *managing the contract*, ensuring the buyer receives the deliverable(s) under the terms and conditions negotiated and the seller (vendor) is treated fairly and equitably throughout the contract execution period and is evaluated without bias.

Throughout the procurement lifecycle, process controls are used to provide quality control and risk mitigation to the procurement process. These include policies and procedures (e.g., in letting, all bids received prior to letting date must be secured in a particular way) and control checks (e.g., in purchasing, HUB subcontracting plan submissions are reviewed for proper signatures).

5.1.2 DBE and HUB lifecycle elements

Although DBE and HUB program management is not necessarily part of every procurement lifecycle, it is part of the procurement lifecycle for Texas State agencies as a result of Federal and State law. However, the DBE and HUB programs also have their own lifecycle as program activities begin before a particular solicitation or contract is conceptualized and continues even if there is no on-going procurement activity.

There are six elements to the DBE and HUB lifecycle. Vendor *outreach* and vendor *certification* are on-going (in other words, not associated with a particular solicitation or contract) and *establish goals*, *approve participation*, *monitor compliance* and *resolve issues* are lifecycle elements that are associated with the traditional procurement lifecycle elements outlined in subsection 5.1.1. The DBE and HUB lifecycle is shown in Figure 5-2.
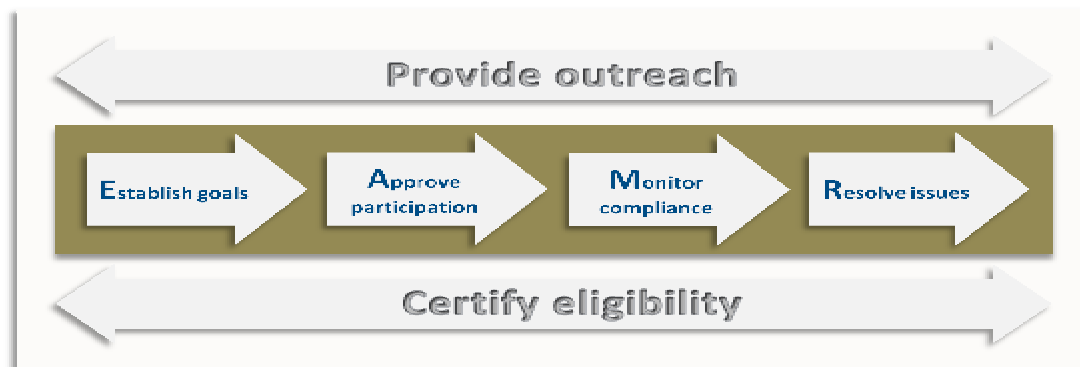
Figure 5-2: DBE and HUB program lifecycle

Texas agencies **provide program outreach** for the DBE and HUB programs (as applicable—not all agencies use Federal dollars and, as a result, do not participate in the DBE program) on an on-going basis. This outreach includes conducting information sessions to make businesses aware of the programs' existence, maintaining repositories of information to instruct businesses on how to enroll in the programs, providing training sessions about program enrollment and providing technical assistance to improve DBE- and HUB-qualified businesses' strengths in core skills necessary to conduct State and Federal business.

Once businesses are aware of the DBE and HUB programs, they must become **certified** to participate in the program(s). During this stage of the lifecycle, businesses interested in becoming certified as a DBE must complete and submit an application through the Texas Unified Certification

Program (TUCP) to the appropriate certifying agency in Texas. A DBE certification is valid at any Texas entity that receives DOT funds[17] and has a DBE program. There are six certifying agencies in Texas[18], TxDOT being one. A certified DBE and /or HUB firm must update their certification annually. In addition, an on-site review occurs every three years and coincides with the firm's annual update certification submission. A firm maintains its DBE certification until removed in accordance with 49 CFR 26.87. The Texas State Comptroller of Accounts (CPA) manages the HUB program certification process that requires vendors to apply and submit supporting documentation to qualify as a HUB. A HUB certification is valid for four years, when the HUB must recertify. TxDOT may also certify HUB status, but only for businesses that are also in the process of obtaining DBE certification[19].

During the **establish goals** stage of the lifecycle, the agency sets the DBE and/or HUB goals for contracts and purchases. Agencies set HUB goals on individual contracts to support overall state-wide goal set annually by CPA[20] (HUB goal categories include heavy construction, building construction, special trade construction, professional services, other services and commodity purchasing), while agencies establish overall DBE goals (DBE goal categories: highway design and construction; aviation design and construction; and public transportation), and individual contract DBE goals that support that overall US DOT goal (since 1983, a minimum of 10%).

Approving participation encompasses approval of contracts and subcontracts for DBEs being used to satisfy a contract goal to ensure that the DBE performs a commercially useful function (CUF). Upon approval, companies can be used to meet the DBE goals established for federally-funded contracts.

To understand the effectiveness of the programs (and, for the DBE program, to ensure that agencies are complying with Federal law), agencies must **monitor and enforce compliance** with program policies, procedures, intents and goals and must report program success.

When issues arise in program execution, agencies must **resolve these issues** in an objective, structured manner to ensure all parties' rights are respected.

5.1.3   Importance of procurement to TxDOT

Procurement is the means by which TxDOT acquires or obtains services, materiel or property. Executing procurements by all applicable State, Federal and Department guidelines is critical to maintaining the Department's credibility and transparency.

---

[17] Includes DOT funding through the FHWA, FTA or the FAA.

[18] The State's DBE certifying agencies are: the City of Austin, Corpus Christi Regional Transportation Authority (CCRTA), the City of Houston, North Central Texas Regional Certification Agency (NCTRCA), South Central Texas Regional Certification Agency (SCTRCA) and TxDOT.

[19] To maximize the number of certified HUBs, the Texas Comptroller of Public Accounts (CPA) pursues certification agreements with local governments and nonprofit organizations in Texas which certify businesses under substantially the same definition as a HUB and meet certification standards as defined by CPA.

[20] *A Historically Underutilized Business (HUB) Disparity Study of State Contracting 2009 Final Report.*

5.2   TxDOT procurement

Subsection 5.2 provides an overview of the procurement business function at TxDOT, and contains the following information:

- Federal, State and TxDOT **requirements** that govern the function;
- Roles and responsibilities;
- Process overview; and
- Best practices and initiatives.

5.2.1   Requirements

Subsection 9.2.1 provides the requirements that govern the procurement business function at TxDOT. Requirements are broken out by the following areas: letting, purchasing, contracting and HUB/DBE.

5.2.1.1   Letting

Both Federal and State statutes and laws govern the letting process. When Federal funds are used for highway construction and maintenance projects, the principal driver of the process is the Code of Federal Regulations (CFR): Title 23 – Highways, Part 635 – Construction and Maintenance. This law covers all aspects of the letting process (e.g., bid analysis and contract award, bid opening and tabulation, distribution of bid documents, change order, claims, warranties). In addition, 23 CFR 646 governs railroad insurance provisions, 49 CFR 26 covers Disadvantaged Business Enterprises and 49 CFR 37 covers the Americans with Disabilities Act.

Texas statutes also direct how the procurement process is managed and executed. Many of these statutes address unique State issues pertaining to highway construction and maintenance projects and expound upon or reinforce Federal mandates. Specific guidance for the letting process can be found in:

- Texas Government Code governs policies around advertising notice of intent, nonresident bidders, bonding, claims and wage rates (§2155.083, §2252.002, §22.002, §2253.021, §2258);
- Texas Transportation Code governs advertising notice of intent, bid analysis and contract award, bid opening and tabulation, bonding and claims (§201.112, §223.002, §223.004, §223.0041, §223.005, §223.006, §223.208, §223.013, §223.014);
- The Texas Family Code provides requirements regarding child support documentation (§231.006); and
- The Labor Code provides requirements regarding workers' compensation insurance (§406.096).

5.2.1.2   Purchasing

Purchases made by Department purchasing agents are made following the State Purchasing Act, CPA rules and procedures, and TxDOT rules, purchasing policies and procedures, as written in the Department's *Purchasing Manual*. Texas Government Code, State Purchasing and General Services, Chapter 2155 governs TxDOT's purchasing processes (§2155.138, §2155.141, §2155.383, §2155.441-445, §2155.447-448). In addition, TxDOT must follow the Texas Government and Administrative

Codes as well as other rules and regulations in its purchasing activities. A number of these rules and regulations are shown in Table 5-1.

Texas Administrative Code	Texas Government Code	Other
• 1 TAC Chapter 212 • 34 TAC 20 (20.11 - 20.28, 20.32(37), 20.33-34, 20.36, 20.40, 20.41, 20.46a, 20.135)	• §2051.021, Title 10 • §2054.003 • §2113.105 • §2113.201 • §2156, Subchapter B • §2162.105 • §2166.004 • §2170 • §2171.102 • §2252 • §2254.001 • §2251.026 • Chapter 497 • Chapter 771, Interagency Cooperation Act	• Texas Constitution, Article 8, Section 6 and Article 3, Section 44 • Texas Constitution Article 16, Section 21 • Health and Safety Code §361.426 • Transportation Code Chapter 223, Subchapter D • Texas Attorney General Opinion C-557 • Minute Order No. 107953, August 26, 1998

Table 5-1: Purchasing guidance

Within TxDOT internal documents, purchasing guidelines are provided in:

- *Human Resources Manual*, Chapter 8 - Conduct, Section 10 - Conflict of Interest and Chapter 12 - Awards, Section 1 - Department Awards;
- *Legal Manual*, Chapter 2 - Executive Director Delegations of Signature Authority and Powers, Section 1 - Overview;
- Office of General Counsel Opinion, June 2, 2003; and
- *Purchasing Manual*, January 2010.

5.2.1.3   Contracting

To acquire professional service contracts, TxDOT uses a negotiated contract procurement process, or a process that requires TxDOT to select a performing entity using a process other than competitive bidding. This process is mandated in Texas Government Code, State and Local Contracts and Fund Management, Chapter 2254 -Professional and Consulting Services and 2262.004- Required Nepotism Disclosure and Texas Administrative Code, Title 43, Texas Department of Transportation, §§ 9.30-9.43. In addition, Texas Transportation Code, Chapter 223 (specifically §223.041(b)) requires that the department's expenditure level for a state fiscal year in all strategies paid to private sector providers for all department engineering-related services for transportation projects is not less than 35 percent of the total funds appropriated in Strategy A.1.1. Plan/Design/Manage and Strategy A.1.2. of the General Appropriations Act for that state fiscal biennium.

5.2.1.4   DBE and HUB programs

While the Texas Administrative Code (43 TAC §9.12, §9.16, §9.17, §9.19, §9.51, §9.54 and §9.55) governs the particular elements of the DBE and HUB programs that are also part of the overall procurement lifecycle (request and receive offers, evaluate offers and award contracts), there are

other State and Federal regulations that govern the DBE and HUB programs, as it is these regulations that created the programs.

Disadvantaged Business Enterprise Program

The Federal DOT DBE program was authorized by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). When Federal dollars are being used for highway construction or design and maintenance, professional services, public transportation, or aviation construction or design, CFR Subpart A; Title 49 – Transportation and Part 26 (49 CFR 26) - Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs governs DBE contracting.

TxDOT's DBE program establishes the policies and procedures to implement its program to comply with Texas Transportation Code, §201.702 (General Provisions and Administration, DBE Program), consistent with 49 CFR 26.

Since 1983, there has been a statutory requirement that at least 10 percent of the funds authorized for the highway and transit financial assistance programs be expended with DBEs. The DOT goal encompasses both firms owned by women and minority group members.

The proposed Fiscal Year 2010 DBE goals[21] are 11.5 percent for highway design and construction; 12.9% for aviation design and construction; and 2.8 percent for public transportation. TxDOT is required to set DBE goals every 3 years.

HUB Program

The HUB program is governed by law (Texas Government Code, Chapter 2161, Historically Underutilized Businesses). It is managed by the Comptroller of Public Accounts (CPA), whose office publishes HUB rules.

FY 2010 State HUB goals for all State agencies are:
- 11.9 percent for heavy construction other than building contracts;
- 26.1 percent for all building construction, including general contractors and operative builders contracts;
- 57.2 percent for all special trade construction contracts;
- 20 percent for professional services contracts;
- 33 percent for all other services contracts; and
- 2.6 percent for commodities contracts.

---

[21] *Public Notice: Fiscal Year 2010 Disadvantaged Business Enterprise Goals*, September 18, 2009.

5.2.2 Roles and responsibilities

Subsection 5.2.2 presents the roles and responsibilities of TxDOT personnel for each function in the procurement business process: letting, purchasing and contracting.

5.2.2.1 Letting

Responsibilities for letting are spread through several divisions in TxDOT. The following subsections outline the divisions involved and their specific responsibilities in the letting process:

- Finance Division, Letting/Programming Section:
  - Provides information to the Commission, Administration, Legislature, districts, divisions, Federal and State agency officials and the public regarding funding, letting strategies, procedures and schedules;
  - Manages TxDOT's notice to contractors and project advertising functions;
  - Maintains electronic files for official notification of projects to bid;
  - Oversees annual project selection process and public hearing;
  - Maintains responsibility for monitoring the expenditure of construction work programs and assignments of control section job (CSJ) numbers and State Federal projects numbers; and
  - Prepares Commission Minute Orders to obligate Federal funds and to authorize supplements to programs.
- Construction Division, Construction Section (CST):
  - Prequalifies contractors for bidding;
  - Administers the Department's letting for:
    - § All highway construction;
    - § All highway maintenance with an engineer's estimate of over $300,000; and
    - § All building construction;
  - Provides assistance as requested to other districts and divisions;
  - Tracks contract close-out to monitor completion within the 60-day goal;
  - Manages construction and maintenance contract claims and disputes;
  - Prepares contract award minute orders for consideration by the Commission;
  - Conducts on-going contractor prequalification;
  - Analyzes bidding history for trends using decision support software, and when bidding data is suspicious or collusion between contractors in suspected, coordinates additional procedures with the Office of General Counsel, the Attorney General's Office or the Office of Inspector General as appropriate;
  - Reviews and creates bid codes for districts and divisions; and
  - Creates, distributes, and executes contracts after award.
- District maintenance offices perform contract and maintenance letting for all routine highway maintenance projects with a project engineer's estimate of less than $300,000;
- Area engineers, project managers and general engineering technicians (formerly construction and maintenance inspectors) within area offices:
  - Provide day-to-day oversight;
  - Enter and review the necessary construction and maintenance project information in Site Manager daily, including information regarding installed quantities for payment,

contract delivery information such as labor, equipment, materials and weather, and charged or credited contract and milestone time; and

- District construction office and area engineer review and approve project estimates monthly (prior to sending them to the Finance Division to generate the contractor invoice).

5.2.2.2 Purchasing

Texas Government Code, Title 10, Subtitle D, the State Purchasing Act, establishes the CPA, as the central purchasing agent for the State of Texas. CPA retains the authority for the purchase of goods (commodities) over $25,000 and services over $100,000. However, CPA has delegated some purchasing authority to the Department:

- Goods (commodity) purchases under $25,000;
- Purchases of services under $100,000;
- Direct publications;
- Internal repair purchases;
- Fuel, oil & grease purchases;
- Distributor purchases;
- Emergency purchases; and
- Specific statutory exemption.

CPA may revoke all authority delegated at any time for failure to comply with purchasing statutes and rules.

The General Services Division (GSD) is the delegated purchasing authority for TxDOT and makes purchases to support divisions and offices. GSD delegates purchasing authority to each RSC to support their represented districts. The Department's purchasing program is charged with securing goods and services of the right quality, in the right quantity, at the right time, at the right price, from the right supplier and in the most effective manner in order to obtain the best value to meet operational mission requirements. The purchasing function within TxDOT is responsible for the purchase of equipment, materials, goods, supplies, and non-professional services and assists the districts with purchases to support their operations.

5.2.2.3 Contracting

GSD's Contract Services establishes Department policies and procedures for a broad range of negotiated contracts across the department for a variety of services, including professional services. More specifically, the Design Division – Consultant Contract Office (DES-CCO) establishes the policies and procedures for the engineering, surveying, and architecture contracts. By law, these three services must be procured according to a qualifications-based selection process. Because of the volume of engineering and surveying services required, DES-CCO is dedicated specifically to supporting the process, guidance, and training for the selection, administration, and management of these contracts for the Department. DES-CCO has the engineering and project development expertise that these contracts cover. DES-CCO reviews all engineering, surveying, and architecture contracts prior to execution. GSD-Contract Services reviews all supplemental agreements for legal acceptance against the contract in combination with DES-CCO for work scope and budget

acceptance. GSD-Contract Services is the office of record for architectural and engineering contracts (except commercial labs) including supplemental agreements, work authorizations and supplemental work authorizations, issued under the contracts.

The four regions and nine divisions establish indefinite deliverable (Evergreen) or specific deliverable contracts for the three, of nine defined professional services, that require a qualifications-based selection process:

- Engineering services;
- Surveying; and
- Architecture.

TxDOT primarily contracts these three professional services, for project development, and therefore this review is focused on the procurement of these services. In addition to establishing Evergreen or specific deliverable contracts for the districts, the RSCs manage the contract administration process and report on the budgets for right-of-way acquisition and consultant contracts budget strategies monthly for each of their respective districts. Should a district need to modify a project on either of these budget strategies, they submit a project substitution form to their Regional Consultant Contract Office. Each district is the owner of the project management duties for their contracts. For the nine divisions that outsource these services, each division manages their own contract administration process and budget and is the owner of the project management duties for their contracts.

5.2.2.4   DBE and HUB programs

The Office of Civil Rights (OCR) is responsible for overarching DBE program support and activities. However, particularly in the compliance monitoring stage of the DBE process lifecycle, other organizational units are involved in program execution. Table 5-2 lists the organization elements with roles in DBE program along with their responsibilities.

Process	Organization element	Responsibility
Provide outreach	GSD, Business Outreach and Program Services (BOPS)	Coordinates training programs (e.g. Technical Assistance Program; Texas Business Opportunity and Development [TBOD] Program) for recruiting and retaining HUBs and DBEs
	Office of Civil Rights	Participates in DBE training seminars and procurement sessions administered by GSD
Certify eligibility	US Department of Transportation (Three major DOT operating administrations are involved in the DBE program: Federal Highway Administration, Federal Aviation Administration and Federal Transit Administration)	Requires that each DOT-assisted State and local transportation agency is required to establish annual DBE goals, review the scopes of anticipated large prime contracts throughout the year and establish contract-specific DBE subcontracting goals.
	Office of Civil Rights	• Serves as one of six certifying agencies in Texas • Conducts on-site eligibility spot-check reviews of DBE-certified firms (certified by TxDOT) • Conducts on-site reviews for DBEs (certified by TxDOT) in their 3rd year of certification • Certifies HUB status (only for entities obtaining DBE certification that are also eligible for HUB certification)
Establish goals	Office of Civil Rights	Establishes annual DBE goals and contract targets for any project receiving Federal funding
	Regions	Oversee the development of DBE goals for particular solicitations (on CST contracts, OCR sets goals; otherwise the engineers set the goals)
Approve participation	Office of Civil Rights	Processes highway construction contract DBE commitments
Monitor compliance	District DBE coordinators	• Collect DBE-performed work participation • Compare participation to contract terms • Report DBE information through standardized monthly and final reporting forms • Elevate DBE concerns or issues to the appropriate level
	Regions	• Receive, log and route monthly DBE forms to OCR • Develop work authorizations – regions serve as managing office; the engineers developing the work authorization determine the percentage of work planned for a DBE or HUB; OCR verifies the target percentage is reasonable
	Office of Civil Rights	• Conducts audits of district programs to ensure compliance with Federal and State policies, rules and regulations • Develops and oversees construction contract compliance programs and provides technical guidance for DBE program administration • Provides DBE program oversight and guidance to District DBE coordinators • Performs complex reviews of construction contracts, associated construction records and activities, including district, field and construction project site visit documentation, to determine technical compliance with the DBE program requirements • Monitors auditing activities of construction contracts for DBE program issues • Prepares Federal and State reports to monitor progress of the DBE programs • Participates with legal counsel and senior staff to determine contractor compliance with good faith efforts, if necessary

Process	Organization element	Responsibility
	Office of General Counsel	Reviews rules and provides counsel on compliance and enforcement issues
	Office of the Internal Auditor	Conducts internal audits of DBE and HUB programs
	FHWA	Monitors overall agency DBE program compliance
Resolve issues	Office of Civil Rights	Provides technical assistance and guidance necessary to bring resolution to DBE program compliance problems

Table 5-2: DBE program roles and responsibilities

GSD is responsible for HUB program implementation. However, particularly in the compliance monitoring stage of the HUB process lifecycle, other organizational units are involved in program execution. Table 5-3 lists the organization elements with roles in HUB program along with their responsibilities.

Process	Organization element	Responsibility
Provide outreach	State's Comptroller	• Provides education and outreach to minority and woman-owned businesses regarding the Statewide HUB Program and its initiatives • Assists state agencies and institutions of higher education with training, planning, and implementing HUB education and outreach efforts • Mandates that a Mentor Protégé Program be established at every state agency with a biennial appropriation that exceeds $10 million
	GSD, Business Outreach and Program Services	Coordinates training programs for recruiting and retaining HUBs
Certify eligibility	State Comptroller	• Certifies businesses as HUBs (certification is for a 4 year period). • Maintains inventory of HUB-certified businesses, the Comptroller's Web-based HUB Directory
Establish goals	GSD	Requests D/D/O/Rs' assistance in developing procurement specifications
	Regions	Serve as the managing office for the contracting process and oversee the development HUB goals
Approve participation	GSD	Requests D/D/O/Rs' assistance in evaluating contracts for compliance
Monitor compliance	Districts and divisions (e.g., project/program managers, inspectors, area engineers)	Monitor HUB participation through the standardized HUB monthly and final reporting forms
	Regions	Receive, log and route monthly HUB forms to GSD-CCS Records Support Group
	GSD (CCS Records Support Group)	Receives monthly HUB forms and submits to OCR for compilation and reporting
	OCR	Receives HUB updates from GSD, compiles, and prepares reports
	CPA	• Administers the compliance functions for the Statewide HUB Program • Compiles and reports to the Legislature semi-annually the State's HUB expenditures and contract awards
Resolve issues	GSD	Follows standard contract dispute process

Table 5-3: HUB program roles and responsibilities

Figure 5-3 illustrates the HUB and DBE program management resources as distributed across the organization.
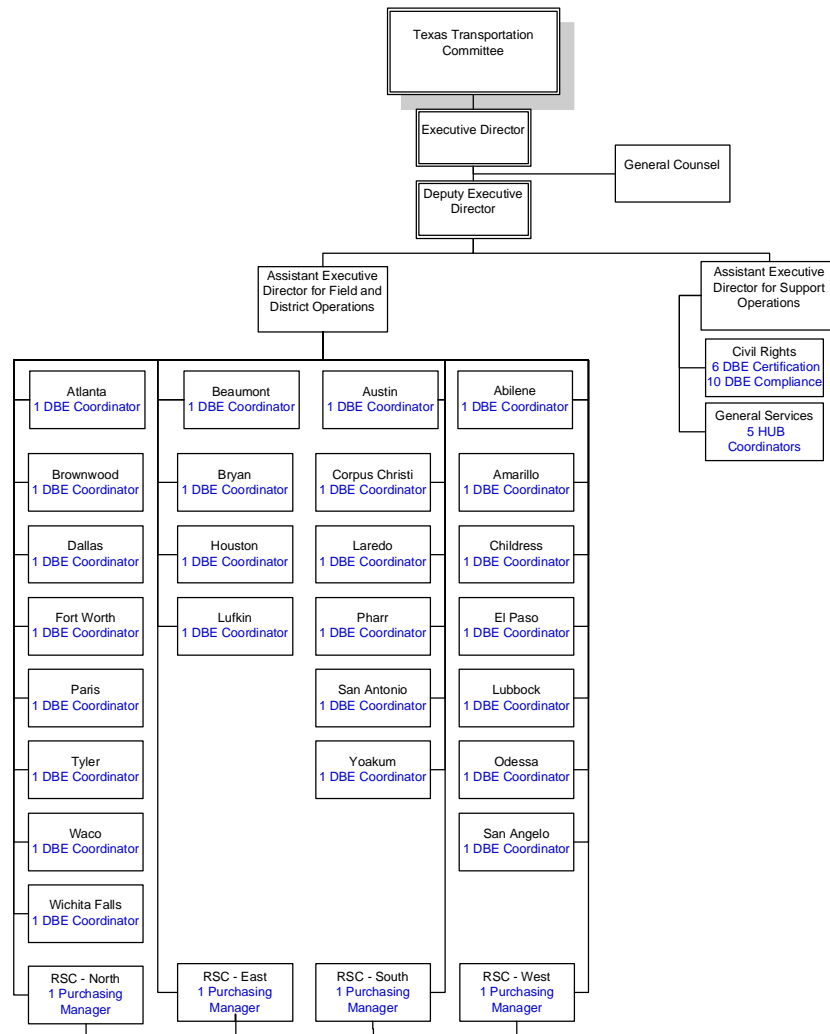
Figure 5-3: DBE and HUB program management resources

5.2.3   Procurement process overview

The procurement process as it is executed at TxDOT includes all of the standard procurement lifecycle elements for letting, purchasing and contracting. In addition, as a result of Federal and State laws, DBE and HUB requirements are applicable to procurement activities (DBE is primarily in the letting area as the DBE program is only applicable to those contracts using Federal dollars). As a result of this requirement, DBE and HUB program management becomes an important lifecycle element for the TxDOT procurement process. Figure 5-4 illustrates each of the elements of the TxDOT lifecycle, which are described in more detail in Appendix P.

Manage contracts
- Evaluate and review contract
- Enable all parties to meet their obligations required
- Support ongoing day-to-day management, evaluation, transition planning and implementation

Award contracts
- Negotiate contract
- Offer award to the preferred vendor
- Notify bidders
- Define all contract terms to prepare for contract implementation
- Develop the contract

Evaluate offers
- Evaluate offers
- Select the preferred vendor
- Debrief vendors

Request & receive offers
- Develop solicitation from market research
- Receive offers
- Close solicitation
- Manage questions and answers

Plan for procurements
- Identify needs
- Develop goods or services specifications
- Develop procurement strategy and plan

Figure 5-4: Procurement lifecycle

5.2.3.1 *Procurement lifecycle processes*

5.2.3.1.1 *Plan for procurements*

The *letting* process begins approximately two months before actual letting when CST receives notice from Finance of planned letting projects. The Design Division consolidates the plans, specifications & estimates (PS&E) documents and provides them to OCR to assign DBE contract goal participation. OCR then assigns individual contract goals for DBE participation in Federal-aid highway improvements and building construction and maintenance contracts, as necessary.

The planning lifecycle for *purchasing* begins when TxDOT's purchasing agents (GSD and RSCs) work with users to define the user requirements, eliminate wants and unnecessary restrictions from requirements and determine the best or optimum method of purchase. The key planning factors for purchasing efforts include:

- Identifying the method of purchase (e.g. routine vs. emergency, open market, small purchase, request for proposal). TxDOT is required by the State Purchasing Act to use competitive bidding proprietary purchase is justified and approved by the agency head (or designee) or when unless exempted by statute or rule. Competitive bidding is a method of acquiring goods and non-professional services with award made to the lowest responsive and responsible bidder based solely on the criteria set forth in the solicitation. It is used to stimulate competition, prevent favoritism and secure goods and services at the best value. Competitive bidding can be informal (e.g., through requests for quotes) or formal (e.g., through written, sealed bids);
- Determining required lead time for acquiring the desired goods and services; and
- Performing quality assurance. The Department has a formal quality assurance program. Each solicitation document establishes the requirements for testing, inspection, and

acceptance of equipment, materials, supplies, and services. The quality assurance actions, as a minimum, establish that deliveries are satisfactory and conform to the mandatory specifications and conditions before the Department accepts the items and pays the vendors.

The *contracting* planning process begins with two steps that can happen either in sequence or in parallel. TxDOT pre-certifies engineering, surveying, and architecture firms[22], through DES-CCO and the intended managing office (region or division) determines if there is a need for consultant support.

The regions provide assistance to the districts in assessing design resource availability and determining the need to outsource projects or services. In addition, they serve as the managing offices for the contracting process and oversee the development of appropriate procurement strategy and documentation (e.g., contract type, payment type, DBE/HUB goals, consultant selection criteria, independent estimate)[23].

5.2.3.1.2 Request and receive offers

In the next step of the *letting* lifecycle, requesting and receiving offers, the Finance Division Letting/Programming Section provides the planned letting list to CST and publishes a notice of the time and place at which bids on a contract will be opened and the contract awarded. Contractors then request a bid form from CST for the project(s) of interest. Upon request from a contractor for a bid form, CST verifies the contractor's predetermined bidding capacity and issues the bid form(s) based on a contractors remaining bidding capacity (bidding capacity minus awarded contracts). CST only issues bid forms to those contractors with available bidding capacity, regardless of the completion stage of their existing contracts (available bidding capacity is a reflection of the stage of completion of project based on payment). Bidders submit offers to CST in the form of bid forms.

The Automated Purchasing System (APS) supports the request and receipt of responses in the *purchasing* arena. TxDOT uses APS to request and purchase all goods and services. APS documents the procurement cycle of goods and services from the time that a need is established by an end user to receipt of the goods and services. APS allows personnel to:

- Create a request for materials, supplies, equipment and services;
- Send a request through the approval process;
- Send a request to the responsible purchasing Section (GSD or RSCs);
- Create a solicitation; and
- Create a purchase order.

---

[22] To be eligible to perform architectural, professional engineering, or surveying work, firms must be pre-certified unless the anticipated work in an individual work category is less than 5.0 percent of the contract or the department has waived the precertification requirements for a contract that is less than $250,000. The Consultant Contract Information System (CCIS) contains qualification information submitted in the precertification application.

[23] Texas Department of Transportation, Design Resource and Contract Management Development Process SOP, Roles and Responsibilities, January 1, 2010.

To advertise a ***contract*** opportunity, TxDOT posts an electronic Notice of Intent (NOI) on an electronic bulletin board no less than 21 days before the letter of interest due date. The managing office (e.g., division, RSC) then logs all letters of intent (LOI) as they are received and maintain physical control of them.

5.2.3.1.3   Evaluate offers

CST personnel perform evaluation activities for the ***letting*** process. They open each bid and verify the accuracy of the guaranty check or bid bond, and read the bids aloud. CST personnel then enter the bids into the Construction and Maintenance Contracting System (CMCS) and tabulate the bids. Based on the information in CMCS, CST identifies the lowest bidder. They then verify each lowest bidder proposal to ensure the total bid amount from the bid tab printout from CMCS matches the total bid amount on the bid proposal and double checks the unit bid price.

In the ***purchasing*** area, evaluations may be performed by the purchaser or by an evaluation committee, as stated in the solicitation. The purchaser awards bids after evaluating the responses received, or based on recommendations from an evaluation committee to the lowest responsive and responsible bidder unless best value criteria were listed in the solicitation.

In order to evaluate ***contracts***, a contract consultant selection team comprising region, district, or division personnel is convened to evaluate LOIs, proposals in response to a Request for Proposal (RFP), and interviews in accordance with the ***Interview and Contract Guide*** (ICG). The contract consultant selection team members score the responses, compile the scores, and prepare a contract evaluation summary containing the scores of the prime providers on the short list. The managing office providing oversight of the process manages the consultant selection. The contract consultant selection team chair submits the contract evaluation summary, evaluation documentation, certification that the procedures were used and recommendation for selection to DES-CCO for review. If the procedural review is acceptable, the Executive Director or his designee concurs with the selection, and a provider(s) is notified of selection for negotiation. If, through negotiation, the Department and the selected provider are unable to negotiate a fair and reasonable price within the specified time period, the managing office ends negotiations with that provider and commences negotiations with the next qualified providers.

5.2.3.1.4   Award contracts

In ***letting***, the Contract Award process is the process of formally accepting or rejecting the proposal of the apparent low bidder. If the proposal is accepted, the apparent low bidder becomes the official low bidder and therefore becomes obligated to the Department to execute the contract. At that juncture, a conditional award is made pending the vendor meeting contract requirements (e.g., DBE goals and payment bond).

The authority to award or reject contracts for TxDOT is distributed among the following groups or individuals:

- Only the Texas Transportation Commission may consider construction and State-let maintenance projects with an engineer's estimate of $300,000 or greater;

- The Assistant Executive Director for Engineering Operations may consider State-let maintenance projects with an engineer's estimate of less than $300,000; and
- District engineers may consider local let maintenance projects.

In *purchasing*, contract award is commonly referred to as award of a Purchase Order (PO). POs are awarded based on the results of the solicitation response and the evaluation process. The purchaser awards the PO to the vendor who submits the lowest and best response conforming to the specifications and requirements contained in the solicitation. The award of a PO is made through APS. A PO is not legally binding until it is issued and signed. Regions are responsible for the award, issue, and signature of POs within their delegated authority. If the PO exceeds a region's delegated authority, it is redirected to GSD for approval, issue and signature. The region forwards any supporting documentation created outside of APS to GSD. The PO cannot be issued until the GSD purchaser receives all documentation.

Following *contract* negotiations, professional service contracts are awarded. Upon execution by the designated signature authorities, the assigned project manager becomes responsible for coordinating with key personnel to ensure that necessary tasks take place in accordance with the terms and conditions of the contract.

5.2.3.1.5 Manage contracts

After *letting*, district construction and maintenance inspectors, project managers and area engineers provide day-to-day oversight of construction and maintenance contracts. CST provides assistance as required. Following are some of the major tasks project managers and area engineers perform as part of construction contract oversight:

- Obtain a progress schedule from the contractor prior to beginning of work for conformance to the contract requirements;
- Obtain a monthly updated progress schedule from the contractor and review the schedule for conformance with the contract;
- Review major changes to the progress schedule submitted by the contractor;
- Maintain a project diary;
- Maintain records for all materials received on each project;
- For all Federally-funded contracts, receive a copy of the weekly payroll record for each project and contractor and review records for compliance with the contract's minimum wage requirements;
- Ensure DBE certified prime contractors perform at least 30% of the total contract, less any specialty items, with the contractor's organization; and
- Manage construction disputes and claims.

Once a *purchase* order is executed, the management of the contract for services is passed on to the respective D/D/O/R project manager to provide oversight. If the PO is for goods, inspectors, who are any employees authorized to perform inspection of goods and services, are responsible for completing inspection within five days or within the timeframe specified in the PO. Inspectors must notify the issuing purchaser of all discrepancies prior to any contact with the vendor, when there are

questions regarding specification compliance and when goods do not meet advertised requirements. TxDOT must report the vendor's performance to CPA on purchases over $25,000 made through delegated authority and from contracts administered by the CPA. GSD assists end users in submitting vendor performance reports to CPA.

Purchasing makes the determination on the sourcing of goods and services, and makes vendor selection when solicitations will not be advertised with a Notice to Bidders or posting on the state electronic business daily. Purchasers are responsible for determining if goods or services are offered through the State set-aside program from the Texas Industries for the Blind and Handicapped or from the Texas Correctional Industries, or are available from term contract, before advertising a solicitation. The Purchasing Act requires agencies to advertise solicitations valued from $5,000 to $25,000 to three vendors from CPA's CMBL, two of which should be HUBs. There are provisions to supplement the CMBL under certain circumstances.

While work is authorized and funds are committed when a contract is awarded for the letting and purchasing processes, in *contracting* for engineering, surveying, and architecture, work is typically authorized and funds are committed through the contract management stage of the lifecycle. When a need for work arises and the managing office decides to outsource rather than perform the work in-house, a work authorization is usually issued to an entity under contract on an Evergreen contract for that service. The project manager develops an independent scope of work for the project and initiates negotiations with the selected entity to draft the work authorization. Using fees set forth in the prime contract, TxDOT and the performing entity negotiate the level of effort to establish the maximum amount payable for the work authorization. With a work authorization issued, individual project managers provide oversight of applicable contracts and contractual requirements, including HUB subcontracting plans.

5.2.3.2   DBE program and HUB program management lifecycles

This subsection presents an overview of TxDOT DBE and HUB programs according to the program management lifecycles.

5.2.3.2.1   Provide outreach

TxDOT operates a number of outreach programs that are intended to engage both HUBs and DBEs. These are shown in Table 5-4.

May 26, 2010

Outreach Program	Description
Small Business Briefings	Briefings are two-day conferences around the state to help women, small and minority-owned businesses by providing them with contract opportunities, training and education on how to do business with TxDOT in core areas (i.e., construction, goods and services, information technology, and professional services). Briefings include Contracting Opportunities Showcases where small business owners have the opportunity to bid on TxDOT contracts. Breakout Sessions cover financial resource assistance, business marketing for state contracts, business certifications, as well as information on TxDOT toll projects. A Networking Session offers an opportunity for businesses to meet with prime contractors and other industry contacts.
LINC (Learning, Information, Networking, Collaboration) Mentor – Protégé Program	Through the LINC program, TxDOT mentors small and minority owned businesses interested in doing business with TxDOT to: increase business opportunities and the number of small and minority businesses bidding and performing on TxDOT contracts; prepare DBEs, HUBs, and SBEs to bid and perform on TxDOT contracts through technical assistance training; and introduce participants to TxDOT procurement personnel, key TxDOT staff and other public and private organizations.
TxDOT Industry Liaison Meetings	Liaison meetings support two-way communications between the DBE/HUB/SBE community and TxDOT. Quarterly meetings offer an opportunity for the small and minority businesses development community to provide input and recommendations to TxDOT DBE/HUB/SBE Programs.
Specialized Workshops	In-depth workshops provide an opportunity for small, minority and women business owners to receive training on various business development and technical industry topics, such as: bonding, construction management, development of a website and/or business plan, construction safety training and certification; and business financial management.
Road Lines Newsletter	*Road Lines* is a quarterly publication intended to provide information relevant to the small and minority business communities. This newsletter features key information about TxDOT contracting, as well as featured TAP providers, featured DBE business owners, DBE/HUB/SBE feature stories, calendars of events, and District feature stories.
One-on-One Business Appointment Program	The Business Appointment Program coordinates and arranges appointments between businesses interested in working with TxDOT and the appropriate agency purchasers and/or contract management staff

Table 5-4: TxDOT DBE and HUB outreach programs

Table 5-5 shows those programs that are established using Federal funding to support DBE outreach.

Outreach Program	Description
Technical Assistance Program	Program provides free business development and technical industry training to DBEs in the highway construction industry to enhance the skills necessary to bid and perform on TxDOT contracts. Training covers technical topics such as construction, bidding, accounting and financial management, business law and management, marketing and contract prequalification.
Texas Business Opportunity and Development (TBOD) Program	Program is intended to expand the growth of DBE firms, increasing minority business participation in the highway construction industry by providing supportive services, training and technical assistance.

Table 5-5: TxDOT DBE-specific outreach programs

In addition, CPA provides education and outreach to minority and woman-owned businesses regarding the Statewide HUB Program and its initiatives, and assists state agencies and institutions of higher education with training, planning and implementing HUB education and outreach efforts.

CPA requires that TxDOT (and other agencies with biennial appropriations that exceed $10 million) establish a Mentor Protégé Program to provide professional guidance and support to the protégé (HUB) to facilitate their growth and development and to increase HUB contracts and subcontracts with the State. Participation in the program requires the protégé be Texas HUB certified and the Mentor Protégé Agreement be sponsored by a state agency.

5.2.3.2.2   Certify eligibility

Vendors seeking certification as a DBE are required to submit a completed DBE certification application and supporting documentation to a DBE certifying agency, depending upon the business' location. Vendors must undergo recertification every 3 years. Vendors seeking certification as a HUB are required to submit a completed HUB certification application and supporting documentation to the CPA, affirming under penalty of perjury that their business qualifies as a HUB. Vendors are required to recertify HUB status every 4 years. Vendors also may receive HUB certification through TxDOT if they also are obtaining DBE certification.

5.2.3.2.3   Establish goals

When planning for highway construction and maintenance **letting**, projects funded by Federal dollars must be reviewed to determine if DBE participation goals are appropriate. If so, OCR assigns individual contract goals based on the availability of qualified DBEs, work site location, dollar value of the contract, and type of work items specified in the contract. These goals are set on individual contracts to cumulatively meet the annual DBE goals that are not being met through race-neutral means. After contract award to the low bidder, the bidder has fifteen days to respond showing how they plan to meet the identified DBE goals.

For **contracting** activities the managing office recommends a DBE or HUB goal (depending on funding source) during the contract planning phase. The managing office submits the appropriate forms to DES-CCO for processing through OCR (for DBE) or GSD (for HUB) for review and concurrence with the assigned goal.

The inclusion of HUB vendors is a consideration for all phases of **purchasing** of goods and services. Depending on the type of purchase and dollar value there are different HUB requirements for delegated purchases and number of HUB bids required. For small purchase procedures purchasers should select HUB vendors whenever possible.[24] However, the Department does not award to a vendor based solely on their HUB designation.

5.2.3.2.4   Approve participation

Before the contract award (for professional services contracts or purchases), or after the *conditional* contract award (for other contracts), the selected vendor submits information documenting its satisfaction or attempts to satisfy the DBE or HUB goal. The vendor will document, among other

---

[24] A small purchase is considered a purchase for good or service valued at a cost of $5,000 or less. For these purchases a purchasing agent needs only one bid and can use any source (CMBL, phone book, HUB directory, etc.) to solicit the bid.

things, written documentation of the provider's commitment to use a DBE or HUB vendor whose participation it submits to meet a contract goal, written confirmation from the DBE or HUB that they will participate, and evidence of good faith efforts, when applicable.

State agencies use the HUB Directory in conjunction with the CPA's CMBL to solicit bids from certified HUBs for state purchasing and public works contracts.

5.2.3.2.5   Monitor compliance

During contract management, the assigned D/D/O/R project manager is responsible for monitoring DBE or HUB participation through the standardized DBE or HUB monthly and final reporting forms.

For letting, or those projects using Federal dollars, during the contract execution period, district general engineering technicians and DDCs oversee the contract and compliance with the DBE sub-contracting goals. The Department semi-annually reports compliance on DBE goals to FHWA, FTA and FAA.

The DBE program is not applicable for highway maintenance and construction projects funded via State funds. In these instances, the State HUB program and associated goals are applicable.

GSD oversees processes used in monitoring HUB performance for purchasing, and OCR submits all HUB expenditure data to CPA semi-annually; the CPA assigns HUB credit based on payments made to HUBs. Individual project managers are responsible for monitoring HUB Progress Assessment Reports for assigned contracts which include HUB subcontracting provisions. There are rare cases when purchases are made with federal funds, which then must comply with DBE requirements.

5.2.3.2.6   Resolve issues

TxDOT resolves DBE and HUB program issues and disputes according to normal contract management practices; therefore, the MOR team did not assess this lifecycle element.

5.2.3.3   Change initiatives

TxDOT is in the process of initiating a number of changes to its processes that are expected to have a positive impact on procurement activities. Some of these initiatives are listed below.

- TxDOT implemented a formal communications planning process to assure timely, accurate and documented communication between stakeholders of the procurement throughout the solicitation process and life of the contract. For each procurement, the D/D/O/R managing the procurement develops a communications plan to coordinate with internal staff and is used throughout the life of the contact. This plan is described further in subsection 5.3.6.3;
- From an organizational change perspective, the creation of the RSCs is a positive initiative. These change initiatives, although still developing, have allowed TxDOT to regain control

and accountability over purchasing and professional services contracting, and integrates them with proper resource management practices. However, the goal to initiate regional service contracts and bulk commodity purchases has been supplanted by strategic sourcing initiatives of CPA, and implementation of the TxSmartBuy system. CPA's strategic sourcing initiative seeks to consolidate all state spending onto term contracts and CPA managed contracts, with orders placed via TxSmartBuy. The RSCs will be able to share materials and supplies between and across regions and improve efficiencies in warehousing operations, potentially moving to a just-in-time concept. For professional services contracting, these organizational changes will improve accountability and oversight by only issuing contracts for priority projects and centrally monitoring budgets, allow TxDOT to reduce the number of contracts by issuing indefinite deliverable contracts for the region and not specific districts and improve contract management and tracking by centrally managing the required contracts at an operational level. This will also allow TxDOT to create more uniform standards and make better decisions on whether to contract or use in-house State forces for a particular service;

- The developmental Professional Services – Contract Administration Management System (PS-CAMS) is a much needed system intended to gain accountability over the Department's professional service contracts and work authorizations. When fully implemented, this system will provide accountability and transparency into all TxDOT's professional service contracts by consistently tracking the necessary contract information and having that information available statewide; and

- TxDOT has implemented an Electronic Bidding System (EBS) to improve letting process efficiency. EBS is virtually an automated process of the current manual process for submitting, opening and tabulating bids. All bid proposals are secured in an electronic vault until the letting date and all bid proposals are automatically uploaded for evaluation. This significantly reduces the manpower necessary and potential for errors when tabulating bids at letting. EBS also issues all projects bid documentation electronically, which saves State resources. However, the use of EBS is not mandated and most likely will not be; instead, TxDOT may require contractors to pay a fee for paper copies of project bid documents and the additional manpower necessary for manual bid tabulation.

- The Design Division-Consultant Contract Office (DES-CCO) is leading an effort to standardize the invoice format for professional service consultant contracts. They are leading a work group, including vendor representatives, to define and design a standardized invoice meeting the requirements of TxDOT. The new standard invoice will benefit the department by eliminating the diversity of the current invoicing requirements.
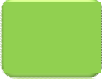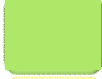
5.3 Letting, purchasing and contracting observations and findings

Subsection 5.3 presents an overall assessment of the procurement business process area together with associated observations and findings.

5.3.1 Assessment summary
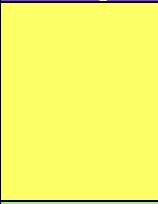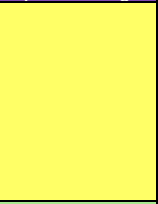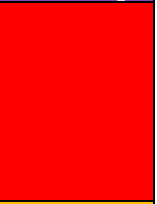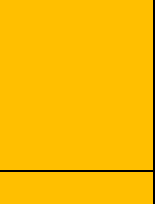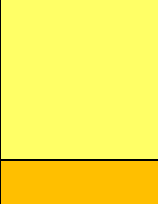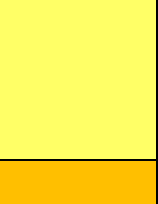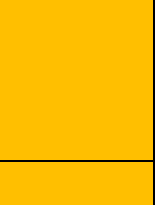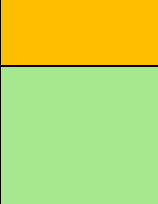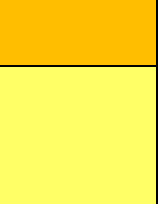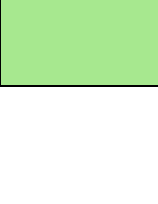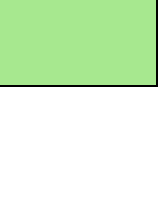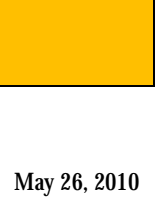
The MOR team rated each assessment point using a **qualitative** scale, defined in Table 5-6.

Color	Description
(green)	Optimum performance
(light green)	Results consistently exceed requirements; improve over baseline
(yellow)	Results consistently meet minimum requirements
(orange)	Results don't fully or consistently meet requirements
(red)	Issues or incidents consistently or frequently impede performance
(black)	Not performed; encountering problems that may or will cause harm

Table 5-6: Qualitative rating scale

Table 5-7 summarizes the procurement assessment ratings. The remainder of subsection 5.3 presents the basis for each of these ratings.

Process dimensions	Assessment factors	Rating – letting	Rating – purchasing	Rating – contracting
Management and leadership	• Consistent, disciplined application of appropriate management techniques to deliver targeted results; • Clear lines of authority; and • Clear, appropriate and effective governance processes and structure.	(yellow)	(yellow)	(red)
Policies, procedures and processes	• Clarity; • Relevance; • Currency; • Standardization; and • Effective and timely communication.	(light green)	(light green)	(orange)
Organizational structure and alignment	• Logical functional alignments and groupings; • Clear definition of roles and responsibilities; • Appropriate placement of decision-making; and • Economy of scale.	(yellow)	(yellow)	(orange)
Support systems and data	• Data availability; • Data fidelity and accuracy; and • System functionality and interoperability.	(orange)	(orange)	(orange)
Plan for procurement	• Procurement plan and strategy appropriately developed; • Specifications accurately documented; and • Process accountability.	(light green)	(yellow)	(red)
Request and receive offers	• Solicitation variation and effectiveness; • Process controls adequate;	(light green)	(light green)	(orange)

Process dimensions	Assessment factors	Rating – letting	Rating – purchasing	Rating – contracting
Evaluate offers	• Effective evaluation models, including criteria weighting and scoring models; • Effective evaluation process and rules; • Adequate process controls; • Effective process transparency; and • TxDOT employees held accountable for process.			
Award contract	• Effective negotiation process; • Clear and effective contracts • Appropriate level of signature authority; and • Effective and transparent process.			
Manage contract	• Effective contract administration; • Effective contract closeout; • Effective process transparency; and • Effective training and development.			

Table 5-7: Procurement qualitative ratings

5.3.2 Procurement management and leadership

The overall rating for procurement management and leadership in the letting area is "yellow" (results consistently meet minimum requirements), in the purchasing area is "yellow" (results consistently meet minimum requirements) and in the contracting area is "red" (issues or incidents consistently or frequently impede performance). The "red" rating in contracting is because there is limited discipline and governance related to professional services, which is particularly concerning given the number and dollar volume of these contract types—over 800 just for professional services.

5.3.2.1 Key activities

Effective procurement management and leadership provides a strategic direction for TxDOT procurement activities and uses appropriate management principles to control cost, risk and priorities. Management should provide thought leadership and training to personnel.

5.3.2.2 Observations and findings

Findings in this subsection reflect information TxDOT furnished, interview results, focus group input and accepted procurement practices.

Application of management techniques. TxDOT employs a "manage by audit" approach and makes narrow changes to solve individual problems when there is an issue identified instead of addressing issues from a procurement program viewpoint. For example, in 2004 TxDOT conducted an audit of survey contracts and made changes to policy and training for that specific contract type. A year or two later, the Department conducted an audit of engineering contracts and made changes to signature authority for that contract type. Prior to that audit there was no maximum dollar limit for signature authority at lower levels, so they implemented a tiered signature authority system.

May 26, 2010

Lines of authority. TxDOT lacks a single process owner for the procurement function and associated procurement processes. A large number of position types (e.g., AED, Division Director, Section Director, District Engineer, etc) have signature authority to bind the State into contractual agreements. Having such a large number of positions with signature authority could lead to a potential conflict of interest, risk to independence, or ethical dilemma. This directly increases the risk level to TxDOT.

Governance processes and structure. There is limited governance and oversight for contracting processes—process ownership, signature authority and contract review vary by contract type. Those with signature authority can directly influence the process, posing a conflict of interest and/or failure to maintain independence. TxDOT lacks internal policies to evaluate the performance of assigned personnel managing contracts, providing contract oversight, or qualifying or certifying businesses. Some interviewers stated that indefinite deliverable contracts are used for projects not on any approved listing for budgeted projects and for projects where a specific deliverable contract would have been sufficient.

5.3.3   Procurement management policies, procedures and processes

The overall rating for procurement management policies, procedures and processes in the letting area is "light green" (results consistently exceed requirements; improve over baseline), in the purchasing area is "light green" (results consistently exceed requirements; improve over baseline) and in the contracting area is "orange" (results don't fully or consistently meet requirements). Overall, policies and procedures for letting and purchasing are well documented and current. However, contracting policies and procedures are not consistently used, causing significant risk for the Department.

5.3.3.1   Key activities

As with many other functional areas, procurement relies heavily upon well thought-out, documented and communicated policies and the supporting procedures that guide policy implementation. The key activity in this area is the development, maintenance, dissemination and communication of a complete, appropriate body of policies and procedures to guide procurement across TxDOT.

5.3.3.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished, interviews, reviews of operating manuals, focus groups and review of accepted procurement practices. TxDOT maintains written documents for the procurement process, including the *Letting Manual*, *Purchasing Manual* and *Contract Management Manual*.

Clarity, relevance and currency. All procurement processes are based on State and Federal policy. The majority of procurement processes are well-documented, clear, and generally up-to-date.

- In the *Letting Manual*, highway construction and maintenance letting processes are well-documented. These processes also are described on TxDOT's internal website.

- The *Purchasing Manual* is thorough and desktop reference procedures related to purchasing are updated regularly, including a recent update for regionalization. The new regionalization procedures are not yet well-established due to the short time that regionalization has been in place. Regional personnel are working toward increased efficiencies and have put in place internal process controls, but support from districts and the administration wanes.
- While most contracting processes are documented, they are not consistently followed. Vendor selection procedures are undocumented for the contracting process. Signature authority is not clearly defined or documented, which presents a risk for the Department and anecdotal examples provide instances where contracts were signed by someone without signature authority. GSD Contracting Services has developed standardized templates for contracts; however, personnel have arbitrarily changed the templates which go against Department policy as outlined in the *Contract Management Manual*.

Standardization. TxDOT has no consistent, overarching view of, strategy for, or oversight of its procurement function. TxDOT views procurement in silos (letting, purchasing and contracting), rather than from a holistic procurement environment. Mature processes (letting and purchasing) and immature processes (contracting) have progressed in different directions, and as a result, responsibilities, approvals, signature authority and oversight vary significantly between the different processes. This impacts the Department's ability to clearly communicate its procurement processes and make consistent changes to ineffective procurement principles across all disciplines. It also does not provide the structure and lessons learned of mature procurement processes on more immature ones, where more significant issues still remain.

Various policy documents (GSD Contract Services Delegations of Signature, *Contract Management Manual*, and D/D/O Delegations of Signature Authority) contradict each other regarding signature authority and the signature authorities re-delegated to subordinate employees are not clear. For example, Chapter 10, Section 5 of the *Contract Management Manual* identifies authority for Environmental Scientific Services Agreement execution. The Delegation of Signature document (revised 2/22/2010) states only the AED for Engineering Operations or AED for Field and District Operations may execute scientific service work authorizations, while the Contract Management Manual states "The Environmental Affairs Director is the designated signature authority for scientific services contracts and for work authorizations issued under these contracts." The Delegation of Authority document does not authorize re-delegation for scientific services work authorization, but the Environmental signature authority and approval document (dated December 18, 2009) delegates this authority. These discrepancies could lead to the inappropriate signature of contractual documentation.

Communication. The Department requires training for contract managers who handle contracts $1 million or more and for those who handle qualifications-based contracts (including engineering, architecture, and surveying contracts). This training is accomplished through two courses: Consultant Management and Administration (DES 615) or complete the Introduction to Professional Services Contracting as a stop gap measure (CTR 103 course online). The Department requires the DES 615 course every 5 years.

The Department also requires contract managers who handle best-value-based contracts (including scientific services, right-of-way acquisition provider, and appraiser contracts) to attend the CTR103 course as noted above, regardless of value. However, interviews revealed that not all individuals have completed the required training before working with contracts, which results in inconsistent procurement practices. Furthermore, management does not hold those that receive training accountable for practices taught. For instance, personnel are conducting contracting actions for which they are untrained and inexperienced, such as negotiations of rates, terms and conditions, contract modifications. When professional service contracts are awarded the assigned project managers, who by trade are professional engineers, conduct the negotiations.

5.3.4 Procurement organizational structure and alignment

The overall rating for procurement organizational structure and alignment in the letting area is "yellow" (results consistently meet minimum requirements), in the purchasing area is "yellow" (results consistently meet minimum requirements) and in the contracting area is "orange" (results don't fully or consistently meet minimum requirements). These ratings reflect a general inconsistency for how procurement is distributed throughout the organization without clear roles and responsibilities. Contracting is worse, in most cases, and issues include no process ownership or process owners that are not involved in procuring the specific contract type for which they are responsible.

5.3.4.1 Key activities

Organizational structure and alignment identifies who in the organization is involved in planning activities and in what way. The structure groups tasks and staff logically to deliver effective, consistent results. There should be clear and appropriate lines of communication, accountability and authority to execute procurement responsibilities.

5.3.4.2 Observations and findings

Findings in this subsection reflect information TxDOT furnished, interviews, focus groups, and reviews of accepted procurement practices, and organizational design principles.

Functional alignment and placement of decision making. TxDOT's procurement function is not grouped or linked under a single procurement organizational umbrella, nor are they led by a single procurement official. For instance, because the letting process pertains to highway construction and maintenance, it is managed and controlled by engineers in CST rather than by procurement experts. This organizational alignment gives the perception that letting is engineering rather than procurement. Those managing the letting process are not certified procurement officials, despite the fact that these contracts total in the billions of dollars annually. For the contracting process, professional service contract processes are weaved throughout the D/D/O/Rs without a clear process owner.

- Not all documents that commit the Department are reviewed by procurement experts (e.g., contracts and work authorizations); and

- Reviews by GSD Contracting Services were implemented after the Department's internal audit of engineering, architecture, and surveying contracts; however, GSD Contracting Services has almost no authority to make improvements based on findings.

Definition of roles and responsibilities. New regional standard operating procedures (SOPs) for purchasing and contracting include service level agreements (SLAs), which can increase accountability in the Department because they document the level of service districts can expect from regions. The SLAs are measureable but not necessarily easy to calculate. All SLAs will be manually calculated and self-reported.

Economy of scale. Regionalization of purchasing and contracting processes provides opportunities to increase efficiency, improve internal controls, and save money. Sharing inventory across districts can reduce overall statewide purchases and sharing service contracts across districts can reduce the overall number of active contracts.

5.3.5   Procurement support systems and data

The overall rating for procurement supporting systems and data is "orange" (results don't fully or consistently meet minimum requirements) for letting, purchasing and contracting. TxDOT uses many systems for each procurement process (letting, purchasing and contracting). These systems fail to interface with each other, are built on outdated platforms and contain suspect data, likely as a result of weak data management processes and quality control. Data provided to the MOR Team was incomplete in areas and frequently contained errors. Interviews discovered that often, employees maintain data collection tools outside of the given systems to be able to produce reports either because the system cannot produce the required data in the proper format or because the data from the system is questionable. Anecdotal information from interviews highlighted that many personnel hours are invested in manual data management.

5.3.5.1   Key activities

This area encompasses the adoption and use of appropriate tools and methods, including IT-enabled tools, to support efficient operations and communications. It also includes use of electronic database to support data collection; to improve data reliability, accuracy and availability; to support required reporting; and to enable valuable analytics to identify trends and to help understand and resolve issues.

5.3.5.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished as well as information gathered through data inquiries and reviews of accepted procurement practices.

Data availability, system functionality and interoperability. Procurement functions and processes are not supported by systems capable of providing instant, transparent and accurate information. Each procurement function (letting, purchasing and contracting) uses multiple systems, specific to each function, that connect to varying degrees but are not fully interoperable. In letting,

DCIS does not track actual construction expenditures against the initial low-bid amount at letting, and as a result, it is difficult to track how well construction is proceeding against the initial estimate.

In contracting, TxDOT cannot immediately identify how many contracts and work authorizations are active and inactive or total costs versus initial costs because there is not one single contracts management system to capture and maintain contract information. Most information requests require multiple systems or phone inquiries to generate the desired data. As one of TxDOT's initiatives, DES-CCO is working on developing a new system - PS-CAMS. This system will provide accountability and transparency into TxDOT's engineering related professional services contracts.

Project managers are responsible for making sure contractors submit their monthly HUB subcontract participation report. Currently, this information is pulled from multiple data systems, but TxDOT is meeting with information technology vendors to begin initial discussion concerning the procurement of a system capable of capturing HUB contract information and that allow vendors to submit their data via the Internet.

Data fidelity and accuracy. There are no data standards (e.g., use of a vendor ID or standard spelling of contractor names) used for entering data into a system, resulting in issues with tracking vendor data for performance monitoring, analysis, and DBE and HUB reporting. Most data requests require multiple systems to generate desired data, and then the data must be manually linked to produce desired information. For example, vendor names are not entered in a standard way (e.g., different spellings) in various reports (e.g., monthly HUB/DBE/SBE reports, TUCP or State Let Construction Proposal information), which makes it nearly impossible to compare and analyze data.

5.3.6 Plan for procurement

The overall rating for the plan for procurement stage of the lifecycle in the letting area is "light green" (results consistently exceed requirements; improve over baseline), in the area of purchasing is "yellow" (results consistently meet minimum requirements) and in the area of contracting is "red" (issues or incidents consistently or frequently impede performance). Contracting was rated "red" due because it lacks an overall strategy for what will be procured and how.

5.3.6.1 Key activities

During the procurement planning process, TxDOT must identify its needs and develop the specifications for the required goods and services. The Department must then develop an effective procurement strategy and plan in order to successfully guide the procurement process.

5.3.6.2 Observations and findings

Findings in this subsection reflect information TxDOT furnished, interviews, and review of accepted procurement planning practices.

Procurement plan and strategy. In the November 2009 revision of the *Contract Management Manual*, TxDOT implemented a new procurement planning requirement for purchasing and contracting. For each contract, the D/D/O/R who manages the procurement must develop a formal, written communications plan during the planning phase. The plan must:

- Identify important stakeholders (e.g., selection team, project manager, managing office, executive management, contracting personnel, other offices with meaningful participation in the solicitation, outside entities participating in the procurement or management of the contract);
- Identify a single contact person responsible for receiving all external communications related to the project;
- List key decision points during the procurement process, and for each such decision point, the extent and manner in which information will be communicated internally to appropriate personnel;
- Identify internal personnel who occupy basic contract administration roles in the contract once it is finalized (including a person to receive routine communications, a person to receive formal contract notices, a person to maintain the contract file and a person to receive invoices);
- List scheduled formal communications to take place during the term of the contract (e.g., planned meetings, training, reports expected during the project, provider evaluations); and
- Be signed by the employee responsible for management of the contract.

This plan is intended to improve communications between the stakeholders and increase accountability for all parties involved.

For the letting process, there is a consistent and effective strategy and plan. However, project priorities are not clear and there is a lack of accurate planning documentation.

For the contracting process, procurement planning to determine what types of services will be procured and why is almost nonexistent for professional service contracts. For example, design consultant support is not pre-planned in advance of a need, though district planners should have enough lead time to allow the region's consultant/design resource manager to properly plan for the procurement. During interviews conducted by the MOR Team, interviewees referenced numerous occasions when districts arbitrarily requested consultant support without notice and oftentimes for a project not in the approved STRAT 102/111 budgets. They also cited a lack of proper planning for professional services, since proper planning would alleviate a reliance on indefinite deliverable contract and allow for a specific deliverable contract to be issued and closed when the work was complete. The Department is looking to improve this issue through the regional Design Resource and Contract Coordinators, as discussed in the Design process review in Section 1.

One area in which there appears to be a lack of control is in the use of indefinite deliverable contracts. Poor planning for the use of professional service contracts has led the Department to rely on indefinite deliverable contracts instead of specific deliverable contracts in which the scope, schedule and cost is more controllable. Issuance of work authorizations on indefinite deliverable contracts can lead to chain purchasing to avoid signature authority levels because districts do not want to raise suspicions with headquarters. Some interviewees stated that indefinite deliverable

contracts are used for projects not on any approved listing for budgeted projects and for projects where a specific deliverable contract would have been sufficient. They also cited a lack of proper planning for professional services, since proper planning would alleviate a reliance on indefinite deliverable contract and allow for a specific deliverable contract to be issued and closed when the work was complete. Although it is not necessarily an indicator of a problem, the sheer number of active indefinite deliverable contracts—over 800 just for professional services—is a concern because there appears to be more indefinite deliverable contracts than is truly required.

Specifications documentation. For the purchasing process, the GSD Specifications Review Committee reviews all specifications for purchases over $100,000. This committee serves as an internal control to ensure the specifications truly represent what the purchase intends to obtain.

Process accountability. There is a lack of accountability to following stated processes and procedures for contracting. As an example, the Dallas district recently issued a work authorization for an unapproved project (e.g., not on the approved fiscal year Strategy 102/111 listing), and in advance of adding this project, they did not provide a project substitution as required by the SOP. In the Waco district, supplemental work authorizations were issued without prior coordination with the region to ensure the supplemental work authorizations were budgeted for. In other instances, districts have intentionally minimized scope to stay under the signature authority level on work authorizations, only to request an additional work authorization for the same project and the same scope. One example the MOR team heard about was a district that wrote a scope of work for a project with a total price that exceeded its signature authority level but then authorized work incrementally to stay under their signature authority. The MOR team heard examples of where districts even used the same CSJ number on different work authorizations when this type of strategy was employed.

5.3.7   Request and receive offers

The overall rating for the request and receive offers stage of procurement is "light green" (results consistently exceed requirements; improve over baseline) for letting and purchasing and "orange" (results don't fully or consistently meet requirements) for contracting. The contracting process requires additional process improvements involving the receipt and control of procurement documents, mainly letters of intent. These documents tend to contain sensitive corporate information which should be under strict control by a procurement official at all times. When asked about document control of offers, interviewees responded "what controls?"

5.3.7.1   Key activities

- Develop solicitation from the market research;
- Set contract HUB or DBE goals;
- Manage questions of clarification;
- Close the solicitation; and
- Receive offers.

5.3.7.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished, interviews, and review of accepted procurement planning practices.

Solicitation variation and effectiveness. The Department has an overall good performance for requesting (soliciting) bids or proposals for letting, purchasing, and contracting. However, letting is still advertising requests in the newspaper, which is no longer effective and is costly. The 2009 Sunset Advisory Commission Report stated that "TxDOT could reduce annual expenditures from the State Highway Fund by an estimated $950,000, assuming that TxDOT would eliminate newspaper notice for contracts valued at $300,000 or more."[25] As of the August 31, 2009, TxDOT Implementation of Recommendations from the Sunset Advisory Commission Staff Report, TxDOT worked with Sunset on the required statute changes; however, proposed legislation to remove this advertising requirement did not pass.

Process controls. Purchasing has clear, consistent and adequate internal process controls in place via APS, CMBL, established purchasing thresholds and documented processes and procedures. Letting also has clear, consistent and adequate internal process controls, particularly through automated construction bid processing. Professional service contracts lack internal process controls when LOIs are received. The policy and process are unclear; only the *Design Resource and Contract Management Region SOP* covers the "logging" of LOIs when received, but does not cover the handling, reviewing, or control of documents.

5.3.8   Evaluate offers

The overall rating for the evaluate offers stage of procurement is "yellow" (results consistently meet requirements) for letting and purchasing and "orange" (results don't fully or consistently meet minimum requirements) for contracting. The "orange" rating for contracting is the result of ill-defined and communicated procedures for evaluation and the failure to hold personnel accountable for approved selection processes.

5.3.8.1   Key activities

During the offer evaluation stage, TxDOT evaluates received bids and selects a winning vendor. TxDOT must debrief both selected and unselected vendors on the outcome of the procurement process.

5.3.8.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished, interviews, and review of accepted procurement evaluation practices.

Effective evaluation process and models. Both letting and purchasing have well-defined, transparent and controlled evaluation processes that are guided by statutes and policies. However, in contracting, there remains insufficient transparency in the professional service contract evaluation

---

[25] *Sunset Advisory Commission Final Report*, July 2009, page 58.

process. Recently, the Administration changed the approved regional consultant selection process in response to the concerns of a district that was not able to select the vendor they wanted. This has diminished the region's ability to select a vendor as a neutral party, as guided in the regional *Design Resource and Contract Management SOP* and consistent with procurement best practices. These SOPs were developed to provide additional controls in the system and increase accountability and transparency, but some districts perceive them as a loss of control to the regions and are questioning the increased oversight by the regions. In this example, the region selected a professional services consultant for a district based on standard selection procedures. Instead of holding districts accountable to the newly approved regional contracting processes, the Administration has generally supported the districts and changed the affected process.

Adequate process controls and process transparency. Additionally, contracting processes for professional services prior to regionalization had inefficient process controls, provided an opportunity for personnel to inappropriately influence consultant selections, and provided poor work authorization oversight. Anecdotally, districts would use the same vendor while neglecting other vendors that held indefinite deliverable contracts. Another anecdotal example shows consultants frequently visited area offices and maintained friendly relations with the staff who have the authority to select contractors in order to win more work. This lack of transparency presents a risk for a conflict of interest when selecting vendors.

TxDOT employee held accountability. The internal policy memorandum subject *Process for Sharing Consultant Contracts between Districts* was issued on July 20, 2009, but in the MOR Team's interviews conducted during August and September 2009 and March 2010, interviewees did not reference the new process when asked how consultants were chosen for work authorizations.

5.3.9   Award contract

The overall rating for the award contract phase of the procurement lifecycle is "light green" (results consistently exceed requirements; improve over baseline) for letting and purchasing. For contracting, this phase was assessed to be "yellow" (results consistently meet minimum requirements). The issues surrounding this phase relate to the appropriate signature authority level and the use of non-procurement personnel to negotiate contracts.

5.3.9.1   Key activities

During the award contract phase, TxDOT offers the award to the preferred vendor and negotiates the contract, if necessary. They also define the contract terms in preparation for contract implementation.

5.3.9.2   Observations and findings

In TxDOT, signature authority is spread throughout the D/D/O/Rs in an effort to improve efficiency in awarding contracts. However, the manner in which TxDOT has delegated and re-delegated signature authority leads to an overall lack of control. District signature authority documents show no standard for delegated signature authority. While all District Engineers have signature authority, this authority has also been delegated, though there is no standardization about

to whom or how many people the authority is delegated. The MOR team found that 19 different positions have delegated signature authority. This demonstrates a lack of standard guidance related to the re-delegation authorized in the Delegations of Signature and it appears the decision is left to each individual District Engineer.

Negotiation process. In contracting, not all project managers have formal training in negotiations, but they are still responsible for negotiating the professional services contracts. This increases the risk level for TxDOT. Those project managers who attend the DES 615 training course are trained in negotiating professional services contracts.

Contract vehicles. Procurement experts, such as those in GSD Contracts Services, do not review all documents that commit Department resources, such as contracts. This poses a risk to TxDOT because these documents are legally binding.

Level of signature authority. The level of signature authority is clear and appropriate for the letting and purchasing processes. Signature authority is centralized in purchasing. In contracting, decentralized and re-delegated signature authority could lead to a potential conflict of interest, risk to independence, or ethical dilemma, which directly increases the risk level to TxDOT.

Many positions across the Department are authorized to sign contracts or work authorizations for efficiency purposes, but that leads to a lack of control. The divisions also use indefinite deliverable contracts without much regulation or oversight.

Processes effectiveness and transparency. In the letting and purchasing processes, the award process is well-defined, transparent, consistent and controlled. Decision-making at letting, is very open and straightforward. Apparent low-bids are posted online usually the same evening.

5.3.10 Manage contract

The overall rating for the manage contract phase of the procurement lifecycle in the letting area is "orange" (results don't fully or consistently meet requirements). In the purchasing area, this phase was evaluated as "yellow" (results consistently meet minimum requirements). In the contracting area, this phase was evaluated as "orange" (results don't fully or consistently meet requirements). These ratings reflect a concern that personnel who are managing contracts do not have proper training and are not properly managing assigned contracts. This is not intended to reflect negatively on those personnel who are managing contracts, as the MOR Team observed throughout TxDOT personnel who were working hard and endeavoring to get their jobs done well, even when systems were not in place to support their efforts to work smartly.

5.3.10.1 Key activities

Personnel responsible for managing the contract evaluate and review performance on the contract from implementation through termination or expiration, including contract closeout. They ensure

that all parties involved meet the obligations stated in the contract. They perform day-to-day management, evaluation of the contractor and transition planning.

5.3.10.2 Observations and findings

Findings in this subsection reflect information TxDOT furnished, interviews, and review of accepted contract management practices.

Contract administration. In purchasing, there are consistent contract oversight principles regarding performance evaluations, invoicing and reporting. However, they do not fully use all methods available to document vendor performance, particularly for Statewide contracts (TxSmartBuy) contracts. Additionally, TxDOT does not have a single system to track all existing contracts.

TxDOT is working to standardize invoicing. A standard process for invoicing will make it easier to submit invoices to the FIMS for payment.

Training and development. TxDOT is not sufficiently developing the skills of their employees in contract and project management. Although TxDOT is exempt by statute from requiring training, contract and project management employees need a comprehensive understanding of how to perform these vital tasks and learn the necessary tools and methodologies to manage contracts and projects effectively.

This has been a skill gap area that HRD-TQD identified several years ago when they proposed the Project Management training to the Standing Committee on Training. All too often the practice in the Department is to take a person who was technically capable of doing contract administration and making them project managers, which has resulted in some major disconnects in skill required vs. skill possessed. HRD-TQD has a series of training available, but is not funded to provide at the level needed. The Design Division has been offering P6 training, but it has not been at the demand level requested by the D/D/O/Rs. HRD-TQD requested funding in FY10 to provide this training, but this request was not funded. This same request is to be proposed again for FY11.

The Construction Division developed formal training to improve overall construction inspection, but it is a self-paced program. Personnel may not be given adequate time to complete the program.

5.4 DBE and HUB observations and findings

Subsection 5.4 presents an overall assessment of the DBE and HUB business process areas together with associated observations and findings.
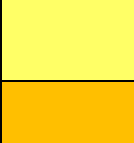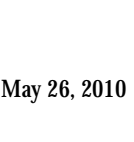
5.4.1 Assessment summary

The MOR team rated each assessment point using a **qualitative** scale, defined in Table 5-8.

(green)	Optimum performance
(light green)	Results consistently exceed requirements; improve over baseline
(yellow)	Results consistently meet minimum requirements
(orange)	Results don't fully or consistently meet requirements
(red)	Issues or incidents consistently or frequently impede performance
(black)	Not performed; encountering problems that may or will cause harm

Table 5-8: Qualitative rating scale

Table 5-9 summarizes the procurement assessment ratings. The remainder of subsection 5.4 presents the basis for each of these ratings.

Process dimensions	Assessment factors	Rating
Management and leadership	• Consistent, disciplined application of management techniques to deliver targeted results • Clear lines of authority • Effective and motivational leadership of people to develop skills, encourage high productivity and require quality delivery of services	(orange)
Policies, procedures and processes	• Clarity and relevance • Currency • Standardization • Effective and timely communication	(orange)
Organizational structure and alignment	• Logical integrity of functional alignment and groupings of work • Clear responsibility for coordination and communication • Efficient use of resources	(orange)
Support systems and data	• Data availability • Data fidelity and accuracy • System functionality and interoperability	(red)
Provide outreach	• Plans and processes established, clear and up-to-date • Plans and processes implemented in a consistent fashion • Effectiveness of outreach programs	(yellow)
Certify eligibility	• Plans and processes established, clear and up-to-date • Plans and processes are implemented consistently • Effectiveness of certification sub-process	(orange)
Establish goals	• Goals are established in timely fashion • Goals are established and met in accordance with laws and regulations	(orange)
Approve participation	• Vendors are reviewed and approved in timely fashion • Vendors are reviewed and approved in accordance with laws and regulations	(orange)
Monitor compliance	• Plans and processes established, clear and up-to-date • Plans and processes are implemented consistently • Effectiveness of compliance monitoring	(red)

Table 5-9: HUB and DBE program qualitative ratings

5.4.2　DBE and HUB management and leadership

The overall rating for DBE and HUB program management and leadership is "orange" (results don't fully or consistently meet requirements). High management and staff turnover have weakened the ability to administer the DBE program effectively. The complexity of DBE laws and regulations and dispersed DBE staff requires effective coordination of skilled staff and disciplined leadership and management techniques to ensure HUB and DBE programs meet requirements.

5.4.2.1　Key activities

This area focuses on how DBE and HUB program management functions are managed and led within TxDOT. Effective management and leadership is expected to encompass:

- Application of appropriate management principles (cost, risk, priorities, controls); and
- Leadership of people.

5.4.2.2　Observations and findings

Lines of authority. The lines of authority associated with DBE program management are not clearly defined. DBE management and oversight authority is assigned to OCR; however, the Texas Administrative Code, Title 43. Transportation Part 1. Texas Department of Transportation, Chapter 9.53 states "The director of BOP is the DBE liaison to the FHWA and reports directly to the department's executive director. The director of BOP is responsible for administering the DBE program in accordance with 49 CFR §26.25." Approximately two years ago, the TxDOT BOP office (in the Construction Division) was dismantled and a Business Outreach and Program Services office (also BOP) was established under GSD. The DED is currently filling in as interim DBE liaison for the currently vacant AED for Support Operations position.

The lines of authority associated with HUB program management are clearly defined. The Director of Purchasing within GSD is assigned as the HUB Program Coordinator, consistent with Texas Administrative Code, Title 34 Public Finance, Part 1 Comptroller of Public Accounts, Chapter 20 Texas Procurement And Support Services.

Application of management techniques. Given the current staffing within the OCR Division the managers accomplish the priority of work through the use of appropriate, disciplined management techniques (e.g., risk, staffing, controls) to manage the DBE programs across the organization. However, given the recent overwhelming increase of workload brought on by the ARRA funds, the OCR function has had to revert to a reactive mode of operations versus one of being proactive. Interviews revealed that this office has had major personnel turnover issues over the last few years causing their program knowledge to fall, which has had a direct impact of program responsibilities.

Leadership of people. The TxDOT Internal Audit report, titled *DBE Certification and Compliance Function, Office of Civil Rights (1201-9)* stated "Specialists should be held accountable for proper documentation of the work performed, evidence obtained, and conclusion drawn relevant to an applicant's eligibility status." The MOR team noted through interview sessions that district DBE coordinators are not well equipped nor held accountable for providing consistent oversight of the

DBE program (e.g., determining whether prime contractors apply good faith efforts to meet DBE program goals).

5.4.3   Policies, procedures and processes

The overall rating for DBE and HUB program policies, procedures and processes is "orange" (results don't fully or consistently meet requirements). Both HUB and DBE programs require objective approaches to execute certification, compliance and resolution processes. Policies and procedures for the state-administered HUB program are clear and current. However, TxDOT policies and procedures are too weak to effectively meet requirements for the Federally-administered DBE program.

5.4.3.1   Key activities

The compliance nature of the TxDOT DBE and HUB programs requires well documented and communicated policies and supporting procedures to guide policy implementation. The key activity in this area is the development, maintenance, dissemination and communication of a complete, appropriate body of policies and procedures to administer the TxDOT DBE and HUB programs.

5.4.3.2   Observations and findings

Clarity, relevance and standardization. To the extent that processes and procedures are documented for most DBE and HUB program functions, they appear to be clearly written. The Comptroller of Public Accounts provides most of the HUB policies, procedures and forms. The MOR team heard through internal and external stakeholder interviews that DBE program staff lack sufficient experience and guidance to make consistent good faith effort decisions. Some of this can be attributed to policy and procedure clarity and some can be attributed to the high management turnover with DBE program. The 2009 TxDOT Internal Audit report, titled *DBE Certification and Compliance Function, Office of Civil Rights* (1201-9) reported similar findings.

Currency. To the extent that processes and procedures are documented for DBE and HUB program functions, most appear to be current.

Communication. Conscious efforts are made on behalf of both programs, DBE and HUB, to effectively communicate each programs policies and procedures; however, it is sometimes difficult for those not associated with these programs to understand the impacts of meeting the Federal and state requirements. DBE program policies and procedures do not appear be as communicated effectively.

5.4.4   Organizational structure and alignment

The overall rating for DBE and HUB programs' organizational structure and alignment is "orange" (results don't fully or consistently meet requirements). The complex regulatory requirements of HUB and DBE programs require an efficient organizational structure and alignment to optimize coordination and collaboration among all program lifecycle processes. The current structure and alignment spreads central HUB and DBE resources in two different units (i.e., GSD and OCR).

These units share HUB and DBE outreach, certification and some compliance functions. This structure and alignment complicates effective coordination and staffing with appropriate skills among the outreach, certification and compliance processes and decreases economies of scale of administering similar work functions.

5.4.4.1   Key activities

Organizational structure and alignment identifies who in the organization is involved in planning activities and in what way. The structure groups tasks and staff logically to deliver effective, consistent results. There should be clear and appropriate lines of communication, accountability and authority to execute DBE and HUB program management functions.

5.4.4.2   Observations and findings

Functional alignment. The DBE and HUB outreach and HUB compliance functions fall within GSD, while DBE certification and compliance (and DBE and HUB reporting) functions fall within OCR. This alignment makes sharing practices and data difficult and is completely inefficient.

Coordination and communication. Because of the current organization structure alignment there is a lack communications to effectively manage the programs. This ill-alignment does not ensure proper communications throughout the programs. Through interviews with DBEs, HUBs, contractor associations and prime contractors, the MOR team heard that DBE program certification and compliance messaging was inconsistent. The 2009 TxDOT Internal Audit report, titled *DBE Certification and Compliance Function, Office of Civil Rights (1201-9)* indicated that communication and coordination between the DBE certification and compliance sections is less than desirable.

Efficient use of resources. TxDOT needs better deployment of appropriately skilled resources to execute efficient DBE program certification and compliance functions. In 2006, OCR conducted training concerning DDC functions in all TxDOT Districts. In early 2007, TxDOT officially implemented the District DBE Coordinator (DDC) program based on guidance from the Federal Highway Administration - Texas Division office. In late 2007, all DDCs were invited to a Federal training session in Texas. All Districts now have selected primary and alternate DDC employees. However, there is no formal training course currently available to DDCs. As a result, DDCs from different districts often provide different answers to contractors on DBE topics. This inconsistent message provides a negative impression of DBE program management. Furthermore, DDCs do not receive formal training prior to assuming their positions. Currently, there is no requirement to complete continuing or refresher training for the DDCs. On-the-job training is the primary method currently used for the DDC positions.

5.4.5   Support systems and data

The overall rating for DBE and HUB program support systems and data is "red" (issues or problems consistently or frequently impede performance). Data availability and reliability pose significant problems to accurately capture, monitor and report HUB and DBE program information across the agency. Although TxDOT is making improvements to its contracting management systems, there is a lack of proper controls to ensure HUB and DBE program data are accurate.

5.4.5.1   Key activities

This process area encompasses the adoption and use of appropriate tools and methods, including IT-enabled tools, to support efficient operations and communications. It also includes use of databases to support data collection; to improve data reliability, accuracy and availability; to support required reporting; and to enable variable analytics to identify trends and to help understand and to resolve issues.

5.4.5.2   Observations and findings

Data availability, system functionality and interoperability. D/D/O/R project managers are responsible for ensuring that contractors submit their monthly HUB subcontract participation report. TxDOT is meeting with information technology vendors to begin initial discussion concerning the procurement of a system capable of capturing HUB contract information and that allow vendors to submit their data via the Internet.

Data fidelity and accuracy. There are no contract data standards (e.g., use of a vendor ID or standard spelling of contractor names), resulting in issues with tracking vendor data for DBE and HUB reporting. For example, vendor names are not entered in a standard way (e.g., different spellings) in various reports (e.g., monthly HUB/DBE/SBE reports, TUCP or State Let Construction Proposal information), which makes it nearly impossible to compare and analyze data.

The Comptroller maintains an on-line repository of HUB-certified businesses. TxDOT maintains the statewide DBE repository of certification status. However, TUCP DBE certification data is often inaccurate. Certification entities submit weekly DBE status updates to TxDOT for the DBEs they certified, but the MOR teamed learned through interviews that the certification entities do not employ effective data entry controls, resulting in inaccurate and poor quality data throughout the TUCP database.

When the MOR Team attempted to review DBE and HUB performance data to understand how well TxDOT is doing in meeting its overall program goals, analysis was severely hindered by data irregularities and errors. Because there are no vendor IDs assigned to DBEs or SBEs and vendor names were entered several different ways (e.g., Acme, Inc. may have been entered as Acme; Acme, Inc.; Acme Inc; or Acme Inc.), it was virtually impossible to link data from different databases. The team lead of the "A Historically Underutilized Business (HUB) Disparity Study of State Contracting 2009" stated during an interview that it took approximately 10 months to normalize the same kind of data from TxDOT.

5.4.6   Perform outreach

The overall rating for the DBE and HUB programs' provide outreach function is "yellow" (results consistently meet minimal requirements). TxDOT HUB and DBE outreach programs consistently meet minimum requirements. Anecdotal feedback from HUB and DBE vendors indicate these programs effectively provide information helpful to learn about certification requirements and technical assistance opportunities. The GSD BOP unit executes outreach activity in a consistent, effective manner.

5.4.6.1   Key activities

This process area consists of establishing and implementing outreach programs to prepare DBEs and HUBs for government contracts by providing applicable information, relevant knowledge, and technical assistance training. A substantial number of outreach programs are federally mandated for the DBE program.

5.4.6.2   Observations and findings

Outreach plans development and implementation. TxDOT has plans developed and implemented to meet DBE and HUB program outreach requirements, as reported in their annual FY 2009 Federal Disadvantage Business Enterprise Accomplishment Report and 2010 DBE Supportive Services Work Statement. An interview conducted with the State CPA HUB Program Manager revealed that TxDOT has one of the best outreach programs of all State agencies.

Outreach program effectiveness. Feedback received from interviews with HUBs and DBEs was generally positive regarding DBE and HUB program outreach provided by the TxDOT GSD BOP. One small business with which the MOR team spoke believed that TxDOT's decision to continue funding the Texas Business Opportunity and Development Program (TBOD) DBE workforce development program after FHWA stopped earmarking funds for the program in 2009 was an example of TxDOT's commitment to outreach. However, the MOR team heard that TxDOT could do a better job of partnering with the networking associations (e.g., chambers of commerce).

5.4.7   Certify eligibility

The overall rating for the certify eligibility function is "orange" (results don't fully or consistently meet requirements). Although both HUB and DBE programs have certification procedures in place, TxDOT does not consistently follow them, especially with DBE program certification. While anecdotal evidence suggests TxDOT DBE certification process is significantly faster than with other DBE certification agencies, there was substantial evidence from the entire contracting community (including HUB, DBE and large vendors) that DBE certification data is inaccurate and unreliable.

5.4.7.1   Key activities

This process area consists of developing and executing appropriate processes to effectively certify and maintain eligibility certification, for the DBE and HUB programs.

5.4.7.2   Observations and findings

Existence, clarity, and currency of plans and processes. Processes founded in law exist for the DBE and HUB certify eligibility function. All HUB certifications are managed through CPA. The only exception is that TxDOT, through an agreement with the CPA, can certify a business as a HUB if that business is also applying for certification as a DBE.

Consistency of plan and process implementation. Feedback received from interviews with DBEs was that the fastest way to become DBE certified was to go through TxDOT (weeks as opposed to 6 to 9 months by other certifying agencies). However, the 2009 TxDOT Internal Audit

report, titled *DBE Certification and Compliance Function, Office of Civil Rights (1201-9)* on the DBE program resulted in a finding that "Our review of 20+ DBE files found a lack of evidence to support some of the certification decisions made; and onsite reviews for DBE firms in their third year of certification are not being performed in accordance with the requirements of the TUCP."

Effectiveness of certification sub-process. Interview data revealed that the effectiveness of the DBE certification process is lacking. Vendors often stated that the DBE certification database is often not accurate making it difficult for them to find qualified DBE firms to partner with.

5.4.8   Establish goals

The overall rating for the approve participation function is "orange" (results don't fully or consistently meet requirements). TxDOT establishes HUB and DBE program goals according to regulatory requirements. However, TxDOT consistently does not meet HUB goals for nearly all HUB program categories, nor does it consistently meet all DBE program goals.

5.4.8.1   Key activities

This process area consists of ensuring the DBE and HUB is appropriate for particular contracts.

5.4.8.2   Observations and findings

Timeliness of goals. Title 49 CFR §26.45 requires the recipients of federal funds, including the Texas Department of Transportation (Department), to set overall goals for DBE participation in U.S. Department of Transportation-assisted contracts. TxDOT establishes DBE goals every three years and actively seeks public review comments.

HUB goals are set by CPA.

Compliance of goals with laws and regulations. TxDOT has mixed goal achievement records for HUB and DBE programs. Beginning with the HUB program, TxDOT failed to meet goals for nearly all HUB goal categories. Table 5-10 lists the TxDOT FY 09 HUB goal report[26].

Category	Annual goal %	TxDOT HUB %	State of Texas HUB %
Heavy construction	11.9	9.69	9.74
Building construction	26.10	16.0	22.4
Special trade	57.20	29.7	31.2
Professional services	20.0	16.6	17.5
Other services	33.0	21.4	14.1
Commodity purchasing	12.60	13.4	14.0

---

[26] FY 2009 Annual TxDOT HUB Report

Category	Annual goal %	TxDOT HUB %	State of Texas HUB %
Overall		10.7	14.5

Table 5-10: FY 2009 HUB goal achievement

As shown in Table 5-10, TxDOT fails to meet HUB goals for all categories except commodity purchasing, a pattern similar to the overall State of Texas. Compared with the overall State of Texas HUB goal achievement, TxDOT generally lags behind in nearly all categories except other services.

Compliance in meeting HUB goals is the responsibility of the individuals authorized to purchase or contract for goods and/or services. The laws and regulations are clear as to the processes and procedures which must be followed. However, HUB program guidelines provide limited enforcement abilities. Some statutes require only that a prime contractor show a good faith effort to include HUBs on their subcontracting plans, and there is no enforcement to ensure that prime contractors meet the stated goals on their plans. This issue is noted in the "A Historically Underutilized Business (HUB) Disparity Study of State Contracting 2009", which stated "inadequate enforcement of the HUB programs. Specifically, participants expressed concern that (1) HUBs are listed in HUB subcontracting plans but are dropped after the contract is awarded, and (2) good faith effort submissions are not reviewed or enforced." Contract managers generally never ask the prime vendor why the HUB subcontracting plan is not being met or ensure prime contractors a submitting their monthly HUB subcontracting report. As a result, TxDOT cannot definitively state if it is receiving the appropriate HUB credit.

One of TxDOT's purchasing objectives is to conduct public purchasing without favoritism and without being arbitrary or capricious. TxDOT did not meet their targeted number of HUB bids in FY08 or FY09. GSD provided this as the explanation as to why: if all of the purchases were competitive the number of bids to be requested would equal the number of bids requested. However, many of these purchases may have been proprietary purchases, repair indeterminate, etc. Regardless, the policies state that for small purchases, those less than $5,000, purchasers should select HUB vendors whenever possible; for between $5,000.01 and $25,000, the purchaser must get at least 3 bids, 2 or 66% of which must be HUBs; and for purchases over $25,000.01 three quotes are preferred or solicited. According to TxDOT's APS data provided for FY08 and FY09, TxDOT failed to meet their policy requirements.

In FY08, the following data is reflected for all purchase orders.
- For purchases under $5,000, only 21.11 percent were HUB bids and these HUB bids were awarded 18.63 percent of all purchase orders;
- For purchases between $5,000.01 and $25,000, only 40.19 percent were HUB bids and these HUB bids were awarded only 19 percent of all purchase orders; and
- For purchases over $25,000.01, only 28.04 percent were HUB bids and these HUB bids were awarded 17.26 percent of all purchase orders.

In FY2009, the following data is reflected for all purchase orders.

- For purchases under $5,000, only 20.26 percent were HUB bids and these HUB bids were awarded 17.02 percent of all purchase orders;
- For purchase between $5,000.01 and $25,000, only 39.79 percent were HUB bids and these HUB bids were awarded only 18.25 percent of all purchase orders; and
- For purchase over $25,000.01, only 35.97 percent were HUB bids and these HUB bids were awarded 23.33 percent of all purchase orders.

For the DBE program, TxDOT has met or came close to achieving DBE program goals over last two years (12.17 percent in FY 2009 compared to a goal of 11 percent and 14.71 percent in FY 2008 compared to a goal of 12.12 percent) and was a fraction of a percentage below its goal in FY 2007 (11.56 percent compared to a goal of 12.12 percent).

The MOR team requested procurement data from TxDOT, including specific contracts and associated work authorizations, whether the prime contractor was a HUB/DBE and the total contract value. Where possible, the MOR team requested the number of bidders and which were HUBs and/or DBEs. The MOR team hoped to perform an analysis to understand how many and what kind of firms bid for various contracts and which kinds of firms tended to win contracts. From this information, we would be able to assess whether there was a specific firm or specific type of firm that was consistently winning contracts.

The team first analyzed the monthly Construction and State Maintenance Letting DBE/HUB reports to get a better understanding of construction and maintenance procurement. This report shows the number of projects that were let during the month, the number of total bids received, and the total number of HUB/DBE bids received. It went further to break down the ethnic and gender breakdown of the HUB/DBE bidders and low bidders. However, it did not separate which firms bid on which projects, and therefore it was not possible to tell how many bidders there were for each project or what the ethnic and gender breakdown was of the bidders. We then attempted to compare this data to the data reported to FHWA, but we found that the number of prime contractors reported on the FHWA report did not match the data from the monthly Construction and State Maintenance Letting DBE/HUB/SBE reports.

The team next looked at professional services contracts. We obtained the data from the division or office responsible for managing the contracts (e.g., Design Division for design contracts, Right-of-Way Division for right-of way projects). We found that each division did not track the contract data in the same way. From some divisions, we were easily able to see the contract number, associated work authorizations, amount expended during each fiscal year and whether the firm was HUB/DBE. From others, we were only able to get total work authorizations (not broken out by fiscal year) and no information regarding HUB/DBE firms. We attempted to manually match the names of the firms to names within the DBE database, but given how frequently the DBE database changes, firms that were not currently on the list may have been previously and vice versa. Therefore, a manual attempt to match would not be completely accurate. Additionally, while the manual method was somewhat successful for small numbers of contracts, such as environmental contracts, it was an unreasonably large undertaking for a larger group of contracts, such as design contracts.

The team then looked at procurement data. TxDOT provided the team with a database of all purchases in FY 2006, FY 2007 and FY 2008. The team attempted to match this data to the HUB and DBE databases but ran into roadblocks in each case. For HUB firms, the team attempted to use the vendor identification (ID) number to match to the HUB database, but we found that the HUB database had multiple duplicates and instances where the same vendor ID number was matched to different ethnic and gender groups, which means that an effort to clean up duplicate vendor IDs would not have yielded clean data. It is important to note that TxDOT does not manage the master HUB database.

For DBEs, the MOR team attempted to match the firms based on name of the firm, given that a common ID number is not used in the DBE database. Unfortunately, the same firm was named multiple ways in the procurement data and not always the same way that it was listed in the DBE database. For instance, "ABC Corporation" may have been also been listed as "ABC Corp," and if "ABC Corporation" is the name in the DBE database, the two could not be matched using an automated query. Therefore, the team was not able to assess which firms in the procurement database were HUBs or DBEs. Further, there was no data available regarding exactly which firms bid for each contract, and therefore there was no way to determine how many HUBs and DBEs bid versus how many won contracts.

The MOR team was not able to draw any meaningful conclusions due to the poor quality of the data, and to provide results based on this data may be misleading. From the data that we were able to observe, it appears that non-minority women-owned businesses and Hispanic male-owned businesses make up the largest number of bids and contract wins of all HUBs and DBEs across all areas of contracting. This finding is similar to the findings presented in the *A Historically Underutilized Business (HUB) Disparity Study of State Contracting 2009*.

5.4.9   Approve participation

The overall rating for the approve participation program element is "orange" (results don't fully or consistently meet requirements). District DBE coordinators lack appropriate guidance and discipline, in addition to effective coordination with central OCR compliance specialists to determine whether prime vendors use good faith efforts to determine DBE participation on contracts.

5.4.9.1   *Key activities*

This process area consists of ensuring the DBE is appropriate for particular contracts. This topic is not applicable to the HUB program.

5.4.9.2   *Observations and findings*

Timeliness of vendor review and approval. Following the identification of a lowest bidder, TxDOT will make a "conditional" award. The lowest bidder receiving this "conditional" award has 15 days to submit the required documentation (bonds, insurance, DBE requirements, etc.). If this deadline is not met, TxDOT will revoke the "conditional" award and make a "conditional" award to the next lowest bidder. Interviews did identify that this does happen on occasion, but is not the norm.

5.4.10 Monitor compliance

The overall rating for the monitor compliance function is "red" (issues or problems consistently or frequently impede performance). TxDOT lacks sufficient resources, policy and guidance to effectively monitor and enforce DBE program requirements. There is a substantial lack of coordination and collaboration between central OCR compliance specialists and district DBE coordinators to properly flag and research compliance issues.

5.4.10.1 Key activities

This process area consists of ensuring the appropriate processes and policies are established and executed to understand whether TxDOT is complying with DBE and HUB laws and regulations and meeting DBE and HUB program goals.

5.4.10.2 Observations and findings

Clarity and currency of plans and processes. Processes appear to exist for monitoring DBE and HUB program compliance to meet goals, laws and regulations.

Effectiveness of compliance monitoring. HUB program guidelines provide limited enforcement abilities—there is no enforcement to ensure that prime vendors meet the stated goals on their plans. This issue is noted in the 2009 Disparity Study, which stated "…participants expressed concern that (1) HUBs are listed in HUB subcontracting plans but are dropped after the contract is awarded, and (2) good faith effort submissions are not reviewed or enforced." The MOR team heard anecdotally that contract managers generally don't ask the prime contractor why the HUB subcontracting plan is not being met or ensure prime contractors a submitting their monthly HUB subcontracting report. As a result, TxDOT cannot definitively state if it is receiving the appropriate HUB credit.

5.5   Recommendations

Table 5-11 summarizes the recommendations for the TxDOT procurement function.

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
5.1	Restrict procurement activities to the regions and specific divisions only.	*Management and leadership.* TxDOT has no consistent, overarching procurement strategy. Their mature processes (letting and purchasing) and immature processes (contracting) have progressed in different directions, and as a result, responsibilities, approvals, signature authority and oversight vary significantly. Regional leadership has proven results to improve the contracting and purchasing process efficiency and cost savings, but some districts are having trouble accepting the new procurement procedures outlined in regional SOPs. Restricting procurement activities to only these organizations will limit TxDOT's risk, and using contracting experts will increase efficiency and effectiveness of the procurement

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
		process.
5.2	Develop a Department-wide strategic sourcing plan (what will be bought) and procurement plan (how it will be bought), including properly planning for consultant support.	*Management and leadership.* There is limited governance and oversight for contracting processes. Process ownership, signature authority and contract review vary by contract type. Those with signature authority can directly influence the process, posing a conflict of interest and failure to maintain independence. This recommendation will allow TxDOT to have more control over the process and strategically map how procurement will be used to achieve Department goals.
5.3	Use trained and certified procurement officials to manage all procurement processes and use subject matter experts for process support only.	*Management and leadership.* Individuals are not required to complete an adequate amount of training before working with contracts. TxDOT should use properly trained and certified procurement officials for all procurement activities in order to effectively and efficiently carry out procurement activities, and use subject matter experts only to support the procurement officials. This will also increase accountability by restricting procurement activities to a smaller group of authorized personnel.
5.4	Develop standardized processes and approaches to form a single procurement architecture for all procurement activities, including: • Minimizing the number of personnel who have signature authority and keeping signature authority commensurate to the level of award, regardless of contract type; • Limiting re-delegation of signature authority; • Streamline process flows where applicable to remove all non-value added steps; • Developing contracting source selection procedures to provide improved transparency and remove potential conflicts of interest; and • Establishing reporting capabilities for regional procurement performance measures.	*Policies, procedures and processes.* Procedures for letting and purchasing are generally well-documented and clear, but there is no consistent contracting process. In contracting, there are 21 types of positions outside of the Administration with the ability to sign contracts which legally bind the Department. Limiting signature authority and implementing other standardized processes such as source selection will limit TxDOT's risk and improve transparency and accountability.
5.5	Develop a comprehensive procurement database capable of capturing, maintaining, and reporting critical information and data, including:	*Supporting systems and data.* Each process (contracting, letting and purchasing) uses multiple systems that connect to varying degrees, but most information requests require multiple systems to generate desired data, especially those for contracting information. There are

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
	• Contract information; • Work authorizations issued; • Contract award amounts; • Actual contract expenditures; • HUB/DBE information; • Subcontractors; and • Contractor performance, including additional expenses outside of initial contract value and rationale.	issues with system support and data availability and accuracy for all systems. There are no data standards required when entering data into a system, resulting in issues with tracking vendor data for performance monitoring, analysis, and HUB reporting. CPA's ProjectOne ERP initiative may help to resolve some issues, but at this point it is unclear what functionality will be available to TxDOT as a result. A comprehensive procurement database will assist TxDOT in reporting, tracking vendor performance and understanding the full picture of contract value changes.
5.6	Improve performance oversight by: • Using CPA's Vendor Performance Tracking System to assess and track vendor performance; and • Continue to use the regional structure to provide oversight on district processes.	*Manage contract.* In purchasing, there are consistent purchase order oversight principles regarding performance evaluations, invoicing and reporting. However, they do not fully use all methods available to document vendor performance, particularly for TxSmartBuy contracts. By improving performance oversight, TxDOT will be able to monitor performance, track performance to contract requirements and ensure that projects are on schedule.
5.7	Provide internal and/or external training for personnel for topics such as, specification writing, contract evaluation, negotiating skills and techniques, contract management and oversight, financial auditing, project management, etc., related to the procurement lifecycle or contract for the skills and abilities to supplement TxDOT staff.	*Manage contract.* TxDOT is not sufficiently developing the skills of their employees in contract management. Although TxDOT is exempt by statute from requiring training, contract management employees need a comprehensive understanding of how to perform this vital task and learn the necessary tools and methodologies to manage contracts effectively.
5.8	Improve HUB/DBE oversight on prime contractor use of HUB/DBE subcontracts to improve "good faith effort" controls.	*HUB/DBE program management.* Information collected during interviews highlighted that the DBE function was established in July 2006, and was staffed with personnel not all too familiar with the DBE program. HUB program guidelines provide limited enforcement abilities. Statutes require only that a prime contractor show a good faith effort to include HUBs on their subcontracting plans, and there is no enforcement to ensure that prime contractors meet the stated goals on their plans. TxDOT should improve their oversight of contractor use of HUB/DBE subcontracts in order to be sure that the contractors are meeting their stated goals, thereby increasing the use of HUB/DBE businesses.
5.9	Establish a central HUB and DBE program management office to	HUB and DBE program management: to increase communication and collaboration and to increase economies of scale. Logical units

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
	organize HUB and DBE program management functions	include: outreach, certification, and compliance.
5.10	Develop a program management plan that central program office can identify certification and compliance objectives for each program; this plan would include: • Clearly defined roles and responsibilities of the central office and field resources • Necessary policies, procedures and processes necessary to execute program management functions • Performance measures to increase program accountability	HUB and DBE program management: to establish HUB and DBE program objectives, roles and responsibilities, policies and procedures, and performance measures that will help manage program priorities and resources.
5.11	Conduct detailed central and field skills and workload assessments to determine the necessary skills and number of resources necessary for each program management function.	HUB and DBE program management: to determine staffing needs.
5.12	Identify necessary data and systems to effectively monitor complex program requirements (e.g., dashboard of HUB and DBE overall goals, and drill down capability to determine what contract types and HUB and DBE categories are standing)	HUB and DBE program management: to enable sound program management with reliable data.

Table 5-11: Procurement recommendations

May 26, 2010

This page intentionally left blank.

Section 6: Communications business process diagnostic

This section presents a high-level diagnostic review of TxDOT Communications processes and practices, reviewing both how Communications support TxDOT's mission achievement and how Communication responsibilities are managed and delivered within the organization. Subsection 6.1 introduces the Communication function generically. Subsection 6.2 presents an overview of TxDOT Communications requirements, practices, processes and roles and responsibilities. Subsection 6.3 summarizes assessment observations and findings for Communications. Subsection 6.4 presents recommendations for future action.

6.1 Introduction to communications

Communications provides stakeholders a gateway into an organization and heavily influences stakeholder perceptions of organization's operations, including its efficiency, effectiveness, transparency and accountability. The MOR team reviewed two major types of communications at TxDOT:

- External communications to stakeholders (e.g., Legislature, media, Governor, Federal oversight agencies) traveling public (e.g., Texas citizens and businesses, interstate travelers) and partners (e.g., MPOs, industry/trade groups and interest groups); and
- Internal communications within the organization.

6.1.1 Communications functions
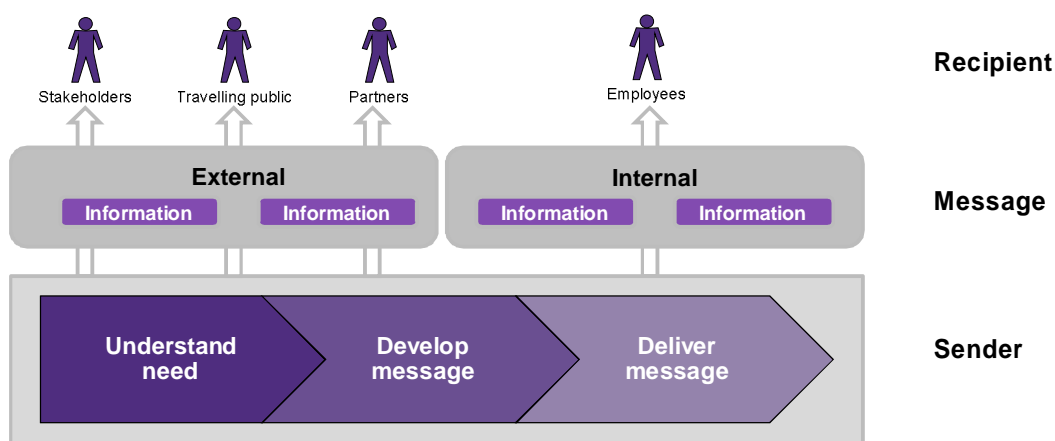
Figure 6-1: Communication functions

Regardless of the audience, the communications process begins with understanding what needs to be communicated and to whom. Absent this information, there is no way for communications to be truly proactive in responding to information needs. This can be done many ways and can take the

form of a needs assessment, periodic surveying, analysis of inquiries and complaints. The result of the "understand need" phase of work should be a communications plan that outlines:

- Who are critical recipients of communications;
- What is important to the recipient;
- When recipient needs message; and
- What is the best communications channel to deliver the message.

Once communications needs are established and a communications plan is developed, a communication is developed to respond to the recipient's communications need. This communication may be formal or informal, may be intended to reach an audience of millions or of one, and may use any communications channel (e.g., meeting, Internet, publication, press release). As part of the communication development stage of work, there must be a quality control and assurance process.

The actual delivery of the communication, or how the sender conveys an intended message to an intended recipient, ultimately can determine its effectiveness. The communication must be timely, accessible and reliable and expectations about the communications (e.g., content, timeliness, right to preview) must be in line with the delivered communication. Finally, the communication must actually reach its intended recipients.

6.1.2   Importance of communications to TxDOT

Communications policies and practices play an extremely important role in how TxDOT interacts with key external stakeholders and how its internal operating units interact with one another. Since TxDOT has one of the largest public agency operating budgets in Texas, legislators and the public want to know how the organization spends its monies to provide for the State's critical transportation services and how those services are being provided. In addition, internal communication practices can affect how effectively and efficiently TxDOT operating units exchange information necessary to conduct business. Essentially, everyone in TxDOT has a role in communicating, making communications a vital management process.

6.2   TxDOT communications

Subsection 6.2 provides an overview of the communication business function at TxDOT, and contains the following information:

- Federal, State and TxDOT requirements that govern the function;
- Roles and responsibilities;
- Process overview; and
- Best practices and initiatives.

6.2.1   Requirements

While internal communications are critical to organizational effectiveness and efficiency, most requirements impact external communications. There are numerous Federal and State requirements

for communicating with key stakeholders and the public around major activities and organizational status. Examples of such requirements are shown below; additional legislative reporting requirements are presented in Appendix G.

- *Texas Administrative Code (TAC) RULE §3.14 Electronic Access to Department Records - Electronic on-line delivery systems* requires the Department to provide certain information through a Departmental World Wide Web Site (http://www.dot.state.tx.us). Information concerning doing business with the Department, news about the Department, tourism and travel information, public transportation information, and other transportation-related information must be provided through this web site;

- *Appropriations Rider 38 – Appropriations Contingent upon Reporting Requirements* requires TxDOT to provide a status report on actions taken to fulfill the requirements made under the provisions of Rider 20, Reporting Requirements;

- Federal and State rules require ***project plans*** to be communicated:

  o 23 USC §101(a) and 23 CFR §450.104 and §500.503 for public involvement policy for projects (NEPA), MPO coordination, STIP, MTP

  o Unified Transportation Program (UTP) - TAC RULE §15.4 Unified Planning Work Program (UPWP);

- The State requires that TxDOT report on ***roadway congestion*** through Riders 55 and 56 that instructed TxDOT to develop and disseminate a list for the 100 most congested roadways in Texas; and

- Examples of State requirements for ***financial and organization performance*** include:

  o Rider 20 requires a monthly State Highway Fund 006 revenue report, a variance report for describing reasons for the fluctuation and expenditure information at the same level as appropriations; it requires TxDOT to immediately notify the LBB and the Governor in writing specifying the affected funds and the reason for any anticipated changes.

- TxDOT is bound to reply to ***inquiries and complaints*** as a result of the Federal Public Information Act and the TAC - Chapter 3: Public Information, Subchapter B: Access to Official Records

6.2.2   Roles and responsibilities

TxDOT has select organizational elements that have very targeted responsibility for communications and/or for which communications is a primary responsibility. However, communications duties extend beyond those for whom this is a primary responsibility insomuch as every person in a leadership position has communications responsibilities. The MOR team heard anecdotally that:

- During session, Executive Directors can spend as much as half of their time working on Legislative liaison activities;
- District Engineers, the "front line" representatives for TxDOT must work regularly with local elected officials, stakeholder groups, and members of the public;
- Some divisions must coordinate very actively with stakeholder groups (e.g., FHWA) and/or citizens (e.g., for Right-of-way acquisitions);

- Each D/D/O maintains its own intranet (Crossroads) pages; TSD publishes the updates as requested by D/D/O; and
- Every front-line TxDOT employee communicates with the public—directly by discussing highway construction and maintenance projects that are underway and indirectly as they undertake the work of the agency

Those who hold positions for which communications is a key part of their job duties are:

- GPA staff provide central communications coordination, establish policies and procedures for communications activities (external and internal) and support districts, divisions and offices with communicating consistent messages to legislators and the media.

  o GPA coordinates statutorily required reports to the Legislature with the D/D/O/R who is the SME. D/D/O/R drafts the report and provides to GPA six weeks before the deadline. GPA reviews the report and works with D/D/O/R to make any revisions in a two week period and then submits the report to Administration. GPA revises the report with the D/D/O/R per Administration feedback. GPA submits the report. If report requires Commission approval, an additional month is required before the due date so appropriate action can be taken in time.

  o GPA helps prepare legislative testimony for Administration and Commission by either editing draft testimony prepared by the relevant subject matter expert or by drafting the testimony and sending it to the subject matter expert to review.

  o For press releases that relate to multiple or all D/D/O/Rs, GPA develops standard messaging and then provides as guidance to the division MLOs and district PIOs. MLOs and PIOs may tailor the message as they see appropriate before dissemination to the pubic and/or media.

  o GPA serves as the primary point of contact to which all formal reports and studies are sent for quality assurance.

  o Some D/D/O/Rs use GPA to review specific communications—for example, GPA reviews the Project Tracker tool for SPPM to improve quality of communication.

  o GPA coordinates general outreach messaging to external stakeholders.

  o GPA reviews most content posted by the D/D/O/Rs on the TxDOT Internet site.

  o GPA scripts the Executive Director videos by working with the ED to develop topics, coordinating with the Travel Division on video production, coordinating with Technical Services Division (TSD) to publish video on Crossroads, and finally communicating with TxDOT staff when new videos are posted.

- Public Information Officers (PIOs) in the districts who report to district engineers and serve as official communications representatives for districts.
- Media Liaison Officers (MLOs) and public information coordinators are part-time resources who hold other positions but serve as media relations representatives for divisions and offices.
- TxDOT has a audio and visual group within the Travel Information division that produces many of TxDOT videos used to communicate agency information to external stakeholders and that produces the video updates from the Executive Director that are disseminated throughout TxDOT.

- To develop procedural manuals, General Services Division (GSD) provides tool to develop online manuals and provides guidance and quality assurance reviews to the D/D/O/Rs.
- Office of General Counsel (OGC) oversees public information requests, a legally bound process; each D/D/O has a Public Information Coordinator (part-time role) that tracks and manages its public information requests.

The positions that have a role in communications and their organizational alignment is shown in Figure 6-2.
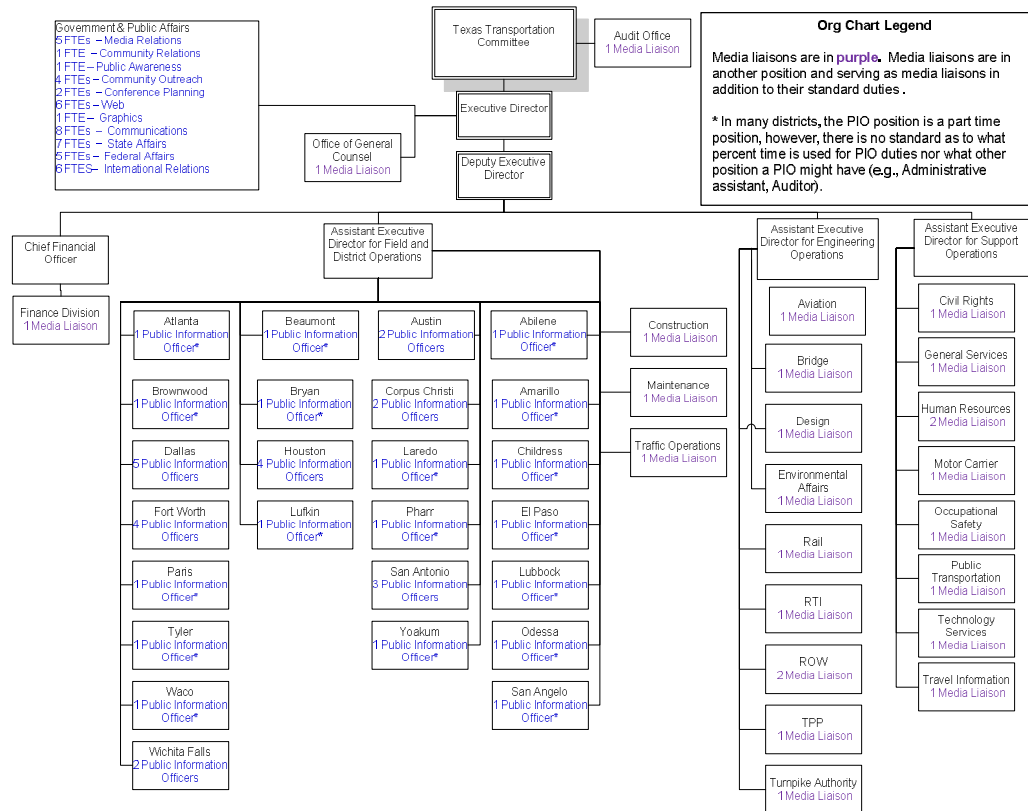
Figure 6-2: Communications FTEs

6.2.3   Communication process overview

Nearly everything that TxDOT and its personnel do is, in some way, communicating or leading to a communication, whether it's external, internal, formal or informal. In order to assess the communications at the agency, the MOR team reviewed the communications lifecycle (understand need, develop message, deliver message) by looking at external and internal communications discretely and by reviewing select important or representative communications efforts.

The external communications efforts the MOR reviewed include:

- Project plan and status: Communications about what transportation projects are planned, how they were decided upon and prioritized, current status and performance standards of transportation projects;

- Roadway condition: Communications about state of roadways and bridges, such as pavement quality, traffic and congestion, closures, construction zones and inclement weather;
- Financial and organizational performance: Communications about organizational funding, strategy, goals, objectives, and performance measures;
- Inquiries and complaints: Communications in response to legislative (State and Local) complaints and inquiries, public complaints, and public information requests; and
- General outreach: General communications, typically to broad groups of recipients.

The internal communications efforts the MOR team looked at include:

- Organization information: Basic information about the organization, such as division, district, office and region structures and lists of employees working in the units;
- Agency direction: Strategic information about agency vision, mission, goals, objectives, major initiatives (e.g., regionalization) and updates;
- Policies and procedures: Information on the policies and procedures to be used to execute agency business;
- Employee performance: Information regarding individual employee and organizational unit performance; and
- Knowledge sharing: Information shared among employees and organizational units that is intended to improve process efficiency and effectiveness.

TxDOT is currently undertaking several initiatives to improve effectiveness of agency communications:
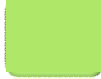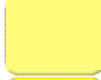
- **TxDOT Tracker**. Interactive web-based tool that presents agency performance information to external stakeholders. TxDOT elicited input from legislators, transportation partners and public to develop new performance measures as they relate to agency goals. TxDOT should continue to solicit feedback from external stakeholders to ensure this tool provides information that is relevant to stakeholders' needs;
- **Primavera (P6)**. The P6 initiative provides a crucial step to improve data quality of project information presented by the Project Tracker tool. P6 efforts include data cleansing of the underlying project data for Project Tracker, the agency's vision for the gateway to all TxDOT projects; and
- **I-35 and I-69 Citizen Advisory Committees**. TxDOT established advisory committees for the I-35 and I-69 corridors and segments so they can participate in strategic and forward thinking with these vital transportation corridors; they study the impact of corridor-wide issues, including economic, political, societal, demographic population trends, use of existing/new/upgraded facilities, multi-modal solutions, and financing options. These are important to strengthen TxDOT's reputation after the Trans-Texas Corridor effort. Enhance participation and input between TxDOT and affected communities, governmental entities and interested parties.

6.3   Observations and findings

Subsection 6.3 presents an overall assessment of the communication business process area together with associated observations and findings.
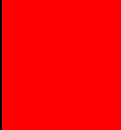
6.3.1   Assessment summary

The MOR team rated each assessment point using a qualitative scale, defined in Table 6-1.

	Optimum performance
	Results consistently exceed requirements; improve over baseline
	Results consistently meet minimum requirements
	Results don't fully or consistently meet requirements
	Issues or incidents consistently or frequently impede performance
	Not performed; encountering problems that may or will cause harm

Table 6-1: Qualitative rating scale

Table 6-2 summarizes the communication assessment ratings. The remainder of subsection 6.3 presents the basis for each of these ratings.

Process dimensions	Assessment factors	Rating
Management and leadership	• Clear lines of authority; • Appropriate level of authority; and • Staff morale.	
Policies, procedures and processes	• Clarity; • Relevance; • Currency; and • Standardization.	
Organizational structure and alignment	• Logical functional alignments and groupings; and • Effective coordination with others.	
Support systems and data	• Data availability; • Data fidelity and accuracy; and • System functionality/interoperability.	
External communications: understand need	• Processes and timelines for developing communications plans for key stakeholder groups defined and implemented; • Communications plans developed on appropriate schedules; and • Stakeholder feedback proactively gathered and factored into communications plans.	

External communications: develop message	• Standards and practices for selecting most effective communications channel; • Messaging standards, tools and templates; • Information and data standards and quality assurance procedures; and • Message consistency.	
External communications: deliver message	• Stakeholder expectations appropriately set and achieved by TxDOT; • Message received by intended audience; and • Appropriate channels used to communicate message to intended audience.	
Internal communications: understand need	• Processes and timelines for developing communications plans for key stakeholder groups defined and implemented; • Communications plans developed on appropriate schedules; and • Stakeholder feedback proactively gathered and factored into communications plans	
Internal communications: develop message	• Standards and practices for selecting most effective communications channel; • Messaging standards, tools and templates; • Information and data standards and quality assurance procedures; and • Message consistency.	
Internal communications: deliver message	• Expectations appropriately set and achieved; and • Message received by intended audience.	

Table 6-2: Communications qualitative ratings

6.3.2   Communication management and leadership

The overall rating for Communications management and leadership is "orange" (results don't fully or consistently meet requirements). This rating is because communications, as a function, is owned by GPA as well D/D/Os, creating no single point of authority, ownership or accountability.

6.3.2.1   Key activities

This area focuses on how communications is managed and led within TxDOT. Effective management and leadership of communications activities is expected to improve the Department's efficiency and its effectiveness in responding to the needs of its customers and stakeholders. Effective management and leadership of communications activities involve devising short- and long-term communications strategies and initiatives and developing plans and methods to achieve these strategies. Management and leadership also are expected to provide advice and guidance regarding work activities.

6.3.2.2   Observations and findings

Clear lines and appropriate level of authority. Through review of information furnished by TxDOT, interview findings and accepted organizational management practices, the MOR team observed communications, as a function, is owned by GPA as well as divisions and districts; creating no single point of authority, ownership or accountability; DEs and PIOs not required to follow GPA guidance on communications.

Staff morale. While most employees indicated they understand their individual roles and responsibilities, many indicated that TxDOT leadership did not effectively communicate regionalization and as a result were nervous about any changes to their job status and responsibilities.

6.3.3   Communication management policies, procedures and processes

The rating for Communications policies, procedures and processes is "yellow" (results consistently meet minimum requirements). This rating is because TxDOT has policies for designating the district PIO roles, communicating formal reports to the Legislature and responding to and reporting open records requests. However, most quality assurance reviews on communications are informally performed and do not have procedures.

6.3.3.1   Key activities

Although Communications is, by its very definition, pervasive and as times informal, it is critical that TxDOT be proactive and transparent in its formal communications. Proactive, effective communications rely upon well-thought-out, current documentation of governing policies, procedures and processes. The key activity in this area is developing, maintaining, disseminating and communicating a complete and appropriate body of policies and procedures to guide communications work across the organization..

6.3.3.2   Observations and findings

Through review of information furnished by TxDOT, interview findings and accepted organizational management practices, the MOR team observed the following.

Clarity and standardization. Where policies and procedures exist, they are not always communicated well. For example, Legislative reporting procedures are stated in memos (e.g., February 25, 2004 *Legislative Communication* memo and February 15, 2006 *Procedures for Reports to the Legislature* memo) that are not readily found on the agency intranet (Crossroads). In addition, policies are not always followed consistently, seemingly with no repercussions. The MOR team find this as a result of our understanding that not all D/D/O/Rs use the current complaint tracking system (TxDocs) to store complaints—yet there is no accountability for this failure to use the system.

Relevance and currency. Procedures for Legislative reporting, public information requests management and complaints management exist. However, there don't seem to be policies and standards for who in the organization may communicate what information to external stakeholders (with the exception of Legislature), so D/D/O/Rs may freely communicate to whomever, sometimes leading to issues of conflicting communications being provided by TxDOT to the public.

6.3.4   Communication organizational structure and alignment

The rating for Communications organizational structure and alignment is "yellow" (results consistently meet minimum requirements). This rating is because GPA provides guidance to district PIOs and MLOs, but has no authority over these entities, resulting in no single point of

accountability for communications. PIOs and MLOs are not required to communicate GPA's statewide messages.

6.3.4.1 Key activities

Organizational structure and alignment involves grouping tasks and assigning personnel in a logical way to efficiently deliver effective, consistent results. The organizational structure should define clear and appropriate methods for collaboration as well as accountability and authority for communications.

6.3.4.2 Observations and findings

Findings in this subsection reflect information provided by TxDOT, interview results, focus group input and organizational design principles.

Functional alignments and groupings. GPA provides guidance to PIOs and MLOs through conducting bi-weekly conference calls to coordinate statewide communication efforts; most PIOs attend these calls, but MLO participation varies.

Coordination with others. GPA provides standard statewide communication materials (e.g., press releases) but PIOs are not required to disseminate and are able to tailor messaging without GPA approval. Some district PIOs and all division MLOs are not dedicated communications resources and may not have communications backgrounds. Since a great deal of communications requires judgment based on best practice and past experience (e.g., knowing when it is appropriate to respond to external stakeholder inquiry and how to convey a message that will not pose further risk of misinterpretations from public), this can be problematic.

6.3.5 Communication support systems and data

The rating for Communications support systems and data is "red" (issues or incidents consistently or frequently impede performance). This rating is provided because the MOR team heard in interviews and observed that TxDOT does not have systems that allow it to provide consistent responses to inquiries and that data often have to be qualified to the point of losing validity and meaning. Some of this data system issue could be eliminated if TxDOT were to set reporting standards and policies. For example, financial information may be reported based on calendar year or fiscal year and may be based on cash accounting or modified accrual accounting. Moreover, financial data for a given period can change, even if the period has ended, dependent upon rules for transaction management. Some of these data issues could or may be resolved with the ERP system implementation. However, many could be resolved by simply setting reporting policies that established that every financial report was run based on a particular definition of "year" and off of a single set of books.

6.3.5.1 Key activities

This dimension encompasses the adoption and use of appropriate tools and methods, including IT-enabled tools, to support efficient communications. It also includes the availability of data and tools to support timely and accurate messaging, including data regarding transportation project cost and

available funding. In general, TxDOT has to manually extract data from multiple sources to produce reports that often are perceived to be inaccurate and inconsistent. TxDOT lacks effective tracking systems to manage complaints and legislative inquiries.

6.3.5.2   Observations and findings

Findings in this subsection reflect information TxDOT furnished, interview findings and data inquiries.

Data availability, fidelity and accuracy. Financial information is kept in so many systems and formats that it is easy for data to be inconsistent. In addition, budgets keep changing and allocations continue to be adjusted, not on a particular schedules or timelines. The MOR team heard that leadership believes that stakeholders need to understand TxDOT's fluid environment, rather than seeing changing data as a problem. As a result of data inconsistencies, constantly changing data and the leadership's attitude about data issues, TxDOT's reporting is mistrusted by many external stakeholders. Those same stakeholders believe that TxDOT intends to 'game' their responses to queries (e.g., by changing the budget only days after a report on status against budget is provided).

System functionality/interoperability. Systems are not integrated and frequently require extensive manual data extraction to produce reports. For example, the Environmental Tracking System (ETS) does not allow for relevant information to be captured in an accessible format nor does it allow project status information to be reported efficiently. Most useful information is dumped into comments fields, which does not allow for standardization of documentation or easy retrieval of key information. Consequently, ENV staff spend a significant amount of time copying information from ETS into spreadsheets and asking individual technical staff questions about project status. Staff also track and manage projects on individual spreadsheets, which makes key information less accessible and introduces variation in how their projects are tracked. The current complaint tracking system (TxDocs) is not meeting TxDOT's needs, although TxDOT is procuring a new system to meet complaint tracking needs.

6.3.6   External: understand need

The rating for External communications: understand need is "red" (issues or incidents consistently or frequently impede performance). This is because TxDOT doesn't have any practices in place to gather communications requirements from its stakeholders and often ends up communicating with external stakeholders in reactive manners. It is easy to believe that if TxDOT were effectively understanding its stakeholders' communications needs—and responding to those needs—there would be many fewer Legislature Riders requiring new reports or tools to which TxDOT must respond. TxDOT began a communications strategy three years ago, but it was never completed as a result of other organizational priorities.

6.3.6.1   Key activities

Critical to understanding communications needs is identifying critical recipients of external communications, what is important to the recipient, when recipient needs message and how

recipients will receive message. This stage of the communications lifecycle also includes incorporating recipient feedback into communications needs.

6.3.6.2   Observations and findings

Findings in this subsection reflect information gathered through interviews and data inquiries.

Processes and timelines and communication plans. TxDOT does not develop official communication plans for key external stakeholders, partners and the traveling public. There was an attempt to develop a communications strategy in 2007 (*Connecting the Dots*), but unforeseen events took priority and TxDOT set aside the effort. Although TxDOT has more clear ownership and procedures documented for communications with legislature stakeholders, other key external stakeholder groups are left without official ownership and procedures, further challenging the agency's ability to provide consistent, timely information relevant to stakeholder needs.

Stakeholder feedback. TxDOT seems to initiate communications in response to queries or critiques. For example:

- In response to a perceived dearth of communications, the Legislature adopted a number of Legislative Riders to require particular types of communications or data on a set frequency. For example, Rider 55 requires TxDOT to report on all planned projects that were to go under construction in FY 2010; and
- In response to the 2009 Sunset review, the Department began formally tracking complaints and inquiries (except for Public Information requests that OGC tracks and reports) using the TxDocs tool. However, there is no formal analysis of complaints to support proactive communications—in other words, TxDOT can now provide counts of inquiries and complaints but does not inform communications strategies with the queries and complaints that are received by the Department.

Where TxDOT has tried to be proactive in its communications, that those communications are not tied to a particular need makes it difficult to know whether the communication is effective in accomplishing its objectives. For example, Town Hall meetings are being held across Texas with an objective of having open discussions about "what's on everyone's minds." While increased communications are generally positive, it's not possible to know if the cost (in time and effort) is worth the value provided from the Town Hall meetings since without an objective, there is no way to know whether the meetings' value exceed intended or not.

TxDOT has no formal practices of proactively obtaining feedback on communications provided to external stakeholders to stay current with stakeholder needs; this feedback is key to determining whether communications are accessible, timely and address stakeholder needs.

6.3.7   External: develop message

The overall rating for External communications: develop message is "orange" (results don't fully or consistently meet requirements). TxDOT does not follow consistent quality assurance practices for

most of its external communications. This rating is for two primary reasons: (1) messages are being developed using data that are not reliable (as referenced above), (2) unless it is because of a directive or critique, messages are often not targeted to a particular need (as referenced above), reducing the possibility that they will be developed effectively.

6.3.7.1   Key activities

This stage of the lifecycle involves using appropriate resources to develop messages, confirming the accuracy and consistency of information, and deciding on an effective delivery strategy.

6.3.7.2   Observations and findings

Findings in this subsection reflect information received through interviews as well as data inquiries.

Standards and practices for selecting communication channels. TxDOT has multiple communications channels, but no clear direction as to when one should be used vice another.

Messaging standards, tools and templates. There is a lack of documented subject matter ownership to help improve information consistency, as D/D/O/Rs indicated that the only way to know and understand who holds the information is a function of longevity with the agency. Examples of message consistency and data accuracy issues that hinder TxDOT's ability to effectively develop communications to external stakeholders include:

- Project data is inconsistent and seems to have no authoritative source for information. Project priorities constantly change throughout the planning process based on competing factors, leading to data accuracy issues. The Project Tracker tool presents data fed from multiple data sources that did not undergo extensive cleansing before presented on the tool (e.g., the tool initially contained projects that date to early 1900s). Projects searched in multiple TxDOT tools present conflicting information (e.g., project ID 018005058 in the Project Tracker tool provides different information than the same Project ID in the TxDOT Expressways tool). (TxDOT hopes to improve data quality with the P6 implementation.)
- The verbiage used to communicate is not always clear. Rather than taking ownership of communications issues, TxDOT leadership viewed the complexity of engineering as an excuse for communications problems. As an example, project status in Project Tracker shows projects as "funded" before they are, in fact, funded because of the way in which TxDOT uses that term. However, "Project Studies" and the "FY 2010 Planned Projects" tool include projects in construction – this makes it hard to tell what status each "study" is in.
- Independent project websites (e.g., www.dfwconnector.com, www.projectpegasus.org) have inconsistent branding and methods of indicating project status, causing disjointed views of TxDOT projects.
- TxDOT has been unable to communicate how its annual budget is expended; resulting in the Comptroller attempting to do this with 'Where the Money is Spent' effort.

Information and data quality assurance: Quality assurance procedures are not always clear and not consistently followed. For example, the MOR team heard that while D/D/O/Rs generally

involve GPA in all communications with State and Federal elected officials, it is unclear whether Administration and/or Commission needs to review certain types of topics before its release. There is no policy, procedure or guidance that states what types of information requires such review, so it left to judgment. For "important" topics, before a message goes to the ED or Commission, GPA generally obtains approval from the DED and/or an AED. In addition, while GPA officially owns the TxDOT Internet (txdot.gov), some D/D/O/Rs post content via TSD without GPA review.

Message consistency. Project data is inconsistent and seems to have no authoritative source for information. Project priorities constantly change throughout the planning process based on competing factors, leading to data accuracy issues. The Project Tracker tool presents data fed from multiple data sources that did not undergo extensive cleansing before presented on the tool (e.g., the tool initially contained projects that date to early 1900s). Projects searched in multiple TxDOT tools present conflicting information (e.g., project ID 018005058 in the Project Tracker tool provides different information than the same Project ID in the TxDOT Expressways tool). (TxDOT hopes to improve data quality with the P6 implementation.)

The verbiage used to communicate is not always clear. Rather than taking ownership of communications issues, TxDOT leadership views the complexity of engineering as an excuse for communications problems. As an example, project status in Project Tracker shows projects as "funded" before they are, in fact, funded because of the way in which TxDOT uses that term. However, "Project Studies" and the "FY 2010 Planned Projects" tool include projects in construction – this makes it hard to tell what is the status of each "study."

Independent project websites (e.g., www.dfwconnector.com, www.projectpegasus.org) have inconsistent branding and methods of indicating project status, causing disjointed views of TxDOT projects.

TxDOT has been unable to communicate how its annual budget is expended; resulting in the Comptroller attempting to do this with 'Where the Money is Spent' effort.

The MOR team heard the following feedback from members of the Legislature that indicates TxDOT does not effectively craft its messages to respond to these stakeholders' communications needs:

- "No one knows who to call at TxDOT to get information;"
- "General feeling is that TxDOT lies – getting different answers from different people;"
- "If you ask for something, they flood you instead of giving you the information you need;" and
- "Hard to find information on the web site."

The MOR team heard the following feedback from MPOs that indicates TxDOT does not effectively craft its messages to respond to stakeholder communications needs.

- "TxDOT should improve their communication of the modeling processes (travel demand and economic); both processes are very confusing;"
- "TxDOT needs to develop a step-by-step handbook for the MPOs;" and
- "… project development process is convoluted and TxDOT is not communicating the process clearly…no clear cut guidance for TIP development as it relates to SAFTELU… would help to have general guidance on planning documents…."

6.3.8 External communication: deliver message

The overall rating for External communications: deliver message is "orange" (results don't fully or consistently meet requirements). This rating is because while TxDOT produces communications of varied quality, from glossy brochures and sophisticated videos, to more simple reports, the Department does not proactively gather recipient feedback to determine whether message was communicated effectively.

6.3.8.1 Key activities

Key activities in delivering a message include providing the intended message using the appropriate channel (e.g., website, email, electronic newsletter, verbal testimony, informal conversation) to the targeted recipient(s).

6.3.8.2 Observations and findings

Findings in this subsection reflect interviews as well as information that TxDOT furnished.

Message receipt by intended audience . TxDOT does little to ensure messages are received by intended audiences. An example is that social media tools are used inconsistently and for varied purposes (e.g., to present roadway condition information and also general organizational news such as Jane Smith promoted to Area Engineer, holiday greetings)—information is not targeted to specific stakeholder group(s), making it hard to determine if messages reach targeted external stakeholders.

External stakeholder expectations. Without communication plans for key external stakeholder groups (e.g., Legislature, partners and traveling public), TxDOT does not have formal methods for determining whether communications meet stakeholder expectations. For example, TxDOT receives numerous requests from various external stakeholder groups about status of transportation studies and/or projects. TxDOT projects are presented in confusing categories on the TxDOT Internet website, as shown in Figure 6-3.

Figure 6-3: Project information page on txdot.gov

Channels used to communicate message. TxDOT communicates to external stakeholders using the following channels:

- Websites, such as TxDOT Internet website, independent project websites (e.g., www.keepitmovingdallas.com, www.dfwconnector.com and www.projectpegasus.org), Project Tracker, TxDOT Expressways, Road Conditions, Pavement Quality Scores map;
- Written reports (most are posted on TxDOT Internet website), such as planning documents (e.g., UTP, STIP, Project Selection Process), financial reports (e.g., annual financial reports, operating budgets, reporting riders, Central Texas Turnpike System financial statements, fiscal notes and cash flow charts), 100 Congested Roadways;
- Written and verbal legislative testimony;
- Written press releases for local media outlets;
- Public town hall meetings;
- Advertisements on billboards, in newspapers, and on television;
- Videos of Commission meetings posted on websites;
- Social media such as podcasts, email blasts, district Twitter feeds, blogs (for Tyler and Beaumont districts only), YouTube videos, TxDOT FaceBook page to communicate roadway conditions and organizational information;
- Roadway condition hotline (1-800-452-9292); and
- Informal phone conversations and meetings.

However, without a needs assessment guiding its communications, there is no process in place for ensuring messages are directed at and received by target audiences. For example, is the Town Hall strategy successful whether or not the public attends because it provides a venue for TxDOT to receive feedback? Is it successful only if the local news media covers the meetings? Or is it successful only if large numbers of the public attend the meetings? If the measure of success (as defined from initial needs assessments) is either of the latter two, the success of these meetings is

unknown or the meetings are unsuccessful. This is because TxDOT does not track the local media's coverage of the events that draw relatively low attendance (average attendance: 76, average registered speakers: 10, average webcast viewers: 24; no records on how many of these people are TxDOT employees). Yet if these Town Hall meetings were in response to a concern that there is no way for the public to provide its feedback to the Department, it's appropriate to view them as successful simply by virtue of their being held.

6.3.9   Internal Communications: understand need

The overall rating for Internal communications: understand need is "red" (issues or incidents consistently or frequently impede performance). This rating is because TxDOT lacks a structured mechanism to understand the information needs of employees and between operating units.

6.3.9.1   Key activities

Critical to understanding communications needs is identifying critical recipients of internal communications, what is important to the recipient, when recipient needs message and how recipients will receive message.

6.3.9.2   Observations and findings

Findings in this subsection reflect information gathered through the employee survey, interviews and data inquiries.

Process and timeline for developing communication plan for key stakeholder groups: There is no clear, proactive internal stakeholder needs assessment. Periodic 'pulse' or 'climate' surveys are used for this purpose. DD/DE/ODs indicated that they are sometimes excluded from discussions and do not have access to information necessary to effectively complete their tasks.

Communications plan development and stakeholder feedback. Employee survey results suggest employees do not feel well informed about where the agency is going and its major initiatives (e.g., regionalization). Employees also feel that there are conflicting directives and they often they do not know which is more important. Many employees find that they often are unaware of various news around the agency. There are no formal methods for incorporating internal stakeholder feedback into communication plans.

6.3.10 Internal communications: develop message

The overall rating for Internal communications: develop message is "orange" (results don't fully or consistently meet requirements). This is because TxDOT lacks standard practices to ensure that information communicated across the organization and between business units is accurate and consistent.

6.3.10.1 Key activities

In developing an effective message, it is critical to have accurate and consist data, and decide on a delivery strategy that will be effective.

6.3.10.2 Observations and findings

Findings in this subsection reflect information gathered through interviews and data inquiries.

Communication channel selection standards and practices and message consistency. There are no standards or policies for selecting communications channels, developing messages, or reviewing accuracy of message.

Messaging standards, tools, and templates. Each D/D/O/R develops its own policies and procedures; some procedures are developed as online manuals that General Services Division (GSD) reviews from a formatting perspective.

6.3.11 Internal: deliver message

The overall rating for Internal communications: deliver message is "orange" (results don't fully or consistently meet requirements). This is because TxDOT internal communications do not always reach intended recipients.

6.3.11.1 Key activities

Delivering a message involves providing an intended message to the targeted audience using the appropriate channel (e.g., website, email, electronic newsletter, verbal testimony, informal conversation) to effect its receipt.

6.3.11.2 Observations and findings

Findings in this subsection reflect information gathered through interviews and data inquiries.

Expectations setting and accomplishment. TxDOT communicates internally using the following channels:

- Intranet (Crossroads); D/D/O/Rs use to post information (e.g. policies and contacts) about their unit;
- SharePoint websites to allow groups to collaborate and share knowledge and documents
- Videos (e.g., ED video) to communicate agency direction;
- Written documents to communicate agency information, policies and procedures (e.g., TN newsletter, D/D/O/R newsletters, memos, online manuals);
- Formal meetings to communicate agency direction (e.g., weekly AED meetings, monthly district engineer meetings, monthly regional leadership meetings, conferences);
- Formal emails to communicate agency information (e.g., TN Bulletin, email blasts);
- E-blasts (GPA sends these to district PIOs and division MLOs to use in preparing internal publications); and

- Informal meetings, emails, phone conversations, in-person discussions from leadership to supervisors to staff.

Message receipt by intended audience. Although GPA maintains the agency intranet (Crossroads) *homepage* to improve functionality and help employees find information quicker, there is no official owner for the entire intranet; therefore has inconsistent looks-and-feels (as show in Figure 10-5) and depths of information about D/D/O/Rs, as well as outdated pages. There is a lack of coordination between D/D/O/Rs to develop information provided on individual websites on intranet (Crossroads) - however, GPA sends E-blasts (emails) to district PIOs and division MLOs to use in preparing internal D/D/O/R publications. Employee survey results suggest employees are satisfied with general organization information on agency intranet (Crossroads) and feel it includes information important to them and is published in a timely manner; however, survey results suggest employees do not find communication on major initiatives (e.g., regionalization) published in a timely fashion. Employees' reactions to agency newsletters and ED videos are very mixed; while nearly all survey respondents indicated they receive and read/view these communications, approximately half of the respondents agreed these communications were valuable and helpful to them; while approximately half indicated neutrality or disagreed. Examples of information provided are shown in Figure 6-4.

Figure 6-4: D/D/O/R intranet information

Policies and procedures (with the exception of online manuals) are not stored consistently; many memos contain policy information that is emailed to employees, but then not stored in an accessible location for future reference

6.4   Recommendations

Table 6-3 summarizes the recommendations for the TxDOT communication function.

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
6.1	Establish clear ownership, processes and procedures for communications with each stakeholder group.	*Policies, procedures and processes.* Communications, as a function, is owned by GPA as well as divisions and districts, creating no single point of authority, ownership or accountability. District Public Information Officers (PIOs) and Division Media Liaison Officers (MLOs) serve similar functions, yet Division MLOs are not dedicated communications resources and may not have communications backgrounds. GPA provides guidance to district PIOs and MLOs, but has no authority over these entities, resulting in no single point of accountability for communications. There is no defined communications role for regions. Clear ownership, processes and procedures for communications with stakeholder groups will ensure TxDOT is sending the right stakeholder group the right message.
6.2	Create a process through which constituents and stakeholder groups are queried about their information needs and the most effective methods for information dissemination and create communications plans to serve as roadmaps for a comprehensive response to these needs.	*External: Understand need.* Generally, there is no clear or proactive needs assessment, rather TxDOT seems to initiate communications in response to an inquiry or critique. The strategy for town hall meetings is unclear (current objective is to cover all areas of Texas and have open discussions with 'what's on everyone's minds'). Asking constituent and stakeholder groups about their informational needs and creating a communication plan for those needs ensures constituent and stakeholder groups are receiving targeted, relevant and useful information.
6.3	Implement financial controls to improve the accuracy and reliability of financial data being promulgated and communicated.	*Support systems and data.* Financial systems are not integrated and frequently require extensive manual data extraction to produce reports. These reports can be produced by any D/D/O/R. Without a process to verify the data, conflicting data is sometimes released, and as a result, financial data is mistrusted by most external stakeholders. TxDOT leadership believes that stakeholders need to understand that TxDOT operates in a fluid environment and that data changes, rather than seeing changing data as a problem. Implementing financial controls to improve accuracy and reliability will ensure TxDOT's constituents and stakeholders receive consistent, reliable and trust-worthy data.
6.4	Review standard inquiries and public information requests to develop a standard	*External: Understand need.* TxDOT has not traditionally reviewed inquiries and complaints to inform proactive messaging. In

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
	set of commonly requested information that is presented proactively (e.g., where appropriations expended, stimulus dollars expended, amounts awarded to HUB/DBE contractors).	response to the 2009 Sunset review, they began formally tracking complaints and inquiries made by political leaders and the public (except for public information requests that OGC tracks and reports), but there is no formal analysis of the complaints and inquiries to support proactive communications. Proactively sending out commonly requested information shows constituents and stakeholder groups that TxDOT is willing to share information and increase the level of transparency perceived in the Department.
6.5	Create clear direction as to which communication channels are to be used when and for which particular stakeholder groups and messages, and define a clear objective for each communication channel to allow for it to be best used in response to needs and with appropriate stakeholder groups.	*External: Develop message.* TxDOT has multiple communications channels but no clear guidance for when to use one vice another. Social media tools are used inconsistently and for varied purposes (e.g., to present roadway condition information and also general organizational news such as Jane Smith promoted to Area Engineer, holiday greetings), and this information is not targeted to specific stakeholder groups. Creating clear direction and objectives for communication channels ensures constituent and stakeholder groups are receiving targeted, relevant and useful information.
6.6	Develop clear and consistent data validation processes.	*External: Develop message.* There is no policy, procedure or guidance that states what types of information require reviews or who should be reviewing data, leaving it up to the D/D/O/Rs to determine for themselves what quality control and reviews they will use. Developing clear and consistent data validation processes will ensure constituents and stakeholders receive accurate and reliable information from the appropriate source.
6.7	Improve Project Tracker to establish a single, authoritative channel to provide a "one-stop" location to search any TxDOT project, regardless of status. • Develop comprehensive project webpage to present project summary information, which links to all project documentation (e.g., project benefits, performance measures, planning documentation, public hearing	*External: Develop and deliver message.* Messaging is responsive rather than proactive. Project priorities constantly change throughout the planning process based on competing factors, leading to data accuracy issues. Project status information is not accurate, and "funded vs. unfunded" information is on Project Tracker. Project information displayed in multiple tools present different information, and there is not an authoritative source for this information.

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
	testimonies, maps, right-of-way information) so that external stakeholders can locate all information about a project. • Expand current project search capabilities so that the public, MPOs, industry stakeholders, and legislators may easily find a project. • Establish a process to automatically update project status when it moves from 'study' to 'design' and then move this information to the appropriate location with projects of similar status. • Establish a standard project status indicator (e.g., progress bar) to present a standard project status to clearly indicate exactly the status of the project.	Implementing Project Tracker was an important step in improving communication between TxDOT, constituents and stakeholder groups. Making the suggested changes to Project Tracker (project summary information, expand search capabilities, automatic project updates, adding a project status indicator) will further increase the transparency of TxDOT's projects and activities to constituents and stakeholder groups.
6.8	Continue to evolve and improve the TxDOT Tracker to create an organizational performance dashboard that allows all external stakeholders to view organizational performance.	*External: Deliver message.* TxDOT is unable to track and communicate how the annual budget is expended. The Comptroller attempted to track the data with 'Where the Money is Spent' effort, but this was a one-time effort. Continuing to evolve and improve the TxDOT Tracker with the performance dashboard will further increase the transparency of TxDOT's organizational performance to constituents and stakeholder groups.
6.9	Standardize procedures for responding to all complaints (written and verbal).	*External: Develop message.* Procedures for responding to written and verbal complaints differ, implying that no guidance or best practice is in place. Standardizing procedures for responding to written and verbal complaints will ensure employees understand how to address complaints. In addition, standardizing procedures for responding to complaints will increase TxDOT's responsiveness to constituents and stakeholder groups.
6.10	Develop a formal communications plan for each operating unit by: • Documenting products and services; • Documenting stakeholders (i.e., customers, decision makers, partners) for products and services; • Assessing and prioritizing communications needs for stakeholders (e.g., what they need to	*Internal: Understand need.* TxDOT has no clear, proactive process for assessing needs and instead conducts periodic 'pulse' or 'climate' surveys for this purpose. There is not timely, proactive communication on major initiatives (e.g., regionalization). Developing a formal communication plan for each operating unit will clarify communication responsibilities of GPA, divisions and the

Recommendation Number	Recommendation	Lifecycle phase Value of implementing/justification
	know, when they need to know it, how best to disseminate the information); and • Developing a plan of action for responding to communications needs.	districts and prevent TxDOT from sending duplicate or contradictory messages.
6.11	Establish formal business ownership of the intranet (Crossroads) to: • Provide guidance to other units to help them identify and present key information and applications that employees need to do their jobs, such as project information and status, financials and budget information; • Standardize the look-and-feel and the depth of information so that the agency keeps a cohesive experience and employees will find more accurate; and • Archive outdated content and establish content owners and review cycles (e.g., require that certain types of information be reviewed each year to remain current).	*Internal: Deliver message.* There are no standards or policies for developing internal communications channels or messages, or reviewing accuracy of the message. The TxDOT intranet site (Crossroads) lacks standardization, a consistent look and feel, and consistent depth and breadth of information posted by each D/D/O/R. TxDOT needs to send one consistent message, whether it comes from headquarters or the districts. Standardizing the look and feel of Crossroads and establishing content guidelines will help achieve a unified message.
6.12	Establish central location to store all policies so that employees can easily locate them.	*Internal: Deliver message.* Policies and procedures (with the exception of online manuals) are not stored consistently. For instance, many memos contain policy information that is emailed to employees, but then are not stored in an accessible location for future reference. Establishing a central location to store all policies and procedures will alleviate confusion and provide one place where all employees can get current information.
6.13	Develop and implement a knowledge management strategy, including implementing tools to help geographically dispersed employees performing similar job functions to meet virtually.	*Internal: Deliver message.* Knowledge sharing for common business functions not consistently promoted across the agency nor are there requirements to standardize on best practice methods. As regionalization begins to develop and mature it is important to provide an easy and reliable means for virtual employees to meet and share information.

Table 6-3: Communications recommendations

May 26, 2010

Texas Department of Transportation

Management and Organizational Review

Final Report

Appendices

May 26, 2010

Grant Thornton

This page intentionally left blank.

Table of Contents

Table of Tables

Table of Figures

This page intentionally left blank.

Appendix A: Acronyms and definitions

Appendix A provides acronyms and definitions used in this report.

Acronym	Definition
AAE	Assistant Area Engineer
AASHTO	American Association of State Highway and Transportation Officials
ABEST	Automated Budget Estimate System of Texas
ABL	Abilene District
ADA	Americans with Disabilities Act of 1990 - Titles I & V
ADDIE	Analysis, Design, Development, Implementation, Evaluation
ADEA	The Age Discrimination in Employment Act of 1967
ADM	TxDOT's Administration
AE	Area Engineer
AED	Assistant Executive Director
AFR	Annual Financial Report
AMA	Amarillo District
AP	Accounts Payable
APS	Automated Purchasing System
AR	Accounts Receivable
ATL	Atlanta District
AUD	Audit Office
AUS	Austin District
AVN	Aviation Division
BAFO	Best and Final Offer
BIS	Budget Information System
BMT	Beaumont District
BOP	Business Outreach and Program Services
BRG	Bridge Division
BRY	Bryan District
BSDS	Business Systems Development and Support
BTCC	Business Title Classification Committee
BWD	Brownwood District
CAAA	The Clean Air Act Amendments
CAFR	Comprehensive Annual Financial Report
CCC	Contract Claims Committee
CCSJ	Controlling Control Section Job
CE	Categorical Exclusion

May 26, 2010

Acronym	Definition
CFO	Chief Financial Officer
CFR	Code of Federal Regulations
CHS	Childress District
CIO	Chief Information Officer
CIS	Contract Information System
CMBL	Centralized Master Bidders' List
CMCS	Construction and Maintenance Contract System
CO	Change Order
COBIT	Control Objectives for Information and Related Technology
COG	Councils of Government
CPA	Comptroller of Public Accounts
CPI	Consumers Price Index
CRP	Corpus Christi District
CSJ	Control Section Job
CST	Construction Division
D/D/O	District/Division/Office
D/D/O/R	District/Division/Office/Region
DAL	Dallas District
DBBC	Design-Bid-Build Contract
DBE	Disadvantaged Business Enterprise
DCIS	Design and Construction Information System
DCS	Data Center Services
DDE	Deputy District Engineer
DE	District Engineer
DED	Deputy Executive Director
DES	Design Division
DES-CCO	Design Division-Consultant Contract Office
DIR	Department of Information Resources
DMV	Department of Motor Vehicles
DSR	Design Summary Report
DWR	SiteManager Daily Work Report
EAs	Environmental Assessments
EBS	Electronic Bidding System
ED	Executive Director
EEO	Equal Employment Opportunity
EISs	Environmental Impact Statements
ELP	El Paso District
ENV	Environmental Affairs Division
EOF	Economic Opportunity Forum
EPA	The Equal Pay Act of 1963

Acronym	Definition
ERP	Enterprise Resource Planning
ESBD	Electronic State Business Daily
FAA	Federal Aviation Administration
FHWA	Federal Highway Administration
FIMS	Financial Information Management System
FIN	Finance Division
FIPS	Federal Information Processing Standards
FM	Financial Management
FTA	Federal Transit Administration
FTE	Full Time Equivalent
FTW	Fort Worth District
FY	Fiscal Year
GAA	General Appropriations Act
GAAP	General Accepted Accounting Principles
GAGAS	Generally Accepted Government Auditing Standards
GAO	General Accounting Office
GFI	Government Furnished Information
GFOA	Government Finance Officers Association
GIS	Geographic Information System
GINA	The Genetic Information Nondiscrimination Act of 2008
GOBPP	Governor's Office of Budget, Planning and Policy
GPA	Government and Public Affairs
GSD	General Services Division
HOU	Houston District
HR	Human Resources
HRD	Human Resources Division
HRD-TQD	Human Resource Division-Training and Quality Development
HRM	Human Resource Management
HRO	Human Resources Officers
HUB	Historically Underutilized Business
ICG	Interview Contract Guide
IEEE	Institute of Electrical and Electronics Engineers
IFB	Invitation for Bid
IRA	Information Resource Administrator
IRC	Information Resource Council
IRD	Interim Regional Director
IRM	Information Resource Management
IRR	Information Resource Request
ISD	Instructional System Development
ISTEA	Intermodal Surface Transportation Efficiency Act
IT	Information Technology

May 26, 2010

Acronym	Definition
ITD	Information Technology Detail
ITIL	IT Infrastructure Library United Kingdom Office of Commerce and IT Service Management Forum
ITS	Intelligent Transportation System
JR	Job Requisition
LAR	Legislative Appropriations Request
LBB	Legislative Budget Board
LBB	Lubbock District
LFK	Lufkin District
LOI	Letters of Intent
LRD	Laredo District
LTD	Limited Company
MCD	Motor Carrier Division
MLO	Media Liaison Officer
MNT	Maintenance Division
MOA	Memorandum of Agreement
MOR	Management and Organizational review of TxDOT (conducted by Grant Thornton)
MPO	Metropolitan Planning Organization
MTP	Metropolitan Transportation Plan
NCDOT	North Carolina Department of Transportation
NEPA	National Environmental Policy Act
NHS	National Highway System
NIST	National Institute of Standards and Technology
NLC	Non-listed work categories
NOI	Notice of Intent
NTB	Notice to Bidders
NTTA	North Texas Tollway Authority
NYSDOT	New York State Department of Transportation
OCC	Office of Occupational Safety
OCR	Office of Civil Rights
OCR	Office of Corollary Responsibility
ODA	Odessa District
ODOT	Ohio Department of Transportation
OGC	Office of General Counsel
OJT	On-the-Job Training
OJT/SS	On-the-Job Training Supportive Services
OPR	Office of Primary Responsibility
P3	Primavera version 3
P6	Primavera version 6
PAR	Paris District
PCEs	Programmatic Categorical Exclusions
PDMS	Project Development Management System

Acronym	Definition
PDP	Project Development Process
PE	Preliminary Engineering
PE	Professional Engineer
PHR	Pharr District
PIO	Public Information Officer
PM	Project Manager
PMI PMBOK	Project Management Institute Project Management Book of Knowledge
PMIS	Pavement Management Information System
PMO	P6 Management Office
PO	Purchase Order
PS&E	Plans Specifications and Estimates
PS – CAMS	Professional Services – Contract Administration Management System
PTN	Public Transportation Division
QAT	Quality Assurance Team
RD	Regional Director
RFO	Request for Offers
RFP	Request For Proposals
RIF	Reductions in Force
RLT	Regional Leadership Team
ROW	Right of Way
RRD	Rail Division
RSC	Regional Support Center
RTI	Research and Technology Implementation Division
RTR	Regional Toll Revenue
SA	Supplemental Agreement
SAFETEA-LU	Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users
SAO	State Auditor's Office
SAT	San Antonio District
SBE	Small Business Enterprise
SCOT	Standing Committee on Training
SDLC	System Development Lifecycle
SEI CMMI	Software Engineering Institute Capability Maturity Model Integration
SIB	State Infrastructure Bank
SJT	San Angelo District
SLA	Service Level Agreement
SLRTP	Statewide Long Range Transportation Plan
SME	Subject Matter Expert
SOAH	State Office of Administrative Hearing
SOP	Standard Operating Procedure

Acronym	Definition
SOX	Sarbanes-Oxley Act of 2002
SPPM	Office of Strategic Policy and Performance Management
STI	Summer Transportation Institute Program
STIP	Statewide Transportation Improvement Plan
TAC	Texas Administrative Code
TAP	Tuition Assistance Program
TBOD	Texas Business Opportunity Development Program
TEA – 21	Transportation equity act for the 21st century
TIP	Transportation Improvement Program
TN	Transportation News
TPD	Transportation Planning and Development
TP&P	Transportation Planning and Programming Division
TPWD	Texas Park and Wildlife Department
TQD	Training, Quality and Development
TRAC	Transportation Review Advisory Council
TRF	Traffic Operations
TRV	Travel Information
TSD	Technology Services Division
TSID	TxDOT System Interface Document
TTA	Texas Turnpike Authority
TTC	Texas Transportation Code
TTI	Texas Transportation Institute
TTP	Texas Transportation Plan
TTS	Texas Trunk System
TUCP	Texas Unified Certification Program
TWC	Texas Workforce Commission
TxDOT	Texas Department of Transportation
TYL	Tyler District
UPWP	Unified Planning Work Program
UR	User Request
USAS	Uniform Statewide Accounting System
USDOT	United States Department of Transportation
UTP	Unified Transportation Program
VTC	Video Teleconference
WAC	Waco District
WDE	Workforce Development Environment
WFS	Wichita Falls District
YKM	Yoakum District

Table A-1: Acronyms and definitions used in the TxDOT MOR Final Report

May 26, 2010

Appendix B: Bibliography

Appendix B provides a bibliography of materials reviewed for this report.

Bibliographical Reference
"Federal Aid Highways" Title 23 U.S. Code, Pts. 10.
"Federal Aid Highways" Title 23 U.S. Code, Pts. 112.
"Public Buildings Property and Works" Title 40 U.S. Code, Pts. 1101-1104.
"Field Operations Review," 2009.
2030 Committee, "Texas Transportation Needs Report," February,2009.
81st Legislature, "Senate Bill No. 1 General Appropriations Bill," May 26, 2009.
AGC of Texas, "Minutes - Joint AGC/Texas Department Of Transportation Committee," February 17, 2010.
AGC of Texas, "Minutes - Joint AGC/Texas Department Of Transportation Committee," November 16, 2009.
Amended and Restated Interagency Contract between DIR and TxDOT to Effectuate the Consolidation of Data Center Services.
Audit Procurement (1996 and 2002), http://www.gfoa.org/downloads/caafr-audit-procurement.pdf , accessed 03/23/2010.
Barnett, Ken., via David Casteel. "January 2007 through January 2010 dollars under and left on contract analysis".
Barton, John., Assistant Executive Director Engineering Operations, to Administration, District Engineers, Regional Support Center Directors, Division Directors, Office Directors; Subject: TxDOT P6 Implementation; Dated July 17, 2010, TxDOT memorandum.
Barton, John., Assistant Executive Director Engineering Operations, to, District Engineers, Division Directors, Regional Support Center Directors, Office Directors; Subject: "Interim" P6 Project Management Office (PMO); Dated September 9, 2010, TxDOT memorandum.
Beaumont blog. http://txdotbeaumont.blogspot.com/
Behrens, Michael W. "Allocaitons of State Transportation Resources." Testimony before the Senate Transportation and Homeland Security Committee & the Senate Finance Committee. March 1, 2006.
Belk, Ray L. "Memo: Standing Committee on Training," January 2, 2007.
Brian Ragland, Director of Finance Division, to !DDO ALL; Subject: AY2010 Approved Budget Allocations; Dated September 25, 2009, TxDOT internal email.
Budgeting for Results and Outcomes (2007), http://www.gfoa.org/downloads/budgetingforresults.pdf, accessed 03/23/2010 ("Budgeting for Results and Outcomes (2007)").
Bureau of Labor Statistics, "Percentage Change in Producer Price Indexes (PPIs) for Construction Materials, Structure Types & Subcontractors, 2003-2010," March 31, 2010.

May 26, 2010

Bibliographical Reference
Bussa, Mike., Ohio Department of Transportation. "Construction Inspector Information," email sent 12/15/2009.
Cambridge Systematics Inc. "The Highway Construction Equity Gap." February, 2008.
Cambridge Systematics Inc. with R.J. Rivera Associates Inc. "Permian Basin Rail Connection: Economic & Financial Feasibility Study." June, 2008.
Cambridge Systematics Inc. with R.J. Rivera Associates Inc. "Trans-Texas Corridor Rural Development Opportunities: Ports to Plains Case Study." April,2007.
Cambridge Systematics Inc., "Future Texas DOT Structure Study" - Draft Report," October 2007.
Cambridge Systematics, "Effective Transportation Development and Delivery for Texas - Draft Report," January 2008.
Cambridge Systematics, "Texas Fleet Fuel Efficiency Model Revisions" - Phase 1 Draft Technical Report."
Cambridge Systematics, Inc. "Transportation Spending and Economic Activity in Texas Draft Final Report." October 25, 2006.
Casteel, David, One DOT – Field Operations Staffing Plan, January 16, 2010, TxDOT memorandum.
Casteel, David., Assistant Executive Director Field and District Operations, to Amadeo Saenz, Jr.; Subject: "Audit Structure Workgroup Recommendations"; Dated January, 2009, TxDOT memorandum.
Casteel, David., Assistant Executive Director Field and District Operations, to District Engineers, Division Directors, Regional Support Center Directors; Subject: "Primavera (P6) Implementation"; Dated December 23, 2009, TxDOT memorandum.
Casteel, David., Assistant Executive Director Field and District Operations, To: Memorandum: District Engineers and Regional Directors. Subject One DOT - Field Operations Staffing Plan, February 2, 2010, TxDOT memorandum.
Center for Transportation Research, "TxDOT Revenue and Expenditure Trends," April 8, 2009.
Charles W. Heald, Executive Director, to Administration, District Engineers, Division Directors, Office Directors; Subject: Job Design; Dated April 10, 1998, TxDOT memorandum.
Chow, Brian G. and Martin Wachs. "A Pilot Program on Prediction Markets and Online Jams for TxDOT." December, 2007.
Code of Federal Regulations, Part 172, Administration of Engineering and Design Related Service Contracts.
Connecting the Dots, TxDOT Strategic Communications Plan, Communication Audit Strategic Communication Plan for Texas Department of Transportation, Thompson Marketing, August 2006.
Corridor Advisory Committee, "A Citizen's Report on the Current and Future Needs of the I-35 Corridor." November 12, 2008.
Corridor Advisory Committee, "A Citizen's Report on the Current and Future Needs of the I-69 Corridor." December 2, 2008.
Deloitte Consulting LLP, Regionalization Plan Assessment, November 24, 2008.
Deloitte Consulting, LLP, "Texas Department of Transportation: Organizational Structure Considerations - Addendum to the Independent Assessment Reports," July 20, 2007.
Deloitte Financial Advisory Services LLP, "Independent Assessment Of Auditable Unit B - Contracting and Project Delivery for the Texas Department of Transportation," August 24, 2007.

Bibliographical Reference
Deloitte Financial Advisory Services LLP, "Independent Assessment Of Auditable Unit D - Management and Support Functions," September 12, 2007.
Deloitte Financial Advisory Services LLP, "Independent Assessment Of Auditable Unit E - Field Operations," September 17, 2007.
Department of Information Resources, "Business Case Template, Workbook, and Instructions."
Department of Information Resources, "How to Conduct a Feasibility Study," June 1992.
Department of Information Resources, "Post-Implementation Review of Business Outcomes Report Template and Instructions."
Department of Information Resources, "Project Charter Template and Instructions."
Department of Information Resources, "Statewide Impact Analysis Template and Instructions."
Disadvantaged Business Enterprise, Federal Awards.
Dye Management Group, "Executive Summary - Transportation Funding Performance Audit Addendum: Forecast of Federal Funds," August 1, 2002.
Dye Management Group, "Independent Performance Audit: Transportation Funding Final Report Appendices," August 29, 2007.
Dye Management Group, "Independent Performance Audit: Transportation Funding," August 29, 2007.
Dye Management Group, Inc. "Findings and Analysis Texas Transportation Funding Challenge." Original report, June 18, 2008. Updated April, 2009.
Dye Management Group, Inc., "Texas Department of Transportation - Final Report of Findings and Recommendations, Consumer Services Auditable Unit." August, 2007.
Dye Management Group, Inc., "Texas Department of Transportation - Independent Audit Services - Consideration of Cost in the Consultant Selection Process Evaluation," April 15, 2008.
Engineer Classifications, Minimum Qualifications. Oregon Department of Transportation.
Enhancing Management Involvement with Internal Control (2004 and 2008), http://www.gfoa.org/downloads/caafrmanaginternalcontrol.pdf, accessed 03/23/2010.
Enterprise Operations Center Final Report, 2001.
Ethnic Breakdown Summary, TxDOT.
Excel work book: 2009 Final Executive Workforce Summary_FY05_09, TxDOT data file.
Excel workbook. ROW and Consultant LAR summary. TxDOT data file. File received May 18, 2010.
Excel workbook. ROW PL and BL Scenarios. TxDOT data file. File received May 18, 2010.
Excel workbook: 01112010_Emp_Headcount_GT., TxDOT data file.
Excel workbook: 4-Year Plan Version 3. TxDOT data file, File received May 18, 2010.
Excel workbook: Area_Offices_JobCodes_01DEC06, TxDOT data file.

Bibliographical Reference
Excel workbook: Area_Offices_JobCodes_01DEC07, TxDOT data file.
Excel workbook: Area_Offices_JobCodes_01DEC08, TxDOT data file.
Excel workbook: BehTotal06-09, TxDOT data file.
Excel workbook: Business case workbook for PDMS3, TxDOT data file. File received May 19, 2010.
Excel workbook: Combined All Region FTE Plans with Summary Final, spreadsheet, circa January 16, 2010, TxDOT data file.
Excel workbook: Combined District and Region FTE Analysis, TxDOT data file.
Excel workbook: Combined Measure Master 7.07.09, TxDOT data file.
Excel workbook: Completed contracts, TxDOT data file. File received May 4, 2010.
Excel workbook: Const FTE_20091130,TxDOT data file.
Excel workbook: const_perform_measr, 2007, TxDOT data file.
Excel workbook: const_perform_measr, 2008, TxDOT data file.
Excel workbook: const_perform_measr, 2009, TxDOT data file.
Excel workbook: const_perform_measr, April, 2010, TxDOT data file.
Excel workbook: const_perform_measr, February 3, 2010 TxDOT data file.
Excel workbook: const_perform_measr, March, 2010, TxDOT data file.
Excel workbook: Contractors AY 07-09.xls, TxDOT data file.
Excel workbook: Contracts Awarded in FY2009, Ohio Department of Transportation. File received March 5, 2010.
Excel workbook: CST_CIRequest3_Inspector Ratio, March, 2010, TxDOT data file.
Excel workbook: Curr_Empl_Data_20090824.xls, TxDOT data file.
Excel workbook: Design FTE Summary - Balanced Workload, TxDOT data file. File received March 25, 2010.
Excel workbook: Districts to Final AVG MAX.xls, February 3, 2010.
Excel workbook: Emp Cnt_Districts_Regions_St Cls_JobCds_04DEC09."
Excel workbook: EmpCnt_DDO_JobCat_24AUG09, TxDOT data file.
Excel workbook: EmpCnt_DDO_JobCat_28OCT09, TxDOT data file.

Bibliographical Reference
Excel workbook: EmpCnt_Districts_Regions_JobCodes_28OCT09, TxDOT data file.
Excel workbook: EmpCnt_Districts_Regions_StCls_JobCds_04DEC09, TxDOT data file.
Excel workbook: EmpCnt_Divisions_JobCodes_28OCT09 TxDOT data file.
Excel workbook: EmpCnt_Divisions_StCls_JobCds_04DEC09, TxDOT data file.
Excel Workbook: Employees in Engineer Related Positions, Oregon Department of Transportation.
Excel workbook: Field Operations - LAR Development. TxDOT, File received May 18, 2010.
Excel workbook: Final LAR With Summary, TxDOT data file. File received May 18, 2010.
Excel workbook: Final_Executive Workforce Summary_FY04_08, TxDOT data file.
Excel workbook: FTE allocation history GT, TxDOT data file.
Excel workbook: FTEAlloc_vs_Headcount_20070831 TxDOT data file.
Excel workbook: FTEAlloc_vs_Headcount_20080831, TxDOT data file.
Excel workbook: GT_ActEmp_Eval_Counts, TxDOT data file.
Excel workbook: GT_Applicant_Counts, TxDOT data file.
Excel workbook: GT_FY2009_DAs_EvalRatings, TxDOT data file.
Excel workbook: GT_State_Class_Chngs_Field_09012009, TxDOT data file.
Excel workbook: HeadCount_Projection_Aug282009, TxDOT data file.
Excel Workbook: Inspector List, Oregon Department of Transportation. File received March 25, 2010.
Excel workbook: JR_Time_To_Fillv2.xls, TxDOT data file.
Excel workbook: Project Development Plan, TxDOT data file.
Excel workbook: SBEList01192010, January 27, 2010, TxDOT data file.
Excel workbook: Summary of Design Staff Balance - Revised WWWTB-P6, TxDOT data file, circa January 16, 2010, .
Excel workbook: TxDOTFY2009Turnover, TxDOT data file.
Excel workbook: Where We Want To Be (WWWTB) version 5, TxDOT data file.
Faulk, Angela M., North Carolina DOT. "NCDOT statistics for TxDOT organization study." email sent 12/18/2009.

Bibliographical Reference
Federal Highway Administration, "Innovative Finance Primer."
Federal Issue Talking Points, August 6, 2009 (GPA talking points for PIOs).
FHWA, "Fiscal Constraint of the Statewide Transportation Improvement Program (STIP) and Metropolitan Transportation Plans (MTP)", November 13, 2009.
FHWA, "Fiscal Constraint of the Statewide Transportation Improvement Program (STIP) and Metropolitan Transportation Plans (MTP)", October 9, 2009.
FHWA, Joint Approval of FY 2008-2011 Statewide Transportation Improvement Program (STIP) memo, October 31, 2007.
FHWA, Right-of-way and Utility Process Review, memo, June 11, 1996.
FHWA, Right-of-way Process Review, 1995.
Financial Forecasting in the Budget Preparation Process (1999), http://www.gfoa.org/downloads/budget-financial-forecasting.pdf, accessed 03/23/2010.
Florida Department of Transportation, "Construction Project Administration Manual," May 11, 2009.
Government & Business Enterprises Division, Currier, Christina contributor. "Congestion Charging: International Examples and How They Could Be Applied in America." February 7, 2008.
Government & Business Enterprises Division, Currier, Christina contributor. "Overview of Truck-Only Toll Lanes in the United States." May 7, 2007.
Government & Business Enterprises Division, Currier, Christina contributor. "Transportation Infrastructure Investment Opportunities for State Government Pension Plans." March 27, 2007.
Government & Business Enterprises Division, Stoeltje, Gretchen contributor. "Follow That French Fry: Food Miles and Roadway Damage." March 25, 2008.
Government and Business Enterprise Division, Ramirez, Tonia N., Manager. "The Unreliability of Federal Financing." Updated May, 2006.
Governmental Accounting, Auditing, and Financial Reporting Practices (1983, 1997, and 2006), http://www.gfoa.org/downloads/caafrpractices.pdf, accessed 03/23/2010.
Hancock, Ronald A. "NCDOT statistics for TxDOT organization study." email sent 12/18/2009.
House Research Organization Texas House of Representatives Focus Report. "Highway Funding in Texas: A Status Report," February 23, 2009.
House Research Organization Texas House of Representatives Focus Report. "HRO Reference Guide," Revised July 2009.
Innovative Connectivity in Texas, Vision 2009.
Innovative Management Solutions, Inc., "Primavera P6 Readiness Assessment," January 29, 2009.
Interim Public Hearing, The House Transportation Committee. "Texas Department of Transportation, Transportation and Homeland Security." August, 20, 2009.
Interim Public Hearing, The House Transportation Committee. "Texas Mobility Fund Financial Statements - August 31, 2008 and 2007," August 31, 2008.
Interim Regional Directors, Proposed Restructuring Edits, February 17, 2009, TxDOT memorandum.

May 26, 2010

Bibliographical Reference
IT Support in the Austin Divisions, Committee Recommendation, August 4, 2008.
Kaiser Family Foundation and Health Research & Educational Trust, The, "Employer Health Benefits 2009 Annual Survey." October 12, 2009
Katy Freeway, website http://www.katyfreeway.org/index.asp
Keep It Moving Dallas website, http://www.keepitmovingdallas.com/
Keep Texas Moving website www.keeptexasmoving.com
Legislative Communication memorandum, February 25, 2004.
Marek, Mark. Subject: 2008 Quarterly Letting Report and Summary, September 2, 2008, TxDOT memorandum.
Media Liaisons/Public Information Officers/TxDOT contact sheet as of July, 2008.
MGT of America, Inc., "Comptroller of Public Accounts report: A Historically Underutilized Business (HUB) Disparity Study of State Contracting 2009 Final Report," March 30, 2010
Noble Dianna., Approved January 2008 Letting – All State Districts, memo, November 6, 2007, TxDOT.
Noble, Dianna., Proposed January 2008 Letting – All State Districts, memo, November 1, 2007, TxDOT memorandum.
North RLT Meeting - Environmental briefing. November 3, 2009.
Office of Civil Rights Construction and State Maintenance Letting DBE/HUB/SBE Results, October 2006 - August 2009 TxDOT data files.
Office of the Comptroller document, "Contract Advisory Team (CAT) Solicitation Points of Review."
Office of the Comptroller, "State of Texas Contract Management Guide," Version 1.6.
Office of the Comptroller, "State of Texas Procurement Manual."
Office of the Comptroller, "Statewide Historically Underutilized Business Program Annual Report Fiscal Year 2009."
Office of the Comptroller, "Statewide Historically Underutilized Business Program Education and Outreach Report Fiscal Year 2009."
Ohio Department of Transportation Organization Chart, September 2, 2009.
Oregon Department of Transportation. "Annual Financial Report for Fiscal Year Ended June 30, 2009."
Oregon.gov, "Project delivery Unit," http://www.oregon.gov/ODOT/HWY/PDU/management_practices_linked.shtml, updated June 24, 2008.
Organization Structure - October 1, 2009 Texas Department of Transportation memorandum, August 24, 2009.
Project Tracker. . http://www.txdot.gov/project_information/default.htm
Public Information Office Functions memorandum, October 31, 2007.
RAND Corporation and TxDOT, "TxDOT Online Jam Draft Report." October, 2007.

Bibliographical Reference
Randall, James. "Fiscal Constraint of the Statewide Transportation Improvement Program (STIP) and Metropolitan Transportation Plans (MTP)", November 5, 2009.
Reznick Group P.C., "The State of Texas Highway Engineer Staffing Analysis," December 2009 in response to the General Appropriations Act for the 2010-11 biennium, Rider 57.
Saenz, Amadeo Jr., Executive Director, to District Engineers, Regional Support Center Directors, Division Directors, Internal Auditors; Subject: TxDOT Audit Structure; Dated February 9, 2010, TxDOT memorandum.
Saenz, Amadeo Jr., Review and Comment - Regionalization/Restructuring Documents, memo, December 1,2008, TxDOT.
Senate Research Center, "Budget 101: A Guide to the Budget Process in Texas," January 2009.
Simmons, Steve E, Deputy Executive Director, to Administration, District Engineers, Division Directors, Office Directors; Subject: Business Title Classification Committee; Dated January 25, 2010, TxDOT memorandum.
Simmons, Steve E, Deputy Executive Director, to Administration, District Engineers, Division Directors, Office Directors; Subject: Business Title Classification Committee; Dated September 14, 2009, TxDOT memorandum.
Simmons, Steve E., Deputy Executive Director, to Administration, District Engineers, Division Directors, Office Directors; Subject: Executive Internal Compliance Committee; Dated March 30, 2009, TxDOT memorandum.
Sims, Edwin. M., to Administration, District Engineers, Division Directors, Office Directors; Subject: Monthly Collision/Injury Report; Dated August 3, 2009, TxDOT memorandum.
Sneckner, William K. "The Mud Dogs, the Highway Robbers and the Widow's Revenge a True Story." 2002.
South Texas Regional Leadership Team Meeting, TxDOT. August 20, 2009.
State Auditor's Office, An Audit Report on The Department of Transportation's Financial Forecasting and Fund Allocation, report number 08-045, August 2008.
State Auditor's Office, An Audit Report on The Department of Transportation's Reported Funding Gap and Tax Gap Information, report number 07-031, April 2007.
State Auditor's Office, "An Audit Report on Performance Measures at the Department of Transportation," October 2008, SAO Report No. 09-008.
State Auditor's Office, "Quarterly FTE Report - Quarters 1 - 3".
State Auditor's Office, "Texas Human Resources Management Statutes Inventory - 2010-2011 Biennium," SAO No. 10-300.
State Auditor's Office, "Workforce Planning Guide," SAO Report No. 06-704, 2006 Edition.
State Auditor's Office, "Workforce Summary Document Prepared by the State Auditor's Office Classification Team," January 2009.
State Auditor's Office. "A Special Investigations Unit Report Regarding the Texas Department of Transportation," November 23, 2004.
State Auditor's Office. "An Audit Report on Flight Services Provided by the Department of Transportation's Aviation Division Flight Services Section," September 15, 2006.

Bibliographical Reference
State Auditor's Office. "An Audit Report on Routine Maintenance Contracts at the Texas Department of Transportation," April 26, 2006.
State Auditor's Office. "A Follow-up Audit Report on Flight Services Provided by the Department of Transportation's Aviation Division Flight Services Section." October 24, 2008.
State Auditor's Office. "A Status Report on the Department of Transportation's Medical Transportation Program," August 7, 2006.
State Auditor's Office. "An Audit Report on Performance Measures at Five State Agencies," December 4, 2007.
State Auditor's Office. "An Audit Report on Performance Measures at the Department of Transportation," October 17, 2008.
State Auditor's Office. "An Audit Report on the Department of Transportation's Administration of Construction Contracts," October 25, 2004.
State Auditor's Office. "An Audit Report on the Department of Transportation's Aviation and Metropolitan Transportation Planning Grant Programs," March 9, 2007.
State Auditor's Office. "An Audit Report on the Department of Transportation's Financial Forecasting and Fund Allocation," August 26, 2008.
State Auditor's Office. "An Audit Report on the Department of Transportation's Oversight of Regional Mobility Authorities," October 30, 2007.
State Auditor's Office. "An Audit Report on the Department of Transportation's Reported Funding Gap and Tax Gap Information," April 26, 2007.
State Auditor's Office. "An Audit Report on the Medication Transportation Program at the Texas Department of Transportation," October 26, 2007.
State Department of Highways and Public Transportation Executive Order No. 1-90 - Functional Title Classification System; Dated April 2, 1990.
State Highway Agency-Owned Public Roads, Rural And Urban Miles, Estimated Lane-Miles and Daily Travel. October, 2008.
Statewide Public Involvement Plan (PIP), July 2008, draft.
Statewide Transportation Improvement Program FY 2008-2011 El Paso District, May 1, 2007.
Statewide Transportation Improvement Program FY 2008-2011 San Antonio District, May 1, 2007.
Steve E. Simmons, Deputy Executive Director, to Administration, District Engineers, RSC Directors, Division Directors, Office Directors; Subject: Executive Internal Compliance Committee; Dated September 24, 2009, TxDOT memorandum.
Street Journal/Hay Group, "CEO Compensation Study." 2009.
Sunset Advisory Commission. "Sunset Advisory Committee Commission Decisions" Texas Department of Transportation." January, 2009.
Sunset Advisory Commission. "Sunset Advisory Committee Staff Report - Texas Department of Transportation." June, 2008.

May 26, 2010

Bibliographical Reference
Texas Administrative Code, Part 1, Chapter 20,Subchapter B, Historically Underutilized Business Program.
Texas Administrative Code, Title 34 Public Finance, Part 1 Comptroller Of Public Accounts, Chapter 20 Texas Procurement and Support Services.
Texas Administrative Code, Title 43 Part 1, Chapter 9 Subchapter A, Rule 9.2.
Texas Administrative Code, Title 43. Transportation Part 1. Texas Department of Transportation.
Texas Board of Professional Engineers, "The State of Texas, Texas Engineering Practice Act and Rules Concerning the Practice of Engineering and Professional Engineering Licensure," September 20, 2009.
Texas Department of Transportation "2007 Unified Transportation Program Statewide Mobility Program," 2007.
Texas Department of Transportation "Actual Performance for Output/Efficiency Measures 601 - Dept of Transportation Fiscal Year Quarter 2," April 14, 2009.
Texas Department of Transportation "Changes to the State Classification Plan Enacted by the 81st Legislature," September 1, 2009.
Texas Department of Transportation "Construction and Materials TIPS: Guide to Labor Burden," Fourth Quarter 2007.
Texas Department of Transportation "Construction and Materials TIPS: The Disputes and Claims Analysis Process," Third Quarter 2007.
Texas Department of Transportation "Construction Contract Administration Manual," Revised October 2007.
Texas Department of Transportation "Contract Management Manual," Revised November 2009.
Texas Department of Transportation "Field Operations Cost Savings Getting Into The Numbers, presentation, circa March 3, 2010," presentation.
Texas Department of Transportation "Guidance and Instructions for Precertification Review Officer(s) Consultant Certification Information System (CCIS)," Rev Dec 2008.
Texas Department of Transportation "Office of Primary Responsibility (OPR) Roles & Responsibilities for IT Assets, v1.4."
Texas Department of Transportation "Open Records Manual," June 2004.
Texas Department of Transportation "Review of Claims," September 24, 2009.
Texas Department of Transportation "Statewide Historically Underutilized Business (HUB) Reporting Procedures - FY 2009."
Texas Department of Transportation "Survey Contract Review Checklist," Revised Dec 2009.
Texas Department of Transportation "Texas Department of Transportation Design Resource and Contract Management Development Process Standard Operating Procedure," January 1, 2010.

Bibliographical Reference
Texas Department of Transportation Centralized Media Buy Analysis, December 2008.
Texas Department of Transportation District Organization Charts, March 2010.
Texas Department of Transportation Internal Audit. "Information Technology Project Development Compliance Follow-up Audit (1504-1F) Department-wide Report." December 18, 2007.
Texas Department of Transportation Memorandum. "Process for Sharing Consultant Contracts between Districts," July 20, 2009.
Texas Department of Transportation memorandum."Information of the Texas Department of Transportation's (TxDOT's) Dispute Resolution Policy/Contract Claim Procedure/Contested Case Procedure," August 20, 2008.
Texas Department of Transportation pamphlet. "Travel Information Centers."
Texas Department of Transportation Project Development Management System v1.0. "Texas Project Delivery Framework - Project Closeout Report" Revision date September 3, 2009.
Texas Department of Transportation Project Development Management System v2.0. "Post-implementation review of business outcomes." Revision date February 3, 2010.
Texas Department of Transportation Workforce Plan 2007 - 2011.
Texas Department of Transportation Workforce Plan 2009 - 2013.
Texas Department of Transportation, "County Mapbook." 2006.
Texas Department of Transportation, "Firm_Contract Summary Report (DES)".
Texas Department of Transportation, "Firm_Evaluation Summary Report (DES)".
Texas Department of Transportation, Finance Division. "Project Selection Process."
Texas Department of Transportation, Government & Public Affairs Division Research Section. "Description of Recent Studies." Summer 2008.
Texas Department of Transportation, Project Selection Process, Sixth Edition, November 2008.
Texas Department of Transportation, Travel Division. "Sunset Briefing Book."
Texas Department of Transportation. "Actual Performance for Output/Efficiency Measures 601 - Dept of Transportation Fiscal Year Quarter 1," January 1, 2009.
Texas Department of Transportation. "AY 2010 Approved Budget Allocations," September 25, 2009.
Texas Department of Transportation. "Construction and Materials TIPS: Contract Claim Procedure Amended," Revised January 2008.
Texas Department of Transportation. "Creating Tomorrow's Transportation System Strategic Plan, 2003 - 2007."

Bibliographical Reference
Texas Department of Transportation. "District Engineer Employee evaluation - Form 1938," February 1, 2009.
Texas Department of Transportation. "2006 Information Resources Deployment Review (IRDR.)"
Texas Department of Transportation. "2007 Information Resources Deployment Review (IRDR.)"
Texas Department of Transportation. "2007 Mileage Reports."
Texas Department of Transportation. "2007 Unified Transportation Program Statewide Preservation Program," 2007.
Texas Department of Transportation. "Agency Strategic Plan for the Fiscal Years 2009 - 2013 Period."
Texas Department of Transportation. "Annual Financial Report," 2005.
Texas Department of Transportation. "Annual Financial Report," 2006.
Texas Department of Transportation. "Annual Financial Report," 2007.
Texas Department of Transportation. "Annual Financial Report," 2008.
Texas Department of Transportation. "Annual Financial Report," 2009.
Texas Department of Transportation. "Annual Issuer Report," August 31, 2009.
Texas Department of Transportation. "Annual Report on Measures - Fiscal Year 2007," October 5, 2007.
Texas Department of Transportation. "Annual Report on Measures - Fiscal Year 2008," October 6, 2008.
Texas Department of Transportation. "AY 2008 Approved Budget Allocations," August 28, 2007.
Texas Department of Transportation. "AY 20099 Approved Budget Allocations," September 3, 2008.
Texas Department of Transportation. "Budget - DDO Summary by Strategy, AY 2001, 2005-2010"
Texas Department of Transportation. "Budget Manual," August 2004.
Texas Department of Transportation. "Business Systems Development & Support (BSDS) System Development Lifecycle (SDLC) Methodology, v1.0."
Texas Department of Transportation. "Cash Forecast of the State Highway Fund No. 006," January 2007 - December 2008.
Texas Department of Transportation. "Catalog Add Request Form," April, 2009.

Bibliographical Reference
Texas Department of Transportation. "Communications Manual," September, 2009.
Texas Department of Transportation. "Configuration Management Standards for Information Technology Assets, v1.4."
Texas Department of Transportation. "Consolidation of Administrative Support Functions in TxDOT's Austin Headquarters." August, 2008.
Texas Department of Transportation. "Construction and Materials TIPS: Guide to Contract Change Orders," Fourth Quarter 2006.
Texas Department of Transportation. "Controlled Data Change (CDC) Procedures, v1.2."
Texas Department of Transportation. "Core Technology Architecture Exceptions," September 2009.
Texas Department of Transportation. "Core Technology Architecture, v5.4"
Texas Department of Transportation. "Core Technology Operating Procedures," July 2006.
Texas Department of Transportation. "Crossroads - TxDOT Intranet Site." http://crossroads/.
Texas Department of Transportation. "D/D/O Application Development Guide for Non-Enterprise Assets, v1.1."
Texas Department of Transportation. "Data Architecture, v4.0."
Texas Department of Transportation. "Data Design Process, v1.0."
Texas Department of Transportation. "Database Architecture Addendum, v1.0."
Texas Department of Transportation. "Database Architecture, v1.0."
Texas Department of Transportation. "DCIS User Manual," June, 2006.
Texas Department of Transportation. "Debt Management Policy and Derivative Management Policy," August 27, 2009.
Texas Department of Transportation. "DES-CCO: Roles and Responsibilities for Provider Selection Through Project Management," February 20, 2008.
Texas Department of Transportation. "Design Division - Plan Development Section Summary."
Texas Department of Transportation. "Design Production Task Force."
Texas Department of Transportation. "Design Resource and Contract Management manual," January 1, 2010.
Texas Department of Transportation. "Developing Projects: Moving Texas Forward the "ONE DOT Way." May 12, 2010.
Texas Department of Transportation. "Districts and Regional Support Centers (RSC) Employee Restructuring Staffing Strategy Executive Summary," April 3, 2009.

Bibliographical Reference
Texas Department of Transportation. "Districts and Regional Support Centers (RSC) Employee Restructuring Staffing Strategy Executive Summary," April 3, 2009.
Texas Department of Transportation. "Draft Internal Audit Program Re-Structure Standard Operating Procedures & Service Level Agreements for the Audit Office & District/Division/Region Internal Auditors (DDR-Ias)." May 10, 2010.
Texas Department of Transportation. "Engineering /Architectural Contract Review Checklist," Revised December 2009.
Texas Department of Transportation. "Evaluation and Approval Process for Hardware and Software use within TxDOT," February 2008".
Texas Department of Transportation. "Evaluation Summary Report".
Texas Department of Transportation. "Field Operations Review - FY08 and FY09 Regionalization Cost Analysis."
Texas Department of Transportation. "Fiscal Year 2008 Annual Report of Nonfinancial Data," December 31, 2008" .
Texas Department of Transportation. "Functional Process Development for Regional Stand-up, Fleet."
Texas Department of Transportation. "FY 2008 District and County Statistics."
Texas Department of Transportation. "General Appropriations Act (GAA) Issues," February 2009.
Texas Department of Transportation. "General Findings Summarized." File received May 19, 2010.
Texas Department of Transportation. "General Services Division Purchasing Section Internal Procedures," Revised July 20, 2009.
Texas Department of Transportation. "Geographic Information System (GIS) Technical Architecture," February, 2009.
Texas Department of Transportation. "HUB Utilization for FY 2006 - 2008."
Texas Department of Transportation. "Human Resources Manual," Revised September 2009.
Texas Department of Transportation. "Information Resource Request (IRR) Form."
Texas Department of Transportation. "Information Resources (IR) Planning and Reporting, September 2007."
Texas Department of Transportation. "Information Security Manual," October 2008.
Texas Department of Transportation. "Information Security Policy Statement," February 2006.
Texas Department of Transportation. "Information Security Procedures Document," February 2010.
Texas Department of Transportation. "Information Technology (IT) Purchasing FAQs," September 2007.

May 26, 2010

Bibliographical Reference
Texas Department of Transportation. "Inspector Development Program," July 2009.
Texas Department of Transportation. "Instructions for Completing the TxDOT Information Technology Detail AY 2008 - 2011."
Texas Department of Transportation. "Internal controls report," received January 7, 2010 (final report not available, information undated).
Texas Department of Transportation. "IR Planning, Reporting and Accounting Matrix," May 2009.
Texas Department of Transportation. "IT Replacement Procedures Memorandum," April 2006.
Texas Department of Transportation. "Legislative Appropriations Request for Fiscal Years 2010 and 2011," August 27, 2008.
Texas Department of Transportation. "Letting Manual," December, 2008.
Texas Department of Transportation. "Maintenance Contract Manual," February, 2010.
Texas Department of Transportation. "Maintenance Contract Manual," Revised January 2010.
Texas Department of Transportation. "Materials Engineering Contract Review Checklist," Revised Dec 2009.
Texas Department of Transportation. "Meeting the Challenge, 2006 Annual Summary Report."
Texas Department of Transportation. "Minutes of the Business Title Classification Committee Meeting," July 14, 2009.
Texas Department of Transportation. "Minutes of the Business Title Classification Committee Meeting," June 8, 2009.
Texas Department of Transportation. "Minutes of the Business Title Classification Committee Meeting," September 14, 2009.
Texas Department of Transportation. "Original and Revised Project Development Plan," March 23, 2010.
Texas Department of Transportation. "pcycle (GSD purchasing)," July 2009.
Texas Department of Transportation. "pflow (GSD purchasing): Goods and Non-Professional Services Procurement Process," January 2010.
Texas Department of Transportation. "Planned Procurement Schedule (PPS) September 2009 Instructions."
Texas Department of Transportation. "Planning and Development of Transportation Projects, Subchapter A. General Provisions, Chapter 16. - Draft planning and programming rules." File received May 18, 2010.
Texas Department of Transportation. "Printer Naming Standards," December, 2009.
Texas Department of Transportation. "Procedures for Reports to the Legislature memorandum," February 15, 2006.

May 26, 2010

Bibliographical Reference
Texas Department of Transportation. "Procedures for SharePoint Services (SPS) Web sites."
Texas Department of Transportation. "Procurement Justification System (PJS) Catalog," June 2009.
Texas Department of Transportation. "Project Development Plan (PDP) Process presentation." presentation. File received May 18, 2010.
Texas Department of Transportation. "Project Development Process Manual," Revised June 2009.
Texas Department of Transportation. "Project Management Plan Template, v0.1"
Texas Department of Transportation. "Project Plan Template for Small and Medium Projects, v2.1."
Texas Department of Transportation. "Project Proposal Template for Small and Medium Projects, v1.3."
Texas Department of Transportation. "PS&E Preparation Manual," May, 2009.
Texas Department of Transportation. "Purchase of Right of Way."
Texas Department of Transportation. "Purchasing Manual," Revised January 2010.
Texas Department of Transportation. "Quality Management Standards For IT Assets, v2.0."
Texas Department of Transportation. "Regional Standard Operating Procedures Responsibilities and Service Level Agreements: Purchasing," January 1, 2010.
Texas Department of Transportation. "Regionalization Cost Benefit Analysis," March 10, 2009.
Texas Department of Transportation. "Regionalization Cost Benefit Analysis," March 10, 2009.
Texas Department of Transportation. "Regionalization Plan Work Group Recommendations," November 4, 2008.
Texas Department of Transportation. "Remaining Bond Obligations - Texas Mobility Fund and Proposition 14 Bonds," October 31, 2009.
Texas Department of Transportation. "Rider 20 STIP Report Fiscal Year 2006."
Texas Department of Transportation. "Rider 20 STIP Report Fiscal Year 2007."
Texas Department of Transportation. "Semi-Annual Uniform Report of DBE Commitments/Awards and Payments," December 12, 2008.
Texas Department of Transportation. "Semi-Annual Uniform Report of DBE Commitments/Awards and Payments," December 15, 2009.
Texas Department of Transportation. "Semi-Annual Uniform Report of DBE Commitments/Awards and Payments," June 1, 2007.

Bibliographical Reference
Texas Department of Transportation. "Semi-Annual Uniform Report of DBE Commitments/Awards and Payments," June 1, 2009
Texas Department of Transportation. "Semi-Annual Uniform Report of DBE Commitments/Awards and Payments," June 2, 2008.
Texas Department of Transportation. "Semi-Annual Uniform Report of DBE Commitments/Awards and Payments," November 30, 2007.
Texas Department of Transportation. "SiteManager Contract Administration User Manual," Revised May 2006.
Texas Department of Transportation. "Standing Committee on Training Contact List."
Texas Department of Transportation. "Standing Committee on Training Meeting Agenda and Minutes," November 24, 2008.
Texas Department of Transportation. "Standing Committee on Training Meeting Agenda," February 3, 2009.
Texas Department of Transportation. "Standing Committee on Training Meeting Minutes," February 3, 2009.
Texas Department of Transportation. "Statewide Change Orders from September 1, 2006 - August 31, 2009: reason frequency and cost." Report Date, March 31, 2010.
Texas Department of Transportation. "Strategic Maintenance Asset Management Plan." May 27, 2009.
Texas Department of Transportation. "Strategic Plan 2009 - 2013."
Texas Department of Transportation. "Technical Services Division (TSD) Services Guide, v3.0."
Texas Department of Transportation. "Tomorrow's Transportation System Strategic Plan 2005 - 2009."
Texas Department of Transportation. "Transportation Town Hall Meetings, Project Summary Report. Focus Areas in Abilene, McAllen, and Midland-Odessa," December 12, 2008.
Texas Department of Transportation. "TxDocs Manual," September, 2009.
Texas Department of Transportation. "TxDOT Restructuring Plan - Local- Regional -Statewide Model," April 30, 2008.
Texas Department of Transportation. "Design Division PS&E Review," presentation.
Texas Department of Transportation. "Environmental Manual," Revised October 2004.
Texas Department of Transportation. "FY2010 – 2020 UTP Funding Levels," Texas Transportation Commission, October 30,2009.
Texas Department of Transportation. "TxDOT Project Development Process (Environmental and Utility Focus)," process map.

Bibliographical Reference
Texas Department of Transportation. "Update on the Status of the Implementation of Recommendation Made in the State Auditor's Office Cash Financial Forecasting and Fund Allocation Audit Report," November 5, 2009.
Texas Department of Transportation. Agency Strategic Plan, including: Appendix N. Implementing the Texas Transformation and Technology Alignment for TxDOT, 2009 - 2013.
Texas Department of Transportation. "pfund (GSD purchasing): Funding Decisions - Purchases of Equipment, Software and Services."
Texas Department of Transportation."PJS Viewing Instructions, September, 2004."
Texas Department of Transportation "Professional Services - Contract Administration and Management System (PS_CAMS)," March 10, 2010.
Texas Department of Transportation. "Proj Mgr Summary Report (DES)."
Texas Government Code, §2155.083, State Business Daily, Notice Regarding Procurements Exceeding $25000.
Texas Government Code, §2161.252 Agency Determination Regarding Subcontracting Opportunities; Business Subcontracting Plan.
Texas Government Code, §2252.901 Contracts with Former or Retired Agency Employees.
Texas Government Code, §2262.004 Required Nepotism Disclosure.
Texas Government Code, §669.003 Contracting with Executive Head of State Agency.
Texas Government Code, Chapter 572.054 Personal Financial Disclosure, Standards of Conduct, and Conflict of Interest.
Texas Government Code, Title 10. General Government, Subtitle D. State Purchasing and General Services, Chapter 2155. Purchasing: General Rules And Procedures, Subchapter A. General Provisions.
Texas Government Code, Title 10. General Government, Subtitle D. State Purchasing and General Services, Chapter 2156. Purchasing Methods.
Texas Government Code, Title 10. General Government, Subtitle D. State Purchasing and General Services, Chapter 2157. Purchasing: Purchase Of Automated Information Systems.
Texas Government Code, Title 10. General Government, Subtitle D. State Purchasing and General Services, Chapter 2161. Historically Underutilized Businesses.
Texas Government Code, Title 10. General Government, Subtitle D. State Purchasing and General Services, Chapter 2163. Commercially Available Activities.

Bibliographical Reference
Texas Government Code, Title 10. General Government, Subtitle D. State Purchasing and General Services, Chapter 2165. State Buildings, Grounds, And Property.
Texas Government Code, Title 10. General Government, Subtitle D. State Purchasing and General Services, Chapter 2166. Building Construction And Acquisition.
Texas Government Code, Title 10. General Government, Subtitle F. State and Local Contracts and Fund Management, Chapter 2254. Professional And Consulting Services.
Texas Government Code, Title 10. General Government, Subtitle F. State and Local Contracts and Fund Management, Chapter 2260. Resolution Of Certain Contract Claims Against The State.
Texas Government Code, Title 10. General Government, Subtitle F. State and Local Contracts and Fund Management, Chapter 2261. State Contracting Standards And Oversight.
Texas Government Code, Title 10. General Government, Subtitle F. State and Local Contracts and Fund Management, Chapter 2262. Statewide Contract Management.
Texas State Auditor's Office, "An Audit Report on the Department of Transportation's Financial Forecasting and Fund Allocation," August 2008.
Texas Transportation Code, § 223.0041.
Texas Transportation Code, Chapter 223, Subchapter B, Contract Provisions.
Texas Transportation Code, Title 3. Aviation, Chapter 22. County And Municipal Airports, Subchapter A. General Provisions.
Texas Transportation Code, Title 6. Roadways, Subtitle B. State Highway System, Chapter 223. Bids and Contracts For Highway Projects.
Texas Transportation Code, Title 6. Roadways, Subtitle B. State Highway System, Chapter 224. Acquisition, Construction, and Maintenance.
Texas Transportation Commission, Minute Order 111676 passed January 29, 2009.
Texas Transportation Commission, Minute Order 112196 passed March 25, 2010.
Texas Transportation Institute, "History of TxDOT Cooperative Work Groups to Reconstruct the Transportation Planning and Programming Processes Years 2001 through 2009 – Draft Whitepaper," October, 2009.
Texas Transportation Institute, "History of TxDOT Cooperative Work Groups to Reconstruct the Transportation Planning and Programming Processes Years 2001 through 2009," presentation, October, 2009.
Texas Transportation Institute, "Lump Sum Distribution Of TxDOT's Unified Transportation Program Categories 2 And 3 Funds For Consultant-Based Preliminary Engineering, Right-Of-Way Acquisition, And Construction, Recommendations Report With Comments And Responses," October, 2007.

Bibliographical Reference
Texas Transportation Institute, "Restructuring the Texas Transportation Planning and Programming Process: Work Group Findings and Recommendations – Final Report," October, 2009.
Texas Turnpike Authority, "Texas Triangle High Speed Rail Study Executive Summary." February, 1989.
Texas Turnpike Authority, "Texas Triangle High Speed Rail Study." February, 1989.
TN newsletter, Volume 34, Issue 4, July-September 2009.
Town hall meeting sign-in sheets and evaluation matrices for Abilene, El Paso, Kingsville, McAllen, Nacogdoches and Temple
Transportation Town Hall Meetings - Project Summary Report, Focus Areas in Abilene, McAllen and Midland-Odessa, February 2008.
TxDOT Business Job Descriptions. http://crossroads/org/hrd/Jobs/BJDs/0HomeFrames.asp.
TxDOT Efforts to Increase Utilization of Historically Underutilized Businesses (HUBs), TxDOT. May 20, 2009.
TxDOT Environmental Affairs Division, Briefing for Grant Thornton. September 28, 2009.
TxDOT Expressway. http://www.dot.state.tx.us/business/projectreports.htm.
TxDOT Facebook page. http://www.facebook.com/TxDOT.
TxDOT HR On-line report X_PA5070, "Summary of Past Due Evaluations," December 14, 2009.
TxDOT Internal Audit 1201-8. Dispute Resolution Change Order (DRCO) Audit Department-wide Report. March 9, 2010.
TxDOT Internal Audit. "DBE Certification and Compliance Function, Office of Civil Rights (1201-9) Department-wide Report." December 10, 2009.
TxDOT Internet. www.txdot.gov.
TxDOT Project IAC 7-75XXIA006. "Texas Transportation Scenario Project." May 31, 2008.
TxDOT Regional Support Center, First 90 Day Plan. June 18, 2009.
TxDOT Restructuring at a Glance. TxDOT.
TxDOT Restructuring Overview, circa October 6, 2008, TxDOT.
TxDOT Restructuring Plan Local– Regional –Statewide Model Presented by the Regionalization Core Team, April 30, 2008, TxDOT.
TxDOT Right of Way Division, Briefing for Grant Thornton. September 3, 2009.
TxDOT Statewide Transportation Improvement Program Fiscal Years 2008-2011, August 28, 2007.

Bibliographical Reference
TxDOT The Texas Transportation Plan, 1994 edition, December 21, 1994.
TxDOT Tracker. http://www.txdot.gov/about_us/sppm/txdot_tracker.htm
TxDOT Twitter feeds (headquarter and district feeds).
Tyler blog. http://tylerdistrict.blogspot.com/
U.S. Government Accountability Office, Report to the Ranking Member, Committee on Environment and Public Works, U.S. Senate."Metropolitan Planning Organizations Options Exist to Enhance Transportation Planning Capacity and Federal Oversight." September, 2009.
United States Code 1101 - 1104 (Brooks Act), Chapter 11, Selection of Architects and Engineers.
University of Texas at Austin, The Survey of Organizational Excellence Data Summary Report Texas Department of Transportation, 2007-2008.
Watson Wyatt Worldwide, 2009/2010 Survey Report on Service Companies.
Wm. G. Burnett, Executive Director, to Management Team; Subject: Responsibilities of the Functional Title Classification Committee; Dated January 18, 1995, TxDOT memorandum.
Wm. G. Burnett, Right-of-way and Utility Process Review, memo, April 15, 1996, TxDOT.
Wm. G. Burnett, Right-of-way and Utility Process Review, memo, June 7, 1996, TxDOT.
Wm. G. Burnett, Right-of-way, memo, June 7, 1996, TxDOT.
Workflow for ISD Support of the Workgroup Development Environment (WDE), March 2006, TxDOT.
Workgroup Development Environment Guidelines and Best Practices, March 2006, TxDOT.
Workstation Naming Standard Memorandum, January 2002, TxDOT.
WWTB-P6 Statewide Slide. TxDOT. Received March 25, 2010.

Table B-1: TxDOT Management and Organizational Review Final Report – Bibliography

May 26, 2010

This page intentionally left blank.

May 26, 2010

Appendix C: Stakeholder interview methodology

To inform its analysis and recommendations, Grant Thornton conducted interviews and meetings with TxDOT employees and representatives from TxDOT's stakeholder groups. In some instances, Grant Thornton reached out to members of stakeholder groups who were uninterested in meeting or whose schedules did not permit them to meet. This was not a pervasive type of response, but it was present in a few stakeholder groups.

Grant Thornton developed interview guides tailored to each stakeholder group and followed a policy of non-attribution during the entire interview process. Grant Thornton interviewed TxDOT employees from the following classifications:

- Area engineers
- Assistant Executive Director, District and Field Operations
- Assistant Executive Director, Engineering Operations
- Assistant Executive Director, Innovative Project Development
- Assistant Executive Director, Support Operations
- Assistant regional directors
- Auditor
- Chief Financial Officer
- Deputy district engineers
- Deputy Executive Director
- Director, Strategic Policy and Planning
- District division directors
- District engineers
- Division directors
- Executive Director
- General Counsel
- Regional directors

Grant Thornton interviewed representatives from the following stakeholder groups.

- U.S. Congress
- Texas state officials
- Texas Legislature

May 26, 2010

- County judges
- Texas Transportation Commission
- Sunset committee members
- Federal agencies
- Metropolitan planning organizations
- Transportation related associations
- Transportation authorities
- HUB/DBE businesses and organizational representatives

In total, Grant Thornton conducted 205 interviews of TxDOT employees and stakeholders from July 2009 – March 2010.

Appendix D: Survey methodology and responses

To provide an opportunity for all TxDOT employees to provide their input on the Department's organizational structure and management activities, Grant Thornton conducted a confidential survey. Grant Thornton completed the survey using the following process:

- TxDOT's Executive Director sent an email to all TxDOT employees on September 22, 2009 notifying them of the employee survey and encouraging their participation.
- TxDOT employees were provided the ability to conduct the survey on-line through a non-TxDOT survey site or to complete the survey in paper copy and return it directly to Grant Thornton's offices in San Antonio. A Grant Thornton e-mail address was provided for TxDOT employee questions or issues regarding the survey. A few employee comments were received through this e-mail address.
- The survey period began on September 23, 2009 and ended on October 9, 2009, providing employees over two weeks to allow sufficient time for employee response.

At the time of the survey, TxDOT had 12,545 employees (not included those employees who were scheduled to move to the Department of Motor Vehicles). Of these, 6,905 responded to the survey (5,564 online responses were received and 1,341 written responses were received by mail). This equates to a 55% response rate.
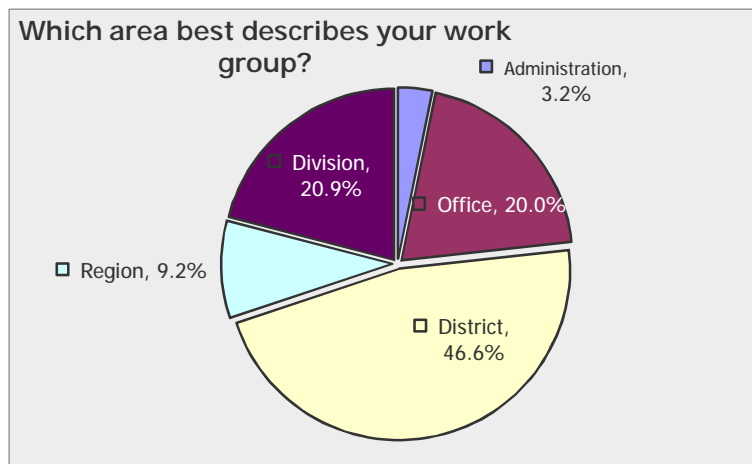
Figure D-1: TxDOT responses by workgroup

To ensure Grant Thornton heard from employees on what they perceived to be the most important issues at TxDOT, the survey included an open-ended response question. Grant Thornton received 2,711 responses to our last, open-ended question.

Some of the information that we learned from the surveys includes:

- While approximately half of the survey respondents indicated that they understood TxDOT's approach to meeting its goals, a minority of respondents indicated that they agreed with that approach
- Personnel indicated that they are overwhelmingly proud of their work, a theme we heard reiterated in interviews—even if the same expressly stated that they were not proud of TxDOT
- In interviews, we heard a lot of discussion about the "TxDOT family," which made the results received around the topics of leadership and collaboration unsurprising. Personnel are comfortable with and confident in those with whom they work daily , but fewer than half of the respondents indicated that they have confidence in the managerial ability of executive leadership
- Responses on questions having to do with regionalization were uniformly negative. Significantly less than half of the respondents indicated that they understood the why or how of regional offices. They indicated that they aren't convinced that regionalization will improve their support or the agency's ability to accomplish its mission.
- As we turn to communications, we find that the overwhelming majority do not feel as though they have the opportunity to provide input on change initiatives nor do they feel as though communications offer a way to provide feedback to TxDOT's leadership. In addition, they feel as though communications are ineffective, as indicated by their lack of agreement that they help personnel to understand the organizational mission or enhance abilities to accomplish goals.
- Rather surprisingly, the majority of personnel indicated that responsibilities are clear and performance plans are effective. And yet the responses to the question of whether there is an effective way to report performance management issues—wherein fewer than half of the respondents believed that there was an effective mechanism—calls into question a bit the true effectiveness of performance management. We heard in interviews that the TxDOT community was too small a family to ever provide a negative rating to someone on their performance review. So it would seem that people believe that since they are praised through the review cycle that it is effective as it pertains to them, and yet they do acknowledge that it doesn't allow for effective management of performance problems.

May 26, 2010

The survey that was distributed is as follows:

Survey introduction and questions

Introduction

TxDOT has retained Grant Thornton to conduct an independent management and organizational review. We are using this survey to capture all TxDOT employees' perspectives and input. We have tried to not duplicate previous survey questions you've been asked, but we are using the results of earlier surveys in our analysis.

As you complete the survey, please bear in mind that you will have the opportunity to make comments in an open response field located at the end of the survey. You may use that opportunity to elaborate on your answers or provide other information or comments that you feel are relevant.

Grant Thornton maintains confidentiality for individual participants in all workforce surveys. This survey is designed to solicit your individual opinions and feelings about particular topics. We will not share individual responses with TxDOT or other outside entities.

Participant Information

1. Which area best describes your work group?
   a. Administration
   b. Office
   c. District
   d. Region
   e. Division
2. What title best describes your position?
   a. Manager (oversee supervisory staff)
   b. Supervisor (oversee non-managerial staff)
   c. Professional/General Technician (non-supervisory)
   d. Other (please specify)
3. What function best describes your work group?
   a. Planning
   b. Design
   c. Construction
   d. Maintenance
   e. Other Engineering Operations
   f. Human Resources
   g. Technology Services
   h. Communications
   i. Finance
   j. Other Support Operations
   k. Other (please specify)

4. How many years have you been a TxDOT employee?
   a. less than 1 year
   b. 1 to 5 years
   c. 6 to 10 years
   d. 11 to 20 years
   e. more than 20 years
5. In your professional career, have you worked for an organization other than TxDOT?
   a. Yes
   b. No

Organization

1. To what extent do you agree with the following statements:
   a. I understand the approach TxDOT is taking to meet its goals.
   b. I agree with the approach TxDOT is taking to meet its goals.
   c. I am proud of the work I perform.
   d. My morale now is good.
   e. My morale is better than it has been recently.
   f. My morale is better than it has been in a long time.
   g. The morale of my office is good.

Leadership and Management

1. To what extent do you agree with the following statements:
   a. I am confident in the technical ability of my immediate supervisor.
   b. My manager keeps me informed of overall TxDOT activities.
   c. I am confident in the managerial ability of my immediate supervisor.
   d. I am confident in the managerial ability of the level above my immediate supervisor.
   e. I am confident in the managerial ability of executive leadership.
   f. There is an effective mechanism to provide feedback and concerns regarding management or leadership.
   g. I am encouraged to be creative and innovative.
   h. I am encouraged to become more efficient.
   i. I know how to get my ideas implemented.
   j. I am encouraged to work collaboratively in teams.
   k. My input is valued and used.
   l. I am recognized for my contributions.
2. To what extent do you agree with the following statements:
   a. I understand why we are creating regional offices.
   b. I understand how regional offices will operate.
   c. I understand how regional offices will affect me.
   d. Overall, regionalization will improve the support services I receive to do my job.
   e. I understand how regionalization supports the overall mission, goals and objectives of the organization.
   f. I have the opportunity to provide input on change initiatives.

Communications (In this section, "communications" refers to any internal information you receive including newsletters, emails, in-person meetings, etc.)

1. Please indicate whether you use the following internal communications either in electronic or hard-copy (check all that apply):
   a. Transportation News (TNews)
   b. Executive Director video
   c. District or Division newsletters
   d. District or Division social media (Twitter, Facebook, etc.)
   e. TxDOT-wide e-blast (distributed every other Friday)
   f. District or Division specific emails
   g. Other (please specify)
2. Regarding the TxDOT communications you receive, to what extent do you agree with the following statements:
   a. They include information important to me.
   b. They contain the appropriate level of detail.
   c. They are timely.
   d. They help me understand the organization mission.
   e. They enhance my ability to accomplish my goals.
   f. They include a way for me to provide feedback.
3. Do you have access to the internet at work?
   a. Always
   b. Most of the time
   c. Sometimes
   d. Rarely
   e. Never
4. Do you use Crossroads (the TxDOT intranet)?
   a. Yes
   b. No
5. If Yes to number 4 above, how often do you visit Crossroads?
   a. Daily
   b. Weekly
   c. Monthly
   d. Less than Monthly
6. If Yes to number 4 above, which sections of Crossroads are most valuable to you (check all that apply)?
   a. District, Division or Office sites
   b. SharePoint sites
   c. Communications (VTR, TNews, etc.)
   d. Employee information
   e. Learning resources
   f. Applications
   g. Contacts
   h. Online manuals

May 26, 2010

      i.   Calendar of events

      j.   Links

      k.   Other (please specify)

7. If Yes to number 4 above, to what extent do you agree with the following statements:
   a. Crossroads is easy to use.
   b. Crossroads has the information I need.

Performance Evaluation

1. To what extent do you agree with the following statements:
   a. My responsibilities are clearly communicated to me.
   b. My responsibilities are well documented.
   c. My performance plan accurately reflects my actual work duties.
   d. The performance evaluation process helps me understand my priorities.
   e. I understand how my work fits into the overall bigger picture.
   f. I am sufficiently recognized for my achievements.
   g. I am appropriately evaluated compared to my peers.
   h. There is an effective way to report performance management issues.

Additional Feedback

Please provide any additional feedback that you feel is important to this study.

Please limit responses to the remainder of this page, so be brief and clear to include any and all comments.

Thank you for your time and participation in this effort.

May 26, 2010

Appendix E: TxDOT leadership team's background

To understand TxDOT's management structure and organizational culture a bit better, we reviewed the backgrounds of TxDOT's leadership (including the Executive Director, DED, AEDs, Auditor, General Counsel, CFO, Division Directors, District Engineers and Regional Directors)[1].

We looked at the following characteristics of backgrounds:

- Where the leadership earned their undergraduate degree;
- Whether the individuals were professional engineers;
- Whether the leadership had worked for another professional entity before joining TxDOT; and
- How many years of service these individuals have with TxDOT.

What we found is as follows.
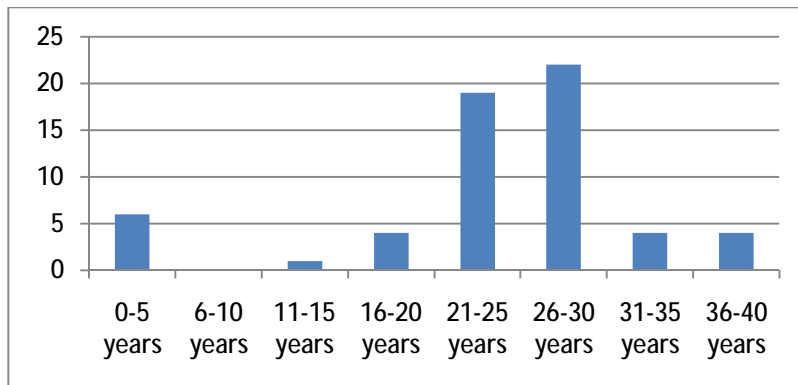
Figure E-1: TxDOT executive staff length of service at TxDOT

- **Educational background**: 36 of TxDOT's 62 executives received their degree from the University of Texas or Texas A&M.
- **Number of engineers**: 45 of 62 leadership positions are professional engineers.
- **Prior employment**: 47 of TxDOT's top 62 leaders began their careers at TxDOT and have continued with TxDOT through their career.
- **Length of service:** 49 of TxDOT's 62 leadership positions are held by individuals who have been with TxDOT for between 21 and 40 years. Individuals who have been with TxDOT 30 years or more fill 10 leadership positions.

---

[1] Some of the leadership have changed since such time as this analysis was conducted in the Fall of 2009.

May 26, 2010

This page intentionally left blank.

May 26, 2010

Appendix F: Regionalization improvement initiative

Regionalization Background

In 2007, TxDOT began to have discussions on consolidations and regionalization to improve efficiency. To prepare for the Sunset Commission review process, held for each state agency once every 12 years, TxDOT engaged Deloitte Consulting, LLP to provide an independent assessment of TxDOT management and operations. In the categories of Field Operations and Management and Support, the following recommendations (among others) were made:

- Consider consolidating functions replicated in each district;
- Need a method for sharing best practices;
- Consider modifying district/central office roles where it makes good business sense; and
- Develop processes to better manage project development.

TxDOT also engaged Dye Management Group and Cambridge Systematics, Inc. to conduct independent assessments. The Cambridge Systematics, Inc. report focused on how to best structure the department and was provided as a draft in late 2007.

While Deloitte Consulting, LLP, the Dye Management Group, and Cambridge Systematics, Inc. were conducting their reviews, select District Engineers (DE) had high-level discussions with Texas Transportation Commission Chair Ric Williamson on how to best structure the Department. This group decided TxDOT should establish regions that would consolidate all specialty engineering (e.g., right-of-way, bridge design and inspection, aviation) and allow districts to focus on core project delivery (e.g., roadway design, planning). Essentially, regions would become large districts, as districts currently operate, and districts would become large area offices, as areas currently operate. In this model, regions, headed by a "Regional Executive," would be responsible for <u>planning</u> (programming, innovative finance, multi-model systems and long-range planning), <u>project development</u> (environmental studies, consultant contracts, design review, pavement evaluation, traffic operations engineering, right-of-way, bridge design, bridge inspection, and construction support) and regional support (HR, safety, purchasing, equipment, accounting, IT, facilities, sign shops, and warehousing). The districts would focus on design, construction, maintenance, and operations; essentially operating as engineering hubs. In this model the regions were also expected to oversee the operations of the districts.

Subsequent to those discussions, the Dallas and Fort Worth DEs asked their staff to develop a high-level plan for consolidating the Dallas/Fort Worth area into the "North Region," making the Dallas District the Dallas/Fort Worth District and the Fort Worth District the North Region headquarters. This was intended to function as a pilot, testing the regional model, but it never happened.

May 26, 2010

Implementation

The implementation chronology, as the MOR team observed that it is being implemented, is presented in Figure F-1.
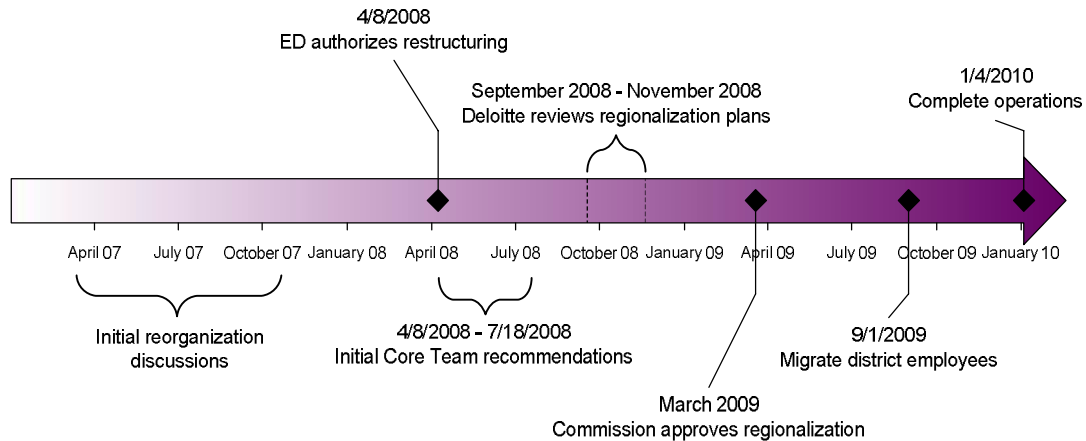
Figure F-1: Regionalization implementation chronology

- On April 8, 2008 the Executive Director (ED) authorized three teams to study restructuring:
  Executive Team (made up of select members of the administration and select District
  Engineers) – to oversee the restructuring process;
- Core Team (made up of select District Engineers and Division Directors) – to determine the
  region's roles and develop the restructuring plans; and
- Resource Team (made up of select personnel from district and division operations) – to
  support the Core Team with information and expertise.

Collectively, their charge was to identify efficiencies, remove barriers that prevent the Department from being cohesive and agile, embrace change, determine which functions to regionalize and ultimately to make recommendations to executive management. The Core Team was given approximately 6 weeks to develop a more detailed regionalization plan in accordance with their charter.

Through July 2008 (beyond the initial 6 week timeframe), the Core Team developed a list of proposed Department outcomes intended to accomplish the recommendations set forth in the Sunset report and determined what level of the organization should be responsible for those outcomes. The Core Team also conducted a high-level staffing analysis and recommended organizational changes, supplying the Administration with recommended organizational charts.

The initial recommendation from the Core Team was to consolidate divisions and offices from 22 to 14 and develop regional support centers (RSCs), reducing support staff by 25%. This would result in

a statewide reduction in full-time equivalent (FTE) personnel by 1,112 (762 in districts and 350 in divisions) or 7.45%. The recommendation included eliminating Directors of Administration positions in every district and Directors of Transportation Operations positions in many districts. The overall recommended organization structure included:

- Districts focusing on project delivery and daily operations, including design, construction, maintenance, and operations of the transportation system;
- All functions that support those core activities moving to the region or centralized in divisions;
- RSCs consolidating project delivery support and daily operational support functions, to realize economies of scale, eliminate redundant services and increase accountability; and
- Division operations including statewide planning and policy development, statewide compliance reviews, grant application and management activities, regulatory functions and specialized products and management systems support.

The Core Team recommendations generated significant push back from divisions. Ultimately the Core Team recommended that TxDOT restructure in phases, with Phase I encompassing changes at the district level and establishment of the RSCs.

On July 18, 2008, after receiving the Core Team's recommendation, the ED published a memorandum to all employees that outlined his direction with regard to restructuring and regionalization. In the memo he agreed with the concept of restructuring, agreed with the phased approach, requested detailed plans for review and consideration, named "Interim" Regional Directors (IRDs) and set a deadline to submit detailed plans for Phase I to administration by September 8, 2008.

In late July 2008 the IRDs developed three major documents (a 90-day plan, an RSC Organization Overview and a staffing plan) to help them move forward in their interim assignment. In August 2008, as outlined in the first 90-day plan, IRDs commissioned "functional work groups" to use functional experts in developing the detailed RSC Implementation plans. In September 2008 the ED briefed the Texas Transportation Commission on restructuring efforts in a Commission Workshop. In this briefing he committed to publishing the plans to allow employees an opportunity to provide input before moving forward, to bringing a minute order establishing the regions "around the first of the year" and to having the regions fully operational in six to eight months after Commission approval. The ED then sent the plans to district, division, and office directors asking them to review and provide feedback. Soon after, the ED approved the IRD's recommendation to have Deloitte Consulting, LLP review the work group recommendations and compare them to the pre-Sunset Commission audit recommendations. According to their final report "TxDOT contracted Deloitte to assess the regionalization plan for consistency with the pre-Sunset (Commission) recommendations and also to help ensure that the work group documents were standardized in content and structure." Deloitte Consulting, LLP finalized their independent assessment of the regionalization concept in November 2008.

Based on all feedback provided, the IRDs continued to refine the regionalization plan, which they completed in December 2008. On December 1, 2008 the ED submitted the report detailing regionalization plan to all TxDOT employees for review and comment and on February 17, 2009 the IRDs finalized the updated plan based on employee feedback. Around the same time, in March 2009, TxDOT performed an estimated cost/benefit financial analysis of the overall proposed regionalization plan, as recommended in the Deloitte Consulting, LLP report.

At the March 2009 Texas Transportation Commission meeting, the Commission approved the regionalization effort as developed to that point; it was up to the administration to define the remaining details concerning staffing and processes. During June and July of 2009, TxDOT hired permanent Regional Directors. On September 1, 2009, TxDOT migrated district employees to the regions. Regional employees were continued operating under district procedures, with minor changes, until the RSCs were fully operational.

Regions then developed detailed daily operation and functional standard operating procedures (SOPs). During this time they also adjusted which activities were to be handled at the district, region and division. As part of developing SOPs, the regions created service level agreements (SLAs) and standards of uniformity (SOUs) with the DEs at each district to help ensure a common understanding and expectations of services provided moving forward. In order to develop all SOPs, SLAs and SOUs within the established timelines, the Regional Directors (RDs) divided responsibilities equally among the four regions. To develop their SOPs, SLAs and SOUs, the regions established core and resource teams comprised of district, division, and regional personnel. Upon drafting, they posted SOPs to provide all TxDOT employees one week to review and provide feedback, after which point the regions revised and submitted them to administration for review and approval. The deadline for complete RSC operations was January 1, 2010. Most procedures were submitted for review around that timeframe. The Assistant Executive Director (AED) for District and Field Operations approved the procedures on February 26, 2010 for immediate implementation and utilization. With this approval, each region was responsible for executing the training and rollout plan for its SOPs by April 1, 2010.

Since that point, the AED for District and Field Operations has extended the deadline for rollout to May 1, 2010. This revised deadline has been missed, although as of the end of May 2010, regions are finalizing and executing training plans. Most training includes a meeting with the affected division resources and meetings with each region and their associated districts through VTCs. Those SOPs with limited process changes will have minimal training, while those with more significant process changes are planning more in-depth training initiatives. The regions are finalizing training by scheduling sessions with districts that were not able to attend previous training sessions due to schedule conflicts.

May 26, 2010

Appendix G: Planning and programming improvement work groups

The MOR team reviewed outputs of several of the many work groups that were charted to improve TxDOT's planning and programming activities between 2002 and the present.

The groups were initiated beginning in 2002, with the first work group established to define the responsibilities and guidelines for three corridor prioritization work groups. As part of their effort, the work group:

- Reviewed existing and proposed priority corridor documents including the Statewide Plan, TxDOT Strategic Plan, Texas Trunk System, Trans Texas Corridors, USDOT Functional Classification System, Western Transportation Trade Network and individual corridor studies;
- Reviewed historical TxDOT/USDOT criteria for corridor selection as well as current use of benefit/cost studies in project selection;
- Prepared definitions of corridor related terms for consideration by other work groups;
- Outlined the responsibilities and guidelines for the three Corridor Prioritization Work Groups by developing their "charge" for Category 2 – Metropolitan Area Corridor Prioritization, Category 3 – Urban Area Corridor Prioritization and Category 4 – Statewide Connectivity Prioritization;
- Recommended "criteria" or "performance measures" for consideration of Category 2, 3 and 4 Work Groups; and
- Identified and prioritized and recommended criteria in a final report.

The Category 2 work group met over the course of several months in 2002 and 2003. They were charged with establishing a statewide list of prioritized corridor segments in the eight metropolitan areas and to recommend a funds distribution equation. The group determined that they could not come to consensus on a list of criteria to rank corridor segments on a statewide basis. Their solution was to have each area independently rank its projects using locally developed criteria and to develop criteria upon which to make a statewide distribution of projected available construction dollars. The result of this work group's efforts is a statewide list of corridor segments prioritized by each local area grouped into three five-increment groups. The Category 2 work group reconvened, as required by the five year review interval set forth in the initial meeting. Their charge was to, in addition to use of the existing seven variables of the original 2003 equation, consider additional issues including addressing existing congestion, population extremes among the eight MPOs (creating separate pots of funding for the larger and the smaller MPOs) and the time value of money for delayed projects. The results were a slightly modified distribution formula based on these additional factors and weighting.

The Category 3 work group met over the course of several months in 2002 and 2003. They were charged with establishing a statewide list of prioritized corridor segments in the 17 urban areas and to recommend a funds distribution equation. The group determined that they could not come to consensus on a list of criteria to rank corridor segments on a statewide basis. Their solution was to have each area independently rank its projects using locally developed criteria and to develop criteria upon which to make a statewide distribution of projected available construction dollars. The result of this work group's efforts is a statewide list of corridor segments prioritized by each local area grouped into three five-increment groups. The work group recommended using criteria to identify geographic funding allocation targets. The Category 3 work group reconvened, as required by the five year review interval set forth in the initial meeting. Their charge was to, in addition to use of the existing seven variables of the original 2003 equation, consider additional issues including addressing existing congestion and the time value of money for delayed projects. The results were a slightly modified distribution formula based on these additional factors and weighting.

The Category 4 work group met in 2002 and 2003 to prioritize corridors in the non-metro areas of the state and recommend an equation for selecting network corridors. Their recommendation was that the Category 4 network should include all roadways on the Texas Trunk System (TTS) and the National Highway System (NHS), as well as corridor sections connecting the TTS and NHS to major ports-of-entry at international border crossings or Texas water ports. Their recommended goal was for this highway network to consist of four or more lanes. A map was included in the report that showed the proposed network. Each statewide corridor in the recommended network was divided into sections of logical termini for prioritization. Developed programming funding distribution formula and a network divided into sections of logical termini for prioritization.

In May 2006, a Lump Sum Distribution for Total Project Cost work group was formed and charged with recommending a method for distributing right-of-way and contract design funding to

May 26, 2010

accommodate a total project cost system to document all costs of an individual project, including eight goals:

- Determining the appropriate amount of right-of-way acquisition and consultant dollars that could be allocated by respective category to the MPOs;
- Determine an allocation method;
- Scheduling each area's use of the total allocation;
- Tracking the actual use of the dollars and balancing future scheduling with past obligations;
- Educating Districts and MPOs on the use of its area's allocation and what can be accomplished with the funds;
- Temporarily continuing data maintenance to fulfill legislative reporting requirements (the Department is currently working on changes to enable tracking of total project costs that should be fully implemented by fall 2006);
- Investigating legal issues (contained in the Texas Administrative Code); and
- Developing recommendations to present to the Districts and MPOs.

Comprised of experts from TxDOT and selected MPOs, the workgroup met twice during May 2006 in Austin to review, discuss, deliberate and develop way to distribute funds to MPOs for right-of-way and contract design. The work group recommended an initial distribution process for contract design and right-of way acquisition funding to be an amount equivalent to 10% and 12%, respectively, of each MPO's mobility construction funds. This work group's final report was delivered in October 2007.

This page intentionally left blank.

May 26, 2010

Appendix H: Plan process description

Planning documents provide a snapshot in time of programming at each stage of the planning process. TxDOT and MPOs prepare planning documents for the long-range, mid-range and short-range. The objective of the long-range planning process is to identify the state's direction regarding transportation projects and begin development of large-scale projects. Long-range planning documents include the Statewide Long Range Transportation Plan (SLRTP), previously called the Texas Transportation Plan (TTP), the Metropolitan Transportation Plan (MTP) developed by the MPOs and the Unified Transportation Program (UTP).

The SLRTP provides policies and strategies that have been adopted by the Commission and potential actions from which the Commission will choose that will guide transportation decision-making over the proceeding 24 years. It is a product of extensive outreach to government and state agencies, stakeholders and the public. The SLRTP is mandated by state and federal legislature but has no specific update requirements other than that it is "periodically updated." The SLRTP has not been updated since 1994, when it was called the TTP, but the department is currently in the process of developing a revised version. TxDOT is conducting public involvement for the revised SLRTP and plan to present the final draft at the November 2010 Commission meeting.

MPOs are required to maintain an MTP as their long-range transportation plan that defines a vision for the region's multimodal transportation system. It identifies policies, programs and projects for development to accomplish adopted goals and guide expenditures for state and federal funds. The MTP is updated every 5 years, 4 years for non-attainment areas, and typically covers a 20 to 25 year span. MPOs constrain their MTP using internal funding forecast models, if they have the resources to develop such tools, or using TxDOT forecasts.

The UTP guides the statewide long-range priorities and authorizes project development for an 11 year period, which guides transportation project development and construction over that time. The UTP is referenced in state statute, but not required, to document priorities and the Commission's mechanism to authorize project development. Districts and MPOs, based on local needs, and certain divisions (e.g., Bridge Division) provide input on the UTP regarding specific projects that meet TxDOT's goals and fit within funding projections.

The objective of the mid-range planning process is to continue to move forward those projects that remain a priority for the state and conduct the activities necessary to gain final approval to begin project construction, including environmental studies, public involvement, right-of-way design and estimates, etc. The primary mid-range planning document is the Statewide Transportation Improvement Program (STIP). The STIP covers a period of not less than four years, is updated at least every four years, is required to secure federal funds for transportation projects and defines the

state's mid-range priorities. The STIP is a compilation of individual Transportation Improvement Programs (TIPs) from MPOs and from districts for non-MPO areas, which detail proposed projects for that timeframe. The STIP must be fiscally constrained to reasonably expected revenues and based on reasonable cost estimates developed by TxDOT or the MPO, and therefore each MPO or districts for non-MPO areas only include projects that are likely to occur. The projects listed in the STIP, when approved by the FHWA and FTA, are the only transportation projects that can utilize federal funds.

The objective of the short-range planning process is to finalize project plans and clearances in preparation for letting, ensure TxDOT has the necessary cash flows to make project payments for all projects statewide after letting, conduct a final review to make sure projects going to letting are within TxDOT's overall direction and likely to be ready by the actual letting date and finalize project funding sources. The primary short-range planning document is the one-year letting schedule, a comprehensive list of projects likely to let in the following 12 month period. Districts develop the schedule by pulling appropriate projects from the most recently approved STIP that fit established letting funding caps.

Figure H-1 illustrates the overall planning process including controlling planning documents.
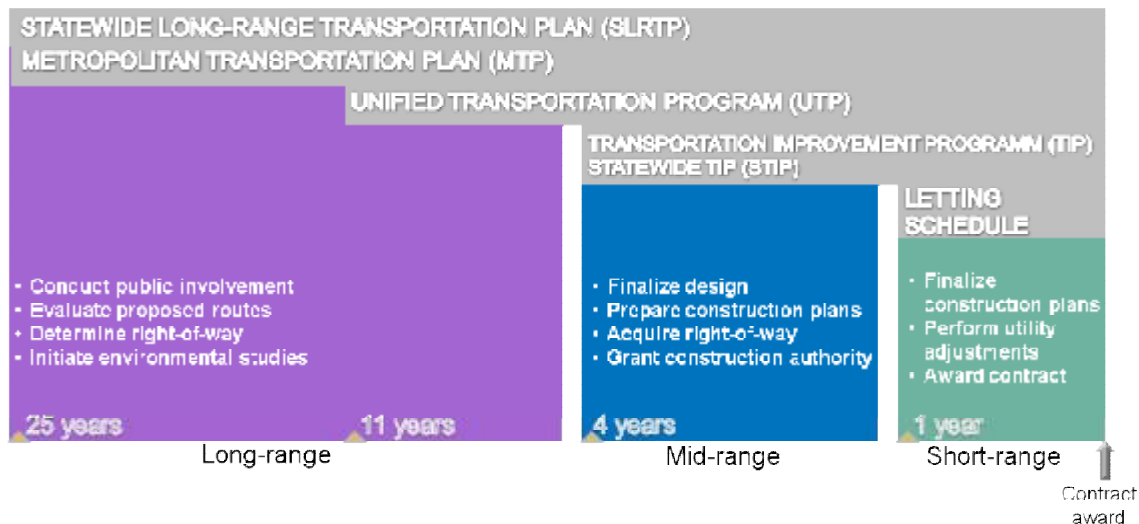
Figure H-1: TxDOT planning process

Long-range planning and the UTP

To understand statewide transportation needs and identify potential projects, MPOs and districts collect public input and conduct analysis for air quality, congestion modeling, etc. MPOs also work with their policy boards to set long-term strategy and planning priorities. The MPO policy boards are responsible for developing overall transportation policy guidance, ensuring proper coordination of transportation modes, cooperatively establishing transportation needs and selecting projects from

May 26, 2010

different transportation modes for implementation. The board is typically composed of elected public officials from the local governments that have authority for project implementation in the MPO study area and representatives of the TxDOT district in which the MPO is located. Some MPOs also have technical advisory committees to provide support on technical issues for the planning and programming of transportation projects for the region and make recommendations to the policy board on the MTP, TIP, project selection process criteria and special transportation planning studies.

Once potential projects have been identified as part of a long-range planning effort, the district oversees most projects as they move through the remaining planning phases and into construction, coordinating with the MPOs where necessary. Most districts are typically responsible for many MPO and non-MPO area projects concurrently. Local governments may manage off-system projects that will still go through the TxDOT letting process. Initial planning studies typically focus on modal choices, design concept and scope. TxDOT completes a preliminary survey during the initial planning phase, which consists of fieldwork and gathering data from a variety of sources, such as previous surveys, geographic information systems and online information sources. Identifying all issues early in the project development process allows time to address, and if need be, mitigate such issues.

For highway projects, districts determine a broad, general location (the corridor) to fulfill the public's need and then consider alternate routes (alignments) within the corridor. Which alignment the district ultimately selects depends on the results of their analysis, including right-of-way and environmental studies, and public involvement regarding each alignment being considered, considering the social, economic and environmental impacts caused by construction. The district must then inform the public of the potential impacts of each alignment, gauge public opinion for each alignment option and allow the public to comment on each option and the overall project. TxDOT attempts to reach out to all public interest groups including citizens, affected business owners, affected public agencies, transportation agency employees, private transportation providers and other interested parties. The level of public involvement required depends on the project's overall scope, environmental impact, amount of right-of-way acquisition required, etc. The district then selects the most appropriate project alignment based on which approach best serves the needs of the public and documents the more detailed designs.

The objective of the long-range planning process is to identify the state's direction regarding transportation projects and begin development of large-scale projects. TxDOT documents long-range projects in the UTP, the statewide 11 year program that is used to guide transportation project development and construction over that time period. To align the UTP with the operational categories outlined in TxDOT's Strategic Plan, the UTP is divided into two separate documents, the Statewide Preservation Program (SPP) (which aligns with the "Maintain It" operational category) and the Statewide Mobility Program (SMP) (which aligns with the "Build It" operational category). These documents list project-specific highway projects that the Commission has approved for construction or development. The current UTP revision, adopted by the Commission at the April 2010

May 26, 2010

Commission meeting includes only one document, combining mobility and preservation. The department historically made annual updates to the UTP, but had not made a change since 2007.

Districts use TxDOT established revenue projections and funding distribution by category to identify specific projects that fit within their allocations. TxDOT currently uses twelve funding categories:

- Category 1: Preventive Maintenance and Rehabilitation
- Category 2: Metropolitan Area Corridor Projects
- Category 3: Urban Area Corridor Projects
- Category 4: Statewide Connectivity Corridor Projects
- Category 5: Congestion Mitigation and Air Quality (CMAQ) Improvement
- Category 6: Structures
- Category 7: Metropolitan Mobility/Rehabilitation
- Category 8: Safety
- Category 9: Transportation Enhancements
- Category 10: Supplemental Transportation Projects
- Category 11: District Discretionary
- Category 12: Strategic Priority

Mid-range planning, TIPs and the STIP

The objective of the mid-range planning process is to continue to move forward those projects that remain a priority for the state and conduct the activities necessary to gain final approval to begin project construction, including environmental studies, public involvement, right-of-way design and estimates and identifying potential sources of funding. Federal transportation legislation requires development of TIPs covering all regions of the state as a condition of securing federal funds for transportation projects. Federal regulations require each MPO to develop a TIP and the state to compile a STIP as a condition of securing federal funds for transportation projects. The TIP contains all projects funded with federal funds and regionally significant projects that will be funded with non-federal funds; projects not considered of appropriate scale for individual identification may be grouped by function, geographic area or work type. The inclusion of a project in the TIP reflects a consensus of priority needs among the citizens living in the study area, locally-elected officials, local transportation agency representatives and TxDOT representatives.

Each designated MPO and each district rural area not covered by an MPO develops a TIP by selecting viable projects from previous plans, considering the established project selection process, projects likely to be ready for construction within the next four years and the most recent budget projections developed by either TxDOT or the MPO. TxDOT estimates 10 years of proposed and existing programming amounts in a funding distribution organized by operational category, project type and district. MPO policy boards approve the TIPs before submission for inclusion in the STIP.

May 26, 2010

Once all individual TIPs are complete, the Transportation Planning and Programming Division (TPP) reviews all 25 MPO and 24 district rural areas TIPs to ensure that the projects in the STIP have been through the federally-mandated planning process, are included in the UTP (excluding transit and locally funded projects) and are within funding levels by category identified in the funding forecast. TP&P then compiles all TIPs into one document, which becomes the STIP. The STIP is, in effect, a consolidation of all of the state's TIPs, listing transportation needs, estimated costs and scheduled implementation dates. TxDOT posts the STIP online to receive public comments and conducts a public hearing. Once the public involvement period is over and TxDOT makes any necessary changes, the Commission reviews and adopts the STIP. TxDOT then submits the STIP to FHWA for approval. TxDOT may amend the STIP as transportation needs and/or funding levels change or if a specific project's costs change by 50 percent or more. There is a regular quarterly amendment schedule, but TxDOT can also include additional amendments at other times if necessary. The general practice is to minimize out-of-cycle amendments; however, out-of-cycle amendments are necessary to quickly add new projects, such as TxDOT was required to do to secure American Recovery and Reinvestment Act (ARRA) funding.

Short-range planning and letting

The objective of the short-range planning process is to finalize project plans and clearances in preparation for letting, ensure TxDOT has the necessary cash flows to make project payments for all projects statewide prior to letting and to make progress payments on previously let projects and conduct a final review to make sure projects going to letting are within TxDOT's overall direction (during the proposed letting list review by the AED of Engineering Operations) and likely to be ready by the actual letting date and finalize project funding sources. (during the proposed letting list review by the CFO).

Short-range planning is guided by annual letting schedules. Finance develops annual letting caps by category (e.g., maintenance, added capacity) and location (MPO or non-MPO area). Funds are programmed by location but not necessarily distributed that way, depending on what projects are ready in certain areas once letting occurs. Districts review the projects listed in the current STIP and the associated letting cap and then submit their annual letting schedule to the Finance Division, including projects they feel are most important, most likely to be ready for letting and fit within the letting cap. Finance analyzes the yearly letting schedules proposed by districts and compares them against letting caps, funding sources, and administration or FHWA instructions.

Finance sends the final annual letting schedule to administration for approval. The administration must then approve the statewide yearly letting schedule. The Commission approves this letting schedule by minute order. Finance then publishes the final annual letting schedule to the TxDOT website and distributes it to the districts as a comprehensive list of projects likely to let in the given 12 month period.

May 26, 2010

Three months prior to letting, districts submit their monthly proposed letting lists to the Finance Programming/Letting Section. The Programming/Letting Section reviews the proposed letting list to ensure projects fit within the letting caps and qualify for the associated funding categories, and they analyze monthly projects against the annual schedule and STIP. The Programming/Letting Section then provides an aggregate list of projects to the AED of Engineering Operations for review and approval. The AED of Engineering Operations reviews the aggregate project list for inclusion in monthly letting and removes projects that do not fit the department's direction or are not likely to be let within the letting month. Concurrently, the CFO compares the monthly letting list by fund source to funding forecasts, using the previous month's actual letting amounts, and determines whether funds will be available for each project. The AED will eliminate projects based on the CFO's determination, if necessary. The AED may also postpone projects to spread payments throughout the year, based on other lettings. Once the reviews are complete, the Programming/Letting Section generates the approved letting schedule one to two months prior to letting and distributes it to the Environmental and Design Divisions for final project reviews and clearances. The Environmental Division or RSCs secure clearances for approved projects. The Design Division reviews project plans, specifications, and estimates (PS&Es) to ensure all design activities were completed appropriately. Once approvals are complete, the Programming/Letting Section requests obligation authority from FHWA for projects receiving federal funds. The Programming/Letting Section then advertises the project, and the projects go to letting. After a project is let, responsibility for that project transfers to the Construction Division.

Environmental Support Process

Environmental processes are interwoven into the planning process and generally last throughout the duration of the project planning process and through construction completion. Environmental requirements are defined by the National Environmental Policy Act (NEPA) of 1969 and other substantive state and federal environmental requirements. NEPA requires federal agencies, particularly those receiving federal funding, to consider environmental issues in full view of the public prior to making any major decisions on federally funded projects. NEPA directs the federal government to make decisions based on an understanding of the environmental consequences of the proposed project. To achieve this understanding, NEPA requires an assessment of environmental impacts of proposed projects on the environment and a consideration of alternatives. Where impacts cannot be avoided, minimization or mitigation of impacts is required. During environmental review, specific areas of concern include socioeconomic, historic properties, archeological resources, vegetation, water quality, noise, hazardous materials, visual aesthetics, endangered species and indirect/cumulative impacts.

The district must develop environmental documentation that provides an appropriate level of information regarding the social, economic and environmental impacts of a project and the basis for the decision on a project's construction, location, design, and mitigation. In addition, the document should describe interagency coordination and public involvement. An environmental document is "full disclosure," which includes a complete discussion of potential impacts and possible mitigation

and is available to the public and interested groups. In order to obtain environmental clearance for a construction project, the following must be completed:

- Environmental process and certification
- Public involvement
- Obtain permits
- Have a plan to mitigate other potential environmental permits, issues, and commitments

The environmental and public involvement documentation includes the following:

- Purpose and need for the project
- Alternative analysis
- Environmental, societal and economic impact analysis
- Need for additional right of way and the identification of displacements
- Measures to avoid, minimize, or compensate for environmental impacts
- Agency and public coordination and comments

There are four possible types of environmental documentation to receive environmental clearances, varying in complexity − programmatic categorical exclusions (PCEs), categorical exclusions (CEs), environmental assessments (EAs) and environmental impact statements (EISs). Which one is required depends on the degree to which the project will impact the environment. Specifically:

- **PCE:** May be prepared if the project is specifically listed in the PCE agreement with the FHWA and the project does not involve significant impacts. The PCE agreement allows TxDOT to certify projects meeting PCE criteria.
- **CE:** Prepared for projects that are not listed in the PCE agreement and, based on past experience with other similar projects, do not involve significant impact. CEs are reviewed and approved by the FHWA.
- **EA and findings of no significant impact (FONSIs):** Required for larger scale projects that do not meet PCE or CE requirements or the degree of impact is not known. EA documentation is more detailed than that provided in a PCE or CE because an EA must consider alternatives to the proposed action. The scope and content of an EA depends upon the type of project proposed, its scale and the potential for environmental impacts and controversy. TxDOT must provide sufficient evidence for FHWA to determine whether to prepare an EIS or FONSI.
- **EIS:** Required for projects that may significantly affect the quality of the human environment (e.g., new location or complex additional capacity). Public involvement is an important part of the draft EIS process. Through public meetings and other gatherings, public concerns can be gauged and the concerns of resource agencies identified.

TxDOT districts typically develop environmental documentation. Depending on environmental activities required, the Environmental Affairs Division may conduct analysis to support the district

on highly specialized functions. The environmental process may also include a public hearing to present project alternatives and seek public comment on the proposed project location, design and environmental impacts.

The Environmental Affairs Division reviews the environmental and public involvement documentation provided by the districts before approving projects for letting.   The Regional Support Center (RSC) review and certify PCEs. The Environmental Affairs Division will still check PCEs prior to letting to confirm the RSC certification and that all necessary permits are in place. PCEs account for ninety percent of projects. The other ten percent are CEs, EAs, or EISs. When the Environmental Affairs Division shifted PCE certification to the RSC, the Environmental Affairs Division established standards of uniformity for use by the districts in preparing the PCEs, by the RSC in certifying the PCEs, and the Environmental Affairs Division in performing compliance reviews. The Environmental Affairs Division performs a compliance review of 20% of PCEs each quarter to ensure compliance with the standards of uniformity. The Environmental Affairs Divisions just completed its fifth PCE compliance review. FHWA is about to conduct their first evaluation of the PCE program. The Environmental Affairs Division is continuing their effort and developing SOUs for non-FHWA projects and technical aspects (e.g., obtaining permits) of other environmental requirements.

During review of CEs, EAs, and EISs, technical reviewers will review the entire document or subject matter sections and identify any revisions required. Generally, few documents are rejected for complete inadequacy and/or lack of interagency coordination. Usually the document can be amended to bring it up to standard, but there are times when multiple rounds of review are required. For example, the comment from the reviewer may result in new information that has never been reviewed and as such, may prompt additional comments. Also, if a project changes, the environmental documentation may need to change accordingly. If there is more than one round of review required, the Environmental Affairs Division will work directly with the district to ensure that the appropriate revisions are made. Some districts and MPOs have monthly or quarterly meetings with the Environmental Affairs Division to discuss projects and to discuss planning issues.

FHWA is the final decision-maker on all projects receiving federal funds. They ultimately review all CEs, EAs, and EISs and the related public involvement documentation to issue all CE approvals, findings of no significant impact, and records of decisions.

Right of way support process
Right-of-way acquisition is necessary for projects requiring additional land on which to build. Right of Way acquisition is also necessary for those projects which impact existing public utility facilities requiring compensation for their adjustment, relocation or removal.

TxDOT typically cannot begin construction on a property until all its acquisition for right-of-way is complete. TxDOT acquires required right-of-way under the authority of eminent domain by two basic methods:

1. Negotiated agreement for purchase of required property at the state approved value (appraised value or acceptable counter offer by the property owner); or

2. Through administrative or legal condemnation proceedings. Condemnation proceedings often take a significant amount of additional time and money.

If utilities exist on the identified right-of-way, TxDOT must work with the utility company to remedy the impacts, reimburse eligible utility costs and re-establish public utility services. Project impacts may also require the purchase of additional right-of-way by the utility to accomplish the utility adjustment. Right-of-way acquisition and utility impact analysis and adjustment are integrated into the complex planning process and continue throughout the planning and design processes.

Leading up to right-of-way acquisition, districts and regions undertake additional planning steps. District right of way agents develop right-of-way maps and regions develop cost estimates by surveying the number of plots, assessing whether they are residential or commercial, or developing estimates based on average right-of-way costs as a factor of construction costs. These maps and cost estimates are updated throughout the project development and delivery stages of the right-of-way project lifecycle as more detailed design plans are developed. Districts generate and approve final right-of-way maps based on project schematics and final designs and submit the approved project maps to the region. The regions in turn review the approved project maps to assure the proper authority to purchase the property, identification of all impacted property interest owners and to record to right-of-way program records the precise delineation of the assembled project right of way. Once the region approves district right-of-way plans, they grant authority to start acquiring right-of-way and developing agreements with utility companies for relocation.

The districts must determine if relocation assistance will be required by federal law, which involves helping with the relocation of residents and business owners displaced due to right-of-way acquisition. The acquisition process may take significant time and should be incorporated into the project completion schedule.

Districts coordinate with all of the affected utility companies regarding the location of existing utilities and any proposed new utility locations for a project corridor. It is TxDOT's responsibility to formally notify all affected utility owners of proposed work as early as possible and to coordinate utility adjustments with the utility owners. TxDOT will reimburse utility companies on eligible costs incurred during utility adjustments only.

May 26, 2010

Best Practices

Theme: Lack of statewide prioritization

The MOR team examined five state DOTs (Ohio, Michigan, Missouri, Arizona and Florida) to understand how they distributed funds to local governments and MPOs among the various funding categories. The practices varied by state, although all states negotiated funding allocations with state stakeholders. In all cases, funds are distributed to districts (for DOT-controlled funds) based on system conditions and management- or legislative-desired system condition goals.

The DOTs based project selection criteria primarily on system conditions giving priority to preservation over capacity expansion. The Ohio model appears to be the most maturely developed and have more specific criteria for project selection.

The Ohio independent Transportation Review Advisory Council (TRAC) provides an objective model with clear criteria for ranking and selecting new capacity projects. The TRAC does not allocate monies by a formula to MPOs and is not required to spend a certain amount in a given MPO area. This gives them the ability to use significant discretion regarding the use of Federal and State funds coming into the State for highways. Once funding amounts for system preservation items (pavements, bridges, safety, etc) are determined, they allocate the remaining funds to the districts to develop their work plan for the budget period for new capacity projects (Major/New). These allocations are based on various factors, centered on system conditions. The TRAC decides which projects to fund based on which projects will best benefit the overall transportation system. TRAC policies dictate specific weighted scoring criteria for safety, average daily traffic, truck traffic, level of congestions, benefit cost ratio, and air quality. The TRAC takes project applications, ranks and allocates the amount of funding for Major/New projects. The TRAC is responsible for evaluating all new capacity projects over $5 million. The TRAC maintains two lists, Tier 1 projects, which have funding available for Construction, and Tier 2, which are identified but do not have a funding commitment. Transportation factors make up 55 percent of the available scoring for Major/New projects, with growth factors and local project financing making up 30 and 15 percent of the scoring, respectively. TRAC policy dictates equal consideration of all modes of transportation – road, transit, and eligible freight projects. To accommodate this policy, TRAC has devised scoring criteria that can be applied equally to any mode, or surrogate criteria so that modal benefits can be compared in an equal fashion across modes.

Most states report the results of project selection through published reports on established performance measures and system conditions. Other states use system performance measures and have published goals for the system and clear project selection criteria. Many DOTs have project selection criteria that they track to obtain improvement in the established goals (less congestion, improved interstate pavement, less deficient bridges, reduced highway deaths, etc.). If project selection criteria is developed using these goals, then investment in projects using that criteria will produce movement toward improving system conditions. The DOT must have a clear process and methods of gathering and analyzing the right data to report on the results of where they invested

their money. If not, establishing project selection criteria will not generate the proper tracking and reporting mechanism.

Theme: Excessive over-programming

Any transportation department requires a certain level of over-programming from a planning standpoint in order to meet its goals. Projects may fall out of the pipeline for various reasons and TxDOT must have others ready to use available dollars. Of the five state DOTs reviewed (Ohio, Michigan, Missouri, Arizona and Florida), only one, Ohio, allows over-programming in the short-term.

Ohio allows minimal over-programming except in out-years of the STIP. Districts and Program Managers can over-program by 5% per year for preservation (pavement and bridge) and traffic and safety projects. Ohio maintains Major/New projects (new capacity over $5 million) into two lists, Tier 1 (funded) and Tier II (unfunded). Tier I projects will exceed the funding available for new construction by no more than 20 percent over the four-year period. The 20 percent figure will provide a reserve of projects so that more projects can be ready for construction if funding exceeds projections or if scheduled projects are delayed. If the TRAC decides to over program by more than 20 percent, this higher percentage must be approved by a two-thirds majority vote. Tier II projects provide a back-up pool of ready projects that could be accelerated should additional funding become available during the 4-year period. Ohio constrains the dollar volume of projects under development in Tier II not to exceed 100% of the likely funding level for an 8-year period.

The other states all have a fiscally balanced program with more established flexibility in documents longer than five years out. Arizona's 20-year program is fiscally balanced, but they take more liberties with their revenue estimates, updating them every five years to adjust for changed conditions.

Michigan has a policy of completing and filing plans 6 months before letting. They maintain a "B" list of projects in various stages of completion to pull into the program in the event that more funds are available as a result of additional revenues sources, lower bids, or another project falling through.

Missouri has a five year fiscally balanced program and does not over-program. The first three years are locked, and they deliver the program as programmed. Years four and five are less specific, which allows more flexibility as they focus on delivering projects in the first years.

Theme: Misleading project commitments

Several states measure project delivery for the projects in the current year and have a performance measure for project delivery of plans in the first year of the STIP. Arizona, as policy, focuses on delivering the programmed projects on time; for FY 2009, they delivered 96 percent of the planned projects, based on the current year list. Both Ohio and Florida have a measure similar to Arizona. Ohio delivered 95 percent of planned projects for FY 2009 on time. Florida DOT delivered 97 percent of their FY2008/2009 projects to construction, executing 435 of 449 projects planned and 59 projects that were not in the plan and were advanced from future years. The ARRA projects

May 26, 2010

accounted for 11 of these advanced projects. Florida delivered 97 percent in FY2008, 98 percent in FY2007, 80 percent in FY2006 and 86 percent in FY2005. To achieve such consistency, Florida conducts monthly district meetings where they have to explain anything that is getting off track that will cause delays or cost increases.

Theme: Insufficient right-of-way and environmental inclusion in planning process

FHWA expects 100 percent of right-of-way acquisition and all affected utilities relocation to be completed before a project is advertised for bids (§635.309 in the FHWA Code of Federal Regulations), and "only in very unusual" circumstances may states request authorization of a project with incomplete right-of-way, with specific guidance that "this exception may never become the rule." A joint FHWA/TxDOT right-of-way process review conducted in 1995 to evaluate TxDOT's compliance with Federal regulations and policy regarding letting Federal-aid projects with outstanding right-of-way acquisition and utility relocations found a low-level of compliance with Federal regulations. A recommendation from the review was that TxDOT and FHWA management should agree on the circumstances under which projects can be let to contract with outstanding right-of-way acquisitions and utility relocation. As a result of this review, in June 1996, under the ED William Burnett, TxDOT committed to the FHWA that unless 75% of right-of-way has been purchased and 75% of utilities have been physically adjusted, a construction project will not appear in the STIP, let alone go to letting. The study also found that districts believe that funding is inflexible and will be lost if a project letting is delayed. Individuals in all five districts surveyed stated the belief that if they postponed letting projects due to utility or right-of way delays, their district would lose funding. A majority of the districts surveyed admitted to prematurely letting projects with utility and right-of-way problems because of this belief.

Some districts meet periodically with the Environmental Affairs Division to facilitate timely project delivery, which the division feels improves overall environmental analysis quality, but this process is not institutionalized throughout the agency. When early coordination takes place, the risk of delay is very low.

TxDOT historically pursued what is effectively a just-in-time-delivery approach to project development, including the environmental component, and districts complained that documents for programmatic categorical exclusions (PCEs) took a long time to clear. About 90% of TxDOT's projects require a PCE. Decentralization of PCE review to the new regional centers provided an opportunity to change this. To avoid delays, the district and Environmental Affairs Division team that developed procedures for decentralization built in a requirement that all coordination must be completed before submitting a PCE document to the regional centers for review. The time between submission of documents and clearance immediately plunged and quality of documents improved. This was not a result of decentralization but rather occurred because districts were incentivized to complete coordination much earlier in the process. Districts can no longer submit non-compliant documents and work with the Environmental Affairs Division to get them ready for letting. If the district submits a non-compliant PCE to the region, the region rejects it, and it is the sole responsibility of that district to correct. This accountability is what has improved PCE quality and

May 26, 2010

timeliness. These successes are now being used for other technical aspects of environmental
activities.

Theme: Lack of right-of-way cost tracking for decision making

"The program cost estimate should include all costs and the value of any resources needed to
complete the environmental work, design, right-of-way activities, environmental mitigation, public
outreach. . .etc. as well as costs and resources paid to others for work related to the project such as
utility adjustments, environmental mitigation, and railroad relocations." (Major Project Program Cost
Estimating Guidance – January 2007, FHWA).

"Estimates are central to establishing the basis for key project decisions, for establishing the metrics
against which project success will be measured and for communicating the status of a project at any
given point in time. Logical and reasonable cost estimates are necessary in maintaining public
confidence and trust throughout the life of a major project." (Major Project Program Cost
Estimating Guidance – January 2007 by the Federal Highway Administration).

"A skilled, interdisciplinary team should produce estimates…field reviews should be taken prior to
preparing any estimate. A competent unbiased team should validate the cost estimates. For example,
right-of-way acquisition costs should be determined in consultation with an agency's right-of-way
office. Field reviews should be taken prior to preparing any estimate. For work that is unusual, (e.g.
buildings, railroads, mass transit, ferry boat docks, etc.) consultation with outside agencies may be
appropriate. A competent unbiased team should validate the cost estimates. Estimates on very large
projects are very complex and subject to perceptions of being inappropriately manipulated. A second
independent set of eyes to review the estimate will afford managers and decision makers an
opportunity to capture a different perspective or at least a second opinion." (Major Project Program
Cost Estimating Guidance – January 2007, FHWA).

In ODOT's project development process (PDP), cost estimating procedures for acquiring right-of-
way begin with the districts right-of-way cost estimates. These estimates include detailed procedures
based on factors including land use, acreage, land value, structure value, damages, number of plots,
relocations costs, etc., as well as consideration for administrative settlements, appropriations,
incidental expenses, and time adjustments. Appropriate staff from any of ODOT's District or
Regional Real Estate Offices or fee consultants may prepare these cost estimates, which are required
for project planning purposes and to encumber adequate funds. All estimates must reflect current
value and must be forecast into the future to estimate right-of-way costs as of the date the acquisition
will occur based on market-derived appreciation rates, or in the event these rates cannot be
determined, the average percent of change in the Consumers Price Index (CPI) over the preceding 5
years.

The following table provides examples of right-of-way planning estimates and expenditures by district.

District	ROW CSJ	Obligated	Actual to date	Difference	Percent Difference
Houston	0271-06-099	35,784,432	39,366,493	3,582,061	110%
Houston	0271-06-100	5,310,952	5,270,522	-40,430	99%
Houston	0271-07-237	11,825,521	43,695,001	31,869,480	369%
Houston	0271-07-261	68,455,807	75,816,779	7,360,972	111%
Houston	0271-07-262	62,195,348	61,795,153	-400,195	99%
Houston	0271-07-263	32,463,796	20,239,355	-12,224,441	62%
Houston	0271-07-264	14,011,073	22,924,418	8,913,345	164%
Houston	0271-07-265	99,763,678	98,094,698	-1,668,980	98%
Houston	0271-17-098	56,877,544	58,588,593	1,711,049	103%
Houston	1685-05-082	15,245,150	15,767,421	522,271	103%
Paris	0135-06-022	7,448,348.21	8,141,312.85	692,965	109%
Forth Worth	0008-14-093	11,298,200.00	14,296,813.82	2,998,614	127%
Forth Worth	0079-05-043	5,632,000.00	7,238,177.59	1,606,178	129%
Forth Worth	0171-04-051	15,950,000.00	18,708,417.59	2,758,418	117%
Forth Worth	1068-01-147	32,709,663.33	38,913,503.74	6,203,840	119%
Lubbock	0380-01-053	43,221,813.77	62,573,964.93	19,352,151	145%
Waco	0015-14-117	36,634,760.38	39,657,691.09	3,022,931	108%
Waco	0055-03-025	542,189.95	2,597,497.42	2,055,307	479%
Tyler	0197-06-038	1,007,064.65	2,568,814.74	1,561,750	255%
Tyler	0197-06-045	924,156.31	2,546,068.07	1,621,912	276%
Lufkin	0177-01-090	1,275,000.00	2,955,008.82	1,680,009	232%
Lufkin	0177-02-066	3,850,000.00	6,948,668.82	3,098,669	180%
Houston	0027-08-149	16,014,807.27	25,920,885.21	9,906,078	162%
Houston	0027-12-074	21,084,640.00	30,173,830.43	9,089,190	143%
Houston	0028-02-045	9,066,500.00	21,589,081.86	12,522,582	238%
Houston	0050-06-076	240,000.00	1,503,688.47	1,263,688	627%
Houston	0110-04-131	11,104,223.93	15,185,384.47	4,081,161	137%
Houston	0179-01-040	10,737,500.00	14,503,261.82	3,765,762	135%
Houston	0720-03-076	43,240,890.58	51,470,846.55	8,229,956	119%
Houston	0981-01-078	30,121,000.00	46,522,461.33	16,401,461	154%
Houston	3256-01-006	13,208,170.39	24,578,462.76	11,370,292	186%
Yoakum	2350-01-001	7,773,500.00	10,802,795.53	3,029,296	139%
Austin	0113-07-041	68,323,105.80	85,394,369.06	17,071,263	125%
Austin	0113-13-096	4,287,004.90	14,626,381.22	10,339,376	341%
Austin	0151-09-039	13,909,230.30	34,561,964.81	20,652,735	248%
Austin	0204-01-059	1,160,487.50	17,747,185.94	16,586,698	1529%

May 26, 2010

District	ROW CSJ	Obligated	Actual to date	Difference	Percent Difference
San Antonio	0253-04-131	7,584,272.98	14,329,388.00	6,745,115	189%
San Antonio	0521-04-220	45,881,050.89	51,099,076.65	5,218,026	111%
San Antonio	8000-15-007	19,199,810.00	34,425,114.41	15,225,304	179%
Dallas	0172-04-038	4,450,380.00	14,020,125.97	9,569,746	315%
Dallas	0364-04-035	26,500,000.00	59,166,618.80	32,666,619	223%
Dallas	0581-02-115	38,122,611.72	45,515,002.92	7,392,391	119%
Dallas	2374-01-052	11,357,698.71	71,333,486.60	59,975,788	628%
Dallas	2374-01-103	39,397,302.00	87,487,648.53	48,090,347	222%
Dallas	2964-01-007	63,487,100.00	73,842,808.77	10,355,709	116%
Pharr	0039-17-144	5,278,210.00	14,588,111.63	9,309,902	276%
Pharr	0039-17-143	3,520,229.00	8,219,467.71	4,699,239	233%
Laredo	0086-01-057	11,337,500.00	16,332,609.57	4,995,110	144%
El Paso	0674-01-043	13,786,626.68	30,188,925.56	16,402,299	219%
TTA	0683-06-011	2,961,580.65	37,744,702.69	34,783,122	1274%

Table H-1: Right of way planning estimates and expenditures

The following table provides the reasons projects were removed from letting from 2005 – 2008.

FY	District funding considerations	% District funding	Statewide Funding Considerations	% Statewide funding	PS&E Revisions required	% PS&E	Environmental clearance (district)	% Environmental (district)	Total for these reasons	% for these reasons	Total CCSJ's Scheduled	Total CCSJ's Let	% Let
2008	24	3.07%	18	2.30%	23	2.94%	12	1.53%	77	9.83%	783	666	85.06%
2007	9	0.94%	19	1.99%	22	2.30%	19	1.99%	69	7.21%	957	808	84.43%
2006	7	0.56%	4	0.32%	31	2.48%	28	2.24%	70	5.61%	1248	1083	86.78%
2005	8	0.68%	73	6.20%	15	1.27%	16	1.36%	112	9.51%	1178	968	82.17%

Table H-2: Letting project removal

The following table provides right of way survey data from 2005 – 2009.

Year	Parcels in Possession	New parcels surveyed	Revised parcels	Total parcels surveyed	Difference	% Difference
2005	1,986	2,876	1,845	4,721	2,735	57.9%
2006	1,720	2,726	2,672	5,398	3,678	68.1%
2007	1,703	2,684	1,438	4,122	2,419	58.7%
2008	1,690	1,683	1,017	2,700	1,010	37.4%
2009	1,146	799	398	1,197	51	4.3%
Average	1,775	2,492	1,743	4,235	2,461	58.1%

Table H-3: Right of Way survey data

May 26, 2010

The following table provides TxDOT Rider 20 STIP Accountability Report for FY 2006.

TxDOT District/MPO	Projects listed and counted in FY 2006	Projects let in FY 2006	District %
Abilene District	12	12	100.00%
Abilene MPO	4	0	0.00%
Amarillo District	1	0	0.00%
Amarillo MPO	14	8	57.14%
Atlanta District	3	3	100.00%
Texarkana MPO	18	13	72.22%
Austin District	67	49	73.13%
CAMPO	38	7	18.42%
Beaumont District	1	0	0.00%
SETRPC	50	16	32.00%
Brownwood District	1	0	0.00%
Bryan District	4	1	25.00%
Bryan-College Station MPO	19	13	68.42%
Childress District	6	4	66.67%
Corpus Christi District	9	5	55.56%
Corpus Christi MPO	11	2	18.18%
Dallas District	5	1	20.00%
NCTCOG (Dallas)	144	56	38.89%
El Paso District	11	8	72.73%
El Paso MPO	22	12	54.55%
Fort Worth District	13	3	23.08%
NCTCOG (Fort Worth)	78	17	21.79%
Houston District/HGAC	153	36	23.53%
Laredo District	38	23	60.53%
Laredo MPO	8	2	25.00%
Lubbock District	0	0	0.00%
Lubbock MPO	4	1	25.00%
Lufkin District	7	4	57.14%
Odessa District	3	1	33.33%
MOTOR	11	7	63.64%
Paris District	5	2	40.00%
Sherman-Denison MPO	12	11	91.67%
Pharr District	5	2	40.00%
Harlingen-San Benito MPO	14	11	78.57%
Hidalgo Co. MPO	15	8	53.33%
Brownsville MPO	9	3	33.33%

May 26, 2010

TxDOT District/MPO	Projects listed and counted in FY 2006	Projects let in FY 2006	District %
San Angelo District	5	1	20.00%
San Angelo MPO	3	2	66.67%
San Antonio District	12	9	75.00%
San Antonio MPO	112	88	78.57%
Tyler District	6	3	50.00%
Tyler MPO	22	15	68.18%
Longview MPO	28	28	100.00%
Waco District	10	6	60.00%
Waco MPO	2	0	0.00%
KTUTS	17	9	52.94%
Wichita Falls District	4	3	75.00%
Wichita Falls MPO	5	5	100.00%
Yoakum District	4	3	75.00%
Victoria MPO	2	2	100.00%
Total	1047	515	49.19%

Table H-4: TxDOT Rider 20 STIP Accountability Report for FY 2006

The above project totals do not include:
1) Transit projects with multi-year contract dates and no specific letting dates
2) Locally funded regionally significant projects not let by TxDOT
3) Any project type (including highway projects in DCIS) that did not list a letting date
4) Projects listed as undergoing environmental assessment (included in a TIP appendix),
but not in "Construct" status; or those identified as non-letting or canceled
5) Projects that were grouped by Districts and/or MPOs that did not list those projects individually
6) Any project not listed (visible to the public) in the 2006-2008 STIP

May 26, 2010

The following table provides the TxDOT Rider 20 STIP Accountability Report for FY 2006.

TxDOT District/MPO	Projects listed and counted in FY 2006 (A)	Projects let in FY 2006 (B)	District % (B)÷(A)=%		Projects not listed but let in FY 2006 (C)	District % calculated w/ (C) added to totals (B)+(C)÷(A)+(C)=%
Abilene District	16	12	75.00%		48	93.75%
Amarillo District	15	8	53.33%		46	88.52%
Atlanta District	21	16	76.19%		167	97.34%
Austin District	105	56	53.33%		102	76.33%
Beaumont District	51	16	31.37%		98	76.51%
Brownwood District	1	0	0.00%		42	97.67%
Bryan District	23	14	60.87%		96	92.44%
Childress District	6	4	66.67%		50	96.43%
Corpus Christi District	20	7	35.00%		5	48.00%
Dallas District	149	57	38.26%		19	45.24%
El Paso District	33	20	60.61%		49	84.15%
Fort Worth District	91	20	21.98%		14	32.38%
Houston District	153	36	23.53%		160	62.62%
Laredo District	46	25	54.35%		17	66.67%
Lubbock District	4	1	25.00%		113	97.44%
Lufkin District	7	4	57.14%		95	97.06%
Odessa District	14	8	57.14%		4	66.67%
Paris District	17	13	76.47%		21	89.47%
Pharr District	43	24	55.81%		53	80.21%
San Angelo District	8	3	37.50%		48	91.07%
San Antonio District	124	97	78.23%		11	80.00%
Tyler District	56	46	82.14%		62	91.53%
Waco District	29	15	51.72%		23	73.08%
Wichita Falls District	9	8	88.89%		2	90.91%
Yoakum District	6	5	83.33%		14	95.00%

Table H-5: TxDOT Rider 20 STIP Accountability Report for FY 2006

The above project totals (A) and (B) do not include:
    1) Transit projects with multi-year contract dates and no specific letting dates
    2) Locally funded regionally significant projects not let by TxDOT
    3) Any project type (including highway projects in DCIS) that did not list a letting date
    4) Projects listed as undergoing environmental assessment (included in a TIP appendix), but not in "Construct" status; or those identified as non-letting or canceled
    5) Projects that were grouped by Districts and/or MPOs that did not list those projects individually
    6) Any project not listed (visible to the public) in the 2006-2008 STIP
    7) Projects listed but not counted because they were not let in FY 06 (see comments in District tables)
The above project totals (C) include:
    1) All highway projects in DCIS that were let in FY 06
    2) Projects (grouped and individual) that were not listed/visible to the public in the FY 2006-2008 STIP

May 26, 2010

The following table provides the TxDOT Rider 20 STIP Accountability Report for FY 2007.

TxDOT District/MPO	Projects Listed and counted in FY 2007	Projects let in FY 2007	District %
Abilene District	1	0	0.00%
Abilene MPO	3	2	66.67%
Amarillo District	2	1	50.00%
Amarillo MPO	8	1	12.50%
Atlanta District	1	0	0.00%
Texarkana MPO	5	1	20.00%
Austin District	30	17	56.67%
CAMPO	30	3	10.00%
Beaumont District	0	0	0.00%
SETRPC	29	13	44.83%
Brownwood District	4	0	0.00%
Bryan District	2	0	0.00%
Bryan-College Station MPO	8	5	62.50%
Childress District	0	0	0.00%
Corpus Christi District	5	0	0.00%
Corpus Christi MPO	9	1	11.11%
Dallas District	0	0	0.00%
NCTCOG (Dallas)	131	19	14.50%
El Paso District	2	2	100.00%
El Paso MPO	41	4	9.76%
Fort Worth District	5	1	20.00%
NCTCOG (Fort Worth)	57	8	14.04%
Houston District/HGAC	121	43	35.54%
Laredo District	39	18	46.15%
Laredo MPO	7	2	28.57%
Lubbock District	0	0	0.00%
Lubbock MPO	2	1	50.00%
Lufkin District	3	0	0.00%
Odessa District	2	1	50.00%
MOTOR	3	2	66.67%
Paris District	4	1	25.00%
Sherman-Denison MPO	12	5	41.67%
Pharr District	5	1	20.00%
Harlingen-San Benito MPO	8	4	50.00%
Hidalgo Co. MPO	22	9	40.91%
Brownsville MPO	4	1	25.00%

May 26, 2010

TxDOT District/MPO	Projects Listed and counted in FY 2007	Projects let in FY 2007	District %
San Angelo District	2	0	0.00%
San Angelo MPO	1	0	0.00%
San Antonio District	9	3	33.33%
San Antonio MPO	67	40	59.70%
Tyler District	10	1	10.00%
Tyler MPO	5	0	0.00%
Longview MPO	3	2	66.67%
Waco District	4	2	50.00%
Waco MPO	4	0	0.00%
KTUTS	10	0	0.00%
Wichita Falls District	4	3	75.00%
Wichita Falls MPO	1	1	100.00%
Yoakum District	3	0	0.00%
Victoria MPO	0	0	0.00%
Total	728	218	29.95%

Table H-6: TxDOT Rider 20 STIP Accountability Report for FY 2007

The above project totals do not include:
   1) Transit projects with multi-year contract dates and no specific letting dates
   2) Locally funded regionally significant projects not let by TxDOT
   3) Any project type (including highway projects in DCIS) that did not list a letting date
   4) Projects listed as undergoing environmental assessment (included in a TIP appendix), but not in "Construct" status; or those identified as non-letting or canceled
   5) Projects that were grouped by Districts and/or MPOs that did not list those projects individually
   6) Any project not listed (visible to the public) in the 2006-2008 STIP
   7) Projects listed but not counted because they were not let in FY 07 (see comments in District tables)

The following table provides the TxDOT Rider 20 STIP Accountability Report for FY 2007.

TxDOT District/MPO		Projects Listed	Projects let	District % (B)÷(A)=%		Projects not listed but let in FY 2007 (C)	District % calculated w/ (C) added to totals (B)+(C)÷(A)+(C)=%
Abilene District		4	2	50.00%		53	96.49%
Amarillo District		10	2	20.00%		4	42.86%
Atlanta District		6	1	16.67%		54	91.67%
Austin District		60	20	33.33%		60	66.67%
Beaumont District		29	13	44.83%		102	87.79%
Brownwood District		4	0	0.00%		16	80.00%
Bryan District		10	5	50.00%		37	89.36%
Childress District		0	0	0.00%		59	100.00%
Corpus Christi District		14	1	7.14%		86	87.00%
Dallas District		131	19	14.50%		180	63.99%
El Paso District		43	6	13.95%		27	47.14%
Fort Worth District		62	9	14.52%		87	64.43%
Houston District		121	43	35.54%		71	59.38%
Laredo District		46	20	43.48%		82	79.69%
Lubbock District		2	1	50.00%		10	91.67%
Lufkin District		3	0	0.00%		45	93.75%
Odessa District		5	3	60.00%		69	97.30%
Paris District		16	6	37.50%		83	89.90%
Pharr District		39	15	38.46%		43	70.73%
San Angelo District		3	0	0.00%		15	83.33%
San Antonio District		76	43	56.58%		196	87.87%
Tyler District		18	3	16.67%		26	65.91%
Waco District		18	2	11.11%		67	81.18%
Wichita Falls District		5	4	80.00%		83	98.86%
Yoakum District		3	0	0.00%		58	95.08%

Table H-7: TxDOT Rider 20 STIP Accountability Report for FY 2007 (with MPO)

The above project totals (A) and (B) do not include:
      1) Transit projects with multi-year contract dates and no specific letting dates
      2) Locally funded regionally significant projects not let by TxDOT
      3) Any project type (including highway projects in DCIS) that did not list a letting date
      4) Projects listed as undergoing environmental assessment (included in a TIP appendix), but not in "Construct" status; or those identified as non-letting or canceled
      5) Projects that were grouped by Districts and/or MPOs that did not list those projects individually
      6) Any project not listed (visible to the public) in the 2006-2008 STIP
      7) Projects listed but not counted because they were not let in FY 07 (see comments in District tables)
The above project totals (C) include:
      1) All highway projects in DCIS that were let in FY 07
      2) Projects (grouped and individual) that were not listed/visible to the public in the FY 2006-2008 STIP

May 26, 2010

	BUDGET FY 2005	REPORTED on "Annual letting volumes by district"	Difference	BUDGET FY 2006	REPORTED on "Annual letting volumes by district"	Difference	BUDGET FY 2007	REPORTED on "Annual letting volumes by district"	Difference	BUDGET FY 2008	REPORTED on "Annual letting volumes by district"	Difference	BUDGET FY 2009	REPORTED on "Annual letting volumes by district"	Difference	Average difference	Total difference	# times over budget
																		2005 - 2009 Letting Caps by District ($ in Millions)
Abilene	$39.46	$54.97	$15.51	$66.27	$102.03	$35.76	$73.02	$105.79	$32.77	$55.22	$49.99	($5.23)	$18.50	$27.50	$9.00	$17.56	$87.80	4
Amarillo	$96.58	$95.98	($0.60)	$94.46	$176.81	$82.35	$101.54	$72.97	($28.57)	$82.06	$43.78	($38.28)	$30.33	$56.21	$25.88	$8.15	$40.77	2
Atlanta	$49.48	$94.84	$45.36	$166.86	$354.96	$188.10	$85.66	$56.95	($28.71)	$84.39	$49.60	($34.79)	$53.29	$58.50	$5.21	$35.03	$175.17	3
Austin	$144.28	$124.14	($20.14)	$615.27	$215.69	($399.58)	$499.15	$274.37	($224.78)	$160.32	$141.34	($18.98)	$169.69	$191.84	$22.15	($128.26)	($641.32)	1
Beaumont	$158.88	$171.14	$12.26	$187.08	$205.59	$18.51	$161.20	$178.56	$17.36	$121.62	$109.26	($12.36)	$53.23	$74.40	$21.17	$11.39	$56.94	4
Brownwood	$24.88	$33.57	$8.69	$29.69	$30.67	$0.98	$44.73	$43.88	($0.85)	$24.16	$21.98	($2.18)	$28.75	$33.35	$4.60	$2.25	$11.25	3
Bryan	$177.65	$145.22	($32.44)	$124.42	$163.90	$39.48	$85.68	$65.14	($20.54)	$66.12	$88.06	$21.94	$79.46	$91.79	$12.33	$4.16	$20.78	3
Childress	$29.37	$37.80	$8.43	$38.07	$58.66	$20.59	$34.16	$42.58	$8.42	$39.63	$32.56	($7.07)	$22.44	$24.73	$2.29	$6.53	$32.65	4
Corpus Christi	$145.23	$121.91	($23.33)	$152.92	$201.17	$48.25	$67.10	$71.28	$4.18	$70.64	$79.21	$8.57	$76.15	$119.44	$43.29	$16.19	$80.96	4
Dallas	$413.81	$479.47	$65.66	$484.59	$677.91	$193.32	$609.49	$390.69	($218.80)	$265.89	$760.78	$494.89	$383.91	$3,613.83	$3,229.92	$753.00	$3,765.00	4
El Paso	$71.40	$73.09	$1.69	$146.46	$160.16	$13.70	$93.03	$52.58	($40.45)	$55.30	$410.24	$354.94	$54.98	$52.98	($2.00)	$65.58	$327.88	3
Fort Worth	$254.44	$166.53	($87.91)	$143.80	$297.94	$154.14	$387.65	$378.34	($9.31)	$329.81	$210.59	($119.22)	$537.31	$3,278.88	$2,741.57	$535.85	$2,679.27	2
Houston	$1,122.66	$1,213.82	$91.16	$679.70	$711.56	$31.86	$704.77	$691.73	($13.04)	$305.45	$257.27	($48.18)	$293.14	$799.26	$506.12	$113.58	$567.92	3
Laredo	$60.81	$85.97	$25.16	$113.73	$100.64	($13.09)	$149.64	$84.14	($65.50)	$54.92	$60.77	$5.85	$134.31	$74.29	($60.02)	($21.52)	($107.61)	2
Lubbock	$217.47	$287.29	$69.82	$71.12	$77.69	$6.57	$82.15	$118.90	$36.75	$55.98	$67.14	$11.16	$36.72	$74.56	$37.84	$32.43	$162.14	5
Lufkin	$56.84	$68.71	$11.87	$111.83	$162.22	$50.39	$122.83	$108.54	($14.29)	$59.69	$23.35	($36.34)	$50.99	$44.17	($6.82)	$0.96	$4.80	2
Odessa	$46.47	$59.62	$13.15	$48.19	$82.88	$34.69	$54.86	$56.13	$1.27	$35.33	$60.08	$24.75	$27.23	$66.09	$38.86	$22.54	$112.72	5
Paris	$63.61	$59.86	($3.75)	$62.90	$68.35	$5.45	$110.65	$108.67	($1.98)	$48.50	$128.96	$80.46	$38.54	$66.10	$27.56	$21.55	$107.74	3
Pharr	$231.25	$241.43	$10.18	$129.25	$183.23	$53.98	$194.80	$160.29	($34.51)	$43.09	$124.22	$81.13	$93.43	$149.25	$55.82	$33.32	$166.60	4
San Angelo	$56.52	$37.18	($19.34)	$65.46	$60.25	($5.21)	$67.89	$76.19	$8.30	$33.77	$16.87	($16.90)	$11.06	$33.44	$22.38	($2.15)	($10.77)	2
San	$315.18	$396.96	$81.78	$178.52	$558.07	$379.55	$232.17	$359.80	$127.63	$106.78	$223.45	$116.67	$127.02	$146.29	$19.27	$144.98	$724.89	5

May 26, 2010

	BUDGET FY 2005	REPORTED on "Annual letting volumes by district"	Difference	BUDGET FY 2006	REPORTED on "Annual letting volumes by district"	Difference	BUDGET FY 2007	REPORTED on "Annual letting volumes by district"	Difference	BUDGET FY 2008	REPORTED on "Annual letting volumes by district"	Difference	BUDGET FY 2009	REPORTED on "Annual letting volumes by district"	Difference	Average difference	Total difference	# times over budget
Antonio																		
Tyler	$121.16	$101.12	($20.04)	$134.32	$245.40	$111.08	$100.47	$95.65	($4.82)	$80.51	$139.54	$59.03	$50.83	$108.30	$57.47	$40.54	$202.72	3
Waco	$261.41	$231.11	($30.30)	$306.42	$241.68	($64.74)	$203.89	$99.14	($104.75)	$106.47	$209.77	$103.30	$55.73	$107.71	$51.98	($8.90)	($44.51)	2
Wichita Falls	$45.49	$83.98	$38.49	$63.60	$129.55	$65.95	$58.81	$64.63	$5.82	$45.79	$91.62	$45.83	$24.87	$39.45	$14.58	$34.14	$170.68	5
Yoakum	$70.22	$97.15	$26.93	$60.91	$176.65	$115.74	$61.31	$68.65	$7.34	$79.41	$51.07	($28.34)	$39.03	$62.03	$23.00	$28.93	$144.67	4
TOTAL	$4,274.55	$4,562.84	$288.29	$4,275.84	$5,443.66	$1,167.82	$4,386.65	$3,825.59	($561.06)	$2,410.85	$2,410.85	$2,410.85	$2,490.94	$9,394.38	$6,903.44	$70.71	$8,839.14	

Table H-8: 2005 – 2009 letting caps by district

includes CDA revenues for a LBJ Freeway project totaling $2,678,000,000, a Dallas/Fort Worth project totaling $1,023,879,000, and a North Tarrant Expressway project totaling $2,189,017,000.

Appendix I: Design process description

Appendix I provides the detailed process descriptions for the design functional area. For the purposes of this report, the design functional area was broken out into the following components:

- Design resource coordination;
- Preliminary design;
- Detailed design; and
- Design review process.

Design Resource Coordination

Design resource coordination is the process by which districts and regions work together to identify available design staff and to assign them to projects accordingly. The district begins the process by sending a work request to their regional resource coordinator. The regional resource coordinator verifies the request with the region's P6 coordinator. The P6 coordinator and the regional resource coordinator work together to determine if the work request can be fulfilled by a district within the region, or whether it should be transferred to a resource in another region or division (e.g., Bridge or Design Division). If the request can be filled by a district (in any region), the district requesting the work and the district fulfilling the design need enter in to an agreement. If regions or divisions do not have resource availability, the contract is outsourced. Figure I-1 presents the process flow for design resource coordination.

May 26, 2010

Design Resource Coordination

District

- Completes and sends portion of the design work agreement from requesting resources to regional design resource coordinator
- Provider TPD completes and sends their portion of the design work agreement form including attachment(s) to the provider design resource coordinator
- Client TPD and DE review, sign and date, and send to provider TPD and design resource coordinator
- Provider TPD and DE review, sign and date, and send to client design resource coordinator

Region

- Design resource coordinator verifies with P6 coordinator if request from the TPD is warranted
- Design resource coordinator checks with P6 coordinator on the availability of resources within region
- Resource available in region?
- Send request to provider design resource coordinator
- Resource available in other region or division?
- Provider design resource coordinator reviews and sends design work agreement to the client design resource coordinator and TPD
- Two original design and work agreements will be signed and kept with the client and provider districts. Region will maintain a record copy and distribute CC's as shown on the work agreement
- Yes
- Yes, Region
- No
- Design resource coordinator checks availability of resources with other design resources in other regions
- Yes, Division
- Coordinate with the applicable division to conduct design work
- No
- Sends request to consultant contract manager

Division

- Coordinate with the region to conduct design work

Figure I-1: Design resource coordination

May 26, 2010

Preliminary design process

The preliminary design process is broken out into the following areas:

- Design Concept Conference;
- Data collection/preliminary design preparation;
- Public meetings;
- Preliminary schematic;
- Geometric schematic; and
- Value engineering.

The purpose of the Design Concept Conference is to establish and agree on fundamental aspects, concepts and preliminary design criteria of a project. Sub-processes for conducting a Design Concept Conference include:

- Schedule field visit to review existing conditions with a team of experienced staff from traffic operations, design, construction and maintenance prior to the Design Concept Conference;
- Make a video recording of the facility for reference during the Design Concept Conference; and
- Use the Advance Planning Risk Analysis tool to align project objectives and stakeholders' needs, identify high priority project deliverables and facilitate communication.

After the Design Concept Conference, the project manager obtains data necessary for making engineering and environmental decisions related to project design. Data collection efforts should be as complete as possible so that the project solutions providing the most benefit are selected. Sub-processes for data collection and preliminary design preparation include:

- Conduct early coordination with stakeholders;
- Prepare and execute additional agreements;
- Review traffic data;
- Obtain right of entry;
- Obtain related data, plans, studies and reports;
- Perform site visit;
- Obtain information on existing utilities; and
- Perform topographic surveys.

The districts then conduct public meetings to obtain public input on a project and incorporate that input into the project's design. After meeting with the public, the districts begin to work on the preliminary schematic, which provides the engineering solutions to satisfy the project need. For new locations or added capacity projects, the districts may choose to request Design Division approval of the preliminary schematic before holding a public meeting. Sub-processes conducted for the preparation of preliminary schematics include:

- Evaluate corridor alternatives;
- Perform preliminary Level of Service analysis;
- Evaluate route alternatives; and
- Update cost estimates.

The districts also develop geometric schematics, which are schematics with computed alignments. The districts develop geometric schematics by refining alignments and geometrics, performing analyses on geometrics and preparing preliminary plans and layouts. Some of the required analyses include performing hydraulic studies, determining right-of-way needs and identifying utility conflicts. Before holding a public hearing, district staff and stakeholders review the schematics to ensure that design criteria, project needs, and commitments are met. The districts must also obtain Design Division approval of geometric schematics for projects requiring control of access or an EIS before holding a public hearing. The Design Division must approve the geometric schematic for new location or added capacity projects before beginning detailed design. Sub-processes for developing geometric schematics include:

- Conduct constructability review;
- Update cost estimates;
- Update project scope; and
- Review scope, cost and staff requirements of project development.

Value engineering (VE) is a required for projects using federal funds and costing $25 million or more, or $20 million or more for bridge projects. A district may use a value engineering study to assess a project's overall effectiveness or how well the project meets identified needs. The department can also conduct VE for an entire corridor, discussing multiple projects at one time to develop a plan for that corridor. A VE study is a multi-peer review of project recommendations which the districts use to gather expertise and experience of individuals to produce the most effective solution to the transportation need. As a result of the VE study, the districts may revise design and update project scope and cost estimates. The VE can replace the need for a Design Concept Conference, if held early enough in the project development process. Figure I-2 presents the process flow for preliminary design.

Preliminary design

Preliminary design	Design concept conference → Data collection/preliminary design preparation → Public meetings → Preliminary schematics → Geometric schematic → Value engineering → Geometric schematic approval
Environmental Support	Preliminary environmental issues → Interagency coordination/permits → Environmental documentation → Public hearing → Environmental clearance
ROW and Utilities Support	ROW and utility data collection → ROW map and property descriptions → ROW appraisals and acquisition → Utility adjustment
Detail Design	Design conference → Begin detailed design → Final alignments/profiles → Roadway design, Operational design, Bridge design, Drainage design, Retaining/noise walls and misc. structures, Traffic control plan → PS&E Assembly

Figure I-2: Preliminary design

Once the district has gathered the background data, they prepare the PS&E by conducting the Design Conference. The Design Conference is conducted to prepare the PS&E for projects that do not require a schematic; otherwise, this process is conducted during the schematic development phase. A Design Conference includes the following activities:

- Gather and organize existing data including maps, aerial photographs, schematics and environmental documents that might be referenced during the conference;
- Obtain and review the design summary report (DSR) documenting the Design Concept Conference or, if there was no Design Concept Conference, then review documents containing design criteria used during preliminary design;
- Review design commitments and decisions made during schematic development;
- Utilize the Advance Planning Risk Analysis (APRA) tool to evaluate risk issues and mitigation plans underway;
- Discuss staffing and scheduling requirements for detailed design work;
- Review scheduling of related work such as for right of way acquisition and utility adjustments;
- Finalize design criteria;
- Update the DSR and circulate to all parties invited to the conference for their review;
- Obtain concurrence or comments by approval entities listed in the DSR; and
- Update the DSR as the project progresses.

This period of project development requires a substantial amount of the project manager's experience and attention. Decisions made during this time will directly affect the project schedule and quality. The project manager should seek input from his or her peers and supervisor for quality assurance of the project development process. Beginning detailed design includes following activities:

- Traffic control – plan sequence of construction, develop conceptual detour/road closure plan;
- Permits and agreements – obtain miscellaneous permits, design environmental mitigation details;
- Design data collection – review data collection needs;
- Pavement design – prepare pavement design report;
- Final alignments/profiles – set final alignment, including fine-tuning the horizontal and vertical alignments to optimize the design; and
- Roadway design – finalize plan/profile, cross-sections of the proposed facility and additional details related to roadway design, including:
  - Earthwork – prepare cross sections and compute earthwork, review right of way requirements,
  - Landscape and aesthetics – design landscape and aesthetic plans and review project for design exception/waivers, and
  - Operational design – prepare construction plans for bridge, illumination, intelligent transportation systems, signals and signing/striping.

Once the district has prepared the PS&E package and supporting documents, they review the PS&E a final time for completeness and accuracy. The major items in the PS&E package include the following:

- Plan sheets (on paper – not reproducible at this point);

May 26, 2010

- Standard and special specifications;
- General notes;
- Special provisions;
- Cost estimate; and
- Project agreements.

Before submitting the PS&E package to the Design Division, the districts conduct a final agreement and permit review to ensure that supporting documents are in order and that the project is in full compliance with agreements and permits. After completing the PS&E package and finalizing the project cost estimate, the districts review all local participation agreements and determine whether sufficient funds have been received based on the AFA.   Figure I-3 presents the process diagram for detailed design.
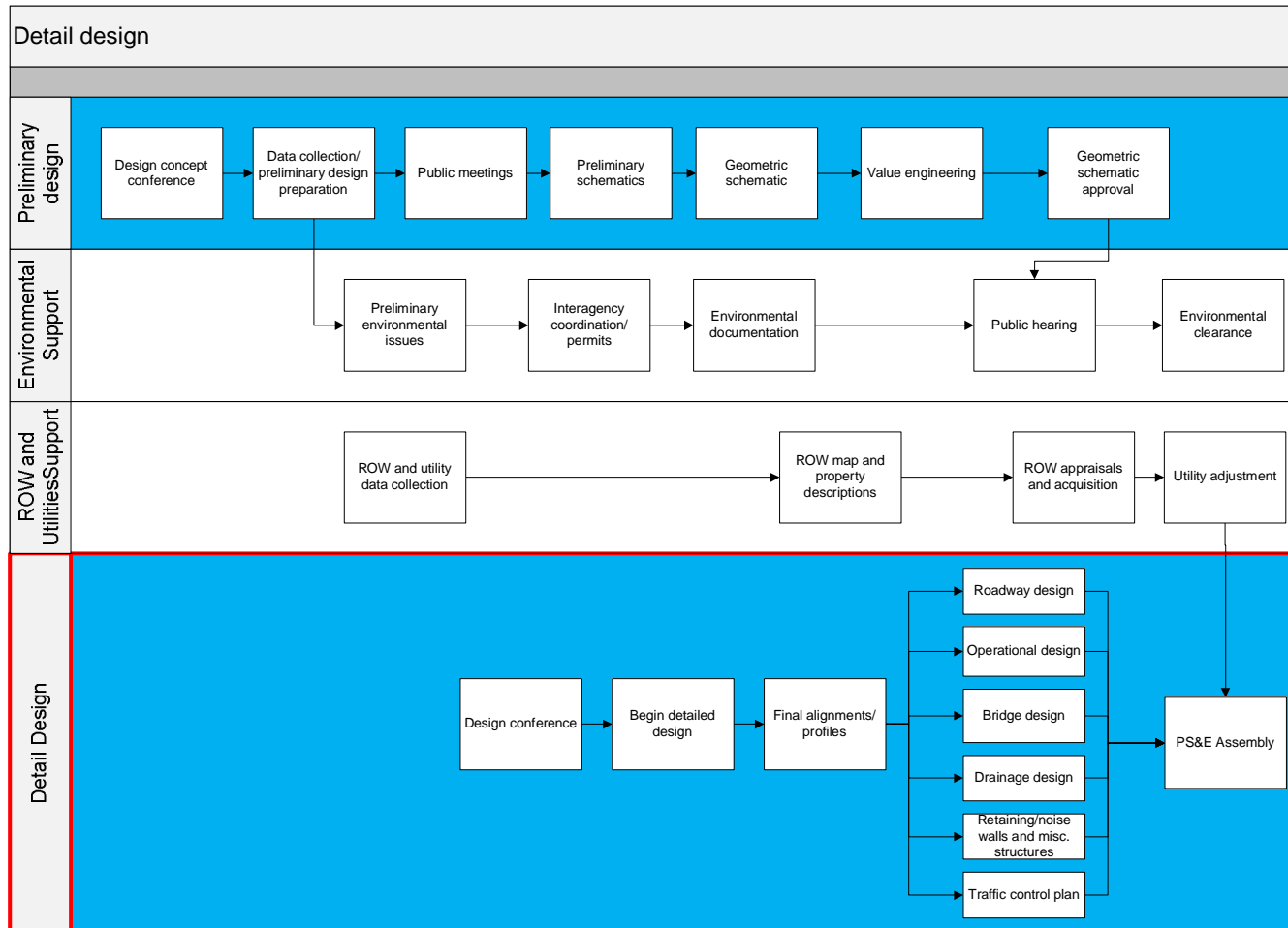
Figure I-3: Detail design

Design Review Process

The Design Division and districts undertakes the following steps as part of the design review process, before ultimate submission to the FHWA:

- Check previously approved preliminary submittals to make sure they match the proposed plans and meet the required design standards. Deviations from the design standards must be documented through the design exception or waiver process.
- Check specifications and provisions to make sure all that are required have been included on the Specification List. Check to make sure obsolete specifications or provisions have not been used.
- Check General Notes provided to make sure all necessary information has been included. Check to make sure things that are not supposed to be modified by note are not, such as changing measurement and payment articles, schedules and testing requirements, and contract covenants.
- Review proposed roadside traffic control plan phasing for safety issues.
- Look for discrepancies in the pay item descriptions, unit of measure and quantity between the plans and estimate, and eliminate the discrepancies. Check to make sure all necessary pay items have been included in the estimate.
- Check estimate to make sure that the quantities shown on DCIS match the plans and are accurate. Check the estimated unit prices for accuracy.
- Check the plans to make sure all proposed work has been shown. Check to make sure all necessary standard plan sheets have been included and that the plan set is complete. Check to make sure the proper engineer's signature, seal, and date has been placed on all required sheets.
- All necessary advanced funding agreements with cities and counties have been executed and the engineer's estimate and DCIS accurately reflect the funding situation. If the advanced funding agreement has changed there must be an amendment stating such change.
- Check authorized funding and arrange for additional funding as necessary.
- For federal oversight projects, coordinate any comments received from the FHWA with the district. After making formal submission, inform the FHWA representative of all changes made and request their concurrence.

The Design Division also conducts activities to prepare a project for letting after their review (e.g., entering special specifications for project advertisement, developing Interstate Access Justification Reports when necessary).

This page intentionally left blank.

Appendix J: Build process description

The purpose of the build process is to award and manage the construction contracts that build the State's roads and bridges. The build process facilitates the movement of a project from planning and design to execution. As of May 2010, TxDOT has 1,172 active construction contracts worth $9,695,382,422.00 in awarded contracts. TxDOT's construction contracts represent a significant investment in Federal and State taxpayer dollars. The ability to successfully execute construction contracts directly impacts TxDOT's ability to maintain and expand the transportation infrastructure that moves people and goods throughout the State.

The build process involves personnel from TxDOT headquarters and field offices. The build lifecycle is illustrated in Figure J-1 and is described below.

- Contract award – The build process begins when construction contracts are awarded during the letting process. The construction division manages letting, which occurs every month over a two day period. Over the two day period, the apparent low bidder is determined for a pre-selected group of projects from across the State.
- Construction oversight – Construction oversight is the day-to-day management of construction contracts, including tracking project progress, maintaining contractor relations, performing project inspections and meeting TxDOT and Federal contract requirements. The area offices within the districts have primary construction oversight responsibilities.
- Contract completion – After a project is completed, the area and district office work together to complete the final project audit, archive project documents and complete all required paperwork.
- Claims and dispute resolution – If a contractor has any claims or disputes related to the project they completed, the claims and dispute resolution process provides a standard and formal means to resolve the issue. Claims and disputes can be resolved at the district or with the construction claim committee.
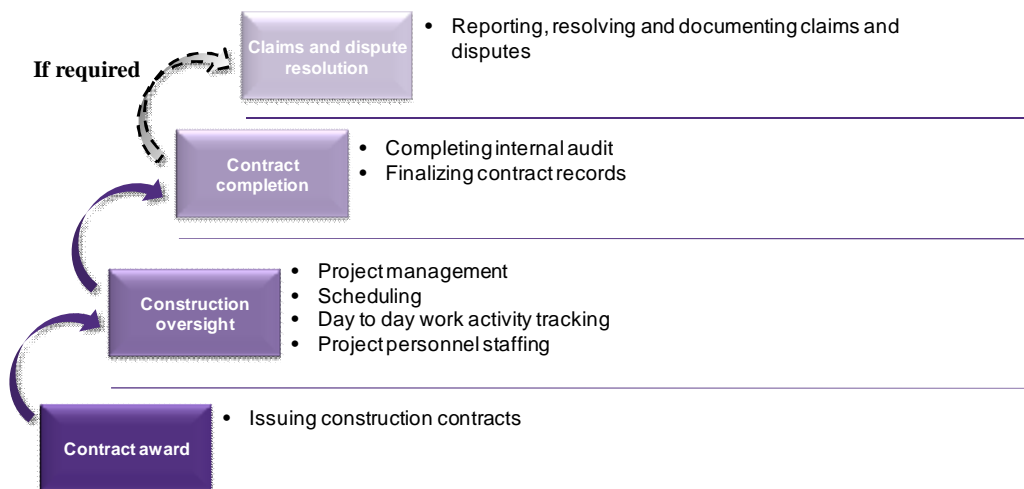
Figure J-1: Build process lifecycle diagram

The remainder of this appendix provides detailed process descriptions of each piece of the build lifecycle.

Contract award

Contract award in the build process can be broken out into three discrete phases: pre-letting, letting and post-letting. The following section describes how TxDOT completes each of these phases.

Pre-Letting

The Finance Division Programming/Letting Section creates project advertisements once a week, for at least two weeks prior to bid opening. The advertisement must be in the newspaper in the county of improvement, and if the project is greater than $25,000, it is also posted on the Texas Marketplace website. If the county of improvement does not have a newspaper the advertisement is posted in the newspaper of the closest county. In addition, the advertisement is placed in two newspapers selected by the Department. The Programming/Letting Section goes through the following process to post bid advertisements:

- Letting Management runs a mainframe program every Tuesday morning to create the newspaper advertisements. All projects validated by 9 am (central time) on Tuesday will be captured in that run. If a project is validated after that time, it may not be captured until the following week.
- In order to guarantee legal ad placement, projects must be validated by 9 am central time on Tuesday 5 weeks prior to the projects letting date. Failure to validate by this deadline may result in the project being pulled from the letting for lack of advertisement.
- If a holiday falls on a Tuesday, Letting Management will run the program on the previous working day at the same time. Major holidays will require an earlier validation schedule.

Proposals are available a minimum of 21 days prior to letting and the Construction/Maintenance Contract System (CMCS) maintains a list of bidders that received proposals for each project. The authority to award or reject contracts for the department is distributed among the following groups or individuals:

- Only the Transportation Commission may award construction and state let maintenance projects with an engineer's estimate of $300 thousand or greater.
- The Assistant Executive Director for Engineering Operations may award state let maintenance projects with an engineer's estimate of less than $300,000.
- District engineers may award local let maintenance projects.

Addenda to the bids are issued as necessary. To issue addenda, the district determines the need for a change in a proposal and/or plans and provides appropriate corrected quantities, specifications, general notes, etc. The Design Division, or Maintenance Division in the case of maintenance proposals, generates a manual addendum and forwards it to the Construction Section for review and processing.

TxDOT receives bids into the Construction Division via U.S. Postal Service, a courier service such as FedEx or UPS, or hand-delivery by the contractor. Regardless of how it is delivered, the proposal is received, handled and stored in a secure manner. A "Proposal Receipt Log" is maintained for each

letting that tracks project information, the sender/contractor, bidding day, method of delivery and day of receipt. The main purpose of the log is to ensure that all proposals received on time are transported to the letting room and properly considered. The proposal is time-stamped and placed in a locked container maintained in a secure location until the day of letting.

TxDOT also receives proposals through the Electronic Bidding System (EBS). TxDOT established the EBS in April 2009, and as of April 2010, received 58% of contractor bids through the EBS. The Department is currently working to identify the appropriate fee to charge for processing bids that TxDOT receives through the EBS. After the appropriate fee has been identified it will be brought to the Commission for approval. After the Commission approves the processing fee the Department can charge the processing fee to contractors who submit bids via the EBS.

Letting

Letting occurs every month over a two-day period. Bid proposals are sorted by project, project opening and letting day. After all of the bid intake requirements have been met, the Letting Official determines whether each bidder is responsive or non-responsive. This decision must be made without regard to the amount of the bid. At this point, all responsive bids are read for the public record, including the job number, county and contractor's name followed by the indicated bid amount. If no total bid amount has been entered, the contractor's price for each individual bid item must be publicly read.

Post-Letting

After letting, construction staff completes the following activities.

- **Tabulate bids** – Check all proposals for too few or too many bid items, bid items not called for in the proposal or conditional bids. These types of bids are non-responsive and are not tabulated.
- **Enter bid amounts** – Bid amounts are keyed in to CMCS for each bid item for each respective bidder and project.
- **Verify bid amounts** – Using CMCS (D12), the total bid amount for each bidder for the project is entered into the system. If the total amount of the bid written by the contractor differs from the tabulated amount, each unit bid price must be re-entered into the system. A person other than the person who did the initial keying will verify the bid.
- **Proof bid amounts and quantity** – For all bidders, one person reads aloud the contractor name and total bid from the bid tabs. Another person verifies the contractor name and total bid as it appears in the proposal or computer printout.
- **Identification of apparent low bidder** – The apparent low bidder is separated out from the proposals and proposal guaranties of the unsuccessful bidders.
- **Verification of analysis of apparent bidder** – After initial tabulation of the bids, if the apparent low bidder is determined not to be a resident bidder, the Letting Official ascertains whether the bidder is from a state that gives preferences to bidders from that state. If the apparent low bidder is from a state applying these preferences, the respective formula in the State Bidding Preference and Reciprocity information will be applied to determine the contractor who will be considered the low bidder.
- **Award to second low bidder** – For routine maintenance contracts involving a bid amount of less than $300 thousand, if the apparent low bidder withdraws its bid after the bid opening, the contract may under certain circumstances be awarded to the second low bidder

(Texas Administrative Code (TAC), Title 43, §9.17 (d)). This action requires the approval of the Transportation Commission. For the purposes of this rule, "withdrawal" includes written withdrawal of a bid after the bid opening, failure to obtain bonding or insurance or failure to execute the contract. The conditions under which the contract may be awarded to the second lowest bidder are:

- o The second low bidder must be willing to perform the work at the unit bid prices of the apparent low bidder, the unit bid prices of the lowest bidder are reasonable, delaying the contract may result in significantly higher bid prices and there is a specific need to expedite the project to protect the health and safety of the traveling public,
- o Delaying award of the contract could jeopardize the structural integrity of the highway system.

- **Notification of bidders** – Either an officer or owner of the bidding company with deficiencies should be contacted by telephone. Such bidders are those whose proposals were:
  - o Non-responsive;
  - o Incomplete;
  - o Contained significant mathematical errors in determining the bid amount; and/or
  - o Read as the apparent low bidder, but turned out not to be so after the official tabulation.
- **Tie bid procedure (coin toss)** – In the case that two or more bids are received with the same exact dollar amount and the amounts are the lowest bid amounts received, the award of the project is determined by the Tie-Bid Procedure. The tie should be broken by coin toss at an agreed-upon time and location approved by the Letting Official.

After the apparent low bidder has been identified for each contract, the Commission awards the contracts to the apparent low bidder at the monthly Commission meeting. Once the Commission has awarded the contract, the Office of Civil Rights obtains the contractor's DBE commitments. If the project crosses a railroad or receives third-party funding the rail road agreements and funding are secured. After the contractor DBE commitment and all railroad and funding agreements have been finalized, the Construction Division sends the contract to the contractor to sign. The contractor returns the signed contract to the Construction Division along with any required bonds. Once the Construction division receives the signed contract and bonds from the contractor, the Construction Division executes the contract, and sends the contractor a notice to proceed.

Figures J-2 – J-5 provide a graphical representation of the letting process:

Pre-Letting Activities

Programming and Letting Division (Finance Division)	Conduct public notification → Req's met? (No → back to Conduct public notification)
Chief Financial Officer	Match selected projects to cash flow
AED Engineering Operations	Select projects for letting period
Construction Division	Yes → Release proposals → Maintain list of bidders that received proposals for each project in CMCS → Manage receipt of bid proposals prior to letting → Manage receipt of bid withdrawals → Letting

Figure J-2: Contract award – pre-letting

May 26, 2010

Letting Activities	

Programming and Letting Division (Finance Division)	
Chief Financial Officer	
AED Engineering Operations	
Construction Division	Manage the receipt of bid proposals and withdrawals → Sort bid proposals by project → Close bid proposals receipt → Verify bid proposals → Post-letting activities
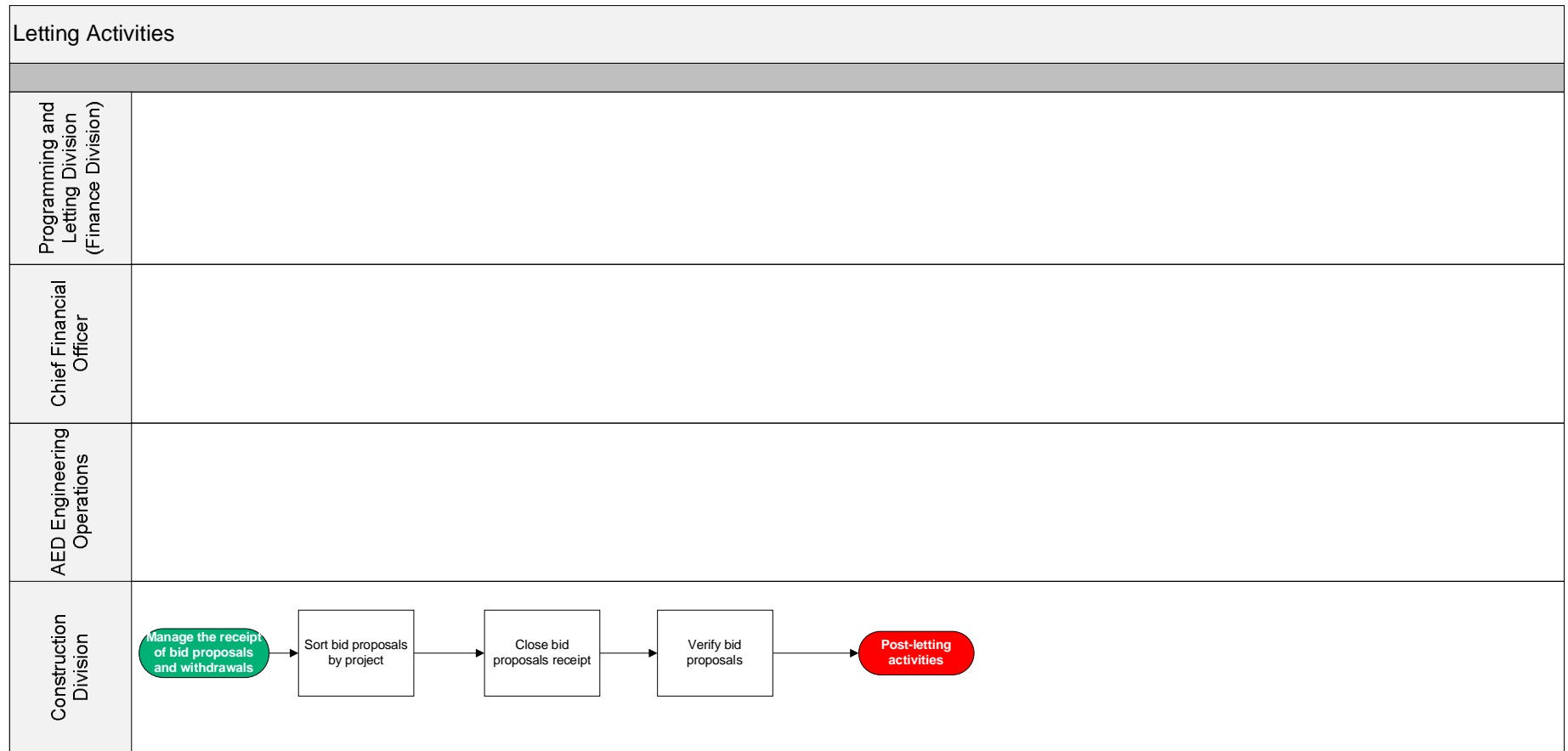
Figure J-3: Contract award – letting

Post-Letting Activities

Programming and Letting Division (Finance Division)	
Chief Financial Officer	
AED Engineering Operations	
Construction Division	

Bid closure → Tabulate bids → **Valid bid?**
- Yes → Enter bid amounts → Verify bid amounts → Proof bid amounts and quantity; post to internet → Identify apparent low bidder → Separate apparent low bid proposals → Verification of analysis of apparent bidder → **Over/under justification?**
- No → Remove bid from consideration → **End**

Over/under justification?
- No → **Tie Bid?**
- Yes → Send to district for justification → **DE accept/reject** → CST submits justification and minute order to administration → Initiate tie-bid procedure (coin toss)

Tie Bid?
- Yes → Initiate tie-bid procedure (coin toss) → **End**
- No → **End**

Figure J-4: Contract award – post-letting contract process

May 26, 2010

Post letting – contract execution and contractor notice to proceed

Office of Civil Rights	Obtain contractor DBE commitment —If required— Obtain RR agreements or third party funding agreements
Construction Division	Commission award of contracts → Send contract to contractor → Receive signed contract from contractor and contractor bonds → Execute contract → Send contractor the notice to proceed

Figure J-5: Contract award – post-letting contract award

Construction oversight

TxDOT uses the *Construction Contract Administration Manual,* revised in October 2007, to guide and inform construction project management practices. Project management begins with post-award activities:

- Press release – details award of the contract, brief description of the contract, name of the successful contractor, the award amount, contract highlights and expected duration.
- Pre-construction conference – establish lines of authority and communication; determine the responsibilities and duties of contractor's personnel, subcontractors, and department personnel; clarify potential sources of misunderstanding and work out the detailed arrangements necessary for the successful completion of the contract.
- Project notification letter – Shortly after conducting the pre-construction conference, TxDOT sends a letter to elected officials in the county of improvement, describing the work and providing relevant schedule dates.
- Completion of Project Letter to State Legislator – In accordance with Texas Transportation Code §201.609, TxDOT sends an inquiry to all legislators within the district asking if they would like to receive notice of completed projects. For those legislators who would like to receive notice, provide notification of work completed on highway construction contracts at least 10 days prior to the scheduled contract completion date. Letters include location and description of the project in non-technical terms, contractor name, actual start date, actual completion date and contact person in the department.

Project managers and inspectors complete day-to-day project management in Site Manager. Site Manager is an AASHTO software product developed to provide states with a comprehensive automated construction management system. The software provides the following core business functions:

- Project Record Keeping and Daily Work Reports
- Estimate Processing and Finalization
- Contractor Payments
- Materials Management
- Contract Administration
- Change Orders
- Management Reporting

Site Manager Stand Alone is used in the field. The Maintenance and Construction Divisions have started discussions to move all maintenance projects from manual tracking to Site Manager, although no formal transition plan is in place.

The daily work reports are the most important component of tracking project progress, and they contain the following information:

- Date
- Weather conditions
- Contract time charged and reasons for days credited
- Work in progress, including temporary erosion control

- Location of work
- Approximate quantities of work
- Contractor's and subcontractor's work force
- Arrival and departure of equipment
- Quantity and type of equipment and activity at the project site
- Important instructions to the contractor
- Names of official visitors and a summary of any discussions with the visitors
- Unusual construction or work conditions
- Decision-making discussions with the contractor
- Direction provided to the contractor
- Disagreements with the contractor
- Detailed information that may have a connection with a probable dispute or claim against the department
- Utility or other construction conflicts
- Project completion and final inspection activities
- Other important features of the project, such as discussions concerning Disadvantaged Business Enterprise (DBE) and Equal Employment Opportunity (EEO) requirements
- Commercially Useful Function (CUF) reviews

The daily work reports are used to inform the project's monthly estimate, which is used to generate the contractor invoice. The following outlines the process to generate a monthly estimate:

1. The project inspector creates daily work reports in Site Manager.
2. The project manager or chief inspector authorizes the daily work reports.
3. At the end of the month, a record keeper in the area office generates a monthly estimate from the work report. The project engineer or lead inspector reviews and approves the monthly estimate from the work report.
4. After the lead inspector or project engineer reviews and approves the monthly estimate, the area engineer reviews and approves the estimate.
5. Once the area engineer has reviewed the estimate, he or she sends the estimate to the district construction office for final approval.
6. The district office sends the final monthly progress estimate to the Finance Division to generate the contractor payment.

During the course of the project, the project is subject to multiple audits from the district and division level. Every six months or at least once during the course of every project, district construction record auditors audit project records and documentation. In addition, the Construction Division audits 10% of district change orders once a month and every year audits 100% of all change orders from one month from every district.

Figure J-6 shows the various audits that occur throughout the lifecycle of a project.

The Construction Division also conducts field reviews. The Construction Division conducts at least one field review per district annually. During field reviews a staff member from the Construction section of the Construction Division visits a job site to visually inspect materials, the project work

site and ensure project work meets all applicable specifications. After the field review, the field review staff member develops a report reviewed by the Construction Division director, the Construction section director, the district engineer, the area engineer and any other applicable parties. The report is used to identify and correct project issues and share best practices across districts. The Construction section currently has 5 full time employees dedicated to field review
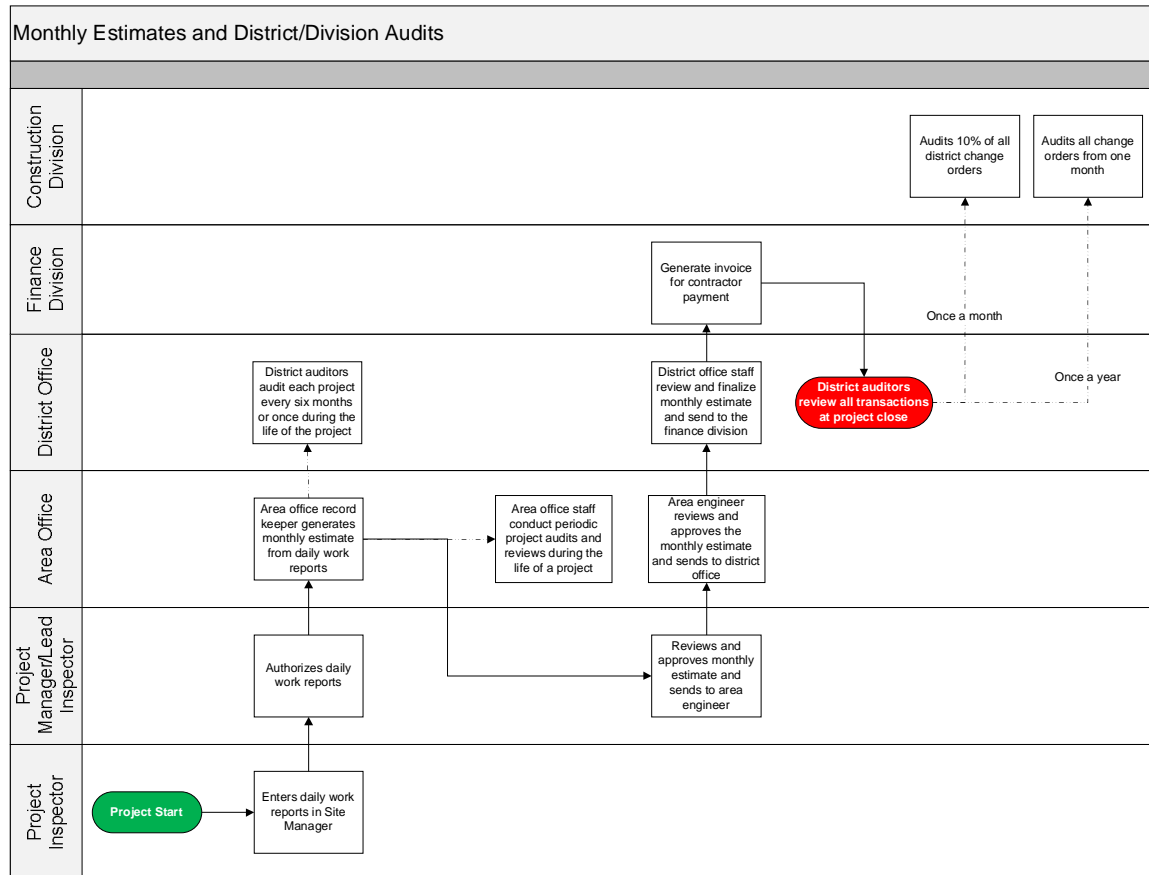
Figure J-6: Construction oversight – audit and approval process

In addition to Site Manager, TxDOT uses multiple Primavera project scheduling software products to aid in project management: SureTrak, P3 and P6. As of May 2010, three districts: Ft. Worth, El Paso and Dallas are piloting the use of P6 for contractor schedules. Other districts use SureTrak or P3 for project management. The Construction Division has not transitioned to P6 because of the software's common database structure. When a P6 user begins a new schedule or is working on two schedules simultaneously if the user is not carful with file naming the user will corrupt or overwrite the existing schedule without the ability to "un-do" the mistake. P3 allows users to pull individual files from multiple databases so there is less risk of file corruption and overwrite. The Construction Division is currently working on a solution that will allow them to successfully use the common database in P6.

May 26, 2010

TxDOT prepares change orders whenever one of the following occurs:

- An error or omission in the contract;
- Differing site conditions;
- Adding a specification;
- Adding new items of work;
- Resolving a dispute;
- Changing the sequence of work; or
- Other contract changes.

As of May 2010, TxDOT has 776 completed contracts. The 776 contracts represent $4,383,377.015.78 in awarded contract amount, and $4,546,116,289.78 in total work paid to date. Change orders, quantity over-runs, incentives, bonus, and police assistance, among other factors have resulted in 3.71% overrun in the original contract amount. .

Contract completion

The responsible engineer signs, seals, and dates the title sheet of the final as-built plans to reflect that work was done according to the contract. Required reports and forms are included with the final as-built plans.

After the final as-build plans have been gathered, a final estimate is run and the contractor is paid.

Claims and dispute resolution

The claims and dispute resolution process provides a formal and prescribed process for contractors to report a project claim or dispute to TxDOT. TAC Title 43, Part 1, Chapter 9, Subchapter A Rule 9.2. defines the claims and dispute resolution process.

Appendix K: Plan, design and build supporting systems

Appendix K presents a diagram showing the systems that support the plan, design and build process areas.

The district designer generates a control section job (CSJ) number from the Design and Construction Information System (DCIS). After the CSJ is generated the designer enters project summary information, and project funding into DCIS, the Finance Division also enters project information into the Financial Information Management System (FIMS). After entering project information and project funding into DICS the designer enters resource requirements, resource utilization and expenses into P6. P6 then generates an estimated let date, and sends project information to project tracker.

No later than two weeks prior to letting, the finance division enters project advertisement data into CMCS. CMCS has two sub-systems that are important to execute letting: the Bid Proposal System and the Let System. After a project has been advertised, vendors submit bid prices and quantity into the Electronic Bidding System (EBS). On letting day, Construction Division staff manually enters bid prices into CMCS, and bid prices entered into the EBS are transferred to CMCS. The Construction Division also uses CMCS to pull the qualified bidders list. CMCS tabulates and validates all bids and provides the Construction Division staff with the low bid amount. After letting, all bid prices are sent to DCIS from CMCS. One day after letting the Construction Division sends Technology Services Division (TSD) an email with the CSJs of the projects that are to let. TSD pulls the contract data of the requested CSJSs from DCIS and loads the contract data into Site Manager.

Additionally, after letting DCIS updates the Financial Informational Management System (FIMS) with the low-bid amount for the contract and the contract's final funding category. Once a contract is in Site Manager, district and area offices use Site Manager to complete a variety of activities including but not limited to:

- Daily work report;
- Change orders; and
- Monthly contractor estimates.

Figure K-1 presents plan, design and build system interactions. The numbers in the diagram indicate the sequence of interactions between each system.

May 26, 2010
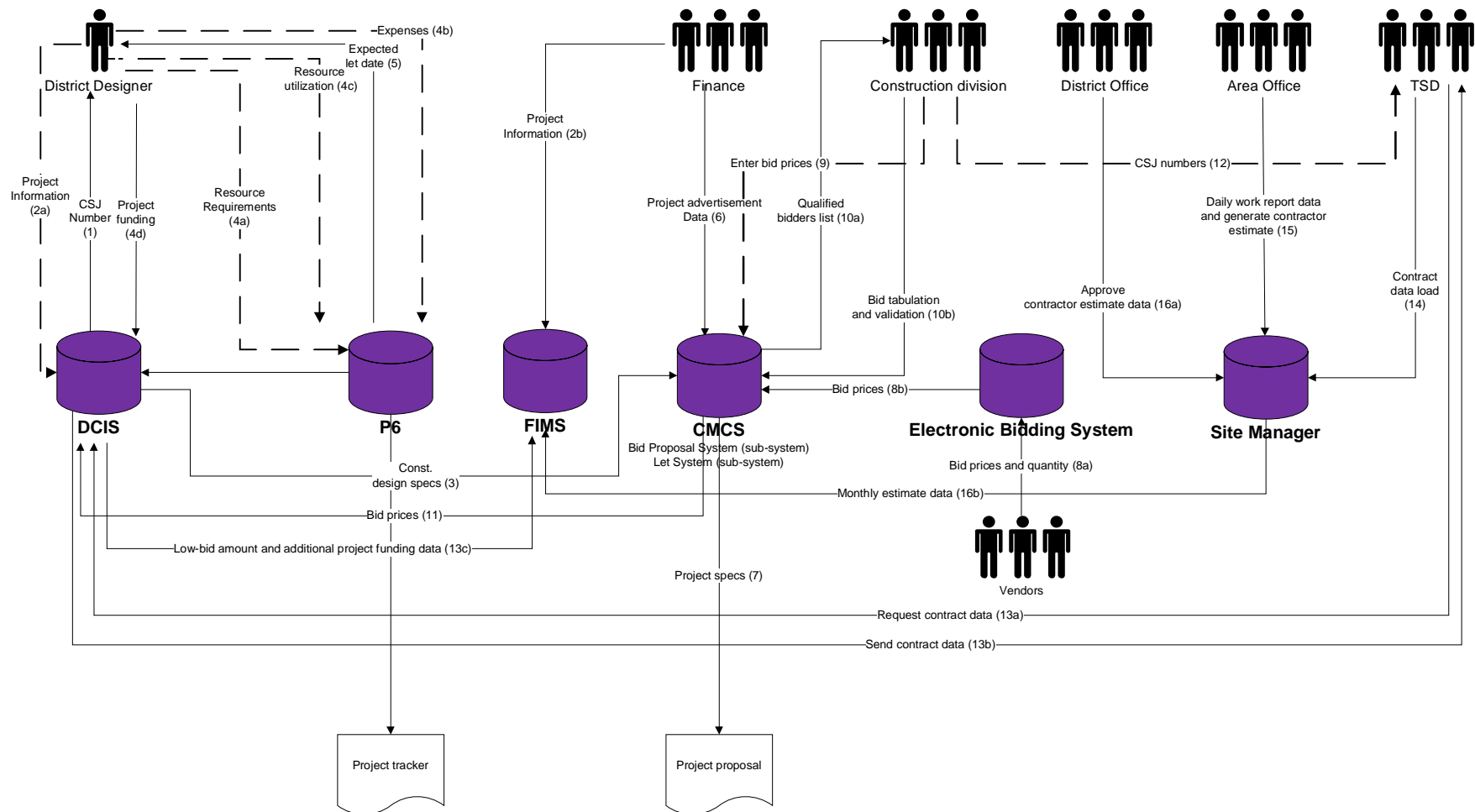
Figure K-1: Plan, design and build system diagram

Appendix L: Construction staffing inspection numbers, 2006 - 2008

This appendix provides further detail on the methodology Grant Thornton used to developed construction inspector needs from 2006 – 2008 using the Construction Divisions staffing model.

The MOR team applied the following assumptions (developed by the Construction Division) to the total letting volumes from 2006 – 2008[2]:

- Seal coat inspectors can handle $850,000/month and project will be completed the next season after letting (start - May, complete - End of August);
- One inspector can handle up to $5,000,000 bridge project above this amount 2 inspectors are required;
- If an overlay project produces up to $1,500,000 monthly estimates, then one inspector can handle up to $1,500,000/month in overlay work; and
- One inspector can handle $250,000/month for all other project types.

The MOR team estimated the percentage of annual bridge, overlay and seal coat projects based on those completed in 2009 and projected for 2010 – 2012 in the construction FTE count spreadsheet. The average percentage for each type of project over the 4 year period was as follows:

Type of Project	Percent
Bridge	6%
Overlay	8%
Seal Coat	6%

Table L-1: Percent of total dollar construction volume for bridge, overlay and sealcoat projects

The MOR team then applied the percentages to the total letting volumes in 2006, 2007 and 2008 to obtain a rough estimate of the number of inspectors required for the work. The estimated number of inspectors needed for 2006 – 2008 are provided below.

---

[2] Letting volumes for 2006, 2007 and 2008 were obtained from the Annual Letting Volumes by District for Fiscal Years 1975 – 2008.

May 26, 2010

Year	Total Letting	Standard Work	Bridge	Overlay	Sealcoat
2006	$5,353,660,000	$ 4,299,172,425.79	$ 343,025,560.68	$ 411,725,906.27	$ 299,736,107.25
Total Inspectors needed	1554	1433	69	23	29
2007	$3,825,600,000	$ 3,072,079,855.72	$ 245,117,387.86	$ 294,208,916.85	$ 214,183,839.57
Total Inspectors needed	1110	1024	49	16	21
2008	$3,451,500,000	$ 2,771,672,767.34	$ 221,148,284.11	$ 265,439,337.85	$ 193,239,610.69
Total Inspectors needed	1002	924	44	15	19

Table L-2: Number of construction inspectors needed from 2006 - 2008 per construction division staffing model

Appendix M: Human resources process description

Appendix M provides the human resources business process description. The management and organizational review (MOR) team's assessment focused on the following lifecycle elements of the human resource management (HRM) framework: plan, acquire, align, develop, and sustain. The following process descriptions reflect input from government furnished information (GFI), interviews and focus group sessions conducted to gather and validate detailed information.

Plan: workforce planning

In 2006, the Human Resources Division began providing department workforce summaries. The impetus behind this delivery was to mirror similar data-driven methodologies used by the State Auditor's Office and the Legislative Budget Board in examining the department's workforce composition and movement. The practice facilitates the department's workforce planning efforts, both internally and on the state legislative front.

Under Texas Government Code, Section 2056.002, state agencies must conduct a strategic planning staffing analysis and develop a workforce plan. TxDOT's Workforce Plan 2007-2011 details the future staffing outlook including department competency gap analysis and its strategy development for optimum workforce management.

Every biennium TxDOT submits a full-time equivalent (FTE) request through the Legislative Appropriations Request (LAR) based on its projected workforce planning needs. TxDOT then allocates staff to D/D/O/Rs based on historical data.

Acquire: recruiting

As stated in the Department's Human Resource (HR) Manual, the purpose of recruiting is "to attract qualified employees from diverse backgrounds to meet the department's staffing needs." To accomplish this, the Human Resource Division (HRD) provides for and oversees recruitment programs such as the high school and college cooperative education programs, the college internship program and the conditional grant program. TxDOT also participates in local recruiting events, using regional recruitment teams with assigned representatives from each D/D/O/R. The recruitment teams conduct initial screenings and interviews at designated recruiting events, make conditional job offers for targeted vacancies (with prior DE/DD/OD/RD approval) and provide information regarding hiring actions to the recruiters.

The recruitment process begins with the hiring supervisor identifying a need to hire. The hiring supervisor submits a justification through the appropriate supervision channels to the DE/DO/OD/RD requesting approval to hire. If the request is approved, approval is sought to post a job requisition from the appropriate assistant executive director (AED). If a job requisition (JR) posting is approved at the AED level, the hiring supervisor is notified who then coordinates

with the applicable HR support offices to post the JR. The hiring supervisor develops the pre-interview packet and JR consisting of the essential duties, minimum qualifications, competencies, etc. The pre-interview packet also contains the appropriate screening documents, interview questions, preferred answers, point values and job simulation. The hiring supervisor submits the complete packet to HR for review and approval. In the Department's efforts to "to attract qualified employees from diverse backgrounds to meet the department's staffing needs," all job requisitions are posted publicly throughout the Department as well as through the Texas Workforce Commission and other entities.   TxDOT posts all external job requisitions for at least 10 work days, excluding holidays. All internal JRs are posted for at least five work days, excluding holidays.

Both the HR Manual and the Department's Human Resource Officer (HRO) Reference Guide provide policies and procedures for recruiting. Process flow diagrams on page M-5 – M-6 depict TxDOT's hiring approval and job-requisition development process. .

Acquire: selection

The selection process is designed to facilitate the attraction of competent, knowledgeable and skilled workers to the transportation field. The process is compliant with Local, State and Federal laws and regulations that govern state employment practices.

Upon the closing of a posted JR, HR receives and processes all applications, conducts a review of the diversity report and confers with the hiring supervisor to determine if a diverse applicant pool exists. If a diverse applicant pool exists, HR conducts an on-line screening and provides the applications to the hiring supervisor. If a diverse applicant pool does not exist, the matter is referred to the DE/DO/OD/RD, who can either approve the non-diverse applicant pool or direct the JR to be extended or reposted for an additional 10 days. Once the hiring supervisor receives the applications, an initial screening is conducted to eliminate applicants who do not meet the minimum qualifications. Following this, a secondary screening is conducted to eliminate those not meeting the required competencies. The hiring supervisor will then compile the applicant interview list and submit it to HR for validation. The hiring supervisor then conducts all interviews and interviewee response scoring, verifies education and conducts employment verification, identifies applicant recommendation, prepares a justification recommendation, finalizes the selection packet, and submits the selection package to HR approval. Following HR approval, the hiring supervisor will send the selection packet to the DE/DO/OD/RD for approval. After this approval, the hiring supervisor will make a conditional offer to the selected candidate. If the selected candidate passes all employment conditional requirements and accepts the offer the hiring supervisor will make a firm offer and set a starting date. The process ends when the hiring supervisor notifies all applicants of their non-selection. TxDOT's application processing and selection process is depicted in the process flow diagram located on page M-7 – M-11.

Align: position management

TxDOT does not currently utilize position management in HRM or budget operations. It employs a department committee (the BTCC) whose primary responsibility is to oversee an internal functional

business description system. This system is aligned with the State Classification Plan that classifies state job positions and sets appropriate salary compensation scales. The HR On-Line system (PeopleSoft) is utilized to monitor correct employee to job classification matching at the D/D/O/R level.

Develop: training and development

TxDOT's training and development programs are well founded and offer tremendous benefit to employees. TxDOT's training and development programs include:

- Human Resource Division training, which is centrally controlled and executed, and includes:
    - On-line training, VTC training, and instructor-led classroom training; and
    - The full-time Master's Degree Program.
- D/D/O/R training, which is decentralized and independently managed, and includes:
    - D/D/O/R specific training (which may or may not overlap with HRD training); and
    - The Tuition Assistance Program (TAP), with the exception of the full-time Master's Degree Program.

Each year HRD conducts a training needs assessment by canvassing all supervisors to identify training requirements. From this needs assessment HRD develops the program need and budget request for all centrally managed training and development needs. HRD submits the budget request to the Finance Division and Administration through the Department's annual budget submittal process and additional funding requests. The Administration, in turn, reviews the budget request and returns an initial budget allocation. In addition to the HRD managed training, each respective D/D/O/R is responsible for submitting budgets for their specific training and TAP needs.

To provide oversight of TxDOT's training programs the current policy requires that training course and program approval resides with the Standing Committee on Training (SCOT). The specific duties of the SCOT include:

- Setting the strategic direction for the department on training related matters;
- Reviewing all new and proposed department training;
- Evaluate new training for benefits to the department and to prevent redundancies; and
- Evaluate proposed training to ensure appropriate training opportunities are available to all employees.

Sustain: performance management

TxDOT's performance management process consists of four phases:

- Phase 1, evaluators develop performance plans using business job descriptions as a basis with all their employees using Form 1938, Employee Evaluation (no differentiation of form based on position);
- Phase 2, evaluators informally coach their employees on their job performance and behavior;
- Phase 3, evaluators conduct end-of-period reviews using form 1938 for all of their employees on an annual basis or as outlined in the Human Resources Manual, Chapter 6, Section 1; and

- Phase 4, evaluators discuss the ratings and comments with the employee and make any adjustments to the evaluation the evaluator deems appropriate.

An important part of the performance management system is the incentives awarded as a result of job performance and productivity. The incentives used with TxDOT include merit salary increases and one-time merit payments. The distribution of merit salary increases and one-time merit payments is at the discretion of each DE/DD/OD/RD who manages their own funds for merit rewards.

For time management, TxDOT uses two time management systems—their own internal system and the state time management/payroll system. Every district and all district maintenance sections plus every division and office has an individual assigned to transfer employee time from the TxDOT system to the state time management/payroll system. This is done by a designee rather than each employee him/herself because any error can hold up payroll for the whole department. The effort used to enter data into the state system is estimated by TxDOT to be the equivalent of 60 or so FTEs per month doing time management data transfer.

Sustain: succession planning

TxDOT's Succession Planning is "informal," using the TAP and Training Programs.

TxDOT Pre-Interview Phase (approval process)

Hiring Supervisor	Start → **Does a need exist?** — Yes → Submits justification to fill a need – filtered through appropriate hierarchy level of supervision / No → Stop / A
HRO/HRD	Courtesy copy provided to Director of HRD
DE/DD/OD/RD	Reviews and validates hiring request → **Approved?** — No → Stop / Yes → ... Inform DE/DD/OD/RD of approval/disapproval → Notifies hiring supervisor / Yes or No
Assistant Executive Director	Reviews posting request in coordination with DED as required → **Approved?** — Yes

Figure M-1: TxDOT pre-interview phase (approval process)

May 26, 2010

TxDOT Pre-Interview Phase (developing/posting job requisition (JR) process)

Hiring Supervisor

A → Contact HRO for assistance with developing pre-interview packet/ JR → Determine essential duties, minimum quals, competencies, etc. → Create draft job requisition via HR On-Line → Develops screening document in coordination with HR → Develops interview questions, preferred answers, point values and job simulation in coordination with HR → Submits pre-interview packet for review

HRO/HRD

C

Interview packet approved? — No / No / Yes

Posts job requisition → Prints and distributes job requisition for recruiting

B

DE/DD/OD/RD

Assistant Executive Director

Figure M-2: TxDOT pre-interview phase (developing/posting JR process)

TxDOT Pre-Interview Phase (application processing process)

Hiring Supervisor

- Conducts initial screening (minimum)
- Conducts secondary screening (competencies)
- Determine applicant interview list
- Send to HRO for validation

HRO/HRD

- B
- Receives and processes applications
- Conducts review of diversity report
- Is the applicant pool diverse? — No → Refers matter to DE/DD/OD/RD (extend posting 10 days or approve)
- Yes → Conducts HR On-Line screening
- Provides applications to hiring supervisor
- Validate applicant interview list
- D

DE/DD/OD/RD

- Reviews matter of nondiverse applicant pool
- Approves nondiverse pool? — Yes / No → Directs reposting or extension
- C

Assistant Executive Director

Figure M-3: TxDOT pre-interview phase (application processing process)

May 26, 2010

TxDOT Interview Phase (interview process)

Hiring Supervisor	D → Schedules interview sessions → Defines interview methods → Obtain signature from applicant (online applicants who interview) → Conducts and document interviews → Score interview responses → E
HRO/HRD	
DE/DD/OD/RD	
Assistant Executive Director	

Figure M-4: TxDOT interview phase (interview process)

TxDOT Post-Interview Phase (hire/offer process)

Hiring Supervisor

E → Evaluates interviewees/ identifies applicant recommendation → Verify/evaluate previous employment of the recommended applicant → Completes Form 1943 → Writes recommendation memo with justification for selection → Finalizes selection packet and Form 2150 → Submits selection packet and justification memo

G

Forwards selection packet and justification memo

Makes conditional offer → F

HRO/HRD

Reviews selection packet for accuracy, completeness and compliance → Approved selection packet?

No

Yes

DE/DD/OD/RD

Reviews/clarify selection packet and justification memo (includes salary offer) → Salary Group B27 or higher? → Approval email or memo

No

Yes

Deputy Executive Director

Proposed salary offering with justification → Salary Approved?

Yes

No

Figure M-5: TxDOT post-interview phase (hire/offer process) – part 1

TxDOT Post-Interview Phase (hire/offer process)

Figure M-6: TxDOT post-interview phase (hire/offer process) – part 2

Appendix N: Information technology management data and process description

This appendix describes information technology management data and the information technology process description used to inform information technology management business process analysis.

IT Spend

This section provides the total information technology (IT) budget for FY 2010, as reported in the FY 2008-2011 Information Technology Detail (ITD). The total budgeted amount for the agency is **$138,555,900**. With the following exclusions:

- Amounts for the divisions that transferred to the Department of Motor Vehicles (DMV) on November 1, 2009: Automobile Burglary and Theft Prevention Authority (ABTPA), Motor Vehicle Division (MVD) and Vehicle Title and Registration (VTR)
- Intelligent Transportation System (ITS) related costs, as these items do not fall within the statewide definition of IT
- Toll road facilities and related applications
- Closed loop systems that perform limited non-IT functions
- Embedded technologies that do not generate data for enterprise use
- Fiber optic cable installed as part of a roadway project

Regions were not established at the time the TxDOT submitted the FY 2008-2011 ITD.

Table N-1 lists the total FY 2010 IT budget by Technology Services Division (TSD), divisions and offices, and districts, and decomposes the total amount by the following ITD categories:

- **Daily Operations**. Costs associated with IT employee salaries (ones that are not fully dedicated to Major Projects), staff augmentation consultants, supplies for agency IT administration activities, including existing application operations and maintenance, telecommunications, network administration, hardware fixes, existing software licenses, existing hardware and software maintenance.
- **Technology Upgrades**. Costs (e.g., license and product costs) associated with the purchase of new IT hardware and software (i.e., replacement and upgrades).
- **Major Projects**. All costs (e.g., salaries for IT employees fully dedicated to the major project, vendor services, software and hardware needed to develop the project) associated with major IT initiatives (i.e., projects costing over $1m).

D/D/O/R	Total IT Budget ($)	Daily Operations ($)	Technology Upgrades ($)	Major Projects ($)
TSD	61,742,288	43,320,960	2,421,328	16,000,000
Divisions and offices	57,256,526	21,876,418	2,634,846	32,745,262
Districts	19,557,086	15,077,268	4,479,818	0
TOTAL	138,555,900	80,274,646	9,535,992	48,745,262

Table N-1: FY 2010 IT budget summary

Table N-2 lists the total FY 2010 IT budget for each D/D/O with the same decomposition as in Table N-1:

D/D/O/R	Total IT Budget ($)	Daily Operations ($)	Technology Upgrades ($)	Major Projects ($)
TSD	61,742,288	43,320,960	2,421,328	16,000,000
Divisions and offices:				
ADM	0	0	0	0
AUD	6,150	4,350	1,800	0
AVN	351,695	292,341	59,354	0
BRG	494,163	422,643	71,520	0
DES	193,331	155,696	37,635	0
CST	1,302,243	1,059,694	242,549	0
ENV	1,511,767	593,510	25,580	892,677
FIN	1,103,525	1,072,885	30,640	0
GPA	124,273	115,843	8,430	0
GSD	3,238,487	2,274,091	964,396	0
HRD	504,447	504,447	0	0
MCD	1,145,620	698,803	246,817	200,000
MNT	4,708,300	1,174,200	414,000	3,120,100
OCC	236,554	210,554	26,000	0
OCR	67,939	44,314	23,625	0
OGC	4,500	0	4,500	0
PTN	39,140	26,201	12,939	0

D/D/O/R	Total IT Budget ($)	Daily Operations ($)	Technology Upgrades ($)	Major Projects ($)
ROW	575,900	544,800	31,100	0
RTI	43,000	33,500	9,500	0
TPP	3,857,014	2,129,889	150,625	1,576,500
TRV	330,170	268,265	61,905	0
TRF	8,312,454	7,163,538	192,931	955,985
TTA	22,100	3,100	19,000	0
ERP Project	26,000,000			26,000,000
Total divisions and offices	57,256,526	21,876,418	2,634,846	32,745,262
Districts:				
ABL	511,549	425,200	86,349	0
AMA	810,105	525,388	284,717	0
ATL	227,155	170,067	57,088	0
AUS	1,199,202	904,002	295,200	0
BMT	442,972	346,611	96,361	0
BRY	527,271	430,503	96,768	0
BWD	313,401	254,851	58,550	0
CHS	203,286	190,136	13,150	0
CRP	1,108,256	748,279	359,977	0
DAL	1,480,564	1,093,864	386,700	0
ELP	636,145	555,145	81,000	0
FTW	1,390,746	1,065,715	325,031	0
HOU	3,975,968	3,111,598	864,370	0
LBB	609,553	426,331	183,222	0
LFK	570,464	480,634	89,830	0
LRD	329,845	267,596	62,249	0
ODA	603,173	441,776	161,397	0
PAR	555,752	430,735	125,017	0
PHR	607,856	500,828	107,028	0

D/D/O/R	Total IT Budget ($)	Daily Operations ($)	Technology Upgrades ($)	Major Projects ($)
SAT	1,092,938	854,076	238,862	0
SJT	552,702	446,881	105,821	0
TYL	574,533	429,155	145,378	0
WAC	461,398	382,320	79,078	0
WFS	426,893	305,476	121,417	0
YKM	345,358	290,100	55,258	0
Total districts	19,557,086	15,077,268	4,479,818	0
TOTAL	138,555,900	80,274,646	9,535,992	48,745,262

Table N-2: FY 2010 IT budget summary

IT FTEs

IT FTEs describes the IT FTE *headcount* distribution across the organization, *as of October 28, 2009*. IT FTEs fall within the "C" job category of the Business Job Descriptions (BJDs). There are **545** total IT FTEs across the organization. Please note the following:

- Excludes FTEs for the divisions that transferred to the DMV on November 1, 2009: ABTPA, MVD and VTR); and
- ITS related FTEs are excluded, as these FTEs fall within separate job categories.

Table N-3 lists the total IT FTEs for TSD, divisions and offices, and districts and regions.

D/D/O/R	Total IT FTEs
TSD	260
Divisions and offices	144
Regions	129
Districts	12
TOTAL	545

Table N-3: FY 2010 IT FTE summary

Table N-4 lists the total IT FTEs for TSD, each division and office, and each district and region. The following Divisions and offices have no IT personnel: ADM, AUD, OCR, OGC, RTI and TTA. The following districts have no IT personnel: ABL, AMA, ATL, AUS, BRY, BWD, CHS, CRP, ELP, FTW, LFK, LRD, ODA, PAR, PHR, SJT, TYL, WAC and WFS.

May 26, 2010

D/D/O/R	Total IT FTEs
TSD	260
Divisions and offices:	
AVN	4
BRG	3
DES	18
CST	2
ENV	3
FIN	6
GPA	1
GSD	14
HRD	8
MCD	5
MNT	6
OCC	1
PTN	1
ROW	2
TPP	23
TRF	42
TRV	5
Total divisions and offices	144
Districts:	
BMT	1
DAL	1
HOU	7
LBB	1
SAT	1
SJT	0
YKM	1

D/D/O/R	Total IT FTEs
Total districts	12
Regions:	
RCN	38
RCS	26
RCE	37
RCW	28
Total regions	129
TOTAL	545

Table N-4: FY 2010 IT FTE summary

Table N-5 lists all IT job codes and titles, and specifies the total FTEs assigned to each code by TSD, divisions and offices, and districts and regions.

Job Code	Job Code Title	TSD	Divisions and Offices	Regions	Districts	Total
C012	Info Resource Support Spec I	0	1	6	0	7
C014	Info Resource Support Spec II	0	0	10	0	10
C016	Info Resource Support Spec III	0	4	13	0	17
C017	Info Resource Support Spec IV	0	7	24	1	32
C018	Info Resource Support Spec V	1	9	25	2	37
C031	Info Resources Coordinator I	0	2	0	0	2
C032	Info Resources Coordinator II	0	4	7	0	11
C033	Info Resources Coordinator III	0	2	0	0	2
C063	Information Resources Adm I	0	0	2	1	3
C064	Information Resources Adm II	0	1	3	0	4
C065	Information Resources Adm III	0	3	4	0	7
C066	Information Resources Adm IV	0	0	3	0	3
C068	Regional Info Res Mgr	0	0	5	0	5
C075	Programmer I	0	0	1	0	1

Job Code	Job Code Title	TSD	Divisions and Offices	Regions	Districts	Total
C080	Programmer II	0	7	3	0	10
C085	Programmer III	0	7	0	1	8
C086	Programmer IV	0	5	2	0	7
C100	Programming Branch Supervisor	5	0	0	0	5
C102	Information System Analyst I	19	0	2	0	21
C103	Information System Analyst II	26	0	8	0	36
C104	Information System Analyst III	59	7	1	0	67
C105	Information System Analyst IV	71	6	0	0	77
C106	Information System Analyst V	40	0	0	0	40
C112	Info System Analyst Supvr II	0	0	1	0	1
C120	Mainframe/Midrange Serv Br Sup	1	0	0	0	1
C121	Business System Suppt Spec I	0	16	0	0	16
C122	Business System Suppt Spec II	0	7	0	0	7
C123	Business System Suppt Spec III	0	10	0	0	10
C124	Business Systems Analyst I	0	15	0	0	15
C125	Business Systems Analyst II	0	15	0	0	15
C126	Business Systems Analyst III	0	10	0	0	10
C127	Business Systems Analyst IV	0	3	0	0	3
C152	Network Specialist I	2	1	7	1	11
C153	Network Specialist II	5	0	2	4	11
C154	Network Specialist III	8	1	0	0	9
C155	Network Specialist IV	2	0	0	0	2
C158	Telecommunications Br Supvr	1	0	0	0	1
C180	Infrast Del & Mgt Serv Sec Dir	1	0	0	0	1
C221	Surveying/GPS/GIS Suppt Br Sup	1	0	0	0	1
C250	Photogrammetry Specialist III	1	0	0	0	1
C255	Photogrammetry Specialist IV	6	0	0	0	6
C262	Photogrammetry Branch Supvr	1	0	0	0	1
C300	Infrastructure Develop Br Supv	1	0	0	0	1

Job Code	Job Code Title	TSD	Divisions and Offices	Regions	Districts	Total
C318	Engineering Sys Suppt Br Supvr	1	0	0	0	1
C320	Eng Sol Del & Supt Ser Sec Dir	1	0	0	0	1
C326	Purchase/Fiscal Servcs Br Supv	1	0	0	0	1
C336	Data/Quality Mgmt Serv Br Supv	1	0	0	0	1
C337	Data Base Dev & Admin Br Supvr	1	0	0	0	1
C346	Info Security Branch Supvr	1	0	0	0	1
C370	Technology Architecture Sec Dir	1	0	0	0	1
C385	Bus Sol Del & Spt Serv Sec Dir	1	0	0	0	1
C390	Application Support Branch Sup	0	1	0	0	1
C600	Dir, Technology Services Div	1	0	0	0	1
	Total	260	144	129	12	545

Table N-5: IT FTE distribution by job code

Although not classified as IT FTEs, some divisions have designated business analysts in the "A" job category that support business application analysis. Table N-6 lists the total number of business analyst FTEs by division.

Division	Business Analyst FTEs
GSD	3
HRD	2
MCD	2
MNT	2
TRF	1
TTA	2
Total	12

Table N-6: Division business analysts

Known TxDOT systems

Table N-7 lists and describes classifications to organize known TxDOT systems and the number of systems in each classification. It is important to note that an unknown number of internal systems exist within the D/D/O/Rs, of which TSD has no knowledge. While most classifications are based largely upon the supported business process and data, some are functionality-based (e.g., document management).

May 26, 2010

System Count	Classification Name	Description
20	Administrative	Manage information related to administrative functions (e.g., tracking information requests, events)
2	Aviation Data	Manages information and functions pertaining to aviation
9	Bridge Data	Manages information and functions pertaining to bridges
9	Construction Data	Manages information and functions pertaining to construction projects and materials
34	Contract Management	Manages information related to contracting, procurement, purchasing, and bidding functions
2	Content Management	Manages online content for display on websites
63	Document Management	Stores, indexes electronic documents for various business functions
45	Engineering	Enables specialized engineering functions
5	Environmental Data	Information about environmental information and functions
37	Financial	Manages financial and accounting information and functions, including grants
15	GIS	Provides GIS functionality
14	Highway Data	Collects, stores, reports information about highways
20	Human Resources	Manages HR information and functions
3	Information Dissemination	Website that displays general content
10	Inventory Management	Collects, stores, analyzes information about inventories
5	ITS	Manages Intelligent Transportation System functions
3	Maintenance Data	Collects, stores, reports information about maintenance projects
14	Miscellaneous	Functionality not belonging to any other classification
8	Project Management	Manages transportation projects
4	Rail Data	Collects, stores, reports information about railroads
31	System Administration	Manages IT system administration (e.g., performance monitoring, security management, testing) and other IT functions (e.g., helpdesk, data dictionaries, etc.)
9	Traffic Analysis	Collects, stores, reports information about highway traffic
11	Vehicle Data	Collects, stores, reports information about motor vehicles
409	Total systems	

Table N-7: TxDOT system classifications and count

Table N-8 lists each system name, acronym, office of responsibility (OPR), description; systems are grouped by the classifications introduced in Table N-7

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
1	Administrative	Adopt A Highway	AAH	The Adopt-A-Highway (AAH) application is a data management tool for use by all division, district and maintenance office Adopt-A-Highway Coordinators. The application provides functions for managing contracts, available roadways and scheduled pick-up for adopted and available roadway segments. The application provides division program administrators with reports on AAH program status statewide for use in program management and decision making. Eventually, a Web site will be available to the public for viewing available roadway and adopting a roadway for clean-up using on-line processes.	TRV
2	Administrative	Calendar of Events	COE	The Calendar of Events (COE) application provides an interface for maintaining information about events scheduled throughout Texas that are of interest to the traveling public. The COE Events Module allows several TRV Travel Publications editors to enter event description information, dates, and contact information for each event. The system produces output for use in a desktop publishing application for creation of the Texas Events Calendar and the Fun Forecast section of Texas Highways Magazine. The events information is also published on-line on the state's primary travel web site and the Texas Highways Magazine web site. The COE Mailing List Module allows several mailing list administrators to enter mailing address and contact information about those supplying information about the events, and about subscribers to the Texas Events Calendar and other TRV publications. The module produces output in several formats, including MS Word mail merge labels.	TRV
3	Administrative	Complaint Management System	CMS	Complaint Management System (CMS) is a subsystem of Central Permits System (CPS) that manages complaints about and investigations of motor carriers, including household goods movers. The application is used to intake complaint information, track related investigation and mediation processes, track complaint or claim resolution, and store related documents, including notices of action and auditor's summary reports.	MCD

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
4	Administrative	Complaints Resolution and Feedback Tracking system	CRAFT	Complaints Resolution and Feedback Tracking system (CRAFT) is a computer application used for complaint processing. It has the ability to: support a workflow process; associate complaints with subsequent work orders (maintenance/traffic ops); and the ability to generate robust analytic trend data on completed and pending complaints. CRAFT is based on a system developed in Florida by FDOT, called FDOTracker.	GPA
5	Administrative	Data Dictionary User Reports	ADY	Data Dictionary User Reports (ADY) read ADABAS Predict data dictionary entries and print a series of reports.	TSD
6	Administrative	Dropbox	Dropbox	Dropbox is a computer application that temporarily makes a file (or files) available to another user across the Internet, in a secure and efficient manner, using the TxDOT external FTP server. It is a simpler and more secure alternative to send or receive files that are too large to attach to an e-mail. Dropbox is located at https://ftp.dot.state.tx.us/dropbox/.	TSD
7	Administrative	Fleet Tracking System	FTS	Fleet Tracking System (FTS/FleetTracks) is a fleet management system to; extend vehicle and equipment life, forecast preventive maintenance needed, plan vehicle and equipment retirement, and provide reports to fleet managers, the General Services Division, and external agencies.	GSD
8	Administrative	GroupWise	GW	Novell GroupWise (GW) is a collaboration software package providing enterprise users with e-mail, calendaring, instant messaging, task management, document management and data storage functions.	TSD
9	Administrative	GroupWise WebAccess	GroupWise WebAccess	GroupWise WebAccess provides users with most of the functionality of the desktop clients from a Web browser. It also supports handheld/PDA access via the Web. The most current revision of GroupWise (8.0) includes license to GroupWise Mobile Server by Nokia which enables wireless mail support for almost any mobile device.	TSD
10	Administrative	Guest Wireless Internet Reporting System	GWIRS	Guest Wireless Internet Reporting System (GWIRS)is a computer application used for the storage of logs relating to the creation of guest accounts used to access wireless internet	TSD

ID	Classification	System Name	System Acronym	Description	OPR
11	Administrative	Highway Beautification Act	HBA	The Highway Beautification Act (HBA) application enables right of way personnel in the districts and the Right of Way Division to manage and track advertising signs and junkyards viewable from state maintained highways by: · guiding personnel through the issuance, transfer, and replacement of licenses and permits via prompts and menus · allowing personnel to enter and report on license, permit, sign, and junkyard information · facilitating the collection of data that is needed for tracking, inquiry, and reporting purposes, including data collected through the use of GPS equipment.	ROW
12	Administrative	IRR Tracking System	IRRTS	IRR Tracking System (IRRTS) is a computer application that manages the creation of IRR numbers and tracks status of Information Resource Requests (IRRs).	TSD
13	Administrative	Material Control System	MCS	The Material Control System (MCS) formalizes test results of all materials submitted to the Materials and Tests Division (MTD) for quality testing and makes those results available on-line to all interested parties.	CST
14	Administrative	On-Line Phone List	OLP	On-Line Phone List is a subsystem of the Crossroads intranet site. It displays name, phone number and location information about Austin Headquarters Division and Office personnel.	TSD
15	Administrative	Open Records	OPENRECORDS	OPENRECORDS is a web-based application for tracking open records requests to TxDOT.	OGC
16	Administrative	Perspective	Perspective	Perspective is a software package from PPM2000 that helps security guards log in incidents around the different campuses/TxDOT buildings. It helps to interactively manage incidents, investigations and cases from beginning to end.	MNT
17	Administrative	Security Awareness Training Admin	SATAP	Security Awareness Training Administration Program (SATAP) is an application utilizing Web to track employees taking a Security Awareness class.	ABL
18	Administrative	Tables and Characteristics System	TACS	The Tables and Characteristics System (TACS) stores table information that is used by numerous applications throughout the department. TACS is a VSAM file on the mainframe. This file consists of over 400 "tables." Common uses of TACS are to validate data and to display text words or descriptions in place of codes which may be difficult to interpret.	TSD

ID	Classification	System Name	System Acronym	Description	OPR
19	Administrative	Vehicle Parking Permit System	VPPS	Vehicle Parking Permit System (VPPS) is an Access based application to track TxDOT parking stickers.	MNT
20	Administrative	Visitors Service Totals	VST	Visitor Service Totals (VST) lets the Travel Information Centers (TIC) around the state enter statistical information of services rendered by each TIC to the traveling public. Products of the system include monthly, quarterly, and annual reports based on the information entered by each TIC. This application replaces an Excel workbook which was manually updated daily via a mapped network drive. The new solution consists of creating html pages and ASP that will allow users enter their information in data entry forms using a browser.	TRV
21	Aviation Data	Flight Services Management System	FSMS	The Flight Services Management System (FSMS) is used by the TxDOT Aviation Division to issue requisitions, track maintenance, and maintain inventory for aircraft owned by the state.	AVN
22	Aviation Data	Texas Airports Data System	TADS	The Texas Airport Data System (TADS) is a client/server application that is used to store information on airport locations, facilities, and inspections (AVIATION schema). It is also used to track projects for the State's Capital Improvement Plan (CIP).	AVN
23	Bridge Data	Bridge Inspection	BDG	The Bridge Inspection system (BDG) file consists of all pertinent data concerning the 'On' and 'Off' system structures within the state. This includes roadway structure characteristics, traffic data, inspection data, and ratings. This database supports the Federal Highway Administration's requirements for reporting bridge inspection and appraisal data. The BDG file is used to indicate current needs as well as forecasting future needs in funding for rehabilitation or replacement and general maintenance of structures. The file is used to create reports for the districts, divisions, TxDOT Commission, and the Federal Highway Administration (FHWA). The file is furnished to FHWA in the National Bridge Inventory (NBI) format yearly. BDG was formerly known as BRINSAP.	BRG
24	Bridge Data	Bridge Scour	HY_9	Description not available.	BRG

ID	Classification	System Name	System Acronym	Description	OPR
25	Bridge Data	Bridge Shop Plan	BRG_SHOP _PLAN	Bridge Shop Plan (BRG_SHOP_PLAN) is an application that records and tracks detailed information about shop plans that are electronically submitted from a fabricator to the Texas Department of Transportation.	BRG
26	Bridge Data	Maintenance Bridge Inspection Tracking System	MBITS	Maintenance Bridge Inspection Tracking System (MBITS) is a computer application that tracks Maintenance Bridge Inspection results.	MNT
27	Bridge Data	Multi-Beam Bridges	AMBB	Description not available.	TSD
28	Bridge Data	Permanent Structure Number	PSN	Permanent Structure Number (PSN) is used to accept requests from districts to the Bridge Division for new permanent bridge/structure numbers. Formerly named Bridge Log (BRDGLOG).	BRG
29	Bridge Data	Pontis	Pontis	Pontis stores complete bridge inventory and inspection data, including detailed element conditions; formulates network-wide preservation and improvement policies for use in evaluating the needs of each bridge in a network; makes project recommendations to derive maximum benefit from scarce funds; reports network and project-level results; and forecasts individual bridge life-cycle deterioration and costs.	BRG
30	Bridge Data	Span Detailing System	SpanPC	transferred to BRG	BRG
31	Bridge Data	Water-Surface PROfile Computations	WSPRO	WSPRO computes water-surface profiles for subcritical, critical, or supercritical flow as long as the flow can be reasonably classified as one-dimensional, gradually-varied, steady flow. WSPRO can be used to analyze: (1) open-channel flow; (2) flow through bridges; (3) flow through culverts; (4) embankment overflow; and (5) multiple-opening (two or more separate bridge and (or) culvert structures) stream crossings. WSPRO is designated HY-7 in the Federal Highway Administration (FHWA) hydraulics computer program series.	BRG
32	Construction Data	Design and Construction Information System	DCIS	The Design and Construction Information System (DCIS) is used for preliminary engineering on construction projects. It gives engineers detailed information to manage design activities of highway facilities, produce project estimates, and plan letting schedules.	FIN

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
33	Construction Data	Inspection and Material Management System	I2MS	The Inspection and Material Management System (I2MS) was developed by engineering consultants for the SH130 project.	CST
34	Construction Data	Pathfinder	Pathfinder	Pathfinder is a web application that tracks performance of Hot Mix Asphalt. It was developed under TxDOT Research Project 0-5496 by UT-Austin. The program provides vital guidance for pavement design, tracking materials, forensics, and research.	CST
35	Construction Data	PMIS MapZapper	PMIS MapZapper	PMIS MapZapper is a Microsoft Access application that reads PMIS data, makes maps, and runs reports. It also reads MMIS data for maintenance expenditures.	CST
36	Construction Data	PMIS Process Control	PMISPC	PMIS Process Control (PMISPC) is a subsystem of the Pavement Management Information System (PMIS). It is used by PMIS staff to convert and prepare automated collected and visually collected data for storage on the Mainframe PMIS database. It includes a series of controlled steps to convert the data into meaningful and readable information. The data collection trucks and mechanisms are in a constant state of development and improvement for which the OPRs require the ability to change database fields and tables on demand. The sensors and collection software change frequently, affecting the structure of the database. Specialized skills, software, and knowledge are required to manage the data from digital sonic, infrared, laser, and pixel sensors into meaningful data that pavement engineers and managers need to make decisions on pavement maintenance. The PMISPC database stores preprocessed, intermediate, and finalized forms of data. The data is used to study trends over a period of three years.	CST
37	Construction Data	Project Tracker	Project Tracker	Project Tracker is a comprehensive information database that follows the progress of TxDOT construction projects. Projects can be located by county, state/federal legislative member and those funded under the federal economic stimulus program and by Proposition 12 and Proposition 14 bonds. Information is updated regularly, as projects progress through design and construction. Project Tracker is a Windshield application that uses DCIS data. It was developed by the Corpus Christi District.	ADM

ID	Classification	System Name	System Acronym	Description	OPR
38	Construction Data	Road Life Data Entry System	RLSE	The Road Life Data Entry System (RLSE) is a warehouse of information about highway construction jobs. Type of work, location, money spent, layer thickness and width, and materials used are among the information stored. This system is intended to be replaced by a PC-based Road Life System at an undetermined date. Data stored in this system will be converted for use in the new system when it is developed. The Pavements Section of the Construction Division is the current OPR/data steward for this system.	CST
39	Construction Data	Universal Specifications File	USF	The Universal Specification File (USF) provides a defined center of information for all construction specifications and details of the materials referenced in these specifications. USF was designed as an ADABAS file to provide a defined center of information concerning all bid items, materials and material groups. The USF is available as a service to any system, Division, or District that requires its information. The USF is now accessed by the Materials Control System (MCS), Contract Information System (CIS), Design and Construction Information System (DCIS) and the letting and post-letting system.	DES
40	Construction Data	Wage Rate System	WRS	The Wagerate System (WRS) is a web-based wagerate reporting system on Construction Projects.	CST
41	Content Management	DotNetNuke Portal	DNN_PORTAL	DotNetNuke Portal (DNN_PORTAL) is an application using DotNetNuke software to provide a location for all projects that need an online forum to discuss issues. DotNetNuke is an open source web application framework [written in VB.NET for the ASP.NET framework. The application's content management system is extensible and customizable through the use of skins and modules, and it can be used to create, deploy, and manage intranet, extranet, and web sites.	TSD
42	Content Management	Information Systems Division Information	ISDINFO	The Information Systems Division Information System (ISDINFO) supports publication of Information Systems Division (ISD) information on the intranet. ISDINFO displays information which is stored in a central database, which provides an on-line area that ISD business unit managers can access to update the content that is published for their particular business area. This ensures access to the most current information available for ISD.	TSD

ID	Classification	System Name	System Acronym	Description	OPR
43	Contract Management	Automated Purchasing System	APS	Automated Purchasing System (APS) allows districts and divisions to electronically transfer requisition and purchase order related documents and purchasing status information. APS records transactions related to requisitions and purchase orders for the Material and Supply Management System (MSMS), Equipment Operating System (EOS), Minor Equipment System (MES) and service items. APS routes the items to the appropriate purchaser for action. Word processing and electronic mail capabilities are used to create and route specifications, memorandums, and letters through districts, divisions, and the State Purchasing Commission. The American Software Purchasing and Materials Management Software processes purchase requests, requisitions and purchase orders at the district and division levels. Open market and contract requisition and purchase order information is transmitted electronically between the Department and the State Purchasing Commission. Reports and on-line inquiry show the status of requisitions and purchase orders. Historical and status data on vendor performance, purchase quantities, pricing, and lead time are kept. APS interfaces with MSMS, EOS, MES and FIMS. Appropriate manual intervention points and security have been included so that the system fully supports the Department's routine decision making.	GSD
44	Contract Management	Bid Analysis Management System	BAMS	Bid Analysis Management System (BAMS) is the mainframe subsystem of TRNSPORT Bid Analysis Management System/Decision Support System (TRNSPORT BAMS_DSS) that extracts data from multiple mainframe systems for export (FTP) to the Decision Support System. See TRNSPORT Bid Analysis Management System/Decision Support System (TRNSPORT BAMS_DSS)	CST
45	Contract Management	Bid Analysis Management System-Decision Support System	BAMS_DSS	Bid Analysis Management System-Decision Support System (BAMS_DSS) is the client-server subsystem of TRNSPORT Bid Analysis Management System/Decision Support System (TRNSPORT BAMS_DSS). See TRNSPORT Bid Analysis Management System/Decision Support System (TRNSPORT BAMS_DSS)	CST

ID	Classification	System Name	System Acronym	Description	OPR
46	Contract Management	Bid Proposal System	BPS	The Bid Proposal System (BPS) is an information system for the production and distribution of highway construction bid proposals. This system produces a master copy of each bid proposal for a letting and stores the document on DOTS. The system is used to keep track of all requests for bid and informational proposals. The system allows for the demand printing of proposals based on requests. The system allows for revisions to be made and the automatic distribution of the revisions once it is complete.	CST
47	Contract Management	Bridge Contract Management System	BCMS	Bridge Contract Management System (BCMS) is a web-based application built for the Bridge Division of the Texas Department of Transportation (TxDOT) to monitor the payment and operational activity status of the consultant firms.	BRG
48	Contract Management	CMCS Advertisements	CMCS ADV	The Construction Maintenance Contract System Advertisements (CMCS-ADV) is a subsystem of CMCS to publish the maintenance contracts that TxDOT intends to let.	FIN
49	Contract Management	CMCS CES Editor System	CMCS - CES Editor	The CMCS CICS Editor System (CMCS-CES or CES) is an online editor for CICS which emulates the ROSCOE editor. It is a subsystem of the Construction Maintenance Contract System (CMCS).	TSD
50	Contract Management	Construction Maintenance Contract System	CMCS	The Construction Maintenance Contract System (CMCS) is a standardized method to process and manage the department's maintenance contracts. It automates the preparation, pre-qualification, letting, and payment procedures for all maintenance contracts. CMCS Advertisements (CMCS ADV) is a subsystem of CMCS (OPR = FIN). It creates and tracks newspaper advertisements for highway construction. CMCS CICS EDITOR SYSTEM (CMCS-CES or CES) is a subsystem of CMCS (OPR = TSD). It is an online editor for CICS which emulates the ROSCOE editor.	CST
51	Contract Management	Consultant Certification Information System	CCIS	The Consultant Certification Information System (CCIS) automates the process of pre-certification of engineers, architects, and other associated firms that apply for consultant work with the department.	DES

ID	Classification	System Name	System Acronym	Description	OPR
52	Contract Management	Contract Accounting Management System	CAMS	The Contract Accounting Management System (CAMS) is an Access application used to track ISD contracts.	TSD
53	Contract Management	Contract Information System	CIS	The Contract Information System (CIS) provides the means for divisions, districts, and residencies to update, receive reports, monitor progress, and authorize payment on contracts from the time the contract is let until the work is complete. This system receives information on construction projects from the districts and produces automated vouchers. It also provides information for Federal aid billings and construction ledgers. This system will be replaced by SiteManager.	CST
54	Contract Management	Contract Tracking System	CTS	The Contract Tracking System (CTS) provides the means to track correspondence on contracts from the time a contract is let until the work is complete.	CST
55	Contract Management	Contractor Bidding System	CBS	The Contractor Bidding System (CBS) automates the process of qualifying contractors wanting to do business with TxDOT and maintains contractor information before and after the qualification process.	CST
56	Contract Management	Electronic Bidding System	EBS	The Electronic Bidding System (EBS) permits electronic submission of digitally signed bids by qualified vendors.	CST
57	Contract Management	Electronic Project Records System	EPRS	The Electronic Project Records System (EPRS) improves TxDOT's communications with the contracting community and assists TxDOT Districts / Divisions in sending and receiving information to and from contractors with the development of a standard secure electronic data transmission method. Phase 1 of this project includes the submission of payroll data from contractors. It enables outside contractors to electronically submit their payroll data. This data is transmitted to TxDOT via a secure method for update and storage. Digital certificates are used to identify the transmitter of the data and prevent unauthorized access to the data.	CST
58	Contract Management	Electronic Shop Plan Submittal and Review	ESP2	Validation of contract information in GroupWise (plan s in e-mail attachments)	BRG

ID	Classification	System Name	System Acronym	Description	OPR
59	Contract Management	Equal Opportunity Compliance Review Information System	EOCRIS	Equal Opportunity Compliance Review Information System (EOCRIS) is a computer application that manages information about EO compliance reviews of contractors.	OCR
60	Contract Management	Letting System	LET	The Letting System (LET) is used to record and tabulate the low bidders for highway construction and maintenance contracts.	CST
61	Contract Management	Material Test Inspection Average Rate	MTIAR	The Material Test Inspection Average Rate (MTIAR) application stores the cost of contracted services for construction material testing. The input is obtained from previous years contracts. Average cost for material tests and professional services are summarized and used to determine fair prices for future contracts. The system is used in urban districts.	CST
62	Contract Management	Outreach Manager	OM	Outreach Manager (OM) is an application that supports the business processes for the Business Opportunity Program (BOP) and Historically Underutilized Business (HUB). Outreach Manager is used to monitor, evaluate and report the percentage of contract expenditures made to DBEs, HUBs, and SBEs on both federal and state funded professional services and building contracts.	CST
63	Contract Management	Plans Online	Plans Online	Plans Online is an application using Alchemy software (Alchemy Premium and Alchemy Web) to provide electronic letting plans to the contracting community and serves as a plans warehouse for TxDOT employees.	GSD
64	Contract Management	Pre-Certification Data Collection System	PDCS	Pre-Certification Data Collection System (PDCS) is a subsystem of the Consultant Certification Information System (CCIS). It is a FoxPro application used by consultants to process data that is received from or sent to CCIS.	DES
65	Contract Management	Professional Services Contract Administration and Management System	PS-CAMS	Professional Services Contract Administration and Management System (PS-CAMS) is a computer application used to manage professional services contracts throughout the department. It is based on the Work Order Management System (WORMS) developed for San Antonio.	DES
66	Contract Management	Right of Way	ROW	The Right of Way (ROW) system on the mainframe allows the display of information to monitor the Right-of-Way parcel acquisition process. To be replaced by ROWIS.	ROW

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
67	Contract Management	Right of Way Information System	ROWIS	The Right of Way Information System (ROWIS) application enables right of way personnel in the districts and the Right of Way (ROW) Division to manage and track the parcel acquisition process on a statewide basis by: · guiding right of way personnel through the acquisition process via prompts and menus · allowing personnel to enter and print document information · facilitating the collection of data that is needed for tracking and reporting purposes	ROW
68	Contract Management	Right of Way Tracker	ROW Tracker	Right of Way Tracker (ROW Tracker) was developed by PBS&J for the SH130 project to manage right of way activities. It is a subsystem of Right of Way Information System (ROWIS).	TTA
69	Contract Management	SiteManager	SMGR	SiteManager (SMGR) automates the contract administration functions for construction and maintenance projects and the materials and tests administration functions, which include aspects of project administration from the time a contract is awarded through finalization of the project. At TxDOT the application includes the two subsystems Site Manager Financial Interface (SMFI) and Site Manager Interface Controller (SMIC). SITE-MANAGER is an AASHTO system developed by MCI Systemhouse.	CST
70	Contract Management	Subcontractor Monitoring System	SMS	The Subcontractor Monitoring System (SMS) provides on-line monitoring and batch reporting capabilities for state and federal construction projects. This system ensures accuracy of information supplied to FHWA, Texas Economic Development Commission (TEDC), State Highway Commission, the media, and others concerning TxDOT's use of Minority-owned Businesses and Small Businesses. It also provides monitoring of all subcontracting by prime construction contractors performing work for TxDOT. This ensures continued funding of Federal Aid projects.	CST

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
71	Contract Management	Texas Unified Certification Program	TUCP	Texas Uniform Certification Program is a certification process for the Federal Disadvantaged Business Enterprise (DBE) Programs in Texas. That means a DBE certification is valid at any Texas entity that receives U.S. Department of Transportation (DOT) funds and has a DBE program. It provides the opportunity to a DBE firm at all participating entities in this state for all DOT transportation modes.	FIN
72	Contract Management	TRNSPORT Bid Analysis Management System Decision Support System	TRNSPORT BAMS_DSS	TRNSPORT Bid Analysis Management System/Decision Support System (TRNSPORT BAMS_DSS) is a software package from AASHTO, maintained by Infotech. It is used for the analysis of transportation construction project data. TRNSPORT BAMS_DSS provides a complete historical database specifically designed to provide decision support in the areas of bid monitoring and evaluation, vendor (contractor, subcontractor, and DBE) and market analysis, item price estimation, and the planning and budgeting process. There are two subsystems: Bid Analysis Management System (BAMS) is the mainframe subsystem of TRNSPORT Bid Analysis Management System/Decision Support System (TRNSPORT BAMS_DSS) that extracts data from multiple mainframe systems for export (FTP) to the decision support subsystem. Bid Analysis Management System/Decision Support System (BAMS_DSS) is the client-server subsystem of TRNSPORT Bid Analysis Management System/Decision Support System (TRNSPORT BAMS_DSS).	CST
73	Contract Management	Universal Vendor Description	UVD	Universal Vendor Description (UVD) is used to store and retrieve information on vendors and contractors.	FIN
74	Contract Management	Vendor Central System	VCS	Vendor Central System (VCS/VENDR_CNTRL) is a computer application that allows vendors to bill/invoice TxDOT through the TxDOT website, and allows the vendors to monitor status.	FIN
75	Contract Management	Vendor Payment System	VPS	Vendor Payment System (VPS) provides inquiry into the voucher/vendor information of the Financial Information Management System (FIMS). This system tracks vendor activity from invoicing to voucher payment.	FIN

ID	Classification	System Name	System Acronym	Description	OPR
76	Contract Management	WorkOrder Management System	WORMS	WorkOrder Management System (WORMS) is a system to manage the survey contract and work order oversight functions in the San Antonio district. It has facilities for recording contract and work order details as well as monthly invoice processing.	SAT
77	DDOR Data System	Abilene Data System	ABLDATA	The Abilene Data System (ABLDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Abilene district. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	ABL
78	DDOR Data System	Amarillo Data System	AMADATA	The Amarillo Data System (AMADATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Amarillo district. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas and is used by many other TxDOT districts, divisions, and offices.	AMA
79	DDOR Data System	Bryan Data System	BRYDATA	The Bryan Data System (BRYDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Bryan district. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	BRY
80	DDOR Data System	Dallas Data System	DALDATA	The Dallas Data System (DALDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Dallas district. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	DAL
81	DDOR Data System	El Paso Data System	ELPDATA	The El Paso Data System (ELPDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT El Paso district. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	ELP
82	DDOR Data System	Finance Data System	FINDATA	The Finance Data System (FINDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Finance Division. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	FIN

ID	Classification	System Name	System Acronym	Description	OPR
83	DDOR Data System	Fort Worth Data System	FTWDATA	The Fort Worth Data System (FTWDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Fort Worth district. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	FTW
84	DDOR Data System	General Services Data System	GSDDATA	The General Services Data System (GSDDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT General Services Division. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	GSD
85	DDOR Data System	Houston Data System	HOUDATA	The Houston Data System (HOUDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Houston district. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas and is used by many other TxDOT districts, divisions, and offices.	HOU
86	DDOR Data System	Human Resources Data System	HRDDATA	The Human Resources Data System (HRDDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Human Resources Division. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	HRD
87	DDOR Data System	Lufkin Data System	LFKDATA	The Lufkin Data System (LFKDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Lufkin district. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	LFK
88	DDOR Data System	Pharr Data System	PHRDATA	The Pharr Data System (PHRDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Pharr district. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	PHR

ID	Classification	System Name	System Acronym	Description	OPR
89	DDOR Data System	Regional Center East Data System	RCEDATA	The Regional Center East Data System (RCEDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT East Regional Center. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	RCE
90	DDOR Data System	Regional Center North Data System	RCNDATA	The Regional Center North Data System (RCNDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT North Regional Center. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	RCN
91	DDOR Data System	Regional Center South Data System	RCSDATA	The Regional Center South Data System (RCSDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT South Regional Center. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	RCS
92	DDOR Data System	Regional Center West Data System	RCWDATA	The Regional Center West Data System (RCWDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT West Regional Center. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	RCW
93	DDOR Data System	Technology Services Data System	TSDDATA	The Technology Services Data System (TSDDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Technology Services Division. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	TSD
94	DDOR Data System	Transportation Planning and Programming Data System	TPPDATA	The Transportation Planning and Programming Data System (TPPDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Transportation Planning and Programming Division. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	TPP

ID	Classification	System Name	System Acronym	Description	OPR
95	DDOR Data System	Tyler Data System	TYLDATA	The Tyler Data System (TYLDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Tyler district. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	TYL
96	DDOR Data System	Wichita Falls Data System	WFSDATA	The Wichita Falls Data System (WFSDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Wichita Falls district. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	WFS
97	DDOR Data System	Yoakum Data System	YKMDATA	The Yoakum Data System (YKMDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Yoakum district. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	YKM
98	Document Management	ABL Enterprise Document Management System	ABLEDMS	The ABL Enterprise Document Management System (ABLEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Abilene District (ABL). ABLEDMS uses FileNET Content Services software to track documents related to Abilene District business operations, such as consultant contract and administrative documents.	ABL
99	Document Management	ADM Enterprise Document Management System	ADMEDMS	The ADM Enterprise Document Management System (ADMEDMS) is an implementation of the Enterprise Document Management System (EDMS) for TxDOT Administration (ADM). ADMEDMS uses FileNET Content Services software to track documents related to Administration business operations.	ADM
100	Document Management	AMA Enterprise Document Management System	AMAEDMS	The AMA Enterprise Document Management System (AMAEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Amarillo District (AMA). AMAEDMS uses FileNET Content Services software to track documents related to Amarillo District business operations, such as consultant contract and administrative documents.	AMA

ID	Classification	System Name	System Acronym	Description	OPR
101	Document Management	ATL Enterprise Document Management System	ATLEDMS	The ATL Enterprise Document Management System (ATLEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Atlanta District (ATL). ATLEDMS uses FileNET Content Services software to track documents related to Atlanta District business operations, such as consultant contract and administrative documents.	ATL
102	Document Management	AUS Enterprise Document Management System	AUSEDMS	The AUS Enterprise Document Management System (AUSEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Austin District (AUS). AUSEDMS uses FileNET Content Services software to track documents related to Austin District business operations, such as consultant contract and administrative documents.	AUS
103	Document Management	AVN Enterprise Document Management System	AVNEDMS	The AVN Enterprise Document Management System (AVNEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Aviation Division (AVN). AVNEDMS uses FileNET Content Services software to track documents related to Aviation Division business operations, such as consultant contract and administrative documents.	AVN
104	Document Management	BMT Enterprise Document Management System	BMTEDMS	The BMT Enterprise Document Management System (BMTEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Beaumont District (BMT). BMTEDMS uses FileNET Content Services software to track documents related to Beaumont District business operations, such as consultant contract and administrative documents.	BMT
105	Document Management	BRG Enterprise Document Management System	BRGEDMS	The BRG Enterprise Document Management System (BRGEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Bridge Division (BRG). BRGEDMS uses FileNET Content Services software to track documents related to BRG business operations, such as consultant contract and administrative documents.	BRG

ID	Classification	System Name	System Acronym	Description	OPR
106	Document Management	BRY Enterprise Document Management System	BRYEDMS	The BRY Enterprise Document Management System (BRYEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Bryan District (BRY). BRYEDMS uses FileNET Content Services software to track documents related to Bryan District business operations, such as consultant contract and administrative documents.	BRY
107	Document Management	BWD Enterprise Document Management System	BWDEDMS	The BWD Enterprise Document Management System (BWDEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Brownwood District (BWD). BWDEDMS uses FileNET Content Services software to track documents related to Brownwood District business operations, such as consultant contract and administrative documents.	BWD
108	Document Management	CDA Enterprise Document Management System	CDAEDMS	The CDA Enterprise Document Management System (CDAEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Comprehensive Development Agreement (CDA) for the SH45SE project in the Austin District. CDAEDMS uses FileNET Content Services software to track documents related to CDA, such as consultant contract and administrative documents.	AUS
109	Document Management	CHS Enterprise Document Management System	CHSEDMS	The CHS Enterprise Document Management System (CHSEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Childress District (CHS). CHSEDMS uses FileNET Content Services software to track documents related to Childress District business operations, such as consultant contract and administrative documents.	CHS
110	Document Management	Commission Document System	CDS	The Commission Document System is an application using FileNet Content Services to track Transportation Commission Minute Order documents and documents relating to meetings of the Commission.	ADM
111	Document Management	CRP Enterprise Document Management System	CRPEDMS	The CRP Enterprise Document Management System (CRPEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Corpus Christi District (CRP). CRPEDMS uses FileNET Content Services software to track documents related to Corpus Christi District business operations, such as consultant contract and administrative documents.	CRP

ID	Classification	System Name	System Acronym	Description	OPR
112	Document Management	CST Enterprise Document Management System	CSTEDMS	The CST Enterprise Document Management System (CSTEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Construction Division (CST). CSTEDMS uses FileNET software to track documents related to Construction Division business operations, such as purchasing records, IT systems records, equipment records, property records, materials management records and administrative documents.	CST
113	Document Management	CTTP Enterprise Document Management System	CTTPEDMS	The CTTP Enterprise Document Management System (CTTPEDMS) is an implementation of the Enterprise Document Management System (EDMS) for Austin's Central Texas Turnpike Project documents related to SH45 and SH130. CTTPEDMS uses FileNET Content Services software to track documents related to proposed changes to Loop1.	AUS
114	Document Management	DAL Enterprise Document Management System	DALEDMS	The DAL Enterprise Document Management System (DALEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Dallas District (DAL). DALEDMS uses FileNET Content Services software to track documents related to Dallas District business operations, such as consultant contract and administrative documents.	DAL
115	Document Management	Data on Terminal System	DOTS	The Data on Terminal System (DOTS) is a report storage system, allowing reports to be stored and printed when needed.	TSD
116	Document Management	DES Enterprise Document Management System	DESEDMS	The DES Enterprise Document Management System (DESEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Design Division (DES). DESEDMS uses FileNET Content Services software to track documents related to Design Division business operations, such as consultant contract and administrative documents.	DES

ID	Classification	System Name	System Acronym	Description	OPR
117	Document Management	Document Direct	Document Direct	DocumentDirect is a subsystem of the Online Document Viewing System (ODVS). DocumentDirect is a client-server application for the Microsoft® Windows platform that provides a single user interface to locate, view, print, and export any document or image located on any platform in the enterprise. In short, Document Direct is a Windows GUI to our documents on ODVS enabling us to do many things which would otherwise be cumbersome or unfeasible, such as allowing us to export information to other Windows applications and automate repetitive tasks via scripts.	TSD
118	Document Management	Electronic Forms	EFORMS	Electronic Forms (EFORMS) is an application that uses Adobe EForms software to manage forms processing.	GSD
119	Document Management	ELP Enterprise Document Management System	ELPEDMS	The ELP Enterprise Document Management System (ELPEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the El Paso District (ELP). ELPEDMS uses FileNET Content Services software to track documents related to El Paso District business operations, such as consultant contract and administrative documents.	ELP
120	Document Management	eManager	eManager	eManager is an application written for Texas Turnpike Authority (TTA) by HB Media. It is a front-end to Enterprise Document Management System (EDMS) FileNet software. It is being evaluated for enterprise use.	TSD
121	Document Management	Enterprise Document Management System	EDMS	The Enterprise Document Management System (EDMS) is an application using FileNet software to track documents. EDMS is implemented at TxDOT as multiple Subsystems. See FileNet	TSD
122	Document Management	Enterprise Document Technologies Implementation and Support	EDTIS	Enterprise Document Technologies Implementation and Support Project (EDTIS) will implement electronic document management technologies statewide by August 2007. EDTIS will also define the policies, processes, and procedures for communication, change control, configuration management, system management, security, maintenance, support, problem/issue resolution, backup/recovery, and capacity planning. This project will also establish a standard enterprise access model and publishing model to facilitate universal document sharing across TxDOT.	TSD

ID	Classification	System Name	System Acronym	Description	OPR
123	Document Management	ENV EDMS Project Management System	ENVEDMSPM	The ENV EDMS Project Management System (ENVEDMSPM) is an implementation of the Enterprise Document Management System (EDMS) for the Environmental Affairs Division (ENV). ENVEDMSPM uses FileNET software to track environmental project management documents, known within the division as the 850 Files. These 850 Files serve as TxDOT's Administrative Records for the environmental review and approval process of individual transportation projects.	ENV
124	Document Management	ENV Enterprise Document Management System	ENVEDMS	The ENV Enterprise Document Management System (ENVEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Environmental Affairs Division (ENV). ENVEDMS uses FileNET software to track ENV administrative documents.	ENV
125	Document Management	Finance Imaging System	FIS	Finance Imaging System (FIS) is an implementation of FileNet used by the Finance Division (FIN) to manage document images.	FIN
126	Document Management	FTW Enterprise Document Management System	FTWEDMS	The FTW Enterprise Document Management System (FTWEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Fort Worth District (FTW). FTWEDMS uses FileNET Content Services software to track documents related to Fort Worth District business operations, such as consultant contract and administrative documents.	FTW
127	Document Management	GSD EDMS Add Document	GSDEDMS_ ADDDOC	The GSD EDMS Add Document (GSDEDMS_ADDDOC) application is a front end custom-built subsystem of the GSD Enterprise Document Management System (GSDEDMS). It is a web-based tool to help users select correct indexing property values when storing a new document in the FileNET database.	GSD
128	Document Management	GSD Enterprise Document Management System	GSDEDMS	The GSD Enterprise Document Management System (GSDEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the General Services Division (GSD). GSDEDMS uses FileNET software to track documents related to GSD business operations, such as purchasing records, IT systems records, equipment records, property records, materials management records and administrative documents.	GSD

ID	Classification	System Name	System Acronym	Description	OPR
129	Document Management	HRD Enterprise Document Management System	HRDEDMS	The HRD Enterprise Document Management System (HRDEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Human Resources Division (HRD). HRDEDMS uses FileNET software to track documents related to HRD business operations and administrative documents.	HRD
130	Document Management	ISD Enterprise Document Management System	ISDEDMS	The ISD Enterprise Document Management System (ISDEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Information Systems Division (ISD). ISDEDMS uses FileNET software to track documents related to ISD business operations and administrative documents.	TSD
131	Document Management	LBB Enterprise Document Management System	LBBEDMS	The LBB Enterprise Document Management System (LBBEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Lubbock District (LBB). LBBEDMS uses FileNET Content Services software to track documents related to Lubbock District business operations, such as consultant contract and administrative documents.	LBB
132	Document Management	LFK Enterprise Document Management System	LFKEDMS	The LFK Enterprise Document Management System (LFKEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Lufkin District (LFK). LFKEDMS uses FileNET Content Services software to track documents related to Lufkin District business operations, such as consultant contract and administrative documents.	LFK
133	Document Management	LOOP1 Enterprise Document Management System	LOOP1EDMS	The LOOP1 Enterprise Document Management System (LOOP1EDMS) is an implementation of the Enterprise Document Management System (EDMS) for Austin Loop 1 (Mopac) documents. LOOP1EDMS uses FileNET Content Services software to track documents related to proposed changes to Loop1.	AUS
134	Document Management	LRD Enterprise Document Management System	LRDEDMS	The LRD Enterprise Document Management System (LRDEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Laredo District (LRD). LRDEDMS uses FileNET Content Services software to track documents related to Laredo District business operations, such as consultant contract and administrative documents.	LRD

ID	Classification	System Name	System Acronym	Description	OPR
135	Document Management	Main Office Enterprise Document Management System	MOEDMS	The Main Office Enterprise Document Management System (MOEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the main office divisions. MOEDMS uses FileNET Content Services software to track documents related to main office business operations, such as consultant contract and administrative documents.	ADM
136	Document Management	Main Office Enterprise Document Management System 2	MOEDMS2	The Main Office Enterprise Document Management System (MOEDMS2) is an implementation of the Enterprise Document Management System (EDMS) for the main office divisions. MOEDMS uses FileNET Content Services software to track documents related to main office business operations, such as consultant contract and administrative documents.	ADM
137	Document Management	MCD Enterprise Document Management System	MCDEDMS	The MCD Enterprise Document Management System (MCDEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Motor Carrier Division (MCD). MCDEDMS uses FileNET Content Services software to track documents related to Motor Carrier Division business operations, such as consultant contract and administrative documents.	MCD
138	Document Management	MNT Enterprise Document Management System	MNTEDMS	The MNT Enterprise Document Management System (MNTEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Maintenance Division (MNT). MNTEDMS uses FileNET software to track documents related to Maintenance Division business operations, such as purchasing records, IT systems records, equipment records, property records, materials management records and administrative documents.	MNT
139	Document Management	MST Enterprise Document Management System	MSTEDMS	The MST Enterprise Document Management System (MSTEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Main Street Texas application (MST). MSTEDMS uses FileNET software to track non-GIS documents related to Main Street Texas.	TSD

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
140	Document Management	Occupational Safety Division EDMS	OCCEDMS	The OCC Enterprise Document Management System (OCCEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Occupational Safety Division (OCC). OCCEDMS uses FileNET Content Services software to track documents related to OCC business operations, such as consultant contract and administrative documents.	OCC
141	Document Management	OCR Enterprise Document Management System	OCREDMS	The OCR Enterprise Document Management System (OCREDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Office of Civil Rights (OCR). OCREDMS uses FileNET Content Services software to track documents related to Office of Civil Rights business operations, such as consultant contract and administrative documents.	OCR
142	Document Management	ODA Enterprise Document Management System	ODAEDMS	The ODA Enterprise Document Management System (ODAEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Odessa District (ODA). ODAEDMS uses FileNET Content Services software to track documents related to Odessa District business operations, such as consultant contract and administrative documents.	ODA
143	Document Management	OGC Enterprise Document Management System	OGCEDMS	The OGC Enterprise Document Management System (OGCEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Office of General Counsel (OGC). OGCEDMS uses FileNET software to track documents related to Office of General Counsel business operations, such as purchasing records, IT systems records, equipment records, property records, materials management records and administrative documents.	OGC
144	Document Management	Online Manuals System	OMS	The Online Manuals System (OMS) is a web based application that contains collections of TxDOT manuals. These include instructional and procedural materials published by Austin Headquarters Divisions and Offices. The Online Manuals System is accessible from the Crossroads TxDOT intranet site. Online Manuals uses a purchased software product named DynaWeb.	GSD

ID	Classification	System Name	System Acronym	Description	OPR
145	Document Management	PAR Enterprise Document Management System	PAREDMS	The PAR Enterprise Document Management System (PAREDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Paris District (PAR). PAREDMS uses FileNET Content Services software to track documents related to Paris District business operations, such as consultant contract and administrative documents.	PAR
146	Document Management	PHR Enterprise Document Management System	PHREDMS	The PHR Enterprise Document Management System (PHREDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Pharr District (PHR). PHREDMS uses FileNET Content Services software to track documents related to Pharr District business operations, such as consultant contract and administrative documents.	PHR
147	Document Management	PTN Enterprise Document Management System	PTNEDMS	The PTN Enterprise Document Management System (PTNEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Public Transportation Division (PTN). PTNEDMS uses FileNET Content Services software to track documents related to Public Transportation Division business operations, such as consultant contract and administrative documents.	PTN
148	Document Management	ROW Enterprise Document Management System	ROWEDMS	The ROW Enterprise Document Management System (ROWEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Right of Way Division (ROW). ROWEDMS uses FileNET Content Services software to track documents related to Right of Way Division business operations, such as consultant contract and administrative documents.	ROW
149	Document Management	SAT Enterprise Document Management System	SATEDMS	The SAT Enterprise Document Management System (SATEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the San Antonio District (SAT). SATEDMS uses FileNET Content Services software to track documents related to San Antonio District business operations, such as consultant contract and administrative documents.	SAT

ID	Classification	System Name	System Acronym	Description	OPR
150	Document Management	SJT Enterprise Document Management System	SJTEDMS	The SJT Enterprise Document Management System (SJTEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the San Angelo District (SJT). SJTEDMS uses FileNET Content Services software to track documents related to San Angelo District business operations, such as consultant contract and administrative documents.	SJT
151	Document Management	TPP Enterprise Document Management System	TPPEDMS	The TPP Enterprise Document Management System (TPPEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Transportation Planning and Programming Division (TPP). TPPEDMS uses FileNET Content Services software to track documents related to Transportation Planning and Programming Division business operations, such as consultant contract and administrative documents.	TPP
152	Document Management	TRF Enterprise Document Management System	TRFEDMS	The TRF Enterprise Document Management System (TRFEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Traffic Operations Division (TRF). TRFEDMS uses FileNET Content Services software to track documents related to Traffic Operations Division business operations, such as consultant contract and administrative documents.	TRF
153	Document Management	TRV Enterprise Document Management System	TRVEDMS	The TRV Enterprise Document Management System (TRVEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Travel Division (TRV). TRVEDMS uses FileNET software to track documents related to Travel Division business operations, such as purchasing records, IT systems records, equipment records, property records, materials management records and administrative documents.	TRV
154	Document Management	TTA Enterprise Document Management System	TTAEDMS	The TTA Enterprise Document Management System (TTAEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Texas Turnpike Authority (TTA). TTAEDMS uses FileNET software to track documents related to the Central Texas Turnpike Project (CTTP) project. As of 1995, CTTP includes SH 130, SH 45 North, Loop 1 and U.S. 183A.	TTA

ID	Classification	System Name	System Acronym	Description	OPR
155	Document Management	TxDOT Case Management System	TCMS	TxDOT Case Management System (TCMS) is a computer application that allows TxDOT Administration to log and track letters that require response that are received by the Commission, Administration, and selected TxDOT business units.	ADM
156	Document Management	TYL Enterprise Document Management System	TYLEDMS	The TYL Enterprise Document Management System (TYLEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Tyler District (TYL). TYLEDMS uses FileNET Content Services software to track documents related to Tyler District business operations, such as consultant contract and administrative documents.	TYL
157	Document Management	WAC Enterprise Document Management System	WACEDMS	The WAC Enterprise Document Management System (WACEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Waco District (WAC). WACEDMS uses FileNET Content Services software to track documents related to Waco District business operations, such as consultant contract and administrative documents.	WAC
158	Document Management	WebXtra	WebXtra	WebXtra is a software package from Altien Software. It is a thin-client front end for FileNet that provides all the functionality of the thick client. It is based on WebServices. WebXtra is a subsystem of the Enterprise Document Management System (EDMS).	TSD
159	Document Management	WFS Enterprise Document Management System	WFSEDMS	The WFS Enterprise Document Management System (WFSEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Wichita Falls District (WFS). WFSEDMS uses FileNET Content Services software to track documents related to Wichita Falls District business operations, such as consultant contract and administrative documents.	WFS
160	Document Management	YKM Enterprise Document Management System	YKMEDMS	The YKM Enterprise Document Management System (YKMEDMS) is an implementation of the Enterprise Document Management System (EDMS) for the Yoakum District (YKM). YKMEDMS uses FileNET Content Services software to track documents related to Yoakum District business operations, such as consultant contract and administrative documents.	YKM
161	Engineering	Abutment Detailing System	AbutPC	Description not available.	BRG

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
162	Engineering	Analysis of Nonlinear Bi-Axial Beam Columns	BIMPHI	Analyzes nonlinear bi-axial beam columns.	DES
163	Engineering	Analysis of Slender, Nonprismatic and Hollow Concrete Bridge Bents	FPIER	Structural analysis of reinforced concrete frames, up to 2 bays, 3 stories (taking symmetry into account). Used also for analysis of reinforced concrete beam cols (0 bay, 1 story). Static load only. There is an IBM mainframe and a PC version of this application.	BRG
164	Engineering	Analysis of Slender, Nonprismatic and Hollow Concrete Columns	PIER	Analyzes columns.	BRG
165	Engineering	COM624	COM624	The COM624 program was developed at The University of Texas for the Department. The program is designed specifically to analyze vertical structural members embedded in the ground. The structural member is assumed to be linear elastic. P-Y curves are generated within the program based on strength data and soil type input. Input loads are analyzed with the resultant deflections and moments output.	TSD
166	Engineering	Curved Steel Box Beam Analysis	DESCUS2	The computer program DESCUS II will perform the complete analysis of a horizontally curved bridge composed of steel box sections which act either compositely or noncompositely with a concrete deck. The program can use either the Working Stress Design (WSD) method or the Load Factor Design method. Although there are no Load Resistance Factor Design (LRFD) Specifications for curved girder design, DESCUS II has incorporated the LRFD loadings as an option. The bridge may be of arbitrary plan configuration and can be continuous and skewed over supports. The box girders may have a high degree of curvature and may be nonconcentric.	BRG

ID	Classification	System Name	System Acronym	Description	OPR
167	Engineering	Curved Steel I-Beam Analysis	DESCUS1	DESCUS I will perform the complete analysis and partial design of a horizontally curved bridge composed of flanged steel sections which act either compositely or noncompositely with a concrete deck. The program can be run using either Working Stress Design (WSD) method or Load Factor Design (LFD) method. Although there are no LRFD specifications for curved girder design, DESCUS I incorporates the LRFD loadings as an option. The bridge may be of arbitrary plan configuration and can be continuous and skewed over supports. The girders may have high degree of curvature, may be nonconcentric, bifurcated, and may contain hinges.	BRG
168	Engineering	E & Q Sheets	E&Q	Plots Estimates and Quantities Sheets. The data for this application originates in DCIS, is downloaded to a workstation, and plotted.	TSD
169	Engineering	Finite Element Surface Water Modeling System	FESWMS-USGS	FESWMS-2DH is a modular set of computer programs that simulates two- dimensional, depth-integrated, surface-water flows. FESWMS-2DH consists of an input data preparation program (DINMOD(1)), flow model (FLOMOD(1)), simulation output analysis program (ANOMOD(1)), and graphics conversion program (HPPLOT(1)). The programs have been developed to analyze flow at bridge crossings where complicated hydraulic conditions exist, although they may be applied to many types of steady or unsteady flow problems. Shallow rivers, flood plains, estuaries, and coastal seas are examples of surface-water bodies in which flows may be essentially two-dimensional in the horizontal plane.	BRG
170	Engineering	Finite Element Surface Water Modeling System (2-D)	FESWMS-TX	Simulates two-dimensional, depth-integrated, surface-water flows. Contact by email: h2osoft@usgs.gov. Called FESWMS-2DH by USGS	BRG

ID	Classification	System Name	System Acronym	Description	OPR
171	Engineering	Flood Hydrograph Package	HEC_1	RE: University of Kansas PC-TRANS software. The U.S. Army Corps of Engineers HEC-1 model is designed to simulate the surface runoff response of a river basin to precipitation by representing the basin as an interconnected system of hydrologic and hydraulic components, such as surface runoff areas, stream channels, or reservoirs. Each component is represented by a set of parameters specifying its particular characteristics and mathematical relations which describe the physical processes. The model produces stream flow hydrographs at desired locations in the river basin. This package includes the COED editor for preparing input data.	DES
172	Engineering	Hydrologic Modeling System	HEC-HMS	The Hydrologic Modeling System (HEC-HMS) is designed to simulate the precipitation-runoff processes of dendritic watershed systems. It is the successor to HEC-1 and provides a similar variety of options but represents a significant advancement in terms of both computer science and hydrologic engineering. In addition to unit hydrograph and hydrologic routing options, capabilities include a linear quasi-distributed runoff transform (ModClark) for use with gridded precipitation, continuous simulation with either a one-layer or more complex five-layer soil moisture method, and a versatile parameter estimation option.	TSD
173	Engineering	ImageStation Aerotriangulation	ISAT	Image Station Aerotriangulation (ISAT) provides Photogrammetry aerotriangulation functions	TSD

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
174	Engineering	ImageStation Digital Mensuration	ISDM	ImageStation Digital Mensuration (ISDM) provides a powerful multi-image point transfer and measurement environment for a photogrammetric triangulation workflow. The image point coordinates generated by ISDM can be used directly or formatted by the ImageStation Photogrammetric Manager for input into one of the Z/I Imaging-supported, third-party triangulation packages. Flexible, window-based image display of multiple images provides efficient transfer and measurement of points in multi-overlap regions. The use of auto-correlation and on-line integrity checks improves accuracy, increases productivity, and increases reliability. The accessibility of the image enhancement and image manipulation functions greatly assist the operator in performing the mensuration task.	TSD
175	Engineering	ImageStation DTM Collection	ISDC	ImageStation DTM Collection (ISDC) provides an interactive method for collecting digital terrain model (DTM) data, elevation points, and breaklines in stereo models on an ImageStation Z, ImageStation Stereo Softcopy Kit (SSK) or CLIX ImageStation. ISDC can also be used to edit existing DTM data. Real-time dynamic editing allows the user to see what effect the edits have on the contours or TIN surface immediately. ISDC uses a feature table to define geomorphic features and acts as a front-end for ImageStation Match-T, automatic DTM collection.	TSD
176	Engineering	ImageStation Feature Collector	ISFC	ImageStation Feature Collector (ISFC)	TSD
177	Engineering	ImageStation Photogrammetric Manager	ISPM	ImageStation Photogrammetric Manager (ISPM) gives you the photogrammetric data management tools you need, offering entry and edit menus and a standard set of data reports. You can perform bulk input and output of photogrammetric data as well as archive and restore projects. A central photogrammetric data manager and data store can help you set up and manage photogrammetric projects for multiple distributed photogrammetric workstations.	TSD

ID	Classification	System Name	System Acronym	Description	OPR
178	Engineering	ImageStation Stereo Display	ISSD	ImageStation Stereo Display (ISSD) provides the modules to display and manipulate stereo imagery with photogrammetrically accurate 3D cursor tracking, stereo vector superimposition, and image contrast and brightness adjustments within MicroStation. ISSD accepts stereo images that were photogrammetrically oriented for optimum stereo viewing. On Windows NT, no resampling on the images is necessary; the epipolar resampling is done on-the-fly.	TSD
179	Engineering	Intergraph Raster Continuous	IRAS-C	Intergraph Raster Continuous (IRAS-C) is raster image editing/viewing software from Intergraph Corp. for MicroStation.	TSD
180	Engineering	Interplot	IPLOT	Advanced plotting software for MicroStation	TSD
181	Engineering	Laboratory Information Management System	LIMS	The Laboratory Information Management System (LIMS) is a software application that assists laboratory engineers and supervisors to organize laboratory operations in an automated manner that improves the efficiency and productivity of the laboratory. LIMS provides management of sample testing for Pavement Materials Testing laboratories and assists with scheduling, logging, transcribing, reviewing, tracking, maintaining chain of custody, and reporting. (See Calibration Manager (CALIBR) for LIMS calibration management.)	CST
182	Engineering	LIMS Calibration Manager	LIMS-CALIBR	LIMS - Calibration Manager is a subsystem of Laboratory Information Management System (LIMS) which is used for the management of data associated with equipment TxDOT uses for pavement material testing. The application is also used for tracking the status of the equipment's calibration.	CST
183	Engineering	Multiple Segment Section Properties	MSSP	Computes area, center of gravity, & moment of inertia of figs consisting of any combo of circles, ellipses, triangs, rectangs, parabolas, circ segs, figs defnd by coords, & figs of known properties. There is an IBM mainframe and a PC version of this application.	DES
184	Engineering	Nonlinear Beam Column Analysis	BMCOL_76	Analyzes single beam-column members supported by non-linear lateral or axial supports (P-Y curves).	BRG

ID	Classification	System Name	System Acronym	Description	OPR
185	Engineering	Nonlinear Frame Analysis	FRAME_51	Extends the FRAME_11 capabilities for the analysis of frames to include nonlinear effects. Laterally loaded files with nonlinear supports (P-Y curves) may be included as in programs BMCOL76 or GROUP. There is an IBM mainframe and a PC version of this application.	BRG
186	Engineering	NRC Strip Adjustment Program	NRC	Provides a polynomial transformation of strip and block coordinates, determined by triangulation with respect to an arbitrary rectangular coordinate system, to the ground control system.	TSD
187	Engineering	Orthopro	Orthopro	ImageStation OrthoPro is a high-throughput ortho production system that includes ortho project planning, rectification, tone-balancing, mosaicing, and quality assessment. OrthoPro has the ability to automatically input data from different projections and datums and integrate them into one mapping project.	TSD
188	Engineering	Pathfinder Office	PFOffice	Code range and L1 carrier phase post processing software for Trimble GPS data.	TSD
189	Engineering	Permanent Metal Deck Form Analysis	PMDF 2	Evaluates the strength of permanent metal deck forms which are used as stay-in-place forms for concrete bridge decks. The support angles and welds are also evaluated.	DES
190	Engineering	PGSuper	PGSuper	PGSuper (PGSuper) is Open Source software for design and analysis of precast-prestressed girder bridges. This easy-to-use software models simple and continuous span structures and designs in accordance with the AASHTO LRFD Bridge Design Specifications. With its advanced Bridge Information Modeling (BrIM) capabilities, the focus is always on modeling, designing, and analyzing real bridges. PGSuper analyzes and designs precast girders for all critical stages: casting, lifting, hauling, erection, service, and ultimate conditions. The automated designer determines the prestressing, concrete strength, lifting, transportation, and slab haunch requirements. Created by the Washington State Department of Transportation's Bridge and Structures Office, and licensed under the Alternate Route Open Source License, PGSuper is free to be used and modified by all.	BRG
191	Engineering	Plane Frame Analysis Program	FRAME_11	Analyzes any plane frame subjected to complex load and support configurations.	BRG

ID	Classification	System Name	System Acronym	Description	OPR
192	Engineering	Plate Girder Properties	B_33	Description not available.	TSD
193	Engineering	Prestressed Box Girder Straight Strands	DBOXSS	Description not available.	TSD
194	Engineering	Prestressed Concrete Box Beam with Draped Strands Design	DBOXDS	Description not available.	TSD
195	Engineering	Roadway Design System	RDS	The Roadway Design System (RDS) is an integrated program of over 400 computer processes developed to aid engineers in the design of highways and bridges. It utilizes a project database to store terrain, design, and geometry information for a design project. This is presently an AASHTO maintained product. TxDOT maintains an enhanced version. There is an IBM mainframe and a PC version of this application.	TSD
196	Engineering	Roadway Structures Hydraulics	HY_8	HY-8 is the FHWA's standard program for design and analysis of culvert systems. It has several options that account for different culvert shapes, sizes, and materials as well as the ability to set up different inlet and outlet conditions.	TSD
197	Engineering	Specification	SPEC	No description available at this time.	DES
198	Engineering	Structural Analysis and Design	STAAD III	The Structural Analysis and Design System (STAAD III) - Integrated Structural Design System is used for the design and analysis of structural systems. It is used primarily for its 2-D finite-element modeling capabilities. STAAD has an automatic mesh generator to allow complex shapes to be modeled with ease. Licenses through SelectServer.	TSD
199	Engineering	Structural Design of Reinforced Concrete Compression Members	PCA 2	Performs strength design of reinforced columns; used for the design or investigation of reinforced concrete compression members using ultimate strength theory. There is an IBM mainframe and a PC version of this application.	DES
200	Engineering	Structural Evaluation of Existing Bridge Systems	SLBDG	Pre- and post-processor for SLAB49 program. Used for any structure, normal or skewed, with I-beams, plate girders, prestressed beams, pan forms, or continuous slabs.	DES

ID	Classification	System Name	System Acronym	Description	OPR
201	Engineering	Texas Hydraulic System for Culvert Design	THYSYS CULVERT	Texas Hydraulic System for Culvert Design performs highway hydraulics design and analysis for culverts.	BRG
202	Engineering	Texas Hydraulic System for Run-off	THYSYS RUNOFF	Computes runoff using SCS hydrodynamic methods.	BRG
203	Engineering	Texas Hydraulic System for Storm Drain	THYSYS WINSTORM	Storm Drain Analysis/Design metric/English	BRG
204	Engineering	TxDOT Bridge Toolbox Version 1.0	Bridge Toolbox	Bridge Division drafting utilities for MicroStationJ users. (rel-outside)	TSD
205	Engineering	Working Stress Column Analysis	B_32	Bi-axial stress analysis program; locates the neutral axis and computes stresses in any reinforced concrete section subjected to axial loads and/or moments.	BRG
206	Environmental Data	Clean Air Plan System	CAPS	The Clean Air Plan System (CAPS) is an application that records and reports on actions taken by districts, divisions, and offices (DDO's) and individuals participating in TxDOT's Clean Air Plan. The plan includes approximately 30 operational and individual measures that will help TxDOT reduce pollution and improve air quality across the state.	ENV
207	Environmental Data	Environmental Tracking System	ETS	The Environmental Tracking System (ETS) is a database system designed to track environmental processes of projects submitted by TxDOT's 25 districts to the Environmental Affairs Division (ENV). ETS allows district environmental personnel remote access to enter project data and to retrieve information about their projects. ETS allows ENV and the districts to keep track of a project's issues/commitments, comments, surveys, permits requested, public involvement, agency coordination, re-evaluation/revisions and Section 4(f)s from easily navigable windows.	ENV

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
208	Environmental Data	FirstSearch	FirstSearch	FirstSearch is an online search service application provided by a company called OCLC (Online Computer Library Center) which provides access to over sixty indexing, abstracting, and full-text databases covering a wide range of fields. FirstSearch provides seamless electronic access to dozens of databases and more than 10 million full-text and full-image articles. It offers a broad range of databases and full text collections or a select list that fits the needs of users. Underlying FirstSearch is the WorldCat database, the most comprehensive and up-to-date bibliographic resource available. Users can find relevant records quickly and the location of resources—in local collection or at other libraries—with the click of a button. The Environmental Division uses this tool which is managed by The Banks Group contractor.	ENV
209	Environmental Data	Outfall Tracking System	OTS	Outfall Tracking System (OTS) is one portion of an Illicit Discharge Detection and Elimination (IDDE) program to detect and eliminate non-stormwater discharges from entering or leaving TxDOT drainage systems. Stormwater discharge points are known as "outfalls". OTS provides a data management system for IDDE information and an interactive mapping tool to display related geographic information. The geographic information includes base mapping layers and outfall data collected through the Outfall Field Data Collection (OFDC) program. OTS functionality includes the Map Viewer and the Data Manager. Map Viewer is used to look at spatial data, query for specific information, and print maps. The Data Manager gives the user the ability to enter, view, and edit data. It also allows users to create and print reports (e.g., Outfall Datasheet) from data in the database based on specific search criteria. Outfall Field Data Collection (OFDC) program is a VB script program utilizing ArcPad software and GPS data collectors for mobile collection of outfalls' attribute and locational data in TxDOT districts' drainage systems. This outfall data is added to the Outfall Tracking System's database.	ENV
210	Environmental Data	Storm Water Management System	SWMS	The Storm Water Management System (SWMS) is an application area that includes multiple computer applications, including Outflow Tracking System (OTS).	ENV

ID	Classification	System Name	System Acronym	Description	OPR
211	Financial Management	Accounts Payable (LTY Seg 26)	APY	Accounts Payable (APY) - LTY Segment 26 - is a subsystem of the Financial Information Management System (FIMS).	FIN
212	Financial Management	Accounts Receivable (Seg 3, 4, 6, 7, 27)	REC	Accounts Receivable (REC) - Segments 3, 4, 6, 7, 27 - is a subsystem of the Financial Information Management System (FIMS).	FIN
213	Financial Management	Bank Retainage & LTY (Seg 2, 29)	LTY	Bank Retainage & LTY (LTY) - Segments 2, 29 - is a subsystem of the Financial Information Management System (FIMS).	FIN
214	Financial Management	Bond, Investment and Related Activity Accounting Process	BIRA	Bond, Investment and Related Activity (BIRA) Accounting Process is a subsystem of the Financial Information Management System (FIMS). It currently (2006) consists of tracking the bond and investment activity for the Central Texas Turnpike Project (CTTP). The BIRA processes consist of 1) Journal Entries, 2) Accounts Receivable Daily Monitoring, 3) Fund 865 End of Month (EOM) Voucher Reconciliation, 4) CTTP CIP/ROW Reconciliation, 5) Capital Contributions Reconciliation, 6) Enterprise Fund Year End and 7) Daily, Monthly, Yearly Reporting.	FIN
215	Financial Management	Budget Information System	BIS	The Budget Information System (BIS) is a replacement for the Budget Preparation System and Budget Monitoring System. Subsystems include: Budget Preparation (BUDP) Budget Monitoring (BUDM) USAS Reports (USAS_RPTS) See COGNOS	FIN
216	Financial Management	Budget Payroll Interface System	BUD	Budget Payroll Interface System (BUD) is a computer application that extracts Salary & Labor Payroll System (PAY) information to be passed to the Budget Information System (BIS).	FIN
217	Financial Management	Buildings & Land (Asset Seg 12)	BAL	Buildings & Land (BAL) - Asset Segment 12 - is a subsystem of the Financial Information Management System (FIMS).	FIN
218	Financial Management	Capital Equipment Assets (LTY Seg 10)	CEA	Capital Equipment Assets (CEA) - LTY Segment 10 - is a subsystem of the Financial Information Management System (FIMS).	FIN
219	Financial Management	Cash (Seg 1) & Revenues (Seg 60-62)	CSH	Cash (Segment 1) & Revenues (Segments 60-62) (CSH) - is a subsystem of the Financial Information Management System (FIMS).	FIN

ID	Classification	System Name	System Acronym	Description	OPR
220	Financial Management	Clearing Expense (Seg 70) & JV 51	CLR	Clearing Expense (CLR) - Segment 70 & JV 51 - is a subsystem of the Financial Information Management System (FIMS).	FIN
221	Financial Management	Combined Expense Reports (Seg 9, 70-79)	EXP	Combined Expense Reports (EXP) - Segments 9, 70-79 - is a subsystem of the Financial Information Management System (FIMS).	FIN
222	Financial Management	Construction (Seg 76 & Seg 77)	CST	Construction (CST) - Segment 76 & Segment 77 - is a subsystem of the Financial Information Management System (FIMS).	FIN
223	Financial Management	Electronic Grants	eGrants	Electronic Grants (eGrants) is a computer application that uses a commercial off the shelf (COTS) package IntelliGrants from Agate Software to process and store all transactions related to processing and accounting for federal/state grants available through TxDOT. This is basically a "cradle to grave" grants system that starts with the Request for Proposal and carries through project closeout.	TRF
224	Financial Management	Encumbrances (Seg 41)	ENC	Encumbrances (ENC) - Segment 41 - is a subsystem of the Financial Information Management System (FIMS).	FIN
225	Financial Management	Federal Obligation System	FOS	The Federal Obligation System (FOS) is an application that manages the instruments used to obligate federal funds (Federal Project Authorization and Agreements). TxDOT obligates approximately $2 billion annually (2003). Information is received from the Design and Construction Information System (DCIS) and updated by the Finance Division, Traffic Operations Division, and Bridge Division. Information is then transmitted to FHWA's Fiscal Management Information System (FMIS). Information is received from FMIS with updated fund information for verification and reconciliation of fund status. Renamed from Federal Project Authorization and Agreements System (FPAA).	FIN
226	Financial Management	FIMS Cognos Miscellaneous Contracts	FIMS Cognos Misc Contracts	FIMS Cognos Miscellaneous Contracts is a computer application using COGNOS software to create reports from a replicated copy of Financial Information Management System (FIMS) Segment 41 file FIMS-ENC41(file# 53) (Miscellaneous Contracts).	FIN

ID	Classification	System Name	System Acronym	Description	OPR
227	Financial Management	Financial Information Management System	FIMS	The Financial Information Management System (FIMS) records all of TxDOT's accounting events. It is the basis for all official departmental financial information. It also sends data to other subsystems when that information is needed to update related files. Subsystems include: Accounts Payable (APY), Buildings & Land (BAL), Capital Equipment Assets (CEA), Clearing Expense (CLR), Cash & Revenues (CSH), Construction (CST), Payroll & Misc. Deductions (DED), Encumbrances (ENC), Fund Equity (EQT), Combined Expense Reports (EXP), Functional Expense (FUN), General Ledger (GEN), Bank Retainage & LTY (LTY), Office of Traffic Safety (OTX), Project Maintenance (PMT), Public Transportation (PUB), Accounts Receivable (REC), Research Expenditures (RES), Routine Maintenance (RMT), Vouchers Payable (VPP), Warehouse Stock Assets (WHS).	FIN
228	Financial Management	Fuel Card System	FCS	Fuel Card System (FCS) is a computer application that receives and stores fuel credit card transaction information from TransMontaigne (TMG) and creates voucher log entries for FIMS.	FIN
229	Financial Management	Functional Expense (Seg 71)	FUN	Functional Expense (FUN) - Segment 71 - is a subsystem of the Financial Information Management System (FIMS).	FIN
230	Financial Management	Fund Equity (Seg 45-47, 49-50)	EQT	Fund Equity (EQT) - Segments 45-47, 49-50 - is a subsystem of the Financial Information Management System (FIMS).	FIN
231	Financial Management	General Ledger (Seg 99)	GEN	General Ledger (GEN) - Segment 99 - is a subsystem of the Financial Information Management System (FIMS).	FIN
232	Financial Management	Office of Traffic Safety (Seg 79-OTS)	OTX	Office of Traffic Safety (OTX) - Segment 79-ots - is a subsystem of the Financial Information Management System (FIMS).	FIN
233	Financial Management	Payment Card System	PCS	Payment Card System (PCS) manages the credit cards assigned to TxDOT employees used for procuring a wide variety of items. It manages the approval process before the item is purchased all the way to sending the transactions to the FIMS Front End, and receiving feedback. PCS must match transactions received from the card vendor with the items approved for purchase. PCS also prepares voucher documentation to be sent to FileNet.	FIN

ID	Classification	System Name	System Acronym	Description	OPR
234	Financial Management	Payroll & Misc. Deductions (Seg 30, 31)	DED	Payroll & Misc. Deductions (DED) - Segments 30, 31 - is a subsystem of the Financial Information Management System (FIMS).	FIN
235	Financial Management	Plans, Specifications and Estimates Tracking System	PSETS	Plans, Specifications and Estimates (PS&E) Tracking System (PSETS) is a computer application to track Plans, Specifications and Estimates.	FIN
236	Financial Management	Project Maintenance (Seg 77 & Seg 76)	PMT	Project Maintenance (PMT) - Segment 77 w/Segment 76) - is a subsystem of the Financial Information Management System (FIMS).	FIN
237	Financial Management	Public Transportation (Seg 74)	PUB	Public Transportation (PUB) - Segment 74 - is a subsystem of the Financial Information Management System (FIMS).	FIN
238	Financial Management	Research Expenditures (Seg 72)	RES	Research Expenditures (RES) - Segment 72 - is a subsystem of the Financial Information Management System (FIMS).	FIN
239	Financial Management	Revenue Log	DLOG	The Revenue Log (DLOG) is a web-based system used by all districts, divisions, and offices to enter miscellaneous deposits received. Sales transactions also calculate taxes and optionally create an invoice.	FIN
240	Financial Management	Routine Maintenance (Seg 78)	RMT	Routine Maintenance (RMT) - Segment 78 - is a subsystem of the Financial Information Management System (FIMS).	FIN
241	Financial Management	SiteManager Financial Interface	SMFI	SiteManager Financial Interface passes data from the client/server component to the mainframe to initiate financial transactions in CIS and USAS.	CST
242	Financial Management	State Property Accounting System	SPA	The State Property Accounting System (SPA) is a TxDOT application that prepares data for export to the Comptroller's State Property Accounting System (SPA).	GSD
243	Financial Management	Toll Management System	TMS	The Toll Management System (TMS) is an application used to manage tolls on the Central Texas Turnpike Project (CTTP).	TTA
244	Financial Management	USAS Reports	USAS_RPTS	USAS Reports (USAS_RPTS) is a computer application using COGNOS that creates reports on data sent to the Uniform Statewide Accounting System (USAS) at the Comptroller's Office. It is a subsystem of the Budget Information System (BIS).	FIN

ID	Classification	System Name	System Acronym	Description	OPR
245	Financial Management	Voucher Log	VLOG	Voucher Log (VLOG) is an application that stores the vouchers that are processed by the Finance Division. It has reporting for statistical calculations and its voucher ranges are associated with the reason a voucher was used.	FIN
246	Financial Management	Vouchers Payable (LTY Seg 25)	VPP	Vouchers Payable (VPP) - Lty Segment 25 - is a subsystem of the Financial Information Management System (FIMS).	FIN
247	Financial Management	Warehouse Stock Assets (LTY Seg 9)	WHS	Warehouse Stock Assets (WHS) - Lty Segment 9 - is a subsystem of the Financial Information Management System (FIMS).	FIN
248	GIS	Abilene GIS	ABL_GIS	Description: This is a GIS Geodatabase project. Abilene District GIS - Customized Spatial Data Server	ABL
249	GIS	Construction GIS	CST GIS	Construction GIS (CST GIS) - Customized Spatial Data Server. This is a GIS Geodatabase project for the Construction Division (CST).	CST
250	GIS	Environmental GIS	ENV_GIS	Environmental GIS (ENV_GIS) This is a GIS Geodatabase project. Environmental GIS - Customized Spatial Data Server for the Environmental Affairs Division (ENV).	ENV
251	GIS	FlexLM	FlexLM	License management software for GEOPAK 2001 Suite and ESRI products	TSD
252	GIS	GIS Infrastructure	GIS_Infrastructure	GIS Infrastructure (GIS_Infrastructure) establishes a department data, software, and hardware strategy for using Geographic Information System (GIS) technology, processes, and procedures to store, map, manage and analyze data spatially (in relation to location on the earth or other features). Also see Main Street Texas (MST).	TSD

ID	Classification	System Name	System Acronym	Description	OPR
253	GIS	Illumination Desktop	ILD	Illumination Desktop (ILD) is a GIS application developed with TSD assistance. It runs in ARCGIS. It is an extension of the Illumination Collection process and allows users to diagram circuits and add additional data to each record. The data forms an illumination inventory that can be leveraged in other applications such as a pubic facing application to report burned out lights or downed poles. Accounting employees may use electric service data to compare actual meter number to bills for that service. Data may be made available on MainStreet Texas or Bing Maps. Finally, data can be downloaded to mobile devices to provide employees in the field immediate access to characteristics of each light to determine if they have the parts on the truck to repair the light in question. The application is awaiting final testing and punch list before going to production. The application may easily be adopted by other DDORs.	ABL
254	GIS	Load Restricted Bridge Map	LRBM	Load Restricted Bridge Map is a map displayed on the TxDOT Internet site showing publicly owned bridges, both those maintained by the Texas Department of Transportation and those maintained by local government entities, that are closed or required to be posted with weight restrictions. This interactive map allows you to magnify areas of interest and identify the locations of load restricted or closed bridges. In the case of load restricted bridges, the maximum safe weight limit is available. This information may be used as a tool to assist motorists in avoiding load restricted or closed bridges. Bridges that are classified as land-locked are also identified on the maps. Land-locked bridges are those that limit the movement of legal loads into an area due to closure or weight restrictions. In making the determination whether an area was land-locked, there could be no other available route into the area capable of supporting legal loads. It is important to note that routes were only considered if they were identified as public roads on maps maintained by TxDOT.	BRG

ID	Classification	System Name	System Acronym	Description	OPR
255	GIS	Main Street Texas	MST	Main Street Texas (MST) is a web-browser application that allows data from across TxDOT to be brought to a common interface for querying, viewing, or analysis. MST relies on data standards as set forth under GIS Architecture and Infrastructure Project (GAIP). Such standards allow data stored in various databases (i.e., ADABAS, VSAM, RDBMS) and/or in various formats (i.e., tables, forms, maps, vector, raster) to be utilized together even though location is the only common factor.	TSD
256	GIS	Official Travel Map of Texas	Travel Map	Travel Map is an application developed using ESRI Arc Map and some custom build add-ons that produce a digital version of the Official Travel Map of Texas.	TRV
257	GIS	Recovery Act Data System - TxDOT	RADS-TxDOT	Recovery Act Data System - TxDOT (RADS-TxDOT) is a web application with ArcGIS integration for ARRA related data submittal, reports, analysis and maps. The American Recovery and Reinvestment Act of 2009 (ARRA/Recovery Act), provides the State Departments of Transportation and Federal Lands Agencies with funds for highway infrastructure investment. With these funds also comes an increased level of data reporting with the stated goal of improving transparency and accountability at all levels of government. RADS will be web based with GIS Spatial viewer of state collected data on construction projects containing ARRA funds. Data from RADS TxDOT will be submitted to the FHWA RADS.	CST
258	GIS	Recycling GIS Internet Site	RECYCLE	The Recycling GIS Website provides the ability to browse, query, and print data about recycled material generators (a company/facility that generates a by-product that can be used as a replacement for or an additive to roadway construction materials) and processors (a company/facility that can process a generator's by-product materials to meet TxDOT roadway construction specifications). Queries can be made by geographic location (i.e., zip codes, cities) or by proximity (within a user-defined distance of a city, zip code, or other feature).	GSD

ID	Classification	System Name	System Acronym	Description	OPR
259	GIS	Right of Way Map	ROW Map	GIS enabled application to display Right of Way maps on the internet. The data is organized by TxDOT route and Control Section. The maps are stored as PDF and TIF files which may be downloaded to the Web user. The first production version is limited to the San Antonio District which initiated the project. As each District gets its maps scanned they will be added to the Internet application.	ROW
260	GIS	Survey Control	Survey Control	Survey Control is a GIS enabled application that will provide information about survey control monuments on the intranet.	TSD
261	GIS	Traffic Operations GIS	TRF GIS	This is a GIS Geodatabase project. Statewide Environmental GIS - Customized Spatial Data Server	TRF
262	GIS	Virtual Earth DCIS	VE_DCIS	DCIS application on mainframe allows user to access Virtual Earth Web Service thru URL Function Key on DCIS Data Entry page. User selects 2 points on TxDOT Route on Virtual Earth imagery. The points are converted to BEG_LAT/ BEG_LON and END_LAT / END_LON and stored in GIS_APPS Database's DCIS_LL table along with CSJ number, AC_ID, Create Date, and FLAG if LAT/LON is stored on Mainframe (yes =1, no=0 default).	TSD
263	Highway Data	City Street Inventory System	CSI	The City Street Inventory System (CSI) is an inventory of the city street mileage by surface type for cities of population of 5,000 and over.	TPP

ID	Classification	System Name	System Acronym	Description	OPR
264	Highway Data	Highway Condition Reporting System	HCRS	The Highway Conditions Reporting System (HCRS) is composed of a road condition data entry Intranet web application available from Crossroads at http://crossroads/apps/ihcr/ and a road conditions graphical display Internet web site available from the TxDOT Expressway home page at http://www.dot.state.tx.us/hcr/main.htm . Additional functions of the system provide for data entry of flora conditions (wildflowers and fall foliage) from the road condition data entry web application and display of those conditions on a flora conditions display web site at http://www.dot.state.tx.us/hcr/main.htm Each GIS graphical display site is complemented with an associated text-only version reporting the same conditions. Condition information includes reference marker and displacement location information so that conditions can be stored as GIS data to be displayed graphically overlaying the TxDOT enterprise GIS centerline route system. HCRS replaced the HCR mainframe application and its associated non-GIS Internet web site display and text report components.	TRV
265	Highway Data	Highway Performance Monitoring System	HPMS	The Highway Performance Monitoring System (HPMS) is a Federal Highway Administration (FHWA) System used to determine statewide rehabilitation, reconstruction, and construction requirements for the department. The scope of HPMS is to provide a complete inventory of all public road mileage, classified by system, jurisdiction and selected operational characteristics.	TPP
266	Highway Data	Illumination Collection	ILC	Illumination Collection (ILC) is a GPS mobile data collection program developed in coordination with TSD. It is designed to collect features of roadway. Features collected include poles, mast arms and characteristics, electric services, ground boxes and circuits. The program runs on Windows Mobile 5 or 6 devices and has been tested on Trimble Junos, GeoXHs, GeoXTs, and Nomads. Data is ported to a District GeoDatabase. The data is then manipulated with Illumination Desktop. The application is awaiting final testing and punch list before going to production. The application may easily be adopted by other DDORs.	ABL

ID	Classification	System Name	System Acronym	Description	OPR
267	Highway Data	Long Term Pavement Performance	LTPP	The Long Term Pavement Performance (LTPP) traffic quality control (QC) software is designed to load, process, and produce reports on monitored traffic data submitted to the LTPP programs. LTPP is an FHWA sponsored effort.	CST
268	Highway Data	Milepoint Equivalency System	MPE	The Milepoint Equivalency System (MPE) provides automated update of county-control-section-milepoints in any data set that is tied to this reference base.	TPP
269	Highway Data	Pavement Condition Data Collection	PCDC	No description available.	CST
270	Highway Data	Pavement Management Information System	PMIS	The Pavement Management Information System (PMIS) automates highway network-level activities of the Department's overall pavement management system and addresses pavement-related functions including planning, rehabilitation, reconstruction, and major maintenance of the state's pavements.	CST
271	Highway Data	Pavement Management Plan	PMP	Pavement Management Plan (PMP) tracks pavement projects in the districts.	ADM
272	Highway Data	Pedestrian Accessibility Inventory	PAI	Pedestrian Accessibility Inventory (PAI) is an inventory of TxDOT routes, intersections with county roads and city streets, and Americans with Disability Act (ADA) compliance with regulations requiring wheel chair ramps and other accessibility aids.	DES
273	Highway Data	Railroad Grade Crossing System	RRX	The Railroad Grade Crossing System (RRX) contains information on each crossing on the state highway system, city streets and county roads. There is one record for each crossing location. The data consists of location, railroad company, number of trains, number of tracks, train speed, average daily traffic, type of protection at the crossings, etc. The file is updated on a quarterly basis and contains both "on" and "off" system data on a single master file. To be replaced by TxRAIL.	TPP

ID	Classification	System Name	System Acronym	Description	OPR
274	Highway Data	Roadway Information System	RIS	The Roadway Information System (RIS) is a reporting application using data files from several other applications. Data comes from files in Road Inventory System (RIA), Railroad Grade Crossing System (RRX), Bridge Inspection (BDG), Milepoint Equivalency System (MPE), and Milepoint/Reference Marker Equivalency System (PPE). This application should not be confused with Roadway Information System (RIA).	TPP
275	Highway Data	Roadway Inventory System	RIA	The Roadway Inventory System (RIA) is a reporting application using data files from several other applications. Data comes from files in Road Inventory System (RIA), Railroad Grade Crossing System (RRX), Bridge Inspection (BDG), Milepoint Equivalency System (MPE), and Milepoint/Reference Marker Equivalency System (PPE). This application should not be confused with Road Information System (RIS).	TPP
276	Highway Data	Texas Reference Marker System	TRM	The Texas Reference Marker System (TRM) implements a single location reference key statewide and continued monitoring and coordination of roadway inventory data.	TPP
277	Human Resources	Assistant	ASST	Assistant (ASST) is a computer application that is used by the Human Resources Division (HRD) of TxDOT for the management of required testing for applicants and employees. Assistant uses the software product Assistant PRO from Compliance Information Systems (CIS), which provides a link to the eVeriTesT NETWORK.	HRD
278	Human Resources	Comprehensive Occupational Safety Management Optimized System	COSMOS	The Comprehensive Occupational Safety Management Optimized System (COSMOS) supports the business functions of the Safety, Liability, and Tort sections of the Occupational Safety Division (OCC). It is used to manage insurance for vehicle and tort liabilities, worker's compensation and risk management (safety). COSMOS tracks claims, produces reports, letters, payment vouchers, contracts, releases, and spreadsheets. It has an integrated FileNet link for imaging, indexing, and retrieving documents.	OCC
279	Human Resources	ELP Training Manager	ELP-TM	The El Paso Training Manager (ELP-TM) System is an application developed by El Paso that streamlines the process for the yearly TQD collection of training needs.	ELP

ID	Classification	System Name	System Acronym	Description	OPR
280	Human Resources	Employee Timesheet Application	ETA	Employee Timesheet Application (ETA) is a computer application that tracks employee time worked and task account codes. It is used for employee data entry and management.	FIN
281	Human Resources	Full-Time Equivalent System	FTE	The Full-Time Equivalent System (FTE) provides support for tracking, budgeting and planning of personnel to perform work.	FIN
282	Human Resources	HR Online	HR_Online	Human Resources Online (HR Online) is an application that uses PeopleSoft software to manage TxDOT employee information. PeopleSoft Human Resources for Public Sector is an integrated suite of human resource management applications. Four PeopleSoft modules and associated sub-modules are implemented at TxDOT: Administer Training, Recruit Workforce, and portions of Human Resources Management. Payroll Administration includes time reporting, payroll calculation, tax computations, payroll reporting, and tax reporting. Time and Labor provides a single, consistent, auditable repository of all time-related information. This module helps define precise information to report employees' time, summarization for update to payroll, and procedures to administer overtime, benefits entitlements, and holidays. Benefits Administration automates benefits administration flexible and non-flex programs. It includes organizationally defined eligibility and enrollment rules, calculation of flexible credits, automated open enrollment processing and event maintenance and concurrent plan year processing. Human Resources Management handles personnel and base benefits processing including personnel administration, recruitment, position management, salary administration, training and development, health and safety, career and succession planning, competency management, and variable compensation. Formerly called TxDOT Enterprise Resource Management System (TERMS). See PeopleSoft	HRD
283	Human Resources	HRD Training	HRD_TRNG	HRD Training (HRD_TRNG) is an application that monitors training progress. This is a database/ASP application that resides on Crossroads.	HRD

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
284	Human Resources	Human Resource Management System	HRMS	The Human Resources Management System (HRMS) is an inquiry/update system for Human Resources information. The update subsystem consists of four steps: on-line data entry, batch edits, HRIS creates, and updates. This system provides inquiry and update to the HRMS-master file and the personnel-profile file. The Human Resources information includes personnel data, insurance, vacation/sick leave, and payroll deductions. This system also provides the Comptroller with HRIS records via tape. The Human Resources Division (HRD) and the Finance Division (FIN) are co-offices of primary responsibility (OPR's). Subsystems (or related systems) include: Career Planning Profile System (CPP), Group Insurance System (INS), Job Applicant Tracking System (JAT), Personnel System (PER), and Vacation/Sick Leave System (VSL). HRMS is an umbrella term inclusive of many systems including USPS. Refer to USPS.	HRD
285	Human Resources	Inspector Development Program	IDP	Inspector Development Program (IDP) Tracking and Reporting System database. The IDP is a structured process of developing department inspectors through on-the-job training and training classes.	CST
286	Human Resources	Learning Content Management System	LCMS	The i-Way is a Learning Content Management System (LCMS) that allows TxDOT employees to easily search for, access and share online learning, including online training courses, manuals, documents, newsletters and other types of written and electronic resources TxDOT employees need on the job.	HRD
287	Human Resources	Medical Leave Tracking System	MLTS	Medical Leave Tracking System (MLTS) is an application utilizing web to automate the process of tracking medical leave to include Family Medical Leave (FML), Extended Sick Leave (ESL), Sick Leave Pool (SLP), Leave Without Pay (LWOP), and Light Duty status information. Privacy information is required to automate the mainframe batch process and the notification letter to employee.	ABL
288	Human Resources	Salary & Labor Distribution System	SLD	The Salary & Labor Distribution System (SLD) is responsible for assimilating and reconciling employee time sheet records. It also reconciles with the Equipment Operating System (EOS) repair work order charges.	FIN

ID	Classification	System Name	System Acronym	Description	OPR
289	Human Resources	Salary & Labor Payroll	PAY	The Salary & Labor Payroll System (PAY) creates TxDOT's payroll and the tapes, reports, and error messages that are needed to process, monitor, and audit payroll.	FIN
290	Human Resources	State OJT	STATE OJT	State OJT (STATE OJT) is a business computer application that tracks the state On-the-Job Training Program for the American Recovery and Reinvestment Act of 2009. It tracks contractor and trainee information.	OCR
291	Human Resources	Timesheet	Timesheet	Timesheet is a computer application, using Microsoft Excel, that helps automate the process of entering data based on end-user input. To be replaced by Electronic Timesheet Application (ETA) Sept. 1, 2009	FTW
292	Human Resources	Training Manager	TRAIN_MGR	The Training Manager (TRAIN_MGR) System is an application, initially developed by El Paso, that streamlines the process for the yearly TQD collection of training needs.	HRD
293	Human Resources	TxDOT Course Calendar	COR-CAL	A web hosted TxDOT course listings sorted by alphabetically, chronologically, and by district. TxDOT Course Calendar is accessible from Crossroads.	HRD
294	Human Resources	TxDOT Course Catalog	COR-CAT	The TxDOT training catalog is a web site with information about training courses. TxDOT Course Catalog is accessible from Crossroads.	HRD
295	Human Resources	Vacation Sick Leave System	VSL	Vacation/Sick Leave System (VSL) is used to update vacation, sick leave, other leave, and compensatory time for Department employees (subsystem of HRIS).	HRD
296	Human Resources	WFS Interview System	WFS-IS	WFS Interview System (WFS-IS) is a workgroup application used in Wichita Falls to assist in the hiring process. The application uses the WFS workgroup Human Resources Database (HRD).	WFS
297	Information Dissemination	TxDOT Expressway	TxDOT Expressway	The official Texas Department of Transportation web site opened July 14, 1995. The web site provides a wide variety of information about all aspects of planning, providing, and maintaining transportation and regulatory systems. Content of the web site is overseen by the TxDOT Public Information Office and the Internet/Intranet Services branch of the Information Systems Division. Go to www.dot.state.tx.us for more details. The current web site has evolved since originally launched July 14, 1995.	TSD

ID	Classification	System Name	System Acronym	Description	OPR
298	Information Dissemination	TxDOT Tracker	TxDOT Tracker	TxDOT Tracker (TxDOT Tracker) is a computer application for performance tracking data. Initial data describes on-time and on-budget status of construction projects.	ADM
299	Information Dissemination	Unified Transportation Plan	UTP	Unified Transportation Plan (UTP) is used to show project locations, status, contract amounts, other financial items, etc.	FIN
300	Inventory Management	Automated Inventory Program	AIP	Automated Inventory Program (AIP) is a computer application that supports the use of bar code readers to manage inventory. The application is being developed by and for Abilene for MES inventory.	ABL
301	Inventory Management	Bar Code Inventory System	BCIS	Bar Code Inventory System (BCIS) is a computer application that supports the use of bar code readers to manage inventory. Based on the Advanced Inventory Program (AIP) developed by and for Abilene for MES inventory.	GSD
302	Inventory Management	Data and Application Inventory	DAIS	Data and Application Inventory System (DAIS) is the replacement for Data Inventory. DAIS is intended for information technology and business professionals within TxDOT who research, update or analyze data and applications owned by TxDOT. http://txdot-webdev/apps/dais/TXDOTHome.aspx http://localhost:3503/DAIS/TXDOTHome.aspx	TSD
303	Inventory Management	Equipment Operations System	EOS	The Equipment Operations System (EOS) maintains an inventory and expense record for all TxDOT's major highway equipment and distributes total cost to the accounts and projects on which the equipment is used. Reports from EOS are also used for property management.	GSD
304	Inventory Management	Heavy Equipment Reservations	HER	Heavy Equipment Reservations (HER) is a computer application that maintains and displays equipment reservations for the Abilene District.	ABL

ID	Classification	System Name	System Acronym	Description	OPR
305	Inventory Management	Literature Inventory Tracking System	LITS	Literature Inventory Tracking System (LITS) is an inventory management and reporting subsystem of the Travel Information System (TIS). Nightly, LITS receives inventory transactions created from the records processed in TIS. Each night, MSMS transactions for the TRV warehouse are extracted from an MSMS backend file and posted to the LITS database. Users also enter a small volume of inventory transactions into LITS. Inventory is tracked for the warehouse of the distribution contract vendor that fulfills literature requests processed by TIS. Inventory is also tracked for the Travel Division (TRV) warehouse and the Travel Information Center (TIC) warehouses. Inventory reports produced by LITS are used to verify inventory and determine when to order new publication stock. Also refer to the Travel Information System (TIS) computer application.	TRV
306	Inventory Management	Material and Supply Management System	MSMS	The Material and Supply Management System (MSMS) supports inventory management and purchasing of stock, parts, and supplies. MSMS includes inventory and accounting of all items purchased and used by the districts and maintenance section warehouses. It includes inventory management, forecasting, and purchasing.	GSD
307	Inventory Management	Minor Equipment System	MES	The Minor Equipment System (MES) provides information about all aspects of minor equipment from requisition, receipt, assignment, payment, transfer, and retirement. Minor equipment is defined as any non-consumable implement, tool, or device. This system is similar to EOS in that it maintains an inventory of equipment, but MES deals only with minor equipment owned by TxDOT.	GSD
308	Inventory Management	Planning and Justification System	PJS	The Planning and Justification System (PJS) is a catalog of hardware and software commodities approved for use within the TxDOT IT environment. PJS interfaces directly with APS to manage the approval of commodities prior to purchase.	TSD
309	Inventory Management	Systems Inventory System	SIS	Systems Inventory System (SIS) is a business computer application that manages the inventory of server hardware and software and their relationships to business applications and databases.	TSD

ID	Classification	System Name	System Acronym	Description	OPR
310	ITS	Advanced Traffic Management System	ATMS	The Advanced Traffic Management System (ATMS) provides the ability to manage traffic through the use of cameras and automated signs.	TRF
311	ITS	Intelligent Transportation System	ITS	Intelligent Transportation System (ITS) is an integrated system that uses video and other electronic detection devices to monitor traffic flows on major freeways. When problems (called "incidents") are detected, operators may use remote controls to redirect traffic, inform motorists (through the use of dynamic message signs) and notify emergency response services as appropriate.	TRF
312	ITS	Lonestar	Lonestar	Lonestar is the Statewide Advanced Traffic Management System (ATMS) developed by Southwest Research Institute (SwRI).	TRF
313	ITS	Sign Computer Aided Drafting	SignCAD	Traffic sign generator. Paul Effrem "pceffrem@pro-ns.net"	TRF
314	ITS	Signs Detailing Utility	SignsPC	Small fixed-size sign and text dimension placement utility for both English and Metric drawings.	TRF
315	Maintenance Data	Maintenance Management Information System	MMIS	The Maintenance Management Information System (MMIS) provides statistics on roadway maintenance. It provides simplified data recording, input and retrieval, produces data on workload and operational planning efforts, and provides a tool to analyze maintenance activities, improving production and efficiency.	MNT
316	Maintenance Data	Maintenance Management System	MMS	Maintenance Management System (MMS) is a Commercial off the Shelf software package from AgileAssets Inc. that automates the six phases of the maintenance management cycle. The Compass Project will implement MMS as a replacement to the Maintenance Management Information System (MMIS).	MNT
317	Maintenance Data	Statewide One Year Plan	STW_OYP	Statewide One Year Plan (STW_OYP) report is a computer application utilizing data from Maintenance Management Information System (MMIS).	MNT

ID	Classification	System Name	System Acronym	Description	OPR
318	Miscellaneous	Arrival System	ARRIVAL	The Arrival System (ARRIVAL) is a software package from Pitney Bowes. It automates the tracking of mail and packages after they reach the mail center (Riverside and Main Office). ARRIVAL ensures full accountability for critical parcels and documents until they are delivered to the addressees. It simplifies delivery logging, reporting and prioritization for mail-center staff, and it gives addressees a variety of options for checking delivery status and location.	GSD
319	Miscellaneous	Badge Access System	BADGE	The Badge Access System (BADGE) is a computer application using a software package from SoftwareHouse called CCURE 800/8000, Version 9.0, to control physical access to TxDOT HQ facilities. BADGE uses a Progress database.	MNT
320	Miscellaneous	Bug Tracker	BT	Bug Tracker (BT) is a free, web based, open-source application that is used to track issues and features being worked on. It is used for PONTIS, EPRS, and PGSUPER. http://ifdefined.com/bugtrackernet.html	TSD
321	Miscellaneous	Call Accounting System	CAS	The Call Accounting System (CAS) is an application that uses Quantum (Veramark) Call-Master Telemanagement Series software (VeraSmart) for the storage, retrieval, and reporting of call detail records (CDR) that go in and out of TxDOT telephone systems. It takes both outgoing and incoming CDR records generated by a telephone system and adds the destination city and state, costs and user's name and department. This processed call record is stored in a database (Endeavor. Database CALLMASTER will also be used through 2007.) and used to generate a variety of detail and summary reports on telephone usage and traffic analysis.	TSD
322	Miscellaneous	Center to Center Austin	C2C_AUS	Center to Center Austin (C2C_AUS) - no description available.	TRF
323	Miscellaneous	Closed Circuit TV	CCTV	Closed Circuit TV (CCTV) - no description available.	TRF

ID	Classification	System Name	System Acronym	Description	OPR
324	Miscellaneous	Data Production Management System	DPMS	The Data Production Management System (DPMS) is an application using Prism Enterprise software from Prism, USA. It provides the capability to manage electronic publishing, reprographics and print shop operation functions as part of an integrated process workflow. Management functions to be supported include the following: definitions of standard services (e.g., scanning, ripping, trapping, proofing, and direct to plate), estimation of time and resources needed to service user requests, ability to determine status of a particular job, and collection of data for capacity planning and personnel performance management. The DPMS database will collect the following data types: Equipment: Film processor, plate processor, Heidelberg presses, Oce`, DocuTech, MiniCom Web Press, Multi-lith presses with T-heads, AB Dick press with attachment, Materials:\tPaper, inks, plates, film, imagesetter film, binding materials, binders, shrink wrap, padding glue, stapling wire, shipping containers, boxes, envelopes, skids, Personnel: Name, labor rate, employee number, organization ID, manager name, location, phone, job title, current status, work schedule,	GSD
325	Miscellaneous	Estimator	Estimator	Estimator is a stand-alone TRNSPORT application from AASHTO that can import data from Bid Analysis Management System/Decision Support System (BAMS/DSS or BAMS_DSS).	CST
326	Miscellaneous	Forms Processing System	FPS	Forms Processing System (FPS) is a subsystem of Electronic Forms (eFORMS). The application is designed to facilitate the completion of forms using existing data, and submit update transactions to the mainframe.	GSD

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
327	Miscellaneous	Integrated Facilities Management System	IFMS	Integrated Facilities Management System (IFMS) is a computer application that is used to manage the maintenance of TxDOT property and buildings. It is a comprehensive system that intelligently displays facility management information using management style dashboards, interactive searches using map images, and intuitive document and data searching. The system integrates asset management, facility space utilization, asbestos abatement and biennial project requests. The user can maintain and view facility data, perform intelligent searching for data and business documents, and create downloadable custom reports. Digital media integration includes panoramas, aerial maps, facility location maps, building elevations, perspectives and system defects.	MNT
328	Miscellaneous	Laredo Toll System	LRDTOLL	Laredo Toll System (LRDTOLL) - No description available.	LRD
329	Miscellaneous	MCD Knowledge Base	MCDKB	The MCD Knowledge Base (MCDKB) is an application that uses the phpBB software package from phpbb. phpBB is an Open Source bulletin board package that serves as a searchable, customizable, on-line repository for information which is useful to MCD employees. Basically this application is an on-line user's manual for various MCD duties and functions.	MCD
330	Miscellaneous	Microstation V8 Fundamentals Online Edition	ProSoft	MicroStation web-based training	TSD
331	Miscellaneous	Network File System	NFS	The Network File System (NFS) is a client/server application that lets a computer user view and optionally store and update file on a remote computer as though they were on the user's own computer. The user's system needs to have an NFS client and the other computer needs the NFS server. Both of them require that you also have TCP/IP installed since the NFS server and client use TCP/IP as the program that sends the files and updates back and forth.	TSD
332	Miscellaneous	One Year Plan	OYP	One Year Plan report is an Abilene computer application utilizing data from Maintenance Management Information System (MMIS). Planned replacement by the Statewide One Year Plan (STW_OYP).	ABL

ID	Classification	System Name	System Acronym	Description	OPR
333	Miscellaneous	Prism Enterprise	Prism Enterprise	Print shop management application. See Data Production Management System (DPMS)	GSD
334	Miscellaneous	Requisite Pro	Requisite Pro	Vended package for managing Rational use cases.	TSD
335	Miscellaneous	Safety, Liability, and Tort System	SALITO	The SAfety, LIability, and TOrt system (SALITO) supports the business functions of the Safety, Liability, and Tort sections of the Occupational Safety Division (OCC). It is used to manage insurance for vehicle and tort liabilities, worker's compensation and risk management (safety). The SALITO system tracks claims, produces reports, letters, payment vouchers, contracts, releases, and spreadsheets. It uses the COSMOS database and has an integrated FileNet link with OCCEDMS for imaging, indexing, and retrieving documents.	OCC
336	Miscellaneous	SharePoint	SharePoint	SharePoint, also known as Microsoft SharePoint Products and Technologies, is a collection of products and software elements that includes, among a growing selection of components, Internet Explorer-based collaboration functions, process management modules, search modules and a document-management platform. SharePoint can be used to host web sites that access shared workspaces, information stores and documents, as well as host defined applications such as wikis and blogs. All users can manipulate proprietary controls called "web parts" or interact with pieces of content such as lists and document libraries.	TSD
337	Miscellaneous	Single Entry Screen System	SES	The Single Entry Screen System (SES) provides input of Salary and Labor Distribution (SLD), Material and Supply Management System (MSMS), Equipment Operations System (EOS), and Maintenance Management Information System (MMIS) information to be entered into a single entry point for maintenance section users. It also provides an automated time report.	FIN
338	Miscellaneous	Special Order Literature Module	SOLM	Special Order Literature Module (SOLM) is a subsystem of Travel Information System (TIS).	TRV

ID	Classification	System Name	System Acronym	Description	OPR
339	Miscellaneous	TeamMate	TeamMate	CCH TeamMate is a suite of products combining both client and web-based technologies. The combined suite allows auditors to identify, schedule, document, report and track time and expenses on audits using a modular approach. The key components of TeamMate are: TeamRisk - Risk assessment software TeamMate EWP - Audit documentation system Libraries and TeamStores - Knowledge base and templates TeamMate TEC - Time and expense capture TeamCentral - Project and issues tracking database TeamSchedule - Resource and project scheduling	AUD
340	Miscellaneous	Texas Travel Information System	TexasTIS	Texas Travel Information System (TexasTIS) is an Internet web site that provides access to the information stored in the Texas Department of Transportation's Travel Information System (TIS) database. Use of the TexasTIS database is restricted to business entities involved directly in the tourism industry in Texas. Examples of these entities are Chambers of Commerce, Convention and Visitors Bureaus, campgrounds, theme parks, etc. TexasTIS is located at https://www.dot.state.tx.us/TexasTIS/ Also refer to the Travel Information System (TIS) computer application.	TRV

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
341	Miscellaneous	Travel Information System	TIS	Travel Information System (TIS) is an application that manages the collection, processing, and distribution of travel literature requests from the public to promote travel and tourism in Texas. TIS is used by Travel Division (TRV) to fulfill close to a million requests per year for Texas travel literature. The Austin Travel Division staff and all the Travel Information Center (TIC) staff enter address information and travel literature requested from the public into TIS. The official state tourism web site, various marketing web sites and reader service bureaus send address information for literature requests to a TxDOT FTP server. Each night TIS gathers records from all sources, validates address information, removes duplicate entries, and sorts processed address records for literature requests. Large volume requests for the travel guide, travel map, accommodations guide and a few other popular publications are pushed to a distribution contract vendor's FTP server. These requests are filled, mailed, and a record of request fulfillment is sent back to the TxDOT FTP server. Low volume requests for various travel publications are mailed from the TRV warehouse. Also refer to the two subsystems; the TIS internet web site subsystem named TexasTIS and the Literature Inventory Tracking System (LITS) subsystem.	TRV
342	Miscellaneous	TXVIDEO	TXVIDEO	TXVIDEO - no description available	HRD
343	Miscellaneous	Utility Installation Review System	UIR	Utility Installation Review (UIR) System is a web-based system that automates utility installation-related processes for permitting at TxDOT. UIR handles the utility permitting process. It includes the utility relocation process which deals with utility agreements during the highway project development process.	ROW
344	Miscellaneous	Video Control System	VCS	Video Control System (VCS) - no description available.	TRF
345	Miscellaneous	Video Teleconference Scheduling	VTC Scheduling	Video Teleconference Scheduling (VTC Scheduling) is a software package from Polycom, Inc. that is used to schedule VTC sessions.	HRD

ID	Classification	System Name	System Acronym	Description	OPR
346	Miscellaneous	Wide Area RTK Project	WARP	The GPServer / GPS WebServer provide access to the GPS Network's static data on the internet for the purpose of post-processing, user authentication, and new GPS planning tools to make consultants time in the field more productive. This will be accomplished by using the existing TxDOT GPS Regional Reference Points (RRP) Network and new GPS Real Time Kinematic (RTK) technology.	TSD
347	Project Management	AUS Primavera	AUS Primavera	AUS Primavera is an implementation of the software package Primavera which is used by the Austin District to manage construction projects.	AUS
348	Project Management	BRY Primavera	BRY Primavera	BRY Primavera is an implementation of the software package Primavera which is used by the Bryan District to manage construction projects.	BRY
349	Project Management	CST Primavera	CST Primavera	CST Primavera is an implementation of the software package Primavera which is used by the Construction Division to manage construction projects.	CST
350	Project Management	DAL Primavera	DAL Primavera	DAL Primavera is an implementation of the software package Primavera which is used by the Dallas District to manage construction projects.	DAL
351	Project Management	FTW Primavera	FTW Primavera	FTW Primavera is an implementation of the software package Primavera which is used by the Fort Worth District to manage construction projects.	FTW
352	Project Management	Primavera P6	P6	Oracle's Primavera P6 Enterprise Project Portfolio Management is an integrated project portfolio management (PPM) solution comprising role-specific functionality to satisfy each team member's needs, responsibilities and skills. It provides a single solution for managing projects of any size, adapts to various levels of complexities within a project, and intelligently scales to meet the needs of various roles, functions, or skill levels in your organization and on your project team.	CST
353	Project Management	Project Planning and Issue Tracking	PLANIT	Project Planning and Issue Tracking (PLANIT) is a Microsoft access application used for project tracking which allows the technical and business teams to track workflow and utilize their staff more effectively. This particular application is used by the Business Systems Development & Support Section and the HR Online Section of the Technology Services Division of TxDOT.	TSD

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
354	Project Management	Project Total Cost Estimate Application	ProtoCost	The Project Total Cost Estimate Application (ProtoCost) is a web-based application designed to assist TxDOT engineers and project managers with the generation of estimates of highway construction costs that meet federal SAF&TEA-LU criteria.	HOU
355	Rail Data	Safety Security Oversight	SSO	Safety Security Oversight serves as an internet based reporting system for the Public Transportation Division's State Safety Oversight program. Rail transit agencies are required to report to TxDOT accidents and hazards meeting the minimum reporting thresholds within two hours of occurrence or discovery. An internet based system will ease the transit agency's burden of reporting those events to TxDOT.	OCC
356	Rail Data	Texas Railroad Crossing Inventory	TRACI	Texas Railroad Crossing Inventory (TRACI) is a computer application used by Traffic Operations to input location data, description and pictures of railroad crossings in Texas.	TRF
357	Rail Data	Texas Railroad Crossing Project	TRAX	Texas Railroad Crossing Project (TRAX) is a web-based application that will incorporate data from several systems (TxRAIL and TRACI) and add a geospatial component. It will include all project information used by the Railroad Section including crossing upgrade projects and construction projects that involve the railroad.	TRF
358	Rail Data	Texas State Railroad Database	TxRAIL	Texas State Railroad Database (TxRAIL) integrates crash records, roadway inventory, railroad crossing inventory, and project status/history to manage crossing related programs and projects.	TRF

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
359	System Administration	Active Directory	AD	Active Directory (AD) is an implementation of LDAP directory services by Microsoft for use in Windows environments. Active Directory allows administrators to assign enterprise wide policies, deploy programs to many computers, and apply critical updates to an entire organization. Active Directory stores information about its users and can act in a similar manner to a phone book. This allows all of the information and computer settings about an organization to be stored in a central, organized database. Active Directory Networks can vary from a small installation with a few hundred objects, to a large installation with millions of objects. An Active Directory (AD) structure is a hierarchical framework of objects. The objects fall into three broad categories - resources (e.g. printers), services (e.g. e-mail), and people (accounts, or users and groups). The AD provides information on the objects, organizes the objects, controls access, and sets security. The objects represent single entities - whether users, computers, printers, applications, or shared data sources - and their attributes. Each object is uniquely identified by its name and has a set of attributes, or characteristics and information that the object can contain, defined by and depending on its type. Objects can also be containers of other objects. Each object is defined by a schema, which determines the kind of objects that can be stored in AD, and the basic structure of the object itself. The schema itself is made up of two types of objects: schema class objects and schema attribute objects. A schema class object defines one type of object that can be created by AD - for instance, it allows a User object to be created - and a schema attribute object defines an attribute that objects can have. Each attribute object can be used in several different schema class objects. Those objects are known as schema objects, or metadata, and exist to allow the schema to be extended or modified when necessary. However, because each schema object is integral to the definition of AD objects, deactivating or changing these objects can have serious consequences because it will fundamentally change the structure of AD itself. A schema object, when altered, will automatically propagate through Active Directory and once it is created it can only be deactivated - not deleted. Changing the schema is not something that is usually done without some planning.	TSD

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
360	System Administration	BlackBerry Enterprise Server	BES	BlackBerry Enterprise Server (BES) is the name of the middleware software package that is part of the BlackBerry wireless platform from Research In Motion. BES connects to messaging and collaboration software (Microsoft Exchange, Lotus Domino, Novell GroupWise) on enterprise networks to synchronize email and PIM information between desktop and mobile software.	TSD
361	System Administration	CAAS Webservice	CAAS WEBSERVICE	CAAS Webservice is a web service interface for other applications to access the CAAS database via SOAP.	TSD
362	System Administration	CAFM Explorer	CAFM	Computer Aided Facilities Management Explorer (CAFM) is a Facilities Management Software package. CAFM Explorer includes functionality for Help Desk, PPM, Asset Management, Property Management, Budgeting and Cost Control, Space Management (linking with AutoCAD 2006) and Room Booking. CAFM Explorer also features a Web/Intranet option and also handheld options.	MNT
363	System Administration	CA-TOP Secret Security	TSS	CA-Top Secret Security (TSS) provides access control and security for mainframe data and applications.	TSD
364	System Administration	Central Authorization and Authentication System	CAAS	Central Authorization and Authentication System (CAAS) is a front-end system that manages access to TxDOT applications. Access could be by digital certificate, Windows Login, or Account and Password. Access to the application is assigned by role.	TSD

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
365	System Administration	eDirectory	eDir	Novell eDirectory (eDir - formerly called Novell Directory Services) is an X.500 compatible directory service software product released in 1993 by Novell for centrally managing access to resources on multiple servers and computers within a given network. eDirectory is a hierarchical, object orientated database that represents all the assets in an organization in a logical tree. Assets can include people, positions, servers, workstations, applications, printers, services, groups, etc. The use of dynamic rights inheritance and equivalence allows both global and fine grained access controls to be implemented efficiently. Access rights between objects in the tree are determined at the time of the request and are determined by the rights assigned to the objects by virtue of their location in the tree, any security equivalences and individual assignments. eDirectory supports partitioning at any point in the tree and replication of that partition to any number of servers. Replication between each server occurs periodically using deltas of the objects to reduce LAN/WAN traffic. Each server can act as a master of the information it holds (providing the replica is not read only). Additionally, replicas may be filtered to only include defined attributes to increase speed (e.g. a replica may be configured to only include a users name and phone number for use in a corporate address book). eDirectory can be accessed via LDAP, XML, DSML, SOAP, OBDC, JDBC, JNDI, EJB, Active X and ADSI and has been proven to scale to over 1 billion objects. eDirectory runs on Windows NT, Windows 2000, Windows Server 2003, Sun Microsystems's Solaris, Linux, IBM's AIX and HP's HP-UX as well as under Novell's own NetWare.	TSD
366	System Administration	eGuide	eGuide	Novell eGuide is a Web application that enables searches for names, addresses, fax numbers, and e-mail addresses stored in Novell eDirectory, as well as in multiple data sources across the Web. These sources include virtually any other Lightweight Directory Access Protocol (LDAP)-compliant directory to which access rights have been given.	TSD
367	System Administration	Electronic Work Force Management System	EWFM	Electronic Work Force Management System (EWFM) is a computer application used to manage current and future call center traffic. Historical data gathered by Automated Call Distributor (ACD) and managed by Aspect Rightforce.	MCD

ID	Classification	System Name	System Acronym	Description	OPR
368	System Administration	ePolicy	EPO	ePolicy Orchestrator (EPO) is an Anti-Virus Enterprise Management Tool from McAfee. It provides centralized management of all components of TxDOT's Anti-virus infrastructure, from the server to the desktop. It provides the ability to automatically update clients with the latest anti-virus updates and software, allows for the remote management of the anti-virus agent and associated security policies, and generates detailed graphical reports.	TSD
369	System Administration	ER-Studio Portal	ER-Studio Portal	ER-Studio Portal is a browser-based solution allowing organizations to share, browse, and report on information contained in the ER/Studio Repository.	TSD
370	System Administration	ER-Studio Repository	ER-Studio Repository	The ER-Studio Repository provides organizations using ER/Studio data modeling application with a scalable, server-based, model management system. It is designed to enable real-time concurrent access to data models between team members, implement security to protect models and components from unwanted access and change, facilitate component sharing and re-use across projects and offer extensive model version management.	TSD
371	System Administration	GroupWise Internet Agent	GWIA	GroupWise Internet Agent (GWIA) gateway.	TSD
372	System Administration	IBM Tivoli Omegamon DE	OMEGAMON	IBM Tivoli Omegamon DE (OMEGAMON) is a systems management integration tool for IT staff and management, who need to understand the business impact of system events in the enterprise. OMEGAMON helps build application views to see what is going on with applications as they use resources across the network. This includes applications that run across multiple platforms. The source of a problem affected by high-priority applications can be quickly located. OMEGAMON communicates with agents loaded on the RTS systems that sample data from hardware analysis all the way to real time performance analysis. The application will in turn take the collected data and store the data in order to reanalyze and generate reports based on this data.	TSD
373	System Administration	LAN Auditing Security Tool	LAST	The LAN Auditing Security Tool (LAST) is an application that identifies security groups for an individual using PeopleSoft, Active Directory, and eDirectory.	TSD

May 26, 2010

ID	Classification	System Name	System Acronym	Description	OPR
374	System Administration	MessageInsight	MSGINSIGHT	MessageInsight (MSGINSIGHT) is a web-based reporting and analysis program from Intellireach that helps organizations monitor traffic, trending, storage, and web access to the Novell system. It provides usage reports and performance analysis for Novell GroupWise. MessageInsight collects and combines information from every major component of GroupWise - Mailboxes, Post Offices, Domains, Gateways, and WebAccess. Using this information and MessageInsight's reporting capabilities, system usage can be monitored and evaluated. MessageInsight allows the user to: determine how the system is being used and abused; optimize post office disk space through mailbox analysis; identify inactive GroupWise accounts; plan for the future by identifying messaging trends; analyze specific post office and domain loads; and measure WebAccess usage.	TSD
375	System Administration	MIS Master Data Controller System	MDC	The MIS Master Data Controller System (MDC) coordinates the database update processes of the MIS systems (e.g., FIMS, EOS, MES, SLD, etc.) The MDC allows systems to share data in a coordinated manner. It also provides error recovery for transaction processing.	TSD
376	System Administration	Model Manager	MDLMGR	Model Manager is a server base software package which stores ERwin data models.	TSD
377	System Administration	MXG Measurement and Management of Capacity	MXG	MXG is an application that reads IBM mainframe system data and reports metrics for that platform. Uses SAS programs to decode, interpret and analyze raw computer performance data. MXG Software is a SAS-based software package that processes the "SMF" data records created by the computer operating systems OS/390 MVS/XA, MVS/ESA, VM/SP, VM/ESA, DOS/VSE, and OS/400 and raw records created by their subsystems like CICS, IMS, TSO, DB2, and APPC. This is a replacement for MICS.	TSD
378	System Administration	Natural Control System	NCS	The Natural Control System (NCS) controls access to the department's NATURAL and ADABAS resources.	TSD
379	System Administration	Planning Research General Systems	PRG	Planning Research General Systems (PRG) contains general purpose routines used in the support of many of the department's application areas.	TPP
380	System Administration	PROXYLOG	PROXYLOG	PROXYLOG is an application used to monitor TxDOT internet and intranet usage.	TSD

ID	Classification	System Name	System Acronym	Description	OPR
381	System Administration	Remote Authentication Dial-In User Service	RADIUS	Remote Authentication Dial-In User Service (RADIUS) protocol (FreeRADIUS) and interfaces with Active Directory.	TSD
382	System Administration	Security Info	Sec Info	Security Info (Sec Info) is used to store relational database security information related to Logins, roles, etc.	TSD
383	System Administration	SelectServer	SSXM	SELECT Server XM (SSXM) is a software package from Bentley Systems, Inc. It provides an ability to maximize license utilization and minimize the burden of administration through the use of pooled and trust licensing. At TxDOT it is used for license management for CADD software used across the state.	TSD
384	System Administration	Sentinel	Sentinel	Sentinel is a software package from Novell that provides automated, continuous monitoring of security and compliance events and IT controls. Sentinel correlates and analyzes security and compliance events from all data sources in the environment to help identify security events in real time and respond quickly. Automated incident response management enables documentation and formalization of the process of tracking, escalating and responding to incidents and policy violations, and provides two-way integration with trouble-ticketing systems. Sentinel enables the user to react promptly, resolve incidents efficiently and prove to auditors that IT controls work as required.	TSD
385	System Administration	SiteManager Interface Controller	SMIC	SiteManager Interface Controller manages the data interface between Site Manager on the client/server and the mainframe. Interfaces include CBS, CIS, CMCS, DCIS, LET, SMS, and USF.	CST
386	System Administration	Symposium	Symposium	Symposium Call Center Server is an e-business enabled communication system for dynamic contact centers, providing skill-based routing, comprehensive management and reporting and real-time displays for supervisors and managers.	MCD

ID	Classification	System Name	System Acronym	Description	OPR
387	System Administration	Virtual Incident Processor	VIP	Virtual Incident Processor (VIP) is a subsystem within the iET Solutions, Enterprise, Workcenter application. It is basically an agent that runs in conjunction with the SMTP/POP3 email processes that allows any end-user to submit an email addressed to "VIP". where the Workcenter VIP agent will turn the email into a Workcenter incident within the Workcenter group associated with the end-user. It is an interface process that accesses the GroupWise email post office for Central Helpdesk (alias is VIP) where it checks for incoming email and processes them when new email is received. It can also reply via SMTP email to the sender.	TSD
388	System Administration	Visual Uptime	VUPTIME	Visual Uptime (VUPTIME) is a software package from Visual Networks, Inc. that is used for WAN monitoring and management.	TSD
389	System Administration	WorkCenter	WorkCenter	WorkCenter is an iET Solutions package application used to track IS problems and resolutions. Local modifications have been added to support other TxDOT functions. Formerly known as HelpDesk or Customer Help Desk (CUST). The application was also referred to as Applix, which was the software and vendor name at the time.	TSD
390	Traffic Analysis	Accumulative Count Recorders System	ACR	Accumulative Count Recorders System (ACR) collects and analyzes 24-hour traffic data to provide traffic-volume counts necessary for the publication of traffic maps, travel trends, and truck traffic-flow maps. The data is used for the forecasting of future traffic volumes, pavement design, and for special studies as requested. This information is furnished to the Federal Highway Administration (FHWA), Districts, other state agencies, and the public, as requested.	TPP

ID	Classification	System Name	System Acronym	Description	OPR
391	Traffic Analysis	Statewide Analysis Model	SAM	Statewide Analysis Model (SAM) is a planning tool for analysis forecast and display of passenger and freight flow data on statewide multimodal networks. It will provide: 1) Support for a multimodal capability in all analysis procedures 2) Augmentation and automation of the existing manual procedures for analysis of traffic in the state that is outside the coverage areas of the twenty-five urban areas travel demand models. 3) Traffic analysis in corridors between urban areas. 4) Forecasting of intercity passenger and freight trips as they interact with the twenty-five urban area models. 5) An analysis of the interaction between intercity passenger and freight trips. 6) The individual forecast scenarios contained in the twenty-five urban areas.	TPP
392	Traffic Analysis	Statewide Safety Improvements System	SWS	The Statewide Safety Improvements System (SWS) provides a cost/benefit analysis of federally funded safety projects, both before and after construction. SWS (Title II) enables TxDOT to manage projects which use Federal funds disbursed under the Title II act by the FHWA. Projects are intended to provide traffic safety improvements to highways. This system monitors such things as whether accident rates were reduced after a signal light was installed.	TRF
393	Traffic Analysis	Statewide Traffic Analysis and Reporting System	STARS	The Statewide Traffic Analysis and Reporting System (STARS) is the state's repository for historical, estimated and forecasted traffic data based on long-term and short-term volume counts and vehicle classification, weight and speed. Traffic data, the basis for transportation planning, programming and design, is collected and distributed to TxDOT personnel and external customers and stakeholders via the Web. The STARS enterprise relational database management system integrates a full suite of traffic and spatial data analysis tools designed to meet current and emerging traffic monitoring mandates and automation technologies.	TPP

ID	Classification	System Name	System Acronym	Description	OPR
394	Traffic Analysis	Traffic Accident Record System	TARS	Traffic Accident Records System (TARS) is a subsystem of the Traffic Accident Reporting System (TRA) accessible through the Remote Job Entry Job Control Language (RJEJCL) system on the TxDOT mainframe computer. TARS provides access to nine complete years of on-system historical traffic accident information, along with the available months of the most recent year. Users may select or subset the information as needed and display the information in one of three reporting formats. To be replaced by CRIS.	TRF
395	Traffic Analysis	Traffic Accident Report System	TRA	The Traffic Accident Report System (TRA) contains all "on" and "off" system accidents and is a coordinated effort between the Department of Public Safety (DPS) and TxDOT. DPS collects the data from various sources such as DPS investigating officers, city and county law enforcement agencies, and individuals filing reports. DPS codes the location using control-section, milepoint, and the RI-1 map. TxDOT receives the data from the Department of Public Safety (DPS) and updates roadway characteristics and traffic. The file is made available to the TxDOT Divisions and Districts, and State and Federal agencies. The accident file is updated on a monthly cycle and an end-of-year tape is produced with a cut-off date of December 31st. The Traffic Accident Record System (TARS) is a subsystem of TRA. To be replaced by CRIS.	TRF
396	Traffic Analysis	Traffic Assignment Forecasting System	TAF	The Traffic Assignment Forecasting System (TAF) is designed to perform trip distributions and assign current and future traffic to a large transportation network in urban areas. TAF includes a Texas Trip Distribution package and a Large Network package. This application uses software TripCAL5 and ATOM2.	TPP
397	Traffic Analysis	Traffic Data System	TRFDATA	The Traffic Data System (TRFDATA) is a collection of database driven web pages and thick client components developed for use by the TxDOT Traffic Division. It includes data extracted from mainframe legacy applications and locally entered data. It supports many business areas.	TRF

ID	Classification	System Name	System Acronym	Description	OPR
398	Traffic Analysis	Traffic Log System	TLOG	The Traffic Log System (TLOG) is a file of current, historical, and 20-year traffic design data. Data is assimilated to produce design data such as KIPS, ATHWLD, 20-year projection for the AADT, etc. The automated weighing of trucks in motion provides input to the Traffic Log (TLOG) where the 18-KIPS are calculated. This along with the traffic counts (ACR, ATR, and MCC) and other related data are input and adjusted by the Traffic Log System (TLG) and are passed to the RI-2 file.	TPP
399	Vehicle Data	Central Permit System	CPS	The Central Permit System (CPS) provides a centralized, automated process for issuing oversize/overweight and House Bill 2060 (tolerance) permits. It provides for access to permit data for law enforcement through the Department of Public Safety. In addition, the system provides accounting reports related to the issuance of permits.	MCD
400	Vehicle Data	Crash Records Information System	CRIS	The Crash Records Information System (CRIS) will provide a more streamlined and automated process to collect and disseminate crash information for the Department of Public Safety (DPS) and the Texas Department of Transportation (TxDOT).	TRF
401	Vehicle Data	Diskette Management System (part of RTS)	DMS	DMS is an application that was developed to facilitate the building, testing, validation, storing and aging of records for the RTS-Dealer Title data test records. DMS performs Dealer Certification and provides access to the dealer and RSPS data on county RTS-POS workstations. DMS is a system that runs in-house and used by RTS developers for POS support, RTS Testing and validation and data management of the Dealer Title test records.	TSD
402	Vehicle Data	DPS Inquiry	DPS Inquiry	A query used by DPS patrol officers, working at border and weigh station sites, to query the MCD database to determine if a motor carrier has an active certificate. The data can be queried by certificate number, license plate or VIN criteria. The query returns vehicle information or certificate information, depending on the criteria.	MCD
403	Vehicle Data	Manual Classification Count System	MCC	The Manual Classification Count System (MCC) does analysis of vehicle classification data. Data is collected at approximately 1200 sites across the state, and consists of counts of thirteen classes of vehicles for each hour of the 24- or 48-hour observation period.	TPP

ID	Classification	System Name	System Acronym	Description	OPR
404	Vehicle Data	Public Transportation Management System	PTMS	The Public Transportation Management System (PTMS) is used to inventory and keep a history of public transportation vehicles used by public transportation authorities. It also calculates vehicle capital replacement awards to optimize the use of available public transportation funds.	PTN
405	Vehicle Data	SB 785	SB 785	Manufactured Housing Permit Report (MHPR) was created to meet legislative requirements (SB785) for providing county tax assessor collectors with mobile home permit information. Provides counties the ability to produce a listing containing the number of mobile homes brought to a specific county. Results include descriptive permit information, owner information and descriptive home information.	MCD
406	Vehicle Data	Single State Registration System	SSRS	Single State Registration Inquiry (SSRS) is a reporting application created so that for-hire carriers of passengers or property can view registration information. Provides carriers the ability to view registration status, operating authority, and proof of insurance for a carrier for their base state (Texas being one).	MCD
407	Vehicle Data	Texas Permit Routing Optimization System	TxPROS	Texas Permit Routing Optimization System (TxPROS) will be a software component of the Central Permit System (CPS) which will provide true automated routing for the transport of oversize and overweight loads. The program will provide customers with a web-based, fully self-service system that is compatible with TxDOT's base GIS and bridge data and will include required parameters such as structure height, lane width, load ratings, one-way attributes, access roads, turn restrictions, and at-grade railroad crossings.	MCD

ID	Classification	System Name	System Acronym	Description	OPR
408	Vehicle Data	Weight In Motion System	WIM	Weight In Motion System (WIM) is used to collect truck-weight data at various sites throughout the state for development of the 18-KIP equivalency file and the Federal Highway Administration's (FHWA) Highway Performance Monitoring System (HPMS). The stations weigh trucks in motion and collect data on one lane at a time. In the future, FHWA will require data to be collected across multiple lanes. The automated weighing of trucks in motion provides input to the Traffic Log (TLOG) where the 18-KIPS are calculated. This along with the traffic counts (ACR, ATR, and MCC) and other related data are input and adjusted by the Traffic Log System (TLG) and are passed to the RI-2 file. To be replaced by STARS.	TPP
409	Vehicle Data	Weight Tolerance Permits Report	weight_tolerance	Weight Tolerance Permits Report (WTPR) is an application created to meet legislative requirements for providing weight tolerance permit information to counties. Provides counties the ability to produce a listing of permits bought for moving overweight loads in their county. Results include active weight tolerance permits by county, company name, permit effective dates and the specific vehicle to which the permit applies.	MCD

Table N-8: TxDOT known systems and classifications

IT Standards, Policies and Procedures

This section lists the IT-related standards, policies and procedures reviewed for this study. The following TxDOT documents were reviewed:

- Agency Strategic Plan, including: Appendix N. Implementing the Texas Transformation and Technology Alignment for TxDOT, 2009 - 2013
- Business Systems Development & Support (BSDS) System Development Lifecycle (SDLC) Methodology, v1.0
- Evaluation and Approval Process for Hardware and Software use within TxDOT, February 2008
- Configuration Management Standards for Information Technology Assets, v1.4
- Controlled Data Change (CDC) Procedures, v1.2
- Core Technology Architecture, v5.4
- Core Technology Architecture Exceptions, September 2009
- Core Technology Operating Procedures, July 2006
- D/D/O Application Development Guide for Non-Enterprise Assets, v1.1
- Data Architecture, v4.0
- Database Architecture, v1.0
- Database Architecture Addendum, v1.0

- Data Design Process, v1.0
- Geographic Information System (GIS) Technical Architecture, February 2009
- Information Resource Request (IRR) Form
- Information Resources (IR) Planning and Reporting, September 2007
- IR Planning, Reporting and Accounting Matrix, May 2009
- Information Security Manual, October 2008
- Information Security Policy Statement, February 2006
- Information Security Procedures Document, February 2010
- Information Technology (IT) Purchasing FAQs, September 2007
- IT Replacement Procedures Memorandum, April 2006
- Instructions for Completing the TxDOT Information Technology Detail AY 2008 – 2011
- Office of Primary Responsibility (OPR) Roles & Responsibilities for IT Assets, v1.4
- Planned Procurement Schedule (PPS) September 2009 Instructions
- Printer Naming Standards, December 2009
- Procedures for SharePoint Services (SPS) Web sites
- Procurement Justification System (PJS) Catalog, June 2009
- PJS Catalog Add Request Form, April 2009
- PJS Viewing Instructions, September 2004
- Project Management Plan Template, v0.1
- Project Plan Template for Small and Medium Projects, v2.1
- Project Proposal Template for Small and Medium Projects, v1.3
- Quality Management Standards For IT Assets, v2.0
- Technical Services Division (TSD) Services Guide, v3.0
- 2006 TxDOT Information Resources Deployment Review (IRDR)
- 2007 TxDOT IRDR
- Workflow for ISD Support of the Workgroup Development Environment (WDE), March 2006
- Workgroup Development Environment Guidelines and Best Practices, March 2006
- Workstation Naming Standard Memorandum, January 2002

The following Department of Information Resources (DIR) documents were also reviewed:

- Business Case Template, Workbook, and Instructions
- How to Conduct a Feasibility Study, June 1992
- Statewide Impact Analysis Template and Instructions
- Post-Implementation Review of Business Outcomes Report Template and Instructions
- Project Charter Template and Instructions

Other documentation reviewed (though not policies, procedures):

- Amended and Restated Interagency Contract between DIR and TxDOT to Effectuate the Consolidation of Data Center Services
- Enterprise Operations Center Final Report, 2001
- IT Support in the Austin Divisions, Committee Recommendation, August 4, 2008

May 26, 2010

Detailed IT Governance Process Description

This section provides the detailed descriptions of the IT governance process TxDOT uses to initiate, fund and approve IT projects. Figure N-1 illustrates the process for how TxDOT initiates an IT project.
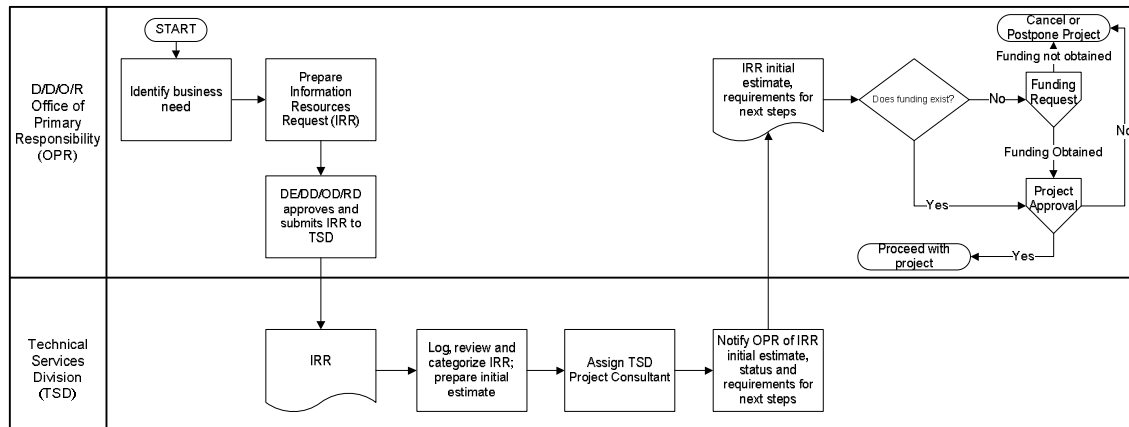
Figure N-1: IT project initiation

The IT project initiation steps shown by Figure N-1 are detailed as follows:

1. D/D/O/Rs[3] identify system needs from a variety of sources: customer needs, legislative mandates.
2. D/D/O/Rs prepare rough estimate of the system needs in terms of scope, expected costs, and level of effort using an Information Resource Request (IRR).
3. D/D/O/R director approves the IRR and submits it to TSD.
4. TSD logs and reviews the IRR to prepare the initial cost and level of effort estimates. TSD then categorizes (e.g., small, medium or large) the IRR based on these estimates.
5. TSD assigns a project consultant to assist the D/D/O/R with completing subsequent steps of the process.
6. TSD notifies the D/D/O/R of the IRR status, project consultant's contact information and requirements for the next steps of the process.
7. If D/D/O/R needs to secure funding for the IRR, it must obtain funding through TxDOT's budgeting process as shown in Figure N-2; if funding already exists for the IRR, D/D/O proceeds with the project approval steps in as shown in Figure N-3.

---

[3] Referred to Offices of Responsibility (OPRs) for each IT investment owned
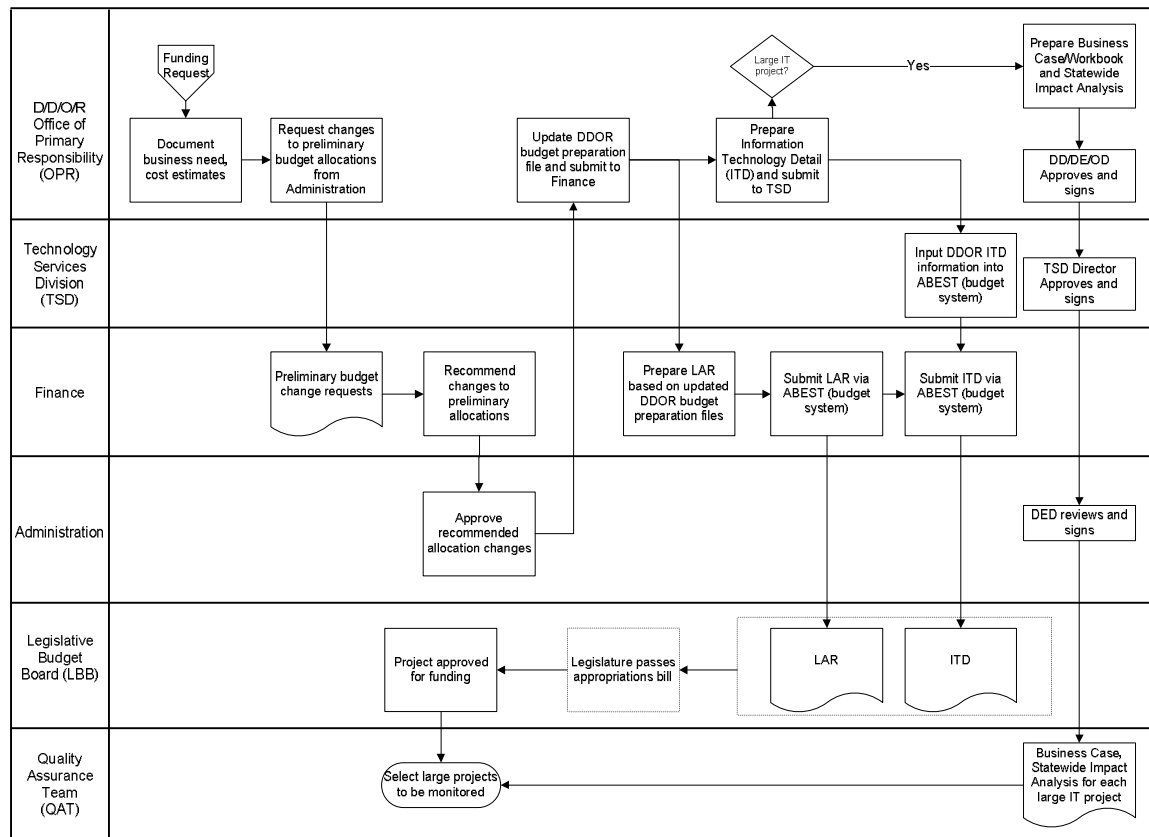
Figure N-2: IT project funding request

The IT funding request steps, as part of the agency budgeting process, shown by Figure N-2 are detailed as follows:

1. Finance distributes preliminary budget allocations set by administration to each D/D/O/R.
2. D/D/O/R requests changes to preliminary budget allocations based on business need and cost estimates from the IRR.
3. Finance reviews change requests to the preliminary budget allocations and recommends approval or denial to administration.
4. Administration approves or denies recommendation to change D/D/O/R preliminary budget allocations.
5. D/D/O/R updates its budget preparation file based on administration's decision and submits it to Finance.
6. D/D/O/R must also include the IT project as a line item in its ITD, and then submits the ITD to TSD; D/D/O/Rs must ensure that the information provided in its budget preparation file matches the information provided in its ITD.
7. If the IT project is classified as a large project (i.e., costs over $1m), the D/D/O/R must obtain approval from the Quality Assurance Team[4] (QAT) with the following steps:
   a. D/D/O/R prepares project justification documentation required by the Department of Information Resources (DIR) Project Delivery Framework: Business Case and Workbook and Statewide Impact Analysis that describe IT project benefit analysis,

---

[4] QAT comprises representatives from DIR, LBB and State Auditor's Office (SAO)

project selection methodology based on statutory fulfillment, strategic alignment, impact analysis, financial analysis, risk consideration and alternatives analysis.

b. D/D/O/R director approves and signs documentation and submits to TSD director.

c. TSD director approves and signs documentation and submits to Deputy Executive Director.

d. Deputy Executive Director signs documentation.

e. TSD submits signed documentation to the QAT.

8. TSD receives each D/D/O/R ITD and uploads this information into the Automated Budget Estimate System of Texas (ABEST) budgeting system; the TSD director submits a summary of the ITD to be included in the agency budget request to the Information Resources Council[5] (IRC) for informational purposes.

9. Finance prepares the LAR in the ABEST budgeting system based upon the updated D/D/O/R budget preparation files.

10. Finance submits the agency LAR and the ITD together from the ABEST budgeting system to the Legislative Budget Board (LBB).

11. After Legislature passes appropriations bill, funding for the IT project is approved.

12. QAT gives permission to begin project and reviews justification documentation for large IT projects and determines whether they require quarterly status monitoring based on project risk.

13. If D/D/O/R receives funding for the IT project, it must obtain approval as shown in Figure N-3; if D/D/O/R unable to obtain funding it may decide to cancel or postpone the IT project.
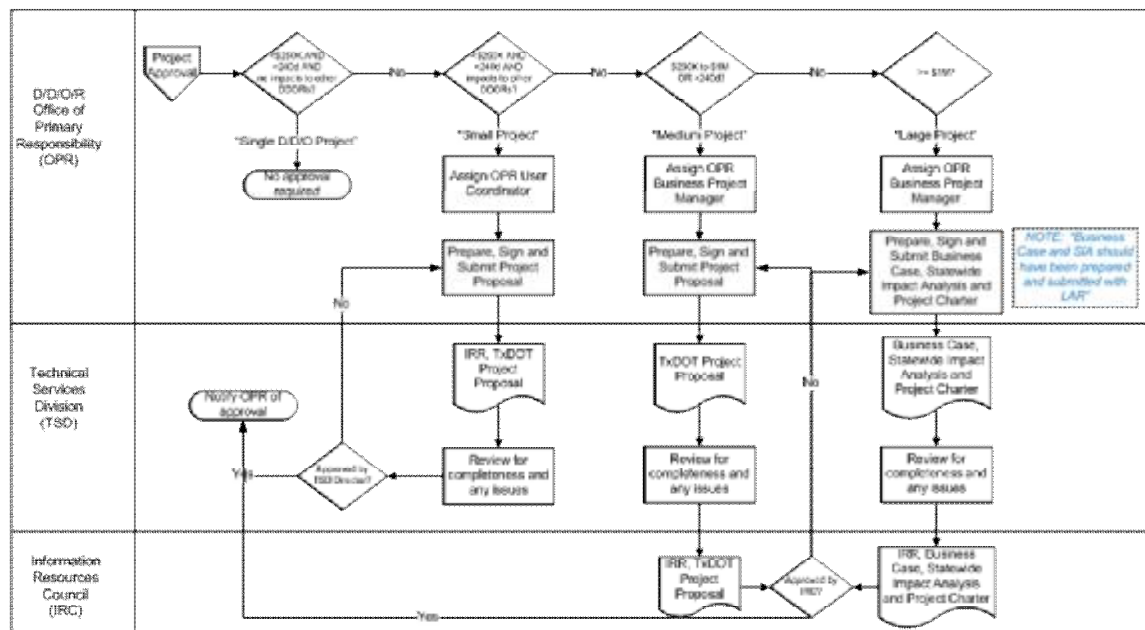
Figure N-3: IT project approval

5 IRC comprises the following members: Deputy Executive Director, SPPM Director, GSD Director (acting for Assistant Executive Director of Support Operations), and TSD Director (chair)

The steps required to obtain project approval depends upon the IT project category, as shown by Figure N-3:

1. If IT project estimated to cost less than $250k and to require less than 240 days to implement and does not impact other D/D/O/Rs, it is categorized as a "single D/D/O/R project" and requires no further approval. The D/D/O/R may begin implementation.

2. If IT project estimated to cost less than $250k and to require less than 240 days to implement or impacts other D/D/O/Rs (i.e., defined as "enterprise"), it is categorized as a "small project" and requires the following steps:
   a. D/D/O/R assigns D/D/O/R user coordinator to coordinate project activities.
   b. D/D/O/R prepares Project Proposal and obtains D/D/O/R director's signature.
   c. D/D/O/R submits IRR and Project Proposal to TSD project consultant.
   d. TSD project consultant reviews IRR and Project Proposal for completeness and accuracy.
   e. TSD project consultant provides IRR and Project Proposal to TSD director.
   f. TSD director reviews and approves or denies project.

3. If IT project estimated to cost between $250k to $1m, it is categorized as a "medium project" and requires the following steps:
   a. D/D/O/R assigns business project manager to coordinate project approval activities.
   b. D/D/O/R prepares Project Proposal and obtains D/D/O/R director's signature.
   c. D/D/O/R submits IRR and Project Proposal to TSD project consultant.
   d. TSD project consultant reviews IRR and Project Proposal for completeness and accuracy.
   e. TSD project consultant provides IRR and Project Proposal to TSD director.
   f. TSD director submits IRR and Project Proposal to IRC for approval.
   g. IRC reviews and approves or denies project.

4. If IT project estimated to cost over $1m, it is categorized as a "large project" and requires the following steps:
   a. D/D/O/R assigns business project manager to coordinate project approval activities.
   b. D/D/O/R prepares Project Charter and obtains D/D/O/R director's signature.
   c. D/D/O/R submits IRR, Project Charter, Business Case and Statewide Impact Analysis (the Business Case and Statewide Impact Analysis has already been submitted and approved by the QAT during the funding request) to TSD project consultant.
   d. TSD project consultant reviews IRR, Project Charter, Business Case and Statewide Impact Analysis for completeness and accuracy.
   e. TSD project consultant provides IRR, Project Charter, Business Case and Statewide Impact Analysis to TSD director.
   f. TSD director submits IRR, Project Charter, Business Case and Statewide Impact Analysis to IRC for approval.
   g. IRC reviews and approves or denies project.
   h. If under unordinary circumstances the D/D/O/R did not submit the Business Case and Statewide Impact Analysis to the QAT during the funding request cycle, the D/D/O/R must request out-of-cycle funding from Finance.

5. TSD director notifies D/D/O/R of approval decision.

6. If approved, D/D/O/R may begin implementation; if denied, D/D/O/R may resubmit the appropriate documentation and repeat the approval process, or cancel or postpone the project.

Appendix O: Financial management process description

Budget preparation is the process by which TxDOT determines its funding needs, requests the funds from legislature and allocates the funds throughout the organization. The budget is prepared on a two-year cycle to coincide with the state legislature sessions. Table O-1 shows the schedule of events that occurs during each two year cycle.

Even Years	
February	• Finance begins discussing LAR with Administration and Commission • D/D/O/Rs begin identifying needs for next three FYs
March	• Administration provides preliminary allocations to D/D/O/Rs
April	• Legislative Budget Board issues official LAR instructions
May	• D/D/O/Rs provide Finance with additional funding requests for Administration review and consideration • Finance adjusts preliminary allocations per Administration direction
June	• Administration sends out approved allocations for three FYs • Finance coordinates preparation of LAR • Finance holds briefing and review of LAR with the Commission • D/D/O/Rs update budget preparation file
July	• Finance uses budget preparation file to build LAR
August	• Finance submits LAR final draft for printing • Finance begins coordinating questions with LBB and GOBPP
Odd Years	
January	• Legislature convenes
February to May	• TxDOT testifies and explains LAR during legislative committee hearings
May	• Legislature passes general appropriations bill (GAA)
June	• Administration provides preliminary allocations to D/D/O/Rs for upcoming FY • D/D/O/Rs provide Finance with additional funding requests for Administration review • Finance adjusts preliminary allocations per the outcome of the review
July	• Administration sends out approved allocations for upcoming FY • D/D/O/Rs update the budget preparation file
December	• Finance holds briefing and review of operating budget for the Commission • Operating budget is due to LBB

Table O-1: Budget preparation process

In February of each even year, the Finance Division begins discussing the LAR and budget goals with the Administration and with the Commission. They work with the D/D/O/Rs to begin identifying needs for the next three fiscal years (the remaining fiscal year in the biennium and the next biennium). Finance delivers this information to the Administration, who uses this information to develop and provide preliminary budget allocations to the D/D/O/Rs. The D/D/O/Rs review the information, and in May, they provide the Finance Division with their additional funding requests. The Finance Division reviews these requests and prepares a recommendation on approval, and they submit the requests and their recommendations to the Administration for approval. The

Finance Division adjusts the primary allocations per the Administration's direction, and the Administration sends out the final approved allocations for the next three FYs in June. The D/D/O/Rs use this information to update their budget preparation files. The Finance Division begins preparing the LAR based on the budget preparation files, and in August, the Finance Division reviews the LAR with the Commission and prints the final draft of the LAR. The Finance Division maintains a dialogue with the LBB as they prepare the funding requests for Legislature.

In January of each odd year, the Texas State Legislature convenes. The House or Senate develops a funding bill for all of the state agencies based on the LARs, alternating who develops the bill each session. From February to May, TxDOT testifies before Legislature, explaining their requests during Legislative Committee hearings. In May, the Legislature passes the General Appropriations Act (GAA), which outlines the dollars allocated to each state agency by budget strategy. In June, the Administration provides preliminary allocations to the D/D/O/Rs for the upcoming FY based on the outcome of the GAA and according to the historical budget. The D/D/O/Rs provide their additional funding requests to the Finance Division, who reviews them and prepares a recommendation for approval to the Administration. The Administration reviews the requests, and the Finance Division adjusts the preliminary budget allocations based on the results of the review. In July, the Administration sends the final allocations for the upcoming FY out to the D/D/O/Rs, and the D/D/O/Rs update their budget preparation files.

TxDOT finalizes the budget by September 1 of each year, and must submit it to the LBB by December. Figure O-1 outlines the budget preparation process.

In order to determine the organization's operational budget needs, the Finance Division examines the past three to four years of budget data and removes one-time expenditures. The Finance Division coordinates with the budget analysts at the D/D/O/Rs to identify any anticipated new expenditures for the upcoming budget period and adjust the budget accordingly. These numbers become the basis for TxDOT's budget request reviewed by management before submission to the Legislature for approval. These numbers generally equal the forecasted revenue. For the FY2010-2011 LAR, TxDOT took a different approach to respond to Legislative comments that they always give TxDOT the funds that they request, and therefore it was unclear why TxDOT claimed that they did not have enough funding. For this particular LAR, rather than capping the total budget request to the forecasted revenue, they requested funding based on the amount of construction and maintenance that they could perform themselves or contract. This method was meant to highlight the full capability that TxDOT could have if it were funded without constraint.

Because TxDOT can spend all of the revenue that it receives, an essential part of the budget process is revenue forecasting. TxDOT performs its own revenue forecasts, which guide Finance in determining how much funding will be available during the budget period.

May 26, 2010

Budget Preparation

Legislature

Legislature passes GAA

Administration

Provide preliminary allocations to D/D/O/Rs

No → Stop

Approve requests? ← Yes → Provide approved allocations to D/D/O/Rs

Start

Discuss upcoming LAR

Finance

Begin discussing requirements with D/D/O/Rs

Make recommendations regarding requests to Administration

Prepare LAR based on budget preparation file

Submit to GOBPP and LBB via ABEST and begin answering questions

D/D/O/Rs

Identify future needs for next 3 FYs

Request through Finance changes to preliminary allocations

Update budget preparation file

Figure O-1: Budget preparation process

This page intentionally left blank.

Appendix P: Procurement process description

Appendix P provides the process description for the procurement business process.

Letting

Plan for procurements

The letting process begins approximately two months before actual letting when the construction division (CST) receives notice from Finance (FIN) of planned letting projects. The Design Division consolidates all Plans, Specifications & Estimate (PS&E) documents and provides them to the Office of Civil Rights (OCR) to assign disadvantaged business enterprise (DBE) contract goal participation. OCR then assigns individual contract goals for DBE participation in federal-aid highway improvements and building construction and maintenance contracts, as necessary. DBE goals are based on review of PS&E documents and expected availability of qualified DBEs, work site location, dollar value of the contract, and type of work items specified in the contract. Participation goals for DBE providers are expressed as a percentage of the total cost of the contract.

Request & receive offers

In the next step of the letting lifecycle, requesting and receiving offer, the FIN Letting and Programming Office provides the planned letting list to CST and publishes a notice of the time and place at which bids on a contract will be opened and the contract awarded. Contractors then request a bid form from CST for the project(s) of interest. Upon request from a contractor for a bid form, CST verifies the contractor's bidding capacity and issues the bid form(s) based on a contractors remaining bidding capacity (bidding capacity minus awarded contracts). CST only issues bid forms to those contractors having bidding capacity, regardless of the completion stage of existing contracts (available bidding capacity is a reflection of the stage of completion of project based on payment).

Offers are received as bid forms, submitted to CST. If they are received on paper, CST secures them until the letting date. Because of price changes, it is common for contractors to submit bid forms one minute prior to the closing time. CST keeps a running total of the number of bid proposals received for each letting. (CST also tracks average number of bids received per project)

Evaluate offers

CST personnel conduct all letting activities during the "evaluation" process.

- To close the "receipt and withdrawal of bids" period, the Letting Official strikes the gavel and reads the opening statement. Following the opening statement bid proposals are opened and an initial review of bid proposals is performed followed by verification of the accuracy of the guaranty check and bid bond. All final bid proposals are reviewed and then bids are read aloud. After all bid proposals are read, bid proposals are tabulated.
- To tabulate the bids, bid prices are entered into Construction and Maintenance Contracting System (CMCS). Bid amounts are t verified by re-entering all bid totals and bid unit prices into CMCS by a person other than the one who did the initial entry. If changes are

May 26, 2010

necessary when verifying the tab amounts, the person doing the entry requests verification of the change by the tabbing coordinator. After completing the verification and all bid amounts have matched, the bid unit tabs are printed.

- Prior to the award of a contract a final quality control check is performed to proof the apparent low bid proposals. Following the tabulation of bids by project, the lowest bidder is identified. Each lowest bidder proposal is verified to ensure the total bid amount from the bid tab printout matches the total bid amount on the bid proposal. A final verification check is performed on each unit bid price.
- Each of the remaining bid proposals in that group are verified to ensure that the total bid amount from the bid tab printout matches the total bid amount on the bid proposal. If a submitted bid contains errors in the total, unit bid or quantity amounts, an Irregularity Report is completed and sent to the contractor.

Award contracts

The Contract Award process is the process of formally accepting or rejecting the proposal of the apparent low bidder. If the proposal is accepted, the apparent low bidder becomes the official low bidder and therefore becomes obligated to the department to execute the contract. If the proposal is rejected, the apparent low bidder is not obligated to the department.

- The Texas Transportation Commission, on advice from CST, makes a conditional award until the contract requirements are met (DBE goals and performance and payment bond). A contractor has 15 days to complete the requirements and return with signature. When the conditional award is received TxDOT (CST) will sign the award. When TxDOT signs the award it is considered a final award and executed.
- The authority to award or reject contracts for the department is distributed among the following groups or individuals.
  - Construction and State Let Maintenance Projects with an engineer's estimate of $300,000 or greater may only be considered by the Transportation Commission
  - State Let Maintenance Projects with an engineer's estimate of less than $300,000 may be awarded by the Assistant Executive Director, Engineering Operations
  - Local Let Maintenance Projects with an engineer's estimate of less than $300,000 may be awarded by the District Engineer

Manage contracts

To administer construction contracts, CST provides oversight and assistance with district construction and district construction and maintenance inspectors, Project Managers (PM), and Area Engineers (AE) provide day-to-day oversight of construction and maintenance contracts. Listed below is a highlight of some major tasks performed for construction contract oversight:

- Conduct a pre-construction conference;
- Issue the notice of beginning work;
- Obtain a progress schedule from the contractor prior to beginning of work, ensure that it conforms to the contract requirements;
- Obtain a monthly updated progress schedule from the contractor; review the schedule to ensure conformance with the contract;
- Review major changes to the progress schedule submitted by the contractor;
- Maintain a project diary (for SiteManager projects, make all official project diary entries in a SiteManager Daily Work Report (DWR));

- Maintain records for all materials received on each project;
- For all Federally-funded contracts, receive a copy of the weekly payroll record for each project and contractor, review records for compliance with the contract's minimum wage requirements;
- Collect DBE performed work percentages, compare percentages to contract terms, report DBE information, and elevate DBE concerns or issues to the appropriate level (District construction office DBE coordinators);
- Ensure DBE certified prime contractors perform at least 30% of the total contract, less any specialty items, with the contractor's organization. When approving subcontracts for DBEs/SBEs being used to satisfy a contract goal ensure that the DBE/SBE performs a commercially useful function;
- Obtain a written subcontract request from the prime contractor for each subcontractor;
- When construction disputes and claims arise, every effort is made, within the provisions of the contract, to resolve disputes (disagreement between the department and prime contractor on a contract issue) at the lowest level possible (e.g. construction and maintenance inspectors, project managers, and Area Engineers). Appeals to initial resolution can be made. Districts may send contractor appeals to the Construction Division, Construction Section for review. CST will provide a recommendation for disposition of the matter in compliance with the contract. The contractor is notified in writing of the final decision on the appeal. Resolution of a dispute may be accomplished with either a change order (CO) or a supplemental agreement (SA). A SA is used to settle disputes not associated with the scope of work;
- If a contractor does not agree with the district's decision on the dispute, the contractor may file a detailed report and contract claim request requesting formal action by the department's Contract Claim Committee; and
- Claims not resolved by the Contract Claim Committee may be appealed by the contractor to the State Office of Administrative Hearings (SOAH).

The process flow diagram for the letting process is located in Section J – Build process flow description on pages J-6 – J-8.

Purchasing

Plan for procurements

The planning lifecycle for purchasing begins when TxDOT's purchasing agents (GSD and RSCs) work with users to define the user requirements, eliminate "wants" (personal preferences) and unnecessary restrictions from requirements and determine the most appropriate method of purchase. The key planning factors for purchasing efforts include:

- Method of purchase (e.g. routine vs. emergency, open market, small purchase, request for proposal, etc.) – TxDOT is required by the State Purchasing Act to use competitive bidding unless exempted by statute or rule. Competitive bidding is a method of acquiring goods and services with award made to the lowest responsive and responsible bidder based solely on the criteria set forth in the solicitation. It is used to stimulate competition, prevent favoritism, and secure goods and services at the best value. Competitive bidding can be informal (e.g., through requests for quotes) or formal (e.g., through written, sealed bids);
- Lead time; and
- Quality Assurance – The department has a formal quality assurance program. The solicitation document establishes the requirements for testing, inspection, and acceptance of

equipment, materials, supplies, and services. The quality assurance actions, as a minimum, establish that deliveries are satisfactory and conform to the purchase order and that all mandatory specifications and conditions are met before the items are accepted by the department and payment accomplished.

Request & receive offers

"To request and purchase of all goods and services for TxDOT, GSD uses the Automated Purchasing System (APS). This is a fully automated, department wide, mainframe system administered by GSD. APS documents the procurement cycle of goods and services from the time that a need is established by an end user, to receipt of the goods and services, including:

- Creating a request for materials, supplies, equipment, and services;
- Sending a request through the approval process;
- Sending a request to purchasing;
- Creating a solicitation;
- Creating a purchase order; and
- Receiving services, minor equipment and non-warehouse stocked items.

APS is the official record for auditing procurements."[6]

When issuing a solicitation over $25,000, TxDOT posts the solicitation to the ESBD and may send a notice to bidders (NTB) to notify companies on the state's Centralized Master Bidders' List (CMBL) of an upcoming opportunity to bid on for a good or service they indicated they can provide. At that point, all Invitations for Bids (IFBs), Requests for Offers (RFOs) and Requests for Proposals (RFPs) will be mailed to respondents who replied to the notice to bidders or posted on the Texas Electronic State Business Daily (ESBD), which is used to advertise all delegated purchases $25,000 and greater. Each region and GSD has internal procedures for receiving and securing written solicitation responses. In accordance with the TxDOT purchasing manual, "all responses received to a solicitation (request for bids, proposals, offers, quotes, etc.) must be recorded in APS;" for RFOs and RFPs, the original price is recorded and after final negotiations are complete and a best and final offer(s) (BAFO) has been received, the purchaser changes the price in the vendor response to the BAFO amount(s). When the vendor responses are entered into APS, the system calculates the line item price extensions and solicitation totals for use in generating a bid tabulation report.

Evaluate offers

Evaluations are performed by the purchaser or by an evaluation committee as stated in the solicitation[7]. An evaluation committee is used; a group of evaluators is established before the solicitation opening/closing date. This group normally consists of 3-5 members made up of end users, and internal technical experts. The purchaser does not serve on the evaluation committee, but provides guidance in procedural matters. Bids will be awarded to the lowest responsive and responsible bidder unless best value criteria were listed in the solicitation. (Best value evaluation

---

[6] TxDOT *Purchasing Manual*, Chapter 6, Section 1

[7] *TxDOT Purchasing Manual*, Chapter 2, Section 12

criteria are used for RFPs and RFOs, for two-step IFB, and may be used in other purchases. Generally, best value is used for purchases $100,000 and greater.) Evaluations may be conducted in one of two ways:

- One-step Evaluations – TxDOT's evaluation of a prospective entity's qualifications and price occur simultaneously (in one step), and the contract is awarded to the entity whose proposal receives the best score. Proposals are scored using criteria established by TxDOT to address a prospective entity's qualifications to perform specific job functions and the reasonableness of fees in relation to current industry averages and historical price data; and
- Two-step Evaluations – TxDOT uses a two-step procurement when the procurement requires factors other than cost, (i.e. skills, qualifications, experience, test results, etc.). "GSD recommends an evaluation be based on 60% on skills and qualifications, and 40% on price."[8]
- Three-step evaluations may involve oral presentations, best and final offers, and negotiations prior to award

After evaluations, the purchaser verifies all evaluation extensions and totals, initials the sheets in red, totals up the evaluations by vendor, and enters the scores and prices into the appropriate GSD Two- or three-step Evaluation Spreadsheet, or Data Compiler. The spreadsheet automatically ranks the submissions.

Award contracts

"The purchaser awards a purchase order (PO) based on the results of the solicitation response and the evaluation process. Award is made to the vendor submitting the lowest and best response conforming to the specifications and requirements contained in the solicitation. The award of a PO is made through APS."[9] A PO is not legally binding until issued and signed. Regions are responsible for the award and issue of POs within their delegated authority. Awarded POs exceeding a region's delegated authority are redirected to the appropriate GSD purchaser for approval and issue. Any supporting documentation not included in APS must be forwarded to GSD. The PO cannot be issued until the GSD purchaser receives all documentation.

Manage contracts

"APS is the official purchasing record for auditing, supplemented by the manual or hard copy purchasing file. The purchasing file is an official department document and subject to the open records act."[10]   The documents required to be maintained in both APS and purchasing files vary based on awarded value. Project managers or inspectors provide oversight of applicable contracts and contractual requirements, including HUB subcontracting plans, and report HUB participation via monthly and final reporting forms. "Inspectors are responsible for completing inspection within five days or within the time frame specified in the PO. Inspectors must notify the issuing purchaser of all discrepancies, prior to any contact with the vendor when there are questions regarding specification compliance and when goods do not meet advertised requirements."[11]   A D/D/O/R is responsible

---

[8] *TxDOT Purchasing Manual*, Chapter 2, Section 13

[9] *TxDOT Purchasing Manual*, Chapter 2, Section 15

for monitoring service and blanket POs established for their use, and requesting the issuing purchaser perform quantity increases and renewals. TxDOT must report the vendor's performance to the Comptroller of Public Accounts (CPA) on purchases over $25,000 made through delegated authority and from contracts administered by the CPA.[12]   According to TxDOT purchasing procedures, "if the goods or service have not been provided by the date quoted/promised, the vendor is in default of the purchase order."

Any actual or prospective bidder or offer or who is aggrieved in connection with the solicitation, evaluation, or award of a purchase made by the department under the State Purchasing and General Services Act may file a written protest. A protest must be made within 10 working days after the aggrieved person knows, or should have known, of the action or fact causing the complaint. The protest must be in writing and submitted to the Director of the General Services Division or other individual as designated by the Director of Purchasing. The director of purchasing or other individual as designated by the director of general services may attempt to resolve the protest and issues a written response to the protesting party and interested parties, stating the reason for the determination. An interested party may appeal the determination to the executive director. The interested party must submit an appeal in writing to the executive director's office no later than 10 working days after the date of the determination. The appeal is limited to a review of the original protest and determination. The Office of General Counsel then reviews the protest, the determination, the appeal, and prepare a written opinion with recommendation to the executive director. The executive director may issue a final written determination or refer the matter to the Transportation Commission for its consideration at a regularly scheduled open meeting. The decision of the Commission is final.

Grant Thornton used the "Goods and Non-Professional Services Procurement Process – January 2010" to aid in analyzing the procurement process.

Contracting (emphasis on professional services)

Plan for procurements
The contracting planning process begins with two steps that can happen either in sequence or in parallel: TxDOT pre-certifies engineering, surveying, and architecture firms[13] through the Design Division Consultant Contract Office (DES-CCO) and the intended managing office (region or

---

[10] *TxDOT Purchasing Manual*, Chapter 2, Section 17

[11] *TxDOT Purchasing Manual*, Chapter 7, Section 2

[12] *TxDOT Purchasing Manual*, Chapter 1, Section 1

[13] To be eligible to perform architectural, professional engineering, or surveying work, firms must be pre-certified unless the anticipated work in an individual work category is less than 5.0% of the contract or the department has waived the precertification requirements for a contract that is less than $250,000.

The Consultant Contract Information System (CCIS) contains qualification information submitted in the precertification application.

division) determines if there is a need for consultant support. By law, TxDOT must outsource not less than 35 percent of the total funds appropriated in Strategy A.1.1 Plan/Design/Manage and Strategy A.1.2 of the General Appropriations Act for that State fiscal biennium.

The Regions provide assistance to the Districts in assessing design resource availability and determining the need to out-source projects or services. In addition, they serve as the managing office for the contracting process and oversee the development of appropriate procurement strategy and documentation (contract type, payment type, DBE/HUB goals, consultant selection criteria, independent estimate, etc.)[14]

Request & receive offers

The Design Division's Consultant Contract Office advertises the notice of intent (NOI). – TxDOT posts an electronic NOI on an electronic bulletin board not less than 21 days before the letter of interest due date. TxDOT posts a newspaper notice not less than 21 days before the letter of interest due date in a local newspaper within the geographical area of the district, division, or office where the work will be performed. If the newspaper fails to print the notice, the department considers the notice posted. The managing office logs all Letters of Intent (LOI) as they are received and maintain physical control of them.

Evaluate offers

- The provider submits a letter of interest to the department notifying the department of the provider's interest in the contract not later than the deadline published in the notice;
- A prime provider or sub-provider must demonstrate in an attachment to the LOI how it meets the minimum qualifications for work that does not fall within any work category approved; and
- A member of the CST or other qualified staff ensures LOIs received meet acceptance criteria by verifying if NOI instructions were followed, precertification requirements are met, and minimum requirements of non-listed work categories (NLCs) are met.

The consultant selection team comprised of region and district personnel evaluate independent contract guide (ICG)/RFP responses, score the responses, compile the scores, and prepare contract evaluation summary containing the scores of the prime providers on the short list. The consultant selection is managed by the managing office providing oversight of the process. The managing officer then submits the contract evaluation summary, evaluation documentation, certification that the procedures were used and recommendation for selection to the DES-CCO for review. If the procedural review is acceptable, the executive director or the director's designee concurs with the selection.

---

[14] Texas Department of Transportation, Design Resource and Contract Management Development Process SOP, Roles and Responsibilities, January 1, 2010

The managing office notifies both selected and short-listed non-selected providers. DES-CCO publishes the short list and the provider selected for a contract on an electronic bulletin board. Negotiations on final contract scope, indirect costs, salary rates, profit rates and levels of effort are conducted by the assigned project manager and managing office.

If the department and the selected provider are unable to negotiate a satisfactory contract containing a fair and reasonable price within the allotted time period, the managing officer ends negotiations with that provider and commences negotiations with alternative providers. The time frame for professional services procurements is desired to be 100 working days from receipt of LOIs to signing of the contracts.

Award contracts

Following the negotiations of a fair and reasonable price, professional service contracts are awarded. TxDOT executes the prime contract. If the contract awarded is an indefinite deliverable, work authorizations will be issued when a need is identified. The maximum amount payable for indefinite deliverable contracts will vary depending on the managing office (it is $5 million for divisions and metropolitan and border districts and $2 million for all other districts). The signature authority for TxDOT's engineering varies by contracts varies by contract value.

Manage contracts

Once the performing entity is selected, and the contract is signed and executed by personnel with designated signature authorities, the contract manager assigned to the project plays a critical role in contributing to its long-term success. This individual is responsible for coordinating with key personnel to ensure that necessary tasks take place in accordance with the terms and conditions of the contract.

- Contract Services monitors the insurance policies for all active negotiated contracts; and
- The performing entity (the prime provider) is required to document that efforts have been made to utilize sub-providers that are certified as either a DBE if federal dollars are used to fund the project or a HUB if the project is funded entirely by state dollars.

TxDOT is required to pay invoices within 30 calendar days. In its SOP, the Region has established milestones of when each stage of the invoice process must be complete in order to meet the 30 days.

- Development and issuance of work authorizations
  - When a need for work arises, and the managing office decides to outsource rather than perform the work in-house, a work authorization is issued to the performing entity it has under contract. The contract manager develops an independent scope of work for the project, and then initiates negotiations with the selected entity to draft the work authorization.
  - Using fees set forth in the prime contract, TxDOT and the performing entity negotiate to establish the maximum amount payable for the work authorization. Signature authority is delegated for work authorizations less than $1 million. All work authorizations issued are bound by the terms and conditions set forth in the prime contract.
- Two-Year Contract Period
  - For indefinite deliverable contracts, all work authorizations must be issued within the two-year period following execution of the prime contract. No additional work

> authorizations may be issued outside the two-year period, except for supplemental work authorizations that may be required to complete the work authorizations.
>
> o The two-year period helps to ensure fair competition, and to create additional work opportunities for prospective entities that can meet the required qualifications and perform their services at a fair and reasonable cost to TxDOT.

Individual project managers provide oversight of applicable contracts and contractual requirements, such as HUB subcontracting plans, and report HUB participation via monthly and final reporting forms. Grant Thornton used the "Contracting Invoice Flowchart" and the "Contract Flowchart" developed by TxDOT personnel to aid in analyzing the procurement process.

This page intentionally left blank.

Appendix Q: Statutorily required reporting requirements

Appendix Q lists TxDOT reporting requirements as mandated by State laws and regulations. GPA coordinates with divisions and offices to ensure reports are delivered on time. GPA also performs quality assurance reviews and coordinates Administration and Commission reviews as necessary. Table Q-1 lists these reporting requirements, along with each report's mandate, statutory cite, office of primary responsibility (OPR), office of corollary responsibility (OCR), name, purpose, due date, and recipients.

Mandate	Statutory Cite	OPR	OCR	Report Name	Report Purpose	Due Date	Recipients
Executive Order RP49		MNT		State Energy Savings Plan Progress Report	Progress of department's Energy Savings Plan, additional ideas for savings.	Quarterly, beginning 4/1/06	Governor, LBB
GAA	Article IX, sec 12.04(a)	GSD		Lost Property Report	Report value of property lost and missing	Annually per Comptroller and LBB	LBB, Comptroller
GAA	Article IX, Sec 4.07(c)	HRD	FIN	Contract Workforce Report	Interim reports on contract workforce usage	As determined by SAO	State Auditor
GAA	Article IX, sec 6.08	FIN	HRD	Benefits Paid Proportionally by Fund	Show that employee benefits are paid proportionally from the source fund.	Before 20-Nov annually	Comptroller, State Auditor
GAA	Article IX, sec 6.13(d)(3)	HRD		Compensation Enhancement as a Performance Reward	Describe the success of an innovative program and criteria to assess improvements to allow compensation enhancement	60 days prior to implementation	Governor, Comptroller, LBB, House Appropriations, Senate Finance
GAA	Article IX, sec 7.01(a)(1)	FIN		Operating Budget	Provide an itemized budget covering the fiscal year's operations	1-Dec Annually	Governor, LBB, Comptroller, Legislative Reference Library
GAA	Article IX, sec 7.01(a)(3)	FIN	AVN, BRG, CST, DES, MCD, MNT, PTN, TPP, TRF, VTR	Performance Reports	Analyze agency performance based on measures	Quarterly	Governor, LBB, State Auditor, Legislative Reference Library, State Library, substantive legislative committees

Mandate	Statutory Cite	OPR	OCR	Report Name	Report Purpose	Due Date	Recipients
GAA	Article IX, sec 7.08	FIN	MNT	Operating Budget - Homeland Security Expenditures	Report homeland security expenditures in the Operating Budget	1-Dec Annually	LBB
GAA	Article IX, Sect 12.07(d)	TRF		Radio Interoperability Federal Funds	Status of radio interoperability functionality and ability to meet federal guidelines	Quarterly	Governor, LBB
GAA	TxDOT Rider 14c	TTA	GPA, TPP, ENV, ISD	Corridor Justification Report		When EIS submitted	Legislators
GAA	TxDOT Rider 17	FIN		Summer Hire Program	Report of number of interns hired in 3rd & 4th quarters as FTEs, not to exceed 1200 in FY	Each FY	Governor, LBB, State Auditor's Office
GAA	TxDOT Rider 19a	TPP	GPA, FIN, DES, IRO	Trade Transportation Report	Report on department's trade transportation activities in border districts	Before 1-Jan annually	Border district legislators, Governor, LBB, MPOs
GAA	TxDOT Rider 19b	FIN	GPA, TPP	Monthly Revenue Report on State Highway Fund #6		Monthly	Governor, LBB
GAA	TxDOT Rider 19c	FIN		Report on Effects of Loans	Notify legislators if a loan is being granted for any project in their district, and the effects	90 days before loan approval	Legislators
GAA	TxDOT Rider 19c	TSD	Districts, AVN, FIN, GPA, RRD, TPP, TTA	Project Status Reports	Status reports provided to members by legislative district	Before 1-Jan annually	Legislators
GAA	TxDOT Rider 19d1	FIN	GPA, RRD, TTA	Rail and tolled project in UTP Report		<10 days after identified	Legislators
GAA	TxDOT Rider 19d2	ROW	GPA, TTA, TPP	Corridor Eminent Domain Reports		At least 10 days before proceedings	Legislators
GAA	TxDOT Rider 19d4	TTA	GPA, TPP	Notification of creation of RMA or tollway authority		No more than 10 days after approval	Legislators
GAA	TxDOT Rider 19d5	TTA	GPA, TPP, ROW, OGC	Notification of holding in TTA project	Notify if a toll authority member's holding is in a project	Immediate	Legislators
GAA	TxDOT Rider 19e	PTN	GPA	PTN report to legislature	Report industry data	Before Jan. 1 annually	Legislature
GAA	TxDOT Rider 19f	TPP	GPA, ENV	CMAQ Report	Report on congestion mitigation and air quality progress	1-Sep annually	Governor, LBB

May 26, 2010

Mandate	Statutory Cite	OPR	OCR	Report Name	Report Purpose	Due Date	Recipients
GAA	TxDOT Rider 19g	TPP	GPA	STIP Accountability Report	Report of STIP projects let on time	Each FY in the biennium	Legislature
GAA	TxDOT Rider 2	FIN	GPA, MNT, TSD, GSD	Capital Budget Report	Capital Budget Reporting Requirement	11-Sep annually	LBB
GAA	TxDOT Rider 23	FIN	GPA	Additional Funds Report	Additional Funds may only expended with Gov/LBB approval after report is submitted	Before 14-Apr annually (Q2+45)	Governor, LBB
GAA	TxDOT Rider 26	TTA	GPA, TPP	Corridor Projects in UTP	Identify Trans Texas Corridor projects in UTP and post on department's website		Legislators and public
GAA	TxDOT Rider 3	FIN	GPA	Appropriations Transfer Report	Appropriations Transfer Reporting Requirement	11-Sep annually	LBB
Government Code	§2004.004	MNT		Reporting and Filing of Registrations	Lists people visiting TxDOT sites and whether they are paid to appear.	10 days after calendar quarter	Texas Ethics Commission
Government Code	§2052.103	FIN	HRD	FTE State Employees	Report on full time employee status	Last day of first month after fiscal quarter	State Auditor
Government Code	§2054.097	TSD	FIN	Information Resources Section of Strategic Plan	Review of Department's information resources strategic plan in coordination with the quality assurance team	Not specified	LBB, State Auditor, and DIR, which may report to Governor, Lt Governor, Speaker of the House if not in compliance
Government Code	§2054.100	TSD		Biennial Operating Plan	List information resources projects and describe how they meet criteria	As directed by LBB	Governor, LBB, DIR, QA Team,
Government Code	§2054.1182	TSD		Post Implementation Evaluation Review (PIER) Report	For "major" IT projects, used to evaluate and report on whether the project met objectives/expectations.	After implementation of the project	State Auditor, DIR
Government Code	§2054.126	FIN	TSD	State Agency Online Postings	Agency is to post and make readily available information about practices to the public	Annually	DIR, general public
Government Code	§2054.303	TSD		Business Case	For "major" IT projects, provide comparative information on costs vs. benefits through business case analysis process. Possible basis for Information Technology Detail which is part of the LAR.	1-Sep annually	LBB, State Auditor, DIR
Government Code	§2054.303	TSD		Statewide Impact Analysis	For "major" IT projects, provides information for assessment of a project's impact on use of IT resources across the state.	1-Sep annually	LBB, State Auditor, DIR
Government Code	§2054.304 §2054.1181	TSD		Project Plan	Includes general planning information, monitoring and control methods, and quality management.	1-Sep annually	TBPC

May 26, 2010

Mandate	Statutory Cite	OPR	OCR	Report Name	Report Purpose	Due Date	Recipients
Government Code	§2054.304 §2054.1181	TSD		Acquisition Plan	For "major" IT projects, includes procurement planning information for acquiring goods and/or services outside of the organization.	Before a vendor solicitation has been issued	TBPC,DIR
Government Code	§2101.011	FIN		Annual Financial Report	Provide information on the agency's use of appropriated money (to include revenue enhancement projects, §201.109, 9/1/95)	20-Nov annually	Governor, Comptroller, State Auditor, LBB, Legislative Reference Library,
Government Code	§2101.0115	FIN		Non-financial Info	Report other info	31 - Dec, annually	Governor, State Auditor, LBB
Government Code	§2102.009	AUD		Annual Internal Audit Report	Provide annual audit information	1-Nov annually	Sunset Commission, Gov (Budget Div), State Auditor, LBB
Government Code	§2102.0091	AUD		Individual Internal Audit Reports	Reports of periodic audits by the Department	30 days after submitting to our governing board	Governor (Budget Div), Sunset Commission, State Auditor, LBB
Government Code	§2107.005	FIN		Annual Debt Report	Annual Debt Report	30-Nov annually	Attorney General
Government Code	§2155.448	GSD		Recycled, Remanufactured or Environmentally Sensitive Commodities or Services	Expenditures on recycled materials and justification for use of non-recycled materials if they are available for a purpose	Due for each fiscal year, to be established by TBPC (permissive)	Texas Building and Procurement Commission
Government Code	§2161.124	GSD	CST	HUB Progress Reports	Report on the use of Historically Underutilized Businesses	31-Dec annually	Governor, Lt Governor, Speaker of the House
Government Code	§2256.005(n)	FIN		Public Funds Investment Report	Assist commissioner in evaluating management assertion about compliance with Public Funds	1-Jan even years	State Auditor
Government Code	§403.021	FIN		Encumbrance Reports	Report payables and binding encumbrances quarterly (by USAS entry) and annually	30-Oct annually	Comptroller, State Auditor, LBB
Government Code	§481.172 (b)(2) (B)	TRV		Action Plan for the Travel Division	Planning document to outline planned tourism activities in order to coordinate the state's tourism activities	1-Jun annually	Office of the Governor Economic Development and Tourism
Government Code	§552.274(b)	GSD	FIN	Cost of Copies	Provide report on the cost of copies for public information	No later than 1-Dec each odd year	Texas Facilities Commission

May 26, 2010

Mandate	Statutory Cite	OPR	OCR	Report Name	Report Purpose	Due Date	Recipients
Government Code	§2111.002	GSD		Intellectual Property Rights report	innovations that have commercial application	as product is invented	Lt. Governor, Speaker of the House
Government Code and Transportation Code	Gov §2101.0115 and Trans §201.109	FIN	AVN, CST, GSD, HRD, MNT, OGC	Annual Report	List bonded employees, space usage analysis, contract details, legal service fees, aircraft usage, purchases of recycled and similar products, HUB purchasing, revenue enhancement goals, appropriations transfers, vehicle purchases, employee benefits, bond debt service, employees authorized to use state vehicles, land inventory (even numbered years only).	31-Dec annually	Governor, Legislative Reference Library, State Auditor, LBB
Labor Code	§21.504	OCR	HRD	Minority Hiring Practices	Provide report on the number of minorities employed at TxDOT	1-Nov annually	Texas Workforce Commission, then they submit to Governor, LBB by 1/1
Labor Code	§21.552	OCR	HRD	Equal Employment Opportunity Report	Provide employee hire information by gender, racial and ethnic group, and disability	1-Nov. annually	Texas Workforce Commission
Labor Code	§412.053	OCC		Annual Risk Management Report	Report of worker's comp cases, wages lost, etc.	3-Jul annually	Director, State Office of Risk Management
SCR 78, 74th Legislature, 1995		IRO		LTSS (Land Transportation Standards Subcommittee) Report	For two years plus, IRO has produced a report that basically says that there is nothing to report.	Quarterly	Legislature, Governor, Attorney General
TAC	Title 34, Part 1, Ch 20, Subch B, Rule 20.16(d)	GSD	CST	Semi-Annual HUB Report	Report on payments made for the purchase of goods and services to Historically Underutilized Businesses.	15-Mar annually	Comptroller
TAC	Title 34, Part 1, Ch 20, Subch B, Rule 20.16(d)	GSD	CST	Annual HUB Report	Report on payments made for the purchase of goods and services to Historically Underutilized Businesses.	15-Sep annually	Comptroller
Transportation Code	§201.609	DES		International Trade Traffic Projects	Report on the ability of state highway system to allow for projected international trade traffic over 5 years following report date	1-Feb of odd years	Legislature
Transportation Code	§201.053(b)(3)	GBE		Quarterly Report to the Governor	The state of affairs of the department	Quarterly	Governor
Transportation Code	§201.053(b)(5)	GPA		Private Enterprise Maximization	Report efforts to maximize efficiency through private enterprise	Not specified	Governor
Transportation Code	§201.053(b)(6)	GPA		Agency Structure	Submit recommendations for structural changes	Not specified	Governor, LBB

May 26, 2010

Mandate	Statutory Cite	OPR	OCR	Report Name	Report Purpose	Due Date	Recipients
Transportation Code	§201.0545(a)	GPA		Report on Statutory Changes	Commission may report to the legislature regarding potential statutory changes to improve the operation of the department.	Periodically	Legislature
Transportation Code	§201.0545(b)	GPA		Legislative Recommendations from Commission	Report on legislative recommendations adopted by the Commission relating to the operation of department.	Not specified	Governor, Lt Governor, Speaker of the House, Presiding officers of relevant legislative committees
Transportation Code	§201.103	TPP		Report on Comprehensive System of Highways and Roads	Commission reports on its work regarding the state highway and public road system and provides recommendations. Also requires preparation of a comprehensive plan	Biennially	Governor, Legislature
Transportation Code	§201.107(a)	FIN		Quarterly Financial Report	Statement containing itemized list of all money received, source of the money and all money paid and the purpose of payment.	Quarterly	Governor
Transportation Code	§201.107(b)	FIN		Annual Financial Statement	Complete and detailed report accounting for all funds received, disbursed during preceding fiscal year.	Annually	Governor, Lt Governor, Speaker of the House
Transportation Code	§201.109 (b)(5)	AUD		Independent Audit	Preparation for Sunset Review	2007, every 12 years	LBB and Legislature
Transportation Code	§201.114	TPP	IRO	Border Trade Advisory Committee Report	international trade and transportation planning	12/1/2006 annually	Lt Governor, Speaker of the House
Transportation Code	§201.207	TPP	IRO	cross border transportation and infrastructure plan	Summary of information obtained in meetings	12/1/2006 even-numbered years.	Governor, Legislature
Transportation Code	§201.402	OCR		EEO Status Report	Report to insure the department is adhering to EEO policies and procedures	Annually	Governor, Texas Commission on Human Rights
Transportation Code	§201.403(c)	HRD		Hiring Women and Minorities Report	Report on the department's progress in recruiting and hiring women and minority applicants	1-Feb	Legislature, Sunset Advisory Commission
Transportation Code	§201.6011	GPA	TPP	International Trade Corridor Plan	Report on implementation of the international trade corridor plan	1-Dec of even years	Lt Governor, Speaker of the House
Transportation Code	§201.608	Districts		Notice of Completed Projects	Notify legislators in county of completion of projects in the area.	10 days prior to completion date	At the request of a member of the legislature
Transportation Code	§201.616	FIN	TPP	Transportation Program Expenditures report	Provide expenditure information on UTP, turnpikes, Trans-Texas Corridor, bonds, RMAs, and certain rail and non-highway facilities	1-Dec Annually	Legislature

May 26, 2010

Mandate	Statutory Cite	OPR	OCR	Report Name	Report Purpose	Due Date	Recipients
Transportation Code	§201.962	FIN		State Highway Fund Cash Flow Shortfall Forecast	Explain request for issuance of tax and revenue anticipation notes	Before issuing notes	Cash Management Committee (Governor, Lt Governor, Speaker, Comptroller)
Transportation Code	§222.053(e)	FIN	TPP	Relief from Local Matching Funds Report	Report on the use of matching funds and local incentives and competitiveness of disadvantaged areas for highway funds	Annually	Governor, Lt Governor, Speaker of the House
Transportation Code	§222.103(e)	SPP	CST, DES, TPP, TTA	Status Report on Highway Construction Projects	Status of all highway construction projects by legislative district under contract or awaiting funding	Upon request	At the request of a member of the Legislature
Transportation Code	§222.103(e)	TTA		Toll facility loan notification	Report of expenditure by TxDOT for a toll project for a member representing any part of the affected area and how it could affect other projects in his/her district	90 days before loan approval	At the request of a member of the Legislature
Transportation Code	§223.042	MNT		Highway Maintenance Contracting	Detail of highway maintenance privatization contracts awarded during previous fiscal year	1-Sep	LBB
Transportation Code	§455.001 (4)	PTN		Public Transportation in Texas: Profiles and Projections	Description of services offered by public transportation providers in Texas and an estimate of future funding needs.	Not specified	May be sent to the Governor, Lt Governor, Legislature as requested
Transportation Code	§456.008	PTN		Texas Transit Statistics	Report on performance during previous year of public transportation providers receiving any state or federal funding.	1-Nov	Governor's Office (Budget and Planning Division), LBB, Legislature [Legislature not specifically cited.]
Transportation Code	§459.003 (a)	PTN		Inventory of Current Contracts	Facilitate an exchange of information on contracting opportunities between transit agencies and health and human services contractors	1-Oct annually	Executive Director of agencies that provide social services
Transportation Code	§459.003 (e)	PTN		Database of Human Service Contracts and Amounts Awarded to Transit Agencies	Share with Human Service agencies the results of the annual inventory process described in §459.003 (a).	Not specified	Health and Human Services Commission
Transportation Code	§51.007	TPP	Commission	Gulf Intracoastal Waterway Report	Evaluation of Impact of Gulf Intracoastal Waterway on state, recommending legislative action if necessary	To be presented each regular session	Legislature

Mandate	Statutory Cite	OPR	OCR	Report Name	Report Purpose	Due Date	Recipients
Transportation Code	§55.008	TPP		Port Capital Program	Define the goals and objectives of the Port Authority Advisory Committee concerning the development at port facilities and an intermodal transportation system	1-Feb annually	Governor, Lt Governor, Speaker of the House, Texas Transportation Commission
Transportation Code	§227.004	TTA	GPA	TTC EIS	Post EIS on department website and notify legislators about availability	After federal government approves EIS	Legislators and Commissioners courts in study area

Table Q-1: TxDOT reporting requirements

Appendix R: TxDOT organization chart as of April 2010

Texas Department of Transportation – April 2010
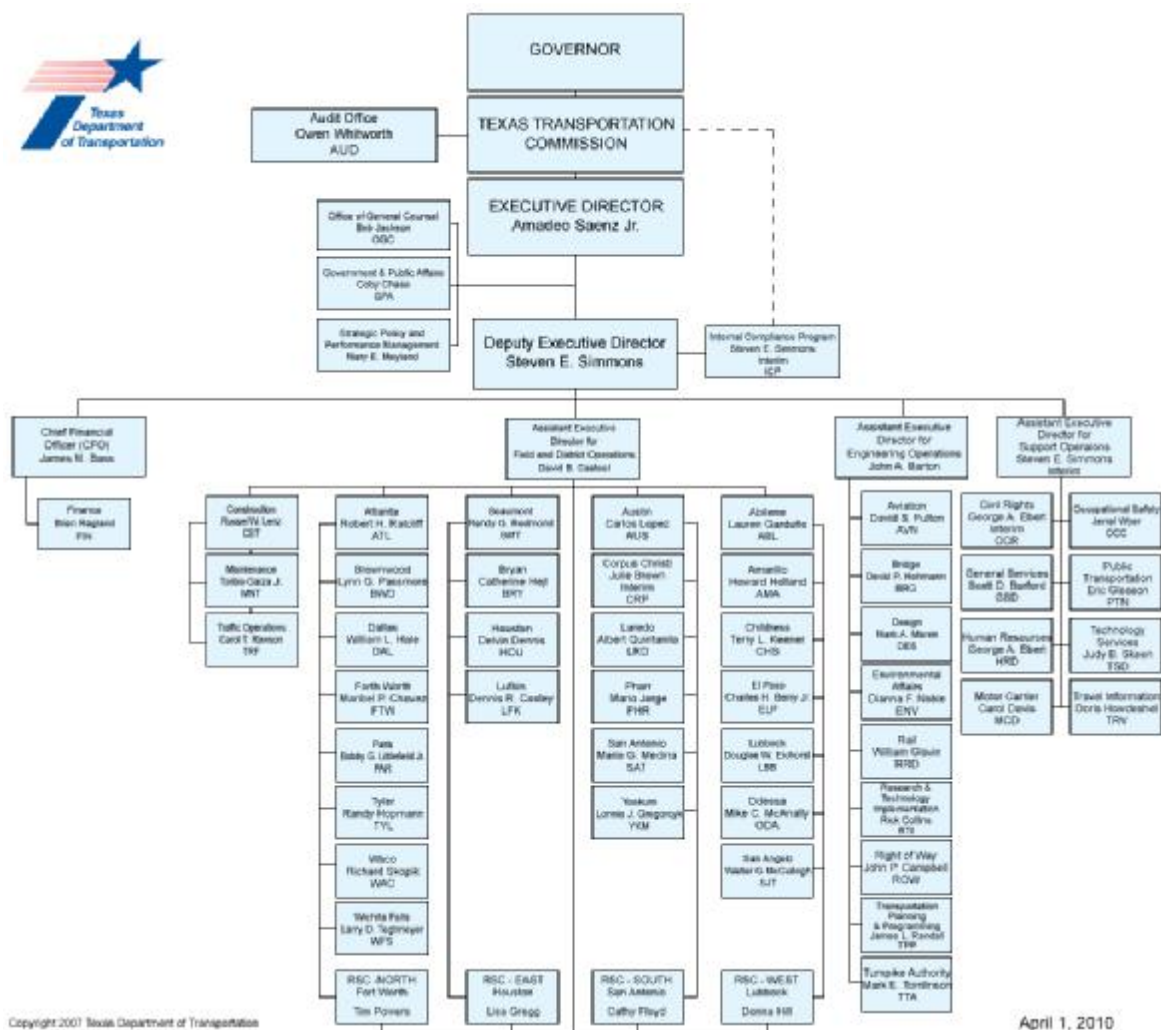
This page intentionally left blank

Appendix S: TxDOT "One DOT" approach

Appendix S presents TxDOT's "One DOT" approach to staffing for FY 2010. The staffing study was conducted for each district and broken out in the regions. The "FY12 Workload-Based FTE" column is the number of FTE's needed per district based on expected workload. The "FY 12 Actual Allocation" column is the number of FTE's the district is expected to have in FY 2012 based on attrition.

District and Support Center	FY12 Workload-Based FTE Need Number	FY 12 Actual Allocation (Smoothed Number)	Net: Actual - Need
North Region			
ATL	267	265	(2)
BWD	185	180	(5)
DAL	936	885	(51)
FTW	486	500	14
TYL	301	295	(6)
PAR	263	265	2
WAC	434	330	(104)
WFS	216	220	4
RCN	198	225	27
North Total	3286	3165	(121)
East Region			
BMT	283	280	(3)
BRY	294	290	(4)
LFK	268	260	(8)
HOU	890	1033	143
RCE	154	167	13
East Total	1889	2030	141
South Region			
AUS	488	495	7
CRP	410	375	(35)
LRD	225	220	(5)
PHR	269	290	21
SAT	509	540	31
YKM	276	275	(1)
RCS	163	170	7
South Total	2340	2365	25
West Region			
ABL	276	270	(6)
AMA	357	340	(17)

District and Support Center	FY12 Workload-Based FTE Need Number	FY 12 Actual Allocation (Smoothed Number)	Net: Actual - Need
CHS	200	190	(10)
ELP	236	250	14
ODA	270	260	(10)
LBB	368	340	(28)
SJT	211	205	(6)
RCW	142	160	18
West Total	2060	2015	(45)
Statewide Total	9575	9575	0

Table S-1: TxDOT "One DOT" approach

Texas Department of Transportation

Management and Organizational Review

Final Report

Supplemental information

May 26, 2010

Table of Contents

Table of Tables

Section A.   Recommendations from prior reviews and audits

Supplemental Section A provides a synopsis of recommendations from select prior independent assessments and audits. The recommendations from these prior reviews are categorized by the eight business processes included in the MOR team's functional diagnostic: plan, design, build, human resources, information technology, financial management, procurement and communication. In addition, when appropriate, recommendations were categorized as accountability, general management, strategic planning and performance management and organizational design.

Please note: Categories listed track to the categories of review used in the Management and Organizational Review. Recommendations are sorted by category. Some recommendations are repeated so as to appear in multiple category areas (for ease of review). The recommendations shaded in grey are associated with multiple categories but are not repeated to avoid listing them in multiple places.

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Perform follow-up to determine if recommendations are implemented and to analyze what their effect has been.	Accountability
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Establish a follow-up mechanism to determine if recommendations are implemented and to analyze what their impact on the environmental process	Accountability
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Provide project specific recognition to employees with significant contributions to successful projects that have been completed on-time and under budget.	Accountability Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Training is the first step; however, project managers must also take ownership of the project schedule and be responsible for monitoring its progress and performing updates. Concerns were expressed regarding resistance to change for implementing new scheduling procedures such as APDSS. Developing a Standard Operating Procedure (SOP) for creating schedules and performing updates will ensure updates are being performed and the schedules are being monitored.	Accountability Human resources Planning Design Build
Deloitte Independent Assessment of Field	September	The DCIS system provides high level scheduling information and milestone tracking	Build

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
Operations Unit	17, 2007	spreadsheets assist in tracking and monitoring progress. These types of tools may be adequate for smaller, simplistic projects; however, larger, more complex projects can benefit from using CPM scheduling techniques.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Developing standardized strategies and tools for managing project schedules throughout the project development life cycle would improve execution of the planning process for future projects and improve the accuracy of reported schedule progress. Potential issues could be identified early in the development process such that the execution strategy could be adjusted to help ensure letting dates are achieved.	Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	In general, the level of scheduling expertise and scheduling controls being utilized to plan and monitor construction projects varies across the Districts and is an area that can be strengthened. While TxDOT is developing CPM scheduling resources, the management and oversight of contractor schedules and progress is somewhat inconsistent among the Districts and appears to be an informal process. will facilitate this effort.	Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Districts should continue to develop in-house CPM scheduling resources and skills to improve the schedule planning, management, review, monitoring, control capabilities and general knowledge of the staff at multiple levels. This includes continuing to develop skills with Primavera Project Planner and Suretrak programs at each District through in-house or third party training programs.	Build Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	All Districts should establish a consistent progress reporting mechanism and ensure that a detailed and structured approach to reviewing schedule updates is consistently implemented. The goal is to generate consistent, objective reports to monitor schedule performance that can be shared at multiple levels within the organization.	Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Division should establish a consistent, detailed and structured process for identifying and developing baseline schedules against which progress may be measured and ensure that the approach is consistently implemented. While this is addressed in Chapter 4 in the Construction Contract Administration Manual, the guidelines are very high-level and generally require review	Build

Audit/Review Title	Date	Recommendation	Category
		for conformance with the contract.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Reevaluate the Prosecution and Progress section in the Standard Specifications and consider developing more defined and sophisticated scheduling requirements. Establish robust scheduling specifications to be used as a framework for all projects. • For example, rather than using bar charts as the default, and adding CPM as a Special Provision, TxDOT should use CPM scheduling as the default, and allow bar charts or other methods in the Special Provisions. • Add clauses to the specifications to empower the Area Offices to enforce the requirement to submit and use approved baseline schedules and updates when required in the contract. • Explore the possibility of clarifying the definition for when a project is 20% behind schedule and add a requirement for producing a recovery schedule when the project delay reaches a defined trigger point (i.e., when progress falls behind "Greater of 10 days or 2% of remaining time."	Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The change order process is relatively efficient and has certain checks and balances to ensure that Districts follow the procedure and control the process of pricing, negotiating, approving and processing change orders. While TxDOT has a clearly defined process for administering change orders, the process has some inefficiencies and opportunities for improvement.	Build Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The construction related IR systems are a risk to the organization. Site Manager is an effective project management tool which has sped-up facets of the administration process, including automating data entry and processing pay estimates. However, the mainframe or legacy systems are outdated, not user friendly, and are not an effectively project management tool used by the Area Offices or Districts. Improvements in technology could potentially result in more effective use of existing staff, accelerate processing of paperwork, and a reduction in costs.	Build Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Consider ways to improve communications among the field inspectors. For example, expand the use of contract terms that require the contractor to provide dual-band cell phones for use on	Build

Audit/Review Title	Date	Recommendation	Category
		the specific project.	Information technology Procurement Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Explore improving the integration of the legacy systems with Site Manager to improve use of the reporting features and produce relevant information in a stand reporting format to be used to support project management.	Build Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Consider adding modules for Site Manager to incorporate the Laboratory Information. This will improve the capabilities of Site Manager.	Build Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Promote, encourage, and provide the hardware and software resources to Area Offices that enables inspectors to utilize current technology and to automate the construction administration process. This will increase productivity and accuracy of information and allow inspectors to cover more area. Wireless technology will also promote more effective communication.	Build Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	There are opportunities to strengthen the scheduling controls currently utilized by TxDOT. Numerous Districts have recognized this opportunity and are developing scheduling tools to improve planning, forecasting and the ability to identify potential issues.	Build Planning
Sunset Advisory Commission – Commission Decisions	January 2009	Authorize TxDOT to use the design-build model of project delivery for traditional highway projects.	Build Design Contracting
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Promote the use of the Project Office concept to co-locate consultants and the TxDOT staff for performing oversight functions. This will provide for improved communication among team members and facilitate cross-learning for TxDOT staff.	Communications Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Creating a unified platform to promote the communication between Districts and Division. This may include monthly emails, newsletters and a web based solution.	Communications

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Focus on sharing information, starting with intra-District, neighboring Districts, Regions, and concluding with state-wide distribution.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Create more opportunities for personal networking to establish more cross-District and Division interaction and relationships.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Distribute information via regular correspondence such as monthly emails/newsletters.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Create more interactive conferences or meetings that focus on brainstorming solutions to resolve commonly encountered issues. Promote and encourage District staff to attend these conferences, and allocate time and budget to enable successful interactions among Districts and Division.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Explore the potential for creating issue specific email groups or online resources for sharing concerns and/or leading practices.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Districts should take a more proactive role in communicating with the consultant community and keeping them informed on TxDOT requirements, standard operating procedures and evolving design requirements.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should implement a process by which leading practices developed by Districts can be communicated to Division and ultimately disseminated state-wide.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Solicit more frequent input from the Districts in regards to potential policy changes as well as interpretations of current policies. Feedback and communication between the Division and the Districts should be strengthened to identify procedural impediments in the environmental process and work to resolve the contributing issues. Increasing the level of District input in policy making and procedural reviews can further strengthen this relationship and create additional efficiencies in the environmental process. Create an intra-District team or counsel composed of various members from different Districts to review and comment on proposed changes.	Communications

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Communication between the Division and Districts should be improved to help ensure that the expectations associated with the policies and procedures are clearly defined and to develop a common understanding of the environmental roles and responsibilities at all levels of the organization. TxDOT should consider reinstituting the annual environmental meeting, as opposed to a biennial meeting, to allow environmental personnel from Division and the various Districts to meet on a regular basis to improve communication, discuss common challenges or issues and identify potential solutions.	Communications Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Implement a formal review process to address complaints and issues raised by the Districts. Provide feedback and resolution to the District in regards to the issue. Division should continue to develop the internal escalation process which it has already started.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	By finding ways to effectively distribute information between Districts, the common sources of delays can be identified and mitigated during the clearance process. As this portion of the overall project is critical to its successful completion, any beneficial process discovered by one District needs to be quickly and effectively distributed to all Districts.	Communications Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Focus on distributing information, starting with intra-District, neighboring Districts, Regions and concluding with statewide distribution.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Create more instances for personal networking to establish more cross-District and Division interaction and relationships. Open communication between Districts and Division will help educate District personnel on Division's perspective on regulations, risks and requirements. Similarly, Division personnel will be able to understand challenges faced by the Districts. Districts should also be educated on the roles and responsibilities of the Division to gain a better understanding of the tasks performed at the Division level.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Create more interactive conferences or meetings that focus on brainstorming solutions to commonly encountered issues. These could include interactions with external reviewers in an effort to establish relationships and to better understand working viewpoints. TxDOT should continue to conduct quarterly meetings with FHWA at different locations throughout the state.	Communications

Audit/Review Title	Date	Recommendation	Category
		TxDOT should market these events internally and encourage environmental District personnel to attend.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Effectively sharing information between Districts will facilitate identifying common ROW issues being faced by multiple Districts. Lessons learned and leading practices should be shared to improve ROW processes and procedures. Areas to consider include: • Sponsor formal and informal communication with external reviewers in an effort to establish relationships and to better understand working viewpoints. • Distribute information via regular correspondence such as monthly emails. • Facilitate more interactive conferences or meetings that focus on brainstorming solutions to commonly encountered issues. • Develop IR resources such as email groups or websites to foster sharing leading practices.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Consider ways to improve communications among the field inspectors. For example, expand the use of contract terms that require the contractor to provide dual-band cell phones for use on the specific project.	Communications Build Information technology Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Consider ways to improve communications among the maintenance field staff and inspectors. For example, expand the use of contract terms that require the contractor to provide dual-band cell phones for use on specific maintenance project(s).	Communications Information technology Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Organize a work-group with Division personnel to improve communication between parties and implement improvements to streamline the contract review process. The goal is to promote cooperation between Division and District personnel, identify communication issues and "pinch points" between specific Divisions and the Districts and facilitate the review process.	Communications Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Sharing information and resources across Districts would potentially increase the efficiency of operations through sharing lessons learned, best practices, solutions and management tools.	Communications

Audit/Review Title	Date	Recommendation	Category
		Additionally, sharing would effectively utilize the limited FTE resources available to the organization by tracking and recognizing changing needs and availability. Statewide meeting and conferences would be conducive to sharing high level information, due to the format and frequency of these meetings. Meetings and conferences should be conducted more frequently in order to discuss best practices, lessons learned and solutions in greater detail.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Focus on radiating levels of distributing information, starting with intra-District, neighboring Districts, Regions, and concluding with statewide distribution.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Developing a system to track and manage work loads across Districts.	Communications Organizational design Information technology Financial management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Create instances for personal networking to establish more cross-District and Division interaction and relationships.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Define a clear process and procedure for responding to citizen complaints utilizing a general email system, voicemail or other applicable tool.	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Develop a database system that can track the time received, type, frequency and priority associated with citizen complaints. The database or management system should archive correspondence with the public and be able to filter action items to determine which items have been previously addressed. This could help alleviate reoccurring items and create a permanent solution if necessary	Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Districts should encourage their young engineers to be a part of the Young Engineers group within TxDOT and use it as a platform to network, enhance skill-sets and to discuss career paths.	Communications Human Resources
Deloitte Independent Assessment of Field	September	Conduct employee surveys to determine areas requiring improvement. Distribute the survey	Communications

Audit/Review Title	Date	Recommendation	Category
Operations Unit	17, 2007	results and the steps being taken to rectify the issues.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The current geographical structure of the TxDOT Distircts and the COGs should also be evaluated. Aligning the boundaries of these two organizations could improve coordination and streamline planning efforts. Currently the boundaries are very similar; therefore, large-scale geographical changes would not be required.	Communications Organizational design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Enhance internal communication between Division and Districts to improve the ROW scheduling process. Incorporating all functions for feedback can further refine the overall schedule.	Communications Planning
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	Effective business transformation and change management requires effective internal and external communications. Therefore, TxDOT should undertake an internal communications strategy, which demonstrates to staff the case for change as it applies to CDA implementation. The strategy should also communicate the type of skills necessary, the performance metrics associated with CDAs, and the benefits of implementing CDAs, and other innovative financing methods. TxDOT has spent a great deal of energy in communicating its intentions on implementing CDAs to the development and concession industry. Given the recent legislative challenges and political attention directed toward the CDA projects, it may now prove useful to establish a systematic external communications strategy that clearly articulates the objectives for CDAs and the principles used to ensure that the best interests of the state are respected and protected. While this will not eliminate the political challenges or criticisms by interest groups, it may help to better communicate the financial benefits and the economic, social, and quality-of-life benefits of TxDOT's efforts in implementing CDAs. When working to complete the CDA Manual, it may be useful to prepare elements of the CDA Manual that are modular and flexible in order to adapt to the inevitable changes that will take place during the construction and concession phases of these same projects.	Communications Procurement (CDAs)
Final Report of Findings and Recommendations, Consumer Services	August 2007	Implement customer advisory groups and feedback processes and other customer service improvement strategies for all divisions	Communications

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
Auditable Unit – Dye Management Group			
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	TxDOT should evaluate the data collected for the Accommodations Guide, Texas State Travel Guide, and Texas Events Calendar for potential consolidation into one or more databases, in order to facilitate access and currency of the information, ease the transfer of the data to the state's web site, and facilitate publication of this information	Communications Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Create a formal stakeholder/agency working group	Communications
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Develop protocols for the appropriate escalation of call center calls to handle exceptions and give call center staff more training and tools to enhance consistency in the information provided to clients	Communications Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Implement a formal and automated complaint process that tracks all complaint calls and their resolution	Communications
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Provide Internet-based access to OACP information including sign inventory data and self-service-capabilities such as application tracking and online invoicing and payment processing for the industry	Communications Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Seek statutory changes to allow increased use of the Internet and other technologies	Communications Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Strengthen TxDOT's existing web site and overall Internet presence to improve the customer's ability to easily access key information	Communications Information technology
State Audit Office – The Department of	August 2008	Post Texas Transportation Commission briefing documents on its Web site at the same time it	Communications

Audit/Review Title	Date	Recommendation	Category
Transportation's Financial Forecasting and Fund Allocation		provides commissioners with these documents.	
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Include a summary of important information in its cash forecast report, and include in that report recommended actions and a clear description of "what-if" scenarios. For example, an executive summary section could explain the assumptions involved in the base scenario; the recommended schedule for contract awards and the impact on cash balance; changes in assumptions and scheduled contract awards; and scenario criteria and the impact if a scenario is accepted, rejected, or altered.	Communications Financial management
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Modify its reports and coordinate with the Legislative Budget Board to ensure that any required reports meet the needs of legislative oversight entities. The Department submits reports in response to the requirements of two riders: • Rider 20(b), page VII-24, the General Appropriations Act (80th Legislature). Until the reports required by this rider are changed by subsequent legislative sessions or waived in writing by the Legislative Budget Board, they should include the following elements: (1) a revenue report, (2) a variance report for State Highway Fund 006 describing reasons for the fluctuation, and (3) expenditure information at the same level as appropriations. This may be accomplished by modifying the current report (cash forecast report) or through coordination with the Legislative Budget Board to develop a new budget and expenditure monitoring tool. • Rider 39, page VII-30, the General Appropriations Act (80th Legislature). This rider mandates that the Department submit a report that includes a reconciliation of the Department's expenditures and encumbrances of appropriations made to the Department by the General Appropriations Act to the 12 categories included in the Department's Statewide Preservation Program and Statewide Mobility Program. The Department should identify and disclose reasons for any differences (that is, reconciling amounts and items) between expenditures/encumbrances and the 12 categories of funding.	Communications Financial management

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Continue to work with oversight entities, such as the Texas Transportation Commission, the Legislative Budget Board, and legislative committees to produce a report that communicates the information these entities need when making fiscal and organizational decisions regarding the Department.	Communications Financial management
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Develop and implement a transparent process that communicates to the districts the reduction in current year funds resulting when districts accelerate projects. The Department should consider including a documented agreement between the "lending" district and the "borrowing" district. It also should consider the feasibility of compensating the lending district for lost financial leverage due to the effect of inflation.	Communications Financial management
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	When changes are made that affect allocations as published in the most recent Unified Transportation Program, provide legislators whose districts are affected with information regarding these changes, which are made through minute orders approved by the Texas Transportation Commission.	Communications Planning
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Formally document its intent to cease further implementation of the tax gap analysis and related prior audit recommendations.	Communications Financial management
Sunset Advisory Commission – Commission Decisions	January 2009	Require TxDOT to develop and implement a public involvement policy that guides and encourages more meaningful public involvement efforts agency-wide.	Communications
Sunset Advisory Commission – Commission Decisions	January 2009	Require TxDOT to develop standard procedures for documenting complaints and for tracking and analyzing complaint data.	Communications
Sunset Advisory Commission – Commission Decisions	January 2009	TxDOT should provide a formal process for staff with similar responsibilities to share best practices information.	Communications Human resources
Sunset Advisory Commission – Commission Decisions	January 2009	TxDOT should provide central coordination of the Department's major marketing campaigns.	Communications

Audit/Review Title	Date	Recommendation	Category
Sunset Advisory Commission – Commission Decisions	January 2009	TxDOT should make its website easier to use.	Communications
Sunset Advisory Commission – Commission Decisions	January 2009	TxDOT should develop clear communication policies regarding contract solicitations for its professional services contracts.	Communications Contracting
Sunset Advisory Commission – Commission Decisions	January 2009	Require the Department to develop a complaints process, track and report complaints, and provide information to the public about how to file a complaint (pertaining to outdoor advertising).	Communications
Sunset Advisory Commission – Commission Decisions	January 2009	Require information to be maintained on complaints.	Communications
Sunset Advisory Commission – Commission Decisions	January 2009	Require the agency to use technology to increase public access.	Communications Information technology
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	As TxDOT begins to integrate new business processes involved in administering CDAs and managing the associated changes, TxDOT should consider the development of a formal change management capability that will help transition the Agency's strategies and priorities. Developing a change management capability defines who, what, and when information will be shared with those affected by changes. General communications should be used to keep all businesses informed of the progress made to date. Change management should move employees from a state of awareness to understanding to acceptance and ownership of the changes that are occurring.	Communications (CDAs)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Benchmark salary and benefits to equivalent positions within the private sector and make adjustments in areas where there are significant discrepancies. One District we interviewed is already benchmarking compensation for engineers within their District and the private sector. This could be expanded to include all fields and all levels of personnel. Annually report the findings of the benchmarking study to further illustrate and emphasize the	Compensation

Audit/Review Title	Date	Recommendation	Category
		desirability of the overall compensation package offered by TxDOT.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	As a public entity, salary expectation is typically lower for TxDOT employees than for equivalent positions in the private sector. As a counter balance, the additional benefits received significantly close this gap. That being said, many employees still tend to focus on the issue of salary as an area of improvement.	Compensation Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	As a public entity, salary expectation is typically lower for TxDOT employees than for equivalent positions in the private sector. The additional benefits TxDOT offers can help to close the overall compensation package inequity. In spite of TxDOT's strong benefits package, many employees still tend to focus on the issue of salary as an area for improvement.	Compensation Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Benchmark salary and benefits to equivalent positions within the private sector and make adjustments in areas where there are significant discrepancies. One District we interviewed is already benchmarking compensation for engineers within their District and the private sector. This could be expanded to include all fields and all levels of personnel.

Annually report the findings of the benchmarking study to illustrate the desirability of the overall compensation package TxDOT offers. | Compensation Human resources |
| Deloitte Independent Assessment of Field Operations Unit | September 17, 2007 | TxDOT should evaluate the current job market and determine potential solutions for becoming more competitive. Alternate solutions such as increasing compensation for key positions, or giving employees the option to choose a higher pay structure with diminished benefits may help retain high performing individuals and enable the Districts to determine the best structure to suit their need. | Compensation Human resources |
| Deloitte Independent Assessment of Management and Support Functions | September 12, 2007 | TxDOT should initiate a compensation strategy and structure that ensures recruitment from the widest possible talent pool and that maximizes retention of key workforce segments (e.g., technical and professional skill sets related to CDAs). As part of this strategy, a compensation analysis should also be initiated. Conducting a division compensation analysis will aid the department in determining the accurate market value of the skill sets. The analysis should | Compensation Human resources |

Audit/Review Title	Date	Recommendation	Category
		include salary, bonuses, benefits, work-life balance issues, and more in order to effectively compare a resource transition from a private firm to a state agency. The results of this analysis will serve as the basis for any recommendations TxDOT chooses to make to the legislature, State Auditor's Office, or other key decision makers regarding modifying or granting an exception to the pay scale.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should continue developing its scheduling capabilities. Providing training for design and other personnel in Primavera and CPM scheduling will facilitate managing the project development process. Training will also improve TxDOT's ability to effectively review consultant schedules and monitor their progress. In addition, teaming with project management consultants that have expertise in scheduling will accelerate the in-house learning curve and assist with establishing procedures and processes for evaluating and updating schedules.	Design Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	• Though each District has different needs for design resources, and a one-size fits all approach may not be applicable, TxDOT should conduct a study to determine the best practice to suit the needs of the organization. Strengthening the District design section will promote increased sharing of knowledge, more complete on-the-job training, and sharing of best practices and lessons learned within the Design Function. These efforts may provide a greater opportunity to increase the range of design expertise and specialization. Advantages of consolidation include: District design sections can focus on design rather than other issues associated with construction that typically utilize significant resources at the Area Offices. District design sections can focus on management of projects at a global level and effectively administer and disseminate information from a single source. • Districts can spread workload between Area Offices as necessary and can account for varying needs of Districts. • This structure would foster greater teamwork and learning, increase efficiency and expand expertise.	Design
Deloitte Independent Assessment of Field	September	At the same time, considerations should be given to the Area design sections for smaller	Design

Audit/Review Title	Date	Recommendation	Category
Operations Unit	17, 2007	maintenance design projects, review of consultant design and assistance during execution of projects. The advantages of strengthening Area design sections are improved efficiency and quality of design through the following: • Familiarity with the local area and existing infrastructure helps in the prevention of • errors and omissions in design tied to field conditions; • Proximity to the site, and a better understanding of local conditions leads to more • project ownership; and • Quick turnaround times in responding to Requests for Information (RFIs) during the construction phase of the project.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Submittal milestones should be standardized for all Districts. Understandably, smaller projects might not require as many milestones; nonetheless, Districts might benefit from having a procedure to identify and define projects and standardize requirements based on complexity and size of projects. These checks would aid in determining consultant invoices for accurate payments against deliverables.	Design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Once requirements are defined, design sections and project managers should enforce and track all submittals for accuracy and completeness. Any issues with submittals should be documented and used during the evaluation of the consultants.	Design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Internally, Districts should have a 'clock' on the turnaround times for consultant plan reviews. This could potentially reduce time extensions requested by consultants and would help in achieving letting schedules.	Design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Districts should adopt a more formalized plan review process that will promote early detection of potential E&O in design. This will mitigate risks to the construction process by reducing the change orders resulting from E&Os.	Design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Division should revise and provide guidance on the claims portion of the E&O procedure that was recently rescinded. The E&O guidance should be clearly communicated to ensure the Districts understand their responsibilities with regard to identifying, tracking and correcting	Design

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
		E&Os by consultants.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The rotation program should be a requirement for young engineers to enhance skill-sets and comprehensive understanding about all aspects of design. Every young engineer should choose or be delegated a mentor among the senior staff members who would help guide engineers with goals and career paths. In addition, TxDOT should consider requiring design engineers to take environmental processes and documentation training. This will help to ensure project designs are developed in accordance with environmental requirements. Districts should formalize their rotation program and include milestones to measure progress of the program. Since a few Districts have already begun formalizing their rotation programs, it would be beneficial for the Districts to collaboratively discuss existing programs and tailor it for specific needs. As a result, the programs will have some consistency, but can be flexible to suit local needs	Design Human Resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Ensure that all Area Offices provide coaching and communicate the change order process and requirements to the Contractors at the pre-construction meeting. If practical, this process should be emphasized prior to letting. Area Offices must strictly enforce and adhere to the change order process requirements.	Design Build Procurement Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Consider revising the change order signature authority limit required to process change orders at the District. At a minimum, consider revising the parameters defining the authorization levels and requirements to more closely align the authority limit to the size of the project, volume of work, or percentage of work. This could be accomplished by revising the authority on a project specific basis in the special provisions.	Design Build Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Develop a committee/working group to evaluate the change order policy and leading practices and to monitor the performance metrics available from Site Manager's Change Order reporting capabilities, including the pricing of and the types of changes.	Design Build Procurement

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	This is an opportunity to analyze the reason codes to determine the major causes of changes and whether some change orders were avoidable (through better design and consultant management) and focus appropriate measures to mitigate future changes on the major causes of change.	Design Build Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Ensure that Area Office staff performs adequate reviews of all design plans prior to issuing the 100% set of drawings for letting.	Design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Develop a post-project lessons learned process and use the change order reason codes to identify the causes of change, identify common causes of change and share experience gained during project execution.	Design Build Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The schedule activities should be accurately and consistently updated to show percent complete for each activity. The critical activities and near critical activities should be evaluated to determine which activities are driving the schedule and where any delays may be occurring. Mitigation scenarios can then be developed to evaluate options for improving the project completion and meeting the letting date. These proactive efforts will help to identify potential issues and allow for mitigation in a timely manner.	Design Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should explore sharing the APDSS scheduling system, as described in the above "Operational Strengths / Leading Practices" section, throughout the state. It will facilitate a more efficient and consistent approach to project development. The input templates provide a user friendly, standardized methodology for creating schedules. The system also provides a template checklist for developing the project scope and focuses the designers on each aspect of the project.	Design Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	To improve the execution of the environmental process, TxDOT should develop enhanced scheduling controls to monitor the environmental process. Developing more detailed scheduling controls could help to improve communication and accountability both at the Districts and the Division. Enhanced scheduling controls could monitor internal as well as external handoffs and the durations associated with each of the key activities. Historical durations for specific	Design Planning

Audit/Review Title	Date	Recommendation	Category
		activities could then be utilized to develop realistic durations for future planning purposes. For complex projects, there is opportunity to utilize a Critical Path Management (CPM) scheduling tool as described in the Planning section of this report to track environmental progress. Such a scheduling tool could be utilized to update progress and project the anticipated completion dates.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Both the Districts as well as the Division should be held accountable for missed letting dates. This will encourage the Division to work with the Districts to solve environmental challenges and successfully achieve letting dates.	Design Planning
Sunset Advisory Commission – Commission Decisions	January 2009	Authorize TxDOT to use the design-build model of project delivery for traditional highway projects.	Design Build Contracting
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The effectiveness of maintenance budgeting and controls can be improved to mitigate potential risks. TxDOT utilizes MMIS to analyze unit costs for maintenance work, however, there can be additional tools developed and implemented to enhance the maintenance budget controls. TxDOT has recognized this opportunity and is planning to replace the MMIS system as part of the Compass Project initiative. TxDOT should continue to develop the Compass Project to improve the efficiency and reporting capabilities of the maintenance IR systems.	Financial management Procurement Information technology (Maintenance)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Research financial hedging strategies and strategies used by other DOTs for purchasing materials to mitigate the cost escalation of material.	Financial management (Maintenance)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Since FTE allocations are legislatively mandated, TxDOT does not have much control on the allocation process and the FTE caps. However, it would be worthwhile for TxDOT to conduct an analysis that takes into account growth over the last few years and the costs and benefits of performing work in-house as opposed to outsourcing the work and present its FTE needs to the legislature for consideration.	Financial management Human resources Procurement
Deloitte Independent Assessment of Field	September	District offices are responsible for processing vendor invoices for supplies and services. While	Financial management Build

Audit/Review Title	Date	Recommendation	Category
Operations Unit	17, 2007	our review of this process was limited, it appears there may be an opportunity to reengineer this area to realize greater efficiencies and cost savings by reducing the amount of paper handling and allowing for more timely and efficient vendor payments. TxDOT should consider developing a business case analyzing the impacts and benefits associated with a new accounting system and streamlined processes.	Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The vendor invoicing process is a prime candidate for streamlining to make it more efficient. Steps in the process could be eliminated with the possibility of requiring vendors to directly submit invoices to Division. Division would then create a check request report, requesting that the Comptroller make a direct deposit to the vendor's bank account or mail the warrant directly to the vendor. A record of payment could also be provided to the District. This process would reduce the number of accounting resources throughout TxDOT. This is the same concept as having a "shared service" dedicated to processing invoices, which is generally more practical than having this function performed by multiple entities and at multiple locations. Proper controls should also be established to verify that the work has been performed or that the goods have been received by the local District.	Financial management Procurement Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	A complete flow chart of the Accounts Payable process review should be developed and analyzed to identify activities and tasks that could be modified or deleted.	Financial management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	An effort should be undertaken to standardize the vendor master information across state agencies. Reports of the volume of vendor purchases should be used to assist with negotiating master agreements with the greatest discounts available.	Financial management Procurement Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The systems currently in place are functioning and accomplishing their overall goals; however, there is an opportunity to increase efficiency by updating these systems. Improved reporting features and querying abilities will help supervisors manage budgets and assess performance. TxDOT should explore the potential for implementing new accounting IR systems. TxDOT should develop a business case evaluating the current costs for maintaining the current IR	Financial management Information technology

Audit/Review Title	Date	Recommendation	Category
		systems including hardware, software, development costs, and personnel costs in the field and at Division against the cost of implementing new systems and the associated benefits and efficiency gains.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Budgeting Process – The IR access policies should be revaluated to ensure they are meeting the needs of TxDOT management. Providing supervisors with access to pertinent information related to their departments would enable supervisors to monitor key data and make informed, consistent decisions. Since the automated tools with drill down capability exist, Division should explore ways to make this functionality available to more users in the Districts.	Financial management Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Inventory Control – We suggest that a more detailed review of the fixed asset system be performed. This would not only include a review of the policies for monitoring assets but also investigating modern tools such as bar coding for tracking/counting assets.	Financial management Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	There is an excellent opportunity for TxDOT to explore implementing a system-wide Enterprise Resource Planning (ERP) system that includes capturing hours and time expended performing certain job tasks. While we did not specifically review the adaptability of the legacy system to allow for streamlining the data entry process and capturing job cost information, older mainframe systems are not typically designed to accommodate some of the newer types of data capture and transactions.	Financial management Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	To the greatest extent possible, payroll as well as expense reimbursement payments should occur through direct deposits minimize paperwork and improve processing efficiency.	Financial management Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Standardizing the vendor numbering systems will allow state agencies to gain a clear understanding of the volume of purchases from vendors and vendor performance state-wide, thus potentially improving the negotiation position on master purchase contracts.	Financial management Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	We suggest that a state-wide review of resource allocations be performed. This would include identifying business workload drivers such as, dollar volume and number of inspections. Following a review, high business volume Districts might be allocated additional resources where understaffed while slower business Districts might lose headcount. Potentially, there	Financial management Organizational design

Audit/Review Title	Date	Recommendation	Category
		could be a pool of scarce resources ("residing" at Division) that could be deployed to high volume, high demand Districts during periods of need.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Developing a baseline or target budget on a project by project basis for planning activities would provide specific goals to work towards. TxDOT would then be able to track progress updates against the baseline and compile lessons learned. The budgeting process could then be refined using this database of information.	Financial management Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Developing accurate cost tracking and forecasting tools will also improve resource management. Project managers and the TP&D department will be able to more accurately forecast their anticipated workload and make informed decisions regarding outsourcing work or performing work in-house.	Financial management Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Accurately tracking costs on a project by project basis would enable analyses to be performed comparing the cost associated with outsourcing work to the cost associated with performing the work internally. These types of analyses would also require TxDOT's indirect cost to be taken into account as well as the cost associated with managing consultants.	Financial management Planning Design Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should explore updating or replacing the current cost tracking system, primarily DCIS, to an integrated system that can track total project costs and that can provide more cost tracking/forecasting capabilities. A user friendly application with advanced query capabilities would enable users to create relevant reports and chart trends related to planning costs.	Financial management Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The current estimating process utilized by TxDOT provides a procedure for developing and updating estimates; however, there is opportunity to strengthen the cost estimating controls. Escalation of material costs in recent years has dramatically increased construction costs. These types of factors have placed increased importance on producing timely and quality estimates.	Financial management Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Developing controls to ensure that periodic updating is performed at an appropriate level of detail will improve the availability of current, reliable and accurate estimates. Utilizing disciplined procedures or checklists for conducting updates may help to standardize the	Financial management Planning

Audit/Review Title	Date	Recommendation	Category
		process and ensure thorough updates are performed.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Developing controls to ensure that periodic updating is performed at an appropriate level of detail will improve the availability of current, reliable and accurate estimates. Utilizing disciplined procedures or checklists for conducting updates may help to standardize the process and ensure thorough updates are performed.	Financial management Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Estimates should be updated throughout the planning life cycle process and any changes to the scope and cost should be documented. Tracking estimate information electronically will maintain a historical record of the project and any revisions to the estimate. This information can be used to identify trends and improve the estimating process for future projects. Certain metrics should be developed, such as measuring actual costs against baseline estimates and evaluating cost increases related to specific components of a project, to provide relevant data that can be used as a project management tool. Improved tracking of estimates may establish accountability and encourage personnel to take ownership of their work.	Financial management Planning Design Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Estimates should be escalated to the year of expenditure. This can be accomplished by assigning an inflation rate per year to the proposed midpoint of construction. For larger projects, local factors should be accounted for, such as land acquisition inflation in high growth areas. Accounting for inflation will improve forecasting and long term project planning. For smaller projects, an overall statewide project inflation rate may be more appropriate. Additionally, reporting year of expenditure dollars could alleviate concerns that the media and the public may have associated with perceived project cost growth.	Financial management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should develop procedures for incorporating contingencies into project estimates, particularly for larger projects. During the early stages of the estimate development, contingency may be used to account for uncertainty and risk. The contingency amount should be defined by specific risk elements and should be periodically updated as more information becomes available. The contingency should be reduced as more risk and uncertainty is defined.	Financial management Planning
Deloitte Independent Assessment of Field	September	Develop more standardized reports which can be used on a consistent basis (monthly) to	Financial management

Audit/Review Title	Date	Recommendation	Category
Operations Unit	17, 2007	compare maintenance costs.	Accountability Strategic planning and performance management
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	IA should evaluate its existing audit framework to determine its sufficiency in addressing the new risks of CDAs. Specifically, the annual risk assessment and resulting audit plan should fully address the key risks associated with CDAs to include the sufficiency and adequacy of the following processes: • Pre-procurement • Contracting • Financing and accounting • Technology • Performance evaluation • Stakeholder relations and communications • Risk management • Preventative and detective controls • Monitoring	Financial management Procurement (CDAs)
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	On a quarterly basis, the Finance and Purchasing department should identify the top five vendors receiving warrants manually and determine whether they would be candidate for using direct deposit. TxDOT should also continue to work with the Comptroller's office to identify the top vendors state-wide receiving manual warrants, and assist with transitioning vendors that have a direct impact to TxDOT to using direct deposit.	Financial management Information technology Procurement
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	On a quarterly basis, the Finance and Purchasing departments should identify the top five vendors receiving warrants manually and work with them to transition to using direct deposit. TxDOT should also continue to work with the Comptroller's to identify joint strategies that will lead to more vendors using direct deposit. A part of this discussion should include developing a strategy to sign up vendors for direct deposit when they are registering or renewing registration (i.e., Centralized Master Bidders List) to do business with the state of Texas.	Financial management Information technology Procurement

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	The Finance department should determine the cost impact of having 49 percent of its vendors being paid through the use of manual warrants. Using cost information provided by organizations such as the Research Payment Association will assist with determining the cost impact. The Association suggests savings ranging anywhere from $0.50 to $1.50 per transaction could be recognized by using direct deposit. While the Association's research was focused on payroll transactions, the data can be used as a baseline for determining the cost factor(s) for vendor transactions. At this stage, TxDOT should be able to better determine whether the cost impact would be significant enough to affect a change to the number of FTEs or require a redeployment of roles and responsibilities.	Financial management Information technology Procurement
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT should evaluate opportunities to more formalize its modification protocol process to ensure lateral impact from any change that is made in FIMS is further minimized. One recommendation would be for the IRR form to be modified with a section that would require the requester to document who has been contacted to ensure that the IRR will not have an adverse impact or an explanation for why no one needed to be contacted. The approver would then concur with what has been provided in this section or route the IRR for additional reviews/approvals. This action would support language outlined in the "OPR Roles & Responsibilities for Information Technology Assets" requiring that the office of primary responsibility should involve stakeholders. Further, TxDOT should ensure that the communication and approval process is strengthened when requests are required to be reviewed by the Council. The process should ensure that any presentation or submitted documentation (e.g. project concept document, business case, statewide impact analysis, and project charter) includes signed comments from any department that would be affected by the requested change.	Financial management Procurement
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	In an effort to match the required staff complement with workload requirements of the division, the Accounting Management section should evaluate the new roles and responsibilities related to the CDA operating environment. Doing so will allow management to determine the impacts	Financial management Procurement (CDAs)

Audit/Review Title	Date	Recommendation	Category
		on the department and provide a clear understanding of where staff increases are necessary in the department.	
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT IA should consider utilizing additional data mining tools or similar techniques to analyze information to enhance developing and implementing an enterprise-wide fraud program and decrease the risk for fraud to go undetected and to assist management in making decisions. Data mining tools enhance management's ability to assess the controls that are in place and to ensure that third-party contractors meet internal controls and regulatory requirements. These tools can be implemented rapidly on existing software and hardware platforms and convert massive amounts of data into manageable databases that can be queried and summarized at will. Data-mining tools provide management with the ability to identify anomalies in the data that enable management to quickly resolve issues. These tools also provide extensive documentation to support reports to management and third parties regarding the accuracy of the data. Examples of simple and powerful data mining tools include ACL and Excel.	Financial management Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Develop realistic funding projections that take into account the cost drivers in the study findings	Financial management
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Implement an improved cost accounting and business modeling methodology for the OACP and utilize this model to monitor costs related to program operations on an ongoing basis	Financial management
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Implement consolidated/coordinated planning and procurement	Financial management Planning
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Strengthen highway revenue forecasting process.	Financial management
Independent Performance Audit:	August 29,	TxDOT should establish a funding plan at the program level for each of the eight Transportation	Financial management Planning

Audit/Review Title	Date	Recommendation	Category
Transportation Funding – Dye Management Group	2007	Management Areas in the state in consultation with the local and regional agencies that plan, fund and deliver the highway and transit systems in that area.	
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Consolidate forecasts before finance committee meetings.	Financial management
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Define what constitutes an RMA surplus and a method for calculating said surplus.	Financial management Planning
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Establish agreement guidelines encompassing approved uses of state funds provided to RMAs.	Financial management Planning
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	The State should specify minimum budgeting, accounting, and related standards for RMAs.	Financial management Planning
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	The State should establish a mechanism to improve the creditworthiness of RMA projects.	Financial management Planning
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Use general obligation debt capacity as source of equity for toll projects.	Financial management Planning
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Include a summary of important information in its cash forecast report, and include in that report recommended actions and a clear description of "what-if" scenarios. For example, an executive summary section could explain the assumptions involved in the base scenario; the recommended schedule for contract awards and the impact on cash balance; changes in assumptions and scheduled contract awards; and scenario criteria and the impact if a scenario	Financial management Communications

Audit/Review Title	Date	Recommendation	Category
		is accepted, rejected, or altered.	
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Modify its reports and coordinate with the Legislative Budget Board to ensure that any required reports meet the needs of legislative oversight entities. The Department submits reports in response to the requirements of two riders: • Rider 20(b), page VII-24, the General Appropriations Act (80th Legislature). Until the reports required by this rider are changed by subsequent legislative sessions or waived in writing by the Legislative Budget Board, they should include the following elements: (1) a revenue report, (2) a variance report for State Highway Fund 006 describing reasons for the fluctuation, and (3) expenditure information at the same level as appropriations. This may be accomplished by modifying the current report (cash forecast report) or through coordination with the Legislative Budget Board to develop a new budget and expenditure monitoring tool. • Rider 39, page VII-30, the General Appropriations Act (80th Legislature). This rider mandates that the Department submit a report that includes a reconciliation of the Department's expenditures and encumbrances of appropriations made to the Department by the General Appropriations Act to the 12 categories included in the Department's Statewide Preservation Program and Statewide Mobility Program. The Department should identify and disclose reasons for any differences (that is, reconciling amounts and items) between expenditures/encumbrances and the 12 categories of funding.	Financial management Communications
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Continue to work with oversight entities, such as the Texas Transportation Commission, the Legislative Budget Board, and legislative committees to produce a report that communicates the information these entities need when making fiscal and organizational decisions regarding the Department.	Financial management Communications
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Develop and implement a transparent process that communicates to the districts the reduction in current year funds resulting when districts accelerate projects. The Department should consider including a documented agreement between the "lending" district and the "borrowing"	Financial management Communications

Audit/Review Title	Date	Recommendation	Category
		district. It also should consider the feasibility of compensating the lending district for lost financial leverage due to the effect of inflation.	
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Formally document its intent to cease further implementation of the tax gap analysis and related prior audit recommendations.	Financial management Communications
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Develop, adopt, and implement a formal, documented process for its Finance Division to follow in reviewing and approving amounts used to develop all contract award schedules. The process should specify (1) the individuals in the Finance Division who are authorized to approve the aggregate amount available for contract awards; (2) the method of documenting approvals; and (3) a requirement that the approvals will be available for review in subsequent periods in accordance with the Department's record retention schedule submitted to the state records administrator, as required by Texas Government Code, Section 441.185.	Financial management
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Develop and implement policies and procedures for its cash forecasting process. To accomplish this, the Department should consider comparing its cash forecasting processes to the Texas Transportation Institute's Cash Forecast System Manual, updating the manual accordingly, and finalizing and implementing the manual as policy. The final product should contain sufficient detail to be useful as a continuity guide for budget analysts and others involved in the cash forecast process. It also should address additional fund sources, such as Proposition 14 bond proceeds, Texas Mobility Fund bond proceeds, and other funding sources that may be granted. The final product should clearly communicate amounts available for funding contract awards.	Financial management
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Develop and implement a process to review manual entries into its cash forecast system that have a significant effect on forecast outcomes. At a minimum, the review should include: • Testing inputs for accuracy. • Reviewing the supporting worksheets to ensure staff followed the Department's policies in the cash forecast preparation process.	Financial management

Audit/Review Title	Date	Recommendation	Category
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Update and implement the cash forecast approval process and timelines documented in the Texas Transportation Institute's Cash Forecast System Manual (or create a separate policy for the approval process). The procedures should specify (1) individuals authorized to approve cash forecast reports, (2) the timeline under which the reports should be produced and approved, (3) the method of documenting the approval, and (4) a requirement that the approvals will be available for review in subsequent periods in accordance with the Department's record retention schedule submitted to the state records administrator, as required by Texas Government Code, Section 441.185.	Financial management
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Complete its annual reconciliations of the cash forecast with the Comptroller's Office's cash report in a timely manner and resolve any discrepancies identified. Additionally, the Department should perform the reconciliations with greater detail, which will provide increased assurance that individual revenue and expenditure line items are accurate.	Financial management
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Consider adjusting districts' work programs when districts' actual expenditures differ from the initial funding allocations in their work programs. This would include adding or subtracting the impact of change orders from the obligated work program balance.	Financial management
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Continue its efforts to implement the recommendation related to the funding gap, including: • Development and implementation of a process to implement the recommendations of the 2030 Committee. • Documentation and uniform application of the common assumptions to be used in the development of the Texas Metropolitan Mobility Plans (TMMP) and the Texas Urban Mobility Plans (TUMP). • Identification and implementation of a mechanism to review the data provided by TMMPs, TUMPs, and other external sources.	Financial management
Sunset Advisory Commission – Commission Decisions	January 2009	Require that TxDOT deposit all outdoor advertising fees into the General Revenue-Dedicated Texas Highway Beautification Account.	Financial management
The Department of Transportation's Reported	April 2007	The Department should continue to coordinate the development of the funding gap by	Financial management Planning

Audit/Review Title	Date	Recommendation	Category
Funding Gap and Tax Gap Information		prescribing the elements of cost and revenue assumptions and validating the cost and revenue estimates provided by external organizations.	
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	The audit team recommends that TxDOT design, develop, and implement a business planning methodology department-wide	General management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Promote the use of the Project Office concept to co-locate consultants and the TxDOT staff for performing oversight functions. This will provide for improved communication among team members and facilitate cross-learning for TxDOT staff.	Human resources Communication
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The rotation program should be a requirement for young engineers to enhance skill-sets and comprehensive understanding about all aspects of design. Every young engineer should choose or be delegated a mentor among the senior staff members who would help guide engineers with goals and career paths. In addition, TxDOT should consider requiring design engineers to take environmental processes and documentation training. This will help to ensure project designs are developed in accordance with environmental requirements.

Districts should formalize their rotation program and include milestones to measure progress of the program. Since a few Districts have already begun formalizing their rotation programs, it would be beneficial for the Districts to collaboratively discuss existing programs and tailor it for specific needs. As a result, the programs will have some consistency, but can be flexible to suit local needs | Human resources Design |
| Deloitte Independent Assessment of Field Operations Unit | September 17, 2007 | The Districts should continue to develop and encourage participation in the rotation programs to ensure that the next generation of TxDOT engineers is well prepared to address the transportation needs of the future. With the ever-increasing use of third party consultants, it is essential that the organization provide training and experiences for the changing demand; from the type of services that have traditionally been provided by in house resources to those services required for reviewing and managing consultant designed projects. | Human resources |

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Districts should encourage their young engineers to be a part of the Young Engineers group within TxDOT and use it as a platform to network, enhance skill-sets and to discuss career paths.	Human resources Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should continue developing initiatives to recruit and retain talent within the organization. A more aggressive approach could be taken in marketing the overall benefit of working for a state agency.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The Districts should continue to participate and formalize the rotation programs to ensure that the next generation of TxDOT engineers is well-rounded, experienced and challenged in day-today tasks.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should consider marketing career opportunities more aggressively in the market. • Advertising should emphasize the exceptional training and variety of experience afforded by TxDOT. • The program should also outline all benefits and offer an analysis of benefits to bridge the gap in compensation parity between TxDOT and the private sector.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should consider increasing performance based incentives to retain the most critical segment; personnel with five to ten years of experience.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The Environmental Division should continue to enhance training to achieve consistency in interpretation of regulations and processes. External agencies could also continue to be involved in assisting TxDOT with interpretation of certain 'grey areas' within regulations. This will help to clarify the process and the submittal requirements of the Districts and could potentially reduce reiterations and re-submittals of documentation. Communicating clear expectations between both the Division and the Districts will help to ensure a clear understanding of requirements and procedures.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should create consistent review procedures at the Division level based on well defined policy standards. To account for loss of institutional knowledge due to turnover, the procedures and standards should be well documented and communicated to ensure compliance from	Human resources

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
		newer personnel. The revised environmental manual should help to strengthen the procedures and policy standards.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should continue to enhance and encourage environmental training at both the Division and the Districts to achieve consistency in interpretation of regulations and processes. This will help to ensure the Districts are receiving consistent guidance and that approval criteria are being consistently implemented. TxDOT should consider instituting a formal, mandatory training system to track and monitor learning progress of its employees. Strengthening the training programs could improve quality of submittals and develop a common understanding of regulations and procedures. Numerous courses on environmental policies and procedures are already available to TxDOT employees.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	As a public entity, salary expectation is typically lower for TxDOT employees than for equivalent positions in the private sector. As a counter balance, the additional benefits received significantly close this gap. That being said, many employees still tend to focus on the issue of salary as an area of improvement.	Human resources Compensation
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Develop unique programs to recognize employees at all levels for outstanding performance both internally and externally. Share ideas for employee appreciation between all Districts.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Provide project specific recognition to employees with significant contributions to successful projects that have been completed on-time and under budget.	Human resources Accountability
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Continue to offer extensive training opportunities as well as comprehensive and varied work experiences. Expand the job rotation program to include District/Division exchanges of personnel as well.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Create an active mentoring program to assist in guiding junior personnel through their careers. This would include working with high achieving junior level employees to identify and illustrate job growth opportunities.	Human resources
Deloitte Independent Assessment of Field	September	Conduct employee surveys to determine areas of improvement. Distribute the survey results	Human resources

Audit/Review Title	Date	Recommendation	Category
Operations Unit	17, 2007	and communicate the steps being taken to rectify the issues.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Provide additional PMIS training to maintenance employees at the Area Offices to familiarize the personnel and communicate the goals of using PMIS. This will improve the consistent and proper use of the data.	Human resources Information technology (Maintenance) Strategic planning and performance management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Provide in-house training on the legacy systems and SES. This will emphasize the importance of accurate data entry and charging costs to the correct maintenance codes or sections. Conduct this cross-training with Division personnel to provide field experiences to Division while giving District and Area Office personnel insight into the end use and importance of the daily data entry.	Human resources Information technology (Maintenance) Strategic planning and performance management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Training for TxDOT personnel should emphasize that their scope of authority will be limited and will not involve directing or approving design and construction work.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	As a public entity, salary expectation is typically lower for TxDOT employees than for equivalent positions in the private sector. The additional benefits TxDOT offers can help to close the overall compensation package inequity. In spite of TxDOT's strong benefits package, many employees still tend to focus on the issue of salary as an area for improvement.	Human resources Compensation
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should work to change the public perception about careers within the organization. A more aggressive marketing campaign would highlight the advantages of a TxDOT career and attract new people into the organization.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Benchmark salary and benefits to equivalent positions within the private sector and make adjustments in areas where there are significant discrepancies. One District we interviewed is already benchmarking compensation for engineers within their District and the private sector. This could be expanded to include all fields and all levels of personnel.	Human resources Compensation

Audit/Review Title	Date	Recommendation	Category
		Annually report the findings of the benchmarking study to illustrate the desirability of the overall compensation package TxDOT offers.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Conduct employee surveys to determine areas requiring improvement. Distribute the survey results and the steps being taken to rectify the issues.	Human resources Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Develop alternative ways to recognize employees at all levels for outstanding performance both internally and externally and strengthen existing programs such as paid leave for outstanding performance. Provide project specific recognition to employees with significant contributions to successful projects that have been completed on-time and under budget.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Other existing programs such as flexible work schedules and telecommuting opportunities should be leveraged more often to aid in TxDOT's recruitment and retention efforts.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Continue to offer extensive training opportunities as well as comprehensive and varied work experiences, including a job rotation program that may include District/Division exchanges of personnel.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Create an active mentoring program to assist in guiding junior personnel through their careers. Work with promising junior level employees to identify and illustrate job growth opportunities.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Societies already in place could be expanded to serve as representative body over Districts and Area Office employees addressing questions and concerns.	Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should evaluate the current job market and determine potential solutions for becoming more competitive. Alternate solutions such as increasing compensation for key positions, or giving employees the option to choose a higher pay structure with diminished benefits may help retain high performing individuals and enable the Districts to determine the best structure to suit their need.	Human resources Compensation
Deloitte Independent Assessment of Field	September	Explore potential for integrating the HR system with other legacy systems	Human resources

Audit/Review Title	Date	Recommendation	Category
Operations Unit	17, 2007		Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Implement additional training for Site Manager at various levels throughout the organization to improve utilization and effectiveness of the system.	Human resources Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Implement more formal training methods for the end users of the current mainframe applications. Communicating the system's capabilities to the end users should improve use of the systems on a consistent basis.	Human resources Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Implement training on APS, as turnover of personnel results in inefficient usage of this system at the local levels with the responsibility for purchasing.	Human resources Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Additional and periodic training of newly implemented programs and applications would be beneficial to keep employees educated on the newer applications.	Human resources Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Altering roles and responsibilities of lead workers to include performance reviews of certain employees, thus reducing the burden on supervisors and providing intermediate job growth potential to workers; Reevaluating supervisory needs in different departments and allocating more supervisors in critical functions; and allowing the Districts more flexibility in determining staffing and supervisory requirements.	Human resources Organizational design
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT should initiate a compensation strategy and structure that ensures recruitment from the widest possible talent pool and that maximizes retention of key workforce segments (e.g., technical and professional skill sets related to CDAs). As part of this strategy, a compensation analysis should also be initiated. Conducting a division compensation analysis will aid the department in determining the accurate market value of the skill sets. The analysis should include salary, bonuses, benefits, work-life balance issues, and more in order to effectively compare a resource transition from a private firm to a state agency. The results of this analysis will serve as the basis for any recommendations TxDOT chooses to make to the legislature,	Human resources Compensation

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
		State Auditor's Office, or other key decision makers regarding modifying or granting an exception to the pay scale.	
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT HR should develop a comprehensive HR strategy that is supported by TxDOT senior leadership and directly addresses TxDOT's most critical human capital issues. The strategy should tie the HR department's objectives to the mission and objectives of the organization. The strategy should include a limited number of measures that will provide data regarding how HR is fulfilling its strategy and affecting the management of the workforce. A comprehensive TxDOT HR strategy should allow HR to answer the following questions: • What are HR's priorities and how do they relate to TxDOT's mission and strategic objectives? • What skills and tools does HR need to address the priorities? • How will the evolution of CDAs, or other new business practices, affect HR services? • How will TxDOT compete in the labor market? • How can division HR support the field HR to meet TxDOT's needs? • How will change be managed? • As HR defines its strategy, begins to prioritize activities and objectives, a review of those positions defined as HR may become necessary to evaluate HR's capacity to achieve those objectives. This will require Legislature review of which positions are inherently HR and not more aligned with other classifications, such as administrative or IT.	Human resources
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT's management does not have the detailed information necessary to prioritize HR issues. Based on this review, the most critical issue is the likely labor crisis. Like many other public sector organizations, TxDOT will experience a critical labor shortage within the next five years unless targeted efforts are made. A detailed workforce plan is the first step in building strategies and programs to mitigate the labor shortage effects. A detailed workforce plan serves	Human resources

Audit/Review Title	Date	Recommendation	Category
		as the basis for mitigating the effects of the labor gap and the effects of the changing business environment.	
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	A workforce assessment is the foundation that ties job performance to the objectives of the Agency. To increase the effectiveness of the current performance management approach, TxDOT should perform a workforce assessment. The assessment should include information regarding critical skill requirements for the Agency. TxDOT can use this data to inform the training and development programs. Employees and supervisors should use this information during the annual evaluation cycle to identify training and development activities that are likely to improve job performance. In this way, workforce assessment results improve upon the current performance management process by tying development activities to the Agency's objectives. An understanding of individual performance against the context of desired organizational capacity would enable TxDOT to increase the effectiveness of its investments with regard to hiring, retention, and training and development.	Human resources
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT should perform a detailed workforce analysis that includes identifying the CWS. The results of the assessment should lead to suggestions for activities that will increase the retention levels in those segments. Additionally, an emphasis on separating employees completing the exit interviews can be used for analysis and development of retention program activities. This task should be included in the final tasks for separating employees.	Human resources
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT is in a very competitive talent management environment. As part of an overall Talent Management Strategy, TxDOT should examine and monitor the effectiveness of recruiting activities. The current program should be modified as necessary to increase effectiveness and enhanced to include a link to the objectives of the Agency and the HR strategy.	Human resources
Deloitte Independent Assessment of	September	The people practices are a key element in how TxDOT survives the pending labor shortage.	Human resources

Audit/Review Title	Date	Recommendation	Category
Management and Support Functions	12, 2007	Due to the decentralized nature of TxDOT, these practices are highly dependent on the District Engineers. Their guidance and philosophy on performance management, strategic goal setting, retention practices, training, and succession planning are what gets implemented in the field. TxDOT should consider a formalized training program for high performers that includes development of new business skills required by CDAs or other new processes.	
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	An integrated talent management strategy should be developed by TxDOT in order to address the current competitive labor market, as well as the expected future labor shortage. This strategy should leverage the data in the workforce summaries and independent talent management programs that are already established as a foundation to perform the more detailed analysis required for an organization of this size and complexity. Based on this analysis, a mix of talent management activities, both existing and those highlighted in the Leading Industry Practice section above, should be optimized through running likely scenarios to assess the activities' effectiveness. The strategy should also include change management activities that include gaining the support of senior leadership, field HR, and other key stakeholders to provide the highest probability of success.	Human resources
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT should consider formalizing an ERM program to reduce risks to an acceptable level. The following key steps will assist TxDOT to help ensure the success of the program: • Assessing TxDOT's cultural readiness for change and innovation and developing a change management approach that includes communication strategy, training, and education • Assigning responsibility of leading the ERM initiative to the highest member of management to ensure senior management commitment and organizational attention to the ERM initiative • Developing and adopting common tools, processes, and terminology to facilitate the process and ensure consistency • Ensuring that staff members are provided with the necessary training to meet the needs of the project, including mentoring and cross-training • Developing internal risk competencies by training employees and involving them in	Human resources Organizational design

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
		the risk management process • Agreed-upon types of risk and methods for identifying, analyzing, and prioritizing risks that will be used in the ERM initiative	
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	The decentralized structure of TxDOT has some strength in providing District Engineers with a level of control and management discretion. However, a review granting a greater level of authority to manage a change management program from the division level, under the direction of administration, may be required if organization changes are undertaken. The further separation of the structure of the Mobility Initiatives affects the organizational capability by segregating those employees working on this new business process and by decreasing the efficiency of support functions. Job assessments to define and plan for the necessary knowledge, skills, and abilities of those positions required to fulfill TxDOT's CDA responsibilities are needed. Analysis of how the Mobility Initiatives can be supported most efficiently should be explored.	Human resources Organizational design
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	The audit team recommends that TxDOT continue to make improvements to its training efforts, especially for district office staff	Human resources
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	The audit team recommends that TxDOT work towards obtaining grants management certifications for their grants management staff as the National Grants Management Association body of knowledge matures	Human resources Organizational design
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Establish a competency development and training program to meet the new organizational requirements.	Human resources
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Establish a special element in the Workforce Plan as a fully-developed strategic process to address recruiting, retention, succession, and work force planning.	Human resources

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Implement an agency-wide organizational development plan to recruit, retain and develop the competencies TxDOT required to perform its new roles in transportation finance.	Human resources Organizational design
Sunset Advisory Commission – Commission Decisions	January 2009	TxDOT should provide a formal process for staff with similar responsibilities to share best practices information.	Human resources Communication
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Districts should continue to develop in-house CPM scheduling resources and skills to improve the schedule planning, management, review, monitoring, control capabilities and general knowledge of the staff at multiple levels. This includes continuing to develop skills with Primavera Project Planner and Suretrak programs at each District through in-house or third party training programs.	Information technology Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The construction related IR systems are a risk to the organization. Site Manager is an effective project management tool which has sped-up facets of the administration process, including automating data entry and processing pay estimates. However, the mainframe or legacy systems are outdated, not user friendly, and are not an effectively project management tool used by the Area Offices or Districts. Improvements in technology could potentially result in more effective use of existing staff, accelerate processing of paperwork, and a reduction in costs.	Information technology Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Consider ways to improve communications among the field inspectors. For example, expand the use of contract terms that require the contractor to provide dual-band cell phones for use on the specific project.	Information technology Procurement Communications Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Consider ways to improve communications among the maintenance field staff and inspectors. For example, expand the use of contract terms that require the contractor to provide dual-band cell phones for use on specific maintenance project(s).	Information technology Procurement Communications

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should explore updating or replacing the current cost tracking system, primarily DCIS, to an integrated system that can track total project costs and that can provide more cost tracking/forecasting capabilities. A user friendly application with advanced query capabilities would enable users to create relevant reports and chart trends related to planning costs.	Information technology Finance/accounting operations
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Explore potential for integrating the HR system with other legacy systems	Information technology Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	As its technological resources improve, TxDOT should continue to evaluate the potential for sharing environmental documentation electronically. Benefits associated with the strategy may include faster communication between the Districts and the Division, increased ease of storing documents electronically, and increased ease of electronically tracking changes, i.e. revision searching capabilities and electronic comment tracking. Prior to implementation, TxDOT should ensure it has the proper IR and administrative supporting resources for processing documents electronically.	Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should consider conducting a cost-benefit analysis to determine the advantages to upgrading or replacing the ETS system. A new system to replace ETS could incorporate tracking and scheduling tools that would be used consistently throughout the organization. A representative body from the Districts should be included in the analysis and implementation of a new system to ensure District level requirements are being met.	Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Consider creating a web based application that could warehouse historical information, best practices, solutions to unique impediments and other environmental information. Access to such information may better prepare Districts to understand requirements, study historical cases, identify solutions and prepare accurate and complete documentation for submittal. This web based application could be supplemented with the distribution of information via regular correspondence such as monthly emails or newsletters. An email distribution could also be used as means for soliciting feedback from the Districts on key issues.	Information technology Communications Planning

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Research the possibility of incorporating I2MS with Site Manager and implementing web based project offices and other technology and project automation tools to improve productivity, information flow and document management.	Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Implement additional training for Site Manager at various levels throughout the organization to improve utilization and effectiveness of the system.	Information technology Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Implement more formal training methods for the end users of the current mainframe applications. Communicating the system's capabilities to the end users should improve use of the systems on a consistent basis.	Information technology Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Explore improving the integration of the legacy systems with Site Manager to improve use of the reporting features and produce relevant information in a stand reporting format to be used to support project management.	Information technology Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Consider adding modules for Site Manager to incorporate the Laboratory Information. This will improve the capabilities of Site Manager.	Information technology Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Promote, encourage, and provide the hardware and software resources to Area Offices that enables inspectors to utilize current technology and to automate the construction administration process. This will increase productivity and accuracy of information and allow inspectors to cover more area. Wireless technology will also promote more effective communication.	Information technology Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	In general, the maintenance related IR systems are a risk to the organization. While there is general consensus that the SES system has been a major improvement over previous legacy systems, there is an overall perception that the mainframe legacy systems are outdated and not user friendly. MMIS, for example, is a cumbersome and antiquated system that is not user friendly and not productively used by the maintenance departments. TxDOT has recognized these risks and is currently taking steps to evaluate the maintenance IR systems and make necessary improvements. TxDOT should continue to support the Compass Project and its goals. Improvements in technology could potentially result in more effective use of existing	Information technology

Audit/Review Title	Date	Recommendation	Category
		staff, acceleration in the processing of paperwork and a reduction in costs.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Implement more formal training methods for all users of the current mainframe applications. Communicating the system's capabilities to the end users may improve the usage of the system on a consistent basis.	Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Implement training on APS, as turnover of personnel results in inefficient usage of this system at the local levels with the responsibility for purchasing.	Information technology Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Promote, encourage and provide the hardware and software resources to Area Offices that enables inspectors to utilize current technology and to automate the contract administration process. This will increase productivity and accuracy of information and allow inspectors to cover more area. Wireless technology will also promote more effective communication.	Information technology (Maintenance) Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	There is an opportunity to electronically automate the maintenance systems data entry process which would eliminate the potential for human error and improve accuracy. This could result in greater efficiency and allow for the allocation of FTEs to other functions. TxDOT should provide the hardware and software resources to Area Offices that enables inspectors to utilize current technology to automate facets of the maintenance administration process.	Information technology (Maintenance)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	While Districts provide inspectors with the technology needed to perform their work, improvements in the type of technology could result in more effective use of the existing inspectors and enhance their performance. Increasing the number computers available in the field will ease data entry by inspectors and allow them more time for performing inspection work. Providing additional cells phone would allow for better coordination of field inspection activities. Inspection sections should work with IR to further develop the Site Manager application so that it can track the results from laboratory testing. TxDOT is currently considering adding a module to Site Manager to incorporate the Laboratory Information Management System which would store all inspection and testing data in the same database for easy tracking and reporting.	Information technology Build

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should expand its effort to provide laptops with wireless cards to the inspectors. This technology resource is not currently available to most inspectors and widening the use of wireless laptops will improve efficiency. This hardware will automate the construction administration process for inspectors and increase productivity and accuracy of information and allow inspectors to cover more projects and area.	Information technology Build Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The distribution of cell phones or two way radios will improve communication and provide inspectors with a more effective means of direct contact with the project manager, other inspectors and the contractor. Cell phones give the inspectors the ability to immediately contact the project managers regarding issues occurring on the project site and thereby mitigate potential delay or additional cost. Consider expanding the use of contract terms that require the contractor to provide dual-band cell phones for use on the specific project.	Information technology Build Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The utilization of the "i-way" system should be further expanded to include the capture and transfer of institutional and external knowledge.	Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The systems currently in place are functioning and accomplishing their overall goals; however, there is an opportunity to increase efficiency by updating these systems. Improved reporting features and querying abilities will help supervisors manage budgets and assess performance. TxDOT should explore the potential for implementing new accounting IR systems. TxDOT should develop a business case evaluating the current costs for maintaining the current IR systems including hardware, software, development costs, and personnel costs in the field and at Division against the cost of implementing new systems and the associated benefits and efficiency gains.	Information technology Financial management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Budgeting Process – The IR access policies should be revaluated to ensure they are meeting the needs of TxDOT management. Providing supervisors with access to pertinent information related to their departments would enable supervisors to monitor key data and make informed, consistent decisions. Since the automated tools with drill down capability exist, Division should	Information technology Financial management

Audit/Review Title	Date	Recommendation	Category
		explore ways to make this functionality available to more users in the Districts.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Inventory Control – We suggest that a more detailed review of the fixed asset system be performed. This would not only include a review of the policies for monitoring assets but also investigating modern tools such as bar coding for tracking/counting assets.	Information technology Financial management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	There is an excellent opportunity for TxDOT to explore implementing a system-wide Enterprise Resource Planning (ERP) system that includes capturing hours and time expended performing certain job tasks. While we did not specifically review the adaptability of the legacy system to allow for streamlining the data entry process and capturing job cost information, older mainframe systems are not typically designed to accommodate some of the newer types of data capture and transactions.	Information technology Financial management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	To the greatest extent possible, payroll as well as expense reimbursement payments should occur through direct deposits minimize paperwork and improve processing efficiency.	Information technology Financial management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Standardizing the vendor numbering systems will allow state agencies to gain a clear understanding of the volume of purchases from vendors and vendor performance state-wide, thus potentially improving the negotiation position on master purchase contracts.	Information technology Financial management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	There seems to be an overall consensus that the mainframe and legacy systems are outdated and not user friendly. TxDOT should explore the potential for updating its legacy systems. An in-depth analysis should be performed weighing the efficiencies to be gained against the cost of implementation. While an undertaking of this magnitude from a human resource and cost perspective is great, we believe the benefits to be considerable and are worth the investment in the long run. In the short term, other recommendations can be placed into effect immediately.	Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Establish the most common data needs being requested by the Districts and determine whether any of the Districts has already established a method or program to obtain the data. Continue to use peer groups to bring end users from multiple Districts together with IR personnel to provide input on how the mainframe system could be enhanced. By establishing peer groups that incorporate personnel from multiple Districts, TxDOT will facilitate the	Information technology

Audit/Review Title	Date	Recommendation	Category
		development of programs and can focus on programs that have already established by Districts to meet the users need. Peer groups will also allow Districts with more advanced programming skills to work with personnel from Districts who do not have those skills.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Continue to create in-house programming initiatives at the District level to create more efficient reporting, tracking, forecasting and planning data. Any developments at Districts should be evaluated by Division and distributed statewide if found to add overall benefit.	Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Create formal training methods for the end users of the current mainframe applications. Educating users on the system's capabilities may help to ensure the full functionality of the mainframe applications are being utilized and help to ensure knowledge of the mainframe systems is not lost.	Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The need for advanced programming at the District level should be communicated to Division. If Division evaluates a program and finds substantial benefits of its implementation, the program could be centrally developed and shared statewide. This can create consistency across Districts.	Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Additional and periodic training of newly implemented programs and applications would be beneficial to keep employees educated on the newer applications.	Information technology Human resources
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	With the data center services transition underway, the Agency's technology governance body should consider how current and future technology assets will meet the new requirements of CDAs. Based upon our experience, we have found that public-private partnership programs have impacts upon the following business processes and information requirements: • Planning and programming process • Procurement process • Design management process • Contract management process • Transportation maintenance and operations process • Data collection requirements	Information technology

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
		• Systems integration requirements We recommend that TxDOT offices of primary responsibility, with input from the Information Systems Division, conduct an in-depth evaluation and assessment of the Agency's IT needs related to the CDA program as it evolves.	
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT IA should consider utilizing additional data mining tools or similar techniques to analyze information to enhance developing and implementing an enterprise-wide fraud program and decrease the risk for fraud to go undetected and to assist management in making decisions. Data mining tools enhance management's ability to assess the controls that are in place and to ensure that third-party contractors meet internal controls and regulatory requirements. These tools can be implemented rapidly on existing software and hardware platforms and convert massive amounts of data into manageable databases that can be queried and summarized at will. Data-mining tools provide management with the ability to identify anomalies in the data that enable management to quickly resolve issues. These tools also provide extensive documentation to support reports to management and third parties regarding the accuracy of the data. Examples of simple and powerful data mining tools include ACL and Excel.	Information technology Financial management
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT should continue to provide Team for Texas with resources, as necessary, to complete the transition process and keep detailed records to be reimbursed. For the areas where there are significant logistical issues that remain (i.e., remote support, hardware procurement), TxDOT should draft a plan with relevant DIR, and in turn Team for Texas, representatives to resolve the issues that is satisfactory and achievable to all parties. The plan should contain measurable elements that align with the contract in case further reimbursement becomes necessary. The plan should build on the communication channels and documentation requirements established as part of the transition.	Information technology
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT should continue working with DIR and Team for Texas to finalize policies and procedures related to the data center services that are specific to TxDOT. This will allow TxDOT to ensure that proper controls are in place and to enhance or change any existing internal controls to ensure that data is secure, accurate, and valid. These policies and	Information technology

Audit/Review Title	Date	Recommendation	Category
		procedures should be finalized utilizing standards such as COBIT released by the Information Systems Audit and Control Association as a guide.	
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	Given the risks noted above, it is recommended that the aforementioned ISD guidelines become Agency directives issued by an appropriate level of TxDOT management and to apply to all D/D/Os. The guidelines could be simplified or modified, as necessary, to broaden the applicability and to allow D/D/O IR departments to retain flexibility to allow them to accomplish their unique objectives. The guidelines should continue to contain minimum standards related to: • Enterprise-recommended technology platform (operating system, database, programming language, etc.) • Enterprise-recommended security architecture (e.g., work group methodology) • IR testing and end user acceptance testing utilizing representative test data and validation testing once the new tool or system has gone "live" While the current guidelines do state that the guidelines should be adopted to be commensurate with the size and complexity of the tool or system being developed, new mandates or directives should contain examples of these requirements. The level of scrutiny placed on the development and deployment of a new tool or system developed by a D/D/O should vary based on the function, purpose, cost, complexity, data source, or data types involved. Examples of tools or systems that may require more scrutiny than others include: • Tools or systems where there is interest in deploying them Agency-wide in the future • Tools or systems that contain sensitive information concerning TxDOT employees, contractors, customers, or others • Tools or systems whose output is returned in an electronic or manual fashion to an enterprise system • Tools or systems that exceed cost thresholds to develop and deploy • Tools or systems that are complex in nature (e.g., source data comes from multiple sources or sources outside TxDOT)	Information technology

Audit/Review Title	Date	Recommendation	Category
		In addition to the standards mentioned above, tools or systems developed at D/D/Os should be subject to a monitoring function to evaluate compliance with applicable standards. These tools and systems as well as ISD's monitoring process should be considered for periodic review through IA's annual risk assessment process. Review procedures should be designed to test whether tools or systems are developed and deployed in a manner that promotes data security, integrity, and portability that is equivalent to the function, purpose, cost, complexity, data source, or data types involved.	
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	To enhance the alignment of IR goals with the strategic goals of the Agency, TxDOT should consider the following recommendations: • Analyze current IR assets to assess their current and future ability to support the achievement of the five TxDOT strategic goals • Study the complexity, timing, and cost of significantly enhancing or replacing IR assets (such as the FIMS strategic plan for replacement study currently underway) that are not currently supporting or will not continue to support the Agency's needs • Develop a plan to significantly enhance or replace existing assets in accordance with the strategic goals of the Agency; continue to develop and deploy tools and systems that help stakeholders use existing IR assets to the fullest extent possible • Continue to provide training courses, materials, and support to stakeholders to use existing IR assets to the fullest extent possible • Continue to ensure that D/D/Os have the flexibility to meet their unique needs while enhancing mechanisms for resource and/or technology sharing where possible • Continue to assess the role of the ISD and redirecting the resources to focus on opportunities to achieve the five strategic goals, since some of the division's traditional responsibilities are transitioning to Team for Texas and some of ISD employees' responsibilities are shifting	Information technology
Final Report of Findings and	August 2007	TxDOT should evaluate the data collected for the Accommodations Guide, Texas State Travel	Information technology

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
Recommendations, Consumer Services Auditable Unit – Dye Management Group		Guide, and Texas Events Calendar for potential consolidation into one or more databases, in order to facilitate access and currency of the information, ease the transfer of the data to the state's web site, and facilitate publication of this information	Communications
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Develop protocols for the appropriate escalation of call center calls to handle exceptions and give call center staff more training and tools to enhance consistency in the information provided to clients	Information technology Communications
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Provide Internet-based access to OACP information including sign inventory data and self-service-capabilities such as application tracking and online invoicing and payment processing for the industry	Information technology Communications
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Proceed with the implementation of the TxPROS initiative as planned	Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Develop a risk management plan for the TxPROS implementation including detailed business contingency plans in the event of a delay in the rollout of the software	Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Apply updated technology and enhanced case management software to MCD's investigation and complaint resolution activities	Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Renegotiating the Internet service contract with TxOnline	Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Establishing name and address conventions	Information technology
Final Report of Findings and	August 2007	Accelerating the project to link multiple vehicles to their owner	Information technology

Audit/Review Title	Date	Recommendation	Category
Recommendations, Consumer Services Auditable Unit – Dye Management Group			
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Determining whether a common identifier for vehicle owners and drivers is practical	Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Developing a strategy for a common vehicle identifier	Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Seek statutory changes to allow increased use of the Internet and other technologies	Information technology Communications
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Renegotiate the existing TxOnline agreement to reduce the fees paid by TxDOT	Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Implement priority Internet applications in the current RTS environment but with portability to the future V21 environment	Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Continue to monitor and assess the viability of other technologies and alternative service delivery channels	Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Design and implement a consolidated and coordinated TxDOT call center number and portal with an intelligent IVR capability	Information technology
Final Report of Findings and Recommendations, Consumer Services	August 2007	Strengthen TxDOT's existing web site and overall Internet presence to improve the customer's ability to easily access key information	Information technology Communications

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
Auditable Unit – Dye Management Group			
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Continue efforts underway to increase the accuracy, timeliness and accessibility of HCRS data to support emergency operations	Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Establish disaster recovery plans for each call center – strategy may differ for individual program areas depending on business criticality	Information technology
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Consider implementing readily available and affordable technology	Information technology
Sunset Advisory Commission – Commission Decisions	January 2009	Require the agency to use technology to increase public access.	Information technology Communications
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	We recommend that the offices of primary responsibility (i.e., key stakeholders) in TxDOT, along with the ISD, conduct an in-depth evaluation and assessment of their IT needs related to the CDA program as TxDOT continues planning for implementation of the CDA program.	Information technology (CDAs)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Division needs to develop and communicate more comprehensive policies and procedures for the Districts' management of CDA projects.	Organizational design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Since few Districts have been exposed to or have any experience with the CDA process, TxDOT should continue to implement and expand the internal training programs to educate the CDA approach to the Districts and Area Offices.	Organizational design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The Districts will have to make the necessary changes to the organization staffing and management systems to support the policies and procedures as CDAs require a focus on management and oversight roles and prioritization of work during concurrent design and construction.	Organizational design

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT would benefit from improving its Public Relations image and public understanding of the benefits of the CDA process. Specifically, TxDOT and the Districts should emphasize the needs and benefits of using the private sector funding and or alternative project delivery methods.	Organizational design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Working with outside scheduling consultants may help to educate in-house staff with regard to CPM scheduling tools and strategies.	Organizational design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Given the limitations of doing maintenance within existing budgets, the use of total maintenance contracts could free up FTE allocation for other projects as well as allow Districts to re-allocate any potential cost-savings for other maintenance work.	Organizational design Procurement (Maintenance)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Develop a program to use a total maintenance contract based on the line-item or "on-demand" contract structure. This could be attempted at a larger (metro) District that has a large contractor resource pool. To manage this work, the District could locate a maintenance engineer and group of FTE's in each Area Office to: • Develop and manage the total maintenance contracts; • Conduct daily inspections to request any needed repairs; and • Inspect and verify that the work was completed. • This would enable the Districts to re-allocate FTEs, which were previously committed to performing in-house maintenance, to other areas where workload exceeds the available resources (i.e. Construction Inspection).	Organizational design Procurement (Maintenance)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	With the exception of material testing, TxDOT provides inspection services with internal personnel. As TxDOT's level of construction and maintenance projects grow, the current number of inspectors is not going to be capable of providing the necessary level of inspection support. TxDOT should reconsider its current practice of using only TxDOT personnel for inspection services and the possibility of using outside inspection consultants to support growing needs as they are currently doing in other services such a material testing.	Organizational design Build Procurement (Maintenance)

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	There is a need for more inspectors within TxDOT and each District should be concerned with recruiting, hiring and training of new inspectors to continue the high level of quality control and assurance currently being delivered. A planning tool should be developed to enable TxDOT to monitor and respond to work load requirements and to re-organize or re-distribute inspectors where needed.	Organizational design Human resources Build Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Many Districts are becoming involved in extremely large and more technically challenging projects. Based on the number and complexity of existing and upcoming projects, it is important to have a planning and scheduling tool that can assist in effectively prioritizing roles and responsibilities for inspectors. Although resource leveling for inspectors may not be feasible in the smaller Districts, this proactive approach will ensure that larger Districts are prepared for any shortfall of inspectors and are prepared to re-organize and re-distribute FTEs based on workload requirements.	Organizational design Information technology Build Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Industry practices in the private sector and other state DOTs demonstrate the feasibility of using CEI firms for project inspection. As an organization, TxDOT should perform a skills inventory assessment regarding its capacity to execute inspection for the current capital program. This assessment should compare the size of the program to the internal and external skill sets and resources that are currently under the control of the organization.	Organizational design Build Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Consider conducting a cost-benefit analysis to determine the advantages of enlisting outside CEI firms. The purpose of having CEI firms available to augment inspection resources is to avoid potential problems meeting the increasing demand for inspection services as the future demand will most likely exceed internal capacity. Additionally, as third party inspection firms are retained, TxDOT would need to create standards of risk, quality and practices to ensure the consultants deliver services consistent with the organization's current business practices.	Organizational design Build Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The project delivery methods in the CDA process are not the typical design-bid-build process to which TxDOT inspectors are accustomed. TxDOT needs to ensure that the District-level CDA project management and inspection oversight personnel are prepared for the flexibility and speed of construction afforded by the CDA process. TxDOT is taking steps toward developing	Organizational design Procurement (CDAs)

Audit/Review Title	Date	Recommendation	Category
		more structure around the CDA process and providing their inspectors with exposure to CDA projects. The following actions may help to achieve this goal:	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should continue to develop inspectors that want to participate in the CDA oversight process. Clear roles and responsibilities for TxDOT inspectors should be put in place to make certain that the quality of construction on CDA projects adheres to TxDOT's quality standards.	Organizational design Procurement (CDAs)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Districts should rotate inspection assignments to expose more inspectors to the CDA process.	Organizational design Procurement (CDAs)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Reevaluate FTE distribution across the Districts to ensure that allocations are in line with changing demographics and needs. This should include a review of the statewide FTE resource staffing formula based on construction dollar volume, number of construction and maintenance contracts, daily vehicle miles, population and similarly important business workload drivers.	Organizational design Financial management Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	We suggest that a state-wide review of resource allocations be performed. This would include identifying business workload drivers such as, dollar volume and number of inspections. Following a review, high business volume Districts might be allocated additional resources where understaffed while slower business Districts might lose headcount. Potentially, there could be a pool of scarce resources ("residing" at Division) that could be deployed to high volume, high demand Districts during periods of need.	Organizational design Financial management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	We recommend that TxDOT evaluate opportunities for either outsourcing or creating shared service offerings for certain business functions. This may create opportunities to reallocate resources to higher value activities with the organization.	Organizational design Financial management Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Similar to the FTE allocation issue, it would be beneficial for TxDOT to conduct a study on the mandated 11:1 ratio, report the positive and negative impacts, and determine the effectiveness of the policy. Presenting the findings to legislature may create an opportunity for policy revision.	Organizational design

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Altering roles and responsibilities of lead workers to include performance reviews of certain employees, thus reducing the burden on supervisors and providing intermediate job growth potential to workers; Reevaluating supervisory needs in different departments and allocating more supervisors in critical functions; and allowing the Districts more flexibility in determining staffing and supervisory requirements.	Organizational design Human resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	We suggest that Districts explore co-locating internal resources and consultants. This could be done initially for large projects were there are many different development elements contemplated. Co-locating will help to enhance communication and knowledge sharing to ensure that projects are developed utilizing a common vision and goals. We also suggest the TxDOT explore ways of freeing up office space at the Districts to allow for building out meeting rooms to accommodate co-locating project teams.	Organizational design Human resources Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The recent trend to reduce FTEs and increase outsourcing is changing TxDOT's focus from that of a typical engineering organization into that of a project management organization. Most Districts we interviewed do not appear to have a plan to assume greater project management responsibilities. TxDOT should: • Develop and introduce policies and procedures to address the shift in roles and responsibilities of the organizations; • Various training programs are conducted by the Contract Services Offices regarding contractual documents, oversight and monitoring. TxDOT should strengthen these training efforts and continue developing Project Management skills within the organization to support management of outsourced work.	Organizational design Human resources Procurement
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	In some cases, TxDOT, COG and MPO responsibilities and activities overlap and we believe there may be an opportunity to improve communications and streamline business processes through some consolidation and/or coordination of redundant functions. For example, in urban areas, TxDOT Area Offices may be performing planning and design work similar to that of the local COGs. A case study should be undertaken to identify the specific areas of overlap between TxDOT, COGs and MPOs throughout the state and to evaluate the most appropriate	Organizational design Planning Communications

Audit/Review Title	Date	Recommendation	Category
		organizational structure and resource allocation for executing any redundant work. An improved organizational structure and coordinated alignment of responsibilities could help to improve communication, streamline the decision making process, and improve the overall efficiency of the work performed by TxDOT, COGs and MPOs.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The current geographical structure of the TxDOT Distircts and the COGs should also be evaluated. Aligning the boundaries of these two organizations could improve coordination and streamline planning efforts. Currently the boundaries are very similar; therefore, large-scale geographical changes would not be required.	Organizational design Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Explore the potential for delegating more authority to the Districts for negotiating land value. A ROW task force is currently examining the potential for delegating more authority to the Districts. The task force should consider allowing Districts to purchase parcels above the appraisal value because it may help to streamline the ROW process. Division could establish controls for this policy, yet still provide the Districts with more flexibility and autonomy. For example, the Division could grant the Districts authority to purchase parcels at certain percentage above the appraisal cost.	Organizational design Planning
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	Management and IA should work together to evaluate the role of IA and develop an action plan to provide IA with a seat at the executive table to provide insight and feedback on key strategies and initiatives. Additionally, IA should begin structuring its risk assessment and annual audit plan process to include proactive management consulting roles to assist management as it establishes a strong and well-controlled environment and governance structure. Legitimate internal auditing roles with safeguards include: • Facilitating identification and evaluation of risks • Coaching management in responding to risks • Coordinating ERM activities • Consolidating the reporting on risks • Maintaining and developing the ERM framework • Championing establishment of ERM	Organizational design

Audit/Review Title	Date	Recommendation	Category
		• Developing a risk management strategy for board approval	
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT should consider formalizing an ERM program to reduce risks to an acceptable level. The following key steps will assist TxDOT to help ensure the success of the program: • Assessing TxDOT's cultural readiness for change and innovation and developing a change management approach that includes communication strategy, training, and education • Assigning responsibility of leading the ERM initiative to the highest member of management to ensure senior management commitment and organizational attention to the ERM initiative • Developing and adopting common tools, processes, and terminology to facilitate the process and ensure consistency • Ensuring that staff members are provided with the necessary training to meet the needs of the project, including mentoring and cross-training • Developing internal risk competencies by training employees and involving them in the risk management process • Agreed-upon types of risk and methods for identifying, analyzing, and prioritizing risks that will be used in the ERM initiative	Organizational design Human resources
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	Management should identify an ERM leader to introduce enterprise risk management into TxDOT. The ERM leader should act as the central point for coordinating, monitoring, and reporting on risks, and should provide support to managers as they work to identify the best way to mitigate a risk. Management should establish an ERM implementation committee. The purpose of the committee is to provide strategic guidance to the work of the implementation team. Management should identify a person to act as a liaison among the ERM activities between each of the TxDOT districts and divisions.	Organizational design
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	Develop a comprehensive knowledge transfer plan that incorporates all of the skill sets necessary to increase the institutional knowledge of the Finance division related to CDAs.	Organizational design Human resources

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
		Creating a formal plan will enable TxDOT to cultivate the necessary specialized workforce that is not readily available in today's marketplace.	Procurement
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	The decentralized structure of TxDOT has some strength in providing District Engineers with a level of control and management discretion. However, a review granting a greater level of authority to manage a change management program from the division level, under the direction of administration, may be required if organization changes are undertaken. The further separation of the structure of the Mobility Initiatives affects the organizational capability by segregating those employees working on this new business process and by decreasing the efficiency of support functions. Job assessments to define and plan for the necessary knowledge, skills, and abilities of those positions required to fulfill TxDOT's CDA responsibilities are needed. Analysis of how the Mobility Initiatives can be supported most efficiently should be explored.	Organizational design Human resources
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	Currently, the TxDOT field offices and COGs and MPOs are not aligned, so one or more TxDOT offices could be working with multiple COGs and MPOs. By aligning the TxDOT field offices with the COGs and MPOs, particularly in the urban areas, coordination of planning activities, project management, and communication could be simplified. TxDOT should analyze how COGs and MPOs interact with specific field offices in order to align and streamline its own processes for improved efficiency, reduced redundancy, and maximize the use of scarce skills across traditional organizational boundaries.	Organizational design
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	The audit team recommends that TxDOT work towards obtaining grants management certifications for their grants management staff as the National Grants Management Association body of knowledge matures	Organizational design Human resources
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Reclassify permit officers from clerical to professional staff and implement a job classification that recognizes the complexity and degree of impact of their decision-making	Organizational design

Audit/Review Title	Date	Recommendation	Category
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Continuing to maintain MVD within TxDOT	Organizational design
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	The travel and tourism programs should remain housed within TxDOT	Organizational design
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	The audit team recommends that TxDOT maintain its current district-based structure for managing the oversight of public transportation and traffic safety grants and the enhancement program	Organizational design
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	The audit team recommends that TxDOT create a 'Grants Management Coordination Team' to standardize and coordinate grant management processes across program areas	Organizational design
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	The audit team recommends that the Department establish standard 'grants management' position criteria for use in selecting and assigning district office staff	Organizational design
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	The audit team recommends that TxDOT increase the case closure rate and begin to reduce the caseload backlog by enlarging and regionalizing the investigations staff	Organizational design
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Implement an agency-wide organizational development plan to recruit, retain and develop the competencies TxDOT required to perform its new roles in transportation finance.	Organizational design Human resources
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	Brief the full Texas Transportation Commission on developments that occur and have a significant statewide impact, so that the members of the commission can be involved in the process for making corrections. The Department should conduct these briefings during open commission meetings to enable members to (1) discuss matters in a forum that will help ensure	Organizational design

Audit/Review Title	Date	Recommendation	Category
		they have the same understanding of issues and (2) promote their involvement in reviewing and approving Department policy when deemed necessary to address issues.	
Sunset Advisory Commission – Commission Decisions	January 2009	Require public membership on the agency's policymaking body.	Organizational design
Sunset Advisory Commission – Commission Decisions	January 2009	Provide that the Governor designate the presiding officer of the policymaking body.	Organizational design
Sunset Advisory Commission – Commission Decisions	January 2009	Require separation of policymaking and agency staff functions.	Organizational design
Sunset Advisory Commission – Commission Decisions	January 2009	Abolish the Texas Transportation Commission and replace it with an appointed Commissioner of Transportation.	Organizational design
Sunset Advisory Commission – Commission Decisions	January 2009	Establish a Transportation Legislative Oversight Committee to provide necessary oversight of the Department and the state's transportation system.	Organizational design
Sunset Advisory Commission – Commission Decisions	January 2009	TxDOT should centralize the outdoor advertising regulatory program, requiring staff to report to the Right-of-Way Division instead of district engineers.	Organizational design
Texas Department of Transportation: Organizational Structure Considerations Addendum to the Independent Assessment Reports	July 20, 2007	As TxDOT's new business solutions mature and the impacts are realized, TxDOT will need to revisit and update its strategy, objectives, and operational needs to reflect those solutions and the business environment. TxDOT needs to gain clarity on its strategy, objectives, and organizational needs in relation to organizational capability and the aggregate skills and abilities of its workforce. The first step toward strategic organizational redesign is to understand the gap between where TxDOT's organizational capability is today and where it needs to be to fulfill its strategy and objectives. An organizational gap analysis details both the current and to be design as well as identifies activities to close the most critical capability gaps. This analysis could be performed for the Agency as a whole or on specific areas that represent significant risks or areas of significant business improvement opportunity. This analysis is the foundation for identifying the activities that will close the gap between the current and targeted capabilities.	Organizational design Strategic planning and performance management

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Communication between the Division and Districts should be improved to help ensure that the expectations associated with the policies and procedures are clearly defined and to develop a common understanding of the environmental roles and responsibilities at all levels of the organization. TxDOT should consider reinstituting the annual environmental meeting, as opposed to a biennial meeting, to allow environmental personnel from Division and the various Districts to meet on a regular basis to improve communication, discuss common challenges or issues and identify potential solutions.	Planning Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	By finding ways to effectively distribute information between Districts, the common sources of delays can be identified and mitigated during the clearance process. As this portion of the overall project is critical to its successful completion, any beneficial process discovered by one District needs to be quickly and effectively distributed to all Districts.	Planning Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Developing a baseline or target budget on a project by project basis for planning activities would provide specific goals to work towards. TxDOT would then be able to track progress updates against the baseline and compile lessons learned. The budgeting process could then be refined using this database of information.	Planning Finance/accounting operations
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Developing accurate cost tracking and forecasting tools will also improve resource management. Project managers and the TP&D department will be able to more accurately forecast their anticipated workload and make informed decisions regarding outsourcing work or performing work in-house.	Planning Finance/accounting operations
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The current estimating process utilized by TxDOT provides a procedure for developing and updating estimates; however, there is opportunity to strengthen the cost estimating controls. Escalation of material costs in recent years has dramatically increased construction costs. These types of factors have placed increased importance on producing timely and quality estimates.	Planning Finance/accounting operations
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should develop procedures for incorporating contingencies into project estimates, particularly for larger projects. During the early stages of the estimate development,	Planning Finance/accounting operations

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
		contingency may be used to account for uncertainty and risk. The contingency amount should be defined by specific risk elements and should be periodically updated as more information becomes available. The contingency should be reduced as more risk and uncertainty is defined.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	There are opportunities to strengthen the scheduling controls currently utilized by TxDOT. Numerous Districts have recognized this opportunity and are developing scheduling tools to improve planning, forecasting and the ability to identify potential issues.	Planning Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	A CPM schedule can be used to model the hand-offs between various department within the planning life-cycle such as Design, Environmental and ROW. It can also model interactions between Area Offices, Districts, Divisions and external agencies such as the FHWA. Developing these types of integrated schedules should improve communication between the various parties involved in the project as well as the management of the overall planning process.	Planning Design Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The schedule activities should be accurately and consistently updated to show percent complete for each activity. The critical activities and near critical activities should be evaluated to determine which activities are driving the schedule and where any delays may be occurring. Mitigation scenarios can then be developed to evaluate options for improving the project completion and meeting the letting date. These proactive efforts will help to identify potential issues and allow for mitigation in a timely manner.	Planning Design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should strengthen its schedule tracking capabilities. Tracking baseline schedules, progress updates and as-built durations can help to develop lessons learned for future projects. Project managers can leverage data from previous projects to refine the quality and accuracy of future project schedules. In addition, the notes section of the schedule can be utilized to track schedule changes for reference in the later stages of the project. Tracking this type of schedule information will document the history of the project and improve accountability.	Planning Design Build
Deloitte Independent Assessment of Field	September	TxDOT should explore sharing the APDSS scheduling system, as described in the above	Planning

Audit/Review Title	Date	Recommendation	Category
Operations Unit	17, 2007	"Operational Strengths / Leading Practices" section, throughout the state. It will facilitate a more efficient and consistent approach to project development. The input templates provide a user friendly, standardized methodology for creating schedules. The system also provides a template checklist for developing the project scope and focuses the designers on each aspect of the project.	Design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Over the past years TxDOT has been outsourcing more work to consultants and this model has been successful for helping to meet the growing need for roadway construction. However, the significant increase in consultant work has created a need for strengthening TxDOT's project management capabilities. While many TxDOT employees have technical skills related to their area of expertise, they may not be trained in managing and overseeing consultant work such as monitoring work progress, evaluating invoice payments, coordinating work tasks and ensuring compliance	Planning Design Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should evaluate the skill set required for managing consultant work and determine the training required for current personnel or whether the current work force should be supplemented with more project management focused personnel. TxDOT should retain its technical expertise to review and evaluate work being performed by consultants; however, adding project management personnel will allow technical staff to focus on their area of expertise while allowing project managers to focus on coordinating, monitoring and assessing consultant performance.	Planning Design Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should continue to develop its internal cost tracking tools, including the Total Project Cost initiative. By tracking internal costs associated with design, environmental, ROW and construction work on a project by project basis, TxDOT will be able to develop performance metrics to guide the planning and management of future projects. The metrics may be used to identify trends and also improve accountability.	Planning Design Build Strategic planning and performance management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The steady increase in outsourcing is necessitating that TxDOT assume greater project management responsibilities. To be effective in this role, TxDOT should consider the following:	Planning Design

Audit/Review Title	Date	Recommendation	Category
		• Consider developing Project Management skills within the organization through implementing more training programs to support management of outsourced work. • Develop and introduce policies and procedures to address the shift in roles and responsibilities of the organizations.	Build Human Resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Project Management (PM) skill are a necessary core competency for the future. TxDOT should consider implementing training programs to equip their design personnel with consultant management skills.	Planning Design Build Human Resources
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The variations in scheduling philosophies and applications between the Districts result in differing levels of effectiveness in tracking projects. A more consistent, timely and rigorous process for verifying project information during the project life cycle results in more accurate forecasting of project timelines, project costs and ultimately, project letting dates. Improved tracking, scheduling and reporting tools would further increase the accuracy of project forecasts as well as to provide higher levels of accountability.	Planning Design Build
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	To improve the execution of the environmental process, TxDOT should develop enhanced scheduling controls to monitor the environmental process. Developing more detailed scheduling controls could help to improve communication and accountability both at the Districts and the Division. Enhanced scheduling controls could monitor internal as well as external handoffs and the durations associated with each of the key activities. Historical durations for specific activities could then be utilized to develop realistic durations for future planning purposes. For complex projects, there is opportunity to utilize a Critical Path Management (CPM) scheduling tool as described in the Planning section of this report to track environmental progress. Such a scheduling tool could be utilized to update progress and project the anticipated completion dates.	Planning Design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Both the Districts as well as the Division should be held accountable for missed letting dates. This will encourage the Division to work with the Districts to solve environmental challenges	Planning Design

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
		and successfully achieve letting dates.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Examine and incorporate leading practice scheduling processes utilized by the Districts to generate consistent and efficient procedures on a state-wide basis. The leading practices should include: • Collection and dissemination of historical environmental clearance timelines to determine accuracy of ETS timelines, or aid in the implementation of more accurate timelines for future projects; • Inclusion of project specific or unique requirements that might not be addressed in set guidelines; and, • Standardization of key milestones based on the category of clearance.	Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The adequacy of the QA/QC procedures currently being utilized by the Districts to review environmental documents should be evaluated and any necessary procedural changes should be included in the revised manual. There is opportunity to share the operational strengths, as discussed above, across the state to improve quality of environmental documentation. Comprehensive reviews of documentation by consultants and TxDOT personnel before submitting to Division for approval could help to strengthen the QA/QC process. Also, collecting and disseminating comments received by Division and external agencies to the entire District department could help to ensure omissions or errors are not repeated in future documentation.	Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should coordinate more closely with external review agencies to ensure adherence to MOUs, or the Districts should follow the timing outlined in the MOUs and proceed with the project scope if deadlines are missed. Any root causes for missed deadlines should be communicated and properly addressed to help improve the process going forward.	Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Districts that wait for comments regardless of lapses in deadlines should then include sufficient additional time in their schedules to account for delays due to external reviews.	Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Additionally, external agencies should continue to be involved in TxDOT's efforts in researching and discussing alternative solutions to help speed the review process. MOUs have helped to	Planning

Audit/Review Title	Date	Recommendation	Category
		establish review procedures and improve schedule planning. TxDOT should continue to seek opportunities to establish partnership agreements and develop workable solutions to improve the environmental process.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Standardize environmental review requirements at the Division level to eliminate inconsistent review of District submittals. In addition, distribute a formalized checklist of requirements with detailed explanations for the Districts to decrease the possibility for re-submittals. Division is currently developing checklists; however, their completion has been delayed due to heavy workloads and resource constraints.	Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Defining requirements and interpretations in clearing categorical exclusions and addressing "grey areas" would help in streamlining the review process and alleviating some of pressures associated with submittals to Division.	Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	To improve the process time required for environmental submittals, TxDOT should also explore the potential for implementing a concurrent review approach that includes simultaneous review by external agencies such as FHWA and EPA along with Division. The Environmental Division has previously explored the option of conducting concurrent reviews; however, it appears that concurrent review submissions suffered from poor quality issues and that anticipated process improvements were not achieved. Division is currently working to develop a QA/QC review process and Standards for Submission to be implemented at the Districts to improve accountability and the quality of environmental submittals to Division. Once these quality issues have been addressed, TxDOT should continue to explore the potential for a concurrent review process. This could be performed on a trial basis, where in specific types of documents are sent for concurrent review.	Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	To improve quality of submittals TxDOT should consider having District management sign-off on significant environmental submittals. Implementing this process could also help to improve accountability.	Planning
Deloitte Independent Assessment of Field	September	Although internal policies and procedures are essential in ensuring compliance with regulatory agency requirements, some internal policies based on stringent interpretations of regulations	Planning

Audit/Review Title	Date	Recommendation	Category
Operations Unit	17, 2007	may have created additional and unnecessary work for the Districts and for Division. • TxDOT should consider implementing a cost-benefit approach in determining appropriate risk levels. Some level of risk may be tolerable and reasonable when the corresponding costs associated with its elimination are considered. • The Division and the Districts should develop a common understanding of risk and collectively determine the appropriate risk tolerance with regard to interpreting policies and approval requirements. The approach and risk philosophy should be effectively communicated to both the Division and the Districts.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The various scheduling philosophies and tools used throughout the Districts result in differing levels of effectiveness regarding tracking projects. A more consistent, timely and rigorous process for verifying information during a project's life cycle would result in more accurate forecasting of project timelines, project costs and project letting dates. Developing detailed and standardized scheduling and reporting tools would further increase the accuracy of project forecasting as well as provide higher levels of accountability.	Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Evaluate and incorporate leading practices regarding scheduling processes used by Districts to generate quality and consistent scheduling controls. Establish appropriate review timeframes for project schedules and cost estimates both at the District and Division levels. Developing a Standard Operating Procedure defining the timeframe expectations for reviews and approvals would streamline the process and improve accountability. In addition, by tracking baseline schedules and costs against current estimates and progress, TxDOT can develop performance measures to monitor ROW execution and improve accountability.	Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Allow Districts to begin contacting title authorities at an earlier date to expedite the ROW schedule. Enabling Districts to begin this process earlier will enable them to anticipate potential issues with ROW acquisition. This will allow the District to mitigate risk associated with parcels that may require special attention and/or additional time to process. This strategy may not be required for all projects and will depend upon the urgency and anticipated risk associated with a particular project. TxDOT should develop appropriate guidelines and controls to manage the	Planning Procurement/contracting

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
		implementation of this strategy.	
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Implement a cost-benefit approach in determining appropriate risk levels associated with ROW acquisition. Some level of risk may be acceptable when the corresponding costs associated with delaying a project's letting outweigh the benefit gained from removing risk entirely. TxDOT should revisit their current ROW policies and associated risk tolerance.	Planning Strategic planning and performance management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Explore the potential for delegating more authority to the Districts for negotiating land value. A ROW task force is currently examining the potential for delegating more authority to the Districts. The task force should consider allowing Districts to purchase parcels above the appraisal value because it may help to streamline the ROW process. Division could establish controls for this policy, yet still provide the Districts with more flexibility and autonomy. For example, the Division could grant the Districts authority to purchase parcels at certain percentage above the appraisal cost.	Planning Organizational design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Examine the possibility of implementing a consultant contract within Division as well as within the Attorney General's Office. Due to staffing constraints at Division as well as the Attorney General's Office, supplementing their workforce with consultants would improve the time required to expedite reviews and approvals and would expedite the Eminent Domain process.	Planning
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Enhance internal communication between Division and Districts to improve the ROW scheduling process. Incorporating all functions for feedback can further refine the overall schedule.	Planning Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should consider developing a formal system for communicating ROW resource needs and availability to more effectively level resources and improve productivity on a statewide basis. Implementing a system or process within the HR or ROW department for monitoring resource sharing opportunities would help to achieve this goal.	Planning Information technology Human resources
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Implement consolidated/coordinated planning and procurement	Planning Financial management

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	TxDOT should establish a funding plan at the program level for each of the eight Transportation Management Areas in the state in consultation with the local and regional agencies that plan, fund and deliver the highway and transit systems in that area.	Planning Financial management
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Define what constitutes an RMA surplus and a method for calculating said surplus.	Planning Financial management
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Establish agreement guidelines encompassing approved uses of state funds provided to RMAs.	Planning Financial management
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	The State should specify minimum budgeting, accounting, and related standards for RMAs.	Planning Financial management
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	The State should establish a mechanism to improve the creditworthiness of RMA projects.	Planning Financial management
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Account for total project cost in the allocation of programming targets between UTP categories.	Planning
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Use general obligation debt capacity as source of equity for toll projects.	Planning Financial management
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Report the level of transportation system performance against TxDOT Strategic Plan Goals bought by the UTP.	Planning Strategic planning and performance management

Audit/Review Title	Date	Recommendation	Category
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Require MPOs to report the level of performance against TxDOT strategic plan goals anticipated from the implementation of their long-range transportation plans.	Planning Strategic planning and performance management
State Audit Office – The Department of Transportation's Financial Forecasting and Fund Allocation	August 2008	When changes are made that affect allocations as published in the most recent Unified Transportation Program, provide legislators whose districts are affected with information regarding these changes, which are made through minute orders approved by the Texas Transportation Commission.	Planning Communications
Sunset Advisory Commission – Commission Decisions	January 2009	Require TxDOT to redevelop and regularly update the long-range Statewide Transportation Plan describing total system needs, establishing overarching statewide transportation goals, and measuring progress toward those goals.	Planning
Sunset Advisory Commission – Commission Decisions	January 2009	Establish a transparent, well-defined, and understandable system of project programming within TxDOT that integrates project milestones, forecasts, and priorities.	Planning
Sunset Advisory Commission – Commission Decisions	January 2009	Require TxDOT districts to develop detailed work programs driven by milestones for major projects and other statewide goals for smaller projects.	Planning
Sunset Advisory Commission – Commission Decisions	January 2009	Require TxDOT to establish, and provide funding and support for, transportation planning in rural areas of the state.	Planning
The Department of Transportation's Reported Funding Gap and Tax Gap Information	April 2007	The Department should continue to coordinate the development of the funding gap by prescribing the elements of cost and revenue assumptions and validating the cost and revenue estimates provided by external organizations.	Planning Financial management
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The change order process is relatively efficient and has certain checks and balances to ensure that Districts follow the procedure and control the process of pricing, negotiating, approving and processing change orders. While TxDOT has a clearly defined process for administering change orders, the process has some inefficiencies and opportunities for improvement.	Procurement Build
Deloitte Independent Assessment of Field	September	Consider ways to improve communications among the field inspectors. For example, expand the use of contract terms that require the contractor to provide dual-band cell phones for use on	Procurement

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
Operations Unit	17, 2007	the specific project.	Communications Build Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Consider ways to improve communications among the maintenance field staff and inspectors. For example, expand the use of contract terms that require the contractor to provide dual-band cell phones for use on specific maintenance project(s).	Procurement Communications Information technology
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Organize a work-group with Division personnel to improve communication between parties and implement improvements to streamline the contract review process. The goal is to promote cooperation between Division and District personnel, identify communication issues and "pinch points" between specific Divisions and the Districts and facilitate the review process.	Procurement Communications
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Promote, encourage and provide the hardware and software resources to Area Offices that enables inspectors to utilize current technology and to automate the contract administration process. This will increase productivity and accuracy of information and allow inspectors to cover more area. Wireless technology will also promote more effective communication.	Procurement Information technology (Maintenance)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	In general, the use of total maintenance contracts is an opportunity to the organization; but is not without risk. A majority of Districts do not use total maintenance contracts and found them to produce poor quality work at increased costs and removed any decision making control over the contractor. However, total maintenance contracts could be very effective with some re-structuring of the contract terms.	Procurement (Maintenance)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Review and modify contract terms and the structure of total maintenance contracts with regard to performance to allocate accountability to the contractor and minimize risk to TxDOT.	Procurement (Maintenance)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Write performance criteria into the contract and specifications to assure quality.	Procurement (Maintenance)
Deloitte Independent Assessment of Field	September	Include penalties or deductions for violations of contract work performance.	Procurement

Audit/Review Title	Date	Recommendation	Category
Operations Unit	17, 2007		(Maintenance)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Reexamine the evergreen consultant contract requirements including the $2 million cap. Revising the requirements could eliminate some of the time and effort involved in selecting a potential consultant as well as contracting with them. With a larger contracting cap the consultant procurement process would not need to be performed as frequently.	Procurement
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	The audit team recommends that the TxDOT work with enhancement program recipients to establish reasonable start and completion timeframes for projects as part of the contract agreement process	Procurement
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	The audit team recommends that TxDOT network to expand the pre-inspection licensing services invitation list to attract a larger number of eligible responses to future Invitations to Bid (ITB)	Procurement
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	TxDOT should consolidate the contracting process for facilities management and maintenance contracts for and TICs and SRAs	Procurement
Independent Audit Services – Consideration of Cost in the Consultant Selection Process Evaluation (Dye Management Group)	4/15/2009	Establish greater specificity for TxDOT business objectives and guidelines for TxDOT negotiators to apply during negotiations.	Procurement
Independent Audit Services – Consideration of Cost in the Consultant Selection Process Evaluation (Dye Management Group)	4/15/2009	Implement organizational development and training to strengthen project procurement and negotiation competencies.	Procurement
Independent Audit Services – Consideration of Cost in the Consultant Selection Process Evaluation (Dye Management Group)	4/15/2009	Maintain information on A/E contracts and negotiation outcomes to support TxDOT personnel during negotiations.	Procurement
Independent Audit Services – Consideration of Cost in the Consultant Selection Process	4/15/2009	Review A/E procurement including the use of indefinite deliverable contracts in the context of TxDOT project schedule, project cost, and project scope management	Procurement

Audit/Review Title	Date	Recommendation	Category
Evaluation (Dye Management Group)			
Independent Audit Services – Consideration of Cost in the Consultant Selection Process Evaluation (Dye Management Group)	4/15/2009	Limit the dollar value of non A/E work performed through A/E contracts	Procurement
Sunset Advisory Commission – Commission Decisions	January 2009	Authorize TxDOT to use the design-build model of project delivery for traditional highway projects.	Procurement Build Design
Sunset Advisory Commission – Commission Decisions	January 2009	Remove provisions in statute and rule requiring TxDOT to advertise its contract solicitations in local or statewide newspapers.	Procurement
Sunset Advisory Commission – Commission Decisions	January 2009	TxDOT should develop clear communication policies regarding contract solicitations for its professional services contracts.	Procurement Communication
Sunset Advisory Commission – Commission Decisions	January 2009	TxDOT should provide additional information on overhead rates to districts and ensure that they use it.	Procurement
Sunset Advisory Commission – Commission Decisions	January 2009	TxDOT should set timeframes for each major step in the development of professional services contracts.	Procurement
Sunset Advisory Commission – Commission Decisions	January 2009	TxDOT should consider providing additional professional staff to support its Consultant Contract Office.	Procurement
Sunset Advisory Commission – Commission Decisions	January 2009	TxDOT should strengthen oversight and accountability of professional services contracts in its district offices.	Procurement
Sunset Advisory Commission – Commission Decisions	January 2009	TxDOT should require contract management training for its professional services project managers and other employees involved in professional services contract administration.	Procurement
Sunset Advisory Commission – Commission Decisions	January 2009	Require the Contract Advisory Team to review, with the authority to stop solicitation of, TxDOT's development of comprehensive development agreements.	Procurement

Audit/Review Title	Date	Recommendation	Category
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	The project delivery methods in the CDA process are not the typical design-bid-build process to which TxDOT inspectors are accustomed. TxDOT needs to ensure that the District-level CDA project management and inspection oversight personnel are prepared for the flexibility and speed of construction afforded by the CDA process. TxDOT is taking steps toward developing more structure around the CDA process and providing their inspectors with exposure to CDA projects. The following actions may help to achieve this goal:	Procurement (CDAs) Organizational design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	TxDOT should continue to develop inspectors that want to participate in the CDA oversight process. Clear roles and responsibilities for TxDOT inspectors should be put in place to make certain that the quality of construction on CDA projects adheres to TxDOT's quality standards.	Procurement (CDAs) Organizational design
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Districts should rotate inspection assignments to expose more inspectors to the CDA process.	Procurement (CDAs) Organizational design
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	Effective business transformation and change management requires effective internal and external communications. Therefore, TxDOT should undertake an internal communications strategy, which demonstrates to staff the case for change as it applies to CDA implementation. The strategy should also communicate the type of skills necessary, the performance metrics associated with CDAs, and the benefits of implementing CDAs, and other innovative financing methods. TxDOT has spent a great deal of energy in communicating its intentions on implementing CDAs to the development and concession industry. Given the recent legislative challenges and political attention directed toward the CDA projects, it may now prove useful to establish a systematic external communications strategy that clearly articulates the objectives for CDAs and the principles used to ensure that the best interests of the state are respected and protected. While this will not eliminate the political challenges or criticisms by interest groups, it may help to better communicate the financial benefits and the economic, social, and quality-of-life benefits of TxDOT's efforts in implementing CDAs. When working to complete the CDA Manual, it may be useful to prepare elements of the CDA Manual that are modular and flexible in order to adapt to the inevitable changes that will take place during the construction	Procurement (CDAs) Communications

Audit/Review Title	Date	Recommendation	Category
		and concession phases of these same projects.	
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	With the advent of CDAs, TxDOT should reevaluate the current process for procuring professional services outlined in Texas Government Code, Chapter 2254, Subchapter A and TAC §§9.30-9.43. Management should consider adding an amendment to the code that addresses the procurement of professional services related to the CDAs. The new amendment should address a faster, more efficient process that applies only to services related to CDAs.	Procurement (CDAs)
Deloitte Independent Assessment of Field Operations Unit	September 17, 2007	Implement a cost-benefit approach in determining appropriate risk levels associated with ROW acquisition. Some level of risk may be acceptable when the corresponding costs associated with delaying a project's letting outweigh the benefit gained from removing risk entirely. TxDOT should revisit their current ROW policies and associated risk tolerance.	Strategic planning and performance management Planning
Deloitte Independent Assessment of Management and Support Functions	September 12, 2007	TxDOT should continue its efforts to consolidate the two different strategic plans into one plan. In the event this is not possible, one of the plans should be renamed to eliminate confusion. CDAs should be incorporated into the strategic plan and linked to a goal, strategy, and several outcome performance measures that can be consistently tracked and monitored. Upon building key performance measures, there should be a system developed that can track and monitor performance. Management should proactively use an outcome-based performance measurement system as a tool for making adjustments to strategies and tactics as necessary. The effective use of a consolidated strategic plan should evolve into becoming a strategic tool that is understood and used throughout all levels at TxDOT in order to move TxDOT toward its objectives.	Strategic planning and performance management
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	Implement agency-wide and division-specific performance measures, as appropriate, and report on a regular basis	Strategic planning and performance management
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	TxDOT should regularly conduct formal return on investment (ROI) studies for Travel Division publications and services and proactively communicate the results of these studies to stakeholders	Strategic planning and performance management

May 26, 2010

Audit/Review Title	Date	Recommendation	Category
Final Report of Findings and Recommendations, Consumer Services Auditable Unit – Dye Management Group	August 2007	The audit team recommends that TxDOT establish a set of common grants management processes and associated outcome measures for implementation across program areas	Strategic planning and performance management
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Report the level of transportation system performance against TxDOT Strategic Plan Goals bought by the UTP.	Strategic planning and performance management Planning
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Require MPOs to report the level of performance against TxDOT strategic plan goals anticipated from the implementation of their long-range transportation plans.	Strategic planning and performance management Planning
Independent Performance Audit: Transportation Funding – Dye Management Group	August 29, 2007	Strengthen the link between the Strategic Plan goals, system planning analysis and programming by: • Refining strategic plan goals and stating them as measurable objectives subject to performance measurement. • Using assessment of system level performance to evaluate the anticipated level of performance from UTP and resource allocation against TxDOT strategic plan goals. • Implementing the planned project performance indicators to guide evaluation and prioritization of projects for programming in Categories TxDOT is directly responsible for.	Strategic planning and performance management
Sunset Advisory Commission – Commission Decisions	January 2009	Require TxDOT, with input from transportation partners and policymakers, to develop a system to measure and report on progress in meeting transportation goals and milestones.	Strategic planning and performance management
Texas Department of Transportation: Organizational Structure Considerations Addendum to the Independent Assessment Reports	July 20, 2007	As TxDOT's new business solutions mature and the impacts are realized, TxDOT will need to revisit and update its strategy, objectives, and operational needs to reflect those solutions and the business environment. TxDOT needs to gain clarity on its strategy, objectives, and organizational needs in relation to organizational capability and the aggregate skills and abilities of its workforce. The first step toward strategic organizational redesign is to understand the gap between where TxDOT's organizational capability is today and where it needs to be to	Strategic planning and performance management Organizational design

Audit/Review Title	Date	Recommendation	Category
		fulfill its strategy and objectives. An organizational gap analysis details both the current and to be design as well as identifies activities to close the most critical capability gaps. This analysis could be performed for the Agency as a whole or on specific areas that represent significant risks or areas of significant business improvement opportunity. This analysis is the foundation for identifying the activities that will close the gap between the current and targeted capabilities.	

Table A-1: Recommendations from prior reviews and audits

This page intentionally left blank.

Section B.   Introduction to change management practices

By using change management techniques, organizations can most effectively maximize the benefits gained from change initiatives.

Effective change management requires:

- A change champion;
- An empowered leader;
- Effective planning; and
- Accountability.

A *change champion* is a senior leader who can effectively communicate the importance of a change initiative and make sure those responsible for the initiative have all the necessary resources and support for success. The champion must be committed to the change and determined to see the process through.

An *empowered leader* must be designated for any change initiative. This leader is responsible for the daily management and oversight of change activities and should be held accountable for the success of the initiative(s) s/he is overseeing. It is important to have one committed individual responsible for implementation from start to finish to maintain consistent direction and clear accountability.

Effective planning is important before an initiative is undertaken and throughout the implementation process. Key activities include:

- Documenting objectives for the initiative that are clear and precise and that align to the organization's mission and goals;
- Articulating performance measures to understand when success is achieved (baseline performance data is critical to understanding success);
- Developing a detailed project plan, including:
  - o Mechanisms to close gaps that exist between the current state and the desired future state;
  - o Appropriate sequencing, when looking at other changes or initiatives the organization intends to undertake; and
  - o Project milestones and decision points, including points at which the organization will assess the progress and costs to make a "go, no-go" decision for implementation;
- Identifying all stakeholders impacted by the change and developing strategies that will engage and prepare them for their new work environments.

Accountability provides measurable results during and at the conclusion of the change initiative. Effective measurement integrates with all other dimensions of the change management model and runs throughout the project. The objective is to measure the organization's readiness for change and provide leadership with data to demonstrate the benefits of change. Accountability activities include developing measures and targets and developing the measurement process, which includes identifying data owners, collection methods and tools, reporting methods, and baseline results by which to compare. Performance measures should also include milestones for the achievement of specified levels to show progress and improvement throughout the process.

Key Deliverables for effective change management include, but are not limited to:

Governance Model. A governance model describes how the project will be managed in terms of who makes decisions and at what levels. If a governance structure is not properly defined, no clear decisions will be made about the project. If leaders are not actively engaged, it will be difficult to obtain their buy-in.

Decision-making map. The decision-making map provides the project with a vision of how project decisions should be made. It is essentially a process flow that documents approvals and reviews, time durations, and associated responsibilities.

Communication plan. A communications plan should identify key audiences, critical messages, communications vehicles that can be used, appropriate frequency and timing of communications, feedback mechanisms that can be used, and a schedule for communications during the improvement initiative.

Project charter. A project charter, outlining the goals, objectives, performance measures, and performance baseline for the project. The charter should document key milestones and decision points and should be supported by a clear and detailed project schedule.