Texas Department of Transportation

Workforce Plan
Fiscal Years 2015 to 2019
Human Resources Division, Workforce Analysis
As part of the State of Texas’ strategic planning process, the Governor’s Office of Budget, Planning and Policy and the Legislative Budget Board (LBB), provided the statewide strategic goals and benchmarks for Texas. As part of the Texas Department of Transportation’s (TxDOT’s) workforce plan, the information on the State’s mission, goals, and benchmarks is included.

**Texas State Government Mission**
Texas state government must be limited, efficient, and completely accountable. It should foster opportunity and economic prosperity, focus on critical priorities, and support the creation of strong family environments for our children. The stewards of the public trust must be men and women who administer state government in a fair, just, and responsible manner. To honor the public trust, state officials must seek new and innovative ways to meet state government priorities in a fiscally responsible manner.

Aim high . . . we are not here to achieve inconsequential things!

**The Philosophy of Texas State Government**
The task before all state public servants is to govern in a manner worthy of this great state. We are a great enterprise, and as an enterprise, we will promote the following core principles.

- First and foremost, Texas matters most. This is the overarching, guiding principle by which we will make decisions. Our state, and its future, is more important than party, politics, or individual recognition.
- Government should be limited in size and mission, but it must be highly effective in performing the tasks it undertakes.
- Decisions affecting individual Texans, in most instances, are best made by those individuals, their families, and the local government closest to their communities.
- Competition is the greatest incentive for achievement and excellence. It inspires ingenuity and requires individuals to set their sights high. Just as competition inspires excellence, a sense of personal responsibility drives individual citizens to do more for their future and the future of those they love.
- Public administration must be open and honest, pursuing the high road rather than the expedient course. We must be accountable to taxpayers for our actions.
- State government has a responsibility to safeguard taxpayer dollars by eliminating waste and abuse and providing efficient and honest government.
- Finally, state government should be humble, recognizing that all its power and authority is granted to it by the people of Texas, and those who make decisions wielding the power of the State should exercise their authority cautiously and fairly.
Statewide Priorities

- Ensure the economic competitiveness of our state by adhering to principles of fiscal discipline, set clear budget priorities, and live within our means and limit the growth of government.
- Invest in critical water, energy and transportation infrastructure needs to meet the demands of our rapidly growing state.
- Ensure excellence and accountability in public schools and institutions of higher education as we invest in the future of this state and ensure Texans are prepared to compete in the global marketplace.
- Defend Texans by safeguarding our neighborhoods and protect our international border.
- Increase transparency and efficiency at all levels of government to guard against waste, fraud and abuse; and ensure that Texas taxpayers keep more of their hard-earned money to keep our economy and our families strong.

Economic Development Priority Goal

- To provide an attractive economic climate for current and emerging industries and market Texas as a premier business expansion and tourist destination that fosters economic opportunity, job creation, and capital investment by:
  - Promoting a favorable business climate and a fair system to fund necessary state services
  - Addressing transportation needs
  - Maintaining economic competitiveness as a key priority in setting State policy, and
  - Developing a well-trained, educated, and productive workforce.

Relevant Benchmarks

- Percentage of state highway system rated good or better based on the Pavement Management Information System Condition Score.
- Percentage reduction in traffic congestion using the Texas Transportation Institutes’ Travel Time Index.

Public Safety and Criminal Justice

- To protect Texans by:
  - Achieving an optimum level of statewide preparedness capable of responding and recovering from all hazards.
**Relevant Benchmarks**

- Number of traffic deaths per 100,000 population.
- Number of traffic deaths per 100,000 population involving alcohol.

**Texas Department of Transportation (TxDOT) Mission**

Work with others to provide safe and reliable transportation solutions for Texas.

**TxDOT Values**

- Trust – We understand the importance of being trustworthy and credible, both as an agency and as individuals.
- Integrity – We honor our commitments and keep our word.
- Responsibility – We are reliable and dependable in carrying out our mission and roles.
- Excellence – We do our work at a high level of quality.
- Service – We do what we do for others with a spirit of humility and honor.

**TxDOT Goals**

**Goal: Maintain a Safe System**

- Objective: Reduce crashes and fatalities on the system through innovations, technology, and public awareness.
- Objective: Maintain and preserve the transportation assets of the State of Texas.

**Goal: Address Congestion**

- Objective: Partner with local officials to develop and implement congestion mitigation plans in Texas.

**Goal: Connect Texas Communities**

- Objective: Prioritize new projects that will increase the state GDP and enhance access to goods and services throughout the state.

**Goal: Become a Best in Class State Agency**

- Objective: Ensure the Agency deploys its resources responsibly and has a customer service mindset.
- Objective: Focus on work environment, safety, succession planning, recruiting and training to develop a great workforce.
**TdDOT Priorities**

- Be the safest state department of transportation in the United States.
- Develop and implement authorized Comprehensive Development Agreements (CDAs) and discuss the need for additional CDAs.
- Develop innovative maintenance approaches that reduce cost and improve/preserve transportation system conditions.
- Develop effective information systems.
- Act as a resource for transportation funding.
- Implement congestion mitigation projects.
- Further strengthen and enhance our relationship with Metropolitan Planning Organizations (MPOs), public-private partnerships (PPPs), counties, and other key stakeholders.

**Human Resources Mission**

- To be a strategic business partner and advisor.
- To provide best-in-class human resources services.
- To leverage human resources technology and human resources processes to achieve organizational excellence.
- To embrace knowledge management, performance excellence, and leadership development.
- To ensure employees have a productive and safe work environment.

**Human Resources Values**

- Trust
- Integrity
- Responsibility
- Excellence
- Service

**Introduction**

As the Texas Department of Transportation (TdDOT) approaches its 100th year anniversary, the breadth of scope and span of its responsibilities continues to advance into new areas and to produce new capabilities for Texas. Our workforce includes experts in engineering, maintenance, rail, maritime, real estate, project management, environmental affairs, research and technology, aviation, and transportation planning and programming. Today, TdDOT is focused on expansion of multi-modal transportation. Now, TdDOT is more than just an agency focused on a system of highways, but also includes boats, planes, buses, and trains, as well as bikes and more.

The workforce of TdDOT is vital to maintaining and expanding the prosperity of Texas. On a daily basis, TdDOT employees advocate for infrastructure and investment to fulfill the Department’s
mission. Employees at TxDOT have a sense of pride because they know their work improves the quality of life for citizens and brings economic opportunity to the State.

TxDOT had more than 11,700 employees during fiscal year 2013. We have come a long way since the creation of the Department in 1917 when we began with nine (9) employees. Also, the business model has changed, which has allowed us to become more effective and efficient in the achievement of our mission. Currently, TxDOT operations uses a design-build model allowing us to focus on the purpose and design of a project. This has allowed TxDOT to encourage others to participate in the building of Texas’ economy.

Today, TxDOT’s employees actively participate with the citizens and communities by listening and collaborating to develop the best possible solutions for their regions and the State. Creativity and innovative thinking are becoming essential competencies as we look to the future.

Within the past two years, TxDOT and its Human Resources (HR) Division implemented the following programs and processes:

- Fully implemented and enhanced the work-life balance initiative/wellness program
- Restructured HR by centralizing and consolidating HR field operations to lay the groundwork for a business partner model
- Improved the performance management process to more closely link employees’ performance to their pay and to the Department’s mission
- Implemented and piloted a workforce planning process to utilize, enhance, and transform the workforce for the 21st Century
- Revised and updated TxDOT’s compensation philosophy and process
- Began an Enterprise Resource Planning (ERP) technology project
- Developed HR metrics to improve organizational performance
- Developed a strategic approach for workforce planning
- Revised and simplified the Human Resources Policies
- Redesigned the hiring and recruitment process to gain efficiencies
- Developed an internal project management training program based on the Project Management Institute concepts
- Redesigned on-boarding and new employee orientation
- Focused on developing employee relations to be more proactive
- Enhanced the collaborative resolution program for employees and managers, and
- Embraced new legislation to keep TxDOT workers safe known as the “Move Over Law.”

**Workforce Planning – What is it?**

As referenced in literature and used by an increasing number of businesses and organizations, it is a process to get the right employees with the right skills in the right jobs to meet an organization’s mission and strategic priorities at the right time.

Today, as workforce planning matures; it now becomes more of a strategic process and requires linkage to the Department’s mission, goals, and strategies. The foundation of strategic workforce planning is built upon the use of quantitative activities, such as headcount planning, turnover rates, FTEs, and other workforce analytics. These analytics and the resulting metrics can create a framework that can inform and transform organizational strategy. The advantages and outcomes of having a well-developed workforce planning process include:

- Ability to define future workforce gaps to design and implement solutions for those gaps
- Documented knowledge of the competencies the organization needs to develop plans allowing the Department the ability to hire or develop people as needed
- Better preparedness for business contingencies
- Improved ability to adapt and align resources for a flourishing economy, innovation, and technological changes
- Measurable action plans that can drive a human capital operating plan
- Understanding of labor trends impacting the workforce including the effects of retirement, skills gaps, etc., and
- Staff planning focused on workload drivers based on business needs.

As TxDOT embarks on meeting the challenges and opportunities placed before us, the Department took workforce analysis to the next level by using workforce planning models and applications at the business unit level. The first business unit TxDOT enlisted to pilot the process was the Bridge Division. The team worked to identify the right mixture of skills to create a forward-thinking workforce.

TxDOT’s objective is to develop a process, to train the right people, and develop the right technology to allow workforce planning to take place. TxDOT’s Human Resources Division is working in partnership with the districts, divisions, and offices to identify and plan to address their workforce needs.
**TxDOT’s Workforce Snapshot – First Half of Fiscal Year 2014**

- During the first half of fiscal year 2014, TxDOT’s workforce on average was 11,600 employees.
- The average age of our classified regular full and part-time employees is 46.6 years, and the average length of agency service is 11.4 years.
- Males comprise 79 percent of the agency’s workforce. Females comprise 21 percent of the agency’s workforce.
- Caucasian Americans comprised 64.4 percent of TxDOT’s workforce during the first half of fiscal year 2014. Hispanic Americans made up 24.8 percent of the workforce, and African Americans represented 7.9 percent of the workforce. The remaining 2.9 percent of the workforce were American Indian, Alaskan Native, Asian, or Pacific Islander.
  - As of March 2014, 35 percent of TxDOT employees are eligible to retire by the end of fiscal year 2018.
  - TxDOT’s internal job title categories show that:
    - Approximately 40 percent of the employees in Engineering and Engineering Support will be eligible to retire by the end of fiscal year 2018.
    - Thirty-eight percent of employees in the executive, administrative, clerical, and legal jobs are eligible to retire by the end of fiscal year 2018.

Additional details for TxDOT’s workforce are located in the Supply Analysis section of this report.

During fiscal year 2013, TxDOT’s annual turnover rate for classified regular full- and part-time employees was 14.1 percent. The turnover rate in fiscal year 2013 was TxDOT’s highest turnover rate in the past five fiscal years. TxDOT’s higher than normal turnover rate can be related to several factors.
Two contributing factors to this higher than normal turnover rate was the outsourcing of the Information Technology roles and responsibilities to NTT Data – a one-time event – and the increasing employment pressures placed on the supply and demand for workers in the oil and gas industry – specifically in the Eagle Ford Shale and the Permian Basin Shale areas. Figure 2 on the following page provides an illustration of these oil and gas areas across the district offices.

The Eagle Ford Shale is located within portions of the Corpus Christi, Laredo, and Yoakum districts. The turnover rates for these districts in fiscal year 2013 were 12.6 percent (Corpus Christi), 13.0 percent (Laredo), and 12.5 percent (Yoakum). The Lubbock and Odessa districts are within the Permian Basin Shale, and their turnover rates for fiscal year 2013 were 15.3 percent (Lubbock) and 22.3 (Odessa) percent in these districts.
Figure 2

Top Producing Oil Counties in Texas Impacting TxDOT’s Workforce

Permian Basin Shale (Lubbock and Odessa Districts)
- Andrews County
- Ector County
- Gaines County
- Yoakum County
- Upton County

Permian Basin Shale (Corpus Christi, Laredo, and Yoakum Districts)
- Dimmit County
- Gonzales County
- Karnes County
- LaSalle County
- McMullen County

FTEs: FTE Allocation
TOR: Fiscal Year 2013 Turnover Rate
RE: % Retirement Eligible through Fiscal Year 2018

Eagle Ford Shale (Corpus Christi, Laredo, and Yoakum Districts)
Environmental Scan
Environmental scanning takes account of circumstances and situations occurring in the environment – externally and internally. This scanning allows us to better understand trends and drivers of change and variations. These identified facts have the potential to impact the future of the business and the workforce. The process involves asking these questions:

- What can we see today?
- What might happen in the future?
- How will this impact future decision making?
- Will it impact what we are doing today and how we take action?

Environmental scanning fosters a lot of “What if” questions and helps identify the drivers of trends and their connection to our business and workforce.

Texas Department of Transportation
During the first half of fiscal year 2014, TxDOT had 11,596 full-time equivalent (FTE) employees. When compared to fiscal year 2004 (14,077 FTEs), the Department’s authorized FTE employee decreased by 14.1 percent to 12,087 FTEs. (Table 1)

Table 1

<table>
<thead>
<tr>
<th></th>
<th>Authorized FTEs</th>
<th>FTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY 2004</td>
<td>14,078</td>
<td>14,815</td>
</tr>
<tr>
<td>FY 2005</td>
<td>14,551</td>
<td>14,813</td>
</tr>
<tr>
<td>FY 2006</td>
<td>14,535</td>
<td>14,745</td>
</tr>
<tr>
<td>FY 2007</td>
<td>14,536</td>
<td>14,748</td>
</tr>
<tr>
<td>FY 2008</td>
<td>14,966</td>
<td>14,148</td>
</tr>
<tr>
<td>FY 2009</td>
<td>14,813</td>
<td>13,257</td>
</tr>
<tr>
<td>FY 2010</td>
<td>14,067</td>
<td>12,260</td>
</tr>
<tr>
<td>FY 2011</td>
<td>14,067</td>
<td>11,962</td>
</tr>
<tr>
<td>FY 2012</td>
<td>12,087</td>
<td>11,763</td>
</tr>
<tr>
<td>FY 2013</td>
<td>12,087</td>
<td>11,723</td>
</tr>
<tr>
<td>FY 2014*</td>
<td>12,087</td>
<td>11,597</td>
</tr>
</tbody>
</table>
Today, TxDOT faces many environmental factors impacting the way we do business and how that impacts the workforce. Table 2 lists external and internal factors identified during the environmental scanning for TxDOT.

<table>
<thead>
<tr>
<th>External Factors</th>
<th>Internal Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aging Infrastructure</td>
<td>Decreased Funding</td>
</tr>
<tr>
<td>Moving Ahead for Progress in the 21st Century Act (MAP-21)</td>
<td>Transportation Asset Management (TAM)</td>
</tr>
<tr>
<td>Increased Accountability/Transparency</td>
<td>Increased Regulatory Requirements and Metrics</td>
</tr>
<tr>
<td>Information Technology and Technological Innovations</td>
<td>Shrinking Talent with Needed Qualifications</td>
</tr>
<tr>
<td>Data-driven, Risk-based Oversight</td>
<td>Competing for Talent with the Oil and Gas Industry</td>
</tr>
<tr>
<td>Expansion of Panama Canal</td>
<td>Development of High Speed Rail</td>
</tr>
</tbody>
</table>

### Labor Market Influences and Resource Availability

**Jobs and Unemployment**

As reported by the Texas Workforce Commission and the Comptroller of Public Accounts in March 2014, Texas has added jobs in all of the major industries including professional and business services and transportation and utilities. Texas continues to add jobs and the Texas unemployment rate continues to decrease. As of February 2014, the Texas unemployment rate had declined to 5.7 percent. In February 2014, the U.S. unemployment rate was 6.7 percent. As the Texas unemployment rate continues to decrease, TxDOT may experience difficulties in attracting professional and skilled-workers, especially, as the oil and gas industry continues to grow and compete for these workers.
Employment Outlook

The January 2014, Federal Reserve Beige Book states:

“Employment levels held steady or increased slightly at most responding firms. Staffing firms said employment levels were up, particularly in professional and technical recruiting areas. Some food, fabricated metals, and transportation manufacturing firms noted continued hiring, and scattered reports of adding workers came from auto dealers and high-tech and accounting firms. Other respondents noted steady employment levels while one high-tech firm made cuts and a transportation services firm continued with an incentivized voluntary buyout to reduce employment levels. Acute labor shortages were reported for auditors, engineers, construction workers and truck drivers.”

In January 2014, the Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook 2014-2015 Edition, issued projections indicating the job outlook for civil engineers was 20% faster than average. They also stated “As infrastructure continues to age, civil engineers will be needed to manage projects to rebuild bridges, repair roads, and upgrade levees and dams.”

As new opportunities present themselves for civil engineers, TxDOT may be faced with a supply shortage. Other competing industries include water systems, oil and gas, and renewable energy projects.

Civil engineers focus in many areas, and TxDOT opportunities include those of transportation engineer, design engineer, structural engineer, geotechnical engineer, and construction engineer. The annual employment growth for the engineers and engineering technicians is expected to be 18.4 percent through 2020.

In 2012 the Bureau of Labor Statistics indicated State governments employed 13 percent of the available labor pool of engineers. Federal and local governments employ another 15 percent. Fifty-two percent of the civil engineers are employed in architectural, engineering, and related services. The construction industry employed 9.1 percent.
Besides civil engineers, engineering technicians are required to perform work at TxDOT. The availability of engineering technicians is projected to have little or no change in the job outlook from 2012 to 2022. However, the need to maintain and repair an aging infrastructure will sustain demand for these workers.

TxDOT has several positions that are very specialized in nature. These resources generally are scarce to find in the labor market. The positions include specialized engineers, and construction experts, inspectors, and environmental experts, as well as construction and project management expertise. The experience level required to obtain and polish the required knowledge, skills, and abilities of these employees is vital to the continued operations and achievement of TxDOT’s mission and goals.

**Compensation Outlook**

Wage pressures are also impacting the availability of the workforce. As reported by the Texas Workforce Commission, the majority of engineering jobs are located within five major metropolitan areas in Texas – Austin, Dallas, Fort Worth, Houston, and San Antonio. While the labor market availability is greater in these areas, TxDOT may not be attractive to applicants because the base pay is generally lower than base pay in the private sector. On the other hand, it might be difficult to recruit an engineer in other regions of the state because the availability of the competencies and skills sets needed and required are not readily available in these rural areas, especially in the areas with major oil and gas operations. In areas of Texas with these oil and gas operations, TxDOT experiences competition for skills and talent. The map located on page 10 (Figure 2) provides a geographical view of where these operations are located in Texas.

According to the January 2014, Federal Reserve’s *Dallas Beige Book*:

> "Reports of upward wage pressure increased. Staffing firms said there was pressure on wages and one began offering signing bonuses. Legal firms cited increased pressure on compensation for corporate associates. Wages rose in metals manufacturing, and petrochemicals producers noted rising wages for plant maintenance and heavy construction as well as several skilled positions. A Houston housing contact said labor shortages were pushing up wages for construction workers."

**Benefits Outlook**

Current long-term employees view their retirement benefits as slowly eroding. Some employees are concerned that changes in the Defined Benefits Plan will impact them adversely. However, younger employees do not focus on retirement benefits when they begin their tenure at TxDOT. TxDOT should continue to monitor the changing environment and interact with the Employees Retirement System of Texas to stay abreast of potential changes to the State’s benefits offerings.
People

TxDOT’s employees are the link that allows the consistent success of the Department. Our employees are committed to TxDOT and the mission and work the Department performs. Recently, TxDOT implemented several programs placing emphases on the importance of its employees. These include:

- A focus on safety first through “Mission Zero”
- Performance-based evaluations and merit pay
- Equitable compensation
- Leadership development
- Project management preparation
- TxDOT Academy focused on leading self, leading others, leading function, and leading TxDOT
- Centers of performance excellence, and
- A focus on employee wellness.

TxDOT understands the importance of focusing on an employee as a whole person and allowing an employee to reach his or her full potential.

As TxDOT continues to aspire toward becoming a best-in-class organization, an emphasis on the workforce is paramount so the agency can continue to thrive and optimize resources. A holistic approach from the hiring to retiring of employees is key to fostering a modern workforce equipped to meet the challenges of sourcing work activities in the global environment in which TxDOT now functions. This allows TxDOT to fulfill the mission “to work with others to provide safe and reliable transportation solutions for Texas.” Our people need to be well positioned to embrace change and to continue to lead TxDOT into the 21st Century.

Processes

To create a culture of performance excellence and a workforce equipped to meet the evolving demands of functioning as a dynamic organization, consideration should be given to mapping current business processes to identify opportunities to gain efficiencies. This process involves defining who does what, who is responsible for what, and the measures of success of the business process.

TxDOT oversees many projects and processes directly tied to the Department’s mission, and one of the main goals is safety. Federal regulations, technical specifications, and changes to state and federal programming are continually changing. Everyday operations and work activities often require the Department to react and be in crisis mode, requiring senior staff to address issues ad hoc rather than focus on operational strategy.
By defining and refining the current processes and procedures, TxDOT can:

- Ensure knowledge capture and transfer
- Allow measurements to be developed
- Capture data to analyze the quality and efficiency of activities, and
- Create data-driven systems to report meaningful metrics.

**Technology**

As TxDOT strives toward a state of excellence and becoming a “Best in Class” agency, the agency is embracing technology to modernize how TxDOT does business. One way TxDOT has moved toward attaining this goal is by implementing a new Enterprise Resource Planning (ERP) System. The ERP will replace existing management systems in Finance, Payroll, Human Resources, and Supply Chain. The new ERP system is a prime example of TxDOT’s effort to modernize the IT system landscape by reducing the number of applications built on outdated architectures that lack needed functionality and are costly to maintain. The new ERP system will allow TxDOT to streamline Human Resources procedures in compliance with the provisions of the law, delivering more efficient and effective HR management. It also allows TxDOT to maximize self-service HR management allowing employees and managers to effectively self-administer human resources.

Our mission is to implement an ERP system that:

- Streamlines information
- Provides better tools, and
- Improves reporting.

Following full implementation of all components of the ERP (Finance, Human Resources, Payroll, and Supply Chain), TxDOT will be better positioned to provide efficient and effective services; thereby allowing employees to focus on providing services that can provide higher value. This will allow the workforce to be more nimble and agile.

As TxDOT moves into the 21st Century, change is happening and we look forward to the challenges and opportunities it affords the workforce.

**Supply Analysis**

**Current Workforce**

On average TxDOT employees\(^1\) were 46.6 years old and had 11.5 years of agency service. In comparison, the State’s employees, were 43.8 years of age and had 7.1 years of agency service (including TxDOT). Almost half (49.2 percent) of TxDOT’s employees have 10 or more years of agency service.

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\(^1\)Workforce data is reflective of averages through the Second Quarter, Fiscal Year 2014
**Agency Length of Service**

Approximately 30 percent of TxDOT’s workforce has fewer than 5 years of agency service. Almost 33 percent of TxDOT’s workforce has 15 years or more of agency service.

Figure 4

**Fiscal Year 2014**

**Agency Length of Service**
Age
Seventy-three percent of TxDOT’s workforce is 40 or older. Sixty-three percent of the workforce at state agencies is 40 or older.

Figure 5

Age Distribution

Gender
TxDOT’s workforce by gender breakdown is 79 percent male, and 21 percent female.

Figure 6

Gender

Maintenance positions comprised a large percentage of TxDOT’s workforce. These positions are predominately filled by males.
**Ethnicity**

TxDOT’s workforce is comprised of approximately 64.4 percent Caucasian Americans, 24.8 percent Hispanic Americans, and 7.9 percent African-Americans.

![Ethnicity](image)

**Veterans**

During the first quarter of calendar year 2014, 8.4 percent of TxDOT’s employees were veterans. Comparatively, a January 2013 report by the Texas Senate Committee on Veterans Affairs and Military Installation stated “the Texas Comptroller’s annual veterans Workforce Summary of veterans working in Texas state agencies and universities shows that only 5 percent of state employees are veterans.”

**FTE Allocations, Turnover Rates, and Retirement Eligibility**

TxDOT currently is allocated 12,087 full-time equivalent employees. In fiscal year 2013, the turnover rate for TxDOT was 14.1 percent. However, this number was influenced by the outsourcing of the information technology functions to NTT Data. Approximately 200 jobs were transferred to NTT Data.

As of March 2014, 35 percent of TxDOT is eligible to retire by the end of fiscal year 2018. TxDOT’s internal job title categories show that approximately 40 percent of the employees in engineering and engineering support jobs will be eligible to retire by the end of fiscal year 2018. Thirty-eight percent of employees in the executive, administrative, clerical, and legal jobs at TxDOT are eligible to retire by the end of fiscal year 2018. Figure 8 provides retirement eligibility information for the 25 TxDOT districts, and Table 3 provides similar information for the divisions and offices through fiscal year 2018.
Texas Department of Transportation
District Workforce Analytics

Figure 8
<table>
<thead>
<tr>
<th>Divisions/Offices</th>
<th>Retirement Eligibility through FY 2018</th>
<th>FTE Allocations - February 2014</th>
<th>Fiscal Year 2013 Turnover Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>31.8%</td>
<td>37.0</td>
<td>27.2%</td>
</tr>
<tr>
<td>Audit Office</td>
<td>41.5%</td>
<td>63.0</td>
<td>17.9%</td>
</tr>
<tr>
<td>Aviation</td>
<td>42.9%</td>
<td>61.0</td>
<td>6.8%</td>
</tr>
<tr>
<td>Bridge Division</td>
<td>40.7%</td>
<td>94.0</td>
<td>7.7%</td>
</tr>
<tr>
<td>Communications</td>
<td>27.3%</td>
<td>95.0</td>
<td>11.2%</td>
</tr>
<tr>
<td>Construction</td>
<td>44.1%</td>
<td>191.0</td>
<td>5.6%</td>
</tr>
<tr>
<td>Contract Services</td>
<td>24.0%</td>
<td>26.0</td>
<td>4.4%</td>
</tr>
<tr>
<td>Design</td>
<td>45.9%</td>
<td>66.0</td>
<td>11.9%</td>
</tr>
<tr>
<td>Environmental Affairs</td>
<td>30.1%</td>
<td>77.0</td>
<td>5.2%</td>
</tr>
<tr>
<td>ERP Implementation Office</td>
<td>36.4%</td>
<td>14.0</td>
<td>22.2%</td>
</tr>
<tr>
<td>Federal Legislative Affairs</td>
<td>30.0%</td>
<td>15.0</td>
<td>7.7%</td>
</tr>
<tr>
<td>Finance</td>
<td>34.5%</td>
<td>220.0</td>
<td>9.8%</td>
</tr>
<tr>
<td>Fleet Operations</td>
<td>30.0%</td>
<td>331.0</td>
<td>N/A*</td>
</tr>
<tr>
<td>Human Resources</td>
<td>39.95</td>
<td>166.0</td>
<td>11.7%</td>
</tr>
<tr>
<td>Information Technology Operations</td>
<td>32.1%</td>
<td>60.0</td>
<td>90%</td>
</tr>
<tr>
<td>Innovative Financing/Debt Management</td>
<td>0.0%</td>
<td>9.0</td>
<td>10.8%</td>
</tr>
<tr>
<td>Maintenance</td>
<td>46.6%</td>
<td>62.0</td>
<td>8.9%</td>
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<td>Maritime Division</td>
<td>20.0%</td>
<td>5.0</td>
<td>44.4%</td>
</tr>
<tr>
<td>Occupational Safety</td>
<td>41.7%</td>
<td>29.0</td>
<td>19.8 &amp;</td>
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<tr>
<td>Office of Civil Rights</td>
<td>34.8%</td>
<td>39.0</td>
<td>24.3%</td>
</tr>
<tr>
<td>Office of Compliance, Ethics and Investigations</td>
<td>41.2%</td>
<td>5.0</td>
<td>19.1%</td>
</tr>
<tr>
<td>Office of General Counsel</td>
<td>25.0%</td>
<td>26.0</td>
<td>11.5%</td>
</tr>
<tr>
<td>PEPS</td>
<td>31.8%</td>
<td>50.0</td>
<td>14.4%</td>
</tr>
<tr>
<td>Project Management Office</td>
<td>21.1%</td>
<td>42.0</td>
<td>6.1%</td>
</tr>
<tr>
<td>Public Transportation Division</td>
<td>47.0%</td>
<td>48.0</td>
<td>4.7%</td>
</tr>
<tr>
<td>Rail Division</td>
<td>41.7%</td>
<td>12.0</td>
<td>16.7%</td>
</tr>
<tr>
<td>Real Estate Management and Development</td>
<td>0.0%</td>
<td>66.0</td>
<td>N/A*</td>
</tr>
<tr>
<td>Research and Technology Implementation</td>
<td>31.3%</td>
<td>20.0</td>
<td>34.5%</td>
</tr>
<tr>
<td>Right of Way</td>
<td>44.7%</td>
<td>173.0</td>
<td>7.3%</td>
</tr>
<tr>
<td>State Legislative Affairs</td>
<td>8.33%</td>
<td>14.0</td>
<td>9.1%</td>
</tr>
<tr>
<td>Strategic Projects</td>
<td>32.9%</td>
<td>82.0</td>
<td>19.7%</td>
</tr>
<tr>
<td>Support Services</td>
<td>46.4%</td>
<td>176.0</td>
<td>N/A*</td>
</tr>
<tr>
<td>Toll Operations</td>
<td>31.3%</td>
<td>15.0</td>
<td>13.6%</td>
</tr>
<tr>
<td>Traffic Operations</td>
<td>42.6%</td>
<td>180.0</td>
<td>7.4%</td>
</tr>
<tr>
<td>Transportation Planning and Programming</td>
<td>39.5%</td>
<td>110.0</td>
<td>8.1%</td>
</tr>
<tr>
<td>Travel Information</td>
<td>46.3%</td>
<td>98.0</td>
<td>8.4%</td>
</tr>
</tbody>
</table>

*Data not available due to reorganization
## TxDOT's FTE Allocations by Strategy

<table>
<thead>
<tr>
<th>By Strategy</th>
<th>Full-time Equivalent (FTE*) Allocations</th>
<th>Employee Counts</th>
<th>Total Vacant Positions</th>
<th>Authorized FTE Total</th>
<th>Percentage of Strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>101 PLAN/DESIGN/MANAGE</td>
<td>4,049</td>
<td>3,935</td>
<td>177</td>
<td>4,112</td>
<td>34%</td>
</tr>
<tr>
<td>105 ROUTINE MAINTENANCE</td>
<td>5,869</td>
<td>5,948</td>
<td>(71)</td>
<td>5,877</td>
<td>49%</td>
</tr>
<tr>
<td>106 AVIATION SERVICES</td>
<td>61</td>
<td>65</td>
<td>(2)</td>
<td>63</td>
<td>1%</td>
</tr>
<tr>
<td>107 PUBLIC TRANSPORTATION</td>
<td>47</td>
<td>46</td>
<td>2</td>
<td>48</td>
<td>0%</td>
</tr>
<tr>
<td>108 GULF WATERWAY</td>
<td>2</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>0%</td>
</tr>
<tr>
<td>109 FERRY SYSTEM</td>
<td>197</td>
<td>208</td>
<td>(11)</td>
<td>197</td>
<td>2%</td>
</tr>
<tr>
<td>116 RESEARCH</td>
<td>12</td>
<td>9</td>
<td>3</td>
<td>12</td>
<td>0%</td>
</tr>
<tr>
<td>201 TRAFFIC SAFETY</td>
<td>100</td>
<td>93</td>
<td>7</td>
<td>100</td>
<td>1%</td>
</tr>
<tr>
<td>202 RAIL SAFETY</td>
<td>15</td>
<td>14</td>
<td>1</td>
<td>15</td>
<td>0%</td>
</tr>
<tr>
<td>204 RAIL PLAN/DESIGN/MANAGE</td>
<td>21</td>
<td>20</td>
<td>1</td>
<td>21</td>
<td>0%</td>
</tr>
<tr>
<td>301 TRAVEL INFORMATION</td>
<td>98</td>
<td>95</td>
<td>4</td>
<td>99</td>
<td>1%</td>
</tr>
<tr>
<td>401 ADVERTISING ENFORCEMENT</td>
<td>20</td>
<td>17</td>
<td>3</td>
<td>20</td>
<td>0%</td>
</tr>
<tr>
<td>601 CENTRAL ADMINISTRATION</td>
<td>685</td>
<td>642</td>
<td>49</td>
<td>691</td>
<td>6%</td>
</tr>
<tr>
<td>602 INFORMATION RESOURCES</td>
<td>71</td>
<td>64</td>
<td>154</td>
<td>218</td>
<td>2%</td>
</tr>
<tr>
<td>603 SUPPORT SERVICES</td>
<td>364</td>
<td>366</td>
<td>(2)</td>
<td>364</td>
<td>3%</td>
</tr>
<tr>
<td>604 REGIONAL ADMINISTRATION</td>
<td>156</td>
<td>139</td>
<td>109</td>
<td>248</td>
<td>2%</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>11,767</strong></td>
<td><strong>11,663</strong></td>
<td><strong>424</strong></td>
<td><strong>12,087</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>

Date as of April 28, 2014 from TxDOT HRIS reporting tool.

### Equal Employment Opportunity Categories

As part of the reporting as outlined by the Equal Employment Opportunity Commission, TxDOT is required to make periodic reports indicating the composition for their workforce by gender and race/ethnic categories. Outlined below are descriptions of the job categories identified.

**Officials and Administrators**: Occupations in which employees set broad policies, exercise overall responsibility for execution of these policies, or direct individual departments or special phases of the Department’s operations, or provide specialized consultation on a regional, district or area basis. Includes: department heads, division chiefs, directors, deputy directors, inspectors (construction, building, safety, transportation), assessors, investigators, and kindred workers.

**Professionals**: Occupations which require specialized and theoretical knowledge which is usually acquired through college training or through work experience and other training which provides comparable knowledge. Includes: economists, attorneys, systems analysts,
accountants, engineers, librarians, management analysts, airplane pilots and navigators, surveyors and mapping scientists, and kindred workers.

**Technicians**: Occupations which require a combination of basic scientific or technical knowledge and manual skill which can be obtained through specialized post-secondary school education or through equivalent on-the-job training. Includes: computer programmers, drafters, survey and mapping technicians, photographers, technical illustrators, highway technicians, technicians (electronic, physical sciences), inspectors (production or processing inspectors, and testers), and kindred workers.

**Administrative Support (Including Clerical)**: Occupations which require internal and external communication, recording and retrieval of data and/or information and other paperwork required in an office. Includes: bookkeepers, messengers, clerk-typists, statistical clerks, dispatchers, license distributors, payroll clerks, office machine and computer operators, legal assistants, toll collectors, and kindred workers.

**Skilled Craft Workers**: Occupations which require special manual skill and a thorough and comprehensive knowledge of the process involved in the work which is acquired through on-the-job training and experience or through apprenticeship or other formal training programs. Includes: mechanics, electricians, heavy equipment operators, stationary engineers, skilled machining occupations, carpenters, and kindred workers.

**Service-Maintenance**: Occupations in which workers perform duties which result in or contribute to the comfort, convenience, hygiene or safety of the general public or which contribute to the upkeep and care of buildings, facilities or grounds of public property. Workers in this group may operate machinery. Includes: truck drivers, bus drivers, custodial employees, gardeners and groundkeepers, construction laborers, craft apprentices/trainees/helpers, and kindred workers.

The majority of TxDOT’s workforce belong in the Professional and Skilled Craft Worker EEO-4 categories. Table 5 identifies the percentage of the various EEO-4 categories at TxDOT.

Table 5

<table>
<thead>
<tr>
<th>EEO Category</th>
<th>Percentage of Workforce</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Support</td>
<td>5%</td>
</tr>
<tr>
<td>Officials and Administrators</td>
<td>3%</td>
</tr>
<tr>
<td>Professionals</td>
<td>42%</td>
</tr>
<tr>
<td>Service – Maintenance</td>
<td>3%</td>
</tr>
<tr>
<td>Skilled Craft Workers</td>
<td>31%</td>
</tr>
<tr>
<td>Technicians</td>
<td>16%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100%</strong></td>
</tr>
</tbody>
</table>
Table 6 on the following page provides information on the statewide civilian workforce composition and the state agency workforce composition as provided by the Texas Workforce Commission in the *Equal Employment Opportunity and Minority Hiring Practice Report*. This information is provided as a reference to analyze TxDOT’s workforce composition.

To help address needs to actively work to diversify the workforce, TxDOT continuously reviews its recruitment program strategies. Currently, TxDOT’s recruitment activities include the following:

- Conditional Grant Program
- College Internship/Coop Programs
- Rapid Hire Program
- Summer Intern Program
- Recruitment Teams
- Career Events
- Targeted Recruitment
- Outreach
- On-Campus Interviews
- Recruitment/Retention Bonus
- Marketing/Branding
Table 6

<table>
<thead>
<tr>
<th>Job Category</th>
<th>Caucasian American #</th>
<th>Caucasian American %</th>
<th>African American #</th>
<th>African American %</th>
<th>Hispanic American #</th>
<th>Hispanic American %</th>
<th>Female #</th>
<th>Female %</th>
<th>Male #</th>
<th>Male %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totals</td>
<td>5,687,029</td>
<td>54.8%</td>
<td>1,259,376</td>
<td>12.1%</td>
<td>3,428,409</td>
<td>33.1%</td>
<td>5,234,551</td>
<td>45.7%</td>
<td>6,213,479</td>
<td>54.3%</td>
</tr>
<tr>
<td>Officials, Administrators</td>
<td>1,138,696</td>
<td>71.5%</td>
<td>143,157</td>
<td>9.0%</td>
<td>310,709</td>
<td>19.5%</td>
<td>686,343</td>
<td>39.3%</td>
<td>1,058,101</td>
<td>60.7%</td>
</tr>
<tr>
<td>Professional</td>
<td>1,231,184</td>
<td>71.3%</td>
<td>195,730</td>
<td>11.3%</td>
<td>300,682</td>
<td>17.4%</td>
<td>1,140,571</td>
<td>59.1%</td>
<td>788,130</td>
<td>40.9%</td>
</tr>
<tr>
<td>Technical</td>
<td>364,122</td>
<td>64.5%</td>
<td>79,971</td>
<td>14.2%</td>
<td>120,647</td>
<td>21.4%</td>
<td>271,417</td>
<td>41.5%</td>
<td>383,014</td>
<td>58.5%</td>
</tr>
<tr>
<td>Administrative Support</td>
<td>1,339,232</td>
<td>55.9%</td>
<td>325,214</td>
<td>13.6%</td>
<td>731,409</td>
<td>30.5%</td>
<td>1,702,090</td>
<td>65.6%</td>
<td>891,790</td>
<td>34.4%</td>
</tr>
<tr>
<td>Skilled Craft Workers</td>
<td>475,416</td>
<td>46.2%</td>
<td>65,335</td>
<td>6.4%</td>
<td>488,142</td>
<td>47.4%</td>
<td>47,223</td>
<td>4.2%</td>
<td>1,079,512</td>
<td>95.8%</td>
</tr>
<tr>
<td>Service and Maintenance</td>
<td>1,138,379</td>
<td>37.1%</td>
<td>449,969</td>
<td>14.7%</td>
<td>1,476,820</td>
<td>48.2%</td>
<td>1,386,907</td>
<td>40.8%</td>
<td>2,012,932</td>
<td>59.2%</td>
</tr>
</tbody>
</table>

State of Texas State Agency Workforce Composition – Fiscal Year 2013

<table>
<thead>
<tr>
<th>Job Category</th>
<th>Total Employees</th>
<th>Caucasian American #</th>
<th>Caucasian American %</th>
<th>African American #</th>
<th>African American %</th>
<th>Hispanic American #</th>
<th>Hispanic American %</th>
<th>Female #</th>
<th>Female %</th>
<th>Male #</th>
<th>Male %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totals</td>
<td>350,989</td>
<td>183,668</td>
<td>52.3%</td>
<td>60,762</td>
<td>17.3%</td>
<td>75,061</td>
<td>21.4%</td>
<td>198,771</td>
<td>56.6%</td>
<td>152,218</td>
<td>43.4%</td>
</tr>
<tr>
<td>Officials, Administrators</td>
<td>16,815</td>
<td>11,715</td>
<td>69.7%</td>
<td>1,719</td>
<td>10.2%</td>
<td>2,440</td>
<td>14.5%</td>
<td>8,595</td>
<td>51.1%</td>
<td>8,220</td>
<td>48.9%</td>
</tr>
<tr>
<td>Professional</td>
<td>155,158</td>
<td>91,067</td>
<td>58.7%</td>
<td>17,129</td>
<td>11.0%</td>
<td>25,014</td>
<td>16.1%</td>
<td>86,941</td>
<td>56.0%</td>
<td>68,217</td>
<td>44.0%</td>
</tr>
<tr>
<td>Technical</td>
<td>35,876</td>
<td>16,872</td>
<td>47.0%</td>
<td>5,491</td>
<td>15.3%</td>
<td>8,603</td>
<td>24.0%</td>
<td>20,198</td>
<td>56.3%</td>
<td>15,678</td>
<td>43.7%</td>
</tr>
<tr>
<td>Administrative Support</td>
<td>40,046</td>
<td>18,843</td>
<td>47.0%</td>
<td>7,592</td>
<td>19.0%</td>
<td>12,269</td>
<td>30.6%</td>
<td>34,869</td>
<td>87.1%</td>
<td>5,177</td>
<td>12.9%</td>
</tr>
<tr>
<td>Skilled Craft Workers</td>
<td>10,992</td>
<td>7,054</td>
<td>64.2%</td>
<td>881</td>
<td>8.0%</td>
<td>2,801</td>
<td>25.5%</td>
<td>493</td>
<td>4.5%</td>
<td>10,949</td>
<td>95.5%</td>
</tr>
<tr>
<td>Service and Maintenance</td>
<td>92,102</td>
<td>38,135</td>
<td>41.4%</td>
<td>27,950</td>
<td>30.4%</td>
<td>23,934</td>
<td>36.0%</td>
<td>47,675</td>
<td>51.8%</td>
<td>44,427</td>
<td>48.2%</td>
</tr>
</tbody>
</table>

Texas Department of Transportation Workforce Composition

<table>
<thead>
<tr>
<th>Job Category</th>
<th>Total Employees</th>
<th>Caucasian American #</th>
<th>Caucasian American %</th>
<th>African American #</th>
<th>African American %</th>
<th>Hispanic American #</th>
<th>Hispanic American %</th>
<th>Female #</th>
<th>Female %</th>
<th>Male #</th>
<th>Male %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totals</td>
<td>11,837</td>
<td>7,626</td>
<td>64.4%</td>
<td>930</td>
<td>7.9%</td>
<td>2,936</td>
<td>24.8%</td>
<td>2,495</td>
<td>21.1%</td>
<td>9,342</td>
<td>78.9%</td>
</tr>
<tr>
<td>Officials, Administrators</td>
<td>364</td>
<td>288</td>
<td>79.1%</td>
<td>11</td>
<td>3.0%</td>
<td>56</td>
<td>15.4%</td>
<td>63</td>
<td>17.3%</td>
<td>301</td>
<td>82.7%</td>
</tr>
<tr>
<td>Professional</td>
<td>4,835</td>
<td>3,113</td>
<td>64.4%</td>
<td>395</td>
<td>8.2%</td>
<td>1,083</td>
<td>22.4%</td>
<td>1,608</td>
<td>33.2%</td>
<td>3,227</td>
<td>66.8%</td>
</tr>
<tr>
<td>Technical</td>
<td>1,850</td>
<td>1,216</td>
<td>65.7%</td>
<td>142</td>
<td>7.7%</td>
<td>453</td>
<td>24.5%</td>
<td>193</td>
<td>10.4%</td>
<td>1,657</td>
<td>89.6%</td>
</tr>
<tr>
<td>Administrative Support</td>
<td>610</td>
<td>403</td>
<td>66.1%</td>
<td>47</td>
<td>7.7%</td>
<td>157</td>
<td>25.7%</td>
<td>529</td>
<td>86.7%</td>
<td>81</td>
<td>13.3%</td>
</tr>
<tr>
<td>Skilled Craft Workers</td>
<td>3,771</td>
<td>2,388</td>
<td>27.6%</td>
<td>297</td>
<td>7.9%</td>
<td>1,040</td>
<td>27.6%</td>
<td>78</td>
<td>2.1%</td>
<td>3,693</td>
<td>97.9%</td>
</tr>
<tr>
<td>Service and Maintenance</td>
<td>407</td>
<td>218</td>
<td>53.6%</td>
<td>38</td>
<td>9.3%</td>
<td>147</td>
<td>36.1%</td>
<td>24</td>
<td>5.9%</td>
<td>383</td>
<td>94.1%</td>
</tr>
</tbody>
</table>

Note: Items may not add to totals or compute to displayed percentages due to rounding. Detail for Race and Hispanic-origin groups will not add to totals because data for “other races” group are not presented and Hispanics are included in both the Caucasian and African American categories.
Demand Analysis

As part of the workforce planning process, an analysis was conducted on work demand. The analysis of demand is an integrated process that looks at multiple areas such as:

- Staffing patterns
- Demand for labor to address aging infrastructure needs
- Anticipated program and workload changes, and
- Workforce skills to meet projected needs.

Although TxDOT can identify areas of demand, the challenge is sufficient access to workload and project task data.

TxDOT added, transferred, or reallocated staff throughout the Department to address turnover that occurred throughout the year. In fiscal year 2013, 1,692 employees left the Department. Seventy-nine percent of these separations were voluntary in nature (voluntary separations plus retirements). Table 7 examines the turnover rates for classified regular employees by category for fiscal year 2013.

As TxDOT reviews these departures, key areas where a demand for replacements occur within core business functions include management, engineering, maintenance, contracting and procurement, human resources and other areas. It is critical that TxDOT hires employees well-suited to complete the TxDOT mission. This includes assembling staff that are properly trained and prepared to move TxDOT forward in the 21st Century.

Table 7

<table>
<thead>
<tr>
<th>TxDOT Job Category</th>
<th>Average Number of Employees</th>
<th>Involuntary Separations</th>
<th>Retirements</th>
<th>Voluntary Separations</th>
<th>Total Separations</th>
<th>Fiscal Year 2013 Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Executive, Administrative, Clerical and Legal</td>
<td>965.8</td>
<td>14</td>
<td>72</td>
<td>41</td>
<td>127</td>
<td>13.2%</td>
</tr>
<tr>
<td>Finance Accounting</td>
<td>214.5</td>
<td>3</td>
<td>10</td>
<td>8</td>
<td>21</td>
<td>9.8%</td>
</tr>
<tr>
<td>Information Technology*</td>
<td>385.0</td>
<td>202</td>
<td>93</td>
<td>43</td>
<td>338</td>
<td>87.8%</td>
</tr>
<tr>
<td>Architecture</td>
<td>38.8</td>
<td></td>
<td>2</td>
<td>1</td>
<td>3</td>
<td>7.7%</td>
</tr>
<tr>
<td>Engineering, Engineering Support</td>
<td>3.320.3</td>
<td>19</td>
<td>216</td>
<td>89</td>
<td>324</td>
<td>9.8%</td>
</tr>
<tr>
<td>Civil Rights, Business Opportunity</td>
<td>34.5</td>
<td>2</td>
<td>3</td>
<td>3</td>
<td>8</td>
<td>23.2%</td>
</tr>
</tbody>
</table>
### Fiscal Year 2013 Turnover for Classified Regular Employees by Job Category

<table>
<thead>
<tr>
<th>Texas Job Category</th>
<th>Average Number of Employees</th>
<th>Involuntary Separations</th>
<th>Retirements</th>
<th>Voluntary Separations</th>
<th>Total Separations</th>
<th>Fiscal Year 2013 Turnover</th>
</tr>
</thead>
<tbody>
<tr>
<td>Human Resources</td>
<td>135.5</td>
<td>0</td>
<td>14</td>
<td>3</td>
<td>17</td>
<td>12.5%</td>
</tr>
<tr>
<td>Occupational Safety</td>
<td>65.8</td>
<td>0</td>
<td>5</td>
<td>2</td>
<td>7</td>
<td>10.6%</td>
</tr>
<tr>
<td>General Services, Contracts, Purchasing</td>
<td>406.0</td>
<td>1</td>
<td>29</td>
<td>15</td>
<td>45</td>
<td>11.1%</td>
</tr>
<tr>
<td>Maintenance, Skilled Craft, Ferry Operations</td>
<td>5,330.0</td>
<td>107</td>
<td>233</td>
<td>362</td>
<td>702</td>
<td>13.2%</td>
</tr>
<tr>
<td>Laboratory, Materials</td>
<td>244.0</td>
<td>0</td>
<td>18</td>
<td>4</td>
<td>22</td>
<td>9.0%</td>
</tr>
<tr>
<td>Planning, Aviation, Public Transportations, Legislative</td>
<td>376.0</td>
<td>10</td>
<td>8</td>
<td>14</td>
<td>32</td>
<td>8.5%</td>
</tr>
<tr>
<td>Right of Way</td>
<td>141.8</td>
<td>0</td>
<td>8</td>
<td>5</td>
<td>13</td>
<td>9.2%</td>
</tr>
<tr>
<td>Travel, Public Information</td>
<td>158.0</td>
<td>2</td>
<td>8</td>
<td>8</td>
<td>18</td>
<td>11.4%</td>
</tr>
<tr>
<td>Environmental</td>
<td>136.5</td>
<td>0</td>
<td>4</td>
<td>5</td>
<td>9</td>
<td>6.6%</td>
</tr>
<tr>
<td>Other</td>
<td>23.3</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>6</td>
<td>25.8%</td>
</tr>
<tr>
<td><strong>Totals</strong></td>
<td><strong>11,975.5</strong></td>
<td><strong>360</strong></td>
<td><strong>728</strong></td>
<td><strong>604</strong></td>
<td><strong>1,692</strong></td>
<td><strong>14.1%</strong></td>
</tr>
</tbody>
</table>

Note: During fiscal year 2013, TxDOT outsourced the majority of its information technology operations to NTT Data.

Table 8 lists the positions where the majority of separations have occurred thus far in fiscal year 2014.

### Continuous Turnover - Number of Separations to Date in Fiscal Year 2014

<table>
<thead>
<tr>
<th>General Transportation Technician (310)</th>
<th>Area Engineers and Transportation Engineer (32)</th>
<th>General Engineering Technician (33)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation Maintenance Equipment Operator (29)</td>
<td>Accounting Specialist (26)</td>
<td>Right of Way Agents, Surveyors, Survey Technicians (19)</td>
</tr>
<tr>
<td>Contract Specialist (14)</td>
<td>Engineering Assistant (12)</td>
<td>Auditors (11)</td>
</tr>
</tbody>
</table>
Influences on Demand

- Texas Economic Growth:
  - Texas added jobs in all of the 11 major industries, including professional and business services, trade, transportation and utilities, leisure and hospitality, education and health services, construction, mining and logging, government, financial activities, information, other services, and manufacturing.
  - There were several reports of upward wage pressures. Construction-related manufacturers said they had to pay truck drivers more, and an oil field services firm noted definite wage increases. Upward wage pressure continued to be reported in petroleum refining, both in construction-type jobs and factory personnel. Two other manufacturers said they intend to give small raises in the near future.

In reviewing the past trends and the future forecast, Texas is facing a challenge in maintaining and growing a skilled workforce. In addition, other factors impacting TxDOT’s ability to attract and retain employees is the oil and gas industry.

- Science, Technology, Engineering, Math (STEM) Shortage:
  - Recent research shows that certain U.S. STEM jobs in the labor market are growing at a much faster rate than the general workforce.
  - Although skilled guest workers make up a very small percentage of the overall U.S. workforce, they are disproportionately concentrated in STEM industries. Among all STEM workers, 10.2 percent were not U.S. citizens in February 2014 (over 800,000 workers). In computer and mathematical occupations, 12.4 percent of workers were not citizens. In life, physical, and social science occupations, 10.4 percent were not U.S. citizens. Among architects and engineers, 6.8 percent were not U.S. citizens.

As TxDOT, continues to have a need for highly skilled, professional STEM positions, it is interesting researching the available demand to learn that most of these positions in these fields of graduate study are international students. Table 9 provides an overview of this availability of U.S. graduates in the STEM fields of study.

Table 9

<table>
<thead>
<tr>
<th>Field</th>
<th>Percent of International Students</th>
<th>Number of Full-time Graduate Students - International</th>
<th>Number of Full-time Graduate Students - United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrical Engineering</td>
<td>70.3%</td>
<td>21,072</td>
<td>8,904</td>
</tr>
<tr>
<td>Computer Science</td>
<td>63.2%</td>
<td>20,710</td>
<td>12,072</td>
</tr>
</tbody>
</table>
### Full-time Graduate Students and the Percentage of International Students by Field (2010)

<table>
<thead>
<tr>
<th>Field</th>
<th>Percent of International Students</th>
<th>Number of Full-time Graduate Students - International</th>
<th>Number of Full-time Graduate Students - United States</th>
</tr>
</thead>
<tbody>
<tr>
<td>Industrial Engineering</td>
<td>60.4%</td>
<td>5,057</td>
<td>3,314</td>
</tr>
<tr>
<td>Economics</td>
<td>55.4%</td>
<td>7,587</td>
<td>6,117</td>
</tr>
<tr>
<td>Chemical Engineering</td>
<td>53.4%</td>
<td>4,012</td>
<td>3,504</td>
</tr>
<tr>
<td>Material Engineering</td>
<td>52.1%</td>
<td>2,660</td>
<td>2,891</td>
</tr>
<tr>
<td>Mechanical Engineering</td>
<td>50.2%</td>
<td>8,352</td>
<td>8,273</td>
</tr>
<tr>
<td>Mathematics and Statistics</td>
<td>44.5%</td>
<td>7,840</td>
<td>9,766</td>
</tr>
<tr>
<td>Physics</td>
<td>43.7%</td>
<td>5,716</td>
<td>7,369</td>
</tr>
<tr>
<td>Civil Engineering</td>
<td>43.7%</td>
<td>6,202</td>
<td>7,989</td>
</tr>
<tr>
<td>Other Engineering</td>
<td>42.1%</td>
<td>7,279</td>
<td>9,992</td>
</tr>
<tr>
<td>Chemistry</td>
<td>40.3%</td>
<td>8,059</td>
<td>11,952</td>
</tr>
</tbody>
</table>


### Critical Functions

Table 10 provides a list of positions identified as being critical not only to the mission of TxDOT, but also to ensure the State achieves and complies with the Federal and State regulations, metrics and performance measures.

#### Critical Positions at TxDOT

<table>
<thead>
<tr>
<th>Engineers</th>
<th>Engineering Assistants</th>
<th>Engineering Specialist and Technicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project and Program Managers</td>
<td>Procurement and Contract Management</td>
<td>Multi Modal Disciplines (Aviation, Maritime, Rail, etc.)</td>
</tr>
<tr>
<td>Finance, Audit and Quality Assurance/Control</td>
<td>Performance Business Analyst</td>
<td>Maintenance Field Staff</td>
</tr>
</tbody>
</table>
**Competency Needs**

As TxDOT moves into the 21st Century, advanced knowledge is required in these scarce and critical positions that encompass having knowledge in the following competencies.

- **Self-management** – Displays resilience and flexibility in the face of obstacles; demonstrates self-reflection; pursues personal development; and learns.

- **Communication** – Communicates clearly and precisely through written and verbal means; provides accurate information effectively.

- **Problem solving** – Frames up and analyzes complex problems; develops practical solutions; acts decisively, based on sound judgment.

- **Performance focus** – Delivers tangible results/action management; takes economic implications into account; demonstrates "can-do" attitude.

- **Teamwork** – Involves and consults others; builds partnerships; connects across entities if helpful; displays empathy toward others.

- **Change leadership** – Uses continuous improvement; communicates reason for change; influences others; demonstrates use of innovative solutions.

- **People leadership** – Builds diverse teams; coaches and motivates; delegates effectively; gives and receives feedback.

- **Project planning and execution** – Displays sound project planning; delivers projects to completion; tracks progress.

- **Strategic thinking** – Conducts strategic, mid- to long-term planning and visioning; displays political savvy; considers broader context, e.g., other entities, society.

- **Business acumen** – Displays basic budget and finance knowledge; thinks through operational excellence; navigates political landscape.

These competencies will be used during the recruiting process, employment development and training process, and performance management.

**Expected Workforce Changes**

In the next five years, the demands for the workforce will change and will be influenced by the following regulations and programs:

- Aging Infrastructure
- Moving Ahead for Progress in the 21st Century Act (MAP 21)
- Transportation Asset Management (subset of MAP 21)
- Federal Highway Administration Regulations and
- Information Technology and Technological Capabilities.
During this time, TxDOT will require:

- Increased emphasis on business processes to achieve performance excellence
- Greater focus on program management and contract management
- Increased use of technology to maximize efficiency in workflow through enterprise resource planning and key transportation applications, and
- Increased use of subject matter experts.

TxDOT may need to expand and deepen its skills to accomplish these programs, and make adjustments in available workforce to continue to be successful in the evolving environment.

**Changing Needs in the Workforce**

As the workforce changes to meet the needs of the 21st Century, it will need:

- Agility to change with the business operations to achieve performance excellence
- Training of staff to integrate new technologies into current processes
- Inclusion of contract management and negotiations skills in professional and management staff development
- Cross-training of employees in critical functions
- Increased emphasis on project management capabilities, and
- Mobile workforce.

There is a nationwide shortage of professional engineers, land surveyors, mechanics, finance managers, ship captains/pilots, and IT professionals (this is not an exhaustive list). The U.S. Department of Labor & Workforce Development anticipates Texas will have more jobs than qualified workers within 10 years. Texas is expected to have an extremely fluid workforce due to cost of living, economic changes, and demographics which will demonstrate strong economic growth.

**Increase/Decrease in Number of Employees Needed to Do the Work**

At a minimum, TxDOT should maintain current staffing levels or look for ways to increase the productivity of the workforce. Any decrease in staffing could impact the Department’s ability to perform its requirements. Current staff is able to maintain existing workload levels, but attrition creates overload and leads to backlogs and decreased effectiveness; and it at times leads to large accumulations of overtime. Below are some items to consider:

- Reallocate employees within the Department to address increased demands.
- Continuously review and develop efficient work processes.
- Provide training and effectively manage succession planning.
- Using contract workforce when appropriate.
• Developing skills through training and focused hiring practices.
• Focusing efforts on retaining and developing staff while focusing on knowledge transfer and cross-training.

**Gap Analysis**

**Organizational Structure**

• Ensure the functional alignments support TxDOT’s changing business model to become a “Best in Class” organization.
• Ensure organization structure provides flexibility, allowing TxDOT to move faster in response to change, challenge, and innovation.
• Continue to improve accountability, communications, productivity, and innovation. It creates an environment where people can work effectively.
• Ensure TxDOT’s organizational structure continues to support TxDOT’s values of:
  – Trust
  – Integrity
  – Responsibility
  – Excellence, and
  – Service.

**Strategic Staffing and Recruiting**

• Address staffing and recruiting from a proactive, planning perspective so that it is less reactive.
• Focus on positions critical to achieving the business strategy.
• Improve recruiting process to capture a larger and better qualified applicant pool.
• Validate the critical competencies for key positions.

**Compensation**

• Ensure the compensation strategy and structures align with business strategy and are connecting through line-of-sight. The compensation strategy should allow the Department to recruit and retain qualified talent.

**Knowledge Transfer**

• A formalized succession plan is not currently in place.
• A large number of retirement-eligible employees perform critical activities where knowledge transfer plans are not in place.
- A significant number of retirement-eligible employees have institutional knowledge that needs to be documented and transferred.
- Existing technology inhibits the ability to transfer knowledge without having the requisite expertise.

**Anticipated Surplus or Shortage of Workers or Skills**
- While employees have sufficient skills for the current environment, additional skills will be needed in the future – for example, change management and project management capabilities.
- The Department will also face the challenge of retaining the institutional knowledge that may be lost as a result of employee turnover and retirements.
- The focus for staff will be in transferring knowledge and in positioning key staff members for promotion, career development, and succession planning.
- Conduct a methodical analysis of current work activities, their drivers with related time and cost measures, and develop staffing models based on workload analysis.

**Leadership and Business Development**
- Staff members and managers are technically competent; however, there is a need to deepen business management and leadership knowledge and techniques.
- Develop leadership that can articulate a vision and a strategy that motivates staff to engage in accomplishing the mission.
- Contract, project management, financial, human resources and technology management knowledge and skills are emerging as a critical need.
- Operational (information technology, time keeping, project management, measurements):
  - Limited and disparate systems are in place to track resources and time allocations on a per project basis.
  - Data-driven systems are needed to capture information that would allow for the measurement of workload and productivity in an integrated manner. For example, capturing essential buckets of work and work tasks.
Strategies for Consideration to Address Identified Workforce Gaps

Strategy: Organizational Structure

Action Plan Goals

- 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.
- Continue to create organizational structures providing line-of-sight to the Department’s mission and goals.
- Continue to identify opportunities to leverage capacity that will streamline business processes and technology and allow for cross-functional teams to address projects and initiatives.
- Ensure the organizational structure supports and fosters an atmosphere and culture of performance excellence.

Objective: Continue to ensure organization is responsive to internal and external environmental factors by remaining agile and responsive to the changing needs of Texas.

Objective: Monitor, evaluate and redesign strategic and operational systems to continually adapt to business model changes.

Objective: Implement best practices sharing and greater depth in critical role redundancy to have a more effective knowledge transfer program.

Strategy: Strategic Staffing and Recruiting

Action Plan Goals:

- Address staffing and recruiting from a proactive, planning perspective so that it is less reactive.
- Focus on positions critical to achieving the business strategy.
- Improve recruiting process to capture a better and more diversified qualified applicant pool.
- Validate the critical competencies for key positions.

Objective: Develop a strategic staffing and recruiting plan that includes processes, procedures, and resulting metrics.

Objective: Develop recruitment plan to attract positions requiring expertise in transportation planning, programming, financing, project management, contract management, and monitoring.
**Objective:** Develop competencies critical for the accomplishment of the Department’s mission and integrate these into the hiring and recruitment process.

**Objective:** Enhance the recruitment and selection tools and training to enrich the hiring process.

*Strategy: Compensation*

**Action Plan Goals:**

- Ensure the compensation strategy and structures align with business strategy and are connecting through line-of-sight. The compensation strategy should allow the Department to recruit and retain qualified talent.

- Consider all available authorized compensation practices to enhance the total compensation package, including the use of recruitment and retention bonuses.

**Objective:** Ensure roles and responsibilities within the Department are appropriately classified and, if needed, reviewed for reclassification.

**Objective:** Conduct salary market benchmarking to ensure salary structure is competitive based on current compensation philosophy, and review hiring rate philosophy and placements of positions within appropriate salary range.

**Objective:** Assess whether existing supervisory structure is representative of the roles and responsibilities required.

*Strategy: Knowledge Transfer*

**Action Plan Goals**

- Deploy a disciplined and deliberate approach tailored for purposes of business continuity, which lessens the risk associated with the loss of institutional knowledge.

- Develop procedure manuals and tools to outline standard operating processes.

**Objective:** Deploy knowledge management and critical expertise continuity based on best practices to address risks associated with retirement of experienced staff.

**Objective:** Deploy succession planning to strengthen TxDOT’s current and future workforce by developing the skills, knowledge, and talent needed for leadership continuity.

**Objective:** Develop policies, procedures and training to ensure transfer of knowledge for information technology systems.
Strategy: Anticipated Surplus or Shortage of Workers or Skills

Action Plan Goals

- Conduct a methodical analysis of current work activities, their drivers with related time and cost measures; and develop staffing models based on workload analysis.
- Develop a staffing plan based on forecasted business needs.
- Develop an FTE management process to incorporate the analysis, decision making, and change implementation processes that meet operational and strategic needs.
- Establish staffing standards, FTE plans and performance objectives that drive operational and key strategic initiatives.

Objective: Conduct a methodical analysis of current work activities, their drivers with related time and cost measures; and develop staffing models based on workload analysis.

Objective: Develop a staffing plan based on forecasted business needs.

Objective: Develop an FTE management process to incorporate the analysis, decision making, and change implementation processes that meet operational and strategic needs.

Strategy: Leadership and Business Development

Action Plan Goals:

- Develop and deliver training through a TxDOT Academy focused on developing core competencies to lead self, to lead others, and to lead TxDOT.
- Offer TxDOT tailored business development training for engineers and critical staff that focuses on business acumen.
- Provide resources for leaders to gain understanding of techniques used to review processes, gain efficiencies, and utilize metrics.
- Obtain and develop project and contract management competencies.

Objective: Develop tailored business development training for engineers and critical staff that focuses on business acumen.

Objective: Develop a program to transform the approaches used in addressing business situations that would provide guidance to be more strategic, lead change, and embrace innovative practices.
Objective: Provide training to enhance project management and contract management practices and promote TxDOT’s internal training opportunities focused on these areas.

Strategy: Operational

Action Plan Goals

- Continue to monitor processes to ensure best practice project management activities are delivered on time and on budget.
- Implement a workload tracking system to identify the capacity of the workforce.

Objective: Establish requirements to be used in the design of a workload tracking system.

Objective: Develop tracking systems to capture the resources and time allocations for on a per-project basis.

Objective: Implement and manage a workload tracking system.
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