Objective
To determine if fleet purchases (i.e. passenger vehicles and heavy equipment) are being assessed, planned, and distributed in coordination with district/division needs and expectations.

Opinion
Based on the audit scope areas reviewed, control mechanisms are effective and substantially address risk factors and exposures considered significant relative to impacting reporting reliability, operational execution, and compliance. The organization's system of internal controls provides reasonable assurance that most key goals and objectives will be achieved despite significant control gap corrections and improvement opportunities identified. Control gap corrections and improvement opportunities identified are likely to impact the achievement of the organization's business/control objectives, but management has agreed to corrective action plans to address the relevant risks within 6 months.

Overall Engagement Assessment
Satisfactory

<table>
<thead>
<tr>
<th>Finding</th>
<th>Title</th>
<th>Control Design</th>
<th>Operating Effectiveness</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Finding 1</td>
<td>Strategic Reserve Assets</td>
<td></td>
<td>X</td>
<td>Needs Improvement</td>
</tr>
</tbody>
</table>

Management concurs with the above finding and prepared management action plans to address deficiencies.

Control Environment
The Fleet Operations Division (FOD) manages TxDOT’s fleet assets including the purchase and allocation of replacement people movers and heavy equipment (assets). FOD utilizes data in the fleet management system to identify assets for replacement including utilization, cost of maintenance, and age of the asset. FOD implemented a new component of the fleet management system in fiscal year (FY) 2017 and expanded the process to create a two-year (FY 2018 and FY 2019) replacement list for assets taking into consideration the capital budget allocation. Each district and division provided feedback that FOD used to finalize the list and began the process of procuring the assets.

FOD manually tracks delivery dates on asset purchases and in May 2017 implemented a process to ensure vendor evaluations are completed. In addition, delivery tracking is briefed weekly at the FOD and Procurement Division status meetings in an effort to reduce the time from procurement to delivery.

FOD’s organizational structure includes an Equipment Supervisor in each district to facilitate asset needs, tracking and receipting of new assets, and the asset make-ready process. The Equipment Supervisor coordinates with district staff for the replacement of assets, as well as, utilizing the strategic reserve and FOD rental program to meet immediate needs. FOD has documented procedures for fleet operations including acceptance of new assets, strategic reserve, and asset make-ready. FOD also provides monthly tracking and reporting
of fleet metrics including utilization, downtime, and availability percentages by district and division.

**Summary Results**
Audit testing completed resulting in management action plans.

<table>
<thead>
<tr>
<th>Finding</th>
<th>Scope Area</th>
<th>Evidence</th>
</tr>
</thead>
</table>
| 1       | Fleet Acquisition and Allocation to Districts | FOD is not annually evaluating the strategic reserve assets as required by standard operating procedures. To evaluate the strategic reserve, auditors reviewed maintenance costs for FY 2016 and FY 2017 and pending work requests as of October 30, 2017 to determine if preventative maintenance was performed and if overall costs of maintenance exceed replacement or rental. The following was noted:  
• An overstatement of $37,337 (2%) of the $1.7 million FY 2017 total maintenance cost was identified due to an error in reported labor costs on a work order for one asset.  
• Analysis identified examples of assets that exceeded the average maintenance costs for assets in their category (i.e. sweepers and dump trucks) versus other cost efficient means such as rental or replacement.  
• 159 of 1,008 (16%) work requests (preventative and routine maintenance or inspections) for strategic reserve assets were at least a year overdue. |

Audit testing completed not resulting in management action plans.

<table>
<thead>
<tr>
<th>Scope Area</th>
<th>Evidence</th>
</tr>
</thead>
</table>
| Data Reliability                         | Review of the Fleet Operations Division (FOD) FY 2018 asset replacement list (Buy List), and standard operating procedures (SOPs) noted the following:  
• Assets tested in 6 districts for 4 asset categories on the FY 2018 Buy List, (i.e., general purpose dump trucks and public works sweepers) met the established criteria for replacement.  
• FOD drafted SOPs for the capital asset acquisitions process including how the fleet management system will be utilized to establish replacement criteria. |
| Fleet Acquisition and Allocation to Districts | Interviews with FOD, 25 districts, and three divisions reported the following coordination actions for fleet acquisition and allocation:  
• FOD developed a two-year Buy List for FY 2018 and FY 2019 to show longer term replacement goals tied to the capital budget and provided the list to each district and division for review.  
• FOD discussions with districts and divisions in regards to the FY 2018 and FY 2019 Buy List noted the following:  
  o 23 of 25 (92%) districts noted improved |
Audit Scope
The audit scope focused on Fleet Operations Division’s (FOD) processes to coordinate
purchases and allocation of assets with districts and divisions.

Scope 1: Data Reliability – reviewed criteria utilized to establish the FY 2018 Buy List and
evaluated a sample of assets listed to determine if they met FODs criteria for replacement in
the sampled six districts. Auditors evaluated the FOD’s August 2017 Monthly and KPI
Dashboards reporting of metrics used to evaluate efficiencies within the fleet management
system. In addition, asset downtime metrics were reviewed for accuracy.

Scope 2: Fleet Acquisition and Allocation to Districts – assessed FOD and Districts
communication for establishing the FY 2018 and FY 2019 Buy List, delivery of new assets
and ongoing asset needs or concerns. Auditors evaluated the timeliness and tracking of
asset deliveries for FY 2016 and FY 2017 and assessed the use of the strategic reserve to
meet districts’ needs. Impacts of maintenance costs and pending work requests for
preventative maintenance were analyzed for the health and viability of the strategic reserve.

The audit was performed by Jessica Esqueda, Charlita Freeman, Elizabeth Longoria-
Cardines, Margarita Vasquez, Monica Washington, and Cynthia Scheick (Engagement Lead).
The audit was conducted during the period from September 28, 2017 to December 15,
2017.

Methodology
The methodology used to complete the objectives of this audit included:

- Reviewed state and federal regulations and TxDOT policies and memorandums,
  including the Fleet Operations Manual and Standard Operating Procedures for
  Acceptance of New Equipment, Equipment Make-Ready, and Strategic Reserve.
- Conducted interviews with FOD Management and FOD Equipment Supervisors in six
  sampled districts based on asset spend fluctuations between FY 2016, FY 2017, and
the FY 2018 Buy List. Districts tested included Amarillo, Austin, Bryan, Fort Worth, Odessa, and Yoakum.

- Interviewed 25 District Directors of Maintenance or Operations, and in the six sampled districts, interviews were conducted with 12 Maintenance Section Supervisors and 6 FOD Equipment Supervisors to evaluate communication with FOD and that asset needs were being addressed.
- Evaluated how fleet management system was utilized for the FY 2018 Buy List and verified assets on FY 2018 Buy List for six sampled districts met FOD criteria for replacement.
- Evaluated the FY 2017 Buy List to determine if purchases were received timely.
- Analyzed Enterprise Resource Planning System (ERP) procurement data for FY 2016 and FY 2017 to determine timeliness of requisition, purchase order and receipt of assets to further assess delays in asset deliveries.
- Evaluated all five suspended work orders for assets in five districts that were in suspended status for more than 75 days, to determine if the item was available for use and accurately reported in the downtime and availability metric in the FOD Monthly Dashboard.
- Assessed a judgmental sample of 15 pending work requests in the 6 districts tested that were past due more than a year as of October 30, 2017 to determine why the requested maintenance or inspections were not completed.

Background
This report is prepared for the Texas Transportation Commission and for the Administration and Management of TxDOT. The report presents the results of the Fleet Purchasing and Allocation Program audit which was conducted as part of the FY 2018 Audit Plan.

Fleet Operations Division (FOD) was established in 2013 with the goal to reduce underutilized and older equipment. FOD established the Fleet Forward Program which focused on delivering the right vehicle at the right time and at the right cost. At the beginning of FY 2018, the TxDOT fleet totaled 12,333 people movers and heavy equipment (assets) in the 25 districts and 17 divisions and the following were noted to be the top 10 assets with corresponding average age in years.

<table>
<thead>
<tr>
<th>Asset Category</th>
<th>Total Items</th>
<th>Average Age (years)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Straight Trucks General Purpose Dump Bed</td>
<td>1,679</td>
<td>13</td>
</tr>
<tr>
<td>Pickups Half Ton Extended Cab</td>
<td>1,225</td>
<td>9</td>
</tr>
<tr>
<td>Pickups 3/4 Ton</td>
<td>1,078</td>
<td>3</td>
</tr>
<tr>
<td>Straight Trucks General Purpose</td>
<td>566</td>
<td>9</td>
</tr>
<tr>
<td>Pickups Half Ton Regular Cab</td>
<td>560</td>
<td>12</td>
</tr>
<tr>
<td>Trailer Flat Bed &gt;10,001 GVW</td>
<td>482</td>
<td>11</td>
</tr>
<tr>
<td>Wheeled Graders</td>
<td>405</td>
<td>13</td>
</tr>
<tr>
<td>Pickups 3/4 Ton Extended Cab</td>
<td>402</td>
<td>8</td>
</tr>
<tr>
<td>Straight Trucks Public Utility Insulated Aerial</td>
<td>397</td>
<td>7</td>
</tr>
<tr>
<td>Pickups Half Ton Crew Cab</td>
<td>371</td>
<td>5</td>
</tr>
</tbody>
</table>

Source: Fleet Management System asset list as of November 17, 2017
Beginning with the Legislative Budget process, FOD generates a two-year replacement list (Buy List) based on asset data (age, utilization, cost of repairs, etc.) in the fleet management system and the estimated capital budget. FOD met with each district and division to prioritize and finalize assets on the Buy List. FOD was then responsible for initiating the procurement process, tracking purchases, receipting the assets at the districts and divisions, as well as, disposal of the replaced asset.

FOD maintains a strategic reserve of assets, as well as, facilitates a rental program for use by the districts and divisions for unmet or emergency needs. The majority of strategic reserve assets are comprised of assets that the districts have replaced but may still have capacity for use even though the asset may exceed the established guidelines for usage, age, and maintenance. The strategic reserve is located at various districts around the state based on where it was last used and the FOD maintenance shop within the district is responsible for upkeep and maintenance while at their location.

We conducted this performance audit in accordance with Generally Accepted Government Auditing Standards and in conformance with the International Standards for the Professional Practice of Internal Auditing. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. Recommendations to mitigate risks identified were provided to management during the engagement to assist in the formulation of the management action plans included in this report. The Internal Audit Division uses the Committee of Sponsoring Organizations of the Treadway Commission (COSO) Internal Control – Integrated Framework version 2013.

A defined set of control objectives was utilized to focus on reporting, operational, and compliance goals for the identified scope areas. Our audit opinion is an assessment of the health of the overall control environment based on (1) the effectiveness of the enterprise risk management activities throughout the audit period and (2) the degree to which the defined control objectives were being met. Our audit opinion is not a guarantee against reporting misstatement and reliability, operational sub-optimization, or non-compliance, particularly in areas not included in the scope of this audit.

Best Practices
The Fort Worth District created an Equipment Make-Ready Accessories form that is used to gather information on assets that are being replaced. This allows the maintenance shop to have any new accessories onsite and ready to attach when the items arrive at the district. This reduces down time during the make-ready process before it can be deployed.

The Yoakum district established a weekly meeting which includes the Equipment Supervisor, Director of Operations, Traffic and Signal representative, Shop Coordinator, and Maintenance and Area Supervisors to communicate district needs. The weekly meeting assists with planning, coordination, and determination of additional assets required from strategic reserve and/or the rental program in order to meet the district’s workflow. This also helps the district stay up to date with asset availabilities, deliveries of new equipment (make-ready process), and potential maintenance costs.
Finding No. 1: Strategic Reserve Assets

Condition
Fleet Operations Division (FOD) is not annually evaluating the strategic reserve equipment (assets) for usage, maintenance cost impacts, and viability. In addition, reviews of pending work requests, which identify preventative maintenance and inspections of the assets within the strategic reserve, are not consistently being performed by Equipment Supervisors. Finally, FOD system data related to the strategic reserve had errors identified within the reported maintenance costs and pending work requests.

Effect/Potential Impact
Without reviewing and performing an annual analysis of overall maintenance cost of the strategic reserve, FOD may be missing more cost efficient options to best meet the needs of districts by renting or purchasing rather than using the asset within the strategic reserve. In addition, without accurate data and monitoring of the preventative maintenance for the assets within the strategic reserve, the assets may not be ready for use by the requesting district and could impact employee safety or cause project delays.

Criteria
Fleet Operations Division (FOD) Strategic Reserve standard operating procedures (SOP) states that all strategic reserve assets will be evaluated annually, or as necessary, based on usage, health and performance, maintenance cost, viability, user feedback, and other pertinent metrics. The SOP also states strategic reserve assets will be maintained in accordance with established TxDOT equipment preventative maintenance policy and procedures and assets should not be deployed with pending preventative maintenance tasks.

Cause
FOD evaluates assets in the strategic reserve on a case by case basis when repairs or maintenance arise, but has not performed an annual analysis of the strategic reserve, as a whole, for usage, performance, maintenance costs and viability. Pending Work Request and Unit Maintenance Cost History reports were not being reviewed to ensure data was accurately captured in the fleet management system.

Maintenance of a strategic reserve asset is the responsibility of the FOD maintenance shop within the district it is located in; however, staffing vacancies of Quality Assurance Coordinators in multiple districts and prioritization by the maintenance shop resulted in the maintenance and inspections not being performed. In addition, follow-up on the Pending Work Request report that is run weekly is not always performed.

Evidence
FOD has not completed an annual evaluation of the strategic reserve. To evaluate the strategic reserve, auditors reviewed maintenance cost for FY 2016 and FY 2017. In addition, pending work requests as of October 30, 2017 were evaluated for the assets within the strategic reserve statewide. The following was noted:
• An overstatement of $37,337 (2%) of the $1.7 million FY 2017 total maintenance cost was identified due to an error in reported labor costs on a work order for one asset. No errors were reported for FY 2016.

• Analysis of the maintenance cost for the two-year period showed examples of assets which exceeded the average maintenance for assets in their category (see table below).

<table>
<thead>
<tr>
<th>Strategic Reserve Asset Category</th>
<th>FY 2016/FY 2017 Total Assets with Reported Maintenance</th>
<th>FY 2016/FY 2017 Average Reported Maintenance</th>
<th>Number of assets where Maintenance Cost exceeded Average Reported Maintenance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dump Trucks</td>
<td>108</td>
<td>$9,124</td>
<td>49</td>
</tr>
<tr>
<td>Aerial Trucks</td>
<td>28</td>
<td>$15,644</td>
<td>9</td>
</tr>
<tr>
<td>Sweepers</td>
<td>14</td>
<td>$14,366</td>
<td>6</td>
</tr>
<tr>
<td>Grinders</td>
<td>12</td>
<td>$17,990</td>
<td>3</td>
</tr>
</tbody>
</table>

Source: Unit Maintenance Cost History report for FY 2016 and FY 2017

• 159 of 1,008 (16%) pending work requests for preventative and routine maintenance or inspections for strategic reserve assets were at least a year overdue as of October 30, 2017.

• We judgmentally sampled 15 of 159 work requests that were past due more than one year in the 6 districts sampled and the following was noted:
  o 6 of 15 assets had the maintenance completed since October 30, 2017.
  o 4 of 15 assets were still pending the preventative or routine maintenance.
  o 3 of 15 assets tested had the maintenance completed but the pending work orders had not been cleared from the fleet management system.
  o 2 of 15 assets are for disposal, but not tagged correctly in the fleet management system.

Management Action Plan (MAP):

MAP Owner:
Ricky Nieman, Fleet Operations Section Director, Fleet Operations Division (FOD)

MAP 1.1:

• FOD conducted a statewide training call with all FOD Equipment Supervisors to discuss Strategic Reserve (SR) maintenance, specifically preventative maintenance, unscheduled maintenance and a physical inspection.*

• FOD issued a memorandum on December 18, 2017, to District Engineers and District Directors of Maintenance/Operations outlining the SR maintenance and operational requirements for both FOD and the end users (districts/divisions).*

• SR assets will be inspected as part of the annual inventory process that occurs in February and March. The inspection will be conducted by an FOD Quality Assurance Coordinator (QAC) and will include full preventative maintenance inspection (PMI) on each SR asset as well as a review of safety systems and components and asset assignment information in the fleet management system.
• In January 2018 the SR Fleet Manager will send out communication to the Equipment Supervisors and QACs explaining the PMI inspection process.

MAP 1.2:

• FOD Strategy and Analytics and the Strategic Reserve (SR) Fleet Manager will develop a reporting tool (Annual SR Report) that will provide detailed information regarding SR assets length of service, age, and maintenance cost information. The Annual SR Report will be used by the SR Fleet Manager to perform annual evaluations of SR assets and make recommendations for which SR units should be transferred or retired.

• The SR Fleet Manager will work with the Equipment Supervisors and Fleet Managers to identify SR candidates on the FY 2018 Buy List.
  o On November 28, 2017, an email was distributed to all FOD Equipment Supervisors notifying them that we are looking for specific asset types and to notify the SR Fleet Manager if they have any good SR candidates.*
  o SR Fleet Manager will send additional communication to the Equipment Supervisors explaining which current SR assets are to be considered for retirement and which units will be considered for inclusion in the SR.

• Equipment Supervisors will communicate to the SR Fleet Manager regarding any SR asset that may have operational or maintenance issues. SR Fleet Manager (along with the other Fleet Managers) will collaborate to determine a course of action for repair versus replacement of the SR asset.

• The SR Standard Operating Procedure will be updated to reflect the operational changes.

* Items are considered complete

Completion Date: April 15, 2018
Observation and Recommendation

Audit Observation (a): Asset Downtime and Availability Reporting
The dashboard metric for people movers and heavy equipment (assets) Downtime and Availability is not accurately reflecting the availability of assets for use. Work orders placed in a suspended status stops the downtime calculation and reports the asset is available for use. While no guidance exists, FODs expectation for suspending a work order is if the asset needs parts for repair, but is still available for use. As of November 17, 2017, there were 110 suspended work orders in 13 districts. Five work orders in suspended status exceeding 75 days were tested and 3 of 5 (60%) were for equipment that was either at a vendor for repair or in the district maintenance shop awaiting repair and therefore not available for the districts use.

Effect/Potential Impact
Incorrect use of suspended work orders may misinform users of the availability of that asset. Mismanagement could also occur, impacting asset replacement and management of equipment through strategic reserve or rentals.

Audit Recommendation
FOD should provide guidance to all maintenance shops regarding the criteria for suspending a work order. Periodic spot checks should occur on suspended work orders to ensure the equipment is actually available for use.
### Summary Results Based on Enterprise Risk Management Framework

<table>
<thead>
<tr>
<th>Scope Area</th>
<th>Control Activities</th>
<th>Data Reliability</th>
<th>Fleet Acquisition and Allocation to Districts</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organizational Tone</td>
<td>Business Objective/Goal-Setting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Resource Capacity</td>
<td>Forecasting/Budget</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training and Development</td>
<td>Risk Identification/Planning</td>
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<tr>
<td>Risk Assessment</td>
<td>Risk Assessment/Impact Analysis</td>
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<tr>
<td>Business Continuity</td>
<td>Risk Response/Cost-Benefit Analysis</td>
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<tr>
<td>Internal and External Reporting</td>
<td>Policies/Procedure Development &amp; Maintenance</td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Approvals/Authorizations</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Supporting Evidence/Records Retention</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>Segregation of Duties/System Access</td>
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<td>Safeguarding Assets/Security</td>
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<tr>
<td></td>
<td>Information Classification</td>
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<tr>
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<td>Information Input</td>
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<tr>
<td></td>
<td>Information Processing</td>
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<td>Information Output</td>
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<tr>
<td></td>
<td>Internal and External Reporting</td>
<td>(a)</td>
<td>1</td>
</tr>
</tbody>
</table>

### Closing Comments
The results of this audit were discussed with the Fleet Operations Division Director and District Engineers on January 11, 2018. The Internal Audit Division appreciates the cooperation and assistance received from the Fleet Operations Division and Districts visited during this audit.