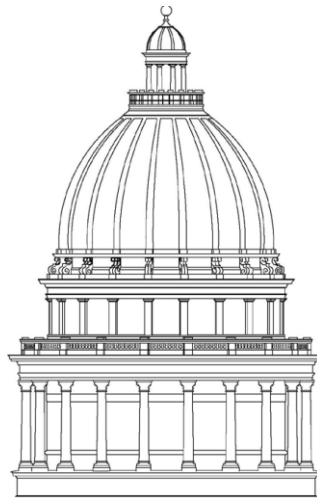


REPORT TO THE
UTAH LEGISLATURE

Number 2016-06



**A Performance Audit of the
Utah Department of Transportation**

August 2016

Office of the
LEGISLATIVE AUDITOR GENERAL
State of Utah



STATE OF UTAH

Office of the Legislative Auditor General

315 HOUSE BUILDING • PO BOX 145315 • SALT LAKE CITY, UT 84114-5315
(801) 538-1033 • FAX (801) 538-1063

Audit Subcommittee of the Legislative Management Committee

President Wayne L. Niederhauser, Co-Chair • Speaker Gregory H. Hughes, Co-Chair
Senator Gene Davis • Senator Ralph Okerlund • Representative Brian S. King • Representative James A. Dunnigan

JOHN M. SCHAFF, CIA
AUDITOR GENERAL

August 02, 2016

TO: THE UTAH STATE LEGISLATURE

Transmitted herewith is our report, **A Performance Audit of the Utah Department of Transportation** (Report #2016-06). A digest is found on the blue pages located at the front of the report. The objectives and scope of the audit are explained in the Introduction.

We will be happy to meet with appropriate legislative committees, individual legislators, and other state officials to discuss any item contained in the report in order to facilitate the implementation of the recommendations.

Sincerely,

John M. Schaff, CIA
Auditor General

JMS/lm

Digest of the Performance Audit of the Utah Department of Transportation

The Utah Department of Transportation (UDOT) is responsible for the transportation system of the state. Our office was asked to conduct two audits of UDOT. This audit addresses issues relating to performance and best practices. The other audit, *An In-Depth Budget Review of the Utah Department of Transportation* (2016-05), addresses issues related to budgetary controls, appropriateness of spending, and compensation.

Chapter II UDOT Bidding Practices Can Be Improved

UDOT's current low-bidding practices have been tailored to reduce cost and construction time, but they do little to incentivize project quality. As a result, contractors with poor performance records have the same opportunity to win bids as contractors with exemplary performance records. Best practices recommend processes to encourage contractors to develop high-quality construction practices. Some states have developed prequalification processes that address construction quality through evaluations of a contractor's past performance. UDOT should develop a similar process for incentivizing quality performance. UDOT has already been working toward implementing the recommendations of this chapter.

Current DBB Bidding Practices Incentivize Budget and Speed but Not Quality. UDOT attempts to address construction quality in DBB projects primarily through specifications written into the contracts. Some specifications have penalties tied to poor or non-performance, but most specifications are either accept or reject – meaning that if work does not meet specifications, it is rejected until it does. UDOT has attempted to provide performance incentives by looking at past performance when establishing contractor bidding limits in the prequalification process. Neither disincentives in contract specifications nor prequalification incentives have much impact on contractors' ability to win future bids. As a result, contractors of marginal quality have the same bidding power as contractors of superior quality.

Alternative Options Exist for Incentivizing Quality. The issue of quality in DBB has been researched and addressed locally and nationally. Two of the five states we sampled have incorporated contractor quality into their DBB processes. Within Utah, the Division of Facilities Construction and Management (DFCM) uses contractor performance to bar poor performers from bidding on future contracts. UDOT itself has tested alternative methods that integrate quality into contractor bid considerations.

Chapter III

UDOT Is Not Following Statutory Audit Requirements

UDOT management and the Utah Transportation Commission (commission) have not hired two performance auditors, as required by statute, nor is the commission participating in the process of prioritizing audits. In addition, the audit function can be improved through the use of risk-based audit planning. UDOT should also devote more audit resources to performance and internal audits.

Performance Audit Structure and Practice Violate Statute. UDOT has failed to hire two statutorily required performance auditors. Instead, UDOT contracted with consulting firms to conduct performance audits. However, this practice does not meet the statutory requirements established 21 years ago during the 1995 General Session of the Utah Legislature. Additionally, performance audits conducted by the outside consultants were not sent to the Office of the Legislative Auditor General (OLAG) as required by statute. In accordance with statute, UDOT should ensure that at least two auditors are designated to fill the required performance audit positions. Also, completed performance audits should be sent to the commission, UDOT management, and OLAG.

UDOT's Audit Planning Can Be Improved. The Internal Audit Division (IAD) should develop a risk-based audit plan to help determine the priorities of the two performance auditors and the IAD's internal auditors. Audits are currently conducted in an order unrelated to their relative risk. The annual audit plan, which lists audits in the order in which they will be conducted, appears to be based on when UDOT areas were last audited and on UDOT management input. Adopting a risk-based planning process could increase the effectiveness of UDOT's audit functions by ensuring audits of high-risk areas are conducted before audits of low-risk areas. In addition, by adopting risk-based planning, UDOT would comply with statutory requirements.

UDOT Size and Complexity Suggests Stronger Emphasis on Audits Is Needed. The size of UDOT's budget and its variety of complex functions suggest that UDOT would benefit from a greater emphasis on performance and internal audits. Currently, UDOT's resources dedicated to these types of audits are small compared to other Utah agencies and departments of transportation (DOTs) in other states.

Chapter IV

UDOT Performance Reporting Lacks Consistent Goals and Measures

UDOT's *Strategic Directions* report to the Legislature on goals and measures contains broad goals but lacks midlevel objectives. Many of the performance measures reported also

lack immediate targets or expected performance, and most performance measures are reported inconsistently from one year to the next.

UDOT Reporting Lacks Midlevel Objectives. UDOT *Strategic Directions* reports show strategic goals but lack midlevel objectives that measure progress toward these goals. The U.S. Department of Transportation (USDOT) shows midlevel objectives feeding into their long-range strategic goals. State and local government best practices reinforce such reporting.

Most Strategic Directions' Measures Lack Target Reporting. UDOT lacks performance targets for a majority of the measures reported in the *Strategic Directions* report. USDOT and other states' transportation departments show targets being used for all performance measures.

UDOT Should Consistently Report Performance Measures. UDOT's performance measures are reported inconsistently. An analysis of six years of UDOT's *Strategic Directions* reports showed that most performance measures were only reported once. Best practices show that consistent reporting of performance measures increases accountability to decision makers.

Chapter V

Motor Carrier Division Civil Penalties and Appeals Lack Administrative Rule

Utah statute allows the UDOT's Motor Carrier Division (Utah MCD) to assess civil penalties or fines against Utah-based motor carriers for all violations of motor carrier regulations. No administrative rule or UDOT policy provides guidance for the civil penalty assessment process. As a result, outside parties may not understand how this process works, including the number or type of violations for which civil penalties are assessed. The civil penalty appeals process that occurs after civil penalties are assessed also needs additional clarification.

Civil Penalty Assessment Lacks Transparency and Administrative Rule. The Utah MCD appears to be assessing civil penalties according to broad statutory requirements. Utah MCD practice, however, is not grounded in existing rule or policy and, therefore, lacks transparency. Administrative rule should explain the process, including the factors that influence civil penalties, such as the number and type of violations. Having these practices exist as unwritten policies, as they currently do, introduces risk that the Utah MCD could treat motor carriers inconsistently and unfairly. The Utah MCD could also adopt by administrative rule a civil penalty assessment system similar to the federal government's in order to enhance transparency and consistency.

Civil Penalty Appeals Process Needs Further Clarification and Guidance. The civil penalty appeals process allows motor carriers to contest civil penalties. The Utah MCD appears to be meeting statutory requirements for motor carrier appeals, but the rules guiding the appeals process are insufficient. Administrative rule should clearly state the range of civil penalty reductions and valid reasons for the reductions.

Chapter VI

State Airplanes Are Subsidized and Underutilized

State airplanes are used to transport members of state government agencies and University of Utah hospital departments to areas in and outside the state with user agencies only paying the direct operating costs. However, the planes' operation and maintenance costs exceed the money charged to the user agencies. The Legislature should consider charging higher hourly rates for flights that primarily benefit out-of-state entities.

The planes are not being utilized at levels that meet industry standards, and the pilots also appear to be underutilized. The Aeronautics Division of the UDOT should analyze the use of contract pilots in place of salaried pilots.

State Plane Subsidies Are Benefitting User Agencies and Other States. *Utah Code* 72-2-126 requires Aeronautics to charge user agencies direct operating costs for the airplane used. Aeronautics is charging user agencies direct operating costs, however, the amount collected from user agencies is less than the true cost of owning and operating the state airplanes, which is concerning. We are also concerned with the practice of charging direct operating costs for state airplane use that primarily benefits other states. We recommend that the Legislature consider charging higher hourly rates for flights that benefit out-of-state entities like out-of-state hospitals.

State Airplanes and Pilots Are Significantly Underutilized. The airplane industry looks at utilization rates when measuring how efficiently an airplane is used. According to this measure and industry standards, Utah's state airplanes are being underutilized. Aeronautics pilots appear to be underutilized as well. UDOT should conduct an analysis that compares the cost of contract pilots to salaried pilots to determine which option is more cost effective.

REPORT TO THE UTAH LEGISLATURE

Report No. 2016-06

A Performance Audit of the Utah Department of Transportation

August 2016

Audit Performed by:

Audit Manager	Brian Dean, CIA, CFE
Audit Supervisor	Matt Harvey, CFE
Audit Staff	Chris McClelland, CIA, CFE

Table of Contents

Chapter I

Introduction.....	1
UDOT Is Generally Responsible for the State’s Highway Transportation System	1
UDOT Has 1,600 FTEs and Four Regions	2
UDOT’s Vision to “Keep Utah Moving” Encompasses Three Main Goals.....	3
Audit Scope and Objectives	4

Chapter II

UDOT Bidding Practices Can Be Improved.....	5
Current DBB Bidding Practices Incentivize Budget and Speed but Not Quality.....	8
Alternative Options Exist For Incentivizing Quality	10
Recommendations.....	14

Chapter III

UDOT Is Not Following Statutory Audit Requirements.....	15
Performance Audit Structure and Practice Violate Statute	16
UDOT’s Audit Planning Can Be Improved.....	19
UDOT Size and Complexity Suggests Stronger Emphasis on Audits Is Needed.....	20
Recommendations.....	22

Chapter IV

UDOT Performance Reporting Lacks Consistent Goals and Measures	23
UDOT Reporting Lacks Midlevel Objectives	24
Most Strategic Directions’ Measures Lack Target Reporting.....	26
UDOT Should Consistently Report Performance Measures	28
Recommendations.....	29

Chapter V

Motor Carrier Division Civil Penalties and Appeals Lack Administrative Rule	31
Civil Penalty Assessment Lacks Transparency and Administrative Rule.....	31

Civil Penalty Appeals Process Needs Further Clarification and Guidance	37
Recommendations.....	38
Chapter VI	
State Airplanes Are Subsidized and Underutilized	39
State Plane Subsidies Are Benefitting User Agencies and Other States	40
State Airplanes and Pilots Are Significantly Underutilized	44
Recommendations.....	48
Appendices.....	49
Appendix A: Oregon Condensed Performance Report	51
Agency Response	55

Chapter I

Introduction

The Utah Department of Transportation (UDOT) is responsible for the transportation system of the state. Our office was asked to conduct two audits of UDOT. This audit addresses issues relating to performance and best practices. The other audit, *An In-Depth Budget Review of the Utah Department of Transportation* (2016-05), addresses issues related to budgetary controls, appropriateness of spending, and compensation.

UDOT Is Generally Responsible for the State's Highway Transportation System

UDOT is generally responsible for the planning, research, design, construction, maintenance, security, and safety of the state's transportation systems. That responsibility does not extend to most state transit systems, like the Utah Transit Authority. UDOT's responsibilities, outlined in Utah statute, are as follows:

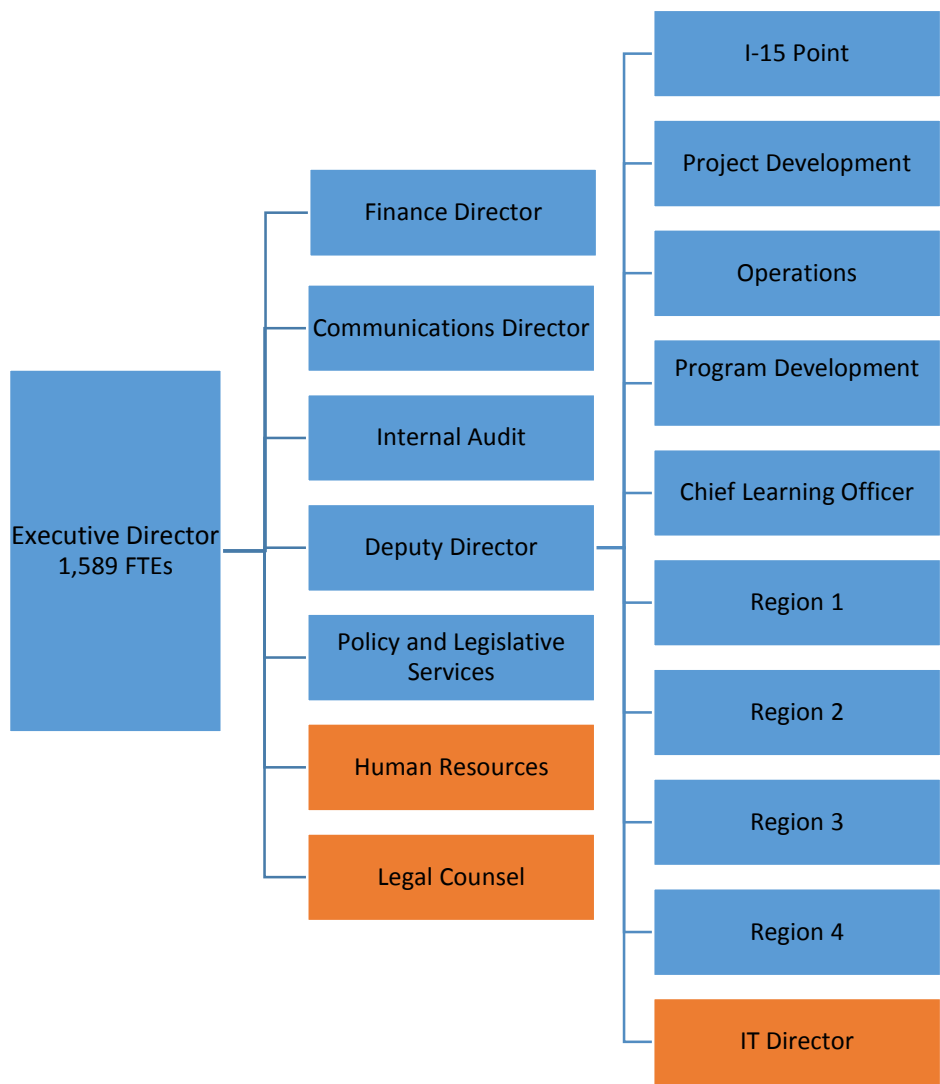
- Provide administration for state transportation systems and programs.
- Implement state transportation policies.
- Plan, develop, construct, and maintain safe, reliable, and environmentally sensitive transportation systems.
- Establish standards and procedures for the technical details of state transportation systems.
- Advise the Governor and Legislature about transportation needs.
- Coordinate with utility companies for the reasonable, efficient, and cost-effective installation, maintenance, operation, relocation, and upgrade of utilities within state highway rights-of-way.

UDOT is generally responsible for the planning, construction, and maintenance of Utah's highway system.

UDOT Has 1,600 FTEs and Four Regions

UDOT’s executive director is appointed by the Governor, in consultation with the Utah Transportation Commission and the consent of the Utah State Senate. UDOT’s deputy director is the statutorily mandated chief engineer of the department. The deputy director is responsible for program and project development as well as the operation and maintenance of the state transportation systems.

Figure 1.1 UDOT FTEs by Division. As of June 2016, UDOT had 1,589 employees. Areas in orange are functions filled by other state agencies but located at UDOT.



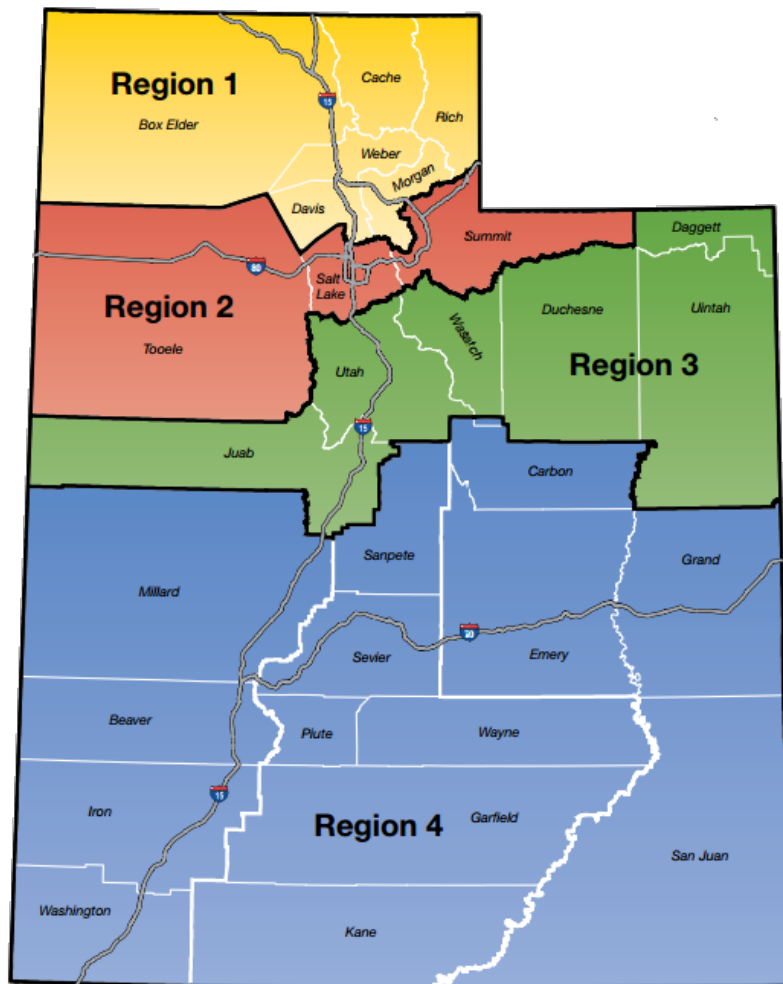
Source: UDOT Finance Department

UDOT divides maintenance and other responsibilities of the state transportation systems into four regions, which also report to the

As of June, 2016,
UDOT has 1,589 FTEs.

deputy director. UDOT regional offices are generally responsible for planning and construction within their respective regions.

Figure 1.2 UDOT Regions. UDOT has four regions that cover the entirety of the state.



Source: 2015 UDOT Strategic Direction report

UDOT has four regions that are generally responsible for the planning, construction, and maintenance of their areas.

Regions are responsible for the maintenance and project planning in their regions.

UDOT’s Vision to “Keep Utah Moving” Encompasses Three Main Goals

UDOT has a clearly defined and well-communicated vision and strategic goals. UDOT’s vision statement is to “Keep Utah Moving..” To that purpose, UDOT identifies the three strategic goals:

- Zero crashes, injuries, and fatalities
- Preserve infrastructure
- Optimize mobility

UDOT also reports multiple measures related to each of its strategic goals.

Audit Scope and Objectives

This audit was initiated in response to state statute, which requires the Office of the Legislative Auditor General to conduct an annual performance audit and in-depth budget review of a state agency. This audit, coupled with our concurrent in-depth budget review, fulfills that requirement.

This report addresses UDOT performance and best practices in the following areas:

- **Chapter II:** Bid Processes
- **Chapter III:** Internal Audit
- **Chapter IV:** Performance Reporting
- **Chapter V:** Motor Carrier Fines
- **Chapter VI:** Aeronautics Airplanes

Chapter II

UDOT Bidding Practices Can Be Improved

UDOT's current low-bidding practices have been tailored to reduce cost and construction time, but they do little to incentivize project quality. As a result, contractors with poor performance records have the same opportunity to win bids as contractors with exemplary performance records. Best practices recommend processes to encourage contractors to develop high-quality construction practices. Some states have developed prequalification processes that address construction quality through evaluations of a contractor's past performance. UDOT should develop a similar process for incentivizing quality performance. UDOT has already been working toward implementing the recommendations in this chapter.

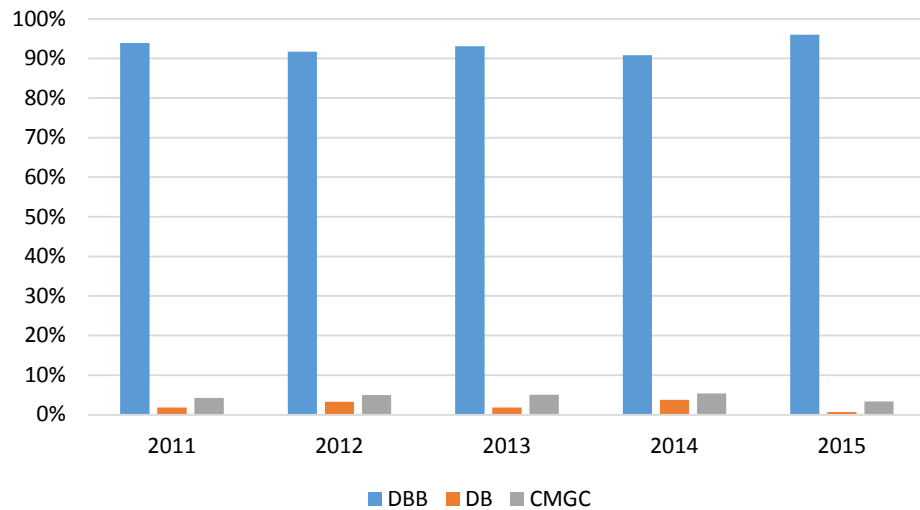
UDOT Uses Three Methods For Project Delivery

UDOT uses three delivery methods for moving projects through design and construction phases. These methods are as follows:

- Design/bid/build (DBB)
- Design/build (DB)
- Construction manager/general contractor (CM/GC)

The majority of UDOT projects are completed through the low-bid (DBB) delivery method, which is the traditional bid process. With the DBB method, a project's design work is completed before construction bids are solicited. Alternatively, DB combines design and construction into a single contract, meaning the contractor both designs the project (within certain parameters) and constructs the project. CM/GC engages a construction manager to act as an advisor to UDOT during the design phase and to be the general contractor during construction. Figure 2.1 shows the frequency of each project type over the past five years.

Figure 2.1 Majority of UDOT Projects Are DBB Projects. DBB projects make up 93 percent of UDOT projects.

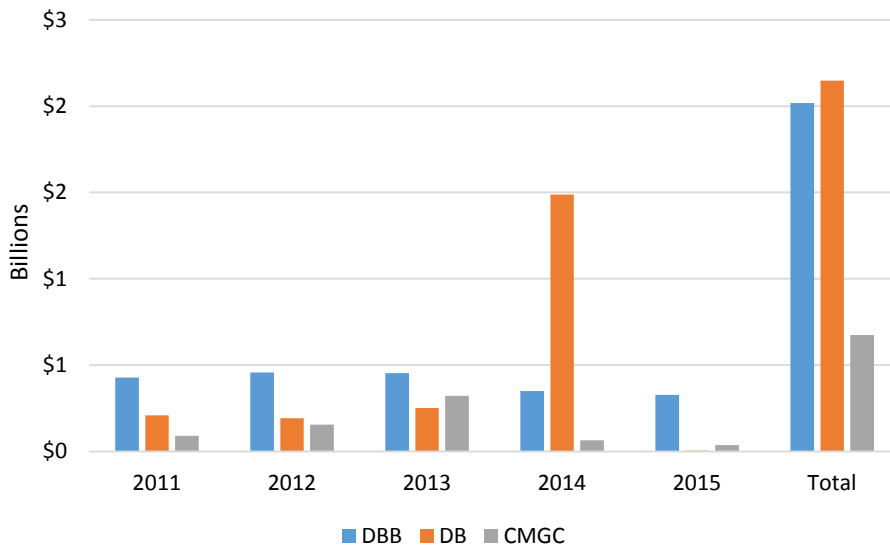


*Data shows projects at financial closeout.
Source: UDOT 2011-2015 project data*

The majority of UDOT's projects are through the traditional low-bid process (design/bid/build).

As Figure 2.1 shows, the vast majority of UDOT projects are completed through DBB. While more frequent, DBB projects also tend to be smaller and often less costly than other projects. Between 2011 and 2015, overall DBB expenditures were slightly lower than DB expenditures, as shown in Figure 2.2.

Figure 2.2 DB Projects Constitute a Slightly Larger Portion of UDOT Expenditures. The large proportion of DB expenditures is primarily due to the I-15 Core project completed in 2014.



*Data shows projects at financial closeout.
Source: UDOT 2011-2015 project data*

UDOT saw a sharp increase in DB expenditures in 2014 due to the I-15 Core project, which is also responsible for the relatively large proportion of UDOT 2014 expenditures.

Unlike DB and CM/GC projects, DBB projects do not consider quality factors, such as past performance, when selecting contractors. Typically, the DBB process takes into consideration two factors: price and time. Contractors' bids include the cost of the project and the number of days the project will take to complete. UDOT uses time in its bid calculations to incentivize faster project completion and lessen impact on travelers. The project manager, with coordination and input from others, identifies the dollar value of the time component for the project. Because DBB projects only consider price and time, contractors with poor performance records have the same opportunity to win project bids as contractors with exemplary performance records.

Design/build projects make up the slight majority of project expenditures because of the large I-15 Core project completed in 2014.

Design/bid/build considers only price and time in calculating contractor bids.

In design/bid/build projects, contractors of marginal quality have the same bidding power as contractors of superior quality.

Current DBB Bidding Practices Incentivize Budget and Speed but Not Quality

UDOT attempts to address construction quality in DBB projects primarily through specifications written into the contracts. Some specifications have penalties tied to poor or non-performance, but most specifications are either accept or reject – meaning that if work does not meet specifications, it is rejected until it does. UDOT has attempted to provide performance incentives by looking at past performance when establishing contractor bidding limits in the prequalification process. Neither disincentives in contract specifications nor prequalification incentives have much impact on contractors' ability to win future bids. As a result, contractors of marginal quality have the same bidding power as contractors of superior quality.

UDOT Contract Specifications Do Not Adequately Incentivize Superior Performance

With DBB projects, UDOT is responsible for identifying acceptable specifications for every aspect of the project. Through project designs and contracts, UDOT gives contractors its expectations on project quality. Additionally, incentives and disincentives are assigned to different aspects of the construction project.

While noncompliance with project specifications may trigger disincentives (financial penalties), it does nothing to disadvantage future project bids. For example, in one recent project, a contractor was charged disincentives for finishing a project well over the original number of days allotted. The contractor also received the worst performance evaluation on record in the past three years. Despite this contractor's poor performance, it continues to have the same ability to bid for future projects (through the practice of unlimited prequalification explained below) as contractors with superior performance records.

UDOT employees ranging from engineers to transportation technicians expressed concerns about the continued bidding success of poor-quality contractors. Some also related that UDOT does not have a way to account for and recover the added maintenance and administrative costs that poor-quality contractors generate for UDOT.

The issue of contractor bidding success has also been addressed by an industry study on delivery-method best practices. It stated that providing equivalent bidding opportunities for both marginal-quality and superior-quality contractors reduces incentives for superior performance.¹

UDOT Prequalification Process Contains Ineffective Performance Incentives

UDOT has attempted to incentivize higher quality through its prequalification process. Under UDOT's current prequalification process, a contractor's quality, as measured by past performance evaluations, has the potential to raise the contractor's bidding limits on future projects. While the potential for increased bidding limits exists, few people are aware of it and few contractors benefit from it.

To bid on UDOT projects, contractors must first qualify for them. For projects under \$3 million, UDOT requires a simple registration and a contractor's license. Projects over \$3 million require a prequalification process to determine the maximum dollar value (bidding limit) of projects a contractor can undertake at any given time. If contractors receive a \$50 million prequalification or higher, they are classified as unlimited and are permitted to bid on any size project. Bidding limits are based primarily on an analysis of certified financial statements, but also on contractor experience and evaluations of past quality.

Equivalent bidding opportunities for both marginal and superior contractors reduces incentives for superior quality.

¹ Transportation Research Board, National Cooperative Highway Research Program, *Performance-Based Construction Contractor Prequalification*. 2009. 1. Washington D.C.

UDOT's prequalification quality incentive was only relevant for 17 percent of UDOT's design/bid/build projects between 2010-2015.

The practice of awarding unlimited bidding limits to contractors diminishes the reach of UDOT's prequalification quality incentives. While less than half of UDOT's prequalified contractors have unlimited bidding limits, most UDOT projects are completed by those contractors. To estimate the number of projects completed by contractors with unlimited bidding limits, we reviewed data for all projects completed since 2010. Of all the DBB projects requiring prequalification, we estimate 83 percent were performed by contractors with unlimited bidding limits. Consequently, a program intended to incentivize high-quality performance only affected 17 percent of DBB projects requiring prequalification.

Few people we spoke with even knew that contractor performance evaluations could impact contractors' bidding limits. Of the four resident engineers (the UDOT position responsible for giving the evaluations) we spoke with, none were aware that performance evaluations could raise contractors' bidding limits. The four contractors we spoke with were equally unaware of this.

Alternative Options Exist For Incentivizing Quality

The issue of quality in DBB has been researched and addressed locally and nationally. Two of the five states we sampled have incorporated contractor quality into their DBB processes. Within Utah, the Division of Facilities Construction and Management (DFCM) uses contractor performance to bar poor performers from bidding on future contracts. UDOT itself has tested alternative methods that integrate quality into contractor bid considerations.

UDOT has attempted to introduce quality into the DBB process with two test projects, but managers have expressed concern that much of the data pertaining to quality may not be adequately reliable or objective. Consequently, UDOT suggested that contractors would be unaccepting of changes to bidding requirements and processes.

Additionally, federal statute limits the kinds of practices state transportation departments can use in their bid selection processes. Although statute determines acceptable bidding methods, it also allows for alternative bidding methods, which must be approved by the Federal Highway Administration (FHWA).

Best Practices Recommend Giving Superior Performers An Edge Over Marginal Performers

The Transportation Research Board (TRB), an authority in transportation research, produced a study on current performance-based contractor prequalification practices in the United States and Canada. The study confirmed the need for contractor prequalification systems that incentivize good performance and encourage improvement from poor performers. The study also interviewed contractors, all of whom supported the concept of performance-based prequalification.

While UDOT has incentives in its prequalification system, those incentives have little impact. As mentioned earlier, UDOT's practice of giving contractors unlimited bidding limits has historically reduced the reach of its incentives to only 17 percent of DBB projects.

An earlier report by the TRB studied the possibility of a quality-based performance rating system. It developed and tested a system to modify a contractor's bids according to that contractor's past performance. This kind of bidding, called Multi-Parameter Bidding, includes an "A+B+C" or "A+C" bidding scenario, where "A" is the cost of the project, "B" is the time cost, and "C" is the quality factor. Multi-parameter bidding differs from prequalification initiatives because it introduces a quality bidding component directly to contractor's bids. UDOT recently tested two projects using multi-parameter bidding.

To ensure a healthy bidding environment, the TRB studies stressed the importance of contractor confidence in the objectivity of quality measures. Objective quality measures can be pulled from many current practices. For example, New Mexico uses six categories of already-tracked data in its prequalification process, which is discussed in the next section.

Alternative Low Bid Models Have Been Implemented in Other States

Of the five states we researched (Washington, Oregon, Colorado, New Mexico, and Texas), two use processes designed to incentivize quality in DBB. New Mexico has developed a process that directly affects contractors' future bid amounts, whereas Washington increases bidding limits for satisfactory performers.

Transportation research recommends quality components in prequalification or bidding processes.

New Mexico's Innovative Prequalification Process Appears Promising. New Mexico's Department of Transportation (NMDOT) uses contractor performance data in its prequalification process to determine a bid modifier for that contractor. NMDOT collects performance data in six categories:

- Claims—unsuccessful contractor claims beyond the department director level for more construction time or compensation
- Disincentives—penalties related to quality-of-work stipulations in construction contracts
- Liquidated damages—penalties related to a project's untimely completion
- Nonconformance—penalties related to noncompliance with terms and conditions of contracts
- Safety—measurement of safety as reflected by the experience modifier rate provided by the contractor's bonding company
- Subcontractor—contractors' prompt payments to subcontractors and suppliers

Contractors' scores in the six categories are weighted to produce a single number—a yearly prequalification factor. NMDOT calculates a three-year rolling average of yearly prequalification factors, giving greater weight to more recent years. That number is then used as a multiplier to modify any contractor bids for that year.

New Mexico's DOT has reported positive results from their quality-integrated prequalification process.

NMDOT reported to us that they have seen benefits from their process. They reported that the number of contractor bids on projects have actually increased since they began. Increased bidding can improve the likelihood of better contracts for the state. For example, an NMDOT contractor who usually works on large projects bid significantly lower than other bidders on a small project. Typically, this contractor would not have bid on a smaller project, but it served to boost the contractor's quality performance data. This contractor was able to bring more resources and quality control to the project and provide a better product than otherwise would have been available.

NMDOT also reported significantly reduced litigation costs from contractor claims since instituting its new prequalification process. NMDOT's process penalizes unsuccessful claims that a contractor pursues past the NMDOT director level. Consequently, while litigation continues for claims before the new prequalification process went into effect, no new claims have been escalated past the director. NMDOT reported significant savings as a result.

Washington Gives Prequalification Incentives to Satisfactory Performers Without Granting Unlimited Bidding Limits. The most significant difference between the UDOT system (reported earlier in the chapter) and the Washington Department of Transportation (WSDOT) system is UDOT's practice of unlimited bidding limits. Because of unlimited bidding, many contractors have no need for quality incentives during the prequalification process. WSDOT's process also appears to be more proactive in addressing poor-quality performance. Those contractors who fall below performance standards are prohibited from bidding on multiple projects until performance improves.

If contractors perform poorly, WSDOT begins raising administrative hurdles, which limit the contractors' ability to bid on projects. If nothing else, poorly performing contractors are denied an annual 0.5 prequalification bidding limit multiplier increase. If performance is dissatisfactory enough, contractors may be placed in conditional qualification, meaning that they may not bid on any projects unless approved by the WSDOT director (and in that case, only on one project at a time). WSDOT also has the ability to revoke any previous performance-based prequalification multiplier increase.

DFCM Policy Revokes Prequalification from Underperforming Contractors

Within our own state, DFCM addresses contractor performance in its prequalification policy by denying or revoking underperformers' prequalification. If performance meets a satisfactory level, contractors are prequalified for a period of 18 months. Contractors are rated in four areas on a five-point scale. Contractors who receive a dissatisfactory overall performance rating from any single project can have their prequalification revoked and may not be permitted to reapply for a minimum of 12 months. DFCM reported they have revoked prequalification for only two contractors since 2014 due to poor performance.

Washington's DOT does not give unlimited prequalification to its contractors, increasing the reach of its quality incentives.

DFCM revokes prequalification for contractors falling below quality performance standards.

UDOT has used and is currently testing bid methods that include quality criteria in bid considerations.

While UDOT has the ability to bar poor-performing contractors from bidding, that option is rarely used. The manager responsible for prequalifying contractors reported he could only remember three contractors in the past 15 years being barred from bidding on projects because of poor performance.

UDOT Has Tested Alternative Construction Bidding Models

UDOT already uses considerations of quality in its other bid methods. DB and CM/GC projects take into consideration some quality-oriented factors, not just price and time. In fact, both DB and CM/GC started as experimental bidding models which, after sufficient testing, federal regulators classified as acceptable.

UDOT has also attempted to introduce multi-parameter bidding, which considers price, time, and quality. To date, UDOT has tested two projects using the quality addition to its bid calculations. For one of those projects, a contractor reported to us that, because they knew their historic quality scores were low, they elected not to bid on the project.

The best practices that we reviewed identified one caution with this experimental method—determining the weight that quality gets in bid calculations can be challenging because the quality component in bidding has not been well studied. In any case, best practices advocate developing processes that give superior-performing contractors an edge over marginal performers.

Recommendations

1. We recommend that UDOT identify and/or develop additional reliable and objective criteria to measure contractors' performance quality.
2. We recommend that UDOT implement a process in DBB projects by which objective performance criteria will affect contractors' ability to qualify for and/or win future project bids.

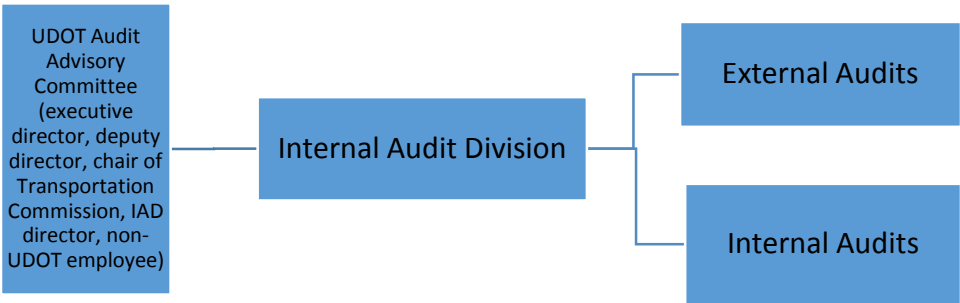
Chapter III

UDOT Is Not Following Statutory Audit Requirements

UDOT management and the Utah Transportation Commission (commission) have not hired two performance auditors, as required by statute, nor is the commission participating in the process of prioritizing audits. In addition, the existing internal audit function can be improved through the use of risk-based audit planning. UDOT should also devote more audit resources to performance and internal audits.

The Internal Audit Division (IAD) has primary audit responsibility at UDOT and is formally tasked with ensuring UDOT manages its resources appropriately. To this end, the IAD (consisting of seven full-time equivalent (FTE) positions, six staff and one director) conducts compliance or external audits for payments made on UDOT contracts with utility companies and construction contractors as well as internal audits. Figure 3.1 shows the organization of the IAD, which is overseen by the UDOT Audit Advisory Committee. This committee is comprised of the UDOT executive director and deputy director, chair of the commission, a non-UDOT employee, and the IAD director.

Figure 3.1 The Internal Audit Division Performs Both External and Internal Audits. The external audits address federally required contract compliance while internal audits look at various areas inside UDOT.



Source: UDOT web site and UDOT policy

The committee prioritizes all audits performed by the IAD internal auditors.

The Utah Transportation Commission is not adequately involved in performance audit functions at UDOT.

UDOT internal auditors currently report to a committee that includes UDOT management.

Performance Audit Structure and Practice Violate Statute

UDOT has failed to hire two statutorily required performance auditors. Instead, UDOT contracted with consulting firms to conduct performance audits. However, this practice does not meet the statutory requirements established 21 years ago during the 1995 General Session of the Utah Legislature. Additionally, performance audits conducted by the outside consultants were not sent to the Office of the Legislative Auditor General (OLAG) as required by statute. In accordance with statute, UDOT should ensure that at least two auditors are designated to fill the required performance audit positions. Also, completed performance audits should be sent to the commission, UDOT management, and OLAG.

According to the Government Accountability Office (GAO), performance audits serve the following purposes:

...provide objective analysis so that management and those charged with governance and oversight can use the information to improve program performance and operations, reduce costs, facilitate decision-making by parties with responsibility to oversee or initiate corrective action, and contribute to public accountability.

Overall, performance audits help organizations like UDOT perform required functions more efficiently and effectively.

Utah Code Requires UDOT to Hire Independent Performance Auditors

Utah Code 72-1-206 states the requirements for UDOT and its two performance auditors. Figure 3.2 contains statutory language pertaining to the performance auditors and the work they are to perform.

Performance audits help organizations perform required functions more efficiently and effectively.

Figure 3.2 Statute Requires UDOT to Hire Two Performance Auditors. The Transportation Commission is also responsible for prioritizing the audits conducted by the auditors.

Utah Code 72-1-206

- (1) (a) The executive director, with the approval of a majority vote of the commission for each appointment, shall appoint not less than two performance auditors. A performance auditor may only be removed by the executive director with the approval of a majority vote of the commission.

(b) Each auditor shall have at least three years' experience in performance auditing prior to appointment.
- (2) (a) The executive director shall ensure that the auditors receive:

 - (i) any staff support from the department that is necessary to fulfill their duties; and
 - (ii) access to all the department's records and information.

(b) The department may hire outside consultants to assist in the audits under Subsection (3).
- (3) The performance auditors shall conduct and supervise, as prioritized by the commission:

 - (a) performance audits to determine the efficiency and effectiveness of the department...[(b) – (h)]

The Utah Transportation Commission must approve performance auditors and prioritize their audits.

UDOT does not have two designated and commission-approved performance auditors. The IAD conducts audits at UDOT; however, the internal auditors that work on these projects were not confirmed by the commission, their audits are not prioritized by the commission, and only some of their audits are performance audits. UDOT and the commission should appoint two independent performance auditors, and the commission should prioritize audits conducted by the auditors.

UDOT Attempted to Follow Statutory Requirements by Contracting for Annual Performance Audits. UDOT created an internal policy to address the statutory requirement by setting aside funding equivalent to two full-time equivalent (FTE) positions for annual performance audits conducted by outside consultants. *Fiscal*

UDOT's performance auditor policy does not satisfy statutory requirements.

Outside consultants cannot be used in place of appointed performance auditors.

Year 2004 Budget Recommendations by the Office of the Legislative Fiscal Analyst indicates the Legislature gave UDOT permission to use consultants for their performance audits. We believe the resulting policy and its implementation do not satisfy current statutory requirements. In addition, UDOT is not following its internal policy requiring an annual performance audit.

Utah Code 72-1-206 states that UDOT “may hire outside consultants to assist in the audits.” Therefore, outside consultants supplement, but not replace, the two performance auditors. Furthermore, consultant performance audits were not prioritized by the commission. UDOT’s internal policy states that UDOT will conduct a performance audit with outside consultants annually. These audits, which have looked at areas such as state airplanes and equipment management, did not occur regularly enough. Since March 2008 (eight years ago), outside consultants conducted six performance audits. In an effort to cut spending for fiscal year 2005, UDOT volunteered a permanent decrease of funding for performance audits from \$129,000 to \$64,500. This budget cut may explain, in part, the infrequency of audits.

UDOT Could Comply with Statutory Requirements by Shifting Resources. The requirement to appoint two commission-approved performance auditors could be fulfilled by reallocating existing audit resources. Statute requires the performance auditors to have at least three years of experience in performance auditing to qualify for the positions. If the IAD has auditors who meet the qualification and are suited to the position, UDOT could propose two current UDOT auditors to the commission to fill the positions.

Independent reviews criticized the independence level of the Internal Audit Division’s internal auditors.

Appointment of Two Performance Auditors Would Help Address Past Criticism for the IAD’s Independence Level. The Office of the Utah State Auditor reported in 2013 that UDOT’s audit committee limited the IAD’s independence and effectiveness. UDOT responded by renaming the audit committee to the Audit Advisory Committee. The state auditor maintained that audit advisory committees should not be involved in audit prioritization, one of the primary activities of the UDOT Audit Advisory Committee. In addition, peer reviews conducted by the American Association of State Highway and Transportation Officials (AASHTO) criticized IAD’s level of independence, though AASHTO eventually accepted their independence as adequate under the Government Accountability

Office's standards. Assuming UDOT shifts existing audit resources from the IAD, the organizational independence of the two appointed performance auditors would satisfy these criticisms. Their placement in the organization would minimize the possibility of interference or inappropriate influence by UDOT management.

UDOT Funding Structure Creates Demand for More Independent Oversight. UDOT receives funding for operations and construction projects from earmarked sales tax revenues (Transportation Investment Fund) and restricted gasoline taxes (Transportation Fund). The performance audit function, with audits prioritized by the commission, would be in a position to provide checks on how UDOT funds are used.

UDOT Did Not Meet Statutory Reporting Requirements

Utah Code 72-1-206 states, "The performance auditors shall provide copies of all reports of audit findings to the commission, the [UDOT] executive director, and the Legislative Auditor General." UDOT's practice of using consultants in place of performance auditors did not meet statutory requirements, and the audits produced were not reported to proper government entities. UDOT reports that the commission discussed released audits at their monthly meetings; however, OLAG did not receive any of the performance audit reports.

UDOT did not send consultant performance audits to all required government entities.

UDOT's Audit Planning Can Be Improved

The IAD should develop a risk-based audit plan to help determine the priorities of the two performance auditors and the IAD's internal auditors. Audits are currently conducted in an order unrelated to their relative risk. The annual audit plan, which lists audits in the order in which they will be conducted, appears to be based on when UDOT areas were last audited and on UDOT management input. Adopting a risk-based planning process could increase the effectiveness of UDOT's audit functions by ensuring audits of high-risk areas are conducted before audits of low-risk areas. In addition, by adopting risk-based planning, UDOT would comply with statutory requirements.

Statute requires internal audit functions in Utah agencies to create risk-based audit plans.

A risk-based audit plan allows UDOT to maximize the impact of limited audit resources.

Utah Code 63I-5-401, part of the Internal Audit Act, requires that audit plans “...be based on the findings of periodic risk assessments.” It appears the IAD has neither performed these risk assessments nor incorporated them into audit planning as required by statute. As a result, UDOT is not developing annual audit plans based on relative risk and is potentially missing areas of high risk.

According to the Institute of Internal Auditors, “Risk is the possibility of an event occurring that will have an impact on the achievement of objectives. Risk is measured in terms of impact and likelihood.” Developing an annual audit plan based on risk begins with auditors gaining an understanding of the organization and all areas or processes that can be audited. This process should take place “at least annually to reflect the most current strategies and direction of the organization.” This information can then be used to create an audit plan by combining UDOT management and commission input with a risk assessment of possible audit areas. Adopting this risk-based planning approach would make the best use of limited UDOT audit resources.

Because of limited time and resources, we were able to review only a few key areas in our two UDOT audits. Programs that may need additional audit work and evaluation include the transportation technician program and IT data processing costs. We received complaints about the transportation technician program that identified areas of concern, including adequacy of training, especially as it relates to construction oversight responsibilities that directly impact project quality and safety. IT data processing costs are also concerning because of the amount of funding (\$11 million a year) and the possibility of redundant systems. An audit planning process based on relative risk of potential audit areas would enable UDOT to maximize the impact of audit resources.

UDOT Size and Complexity Suggests Stronger Emphasis on Audits Is Needed

The size of UDOT’s budget and its variety of complex functions suggest that UDOT would benefit from a greater emphasis on performance and internal audits.² Currently, UDOT’s resources

² Though not exactly the same, performance audits and internal audits are lumped together in this section. Internal auditors in an organization can conduct

dedicated to these types of audits are small compared to other Utah agencies and departments of transportation (DOTs) in other states.

UDOT's total budget averaged about \$1.450 billion annually (including pass-through funding; see *In-Depth Budget Review of the Utah Department of Transportation (2016-05)*, Chapter I) in fiscal years 2013 through 2015. UDOT lags behind other Utah agencies and other states' DOTs in the number of internal audit FTEs per billion dollars of annual budget. Figure 3.3 compares UDOT's current internal audit FTEs to the number of FTEs at other state DOTs and other Utah agencies.

Figure 3.3 Other States' Departments of Transportation (DOT) and Other Utah Agencies Have More Internal Audit Resources. UDOT lags behind other Utah agencies and other states' DOTs in the context of FTEs per-billion-dollar budget.

State DOT or Utah Agency	Internal Audit FTEs	Total Annual Budget	FTEs per \$ Billion Budget
Oregon DOT	5	\$2.184 billion*	2.3
Washington DOT	9	3.158	2.8
Colorado DOT	4	1.239	3.2
UDOT	1.4	1.450	0.9
Utah Department of Human Services	5.5	0.728**	7.6
Utah Transit Authority	3	0.481	6.2
Utah Department of Corrections	4.5	0.271	16.6

Source: Other state DOT annual budgets, other Utah agency budget reports

* Other state DOTs and UDOT annual budgets are based on an average of FY2013 through FY2015.

** Utah agency budgets are for FY2015.

Other Utah agencies have significantly more internal audit FTEs per billion dollars of budget.

All Utah agencies listed have more internal audit FTEs per dollar than UDOT.

A large variety of complex transportation-related functions fall under UDOT responsibility. These include areas related to road construction and maintenance (engineering, construction, inspections, project management), multiple procurement functions, right-of-way (purchase of homes and management of property where future roads will be built), and traffic and safety. An organization with so many internal divisions and diverse responsibilities could benefit from

performance audits, as UDOT has in some instances. Utah statute provides a definition of internal audits that is similar to the GAO definition of a performance audit.

regular evaluation afforded by a greater emphasis on performance and internal audits.

Recommendations

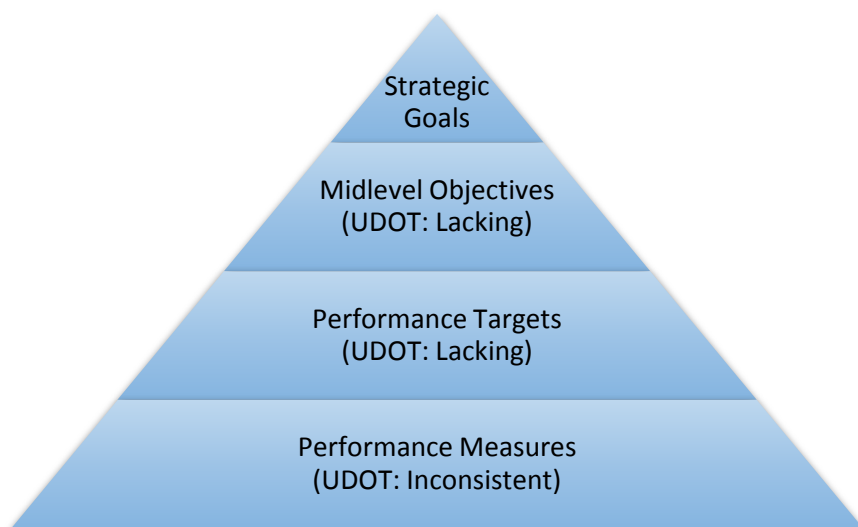
1. We recommend that UDOT and the Utah Transportation Commission appoint and confirm at least two independent performance auditors per statutory requirements.
2. We recommend that the Utah Transportation Commission prioritize audits to be done by the two appointed performance auditors.
3. We recommend that the internal audit section of the Internal Audit Division implement a risk-based audit planning process.
4. We recommend that UDOT increase its emphasis on conducting internal and performance audits.

Chapter IV

UDOT Performance Reporting Lacks Consistent Goals and Measures

UDOT's *Strategic Directions* report to the Legislature on goals and measures contains broad goals but lacks midlevel objectives. Many of the performance measures reported also lack immediate targets or expected performance, and most performance measures are reported inconsistently from one year to the next. To illustrate the relationship between goals, objectives, targets and measures, Figure 4.1 shows a typical performance-reporting hierarchy.

Figure 4.1 Performance Planning and Reporting Aligns Strategic Goals with Objectives, Targets, and Performance Measures. UDOT reports strategic goals; however, objectives and targets are lacking, and measures are inconsistent.



Source: Auditor generated – Adapted from federal statute and department practices

Figure 4.1 illustrates a typical performance-reporting structure where strategic goals are translated into measurable objectives and targets. The figure also shows that UDOT needs improvement in terms of objectives, targets, and measures.

UDOT performance reports are important to at least provide general information on UDOT's progress toward goals. While UDOT's past *Strategic Directions* reports were not intended by management to be used as an accountability tool, we recommend that

Performance reporting should include strategic goals, midlevel objectives, and performance targets and measures.

UDOT modify its existing performance reports with accountability in mind.

UDOT Reporting Lacks Midlevel Objectives

UDOT *Strategic Directions* reports show strategic goals but lack midlevel objectives that measure progress toward these goals. The U.S. Department of Transportation (USDOT) shows midlevel objectives feeding into their long-range strategic goals. For example, USDOT has environmental sustainability as one of its strategic goals with three midlevel objectives: promote energy efficiency, mitigate environmental impacts, adapt to climate change. State and local government best practices reinforce such reporting.

UDOT Strategic Directions Reports Omit Midlevel Objectives for Its Three Strategic Goals

The *Strategic Directions* annual report is UDOT's main report to the Legislature and the public for communicating department goals and performance measures. The report identifies the department's vision and mission and categorizes additional information according to three strategic goals:

- Zero crashes, injuries, and fatalities
- Preserve infrastructure
- Optimize mobility

The report contains some discussion for each goal and the efforts conducted toward them, but it lacks midlevel objectives or goals feeding into the three goals. For example, UDOT reports the goal of zero crashes, injuries, and fatalities, but it does not report any midlevel objectives like reducing human error injuries and fatalities or improving traveler behavior-based safety. UDOT often states that zero crashes, injuries, and fatalities is the only acceptable goal. While understandable, that goal does little to make UDOT accountable for its yearly progress in alleviating injuries and fatalities.

UDOT could set midlevel objectives to impact its zero fatalities goal. For example, UDOT understands that while a relatively small percentage of the population does not wear seatbelts, roadway fatalities are much more likely to occur when motorists do not wear

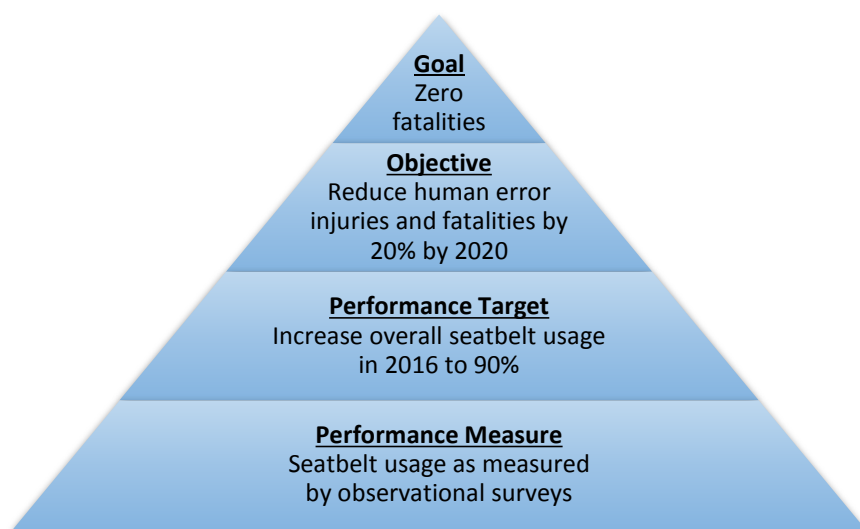


UDOT's strategic goals are: zero fatalities, preserve infrastructure, and optimize mobility.

UDOT performance reports lack midlevel objectives aligned with UDOT's strategic goals.

seatbelts. Understanding that relationship, UDOT could set a broad objective to reduce human-error fatalities and injuries while also targeting and reporting goals to increase seatbelt usage. Using the model from Figure 4.1, Figure 4.2 illustrates a possible midlevel objective.

Figure 4.2 Reducing Human Error Injuries and Fatalities Is an Example of a Midlevel Objective. In this example, the objective also includes a longer-term quantifiable target.



Source: Auditor generated - Example based on discussions with UDOT management

Supplementing the human-error objective is a seatbelt usage performance target for the following year and a description of the measure to be used. In this way, UDOT could measure and report efforts to reduce fatalities.

Reducing fatalities is a common theme among transportation departments. Almost all of the peer transportation departments we reviewed had goals or objectives to reduce traveler fatalities. Most departments also included annual targets for fatality reductions.

Federal Practices Demonstrate Importance of Midlevel Objectives

Federal statute and practices show the importance of setting midlevel objectives. USDOT reports key objectives and performance targets for each strategic goal. USDOT reported five strategic goals in 2015. Within each of those goals, the department identified midlevel objectives as well as performance targets and measures for each

Reducing human error injuries and fatalities is an example of a midlevel objective aligned with UDOT's zero fatalities goal.

Well-defined and measurable objectives are essential to identify progress toward achieving strategic goals.

objective. In its 2015 report, USDOT described each strategic goal and midlevel objective extensively, providing explanation on the strategies to be used to impact each of the objectives.

Reports like those from USDOT are statutorily required of all federal departments. The Government Performance and Results Modernization Act (GPRAMA), established in 2011, requires federal agencies to develop strategic plans. The plans must contain general goals and objectives, including outcome-oriented goals, for the major functions of the agency.

Such practices and statutes reflect the findings reported in one study of state and local government performance management. The study recommends a performance-management system which begins by defining the organization's priorities that will drive performance. Essential to the process are well-defined and measurable objectives to identify progress toward achieving the organization's priorities. Both the study and statute state that goals and objectives should be reported publicly.

UDOT reported to us that their reports were more comprehensive in the past, but that there was little appetite for that much information. Oregon's transportation department addressed this issue by making a one-page, double-sided condensed report. This report highlights agency goals, measures, targets, and past performance. It also includes a report of whether or not the agency met its previous targets. See Appendix A for a recent example.

Most Strategic Directions' Measures Lack Target Reporting

UDOT lacks performance targets for a majority of the measures reported in the *Strategic Directions* report. USDOT and other states' transportation departments show targets being used for all performance measures. For example, within its roadway safety objective, USDOT reports five performance measures, each with an annual performance target. Those performance targets help decision makers identify whether the department is progressing toward its stated goals.



UDOT Reported Performance Targets for Only Forty-Six Percent of Its Performance Measures

UDOT reports performance targets or projections for less than half of its performance measures. The UDOT's *Strategic Directions* report contains performance measures for each of its strategic goals. Some measures, such as snow and ice removal, include the performance targets for that year, but neglect to report targets for the future (i.e. the next year). Other measures contain UDOT's recommended targets for Utah's road conditions, but more for the purpose identifying funding needs. Overall, UDOT's 2016 report contains targets for only 46 percent of performance measures.

UDOT's current targets focus primarily on road preservation performance measures. UDOT tracks the condition of its roads and makes future projections based on funding levels. UDOT also tracks maintenance efforts on road condition and reports the year's performance targets for specific maintenance activities.

Conversely, in many cases, UDOT devotes resources to impacting performance measures without setting targets. For example, UDOT tracks seatbelt usage and has reported an upward trend from past years. However, UDOT does not report performance targets for future seatbelt usage based on its public awareness campaigns or other efforts.

UDOT also tracks traffic conditions and traffic signal optimization but neglects performance targets for both. In 2016, UDOT reported the traffic delay by county to show commute reliability but did not set future delay targets. While displaying traffic delay can be useful, decision makers might be better served by understanding what impact UDOT expected to have on traffic delay and whether UDOT met its performance targets.

In a related performance measure, UDOT sometimes reports the percentage of cars arriving at a specified intersection on a green or a red light. In this case, UDOT does not give any indication what an optimal level should be or how they expect to impact the performance measure in the future. While that information is helpful, decision makers would be better served by seeing UDOT's performance targets and whether or not performance met expectations.

In 2016, UDOT reported performance targets for only 46 percent of its performance measures.

USDOT reports performance targets with all its performance measures.

Federal and State Best Practices Show Performance Targets for All Measures

GPRAMA statute requires that not only must federal departments report goals and objectives, they must also provide performance targets for the performance measures used. Departments must set annual performance targets that define the level of performance to be achieved for the next two years.

USDOT reports comply with federal statute by reporting performance targets for each of its measures. Performance measures are reported with four to five years of past performance history and with performance targets for each measure. The report also clearly indicates whether USDOT met the performance targets for that year.

The transportation departments in Washington, Oregon, Colorado, and Nevada also produce annual reports with performance targets. They report at least one measure for each goal, including performance targets and past performance for each measure. Oregon also offers that information in a two-page condensed report, likely to make it more accessible for the public and decision makers.

UDOT Should Consistently Report Performance Measures

UDOT's performance measures are reported inconsistently. An analysis of six years of UDOT's *Strategic Directions* reports showed that most performance measures were only reported once. Best practices show that consistent reporting of performance measures increases accountability to decision makers. Consistency in reporting does not prohibit occasional changes, but those changes should be exceptions to an otherwise consistent report.

UDOT Performance Measures Are Reported Inconsistently

UDOT's public reports consistently reports on just a few performance measures year to year. Our analysis of *Strategic Directions* reports from 2011 to 2016 found that only four measures were reported consistently. Those measures were fatalities, total delay hours, interstate condition, and bridge condition.



The majority of UDOT's performance measures (38 of 72) were reported only once in the last six years. This selective measure reporting increases the likelihood that decision makers and the public will be unable to hold UDOT accountable for year-to-year performance for many UDOT activities.

Most UDOT performance measures were reported only once in the last six years.

As stated at the beginning of this chapter, we believe UDOT did not intend its *Strategic Directions* reports to be used as an accountability tool, but rather as a public relations tool. Consequently, UDOT reports provide much information about activities and strategic goals, but they lack consistent performance measures.

Reporting Should Be Relatively Consistent

Performance measures should be used to identify progress toward clearly defined objectives. One study on public management stated that measures should be sufficiently consistent to gain a complete picture of programs' effectiveness. It also stated that significantly altering performance measures year after year inhibits organizations' accountability.

Significantly altering performance measures year after year inhibits organizational accountability.

UDOT's *Strategic Directions* report already contains much of the content and structure needed to implement an accountability report. Integrating this chapter's recommendations into the existing report will serve to provide the Legislature and the public with greater opportunities for discussion and follow-up regarding UDOT performance. The recommendations will also bring UDOT into line with USDOT and other states at the forefront of performance reporting.

Recommendations

1. We recommend that UDOT include midlevel objectives in performance reporting.
2. We recommend that UDOT provide performance targets for most, if not all, performance measures.
3. We recommend that UDOT significantly increase consistency of performance measures reported.

This Page Left Blank Intentionally

Chapter V

Motor Carrier Division Civil Penalties and Appeals Lack Administrative Rule

Utah statute allows UDOT's Motor Carrier Division (Utah MCD) to assess civil penalties or fines against Utah-based motor carriers for all violations of motor carrier regulations. No administrative rule or UDOT policy provides guidance for the civil penalty assessment process. As a result, outside parties may not understand how this process works, including the number or type of violations for which civil penalties are assessed. The Utah MCD relies on unwritten policies to make these decisions. The civil penalty appeals process that occurs after civil penalties are assessed also needs additional clarification.

The Utah MCD's mission is to enhance highway safety, preserve Utah's highways, and facilitate commerce. It regulates trucking companies and other large commercial vehicle operators, also known as motor carriers. It also operates ports of entry near state borders, inspecting motor carriers to ensure they are operating safely and according to regulations. The Utah MCD conducts safety audits and compliance reviews of motor carriers, which involve thorough investigations into motor carrier company documents, vehicles, drivers, and practices. The audits and reviews also help educate motor carriers on compliance requirements. Civil penalties are assessed based on the findings of the compliance reviews.

The Motor Carrier Division's mission is to enhance highway safety, preserve highways, and facilitate commerce.

Civil penalties are assessed based on the findings of compliance reviews.

Civil Penalty Assessment Lacks Transparency and Administrative Rule

The Utah MCD appears to be assessing civil penalties according to broad statutory requirements. Utah MCD practice, however, is not grounded in existing rule or policy and, therefore, lacks transparency. Administrative rule should explain the process, including the factors that influence civil penalties, such as the number and type of violations. In the absence of administrative rule, motor carriers may not know how their civil penalties are assessed. While the Utah MCD's practices appear to be consistent with some practices of other states and aspects of the Federal Motor Carrier Safety Administration

Unwritten policies introduce risk that the Motor Carrier Division could treat motor carriers inconsistently and unfairly.

When penalties are assessed, motor carriers are initially only told their violations and penalties.

(FMCSA)³ practices, valid procedures should be formalized in rule. Having these practices exist as unwritten policies, as they currently do, introduces risk that the Utah MCD could treat motor carriers inconsistently and unfairly. The Utah MCD could also adopt by administrative rule a civil penalty assessment system similar to the federal government's in order to enhance transparency and consistency.

Utah adopted federal motor carrier regulations (but not FMCSA civil penalty assessment procedures) through administrative rule. Among the many regulations, Utah motor carriers are required to maintain accurate driver logs, ensure proper licensing of drivers, and conduct proper truck maintenance. Motor carriers are made aware of federal regulations when they obtain a United States Department of Transportation number (a requirement for all Utah motor carriers). Civil penalties are used to encourage compliance with these regulations.

Civil Penalty Calculation Lacks Transparency

The process of determining civil penalties does not appear to be transparent to motor carriers. Utah MCD should codify its civil penalty determination process through administrative rule to increase transparency and predictability for motor carriers. Currently, when a notice of agency action (formal communication used when assessing penalties) is sent to motor carriers, the Utah MCD communicates the violations that were found during a compliance review and the total civil penalty that the motor carrier will be assessed. No additional information is provided about the process used to calculate the civil penalty amount. Formalizing the penalty process in rule would also ensure greater consistency as Utah MCD staff and leadership change over time.

Civil Penalties Begin as a Calculated Amount Based on a Federal Program. The Utah MCD currently determines civil penalties by starting with a value calculated by inputting violations into a federal program known as the Uniform Fine Assessment (UFA), which takes

³ The FMCSA is part of the United States Department of Transportation. Its primary mission is to prevent commercial-motor-vehicle-related fatalities and injuries. FMCSA assesses civil penalties for all interstate motor carriers but shares this responsibility with UDOT for Utah-based motor carriers.

into account the motor carrier's violation history, motor carrier culpability, and company size. The Utah MCD adjusts this calculated amount, however, from the onset. UFA typically multiplies the per-occurrence fine amount by the number of occurrences.⁴ The Utah MCD reduces the number of occurrences used in this calculation from the actual number of occurrences observed in order to reduce the total calculated penalty. According to the Utah MCD, its unwritten policy is that one occurrence is used to calculate the fine amount for a first-time offender, regardless of the number of violation occurrences. For repeat violations, the Utah MCD increases the number of occurrences used. This process is not codified in administrative rule and thus lacks transparency.

The Utah MCD Director Then Adjusts the Calculated Amount Based on Several Factors. Factors used to determine the fine amount include the knowledge base⁵ of the motor carrier and the motor carrier's willingness to comply with regulations. The director also adjusts penalties to ensure the size is large enough to encourage future compliance but not so large as to put a motor carrier out of business. Taken in total, the Utah MCD tended to reduce civil penalties from the already reduced UFA calculated penalty (as mentioned above, not all violation occurrences are used in UFA calculations). Figure 5.1 shows the relationship between all UFA and Utah MCD civil penalty amounts for the last three federal fiscal years. The data indicates that the Utah MCD director reduced most UFA penalties.

The Motor Carrier Division director adjusts penalties based on several factors.

⁴ This is a simplified explanation for the way UFA fines are calculated. Other factors, such as motor carrier culpability and violation history, play into the actual calculations.

⁵ Knowledge base includes violation history and whether a motor carrier received a safety audit in the past. Knowledge base is a motor carrier's level of awareness of federal regulations.

The Motor Carrier Division director reduces most calculated civil penalties.

Figure 5.1 A Majority of Motor Carrier Civil Penalties Are Lower Than UFA Calculated Amounts. Other factors, such as motor carrier willingness to comply with regulations, tend to further reduce penalty amounts.

UFA Compared to Utah MCD Penalty	Count	Percent
UFA Fine < Utah MCD Fine	30	12%
UFA Fine = Utah MCD Fine	32	13
UFA Fine > Utah MCD Fine	185	75
Total	247	100%

Source: Motor Carrier Division civil penalty data

As shown in Figure 5.1, 75 percent of UFA penalties over the three years were further reduced by the Utah MCD director. For example, one of the reviewed documents showed the Utah MCD calculated a UFA penalty of \$25,590 for a motor carrier with five categories of acute and critical violations. The Utah MCD director reduced this penalty amount to \$10,000 before it was sent to the motor carrier. The average UFA fine for federal fiscal years 2013 through 2015 was \$6,973, which was reduced by the Utah MCD director by \$3,744 or 54 percent on average. The overall penalty data indicates the existing system favors reduced civil penalties for motor carriers.

These adjustments are not transparent to outside parties, nor are the justifications documented. The Utah MCD civil penalty amount and the violations for which penalties are assessed are the only pieces of information from the penalty assessment process that are formally communicated to motor carriers. While there is no statutory requirement for communicating additional information, greater transparency in the process would help motor carriers know what to expect if they violate regulations. This information would also help motor carriers understand how they can reduce penalties in the future.

Policy Is Unclear on Which Offenses Should Be Penalized

The Utah MCD appears to only assess civil penalties for two categories of violations and recurring lesser violations. As part of the civil penalty assessment process, the Utah MCD decides which violations merit civil penalties and how the number of violation occurrences affects penalty amounts. While its civil penalty practices are consistent with other states' and the federal government's practices, the Utah MCD does not have formal guidance for these practices. Administrative rule would inform motor carriers about the civil

penalty process and provide them with key information, such as which violations are typically fined and how the number of violation occurrences affects fines.

If the Utah MCD chooses to assess a civil penalty for an offense, the only requirement is that the penalty must fall within a specified dollar range. Utah Code 72-9-703 states that motor carriers are “subject to a civil penalty of not less than \$500 nor more than \$2,000 for each offense,” establishing a \$1,500 range for possible civil penalties. The statute also states the following: “Every violation of any provision of the constitution of this state, statute, or any rule or order of [UDOT], is a separate and distinct offense. Each day’s continuance of the violation is a separate and distinct offense.” This statutory language provides the Utah MCD with significant latitude in assessing motor carrier penalties.

Statute requires civil penalties be between \$500 and \$2,000 for each offense.

Sampled Motor Carrier Documents Indicate that Acute and Critical Violations Are Primarily Being Assessed Civil Penalties. Motor carrier violations vary in terms of seriousness and classification; however, Utah statute does not make any distinction for type of violation and there is no relevant administrative rule or UDOT policy guiding the process. Because of these gaps in formal guidance, a motor carrier may not know which categories of violations may lead to future civil penalties.

Motor carriers are primarily assessed civil penalties for acute and critical violations.

Acute and critical violations are those that either need immediate correction or are indicative of a breakdown in a carrier’s management controls. Utah MCD staff confirmed the practice of primarily penalizing acute and critical violations and stated that motor carriers with repeat lesser violations may also be fined.

Utah MCD’s civil penalty practice is consistent with practices of Washington state and the FMCSA, which both assess civil penalties primarily for acute and critical violations. Washington also assesses penalties for patterns of repeat, lesser offenses. This practice does not appear in Washington’s statute, rule, or policy. Utah motor carriers would benefit from enumerated rules on the types of violations that make them vulnerable to civil penalties.

Sampled Documents Show that Unique Violations, Not Number of Occurrences, Are Penalized. Statute defines an offense as a violation of motor carrier requirements found in the Utah Constitution, statute, and rule. Each offense may be assessed a civil

The Motor Carrier Division penalizes violations, not number of times a violation occurred.

penalty within a given range. The Utah MCD appears to be assessing penalties according to the statutory ranges; however, it is unclear how the number of violation occurrences is tied to actual civil penalties.⁶ For example, the motor carrier mentioned previously (with five categories of acute and critical violations and a \$10,000 total fine) failed to require drivers to prepare driver vehicle inspection reports in 122 instances. It appears these failures were penalized as a single offense at the maximum civil penalty amount of \$2,000, but the carrier could have been penalized from \$61,000 to \$244,000 (122 occurrences at a rate of \$500 to \$2,000 per occurrence) if each occurrence were penalized. A company with one single occurrence of driver's failure to inspect could be fined as low as \$500, but in the case above involving 122 instances, the company was fined for this violation at the highest rate of \$2,000.

As part of its overall civil penalty process, the Colorado State Patrol typically assesses a penalty for a single offense if there are multiple occurrences of the same violation. The Utah MCD appears to handle multiple occurrences similarly, but UDOT should clarify through administrative rule how the number of violation occurrences affect civil penalty calculations. Clarification through administrative rule would provide motor carriers with information about how civil penalties are determined, adding transparency to the process, and increasing the likelihood that motor carriers will continue to be treated fairly and consistently.

UDOT Could Consider Adopting a System Similar to the UFA

The civil penalty assessment process at UDOT would benefit from greater transparency and predictability. The Utah MCD could make these improvements by adopting a system similar to the one used by the federal UFA. The UFA's system calculates civil penalties consistently based on predetermined criteria.

⁶ Previous discussion in this chapter noted that the number of violation occurrences was changed in the initial UFA calculation depending on whether the motor carrier had a previous violation. This section focuses on the relationship between violation occurrences and the civil penalty actually given to motor carriers.

Adopting a system similar to the FMCSA's UFA would give the Utah MCD a transparent process based on objective criteria. The UFA system automatically calculates civil penalty amounts for interstate motor carrier violations. It was developed to promote uniformity and consistency in the assessment of civil penalties for violations of federal regulations. The FMCSA provides manuals explaining the process for calculating total civil penalties. The Utah MCD uses its own methods for assessing civil penalties to interstate carriers based in Utah, but other states rely on the FMCSA and, by extension, the UFA. Arizona, Nevada, and Idaho turn over the civil penalty process for interstate motor carriers to the FMCSA. In addition, the Colorado State Patrol has adopted a modified UFA system with its own fine schedule and algorithm. The Utah MCD currently calculates penalties similarly in some respects to the FMCSA's and Colorado's UFA systems, but adopting a similar overall system could be beneficial to the state.

Alternative, objective penalty assessment tools are available.

Civil Penalty Appeals Process Needs Further Clarification and Guidance

The civil penalty appeals process allows motor carriers to contest civil penalties. The Utah MCD appears to be meeting statutory requirements for motor carrier appeals, but the rules guiding the appeals process are insufficient. Administrative rule should clearly state the range of civil penalty reductions and valid reasons for the reductions.

A member of the Utah MCD staff hears motor carrier civil penalty appeals. This individual meets with motor carriers to discuss violations detected during past compliance reviews and the civil penalties associated with the violations. Appeals hearings include discussions about motor carriers' efforts to comply with regulations and information to help motor carriers avoid future violations. The hearings can result in a reduction to the penalty amount. During the appeals process, statute requires the Utah MCD to consider the gravity of the violation and a motor carrier's attempt to achieve compliance after notice of violation. The Utah MCD appears to be fulfilling its stated mission by educating motor carriers through the appeals process.

Motor carrier penalty appeals hearings can result in a reduction in penalty amounts.

Levels of possible penalty reductions are not stated in rule.

The Utah MCD, however, has not articulated procedures for reducing the penalty amount through the appeals process. Data on civil penalties for federal fiscal years 2013 through 2015 show that motor carriers had their penalties dramatically reduced during the appeals process. For example, the motor carrier mentioned previously (with five categories of acute and critical violations), had its total civil penalty further reduced from \$10,000 to \$1,000 through appeals. On average, civil penalties were reduced by 75 percent after appeals hearings. The Utah MCD stated they have an unwritten policy that calls for a 75 percent penalty reduction for motor carrier appeals. The basis for using 75 percent as the default penalty reduction is unclear. This practice stands in contrast to the Colorado State Patrol, which reduces civil penalties by an amount that is based closely on corrective actions taken. For every dollar spent on corrective actions (for example, instituting a drug/alcohol testing program or installing electronic driver logs), civil penalties are reduced by the same amount.

Reasons for penalty reductions are not stated in rule.

Also unclear are possible actions that motor carriers can take to merit penalty reductions and how those actions are connected to the level of reductions. In five observed appeal hearings at the Utah MCD, penalties were reduced for corrective actions taken and an error made by the inspector. This practice is consistent with other government entity practices but is not based on existing administrative rule. UDOT and the Utah MCD should establish administrative rules to govern the appeals process, including a clear process for determining the dollar amount of penalty reductions and acceptable reasons for penalty reductions. These improvements will help with consistency and transparency, regardless of whether the appeals officer changes.

Recommendations

1. We recommend that UDOT and the Motor Carrier Division adopt administrative rules for the assessment of motor carrier civil penalties to increase transparency and predictability.
2. We recommend that UDOT and the Motor Carrier Division adopt administrative rules for the motor carrier civil penalty appeals process that specify guidelines on the size of possible reductions and how those reductions are tied to actions taken by motor carriers.

Chapter VI

State Airplanes Are Subsidized and Underutilized

State airplanes are used to transport members of state government agencies and University of Utah hospital departments to areas in and outside the state with user agencies only paying the direct operating costs. However, the planes' operation and maintenance costs exceed the money charged to the user agencies. Charging agencies a fraction of the total cost of operation takes money away from airport improvement projects around the state. This inadequate cost recovery becomes more problematic when the University of Utah Hospital departments provide patient care at out-of-state hospitals. These arrangements primarily benefit out-of-state hospitals which pay the travel costs at the subsidized rates. The Legislature should consider charging higher hourly rates for flights that primarily benefit out-of-state entities.

The planes are not being utilized at levels that meet industry standards, and the pilots also appear to be underutilized. UDOT's Aeronautics Division should analyze the use of contract pilots in place of salaried pilots.

Operating State Airplanes Is Only Part of Aeronautics Responsibilities

The primary responsibility of the Aeronautics Division is to plan and fund airport improvement projects around the state. As part of this function, they work on maximizing grants from the Federal Aviation Administration (FAA) by providing matching money to local airports. The operation of state airplanes is a small part of Aeronautics' overall responsibilities and functions. The Aeronautics Division wholly owns and operates two airplanes, one King Air C-90 six-passenger plane and one King Air B200 eight-passenger plane.⁷ Figure 6.1 shows the six-passenger King Air plane owned by Aeronautics.

⁷ Aeronautics also operates a three passenger Cessna 206 jointly with the Department of Public Safety. Discussions in this chapter are restricted to the two King Air planes, unless otherwise noted. In addition to these planes, Aeronautics mechanics also service three Department of Natural Resources planes.

The primary mission of the Aeronautics Division is planning and funding airport improvement projects.

The Aeronautics Division operates two King Air planes, one six-passenger and one eight-passenger.

Figure 6.1 Six-Passenger King Air Airplane Operated by Aeronautics. The eight-passenger plane is similar in appearance.



Source: Auditor produced

State Plane Subsidies Are Benefitting User Agencies and Other States

Utah Code 72-2-126 requires Aeronautics to charge user agencies direct operating costs for the airplane used. Aeronautics is charging user agencies direct operating costs, however, the amount collected from user agencies is less than the true cost of owning and operating the state airplanes, which is concerning. We are also concerned with the practice of charging direct operating costs for state airplane use that primarily benefits other states, as is the case for much of the travel by the University of Utah Hospital staff. We recommend that the Legislature consider charging higher hourly rates for flights that benefit out-of-state entities like out-of-state hospitals.

The state airplane section of Aeronautics is funded by agency payments for plane use and airplane registration fees paid by private plane owners in Utah. The difference between expenditures and agency payments is paid for with airplane registration fees, which would otherwise be used on airport improvement projects. These

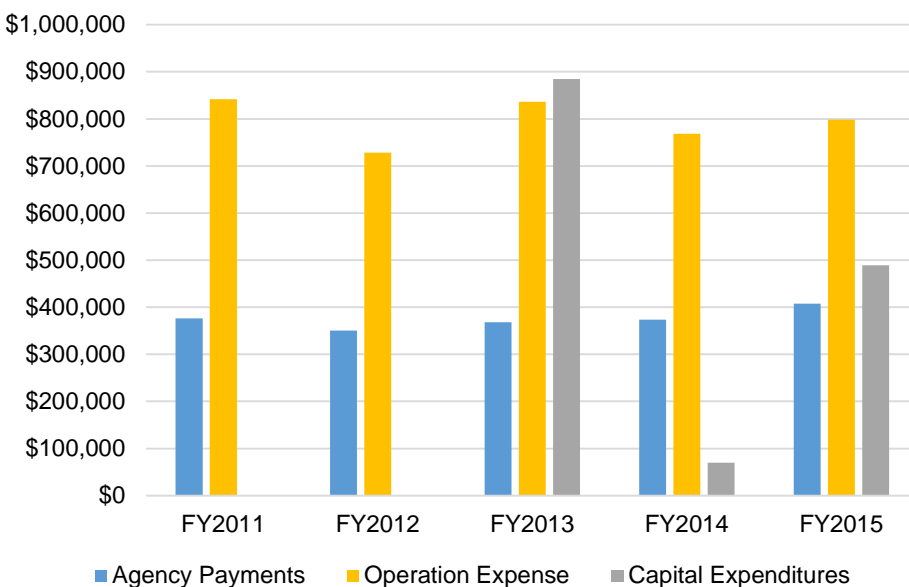
Money collected from user agencies is less than the true cost of owning and operating the state airplanes.

registration fees are paid annually on noncommercial aircraft in the state of Utah based on private airplane value.

Airplane Costs Exceed Money Paid by User Agencies

The cost of maintaining and operating the state's airplanes far exceeds the amount collected from user agencies at current plane utilization rates and hourly rates. The hourly rates for the two planes, \$935 per flight hour for the six-passenger and \$1,200 per flight hour for the eight-passenger plane, are based on direct expenses. These include fuel, pilot and mechanic salaries, and repair parts. For fiscal year 2015, payments from user agencies only accounted for 51 percent of annual operating expenditures. Figure 6.2 shows the relationship among agency payments, operation expenses, and capital expenditures in the last five fiscal years.

Figure 6.2 Annual Operation Expenses for State Planes Outpace Agency Payments. Payments only account for an average of 47 percent of annual state plane expenditures over the last five fiscal years.



Source: FINET data

The sporadic capital expenditures are for airplane upgrades and refurbishments. In August 2017, the six-passenger plane will be replaced, at an estimated cost of \$5 million. Hourly rates charged to

Aeronautics charges agencies per flight hour, \$935 for the six-passenger plane and \$1,200 for the eight-passenger plane.

The six-passenger plane is expected to be replaced in August 2017 for \$5 million.

Aeronautics charged user agencies for 15 percent of total pilot cost, assigning the rest as an indirect cost.

Out-of-state hospitals pay subsidized travel costs to receive health care from the University of Utah Hospital.

agencies for plane use do not consider periodic capital expenditures for refurbishments and plane replacement.

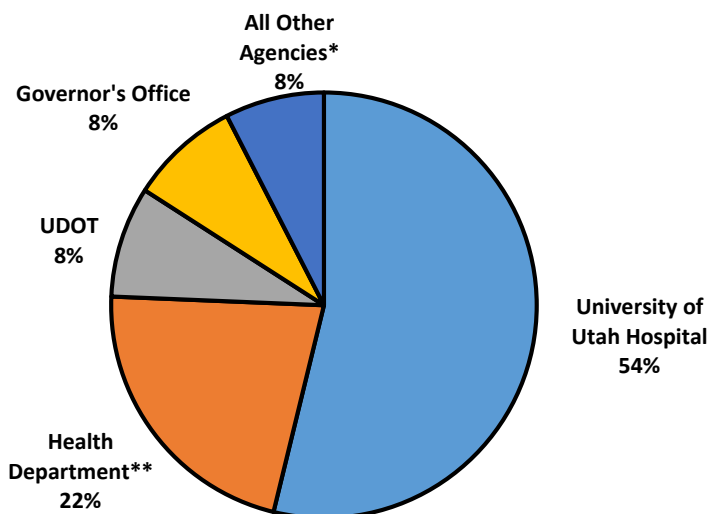
One of the main reasons operating expenditures exceed agency payments appears to be UDOT's method of accounting for pilot salaries. At the beginning of the fiscal year, pilot total costs (salaries, wages, benefits, and payroll taxes) are considered to be indirect costs of airplane use. As the airplanes are flown, these indirect costs are assigned as a direct cost at a predetermined rate. Of the \$321,566 in total pilot costs in fiscal year 2015, only \$48,319 (15 percent) was assigned as a direct cost of airplane use despite pilots not having other duties when they are not flying the planes. Total pilot cost is not strictly prorated by flight hour so Aeronautics only recoups a fraction of pilot expenses through agency payments.

Out-of-State Hospitals Are Primary Beneficiaries for Some Subsidized Travel

State airplane use appears to benefit entities in other states at the expense of Utah taxpayers. The University of Utah cardiology and pulmonary departments fly doctors to out-of-state hospitals to provide non-emergency medical services to patients. These out-of-state hospitals pay the travel costs for the trips at rates, as previously discussed, subsidized by Utah airplane registration fees. The Legislature should consider whether it wants to subsidize the use of state airplanes for travel that does not directly benefit the state of Utah.

State airplane use is concentrated in a small group of state agencies and University of Utah hospital departments. Figure 6.3 shows the top state plane users in terms of overall flight time.

Figure 6.3 University of Utah Hospital Departments Were Heavy Users of State Planes in Terms of Flight Hours. More than half of all flight time involved the University of Utah hospital.



Source: Aeronautics FY2015 flight data

*The following agencies also used the plane in a limited capacity: Trust Lands Administration, State Board of Education, Department of Human Services, Department of Natural Resources, Department of Commerce, Courts Administration, Department of Administrative Services, and Department of Workforce Services.

**The Aeronautics Division reports the University of Utah is in the process of taking over some of the responsibilities of the Health Department, increasing University of Utah flight hours and decreasing flight hours for the Health Department in the future.

State airplane use is concentrated in a small group of state agencies and University of Utah hospital departments.

The University of Utah Hospital is the heaviest user of the state airplanes, using them more than twice as much as the next largest user. Figure 6.4 displays the purposes for the flights of the most frequent users of the state airplanes. These purposes range from medical care at out-of-state hospitals to visits by the Governor to rural areas of Utah.

Figure 6.4 The Top Five Agencies Use the State Airplane for a Variety of Purposes. The planes are used for both out-of-state and in-state travel.

Agency	Purpose of Flights
University of Utah Hospital	In-state and out-of-state rural hospital visits, patient care; leadership meetings, both in-state and out-of-state, related to hospital partnerships
Health Department	Rural healthcare clinics, patient care
UDOT	Meetings of senior officials with local elected officials, Utah Transportation Commission meetings, and site visits for UDOT projects
Governor's Office	Traveling to areas far from Salt Lake County for speaking engagements and emergencies
All Other Agencies	Miscellaneous flights

Source: User agencies and the Aeronautics Division

Two specialty departments from the University of Utah Hospital were among the top state plane users in fiscal year 2015 with most of their flights benefitting out-of-state hospitals. The University of Utah cardiology and pulmonary departments accounted for 45 percent of all flight hours in fiscal year 2015 for the two airplanes. Of those flight hours, 68 percent (or 30 percent across all flight time for all agencies) was for flights to hospitals in Wyoming and Nevada.

Out-of-state hospitals are benefitting from hourly flight time rates subsidized by airplane registration fees, which are paid by Utah plane owners. Because entities outside of Utah are benefitting from these flights, we believe they should be required to pay travel costs approaching the true cost of owning and operating the state airplanes. The true cost would take into account all annual expenditures, including all mechanic and pilot compensation and benefits, as well as budgeted future capital expenditures. The chief financial officer for University of Utah Hospitals and Clinics believes out-of-state hospitals should pay a higher rate and that the higher rates will not affect airplane usage for these trips.

State Airplanes and Pilots Are Significantly Underutilized

The airplane industry looks at utilization rates when measuring how efficiently an airplane is used. According to this measure and industry standards, Utah's state airplanes are being underutilized.

Out-of-state entities should pay travel costs approaching the true cost of owning and operating the state airplanes

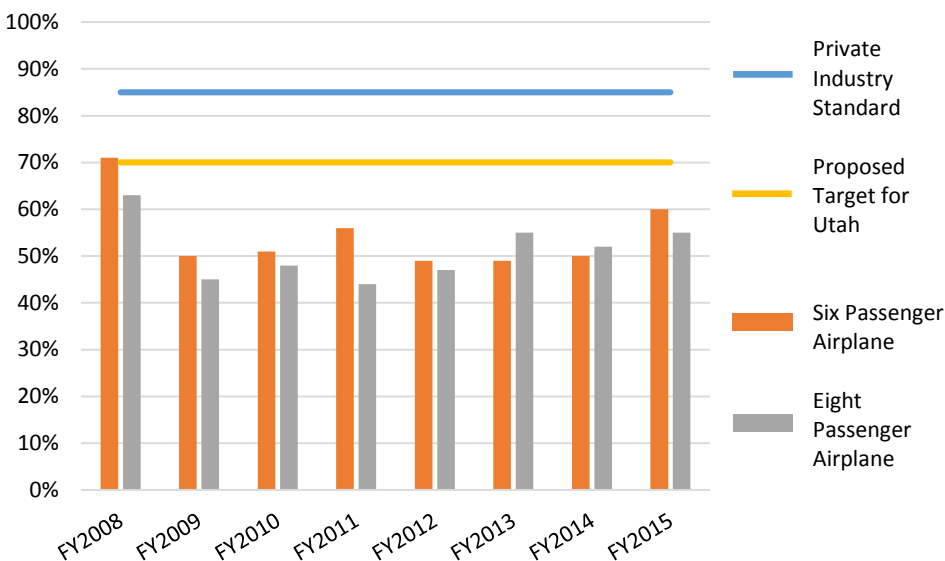
Aeronautics pilots appear to be underutilized as well. UDOT should conduct an analysis that compares the cost of contract pilots to salaried pilots to determine which option is more cost effective.

Plane Utilization Rates Fall Below Industry Standards

State agencies are using state planes below levels typically found in private industry. This low usage creates inefficiencies because capital costs are fixed, regardless of the usage rates, and other expenses are not strictly prorated by flight hours. The underuse of the planes contributes to annual budget deficits.

Airplane usage rates are defined as the days a plane is in use divided by the days it is available for use. Days available for use do not include scheduled maintenance days, weekends, or holidays. Figure 6.5 shows the usage rates for the six- and eight-passenger planes for fiscal years 2008 through 2015.

Figure 6.5 State Airplane Usage Rates Fall Below Industry Standards. Rates have been at or below 60 percent since fiscal year 2009.



Source: Aeronautics data

According to a 2008 UDOT audit performed by a private consultant, private sector industry norms for this type and purpose of airplane are close to 85 percent. The same audit expressed the opinion that a 70 percent usage rate would be a reasonable target for Aeronautics' airplanes. Based on current agency demand for air travel, this rate may

The underuse of state airplanes contributes to annual budget shortfalls and the need for subsidization.

State airplane usage rates fall below private industry and proposed Utah Aeronautics standards.

State planes were used a small fraction of the available time on days they were flown.

Many flights are day trips, with no flights during the time waiting for return flights.

not be achievable. A usage rate of 70 percent was achieved by one of the two airplanes in fiscal year 2008, but neither plane has exceeded a 60 percent usage rate since then. In fiscal year 2015, Aeronautics used the six-passenger plane on 111 separate days and the eight-passenger plane on 129 separate days. Aeronautics used both planes on 52 separate days.

Utilization Rates May Overestimate State Plane's Usage.

Because the usage rate is calculated based on days (days in use and days available), it does not capture how much a plane is used within a given day. Utah's state airplanes appear to be underutilized on the days that they are used. In fiscal year 2015, the six-passenger plane was flown on average for 2.1 hours and the eight-passenger plane was flown for 1.8 hours on the days they were used. Given a typical eight-hour work day, the planes were flown a small fraction of the available time on days they were used.

Low airplane usage within a given day naturally flows from the nature of the trips taken. Many flights are day trips, with the planes on the ground for a large portion of the day, waiting for the return trip. There are no flights that can be taken during this waiting time. Considering total trip time for the two planes (flight time plus waiting at destinations), the six-passenger plane was only flown for 21 percent of the time away from Salt Lake City, while the eight-passenger plane was flown 18 percent of the time away. In total, the two planes spent 81 percent of their time away from Salt Lake City on the ground, waiting for return flights to take place.

Increased Plane Usage Would Decrease Annual Budget

Deficits. As mentioned previously, compensation for pilots is not strictly prorated by number of flight hours. For example, direct pilot expense was assigned as a direct cost at a rate of \$43.53 per flight hour per pilot for fiscal year 2015. Most pilot costs remained as indirect costs at the end of the fiscal year and were not charged to user agencies. Higher usage rates would bring in additional agency payments to defray some of the costs that are not being assigned as direct costs.

Salaried Pilots Have Limited Work

Aeronautics' salaried pilots also appear to be underutilized. These pilots do not perform other official duties while not flying airplanes, opening up the possibility that contracted pilots might be a cheaper alternative. Aeronautics should analyze the use of contract pilots instead of salaried pilots to determine if there are opportunities for cost savings.

Low plane utilization rates and the nature of trips taken appear to contribute to the low utilization of pilots. The two planes were only flown 55 percent and 60 percent of the available days in fiscal year 2015. On the days that the planes were not flown (available days and days when the planes were scheduled for maintenance), pilots did not have any official duties despite receiving salaries.

Aeronautics currently uses three salaried pilots and contract pilots as needed. Taken together, pilots at Aeronautics represented 3.42 full-time equivalent (FTE) positions in fiscal year 2015. The pilots logged 847 flight hours and 3,615 hours of time waiting for return flights, combining for 4,462 hours of time in fiscal year 2015. In addition to the flying and wait times, pilots conduct pre- and post-flight work (tracking weather and inspecting the airplanes) that require them to arrive an hour before a flight leaves Salt Lake City. The combined flight time, time waiting, and pre- and post-flight work is 2.35 FTEs performed by 3.42 FTEs.

Pilots have few tasks and do not have regular working hours when they are not flying, leading to significant down time on days when no flights are scheduled and during day trips when they have to wait for return flights. Pilot down time appears to be a problem for salaried pilots of government planes in other states and there may not be a good solution. Finding tasks for salaried pilots during their relatively unpredictable flight schedule is difficult. As an alternative, Aeronautics could use contract pilots and avoid paying pilots on days when there are no flights. Aeronautics should conduct an analysis to determine whether contract pilots should replace salaried pilots. The need for a cost/benefit analysis is similar to that discussed in Chapter III of the *In-Depth Budget Review of the Utah Department of Transportation (2016-05)*.

Aeronautics should analyze the use of contract pilots instead of salaried pilots.

Salaried pilots experience significant downtime, but assigning other tasks may be difficult.

Recommendations

1. We recommend that the Utah Legislature consider charging higher hourly rates that approach the true cost of owning and operating an airplane for flights that benefit out-of-state entities to ensure Utah plane owners are not subsidizing other states.
2. We recommend that the Division of Aeronautics analyze the use of contract pilots in place of salaried pilots.

Appendices

This Page Left Blank Intentionally

Appendix A
Oregon Condensed Performance Report

This Page Left Blank Intentionally

Policy goal/Key Performance Measure	Previous Reporting period	Current Reporting period	Goal	Goal met (w/in 10%)	Progress Made	Comments
Safety – Engineering, educating, and enforcing a safe transportation system						
Number of traffic fatalities per 100 million vehicle miles traveled (VMT) in Oregon	1.02	.93	.90			Since 1999, Oregon's fatality rates have been consistently below the national average (Currently 1.14)
Number of traffic injuries per 100 million vehicle miles traveled (VMT) in Oregon	108.78	98.38	70	---		A system change in 2011 resulted in an increase of over 15% for injury and property damage data making it into the crash data file.
Percent of traffic fatalities that involved alcohol	37%	41%	35%	---		According to 2013 NHTSA statistics, Oregon is #7 in the nation for lowest alcohol-related fatalities.
Percentage of all vehicle occupants using safety belts	98%	98%	97%			In 2014, Oregon's observed safety belt use rate was reportedly 97.75%. The national average is 87%.
Number of large truck (commercial motor vehicle) at fault crashes per million vehicle miles traveled (VMT) in Oregon	.42	.44	.37	---		In 2013, Oregon ranked #1 in the nation, as inspectors placed 13.2 percent of drivers out of service for critical safety violations. The national rate is 5.5 percent. Most truck-at-fault crashes are caused by speeding, tailgating, or changing lanes unsafely.
Number of highway-railroad at grade incidents	9	14	11	---		Oregon has been in or near the top 20 states for least number of motor vehicle incidents at public crossings.
Number of train derailments caused by human error, track, or equipment	20	23	25			Some increase may be attributed to increased train volumes as the industry recovers from the recession.
Percent of public satisfied with transportation safety	83%	81%	74%			For the last three consecutive years, public opinion survey shows that over 80% of Oregon travelers feel safe on our roads.
Employee disabling (time loss) claims rate per 100 ODOT employees	2.1	2.1	1.7	---		A comprehensive review of operations where workers are near moving equipment is underway. Changes in procedure and training will be implemented in 2015.
Mobility and Economic Vitality – Keeping people and the economy moving						
Hours of travel delay per capita per year in urban areas	24	24	22			This statistic reflects Portland, Salem & Eugene metropolitan areas.
Average number of transit rides per each elderly and disabled Oregonian annually	19	20	24	---		Increases in the population of older adults continue increase demands.
Number of rail service passengers	215,096	210,901	208,590			Since 2004, passenger rail ridership has increased by more than 92,000.
Percent of Oregon communities of 2.5K+ with intercity bus or rail passenger service	94%	95%	95%			Intercity bus connections remain steady.
Percent of Oregonians who do not commute alone to work during peak hours**	33%	30%	35%	---		Education and awareness of alternatives to commuting alone can affect change.
Percent of lane blocking crashes cleared within 90 minutes	80%	81%	100%	---		Clearing lanes is occasionally delayed due to accident investigations. Traffic incidents account for about 25% of the congestion on the highway system.

Preservation – Preserving and maintaining the transportation infrastructure

Percent of pavement miles rated “fair or better” out of total miles on ODOT highway system

87%

87%

87%



ODOT’s pavement programs resurface less than one-half the need and higher cost projects can’t be completed with available funds.

Percent of State highway bridges that are not distressed

78%

78%

78%



After 2017, bridge conditions will decline exponentially. To maintain current bridge conditions through 2030, funding to state bridges would need to be tripled.

Sustainability – Sustaining the environment and communities

Number of priority culverts that need work to improve fish passage

190

190

189



In the next 4 years, approximately 1/2 its annual budget will fund storm water runoff retrofit projects.

Percent of urban state highways with bike lanes and sidewalks

43%

38%

48%



ODOT is making strategic investments where communities have identified the greatest need. As with most new measures, additional data will be needed over time to better understand facility-level practices and trends.

Percent of ODOT sustainability performance measures maintaining steady or trending positive

93%

93%

90%



Stewardship – Maximizing value from transportation investments

Number of jobs sustained as a result of annual construction expenditures

11,700

10,138

10,600



The 2013 model update calculated the 2013 fiscal year jobs impact factor at 10.5 jobs per \$1M. The fiscal year 2015 jobs impact factor decreased to 10.1 jobs per \$1M, due to inflation.

Percent of projects going to construction phase within 90 days of target date

96%

99%

90%



In 2014 ODOT continued to exceed the 90% goal with 99% being on time.

Percent of projects with construction phase completed within 90 days of original date

76%

88%

80%



2014 results (88%) surpassed the goal of 80% the first time since measurements started.

Percent of original construction authorization spent

106%

100%

99%



On average, overall project construction expenses are within 100% of their original authorization over the last 13 years.

Percent of ODOT contract dollars awarded to Disadvantaged Business Enterprise (DBE) businesses

9.0%

8.7%

16.95%



The ODOT DBE Program is in the top half of the state reviews (45 to date).

Percent of ODOT customers who are satisfied with services

90%

89.5%

90%



Variations in results between 2006 and 2012 are not statistically significant and have been near the target of 90%.

DMV Field office wait times (minutes)

16 mins

15 mins

11 mins



Increase due to higher volumes and agency staff reductions. ODOT proposes a new measure better reflecting the average customer experience.

DMV Phone queue wait times (seconds)

50 sec

41 sec

45 sec



ODOT continues to focus on providing consistent telephone answer time and cost-effective service from three contact centers.

Vehicle Title transaction turnaround time (days)

23 days

24 days

19 days



Agency is developing business processes to reduce the title wait time as transaction volumes increase.



Progress since last report



Regression since last report



Progress remains unchanged since last report

Agency Response

This Page Left Blank Intentionally



State of Utah

GARY R. HERBERT
Governor

SPENCER J. COX
Lieutenant Governor

DEPARTMENT OF TRANSPORTATION

CARLOS M. BRACERAS, P.E.
Executive Director

SHANE M. MARSHALL, P.E.
Deputy Director

July 19, 2016

John Schaff, Auditor General
Office of the Legislative Auditor General
Utah State Capitol Building
350 North State Street
Salt Lake City, UT 84115

Dear Auditor General Schaff:

SUBJECT: A Performance Audit of the Utah Department of Transportation

Thank you for the opportunity to respond to **A Performance Audit of the Utah Department of Transportation** (Report #2016-06) produced by your office.

We appreciate the effort and research on the part of your team in its audit and recommendations for the Utah Department of Transportation (UDOT). Your team was very diligent in their review of our organization, and we appreciate the opportunity for our employees to share their knowledge and observations as part of that process.

Two of UDOT's emphasis areas are Innovation and Quality. We are committed to continual improvement, and the process of working with your team provided a unique chance to look inward and also receive external feedback regarding areas that provide opportunity for progress.

Again, thank you for the hard work and spirit of improvement embodied by your team. Please find attached responses to the recommendations listed in **A Performance Audit of the Utah Department of Transportation**.

Please do not hesitate to contact me with any questions or comments regarding our response.

Sincerely,

A handwritten signature in blue ink that reads "Carlos M. Braceras".

Carlos M. Braceras, P.E.
Executive Director

CMB/EW/dej
Enclosure

Chapter II: UDOT Bidding Practices Can Be Improved

UDOT Response to Recommendations

- 1. We recommend that UDOT identify and/or develop additional reliable and objective criteria to identify contractors' performance quality.**

We agree that reliable and objective criteria to identify contractors' performance would benefit future UDOT projects. The current system for pre-qualification is designed to include contractor ratings in the determination of eligible bidding capacity. This rating is based partly on the past performance of the contractor on UDOT projects; however, this rating includes subjective assessments, which are not as reliable as more objective criteria. Further, assessments are post-mortem and, therefore, add no value to the current project. UDOT is investigating a pre-qualification process based on a proactive approach in which contractors are required to have a quality plan that meets the needs of UDOT.

- 2. We recommend that UDOT implement a process in DBB projects by which objective performance criteria will affect contractors' ability to qualify for and/or win future project bids.**

UDOT agrees there is value in finding reliable and objective ways to measure performance and incorporate those measures in the pre-qualification and bidding processes. UDOT's processes—both internally in Policy & Procedure and externally in the Standard Specifications—align with State and Federal standards, AASHTO standards and industry best practices.

Although Utah Procurement Code allows two-stage bidding (or one-stage using objective criteria), such pre-qualification typically relies on subjective assessments, including those alluded to in the audit. Subjectivity is neither reliable nor objective. The goal of UDOT's pre-qualification is to measure contractors as objectively as possible (e.g. financial ability/stability).

Quality has been incorporated into UDOT contracts through mechanisms not mentioned in the audit. Many of the materials provided by a contractor (steel, concrete, asphalt, and others) are prequalified using quality management plans. These suppliers must demonstrate compliance with quality management principles, and the properties of certain products are validated by subsequent Department testing. Further, UDOT ensures the quality of highest-risk products (fill, asphalt, and concrete) through rigorous sampling and testing. Quality in UDOT is an area that is scrutinized and approved by FHWA, whose evaluation is founded on the best management practices of quality management.

Federal regulation has historically stipulated, “Federal-aid contracts shall be awarded only on the basis of the lowest responsive bid submitted.” (23 CFR 635.114). Any deviation from the federal regulation has required an experimental process called Special Experimental Project (SEP-14). SEP-14 entails extensive analysis and reporting to validate feasibility of future implementation.

UDOT is currently in a SEP-14 process for two projects. These projects have developed a “quality factor” that is based wholly on objective, historical, testing data. This experimental process is nationally recognized as one of the first bidding processes to include completely objective quality data. This demonstrates UDOT’s commitment to incorporating reliable and objective quality criteria into the bidding process.

UDOT has a history of using the SEP-14 process to recognize value (increase quality and allocate risk to the party best able to manage it) in the bidding process, such as design-build. UDOT was a pioneer in design-build in transportation projects beginning in 1995 for the I-15 Reconstruction in Salt Lake City. Design-build is now recognized in federal regulation as an acceptable delivery system. UDOT also followed SEP-14 to develop a process for Construction Manager General Contractor (CMGC). The Federal Highway Administration has recognized CMGC as an operational technique that no longer requires special approval. Based on previous SEP-14 successes, it is reasonable to expect UDOT’s current SEP-14 projects will lead to acceptance for future implementation of a quality factor in pre-qualification .

Chapter III: UDOT Is Not Following Statutory Audit Requirements

General Comments on the Chapter:

UDOT believes the intent of the relevant statute (72-1-2016) was met by conducting performance audits with consultants and implementing the results, but agrees the outlined process has not been followed.

UDOT Response to Recommendations

- 1. We recommend that UDOT and the Utah Transportation Commission appoint and confirm at least two independent performance auditors per statutory requirements.**

UDOT agrees that two independent performance auditors would be of benefit to our organization. The Department is in the process of reassigning one of our current internal auditors to become one of the two independent performance auditors. We are also moving forward with the hiring process for a second independent performance auditor. UDOT expects to complete this hire within the next few months.

- 2. We recommend that the Utah Transportation Commission prioritize audits to be done by the two appointed performance auditors.**

UDOT agrees that the Transportation Commission, working with UDOT, should prioritize audits to be done by the two performance auditors. Currently, an Audit Advisory Committee, whose purpose is providing independent oversight and input to the Department's Executive Director and Audit Division, is comprised of the Transportation Commission Chair, UDOT's Executive Director, UDOT's Internal Auditor and one outside independent person. This audit committee has recommended and prioritized the performance audits. Audit prioritization processes will be modified to fully comply with state requirements.

- 3. We recommend that the internal audit section of the Internal Audit Division implement a risk-based audit planning process.**

UDOT agrees that a risk-based planning process is the most efficient way to utilize the resources of the internal audit section of UDOT, and we will implement a formal risk-based planning process for prioritizing internal and compliance audits. UDOT will also develop a risk-based planning process for making performance audit recommendation for consideration by the Transportation Commission. While UDOT does not have a formal risk-based audit process documented, the Audit Advisory Committee has set the work plan for the internal audit each year. The work plan was discussed prior to each upcoming year, and risk-based decisions were made as to which areas of the department to audit. A significant responsibility of the internal audit section of UDOT is to perform

compliance audits. These audits were also reviewed by the Audit Advisory Committee as an independent, outside view to ensure the audit was thorough, findings were fully addressed and appropriate actions were taken.

4. **We recommend that UDOT increase its emphasis on conducting internal and performance audits.**

UDOT agrees that conducting internal and performance audits throughout UDOT is valuable, even critical, to the success of a government organization. Over the past several years, UDOT has contracted many performance audits that have added value to the organization. These audits have created real change in our organization, allowing us to continue to improve and meet ever-increasing transportation demands. The Department's internal auditors provide a valuable resource to our employees. They independently conduct investigations of any internal concerns; they also audit for all manner of compliance requirements.

With two new performance auditors, UDOT will be able to work with the Transportation Commission to prioritize performance audits.

Chapter IV: UDOT Performance Reporting Lacks Consistent Goals and Measures

UDOT Response to Recommendations

1. We recommend that UDOT include midlevel objectives in performance reporting.

UDOT agrees that its Strategic Direction document does not include midlevel objectives, although this document was not intended to capture all performance measures for the entire department. The individual divisions within UDOT use midlevel objectives (tactical measures) to regularly evaluate day-to-day operations, overall performance and targets. UDOT will develop enhanced, more transparent performance reporting, in a dashboard format, that will include midlevel objectives.

2. We recommend that UDOT provide performance targets for most, if not all, performance measures.

UDOT agrees that performance targets are valuable for improving performance, transparency, accountability and successful performance reporting. Our Strategic Direction document was not intended to include every measure nor every target in our Department, in fact in certain cases trending information is more valuable. The majority of our measures within the Department have targets; however, there are some in the Strategic Direction without targets. UDOT will work to develop appropriate targets or trendlines for all measures in the Strategic Direction as well as all performance measures within the Department.

3. We recommend that UDOT significantly increase consistency of performance measures reported.

UDOT agrees that consistent performance measures are important. Our measures for our fixed assets, Bridges and Pavements—which comprise over 94 percent of our asset value—have been very consistent over the years; however, our measures for mobility have changed. As system operations (intelligent traffic systems, technology, traffic optimization) take on a more prominent role in transportation management, the infrastructure and data needs for meaningful mobility measures are evolving rapidly. On a national level, industry leaders and researchers are in the process of working to identify and develop performance measures related to mobility; UDOT staff are participating in that national dialogue.

In the meantime, UDOT has chosen to expedite the process of developing appropriate performance measures for its own organization in this evolving transportation landscape. UDOT's most recent Strategic Direction includes some of these measures as part of its continual effort to evaluate performance in a way that is consistent, reliable and meaningful.

Chapter V: Motor Carrier Division Civil Penalties and Appeals Lack Administrative Rule

UDOT Response to Recommendations

1. **We recommend that UDOT and the Motor Carrier Division adopt administrative rules for the assessment of motor carrier civil penalties to increase transparency and predictability.**

UDOT agrees that an administrative rule to clearly define the assessment of motor carrier civil penalties would be of benefit, and it is currently under development under rulemaking authority granted to UDOT in Utah Code 72-9-103. The audit was clear to point out that, while the current system may lack an administrative rule, the guidelines the Motor Carriers Divisions adheres to are within current federal and state statute.

2. **We recommend that UDOT and the Motor Carrier Division adopt administrative rules for the motor carrier civil penalty appeals process that specify guidelines on the size of possible reductions and how those reductions are tied to actions taken by motor carriers.**

UDOT agrees with the recommendation, and the rule is currently under development. The audit did point out that the process the Motor Carriers Division follows is in line with state and federal statute and that UDOT has not yet had an appeal filed with the Department.

Chapter VI: State Airplanes Are Subsidized and Underutilized

UDOT Response to Recommendations

1. **We recommend that the Utah Legislature consider charging higher hourly rates that approach the true cost of owning and operating an airplane for flights that benefit out-of-state entities to ensure Utah plane owners are not subsidizing other states.**

This is a policy decision for the Legislature. UDOT's current practice is to charge the same fee for out-of-state flights as it does for in-state flights.

2. **We recommend that the Division of Aeronautics analyze the use of contract pilots in place of salaried pilots.**

UDOT currently contracts with private pilots to supplement full-time staff pilots. Without these pilots, the Department would be unable to meet demand. UDOT will conduct a formal analysis of the use of contract pilots compared with salaried pilots.