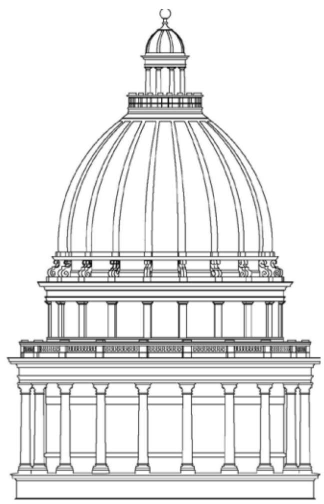
REPORT TO THE

UTAH LEGISLATURE

Number 2016-05



An In-Depth Budget Review 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

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AUDITOR GENERAL

August 2, 2016

TO: THE UTAH STATE LEGISLATURE

Transmitted herewith is our report, **An In-Depth Budget Review of the Utah Department of Transportation** (Report #2016-05). 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

John M. Schaff, CIA
Auditor General

JMS/lm

Digest of an In-Depth Budget Review of the Utah Department of Transportation

The Utah Department of Transportation (UDOT) has the general responsibility for planning, designing, constructing and maintaining the state's transportation systems. These broad responsibilities mean UDOT's functions include, but are not limited to, road construction and design, public transit in areas not served by other authorities, traffic safety, road construction assistance for municipalities, motor carrier regulation, purchase of rights-of-way for future state corridors, the operation of several state airplanes and a ferry on Lake Powell. In fulfilling its responsibilities, UDOT's budget can exceed $1 billion when large construction projects are in progress. On average, over $200 million in UDOT's budget is pass-through funds mostly for B&C Roads and Mineral Lease funds. Most of the financing comes from the Transportation Fund, Federal Funds and the Transportation Investment Fund (TIF) with most of the expenditures going to capital projects. UDOT currently has just under 1600 FTEs with the bulk of them in operations and maintenance.

Chapter II
Improved Budgetary Controls Needed

A number of longstanding Utah Department of Transportation (UDOT) budgetary and accounting practices do not fully comply with statute and/or create transparency and oversight issues. These practices include the following:

- First, UDOT's practice of having the Equipment Management line item charge approximately $30 million in rents and usage fees to regions and labeling them as dedicated credits does not comply with the statutory definition of dedicated credits. It also creates double-counting issues and results in unauthorized money transfers between line items.

- Second, Budgeting and accounting for cooperative agreements needs improvement. These agreements are rolled up into UDOT's operational budget, making it look like UDOT spends more each year than it really is spending. Cooperative agreements are contracts between UDOT and municipalities to build local road projects by accessing federal funds and UDOT's expertise. Between the federal funds, local match and local betterments these local, non-state projects average about $93.6 million in spending each year.

- Third, UDOT has oversight responsibilities for more than $126 million in B&C road funds, but it does not follow up with cities or counties to ensure compliance in spending of the funds.

- Finally, legislators need to be aware that the growth of debt service obligations and future maintenance costs could limit the ability of the Transportation Investment Fund (TIF) to fund capacity projects in the future. Debt service payments are estimated to average about $225 million between fiscal years 2016 and 2029. Maintenance transfers are estimated to range between about $7 million and $43 million in the next 10 years.

Chapter III
Outsourcing Needs to Be Evaluated by UDOT

Over the past eight years, UDOT has used more expensive consultants to do the work of vacant full time equivalents (FTEs) in some situations without adequately evaluating the costs and benefits. Managers tell us that they have been told not to rehire for vacated positions but to use consultants instead. It is difficult to determine how many former in-house positions have been filled by consultants or the overall cost of hiring these consultants, but a sample of three positions shows that consultants can cost up to three times more than in-house staff. UDOT is heavily dependent on consultants for their design, engineering and construction management and needs to analyze their costs and benefits before filling vacant in-house positions with consultants.

Maintenance costs have also been increasing, due in part to outsourcing. UDOT management has been reluctant to fill vacated equipment maintenance positions, resulting in more maintenance work being contracted out. A sample of three contracted maintenance activities shows that UDOT can perform the work more cost-effectively by using in-house employees. We recommend that UDOT evaluate the costs and benefits of outsourcing when vacated positions can be filled to accomplish the work. The higher cost of outsourcing UDOT functions means less money for roads.

Chapter IV
Contract Oversight Needs to Be Strengthened

Contractors' incorrect installation of 109 signs on SR 36 in Tooele and another dozen unsafe signs on the southern end of Bangerter Highway shows that UDOT's contract oversight needs to be evaluated. UDOT's oversight processes should have identified the incorrectly installed signs on SR36 before 109 of them were installed. Additionally, unsafe signs on Bangerter Highway were not identified as being installed incorrectly until after the project was completed. A Government Accounting Office (GAO) study reveals that as layers of contractors are used, thus increasing the distance between UDOT and actual construction, quality of projects can suffer. As the use of consultants and contracting increases, UDOT's quality assurance process will need to be reviewed to ensure projects meet specifications for quality and safety.

Chapter V
Enhanced Cooperation and Oversight Would Strengthen the Corridor Preservation Fund

The UDOT Right of Way Division (ROW) should be more proactive in working with municipalities to ensure the efficient use of Marda Dillree Corridor Preservation Fund (CPF, or the fund) monies. ROW manages the CPF, which was statutorily created to buy undeveloped land and houses in future state road corridors. However, some cities have taken actions that have greatly increased the cost of purchasing these lands. Cities that work well with ROW have been able to discourage development in corridors and reduce costs to the fund. We recommend that ROW increase outreach to municipalities to educate them on what tools they can use to protect corridors and encourage efficient use of fund monies.

While most CPF monies are used to purchase land, some funds have been used to buy homes in state road corridors. UDOT is required to purchase the property of homeowners who meet hardship requirements. These homes are then rented, which increases the CPF's balance. Due to the large amount of home assets ($12 million) and yearly rent revenues (up to $500,000), and the fact that there have been past mismanagement problems, we recommend periodic review of home asset management by someone independent of the ROW division.

REPORT TO THE

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Report No. 2016-05

An In-depth Budget Review of the Utah Department of Transportation

August 2016

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Table of Contents

Chapter I
Introduction

The Utah Department of Transportation (UDOT) has the general responsibility for planning, designing, constructing and maintaining the state's transportation systems. These broad responsibilities mean UDOT's functions include, but are not limited to, road design and construction, public transit in areas not served by other authorities, traffic safety, road construction assistance for municipalities, motor carrier regulation, purchase of rights-of-way for future state corridors, the operation of several state airplanes and a ferry on Lake Powell. In fulfilling its responsibilities, UDOT's budget can exceed $1 billion when large construction projects are in progress.

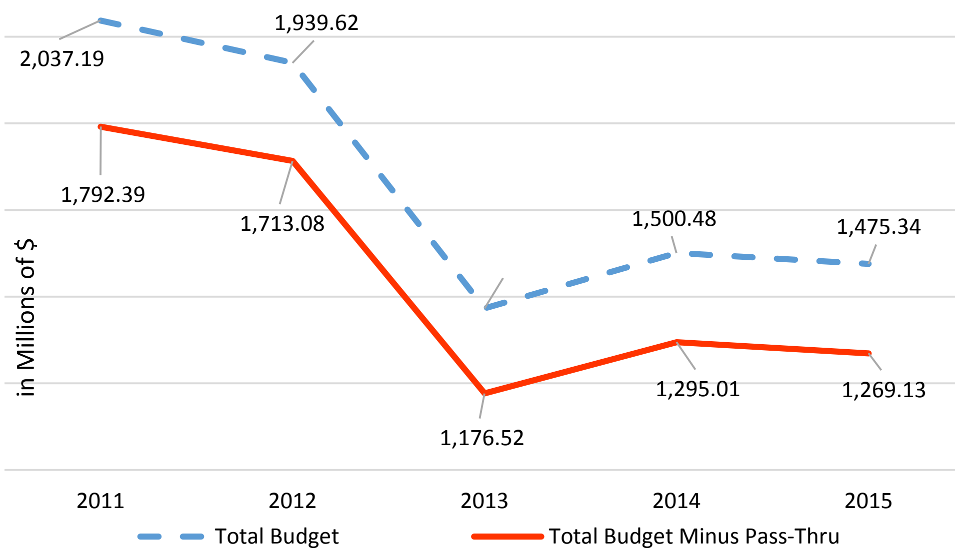
With the cooperation of UDOT staff and management, we surveyed UDOT's budget and identified several areas of concern. This audit addresses issues dealing with budgetary controls, outsourcing, contract oversight, and corridor preservation funds. This chapter deals primarily with UDOT's sources of funding, expenditures, and staffing.

Pass-Through Funds Make Up About Thirteen Percent of UDOT's Budget

A number of pass-through items make UDOT's operational budget appear larger than it really is. Figure 1.1 shows that pass-through funds increased UDOT's total budget by an average of about 13 percent, or about $216 million per year, from fiscal years 2011 through 2015.

Every year 13 percent of UDOT's budget on average is pass-through funds.

Figure 1.1. Total Budget Minus Pass-Through Funds. The red line represents UDOTs operational budget after pass-through funds are subtracted out.



Source: Division of Finance – Datawarehouse and UDOT Comptroller's Office
Note: The Non-Budgetary Accounts line item is not included in this graph.

The downward trend in UDOT's budget is mainly due to decreased construction.

Pass-through funds in UDOT's budget include B&C Road funds at about $126.5 million per year, Mineral Lease funds at about $59 million per year, and other funds in multiple line items at about $30.6 million per year on average. In order to focus primarily on UDOT operations, pass-through funds are excluded from charts in this report except where otherwise mentioned.

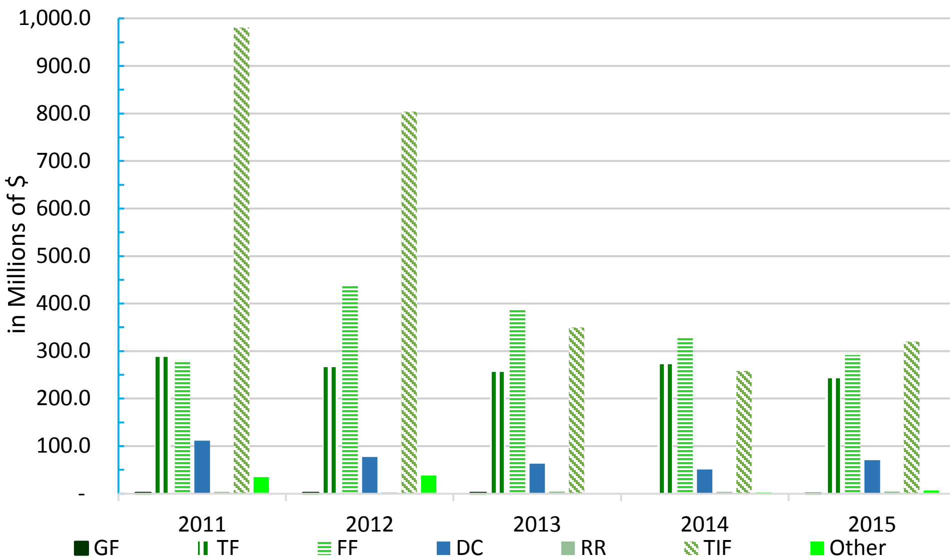
Currently, local government construction projects are included in the statewide transportation improvement plan (STIP), and a cooperative agreement is negotiated with UDOT for each project. These local projects average about $93.6 million per year, and they make UDOT's budget appear larger than it really is each year. More detail and recommendations for cooperative agreements are included in Chapter II

Major factors that influenced the downward budget trend, shown in Figure 1.1, are 1) decreased construction that reduced the use of Transportation Investment Fund (TIF) and federal dollars, 2) the paying off of bonds, and 3) an accounting change with Federal Aviation Fuel funds. Aviation Fuel funds are pass-through funds to local airports and were accounted for in UDOT's Aeronautics line item through fiscal year 2012. Subsequently, they have been accounted for in the Aeronautics Airport Agency Fund.

Federal, Transportation, and TIF Funds Make up the Bulk of UDOT Financing

Figure 1.2 shows UDOT's funding sources, minus pass-through funds in fiscal years 2011 through 2015. TIF and federal funds together averaged about three-quarters of UDOT's total budget financing. The Transportation Fund (TF), which mainly comes from fuel taxes, made up a little more than 18 percent of UDOT's total budget. Designated sales taxes have undergone an accounting change and are rolled up into the TF beginning fiscal year 2013.

Figure 1.2. A Five-Year History of Total Budget Financing Sources. TIF collections average more 51 percent of UDOT's total budget financing.



Source: UDOT Comptroller's Office and Datawarehouse
GF = General Fund, includes both ongoing and one-time; TF = Transportation Fund, includes both ongoing and one-time; FF = Federal Funds; DC = Dedicated Credits; RR = Restricted Revenue (exclusively Aeronautics Restricted Account); TIF = Transportation Investment Fund: 1) 2011 and 2012 include Critical Needs Highway Fund and Centennial Highway Fund, thereafter they are included in the TIF total, and 2) Bond proceeds; Other = TIF Transfers, Designated Sales Tax, Revenue Transfers. The Non-Budgetary Accounts line item and pass-through are not included.

In fiscal years 2011 through 2015, TIF funds averaged more than 51 percent of UDOT's total budget financing, or about $743 million per year. TIF funds are earmarked for use in the capacity program (construction of new highway facilities, such as the Mountain View Corridor) and can include bond revenue when bonds are issued.

TIF funds are earmarked for use in construction of new highway facilities.

Federal funds averaged about 24 percent of total budget financing, or about $345.8 million, and are used mainly in rehabilitation and preservation projects. TF collections average a little more than 18 percent of total budget financing at about $264.9 million per year and are used largely to fund UDOT operational expenses, such as in-house personnel and maintenance activities for roads. Due to an accounting change in 2013, designated sales tax from the General Fund was moved from the "other" category and is now rolled up in the TF.

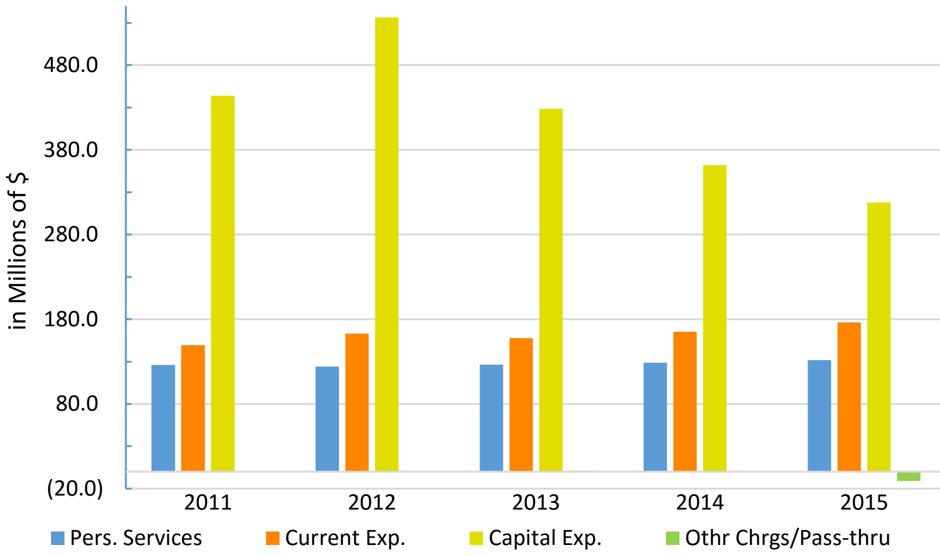
Dedicated Credits collections (DCs) average a little more than 5 percent of total budget financing, or about $74.5 million per year. They come from multiple sources, the largest being rental and usage fees charged by equipment management administration. DCs are used to support personnel and pay for the purchase and maintenance of UDOT's heavy equipment. Concerns with labeling these funds as dedicated credits will be discussed in more detail in Chapter II of this report.

Capital Projects Account For the Majority of Expenditures

Minus TIF funds, Capital Expenditures account for almost 60 percent of UDOT expenditures.

Minus TIF funds, Capital Expenditures account for almost 60 percent of UDOT's total expenditures, as shown in Figure 1.3. The majority of Capital Expenditures are for road construction and associated activities, such as making land improvements in preparation for projects. With pass-through funds subtracted, Other Charges/Pass-Through expenditures are negative in many fiscal years. The TIF is not included in Figure 1.3 due to its expenditures being mostly Capital Expenditures, which would skew the graph.

Figure 1.3. A Five-Year History of Total Budget Expenditures. Capital projects make up the bulk of expenditures. This chart does not include pass-through funds or TIF expenditures. See Figure 1.4 for TIF impacts.



Source: Division of Finance – Datawarehouse and UDOT Comptroller's Office. The Non-Budgetary Accounts line item is not included.

For fiscal years 2011 through 2015, Capital Expenditures averaged about 59 percent of total budget expenditures, or about $417.8 million per year; Current Expenses averaged about 23 percent, or about $162.4 million per year; and Personnel Services averaged about 18 percent of total budget expenditures, or about $127.3 million per year. Travel expenditures have been removed from Figure 1.3 because they average less than $1 million per year and failed to register on the graph.

Consultants staff much of UDOT's construction and operations and are not included in Current Expenses but Capital Expenditures.

As will be discussed in Chapter III of this report, UDOT relies heavily on consultants to staff much of their construction and administrative operations. As a result, the Personnel Services costs shown in Figure 1.3 do not represent all of UDOT's labor costs; i.e., Personnel Services (blue bar) are redistributed to Current Expenses (orange bar). Furthermore, because consultants charge their work to projects, their labor costs get redistributed from Current Expenses to Capital Expenditures (yellow bar), inflating Capital Expenditures and understating Current Expenses.

Other Charges/Pass-Through Are Negative in Multiple Fiscal Years. After pass-through funds are subtracted, the remaining transactions in the Other Charges/Pass-Through expenditure category include transfers within UDOT and transfers to/from other agencies, accounting corrections, and reallocating project costs from one project to another, etc.

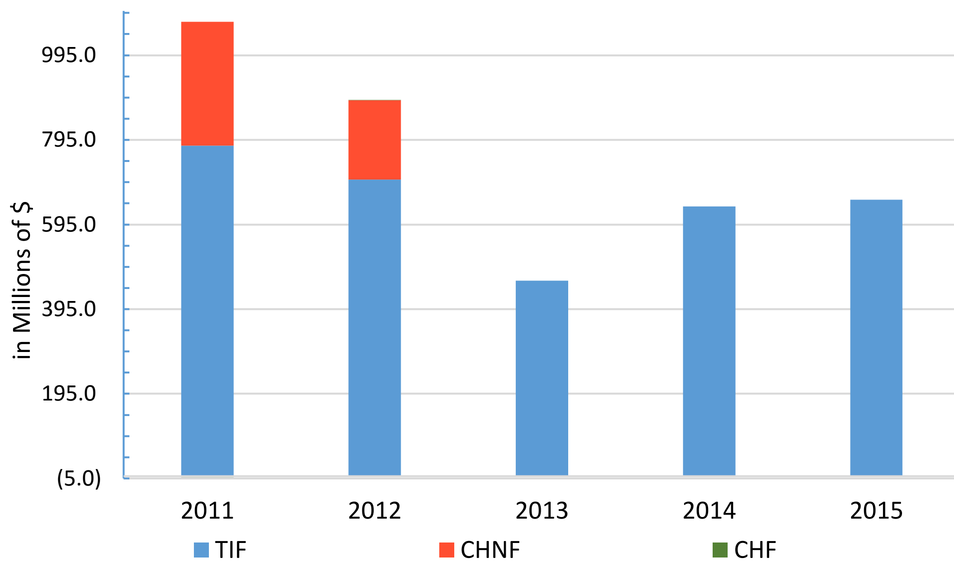
In fiscal year 2015, the total amount in this category was about negative $11 million. The largest contributors to this amount include a year-end transfer to reclassify land purchases, transfers of federal grant and/or state dollars to other agencies for their participation in joint grant programs with UDOT, and charges from maintenance shops to other UDOT entities for their completion of side projects and their preparation of heavy equipment for snow plowing in the winter.

TIF Expenditures are made up of Capital Expenditures, Cash Transfers for debt service payments, and Other Charges/Pass-through.

Transportation Investment Fund Expenditures Are Mostly Capital Expenditures. If TIF expenditures were included in Figure 1.3, their average impact would be an increase of about $528.1 million in Capital Expenditures (yellow bar) each year. Including TIF expenditures would add a Transfers category to figure 1.3 with an average impact of about $200.7 million per year. In addition to these increases, in fiscal years 2013 through 2015, a portion of TIF expenditures were pass-through funds of about $7.9 million, $63.3 million, and $200,000 respectively. Adding these pass-through funds to Figure 1.3, Other Charges/Pass-Through (green bar) would increase in fiscal years 2013 to 2015 by these amounts.

Figure 1.4 shows TIF expenditures for fiscal years 2011 through 2015. Prior to fiscal year 2013, the Critical Highway Needs Fund (CHNF) and the Centennial Highway Fund (CHF) were both separate funds that also contributed to UDOT's overall budget. Both funds were financed with sales tax earmarks and bond revenues in order to carry out specific road construction projects. After the completion of these projects, legislation was passed requiring their earmarked revenue streams to be included within the TIF. This roll-up into the TIF began in fiscal year 2013.

Figure 1.4. Transportation Investment Fund Impacts. This chart shows TIF amounts by fiscal year that do not roll up into UDOT's budget and which have to be added in to capture the entire UDOT budget.



Source: Datawarehouse

The TIF is a capital projects fund, and the revenues to and expenditures from it are accounted for separately from the TF. This is why TIF expenditures have to be added into UDOT's operational budget to obtain a total budget. The reason Figure 1.3 does not include Figure 1.4 amounts for a total budget is because the average TIF amount in fiscal years 2011 through 2015 is about $743 million and as has been explained above, the majority of these funds are Capital Expenditures and Transfers to pay debt service payments. When bonding is involved, expenditures can roll up into the Other Charges/Pass-Through expenditure category as well.

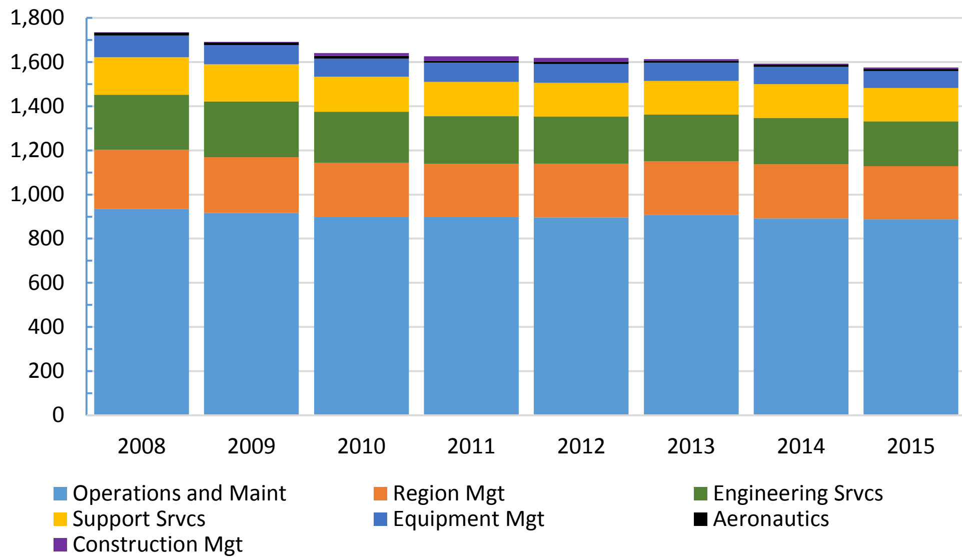
Operations and Maintenance Contain The Majority of UDOT FTEs

The TIF is a capital projects fund and is accounted for separately from the TF.

As shown in Figure 1.5, a majority of UDOT's FTEs are accounted for in the Operations and Maintenance line item, an average of about 904 per year. Many of these FTEs are trans-techs, who, in addition to snow plowing in non-construction months, are trained in construction inspection. UDOT reassigns most trans-techs to construction-related activities during the summer months, but their time is still accounted for in the Operations and Maintenance line item. Because consultants charge their time to projects, they are not counted in UDOT FTE totals, effectively redistributing UDOT FTEs to other areas of its budget.

From 2008 to 2015 average annual FTEs decreased by 9 percent.

Figure 1.5. The Bulk of UDOT FTEs Are in Operations and Maintenance. FTE totals have been slowly decreasing since 2008.



Source: Datawarehouse

In fiscal years 2008 through 2015, UDOT's average annual FTE total decreased by about 158, or approximately 9 percent. As discussed in Chapter III of this report, some of these FTEs were replaced with contracted workers or consultants. Consultants are not reflected in UDOT's FTE counts, but as will be explained in Chapter III of this report, they make up a significant part of UDOT's labor force. For example, a consultant working in engineering services is not a UDOT employee and does not get recorded as an FTE in UDOT's budget. Because his/her costs are charged to a project, the Personnel Services costs for that position get redistributed, mainly to the Construction Management line item.

Additionally, during construction months, UDOT reassigns its trans-techs from maintenance activities to construction-related activities. Despite this reassignment, trans-techs' labor is still charged to the maintenance shed they work out of during non-construction months. If a graph were calculated according to the actual work being done by trans-techs, Figure 1.5 would show more FTEs in the Construction Management line item and fewer in the Operations and Maintenance line item.

Audit Scope and Objectives

Our office conducted a performance audit and an in-depth budget review of UDOT. This report addresses the in-depth budget review of UDOT, and the results of the performance audit are found in a separate report (A Performance Audit of the Utah Department of Transportation 2016-06). Chapter I of this report has addressed the financing, expenditures, and personnel counts. The remaining chapters address the following issues:

- **Chapter II**: Improved budgetary controls are needed.
- **Chapter III:** Outsourcing needs to be evaluated.
- **Chapter IV:** Contract oversight needs to be strengthened.
- **Chapter V:** Enhanced cooperation and oversight would strengthen the Corridor Preservation Fund.

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Chapter II
Improved Budgetary Controls Are Needed

A number of longstanding Utah Department of Transportation (UDOT) budgetary and accounting practices do not fully comply with statute and/or create transparency and oversight issues. These practices include the following:

- First, UDOT's practice of having the Equipment Management line item charge approximately $30 million in rents and usage fees to regions and labeling them as dedicated credits does not comply with the statutory definition of dedicated credits. It also creates double-counting issues and results in unauthorized money transfers between line items.

- Second, Budgeting and accounting for cooperative agreements needs improvement. These agreements are rolled up into UDOT's operational budget, making it look like UDOT spends more each year than it really is spending. Cooperative agreements are contracts between UDOT and municipalities to build local road projects by accessing federal funds and UDOT's expertise. These local, non-state projects average about $93.6 million in spending each year.

- Third, UDOT has oversight responsibilities for more than $126 million in B&C road funds, but it does not follow up with cities or counties to ensure compliance in spending of the funds.

- Finally, legislators need to be aware that the growth of debt service obligations and future maintenance costs could limit the ability of the Transportation Investment Fund (TIF) to fund capacity projects in the future. Debt service payments are estimated to average about $225 million between fiscal years 2016 and 2029. Maintenance transfers are estimated to range between about $7 million and $43 million in the next 10 years.

This chapter highlights budgeting and accounting issues and makes recommendations for resolving them.

After working with UDOT, the Legislative Fiscal Analyst (LFA), and the Division of Finance (Finance), we were able to come up with options that will allow UDOT to address these concerns, comply with statute, and improve budget transparency and oversight.

Budgeting for Equipment Management Is Not in Line with Statute

Interagency services provided by equipment management administration do not fit the definition of dedicated credits.

The Equipment Management line item charges rents and usage fees, like an internal service fund (ISF), to regions that are under the Operations and Maintenance line item. These rents are actually interagency transfers that are appropriated as dedicated credits in the Equipment Management line item, but they do not fit the definition of dedicated credits. This creates double-counting concerns and violates the Budgetary Procedures Act (BPA) by transferring money from one line item to another. We recommend three possible options to bring this longstanding budgetary practice in line with statute and increase budget transparency and oversight.

Longstanding Use of Dedicated Credits Is Not Consistent with Statute, Double-Counts Revenues

UDOT uses cost accounting in order to accurately charge equipment costs to projects. Equipment Management buys the equipment and charges regions both rental fees and usage fees for heavy equipment used in their maintenance activities. Budgeting for these activities is carried out by appropriating funds to region budgets for maintenance and making a simultaneous appropriation of dedicated credits to the Equipment Management line item. Appropriating these activities as dedicated credits violates statute. Both the BPA and the Revenue Procedures and Control Act (RPCA) define dedicated credits for budgeting purposes in the state of Utah. Included in the RPCA definition are clarifying statements for what dedicated credits are not. ***Utah Code*** 63J-2-102 states:

> (2)(a) "Dedicated credits revenues" means revenues from collections by an agency that are deposited directly into an account for expenditure on a separate line item and program.
>
> (b) "Dedicated credits" does not mean:
> (i) federal revenues and the related pass through or the related state match paid by one agency to another;

(ii) revenues that are not deposited in governmental funds; or
(iii) revenues from any contracts.

Dedicated credits are understood to be nonfederal collections coming into the state from sources like fees or fines; they are not transfers of state and federal funds within an agency. From 2011 to 2015, the average dedicated credits appropriation in UDOT's Equipment Management line item is about $30 million per year. Therefore, each year UDOT's budget appears to have $30 million more in revenues that are really just interdepartmental transfers. In addition to being double-counted on the budgeting side, these transactions are being double-counted on the accounting side in the Comprehensive Annual Financial Report (CAFR). The Division of Finance has agreed that these transfers are not dedicated credits, and they will be making adjustments to correct the issue in the CAFR.

Each year, UDOT's budget appears to have $30 million more in revenues that are actually interdepartmental transfers.

UDOT's Cost Accounting of Equipment Management Inappropriately Transfers Money Between Line Items

The Equipment Management line item operates more like an ISF by charging regions rental and usage fees for equipment. Unfortunately, the current practice of transferring money from the Operations and Maintenance line item to the Equipment Management line item violates the BPA, even though there is a service provided. Separate line items give the Legislature more defined fiscal control on how much state funding is spent in different programs, such as equipment. Agencies are allowed to make adjustments within a line item, but any movement of funding between line items must be done through the appropriations process and authorized by the Legislature. UDOT prefers the current approach because if a region finds it needs fewer funds for equipment, it can put the money into maintenance activities. However, this approach reduces budget transparency and enables UDOT to make funding decisions that the Legislature should make. While we understand the desire to be able to control costs and have more flexible funds, separate line items provide structure for the Legislature in its role of appropriating Utah's tax resources to state programs and services.

The current practice of transferring money from the Operations and Maintenance line item to the Equipment Management line item violates the Budgetary Procedures Act.

Current accounting practices for replacing fleet are inadequate and need improvement.

Current Practices for Equipment Management Have Not Adequately Accounted for Equipment Replacement. UDOT includes a recovery charge in its rental and usage rates to replace equipment. However, this charge is not recorded in a capital account but instead is retained in the Transportation Fund (TF) until equipment management spends it. Unfortunately, equipment replacement has not kept up with replacement schedules, and asset replacement age has increased to 14 years instead of the preferred nine-year life cycle.

Materials labs and Aeronautics activities are ISF-like operations that are being budgeted and accounted for as dedicated credits. This creates double-counting issues in the budget and moves money between line items without Legislative approval.

Materials Labs and Aeronautics Also Do Not Fit Dedicated Credits Definition. Materials Labs and Aeronautics are also run like ISFs with revenues of $3.1 million and $375,000, respectively. They charge projects and other agencies for their services. Labeling their revenues as dedicated credits also contributes to double-counting revenues and transferring money between line items, although on a much smaller scale. While addressing budgetary concerns regarding equipment management, UDOT should address and fix the same concerns with Material Labs and Aeronautics.

UDOT Should Consider Options to Bring Equipment Management in Line with Statute

In consultation with UDOT, Finance, LFA, and the Governor's Office of Management and Budget (GOMB), three options to correct the issues addressed in this section were agreed upon. We recommend that UDOT work with LFA to implement the optimal choice:

UDOT's equipment management activities need to be brought into line with statute, and three options were agreed upon by UDOT, LFA, Finance, and GOMB.

Option A: Relocate the Equipment Management Line Item to the Fleet Management ISF as a Subfund. The Division of Fleet Management operates as an ISF. This option would place UDOT's Equipment Management line item under Fleet Management's jurisdiction as a subfund dedicated to UDOT. Fleet would purchase UDOT's heavy equipment, depreciation expenses would be accounted for properly, and UDOT would have the capability of replacing old equipment when its useful life expires. UDOT could also allocate the costs of its operations to projects and charge fleet for repairs and maintenance. Double-counting in the budget would be avoided, and UDOT would no longer transfer funds across line items. In addition, legislative oversight of equipment funds would be maintained.

Option B: Move the Equipment Management Line Item to a Program Under the Operations and Maintenance Line Item and

Have Central Purchasing Buy the Equipment. This option would provide a mechanism for purchasing new equipment within the current accounting and budgeting framework. It would allow UDOT to charge rental and usage rates for equipment and would move money between the regions and Equipment Management without violating the BPA. However, with this option, the Legislature relinquishes discretionary oversight of approximately $30 million per year in equipment and would be dependent on UDOT to report it.

Option C: Appropriate Transportation Funds Directly to the Equipment Management Line Item for Equipment Purchases and Personnel Costs. Under this option, instead of appropriating TF to the regions for equipment, the Legislature would appropriate TF directly to the Equipment Management line item. The funds would no longer be labeled dedicated credits, eliminating double-counting issues in the budget, and eliminating the violation of transferring funds between line items. This option also retains Legislative oversight over total equipment funding as it requires UDOT to request additional funds from the Legislature in the budgeting process, if needed, for equipment or maintenance.

We recommend that UDOT work with LFA to determine the best option for bringing equipment management activities in line with statute.

While these three options were seen as the most workable by all involved parties, UDOT will need to further consult with LFA as to the details and changes that will have to be made.

Budgeting and Accounting for Cooperative Agreements Needs Improvement

Cooperative agreements require UDOT to draw down federal funds and administer the construction of road projects for counties and municipalities. These local projects do not use state funds, but local and federal dollars are rolled up into UDOT's total budget, inflating it by about $93.6 million in expenditures per year. However, cooperative agreements are underestimated each year in UDOT's appropriated budget. A $1.6 million dedicated credits placeholder is appropriated for the local matching and betterment portion of cooperative agreements. This appropriation is 24 times less than what is actually spent. The federal funds appropriation of cooperative agreements is also a placeholder and is likely underestimated.

Local road construction projects inflate UDOT's budget by about $93.6 million each year.

Cooperative agreements do not fit the definition of dedicated credits as they are currently labeled. We recommend the Legislature consider creating a separate line item for cooperative agreements. This would separate them from the rest of UDOT's budget and be more in line with budgetary procedures. We also recommend that UDOT estimate the expected amount of cooperative agreements for budgeting purposes each year instead of using a small placeholder amount.

Local Projects Rolled into UDOT's Budget Inflate UDOT Expenditures

Cooperative agreements consist of federal aid agreements between UDOT and local governments for local government road construction projects. As the state steward of Federal Highway Administration (FHWA) funds, UDOT administers all local projects that receive a grant of FHWA money. Not only does UDOT facilitate the funding of local projects, but the local projects are also included in UDOT's Statewide Transportation Improvement Program (STIP), and UDOT typically uses some of its own resources to facilitate their completion. In fiscal years 2011 through 2015, spending on local projects averaged about $93.6 million. Currently, this local and federal spending is rolled up into UDOT's Construction Management line item, which inflates UDOT's budget.

Because cooperative agreements are contracts between UDOT and local governments, they do not qualify as dedicated credits according to the RPCA definition. Classifying cooperative agreements as dedicated credits creates a lack of transparency, and many of the rules for dedicated credits are not being applied. We recognize that there are different interpretations of statute concerning them; however, if appropriated as dedicated credits, the dedicated credits rules in statute should be applied.

Cooperative Agreements Are Underestimated Each Year in UDOT's Budget

The Legislature currently makes an appropriation of about $1.6 million in dedicated credits to UDOT's Construction Management line item for the local government match and betterments portion of cooperative agreements. However, average local government spending on cooperative agreements between fiscal years 2011 and 2015 was about $39.1 million, meaning the $1.6 million appropriation is 24 times smaller than actual expenditures. In a similar manner, the federal funds portion of cooperative agreements is appropriated with a placeholder, but it is included in the overall federal funds appropriation for the Construction Management line item. Average federal spending on cooperative agreements over the last five years was about $54.5 million. Furthermore, UDOT does not distinguish the cooperative agreements placeholder from the rest of the federal funds appropriation. Without knowing the cooperative agreements appropriation amount, calculating the level of spending to what has been appropriated is not possible.

Cooperative agreement spending greatly exceeds appropriated amount with local matching dollars spent more than 24 times greater than the $1.6 million appropriated for them each year.

Although UDOT cannot foretell the actual amount of money that will be spent on local government projects, it can forecast their cost each fiscal year for budgeting purposes. We recommend that UDOT provide an estimate for both the local match and federal funds portions of cooperative agreements in the appropriations acts instead of the current placeholder amounts in the Construction Management line item. Providing these estimates for cooperative agreements increases transparency in their budgeting processes and eliminates issues with violating dedicated credits statutes and rules.

Cooperative Agreements Should Have A Separate Line Item

We consulted with LFA, Division of Finance, and Legislative Research and General Counsel concerning cooperative agreements, and they agreed that the reporting of these funds can be improved by creating a line item that separates their budgeting and accounting from the rest of UDOT's operational budget. LFA, et al. also agreed that improvement can be made by ceasing the use of dedicated credits and appropriating the different funding types for UDOT's cooperative agreements separately within the line item, as is done with the Minimum School Program in the public education budget. Another example of cooperative agreements is found in the Department of

UDOT's cooperative agreements are similar to the Minimum School Program and DNR's Cooperative Agreements line item.

Natural Resources (DNR). DNR executes cooperative agreements between the state, local governments, and the federal government and these expenditures are in a separate line item called Cooperative Agreements in its budget.

A new line item for cooperative agreements fixes the current inflationary effect they have on UDOT's operational budget, increases budget transparency, and brings UDOT into compliance with statute.

We recommend that the Legislature create a new line item to separate cooperative agreements from the rest of UDOT's operational budget, as is done in the Minimum School Program and DNR. We also recommend that the local match and federal dollars be appropriated separately within the same line item, as is done in the Minimum School Program.

We have consulted with UDOT management, and they are supportive of these recommendations. They agreed that a new line item would be beneficial, because with local projects currently rolling up into UDOT's Construction Management line item, it looks like UDOT is spending more money than it really is; with a new line item, this issue is eliminated. These recommendations improve budget transparency and bring UDOT in line with statute.

UDOT Oversight of B&C Road Funds Needs Improvement

In fiscal years 2011 through 2015, B&C road distributions averaged about $126.5 million per year. By law, UDOT is required to distribute and oversee the use of B&C road funds. UDOT fulfills the distribution duties for B&C road funds, but the B&C road fund statute should be updated to reflect current distribution practices. UDOT has also created regulations governing the use and auditing of B&C road funds but fails to follow up with cities or counties to verify compliance with their proper use.

B&C Road Funds Statute Should Be Updated to Reflect Current Practice

UDOT is the oversight authority of B&C road funding, which averaged about $126.5 million from the Transportation Fund in fiscal years 2011 through 2015.

By statute, UDOT is tasked with the distribution of B&C road funds. Though UDOT fulfills its distribution duties, the methods used in distributing funds over the past few years no longer align with statute. ***Utah Code*** 72-2-107(2)(a) states that B&C road funds shall be placed into a B&C roads account. Additionally, ***Utah Code*** 72-2-107(2)(b) requires the director of Finance to make an annual $500,000 transfer from B&C road funds to UDOT for the State Park Access Highways

Improvement Program and recognize them as dedicated credits. Not only is the separate account required in Utah Code 72-2-107(2)(a) not being used, but Finance does not make the $500,000 transfer required in Utah Code 72-2-107(2)(b). Alternatively, UDOT has confirmed that it transfers the $500,000 from the TF each year for State Park Access. In addition to all of these practices being out of step with statute, the $500,000 transfer of funds does not meet the BPA's definition of dedicated credits. Based on our discussions with LFA, the Division of Finance, and UDOT, it appears that the preferred solution is to change the statute to reflect current practices for the distribution of the money.

Consensus opinion among UDOT, LFA, and Finance is that statute governing distribution of B&C road funds and the State Park Access Highways Improvement Program should be in line with current practices.

UDOT Does Not Verify Compliance for the Use of More than $126 Million in B&C Road Funds

Statute and regulation place UDOT as the oversight authority of about $126.5 million in yearly B&C road funds, and UDOT is required to make rules that standardize the accounting of these funds. UDOT has created its own regulation manual for the accepted use of B&C road funds that allows UDOT to withhold funds for noncompliance. This manual requires that cities comply with ***Utah Code*** 51-2, which requires recipients of B&C road funds to have an annual audit by a CPA firm and then file the audit with the State Auditor. Unfortunately, these audits only review B&C road funds in certain situations, and only the State Auditor receives a copy of the audit.

While certain provisions are in place to audit and follow up on B&C road spending, the responsibility currently falls to external CPA firms that perform audits on locals' financial statements for their CAFRs. Our review of a handful of financial reports on the State Auditor's website revealed that the CPA firms appear to be aware of B&C road funds; however, they did not indicate the extent of their review.

Independent CPA firms currently audit the financials of local governments for their CAFRs, but a review of some of these reports on the State Auditor's website does not indicate adequate checks for compliance in the spending of B&C road funds.

We were also informed by UDOT's budget, finance, and audit departments that they do not keep or review B&C road audits from municipalities. This lack of follow-up means that UDOT cannot verify if B&C road funds are used in compliance with their guidelines. Therefore, we recommend that UDOT's internal audit function obtain the independent audits according to its own regulations and review cities' and counties' spending of B&C road funds to assess compliance.

Transportation Investment Fund Obligations Reduce Funds for Capacity Programs

Debt service payments from the TIF reduce the amount of earmarked sales taxes available to the capacity program for road construction projects.

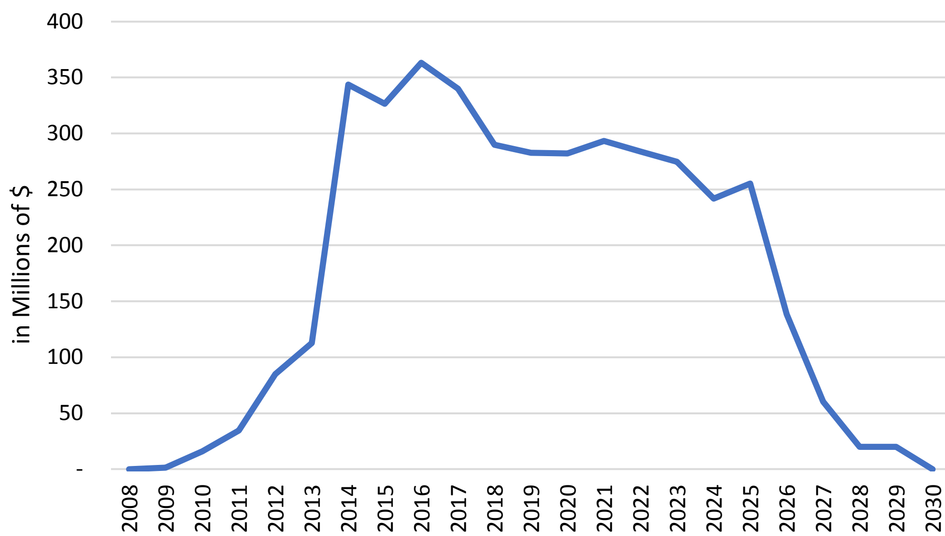
The Transportation Investment Fund (TIF) receives earmarked sales taxes and has become a mechanism for UDOT to bond and pay for state road projects. Transfers from the TIF are required to satisfy obligations of debt service payments and maintenance costs for TIF projects. Debt service payments are currently scheduled through fiscal year 2029 and average about $225 million per year (Figure 2.1). Also, TIF maintenance costs are estimated by UDOT to be as high as about $43 million in 2021 and to be even higher by 2030 (Figure 2.2). Because these outlays reduce money available for the capacity program, which funds road construction, legislators need to be aware of their potential future impact. Other transfers from the TIF also compete with the capacity program and reduce funds available for road projects.

Current Debt Service Obligations Reduce Funds Available for Road Projects

If no additional bonding is done, UDOT's current outlay forecasts an average about $225 million per year in debt service payments in fiscal years 2016 to 2029

As Figure 2.1 shows, debt service payments from the TIF increased almost 9.5 times to about $326.5 million between 2011 and 2015. The TIF was set up to facilitate a state-funded capacity program for road construction. In practice, it has also become the financial backing for bonding on large road projects, and its state sales tax earmarks are pledged to cover these bond payments. Debt service payments from the TIF began in fiscal year 2009, and the current outlay is scheduled through fiscal year 2029. In 2015, debt service accounted for about 51 percent of total TIF expenditures.

Figure 2.1. Large Amounts of TIF Monies Are Obligated to Pay Debt Service. Current debt service obligations will not significantly decrease until 2027.



Source: UDOT Comptroller

It is likely that future bonding will increase current debt service and extend payments beyond 2029. Transfers and other bond arrangements, such as payments for the County of the First Class Fund, also impact the TIF and can reduce the amount of money available for the capacity program.

Transfers from the TIF to the TF for maintenance costs reduce earmarked sales taxes available for the capacity program.

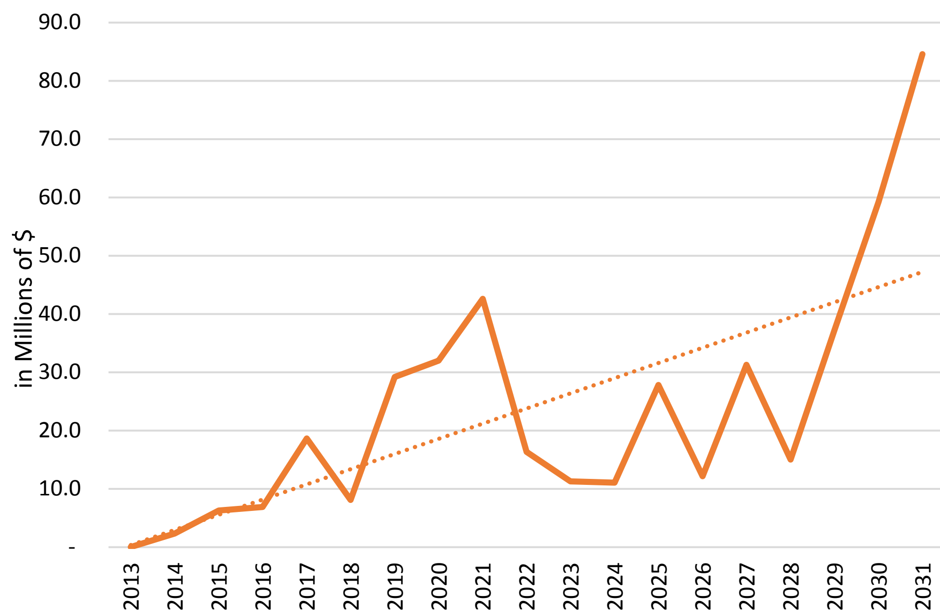
Estimated Maintenance Costs Trend Upward and Reduce Available TIF Funds for Capacity Program

Statute allows TIF funds to be used to pay for maintenance on TIF-funded projects. Figure 2.2 shows UDOT's projected future maintenance costs for these TIF funded projects. Over the next 10 years, these costs are estimated to fluctuate between about $7 million and about $43 million per year.

TIF transfers to the TF for maintenance costs began in fiscal year 2014. So far, about $15.5 million has been moved between the two funds.

According to UDOT estimates, the cumulative amount in TIF transfers to the TF for maintenance could reach into the hundreds of millions by 2020.

Figure 2.2. Projected Maintenance Costs for TIF Projects. As more projects are funded by TIF, the cost to maintain these projects rapidly increases.



Source: UDOT Comptroller's Office

This information is presented here to help policymakers understand that as TIF projects increase, maintenance needs for those new roads will also increase over time. Maintenance and debt service transfers from the TIF have the same impact on the completion of capacity projects as policy choices that revert sales tax earmarks from the TIF for other uses, they effectively postpone capacity projects farther into the future. We recommend that UDOT analyze the maintenance impact of TIF projects on the capacity program and provide the Legislature with options to mitigate their impact on the capacity program.

Recommendations

1. We recommend that UDOT work with LFA to implement the most workable option to avoid double-counting revenues in the Equipment Management line item and prevent moving funds between line items. Options include:

    - relocating the Equipment Management line item to the Fleet Management ISF as a sub-fund,

- moving the Equipment Management line item as a program under the Operations and Maintenance line item, and

- appropriating Transportation Fund directly to the Equipment Management line item for equipment purchases and personnel costs.

2. We recommend that the Legislature consider creating a distinct line item for cooperative agreements in order to account and budget for them separately from UDOT's operational budget, eliminate their inflationary effect, and bring them in line with statute.

3. We recommend that the local and federal dollars be appropriated separately from each other within the new cooperative agreements line item, as is done in the Minimum School Program.

4. We recommend that UDOT make estimates of cooperative agreement funding in the budgeting process instead of using the $1.6 million placeholder that is currently used in the Construction Management line item.

5. We recommend that the Legislature consider updating statute to reflect current accounting of B&C road funds.

6. We recommend that UDOT's internal audit function obtain the independent audits according to its own regulations and review cities' and counties' spending of B&C road funds for compliance.

7. We recommend that UDOT analyze the maintenance impact of TIF projects on the capacity program and provide the Legislature with options to mitigate their impact on the capacity program.

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Chapter III
Outsourcing Needs to Be Evaluated by UDOT

Over the past eight years, UDOT has used more expensive consultants to do the work of vacant full time equivalents (FTEs) in some situations without adequately evaluating the costs and benefits. Managers tell us that they have been told not to rehire for vacated positions but to use consultants instead. It is difficult to determine how many former in-house positions have been filled by consultants or the overall cost of hiring these consultants, but a sample of three positions shows that consultants can cost up to three times more than in-house staff. UDOT is heavily dependent on consultants for their design, engineering and construction management and needs to analyze their costs and benefits before filling vacant in-house positions with consultants.

UDOT has been using more expensive consultants to do the work of vacant FTEs without adequately evaluating the cost and benefits.

Maintenance costs have also been increasing, due in part to outsourcing. UDOT management has been reluctant to fill vacated equipment maintenance positions, resulting in more maintenance work being contracted out. A sample of three contracted maintenance activities shows that UDOT can perform the work more cost-effectively by using in-house employees. We recommend that UDOT evaluate the costs and benefits of outsourcing when vacated positions can be filled to accomplish the work. The higher cost of outsourcing UDOT functions means less money for roads.

Consultants are individuals who provide specialized professional, technical or routine services. They contract with UDOT to design roads, manage projects, acquire land, and even perform in-house functions like purchasing. Most studies say consultants cost more than in-house staff, so they are generally used for special purposes, such as assignments that require specialized skills or projects that must be expedited. Consultants also tend to be used during surges in workloads or funding. Consultants differ from construction companies, which perform a wide range of functions needed to bring a project from inception to completion. Our primary concerns addressed in this chapter focus on consultants and not construction companies.

Our primary concerns addressed in this chapter focus on consultants who provide specialized or routine services, not construction companies.

UDOT Is Filling Some Vacant Positions With Consultants

The use of consultants within state departments of transportation (DOTs) has increased over the years. A 2008 Government Accountability Office (GAO) study found that many DOTs report using consultants for the simple fact that they lack the in-house staff to do the work. UDOT also uses consultants when workloads surge, but management has also been using consultants to fill vacant in-house positions.

We do not know how many former positions may have been filled by consultants. One UDOT in-house position can be replaced with multiple consultants each doing part of the work, making an exact calculation difficult. Additionally, consultant hours were not available at the time of this audit. Because UDOT has not been filling some vacated positions but using consultants instead, its actual FTE counts have declined. This makes UDOT heavily dependent on consultants as part of its workforce even in slow construction periods. Our concern with UDOT's contracting with consultants to fill some vacated positions is that it has been done without any cost/benefit analysis.

Consultants Are Filling Former Full-Time UDOT Positions

At UDOT, a number of divisions are heavily staffed with consultants: Public Transit, Consultant Services, Right of Way, and Traffic and Safety.

Managers we spoke with said they were told not to fill vacancies but to use consultants instead. At UDOT, this has led to a number of divisions being heavily staffed with consultants: Public Transit, Consultant Services, Right of Way, and Traffic and Safety, among others. It is difficult to determine how many vacated positions at UDOT over the years have been replaced with consultants. Many consultants are housed in the regional offices, but many also work out of their own offices while working on construction projects for UDOT.

To better understand how UDOT utilizes consultants, we obtained a sample of 37 consultants working for UDOT who are co-located at UDOT headquarters. We conducted interviews with 12 of these consultants. The results are shown in Figure 3.1.

Figure 3.1 A Sample of 12 Co-Located Consultants Working at UDOT Headquarters. Nine of the twelve consultants worked at 90 percent of full time or greater during the past year.

Consultant	# Years Worked 90% of Full Time or Greater for UDOT	Function
1	5	Purchasing
2	8	Purchasing
3	0	Highway Safety
4	1	Engineering Design
5	8	Asset Management
6	8	Purchasing
7	3	Public Transit
8	0	Cost Estimating
9	10	Engineering
10	0	Program Management
11	2	Estimate Support
12	6	Construction Services

Source: Auditor-conducted sample

Seven consultants, or 58 percent of those surveyed, have worked nearly full time at UDOT for three or more years, and one has worked full time for 10 years. Since these consultants are co-located, work full time, interact regularly with staff to complete their work, do jobs previously done by UDOT employees, are managed by UDOT managers and stay in the same positions for many years, they could be UDOT employees.

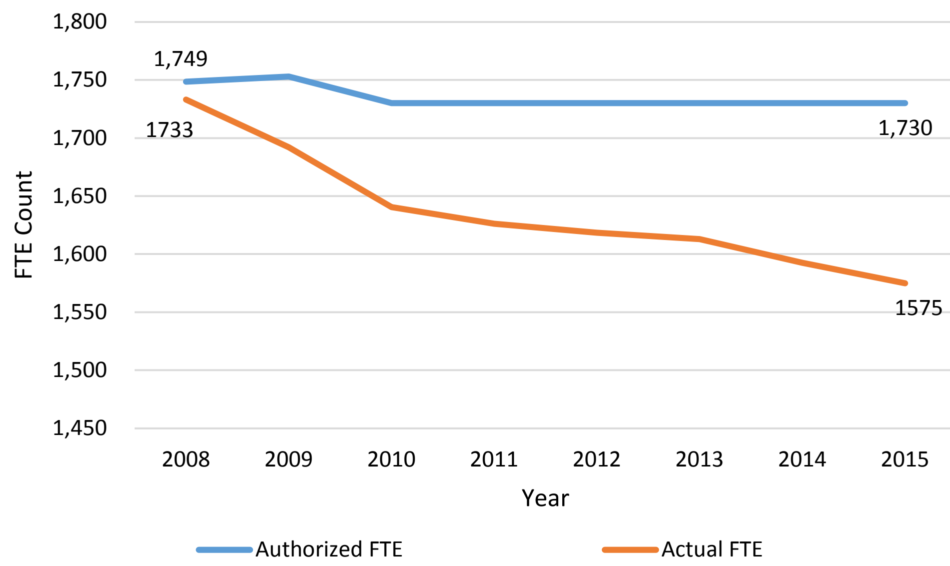
We were told of several employees who retired from UDOT, went to work for consulting firms, and then returned to UDOT as consultants. One retired UDOT employee we spoke with returned as a consultant and does work similar to what that person previously did for UDOT, because that employee had specialized knowledge needed for that position. Because this unique knowledge is usually acquired by working for a department of transportation, the UDOT manager for that division says even consultants, who are usually hired for their expertise, have to be trained to do the work. This manager felt that hiring UDOT employees would be more cost-effective for the division. Because of the specialized knowledge needed some consultants are paid to learn on the job and make mistakes just like new employees.

One division even trains consultants to do the work.

Consultants Make Up a Large Portion of the UDOT Workforce

Due to the lack of data at the time of this audit, it was difficult to determine how many vacated positions have been filled by consultants. However, Figure 3.2 shows that UDOT's actual FTEs, or positions filled, have decreased by 158 since 2008, while the authorized number of positions has remained somewhat steady.

Figure 3.2 Authorized-to-Actual FTE Comparison. Some vacant positions are being filled by full-time consultants.



Source: Authorized FTEs from UDOT and Actual FTEs from Datawarehouse

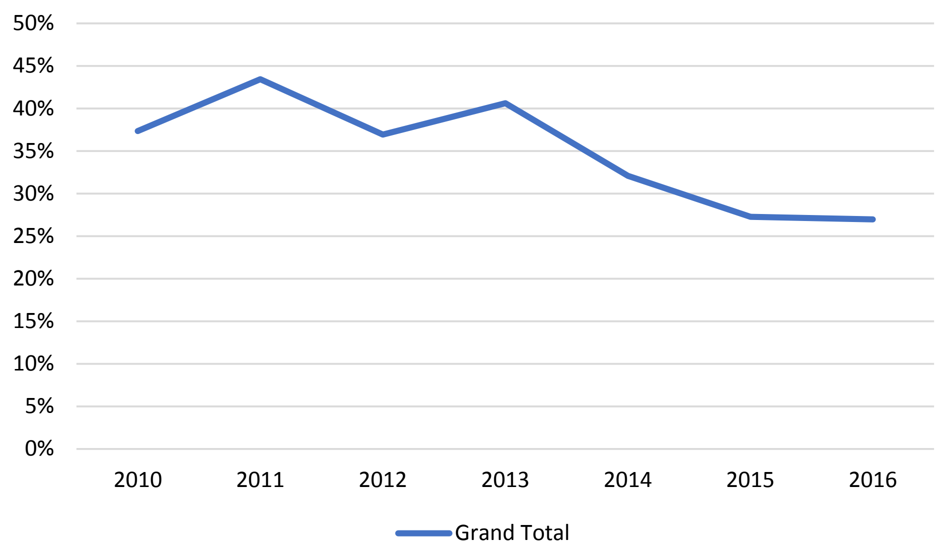
The 2008 recession may explain the decrease in actual FTEs early on in the graph, and regular turnover can explain some of the difference between the authorized and actual FTE count now. Part of the reason why the actual FTE count is currently 9 percent lower than the authorized count is because vacated positions are being left vacant and the work is being completed by consultants. Since new lane miles are being added, even more consultants are being hired to help with the increased workload. Several managers have said that they were told not to fill vacancies but to use consultants instead. Over the years, this reluctance to fill vacated positions has led to outsourcing major portions of its traffic and safety, purchasing, public transit, right of way and engineering functions. To what extent management will use consulting in the future is unclear, but as one manager put it, we oversee and manage consultants.

Several managers said that they were told not to fill vacancies but to use consultants instead.

Over the past eight years, UDOT lost about 45 FTEs in their Engineering Services line item, where much of the engineering design and preconstruction is carried out. Much of this work is being outsourced to consultants. Figure 3.3 shows the percentage of all projects where UDOT has used consultant Residential Engineers (REs).

Over the past eight years, UDOT has lost 45 FTEs in their Engineering Services line item.

Figure 3.3 Percent of Projects Manned by Consultant Residential Engineers. Even in a slower construction year like 2015, 27 percent of construction projects were run by consultants.



Source: UDOT

REs manage road construction projects, and when there are more projects than in-house REs can handle, consultant REs are used. Hiring engineering consultants in peak construction years such as 2011 makes sense, because these consultants can easily be let go when construction slows down. However, even in slower construction years such as 2015, 27 percent of all projects were run by consultant REs.

Consultants Cost Significantly More Than Comparable In-House FTEs

A sample testing of a number of outsourced positions shows that consultants can cost up to three times more than equivalent in-house staff, and this move to replace in-house positions with consultants was done with little analysis as to the costs and benefits involved. As a result, the replacement of in-house staff with consultants at UDOT appears to be a philosophical approach, lacking analytically driven decision making.

In order to estimate the cost difference between consultants and in-house employees, we sampled and compared the costs of three co-located consultants to similar full-time in-house positions at UDOT. We found that a consultant costs nearly three times more per hour than a similar UDOT employee. For the comparable UDOT positions we included wages and all benefits, such as health insurance, retirement, as well as computer and human resource fees, then divided them by the number of work hours in a year. We took the median wage and benefit costs of current UDOT employees in similar positions to represent a more typical employee. For the consultant costs, we took the full hourly contracted rate minus the smaller overhead costs (office space and computer support) paid by the contracting firm to UDOT. Due to the difficulty of determining UDOT's fixed costs we just looked at the variable costs of substituting one consultant for one employee. Figure 3.4 shows that consultants cost 2.5 to 3.1 times more per hour than a similar in-house employee.

Consultants cost 2.5 to 3.1 times more per hour than similar in-house employees.

Figure 3.4 A Sample of In-House Hourly Positions Compared to Consultant Costs per Hour. Consultants cost nearly three times more per hour than similar in-house employees with their benefits included.

	Total Hourly Cost	
Position	Outsourced	In-house
Right of Way Agent I	$101.29	$39.87
Purchasing Agent II	$103.00	$32.86
Engineering Manager II	$183.00	$68.97

Source: Auditor Analysis

Several midlevel managers said they would like to replace some consultants with full-time employees not only for the cost savings, but also for the convenience of having an employee readily available who does not have to wait for a contract to be signed. One manager said that when they use consultants, they "put down less asphalt."

One manager said, when we use consultants we "put down less asphalt."

Hiring two right of way agents could save $1 million in four years. The costs associated with hiring two consultant right of way agents illustrate the potential savings that could be realized by replacing some consultants with in-house employees. These agents purchase properties that are in future road corridors. UDOT acquires 300 to 500 properties a year, and a typical agent acquires 120 properties per year. In a slow year, UDOT would still need consultants to handle acquisition of the remaining 60 properties. Two contracted acquisition agent consultants cost $422,987 per year (two consultants x $101.29 x 2,088 hours), but by hiring two UDOT acquisition agents at $166,497 per year (two employees x $39.87 x 2,088hrs), which includes all their benefits, UDOT could save around $256,000 per year or $1 million in four years. A more thorough analysis would also look at the benefits as well as the costs of having the work done in-house versus contracting it out to a consultant.

Consultants are a Large Part Of UDOT's Labor Costs

As was explained earlier in this chapter, UDOT has been filling some vacated full-time positions with consultants. However, most consultants supplement UDOT's labor and do not replace former in-house positions. Since consultants make up a large portion of UDOT's workforce, understanding the total amount of consultant costs is necessary in order to evaluate how consultants impact the budget.

Due to the higher cost of consultants, UDOT should consider the best mix of staff and consultants.

Over the past five years, UDOT has spent an average of $127 million per year in personnel costs (see Chapter I, Figure 1.3). To supplement their workforce, UDOT has also spent roughly $80 million per year on consultant services over the past three years. Even in a slower construction year like 2014, consultants make up a large portion of UDOT's workforce. Due to the higher cost of consultants, UDOT should consider the best mix of staff and consultants so that core functions and skill sets can be maintained in-house to properly monitor consultants and provide sufficient training for newer staff.

UDOT accounting management has agreed to make some adjustments to make it easier for oversight entities to determine total consultant costs. The lack of individual consultants' total hours at the time of this audit also made it difficult to determine the number of FTEs and the types of vacated positions that may have been filled by consultants.

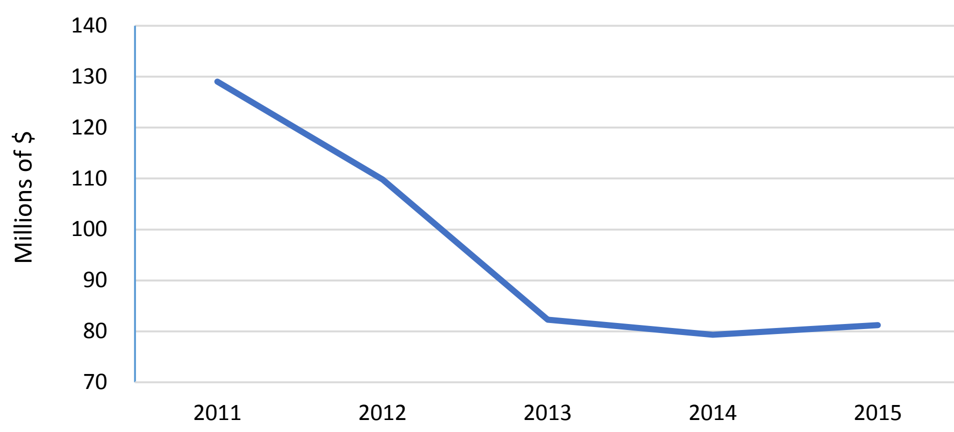
Total Consultant Costs Are Not Easily Identified in UDOT Budget

Consultants are individuals who provide professional, technical or routine services as part of a construction project or other operation; they often perform functions similar to those performed by UDOT employees. It is difficult to determine how many of UDOT's functions that were originally performed in-house are now being outsourced to consultants. This is because of the fluid nature of consulting and the lack of hourly consultant data available at the time of this audit. Some consultants fill positions held previously by UDOT employees, but most consultants are not replacing former full-time employees. However, we attempted to verify the magnitude of all consultant costs and their impact on UDOT's budget, with the understanding that a smaller portion of these costs represents former UDOT positions outsourced to consultants.

UDOT positions outsourced to consultants represent only a small portion of total consultant costs.

It took several weeks of working with UDOT to obtain a consulting cost total that UDOT felt was representative of its true consulting costs. Figure 3.5 shows that total consultant costs ranged from $79.3 million in fiscal year 2014 to a high of about $129 million in fiscal year 2011.

Figure 3.5. Consultant Costs Are $80 Million, Even in Slow Construction Years. Consultant use surges during major construction years, as in 2011 and 2012. This figure includes all consultant costs but not construction contractor costs.



Sources: Total: UDOT Comptroller's Office

Because UDOT relies heavily on consultants, consulting expenses make up a large section of UDOT's workforce costs. In a busy construction year like 2011, consulting costs were $129 million, nearly the same as the average personnel costs of $127 million per year for about 1,600 personnel (see Figure 1.3). Even in slow construction years like 2014, consultant costs were about two-thirds of total personnel costs. It is, therefore, necessary to be able to accurately determine consulting costs and their impact on the budget.

UDOT Should More Clearly Account for Consultant Costs

It is easier to use consultants than request new positions, since consultant costs are attached to projects and it is easier for UDOT to obtain project funding. Therefore, it is necessary that outside oversight entities be able to determine consultant costs and their growth in UDOT's budget.

Since consultant costs are attached to projects, it is easier for UDOT to use consultants than request new positions.

Because consultants charge their time to projects, consulting costs get spread out into multiple object codes within UDOT's budget, making it impossible to identify a consultant's total costs without UDOT's help. Some object code definitions are also loosely followed. As a result, an outside party cannot adequately determine true consultant costs. Because object categories and codes are a primary source for analyzing agency budgets, proper coding of agency expenditures is imperative to maintaining budget integrity and transparency. In the future, UDOT accounting management has agreed to adhere more closely to object code definitions in the chart of accounts, create an activity code to further identify consulting costs, and provide a template to identify the object codes containing all consulting costs.

Consultant costs are difficult to identify without UDOT's help.

UDOT Needs to Evaluate Its Use of Consulting Within an Overall Strategic Plan

UDOT management gives a number of reasons for filling vacant in-house positions and supplementing staff with consultants, for example: to avoid growing government; the flexibility to adjust labor to match fluctuating program and project needs; the ability to optimize full-time, in-house staff for full and best utilization; the value of cross-sector and outside innovation; the opportunity to leverage new, potentially temporarily needed, skillsets; and the option to terminate contracts with poor performing consultants. However, a more measured or calculated approach to using consultants is needed. A 2008 GAO study found that state DOTs do not adequately

A more measured or calculated approach to using consultants is needed.

compare consulting costs with in-house costs when making outsourcing decisions. UDOT's use of consultants to fill vacated positions also lacks any systemic approach or evaluation.

A 2011 Caltrans study found that "a greater number of reports support the assertion that generally, in-house services cost less than contracting out." Even though outsourcing generally costs more there are benefits to using consultants that may override costs. As one manager told us, contractors and consultants are used in his division because of the rapidly changing requirements of the work. Consultants can be quickly replaced with others who have the needed expertise. A cost/benefit analysis should consider these non-cost benefits. On the other hand, if the consultant looks like an employee, acts like an employee, and costs significantly more than an employee, maybe the service should be provided by an employee.

We believe UDOT should conduct a survey of outsourced positions historically held by in-house employees and conduct a cost/benefit analysis to determine which positions should be brought back in-house. This may include exploring the cost-saving potentials of using overtime with existing staff or filling and repurposing vacated positions. Besides costs concerns the increasing use of consultants has led to other issues.

Three other concerns have been expressed by state DOTs about the increasing use of consulting services: conflicts of interest, quality control, and loss of in-house expertise. We have talked with several UDOT managers from different departments who have expressed similar concerns. The Federal Highway Administration has found that

> with consultants and contractors involved in almost all highway activities, from design to final inspection, … more potential exists for conflicts of interest and for independence issues to arise.

Along with more potential conflicts of interests there are also safety issues. As will be discussed in Chapter IV, the increasing use of consultants may have contributed to improperly installed highway signs that create safety concerns.

Management could not specify what functions and skills it has determined need to stay in-house to maintain expertise.

Finally, there is a concern with the loss of in-house expertise needed to manage consultants and train newer employees. UDOT management has not determined what functions and skills need to stay in-house to maintain expertise and what limits it would set on consulting out its functions. Therefore, to address some of these concerns we recommend that UDOT identify those core functions and skills it believes should be maintained in-house to properly manage consultants and provide the training and experience necessary to develop newer employees.

Some Maintenance Activity Costs Are Higher Because of Outsourced Work

Due to the recession of 2008, management has been slow to replace vacated maintenance positions and has not been requesting additional maintenance positions for new lane miles. This has contributed to an increased dependence on contractors for maintenance and has contributed to increasing maintenance costs. Maintenance managers complain their costs have gone up due to contracting and say they are able to do less with limited budgets. Our review of several contracted maintenance functions shows that the unit cost of contracting can be considerably higher than in-house costs. Where vacant maintenance positions can be filled to accomplish the work, a cost/benefit analysis should be conducted prior to contracting out additional maintenance functions. This analysis should also take into consideration the seasonal nature of maintenance work.

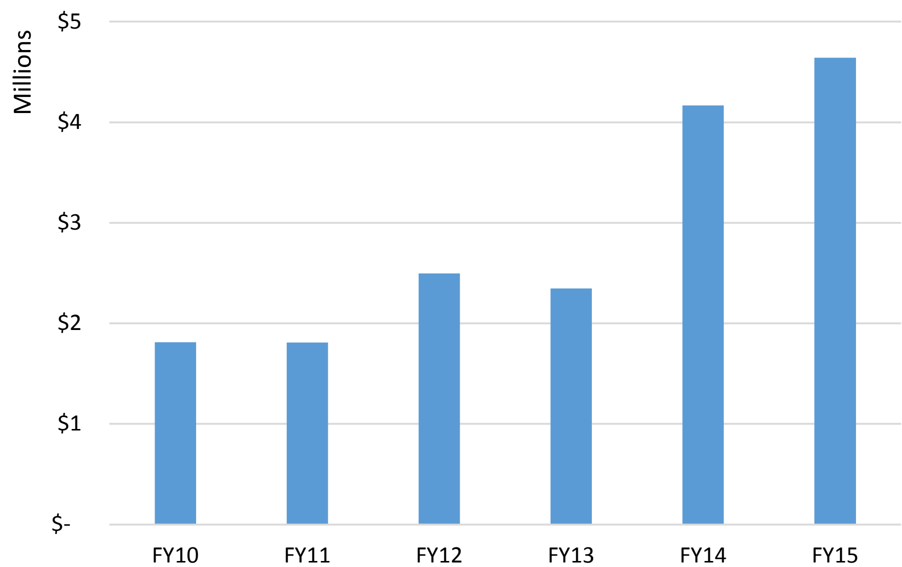
Outsourcing Contributes to Increased Maintenance Costs

UDOT has been decreasing the number of its FTEs since 2002. The 2008 recession further limited any growth, and UDOT sought reductions in FTEs where possible. UDOT created the Transportation Technician (Trans-Tech) program and eliminated some FTEs by combining maintenance and construction inspection workers into one cross-trained position. During the winter months, the Trans-Techs conduct plowing and maintenance projects, and during the summer months many of them are assigned to construction projects. This leaves only a few workers at each shed to do summer maintenance like mowing, culvert cleaning, and smaller road repairs. With fewer maintenance workers available to do road maintenance during the summer months, and with management reluctant to fill vacated equipment maintenance positions, contracting has been increasingly used to make up the difference.

With fewer maintenance workers available during the summer months, contracting has been used to make up the difference.

Figure 3.6 shows how rapidly maintenance contracting costs have increased in Region 2 since fiscal year 2013.

Figure 3.6 Region 2 Maintenance Contracting Costs Have Been Rapidly Increasing. From fiscal year 2013 to fiscal year 2015, contracting costs nearly doubled.



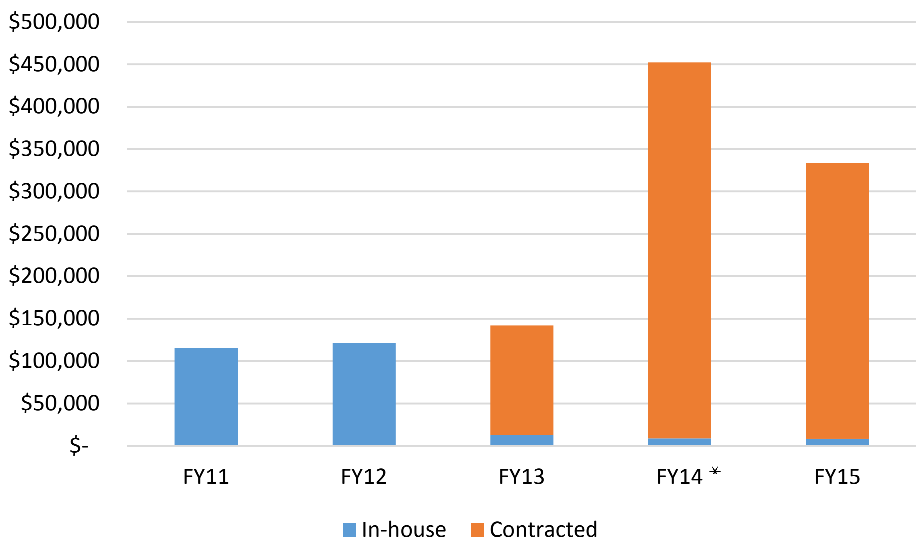
Source: UDOT

Though contracting currently makes up a small portion of Region 2's total maintenance budget, total contracting costs have doubled, going from about $2.3 million in fiscal year 2013 to $4.6 million in fiscal year 2015. In some cases the workload has increased, so not all of the growth in maintenance contracting costs is due to unfilled maintenance positions.

Region 2 Lawn Mowing Costs Increased Dramatically After Being Outsourced

We further sampled three maintenance activities that are contracted out to gauge the cost differences of outsourcing versus using in-house employees. Figure 3.7 shows that the total cost of lawn mowing in Region 2 has nearly tripled since UDOT began contracting it out to a Florida firm in fiscal year 2013.

Figure 3.7 Region 2 Total Lawn-Mowing Costs. Total lawn-mowing costs have increased dramatically after most lawn mowing was contracted out by the region in fiscal year 2013.



Source: UDOT
**A portion of fiscal year 2013 costs were recorded in fiscal year 2014.*

Lawn-mowing costs have increased dramatically in Region 2 after most lawn mowing was contracted out.

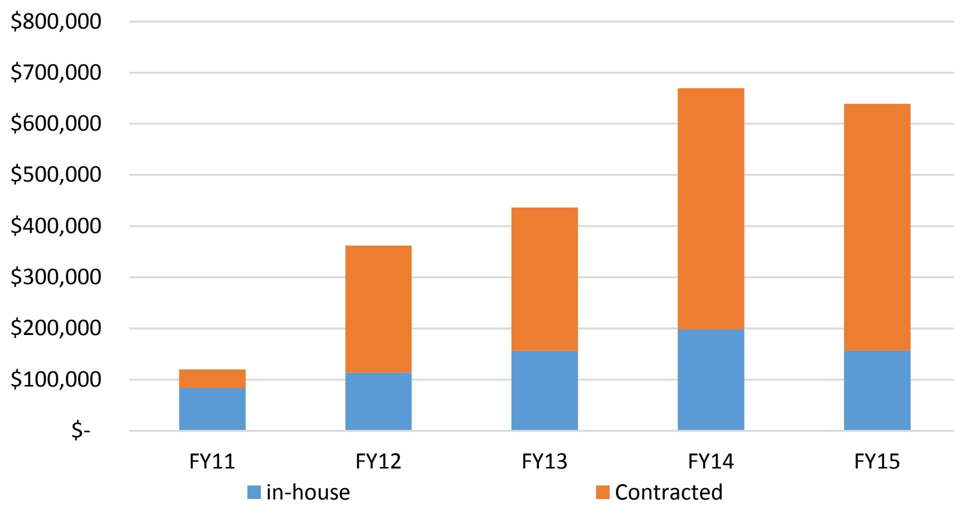
Since the region has not done most of their mowing for three years we were unable to verify UDOT's actual costs per mile mowed or the amount mowed prior to the contract. The contractor does have additional trash pickup requirements and lane miles have been added that contribute to the increased cost. Regional management still believes they can save money by doing the mowing in-house. The difficulty is that much maintenance is seasonal work, and this would have to be factored into any cost/benefit analysis. However, we were unable to verify any cost/benefit analysis conducted by UDOT prior to contracting out mowing.

Outsourced Culvert Cleaning Is More Costly per Hour

Figure 3.8 shows that culvert cleaning costs for Region 2 have also dramatically increased since fiscal year 2011. This increase in costs is partially due to more frequent cleaning in the past few years by in-house maintenance as well as the use of costlier contractors.

Culvert-cleaning costs have increased fivefold in Region 2 in part due to outsourcing.

Figure 3.8 Region 2 Total Culvert-Cleaning Costs. Culvert or storm drain cleaning costs have increased fivefold since fiscal year 2011.



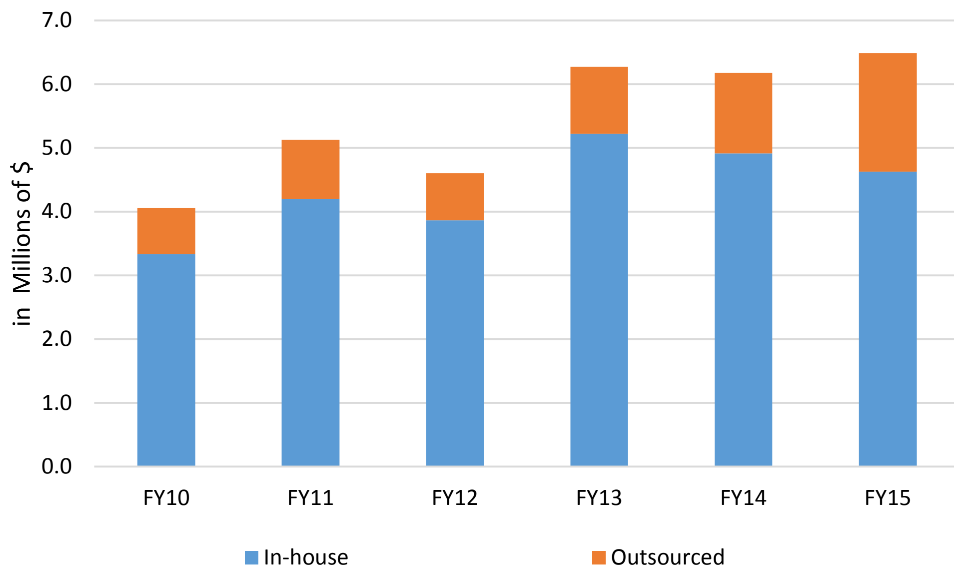
Source: UDOT

Culvert cleaning requires a $400,000 vacuum truck operated by two men. Region 2 currently owns and operates three vacuum trucks. We estimate the incremental cost of adding one truck and a two-man crew would cost UDOT $137 per hour to operate. Contracting culvert cleaning costs $222 per hour for the lowest contracted price, but other contracts run $350 to $877 per hour. Although there is great variation in price, culvert cleaning speeds are reported to be similar. Again, we were unable to find any cost/benefit analysis of contracting out culvert cleaning.

In-House Equipment Maintenance Costs Less than Outsourcing

Figure 3.9 shows that equipment maintenance costs have also been increasing. This increase is due, in part, to the higher cost of contracting out equipment repairs. In-house maintenance repair costs also increased after 2012 by following state purchasing rules more closely by purchasing only from vendors under contract.

Figure 3.9 Equipment Maintenance Costs Increased as More Expensive Contract Repairs Were Used. Since fiscal year 2013, equipment repair has increasingly been outsourced as maintenance positions have been vacated.



Source: UDOT

Contracted equipment repair costs two times more per hour.

We estimate that the variable in-house cost to add one equipment mechanic costs $37 per hour, including all benefits, tool allowance and yearly retirement costs. Contracted equipment repair costs more than twice that amount, at $80 per hour. There has been up to 11 vacant mechanic positions since 2013, contributing to the increased use of more costly contractors. Many requests to fill these vacant mechanic positions have been made. Permission was recently granted to rehire four (three mechanics and one administrator) of the 11 vacant positions. Due to the potentially higher costs of outsourcing equipment repair, less actual repair may be accomplished with the same limited funds, and UDOT equipment could take longer to get back on the road, reducing productivity and efficiency.

Due to the potentially higher costs of outsourcing maintenance functions, less actual maintenance may be accomplished with the same limited funds.

UDOT's most recent outsourcing of maintenance appears to be more of a default response than a calculated analysis of the costs and benefits. However, a UDOT manager did tell us that line painting has been contracted out in Region 2 because their analysis showed that the high cost of the equipment needed to apply epoxy based paints, as well as the skills and changing nature of the technology, made outsourcing more economical. Line painting is still done in-house in other regions that have less traffic and can use water-based paints. Similar analysis should be performed prior to outsourcing other maintenance functions.

Best Practices Suggest Outsourcing Maintenance Needs to Be Evaluated

The 2008 GAO study mentioned earlier in this chapter says that contracting out routine maintenance activities by state DOTs was relatively low. It also says that state DOTs do not adequately compare outsourcing costs with in-house costs when making outsourcing decisions. A 2011 Nevada study of outsourcing DOT maintenance functions found that Nevada's DOT was generally competitive pricewise. The study recommended that they use a contracting decision matrix and compare unit costs to evaluate expenses of using in-house employees versus contracting. A Louisiana DOT study also developed a model to assess outsourcing potential. A 2007 Oregon study concluded that "when there is an opportunity to choose between outsourcing and insourcing, the decision to outsource or insource should be based on cost." UDOT should conduct similar analysis before outsourcing functions that could be done by filling vacated positions.

The limited comparisons of cost differences show that UDOT can perform many functions more cheaply compared to outsourcing.

When contracting out technical engineering services, cost is only one factor to consider, but when contracting out routine maintenance functions, cost should be the main driver. The limited comparisons of cost differences in this chapter show that UDOT can perform many functions more cheaply than outsourcing. Management should conduct a cost/benefit analysis prior to contracting out maintenance work that could be done in-house by filling maintenance vacancies. Management should also conduct a cost/benefit analysis of hiring in-house employees versus outsourcing to maintain new lane miles. If significant savings can be achieved by hiring additional maintenance workers instead of contracting, UDOT should present these potential cost savings to the Legislature. With this information, legislators can make a more informed decision about the benefits of hiring versus contracting.

Recommendations

1. We recommend that UDOT adhere more closely to object code definitions in the chart of accounts, create an activity code to

further identify consulting costs, and provide a template to identify the object codes containing all consulting costs.

2. We recommend that UDOT identify those core functions and skills it believes should be maintained in-house to properly manage consultants and provide the training and experience necessary to develop newer employees.

3. We recommend that UDOT conduct a cost/benefits analysis before outsourcing in-house positions.

4. We recommend that UDOT conduct a cost/benefit analysis prior to contracting out maintenance work to determine if it could be done more cheaply in-house by filling maintenance vacancies.

5. We recommend that UDOT conduct a cost/benefit analysis of hiring in-house employees versus contracting with consultants to maintain new lane miles.

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Chapter IV
Contract Oversight Needs to Be Strengthened

Contractors' incorrect installation of 109 signs on SR 36 in Tooele and another dozen unsafe signs on the southern end of Bangerter Highway shows that UDOT's contract oversight needs to be evaluated. UDOT's oversight processes should have identified the incorrectly installed signs on SR36 before 109 of them were installed. Additionally, unsafe signs on Bangerter Highway were not identified as being installed incorrectly until after the project was completed. A Government Accounting Office (GAO) study reveals that as layers of contractors are used, thus increasing the distance between UDOT and actual construction, quality of projects can suffer. As the use of consultants and contracting increases, UDOT's quality assurance process will need to be reviewed to ensure projects meet specifications for quality and safety.

Unsafe signs were not identified as being installed incorrectly until after the project was completed.

Improper Road Sign Installation Shows Contract Monitoring Needs Improvement

In 2015 residential engineers oversaw 154 projects, down from a high of 224 projects in 2013. Considering the large number of construction projects overall that UDOT manages each year, it is not unreasonable to assume some errors would be made. Unfortunately, on SR 36 in Tooele, 109 signs did not meet UDOT regulations. Most signs were installed with the breakaway joint too far from the concrete base (see Figure 4.1). UDOT regulations require the breakaway joint to be 2.5 inches from the concrete base, so that in the event that a vehicle hits the signpost, the sign will break off at the joint and avoid causing injury. According to UDOT, the contractor will have to pay to fix the signs. While the errors with the signs were identified, controls should have caught the mistakes sooner than they did.

109 signs on one project did not meet UDOT regulations.

Figure 4.1 This Road Sign Is One of 109 Signs on a SR 36 Project That Did Not Meet Design Standards for Safety. The breakaway joint should be no more than 2.5” from the concrete base, but this joint is 11” from the base.

Source: Auditor photo

SR 36 was under construction for much of the winter of 2015-16, and to get signage in before winter the contractor installed the road signs prior to grading the sides of the road. The final grading will most likely bring the soil closer to the breakaway joints, but the joints will still be farther than 2.5 inches from the concrete base.

Monitoring should have prevented and/or caught these installation issues much sooner.

These signage errors were identified by current quality assurance processes, but not before 109 signs were installed. Proactive monitoring should have prevented and/or caught these installation issues much sooner. A UDOT engineer reported that the contractor is now required to fix all signs.

On the southern end of Bangerter Highway, roughly a dozen signs were installed incorrectly by the contractor. Many of these signs did not meet either the 9-foot height requirement or the 12-foot required distance from the road's edge. Figure 4.2 shows a sign that was installed too close to the road edge, leading to safety concerns.

Roughly a dozen signs on the southern end of Bangerter Highway do not meet either the 9-foot height requirement or the 12-foot required distance from the road's edge, creating safety concerns.

Figure 4.2 This Bangerter Highway Sign Was Required by UDOT Regulations to Be Placed 12 Feet from the Roadway for Safety Reasons. It has been struck and damaged several times by passing trucks.

Source: Auditor photo

According to UDOT regulations, this sign should have been installed 12 feet from the white line for safety reasons. Instead the sign is no more than a few feet from traffic as the red arrows show. Due to its proximity to traffic, it has been struck several times by passing trucks, damaging the sign and risking injury.

On this same stretch of road, two other incorrectly installed signs were quickly removed due to their hazardous locations. One of these signs is shown in Figure 4.3 on the following page. The photo shows one of two exits on Bangerter Highway near Redwood Road where signs created a hazard. These signs were originally installed by contractors in the space between the road and the off-ramp. The postholes visible in the foreground mark the original placement of the signs. With the curve in the road and the continuously level surface, an inattentive driver could have easily hit one of these signs while making a late break for an exit. Fortunately, a UDOT engineer noticed the problem and had the signs removed and reinstalled on the barriers in the background.

Figure 4.3 Because of Safety Concerns, This Sign Was Soon Removed and Reinstalled over the Barrier. Notice the postholes from the prior installation in the foreground.

Source: Auditor photo

The oversight and monitoring processes designed to prevent these errors failed to catch them before work commenced.

The sheer number of signs installed incorrectly on SR 36 and the obviously dangerous signage on south Bangerter Highway point to failures in quality control. Engineers we talked with said these signage errors were due to multiple failures. The consultant engineers designed the sign placements incorrectly, the contractor installed them as designed, and UDOT inspectors and engineers either did not inspect in time or incorrectly passed them off the punch list. They also said there are concerns with the way contract monitoring and quality assurance are currently operating. The oversight and monitoring processes that should be in place to prevent these errors failed to catch them before work commenced.

GAO Study Suggests Contracting Requires Adequate Oversight and Monitoring

If UDOT continues to increase the use of contractors and consultants, problems are more likely to occur as UDOT personnel are further removed from the work. A 2008 GAO study of state DOTs mentions how the increasing use of consultants negatively impacts project monitoring:

Current trends in the use of consultants and contractors means state employees are increasingly removed from day-to-day project oversight.

> State DOTs also face additional challenges in conducting adequate oversight and monitoring, given current trends in the use of consultants and contractors. For, example, while state employees are always ultimately responsible for highway project acceptance, they are increasingly further removed from the day-to-day project oversight.

This same study reviewed several state auditor reports and found that

> weaknesses in state DOTs' procurement and oversight practices, such as the absence of aggressive price negotiations, failure to consistently assess the quality of consultant and contractor work, and failure to fully comply with quality assurance procedures. Such weaknesses can lead to lower-quality highway construction and the inefficient use of public funds. Other trends in contracting pose additional challenges to state DOTs in conducting adequate oversight and monitoring.

Given UDOT's increasing reliance on consultants and contractors to conduct much of its work, an effective quality assurance program must take into account this increasing distance from the work and adopt procedures and processes to ensure quality and safety of contracted work.

Recommendation

1. We recommend that UDOT reevaluate their quality assurance and contract oversight procedures to better ensure contract compliance with quality and safety. Revised procedures would include, but are not limited to:

   - ensuring employees with inspection responsibilities are properly trained,
   - properly reviewing design plans prior to installation,
   - and ensuring procedures are in place to detect and correct concerns earlier.

Chapter V
Enhanced Cooperation and Oversight Would Strengthen the Corridor Preservation Fund

The UDOT Right of Way Division (ROW) should be more proactive in working with municipalities to ensure the efficient use of Marda Dillree Corridor Preservation Fund (CPF, or the fund) monies. ROW manages the CPF, which was statutorily created to buy undeveloped land and houses in future state road corridors. However, some cities have taken actions that have greatly increased the cost of purchasing these lands. Cities that work well with ROW have been able to discourage development in corridors and reduce costs to the fund. We recommend that ROW increase outreach to municipalities to educate them on what tools they can use to protect corridors and encourage efficient use of fund monies.

Some cities have taken actions that have greatly increased the cost to purchase lands in corridors.

While most CPF monies are used to purchase land, some funds have been used to buy homes in state road corridors. UDOT is required to purchase the property of homeowners who meet hardship requirements. These homes are then rented, which increases the CPF's balance. Due to the large amount of home assets ($12 million) and yearly rent revenues (up to $500,000), and the fact that there have been past mismanagement problems, we recommend periodic review of home asset management by someone independent of the ROW division.

More Proactive Measures Could Strengthen Corridor Preservation Fund

The CPF is a revolving fund with total assets valued at over $174 million. Revenues for the fund come mainly from motor vehicle rental taxes. The fund purchases undeveloped land and homes in planned state road corridors up to 30 years before construction is planned to start. All purchases made by the fund must be approved by UDOT management, the Corridor Preservation Advisory Council, and the Utah Transportation Commission. Just prior to construction of a project, the CPF is refunded it's property acquisition costs with project funding.

Revenues for corridor preservation come mainly from motor vehicle rental taxes.

When cities do not cooperate to control development in corridors, the costs to the CPF can increase dramatically. Current statute allows cities to regulate development in state corridors, but some cities may be unaware of what tools are available to work with owners to manage corridor development. Studies done on corridor preservation say cooperation between a department of transportation (DOT) and municipalities is essential for success, and Utah cities that work with ROW have come up with solutions that satisfy most parties. To improve corridor preservation management, we recommend that ROW reach out to municipalities to educate and better inform them of their role in corridor preservation.

When cities do not cooperate to control development in corridors, the costs to the CPF can increase dramatically.

Actions by Some Municipalities Cost the CPF Millions

The cost of fully developed land with buildings and businesses is much higher than the cost of undeveloped land. The CPF was created to mitigate these costs through purchasing undeveloped land in future state road corridors. Since municipalities have local police power when it comes to zoning, their cooperation with CPF is essential for effective corridor preservation.

Since cities have the local police power when it comes to zoning, their cooperation is essential for effective corridor preservation.

Unfortunately, actions by some municipalities have greatly increased the cost to the CPF. It is impossible to measure the total impact of every action, but here are some examples:

- In July 2005, a property owner, who was aware his land was in the middle of a future state road corridor, obtained a zoning change from the city, changing the zoning from agricultural to high-density housing. At that time, the city was also aware the property was in a designated corridor, and most of the surrounding properties at the time were agricultural and undeveloped land. A month later, the owner received acceptance of his platting of the land for 284 housing units. The owner admitted he had no intention of developing the land himself but was seeking a buyer. After some negotiating in March 2006, the CPF purchased the land for $4.54 million. The assessment prior to the zoning change and platting valued the land at $1.2 million.

- A UDOT-owned plot of land that was purchased with CPF monies and was adjacent to a state road was originally zoned for residential housing. In March of 2016 UDOT no longer needed the property and was in negotiations to trade it for land that a developer owned in another corridor. When the developer learned that the city had changed the zoning from residential land to a park, which change was unknown to UDOT, the negotiations broke down. After the zoning change, the value of UDOT's plot of land went from $750,000 to essentially $0.

- In 2006, a city annexed land in a corridor. Upon annexation, the city immediately rezoned the land as low-density housing according to their master plan. This increased the value UDOT had to pay for farmland by almost 2 dollars per square foot in 2010.

Corridor preservation is difficult because the zoning powers are vested in multiple independent municipalities, and a delicate balance must be sought between protecting the property rights of individuals and addressing the state's need for affordable transportation systems. However, when cooperation is achieved between municipalities and ROW in seeking ways to preserve corridors while satisfying owners' needs, CPF monies can be used more efficiently.

A delicate balance must be sought between protecting the property rights of individuals and the addressing the state's need for affordable transportation systems.

Some Municipalities Work Well with UDOT To Efficiently Use CPF Monies

UDOT has told us that some cities work well with them and with property owners to preserve future corridors. For example:

- One city gave a developer increased housing density on the portion of his land that was not within the corridor. This allowed the developer to build the same number of units on the remaining land. In return, the developer donated the land in the corridor to the city, which then donated the land to UDOT. Since the land was donated it had not been appraised, but it saved the CPF a significant amount of money.

- Another city that reportedly works well with UDOT has declared an annexation development policy. Under this policy, the city will not annex land in the corridor until the corridor is built, so that the land will remain in the county until then. The lack of utilities like sewer and water systems in counties limits development. In order to fully develop, land owners' properties need to be annexed by a city to connect with the city's utilities.

This same city also informs UDOT when properties in the corridor go up for sale and has traded city land for UDOT land they wanted to use as a park.

Cities can employ land-use policies and other mitigating strategies in order to gain cooperation from landowners and use limited CPF monies more efficiently.

Cities can employ land-use policies and other mitigating strategies to gain cooperation from landowners and more efficiently use limited corridor preservation funds.

Statute Encourages Municipalities to Work With UDOT for Efficient Use of Funds

Since cities are independent in their ability to use their police power for land-use control, statute encourages their cooperation in corridor preservation. Utah Code 72-5-403 states:

> (1) The department, counties, and municipalities may:
>
> (a) act in cooperation with one another and other government entities to promote planning for and enhance the preservation of transportation corridors and to more effectively use the money available in the Marda Dillree Corridor Preservation Fund.

This same statute, which calls for voluntary cooperation between cities and UDOT for the efficient use of funds, also says that counties and municipalities may

> (a) limit development for transportation corridor preservation by land use regulation and by official maps; and (b) by ordinance prescribed procedures for approving limited development in transportation corridors until the time transportation facility construction begins.

Utah's property rights ombudsman has counseled that property owners have the right to develop within the limits that the zoning allows as long as the owner fulfills all procedural requirements. However, no one has a right to a zoning change or increased zoning density. Given that property owners have the right to develop their land, there are other mitigating measures, mentioned later in this chapter, that can be used to gain cooperation with landowners and limit development in corridors.

Corridor Preservation Studies Say Cooperation Between Municipalities and the DOT Is Critical for Success

A 2008 Texas guideline manual for corridor management (CM) and corridor preservation (CP) states that "In order for TxDOT to be successful in CM and CP, cooperation and coordination with the cities and counties is imperative." The manual also encourages TxDOT to take the lead in establishing the program and process for working with local governments for corridor preservation before it is too late or too difficult to achieve the desired condition.

The DOT should take the lead in establishing the program and process for working with local government for corridor preservation.

A 2008 Project for Public Spaces study on corridor preservation observed similar findings in New Hampshire. On one corridor preservation project, the New Hampshire DOT realized they could only succeed with the participation of those responsible for making land-use decisions. To tackle the problem, they launched regular community meetings, a quarterly newsletter, and working groups, and they used creative communication tools to help town officials. They learned that successful corridors need vigilant management and that by integrating land-use and transportation planning, they could revitalize communities. They saw themselves as facilitators of transportation and land-use plans by providing resources and expertise.

UDOT's own 2003 corridor preservation study also found that "local government support and coordination are critical in leveraging scarce Corridor Preservation Fund resources." The report found that UDOT would benefit from being proactive in corridor preservation, and should identify needs and supporting actions through long term planning.

UDOT Should Consider Ways to Increase Cooperation with Municipalities

UDOT has created a Local Government Corridor Preservation Toolkit and appears more involved with cities than their earlier study suggested, but management has admitted they could do more to educate and reach out to municipalities. ROW should take the lead in communicating and working with local governments.

ROW should be more proactive by working with cities in advance to limit development in corridors.

Under current law, municipalities must give UDOT a 45-day notice of development in a designated high priority corridor so that UDOT has a chance to buy the property before development begins. This required notice is often the first time ROW learns about a potential development in a corridor. Consequently, the funds are not always readily available, and the owner might not agree on the assessed market value. ROW should be more proactive by working with cities in advance to increase communication, assist in planning and educate them on mitigating strategies that have been successful elsewhere. The Center for Urban Transportation Research has identified best practices in corridor preservation. These include mitigating strategies to encourage property owners to limit development such as

> density credits/transfers, transportation impact fees, cluster development, setback waivers, clean take line, interim use agreements, tax abatement, variances and waivers.

By educating cities and counties on the strategies that can be used to preserve corridors, and by increasing lines of communication, ROW can help ensure that corridors are better preserved and CPF monies are used more efficiently.

Management of Home Assets Should Be More Closely Monitored

Inverse condemnation suits have forced UDOT to buy homes in corridors due to homeowner hardships. Though home purchases do tie up a small percentage of funds, rental of these homes increases the overall fund balance. Current home assets are valued at over $12 million, with yearly rents of up to $500,000. Because homes make up a significant amount of the $174 million total CPF value, and a previous employee was caught mismanaging home assets, we recommend that home asset management should be periodically monitored by a party independent of ROW.

UDOT Owns and Rents Homes Worth $12 Million

Since homes often have a smaller footprint and are more costly per-acre than vacant land, home assets could tie up preservation funds.

Figure 5.1 shows that as of March 2016, the fund owned 54 homes at a total acquisition cost of $12.4 million.

Figure 5.1 UDOT Owns 54 Homes in Corridors. The total acquisition cost of these homes is just over $12 million.

Corridor	Total Purchase Price	Homes
Mountain View Corridor	$ 150,028	1
West Davis Corridor	2,423,741	8
US 89 Northern Corridor	9,360,882	42
Other	453,105	3
Total	**$ 12,387,756**	**54**

Source: Auditor analysis of UDOT data

Homes only represent 7 percent of total CPF assets.

Homes only represent 7 percent of total fund assets. Most of these homes are along the US 89 northern corridor, which is more developed than other corridors. Planning to build a state road on land that includes someone's home can make it nearly impossible to sell the home at market prices. This obstacle alone can represent a hardship to the owner and can justify the fund's purchase of a home.

Hardship Purchases of Homes in Corridors Is Done to Avoid Inverse Condemnation Lawsuits. A 1996 inverse condemnation lawsuit by homeowners in the U.S. 89 corridor forced UDOT to purchase their homes. These homeowners were unable to sell their homes because a corridor, which would not be built for many years, was planned through their properties. They sued to force UDOT to condemn and purchase their homes. Now homeowners in a corridor only need to demonstrate one of a number of defined hardships (such as financial or physical, or the inability to sell) to have UDOT purchase their property. When homeowners can show hardship and funds are available, ROW management seeks to purchase these properties.

Homeowners in a corridor only need to demonstrate a hardship to have UDOT purchase their property.

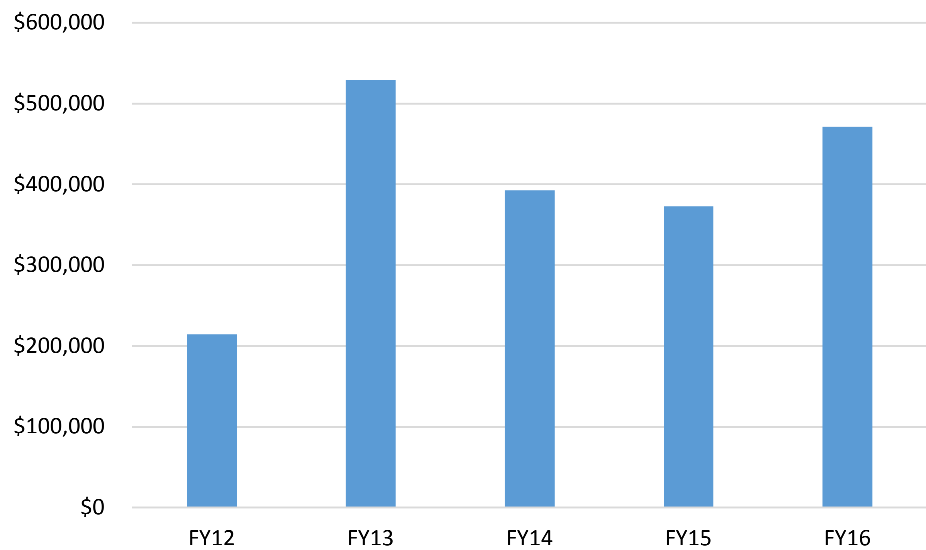
Home Purchases Increase Overall Fund Balance

While we cannot provide an exact amount, the CPF saves the state a significant amount of money in future acquisition costs by purchasing land before a home or business is built on it. It also encourages surrounding development compatible to the future corridor. However, purchasing a home years before road construction begins, will typically only save the future cost of inflation on the home. Unfortunately, all homes in corridors will have to be purchased and demolished prior to road construction, destroying much of the value of the property.

Buying homes early does allow UDOT the opportunity to earn rents until road construction begins.

However, buying homes early due to hardship does allow UDOT the opportunity to earn rents until road construction begins. ROW currently uses three property management firms to rent and maintain their home assets. Figure 5.2 shows that rents have added nearly $2 million in value to the CPF over the past five years.

Figure 5.2 Revenues for Home Rentals Increase Overall Fund Balance. The CPF increased almost $2 million over the past five years due to rent collected on homes.



Source: UDOT ROW

Buying homes early and collecting rent on the homes increases the overall value of the fund, while virtually no rents are collected from vacant land owned by the fund. However, rental revenues can fluctuate year to year as the number of homes changes, projects refund acquisition costs, and other homes are purchased. Rental revenues can also fluctuate due to management practices.

Home Assets Should Be More Closely Monitored To Ensure Maximum Rental Revenues

In fiscal year 2011, ROW suffered a loss of $85,000 in home rental revenues due to an employee having inappropriate connections with a property management firm. ROW management told us they let the employee go and made changes to their processes to control for future problems. Our overview of these processes shows them to be reasonable. However, due to the large value of home assets, the many decisions that must be made to maintain and keep them profitable, and the fact that just a few ROW employees manage these assets, we recommend a periodic review of home asset management by someone independent of the ROW division to ensure adequate controls are in place.

Due to the large value of home assets and prior mismanagement, we recommend a periodic, independent review of home asset management.

Recommendations

1. We recommend that ROW be more proactive by working with cities in advance to increase communication, assist in planning, and educate them on mitigating strategies that have been successful elsewhere.

2. We recommend a periodic review of home asset management by someone independent of the ROW division.

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Agency Response

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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: An In-Depth Budget Review of the Utah Department of Transportation

Thank you for the opportunity to respond to **An In-Depth Budget Review of the Utah Department of Transportation** (Report #2016-05) 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 enclosed responses to the recommendations listed in **An In-Depth Budget Review of the Utah Department of Transportation**.

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

Sincerely,

Carlos M. Braceras, P.E.
Executive Director

CMB/EW/dej
Enclosure

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Chapter II: Improved Budgetary Controls Are Needed

General Comments on the Chapter:

The dedicated credit portion of the funds in the Equipment Management line item has been appropriated, as described in the chapter, for more than 15 years to implement a dual-rate structure as recommended in a previous third-party performance audit.

The dual rate is comprised of the fixed cost (depreciation of the equipment) and usage cost (repairs, preventative maintenance and fuel). This created the opportunity to differentiate between the actual cost of the equipment and the cost to utilize the equipment, which improves equipment-related decision-making, resulting in more cost-effective equipment operations; however, the Auditors are correct that this process creates a "double counting of revenues" issue.

UDOT Response to Recommendations

1. **We recommend that UDOT work with LFA to implement the most workable option to avoid double counting revenues in the Equipment Management line item and prevent moving funds between line items.**

   UDOT has worked with the State Division of Finance and the Legislative Office of the Fiscal Analyst, and UDOT agrees to recommend to the Legislature that they combine the line items of Equipment Management and Operations/Maintenance.

2. **We recommend the Legislature consider creating a distinct line item for UDOT's cooperative agreements in order to account and budget for them separately from UDOT's operational budget, eliminate their inflationary effect, and bring them in line with statute.**

   UDOT has worked with the State Division of Finance and the Legislative Office of the Fiscal Analyst, and UDOT agrees to recommend to the Legislature that they create a new line item in the transportation budget to reflect the cooperative agreements for federally-funded local government projects.

3. **We recommend that the local match and federal dollars be appropriated separately from each other within the new cooperative agreements line item, as is done in the Minimum School Program.**

   This is a policy decision for the Legislature.

4. **We recommend that UDOT make estimates of cooperative agreements funding in the budgeting process instead of using the $1.6 million placeholder that is currently used in the Construction Management line item.**

   We agree to develop yearly estimates for local match and betterments as a placeholder for the cooperative agreements. Currently there is a placeholder in our budget of $1,600,000 to account for these cooperative agreements. We can make an educated estimate of the cooperative agreements; however, this will still be an estimate, as actual amounts of the cooperative agreements do not exist until the agreements are developed and projects are completed and financially closed. The actual amount of these agreements will change dramatically from year to year.

   Cooperative agreements are primarily entered into between UDOT and local governments for local projects that are federally funded. On these projects, UDOT has stewardship responsibilities to assure that the federal money is utilized in compliance with the Code of Federal Regulations (CFR); therefore, UDOT holds the contracts and makes the payments. Often, local governments want to add betterments (e.g. utilities, enhancements, etc) to the project, and they are required to use local money to do so. Additionally, they are responsible for the local match portion of the project. The amount of the individual cooperative agreement would not be finalized until the project is completed and financially closed, which is typically several years after the agreement is initially executed.

5. **We recommend that the Legislature consider updating statute to reflect current accounting of B&C road funds.**

   This is a policy decision for the Legislature. Current code (72-2-107(2)) states: *"(a) Except as provided in Subsection (2)(b), all of this money shall be placed in an account to be known as the class B and class C roads account to be used as provided in this title*."

   Currently, the Department is distributing proceeds directly from the Transportation Fund.

   Existing statute also states: *"(b) The director of finance shall annually transfer $500,000 of the amount calculated under Subsection (1) to the department as dedicated credits for the State Park Access HIghways Improvement Program."*

   Currently, the Department is distributing proceeds directly from the Transportation Fund. The Director of Finance does not transfer it as a dedicated credit.

6. **We recommend that UDOT's internal audit function obtain the independent audits according to its own regulations and review cities' and counties' spending of B&C road funds for compliance.**

UDOT fulfilled the statutory duty for B&C Funds to be expended under the direction of the department by adopting administrative rules (R926-3) that require uniform accounting of funds, require adherence to all laws pertaining to B&C Fund expenditures, and require local authorities to meet annual audit requirements as provided in Utah Code Title 51, Public Funds and Accounts.

Because local authorities already meet state financial reporting requirements through the annual GASB 34 report, it seemed consistent with state practice for B&C Fund expenditures to be included in that annual report, particularly since the B&C Fund represents a small portion of total revenue distributed by the state to local entities. Although a copy of those annual reports are submitted to the State Auditor, state code does not require local entities to submit GASB 34 reports or any other local financing reports to UDOT for an audit review.

To assist local entities, the UDOT Local Government Programs Engineer schedules annual visits with city and county officials and includes training on the B&C Fund program, with at least one annual meeting held in each of the state's 29 counties. Additionally, during those annual visits, local officials are advised that UDOT's Director of Internal Audit is available to answer any audit related questions.

Through adoption of administrative rules and annual training, UDOT officials are confident that state statutory duties pertaining to the B&C Fund are fulfilled.

We agree to require local governments to submit their independent audits to UDOT's audit division; more in-depth review of these audits would require additional Department resources.

7. **We recommend that UDOT analyze the maintenance impact of TIF projects on the capacity program and provide the Legislature with options to mitigate their impact on the capacity program.**

As per statute, TIF funding can be used for the maintenance and operations of those projects constructed using TIF funds. Each year, the Legislature appropriates funds to UDOT based on its requests to the Legislature to move funding from TIF into the Transportation Fund to be used for operation and maintenance of those projects. As the audit pointed out, these requests have the potential to reach into the tens of millions of dollars per year. This occurs when a given TIF project is due for a pavement or structure preservation treatment.

UDOT is in the process of developing a recommendation for the Legislature so that the amount of funds requested to be moved from TIF follows a more predictable trajectory.

Chapter III: Outsourcing Needs to Be Evaluated by UDOT

General Comments on the Chapter:

For nearly fifteen years, UDOT has employed a strategic approach of utilizing consultants for certain tasks and in specific parts of its business. This allows in-house, full-time staff to be fully and optimally utilized. Consultants supplement staff to manage a workload peak, help institute a new innovation or provide a skill that UDOT currently does not have.

UDOT's approach to labor cost management has been to focus on cost efficiencies achieved by managing workload across functions, rather than focusing on discrete tasks. While it is true that the individual hourly rates of consultants are typically somewhat higher than in-house full-time employee hourly rates, UDOT often uses consultants in a temporarily role. They are not being used for full-time 2080 hours per year; they are only used for the finite period of time they are needed. This means that during times of workload lull, UDOT is not faced with the problem of inefficient, underutilized staff who are then at risk of termination.

This chapter (Figure 3.4) describes consultant costs as nearly three times as much as correlating in-house FTEs. The total hourly cost listed for consultants (outsourced) included items that were not included in the hourly rate for in-house staff (e.g. overhead rate, fixed fee); in trying to draw a fair comparison, the two rates are not truly commensurable, thus misrepresenting the true difference in cost between in-house and outsourced labor.

In the areas of design engineering and construction oversight we do rely heavily on the consultant community. On average, 85 percent of our design projects and 65 percent of our construction projects are outsourced. These consultants charge 100 percent of their time to the projects they work on, thereby documenting the true costs of these projects.

A different, less common type of consultant use occurs in some divisions of our organization where consultants supplement our workforce to meet short-term and near-term needs. This chapter states that UDOT is filling former full-time UDOT positions with consultants, and the result is that some divisions are "heavily staffed with consultants." The audit reports that there are 37 consultants working in these divisions. These same divisions have more than 450 FTEs, meaning consultants make up less than 7.5 percent of the work force. While UDOT does strategically leverage full-time consultants in certain cases, the practice is relatively selective. Performance and operational efficiency have been key drivers in determining whether to outsource a task or position.

UDOT Response to Recommendations

1. **We recommend that UDOT adhere more closely to object code definitions in the chart of accounts, create an activity code to further identify consulting costs and provide a template to identify the object codes containing all consulting costs.**

UDOT will implement a FINET Activity field as an additional accounting classification element for the object code. This will simplify the analysis of consultant costs. The majority of consultant costs are to develop projects and are, therefore, related to specific project budgets; project budgets are ultimately accountable to the Utah Transportation Commission.

2. **We recommend that UDOT identify those core functions and skills it believes should be maintained in-house to properly manage consultants and provide the training and experience necessary to develop newer employees.**

The identification of core functions and skills is an important step to maintain a viable workforce now and into the future. UDOT has identified many of these core competencies throughout our organization; however, we need to document and maintain a list of these competencies.

More than a year ago, UDOT hired a Chief Learning Officer who is working on the task of identifying core competencies and creating a detailed training plan for each position in our organization. The Department has recently developed a Learning Management System to customize training plans for every employee.

Here is a sampling of recently developed trainings:

- New Project Manager Orientation/Training
- Project Management Workshops
- Project Management Certification

UDOT will continue its efforts in identifying, documenting and training for core competencies.

3. **We recommend that UDOT conduct a cost/benefit analysis before outsourcing in-house positions.**

UDOT agrees to conduct a cost/benefit analysis when determining whether to utilize in-house or outsourced resources.

4. **We recommend UDOT conduct a cost/benefit analysis prior to contracting out maintenance work to determine if it could be done more cheaply in-house by filling maintenance vacancies**

UDOT agrees that a cost/benefit analysis should be conducted before contracting out maintenance work and will establish a process to accomplish this recommendation; however, the primary reason for outsourcing certain activities has not been position vacancies within our Maintenance Division.

In 2008, UDOT made the decision to keep vacancies in maintenace at 5 percent. This decision was made during an economic recession to avoid potential layoffs. As the economy improved and the number of lane miles added to the system has grown, UDOT has revoked the mandatory 5 percent vacancy rate and allowed our maintenance division to hire employees as positions are vacated. In the current economic environment, the Department is unable to achieve a 0% vacancy rate, and averages between 4 percent and 6 percent as UDOT competes with the private sector for job candidates.

UDOT's goal is to make the highest and best use of our workforce; as such, in-house staff are assigned to the highest risk activities, such as ensuring construction quality. One result of this approach is that, in some cases, lower-risk tasks, such as mowing and pipe cleaning, are outsourced. The number of outsourced maintenance tasks are few in relation to our overall maintenance program.

5. **We recommend that UDOT conduct a cost/benefit analysis of hiring in-house employees versus contracting with consultants to maintain new lane miles.**

UDOT agrees that a cost/benefit analysis should be performed. UDOT is staffed to manage snow removal on our existing lane miles for 26 snow storms per year; as the number of lane miles increases, UDOT will need to re-evaluate the appropriate number of FTEs based on new conditions.

Chapter IV: Contract Oversight Needs to Be Evaluated

General Comments on the Chapter:

UDOT follows broadly accepted best practices for quality assurance and contract oversight. The goal is to ensure the contractor provides a quality product, and the exact method for achieving this can take many forms: specifications; contract language; incentives for high-quality work; disincentives for poor quality work; and inspection. Inspection is just one tool employed to ensure a quality project.

Quality is incorporated into UDOT contracts through mechanisms not mentioned in the audit. A large portion of the supplies 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. The quality assurance process at UDOT is evaluated by FHWA and is founded on the best management practices of quality management.

UDOT Response to Recommendations

1. **We recommend that UDOT reevaluate their quality assurance and contract oversight procedures to better ensure contract compliance with quality and safety. Revised procedures would include, but not limited to: ensuring employees with inspection responsibilities are properly trained; properly reviewing design plans prior to installation; and ensuring procedures are in place to detect and correct concerns earlier.**

   UDOT agrees that continued evaluation of our quality assurance and contract oversight procedures is appropriate.

   Contractors are required to build according to the contract documents, which include specifications for quality; UDOT does not pay for products that fail to comply with these specifications.

   UDOT's quality system is designed to provide inspection and testing priority to the highest risk and highest cost items (fill, bridges, pipes, and pavement). This is an efficient approach to ensure that errors to the highest risk items are detected early, providing the opportunity for immediate correction.

   Prior to the audit, the quality system on the SR-36 project detected the errors in the sign bases and had outlined a resolution to correct it. These sign bases were a low-risk item; they could be inspected at any time after installation. UDOT adheres to the industry best practice of assigning risk to the party best able to manage it; in this case, the contractor was responsible for the cost of rectifying the error after UDOT's inspection process revealed noncompliant installation. The SR-36 project demonstrates that the UDOT quality system yielded a quality finished product through adherence to contract provisions.

In the case of the Bangerter Highway project, UDOT agrees the sign locations were not ideal, and they were also not unsafe. For a motorist to hit the exit sign cited in the audit, a motorist would need to make an unsafe and illegal maneuver ("while trying to make a late break for an exit"). The sign was not moved due to safety reasons; rather it was moved at the request of maintenance forces who stated the sign negatively impacted snowplow operations.

The other signs on Bangerter were installed and inspected according to the plans. The primary issue with these signs is that, previously, there was not a standard specification for a sign on a road like Bangerter Highway. It is the first of its kind in Utah, sharing characteristics with both arterials and interstates; therefore, the needs for this highway are unique. In the absence of an existing standard, the designer used a standard specification for a freeway sign. These signs are too large for the location where they were installed. UDOT is developing a standard specification for this type of situation.

Chapter V: Enhanced Cooperation and Oversight Would Strengthen the Corridor Preservation Fund

UDOT Response to Recommendations

1. **We recommend that ROW be more proactive by working with cities in advance to increase communication, assist in planning and educate them on mitigating strategies that have been successful elsewhere.**

   UDOT agrees that being more proactive in communicating and educating local governments, within the constraints of our current resources, could strengthen the corridor preservation process. We will continue our effort to reach out to local jurisdictions to assist in planning and educate them on possible strategies.

2. **We recommend a periodic review of home asset management be done by someone independent of the ROW division.**

   UDOT will continue to ensure that independent review of the home asset management process is conducted. UDOT's ROW division has continually improved its management practices and processes in recent years. The division now uses a software system called Contract Management System (CMS) to manage assets. Individuals from procurement and the preconstruction division are required to review assets and transactions at specific milestones. These changes improve transparency, better manage assets and involve parties outside ROW.