

Fall 2012



# PROJECT FINANCIAL MANAGEMENT

Your Path to Project Accounting



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# 1 INTRODUCTION

The goal for this guide is to provide Project Managers (PMs) with an overview of the project finance life cycle and to give them tools to minimize the project's financial risk and make best use of budget.

Managing the finances of a project is one of the most important responsibilities of a Utah Department of Transportation (UDOT) PM and Project Delivery Team (PDT). The challenge is balancing a limited project budget, the appropriate level of scope, and the team schedule. This Project Financial Management guide gives a comprehensive overview of what it takes to successfully manage a project budget, teach the basic language of project finance, and fulfill your financial role and responsibilities during the life of a project.

**Additional links to resources will be given to describe the various features of project finance, which include:**



- Appropriate project funding authorization
- Accurate project budget planning
- Cost controls to reach milestones under budget
- Quality budget and cost estimate reporting

The PM and the PDT must define the various parts of a project's budget in order to maintain financial control throughout. Then they must continually refine, monitor, update, and report on it. Good team communication is necessary to ensure that everyone is working effectively within the project's allotted time and budget. Adjustments to the project or team's strategy might be needed if the budget or timeline changes.

The PDT assists the PM in developing and monitoring the budget. The PDT members are the technical experts in their respective areas and it is their responsibility to know, manage and communicate their piece of the project. They will develop and negotiate the budget under their area of expertise.

It is important to routinely remind the team about their valuable financial role on the project.

## THE PATH TO UNDERSTANDING PROJECT FINANCE

With the exception of Chapter 2’s Basic Project Accounting, the remaining sections of this guide follow the basic life cycle processes and milestones of a transportation project. The project life cycle includes:

### PROJECT FINANCIAL LIFE CYCLE Initial Spending Request Through Financial Closeout



The life cycle **Phases and electronic Program Management (ePM) PIN Statuses** serve as budget milestones and checkpoint opportunities to validate projected cost estimates, account for actual expenditures, confirm project phase budgets, and ensure budget risk cost controls are in place.

Stewardship of your budget involves planning and continual monitoring to control the risk levels between the budget, scope, and schedule. Budget risks can be managed so they do not jeopardize the success of the project.

The **UDOT Project Manager Guide** describes one principle that helps minimize budget risks called the MITAR process: Monitor, Investigate, Take Action, and Report. Using MITAR to budget risk factors caused by new scope or schedule information will help keep things on course and moving forward.

### MITAR PROCESS

**Monitor:** Track and compare project progress to the baseline project plan.

**Investigate:** Explore the causes and possible resolutions to changes in scope, schedule, budget, and team.

**Take Action:** Manage and record the changes, issues, and risks that emerge as the project progresses.

**Report:** Communicate actual performance, progresses, variances, and actions taken to appropriate members of the organization.

**TIP**

*Navigating the process of project finance can be challenging at times. Discipline icons are featured at the beginning of each chapter. These will help you better understand the finance disciplines associated with each process. Here is a list and description of the icons:*

**Program Planning and Funding:**

Systems Planning and Programming works with the Region offices to plan and monitor transportation system health, identify transportation needs, establish STIP transportation plans, and ensure an efficient annual program delivery.

**Program Finance:**

The Program Finance office ensures financial authorization integrity for programmed transportation highway funds. It helps UDOT project management, senior leadership, administrative partners (such as FAWA), and other local agencies maintain information regarding their program and project finances.

**Region Program and Project Management:**

Program/Project Management is responsible for maintaining successful program delivery. Program Managers and PMs plan, execute, monitor, construct, document, report, and close out transportation projects from cradle to grave. The key to balancing these activities is to manage the processes and transitions through all phases of the project.

**Engineering Technology Services:**

Engineering Technology Services (ETS) is part of UDOT's Project Development group. ETS supports a number of applications used by Region and Project Development personnel in the delivery of UDOT's roadway planning, design, and construction program. To support UDOT's various user communities, ETS is organized into five teams: Enterprise Program Management (ePM); ProjectWise; Graphical Information Systems (GIS); Project Development Business System (PDBS); and Computer Aided Design & Development (CADD). Each of these teams is responsible for all aspects of support for their respective customers.

**Construction Advertising:**

The Construction Advertising team provides contract advertising support services to ensure the quality and integrity of bid documents, fair bid practices, strong competitive bid opportunities, and an efficient, streamlined award process.

**Construction:**

The Central Construction division provides contract support services to ensure quality contract administration, labor compliance, inspection, materials testing, and construction oversight. At the region level, the Resident Engineer (RE) provides Construction Engineering Management (CEM).

**Comptroller:**

The Comptroller's office provides financial data to aid decision-making and protect the best interests of the public. They support these goals through three major business finance areas:

- Project and Federal-aid Accounting (project billing and cost and collections management)
- Budget and Financial Reporting (revenue forecasting, cash flow analysis, and managing the annual transportation budget)
- General Accounting (financial system controls and support, general accounts payable/receivable, contract encumbrance/payments, and UDOT payroll)

## 2 BASIC PROJECT ACCOUNTING

Cost is one of the major factors used to determine the success of a project. In order to manage costs efficiently and accurately, the Project Financial teams and the PM should be well acquainted with all finance details. This chapter reviews finance systems, funding sources and their unique limitations, finance management, and potential hazards. By understanding these areas and communicating project status and changes appropriately, the teams and the PM can secure successful project delivery.

### ACCOUNTING SYSTEM VS. BUSINESS SYSTEM

*It is important to recognize the distinction between an accounting system (FINET) and a business system (ePM, OMS, PDBS).*

The official state accounting system is Utah State's Financial Network system (FINET). All financial transactions are recorded in this accounting system. Many UDOT business systems such as ePM, OMS, and PDBS access FINET data to provide financial information to UDOT users in a convenient and easy-to-understand format.

An accounting system like FINET considers the independent factors of expense/revenue, debit/credit, and positive/negative. The UDOT business systems simplify the data to one bottom-line number that can be either positive or negative. This one simple number is usually adequate for UDOT PMs. Contact the Comptroller's office when more detail is required. UDOT business systems provide financial data, but the **information found in FINET is the official record.**



### FINET Coding

The **FINET coding block** is divided into two elements:

- **Fund Accounting Elements:** Required for all transactions (Fund, Department, Unit, Appropriation, Object, and Revenue Source)
- **Cost Accounting Elements:** Not required, but are used extensively by UDOT (Program, Phase, and Activity) for tracking, spending and decision making

# PROJECT FUNDING

UDOT accounts for the appropriate use of funds from various sources throughout the project funding process. This includes receiving funds and understanding the regulations and spending limitations.

A project is first proposed on the Statewide Transportation Improvement Program (STIP) for funding. The STIP is a five-year plan approved by the Utah Transportation Commission. Only the earliest or first year of the STIP is funded and spending authorized. The future year funds and projects remain to be approved by the Utah Transportation Commission each year.

A project may be amended from a non-funded STIP year if recommended by UDOT Program Finance and approved by the Commission. See **Transportation Program Funding** for an example.

STIP funds are programmed at a statewide level by the Program Finance Director and STIP Coordinator. State and federal funds are fiscally constrained to what is available in the current State or Federal fiscal period.

**TIP**

See the links below to understand the relationship among various terms.

- [Fund Accounting and Cost Accounting Definitions](#)
- [Analogous Terms Guide](#)
- [UDOT Programs Chart](#)

DRAFT		UDOT electronic Program Management						UDOT			
Approved for Public Comment		Statewide Transportation Improvement Program						DOING THE EXTRA MILE			
epm345_stip_report (v 3.1)		STIP 2013-2018						Report Run on: Oct 10, 2012, 09:47 A.M.			
County	PIN	Status	Project No.	Rt.	Beg	Len	Project Location	Concept Description			
Fund	Fund	Prior	2013	2014	2015	2016	CD	Total	Fed Aid	State	Other
<b>Region 1 Projects</b>											
1	10191	Active	F-0038(20)32	39	32		SR-38; MP 32.41 to MP 32.42	Other - Structures Project			
	EM_2011_IBRD		\$160,000	\$0	\$0	\$0	\$0	\$160,000	\$160,000	\$0	\$0
1	8260	Closeout	BRF-0088(4)13	88	13		SR-88 Over Weber River in Morgan City	Bridge - Replacement # C-184			
	EQ_BONUS(MG)		\$1,360,000	\$0	\$0	\$0	\$0	\$1,360,000	\$1,268,806	\$91,386	\$0
	BR_ON/OFF		\$3,160,000	\$0	\$0	\$0	\$0	\$3,160,000	\$2,620,000	\$600,000	\$0
	L_BETTERMENT		\$60,060	\$0	\$0	\$0	\$0	\$60,060	\$0	\$0	\$60,060
	Adv Dt: 01/03/08	Total	\$4,660,060	\$0	\$0	\$0	\$0	\$4,660,060	\$3,778,806	\$721,386	\$60,060
1	1785	Active	SP-0087(1)0	87			14 LEGACY PARKWAY	MIS, EIS, GEO TECH & CONSTRUCTION			
	ST_CHF		\$704,681,000	\$0	\$0	\$0	\$0	\$704,681,000	\$0	\$704,681,000	\$0
	Adv Dt: 06/10/03										
1	6810	Closeout	F-0087(12)0	87			1 South Davis County Transit EIS	L-16 North & Commuter Rail Coordination			
	EM_2004_L16		\$126,000	\$0	\$0	\$0	\$0	\$126,000	\$126,000	\$0	\$0
	ST_CONSTR		\$288,289	\$0	\$0	\$0	\$0	\$288,289	\$0	\$288,289	\$0
	EM_2006_LMD		\$2,137,600	\$0	\$0	\$0	\$0	\$2,137,600	\$2,137,600	\$0	\$0
	Total		\$2,651,789	\$0	\$0	\$0	\$0	\$2,651,789	\$2,651,789	\$288,289	\$0
1	4178	Const Cmpl	STP-0088(18)88	88	88		1 600 S; 1100 West to I-16, West Bountiful	Road Widen to Five Lanes			
	STP_URB_OIL		\$7,828,883	\$0	\$0	\$0	\$0	\$7,828,883	\$7,288,981	\$630,022	\$0
	ST_URB_CHN		\$4,708,000	\$0	\$0	\$0	\$0	\$4,708,000	\$0	\$4,708,000	\$0
	L_BETTERMENT		\$644,880	\$0	\$0	\$0	\$0	\$644,880	\$0	\$0	\$644,880
	ST_SIGNALS		\$200,000	\$0	\$0	\$0	\$0	\$200,000	\$0	\$200,000	\$0
	EQ_BONUS(MG)		\$1,674,001	\$0	\$0	\$0	\$0	\$1,674,001	\$1,487,441	\$106,660	\$0
	Adv Dt: 03/08/10	Total	\$14,853,843	\$0	\$0	\$0	\$0	\$14,853,843	\$8,786,402	\$6,442,582	\$644,880
1	7668	Closeout	F-0088(68)88	88	87		2 SR-88; 600 SOUTH & 1100 WEST, BOUNTIFUL	Roadway Widening, Reconstruction & Landscaping, Phase 2			
	STP_URB_OIL		\$3,800,000	\$0	\$0	\$0	\$0	\$3,800,000	\$3,642,740	\$267,260	\$0
	FS_STP_ST		\$6,300,000	\$0	\$0	\$0	\$0	\$6,300,000	\$6,300,000	\$0	\$0
	FS_STP_ENH		\$460,000	\$0	\$0	\$0	\$0	\$460,000	\$460,000	\$0	\$0
	L_BETTERMENT		\$1,010,368	\$0	\$0	\$0	\$0	\$1,010,368	\$0	\$0	\$1,010,368
	FS_STP_OIL		\$643,826	\$0	\$0	\$0	\$0	\$643,826	\$607,008	\$36,817	\$0
	Adv Dt: 06/12/08	Total	\$11,104,180	\$0	\$0	\$0	\$0	\$11,104,180	\$8,789,748	\$284,077	\$1,010,368

## FISCAL ACCOUNTING

**State Fiscal Year:** Begins on July 1 and ends on June 30. UDOT is required to report each fiscal year separately. ***Services and goods delivered to UDOT must be reported in the same fiscal year in which they are received.*** Projects may span multiple fiscal years, spending is reported annually.

**Federal Fiscal Year:** Begins on October 1 and ends on September 30. States are required to obligate all federal STIP funds annually so it is critical that projects are delivered in the planned construction year.

### STATE FISCAL YEAR CUTOFF EXAMPLE

**Consultant provides services in May 2013:** This expense must be reported in Fiscal Year 2013, which ends June 30, 2013, even if payment is not approved until July 2013.

If the PM knows there are issues that will delay submitting the invoice to the Comptroller's office by the last week of July, the PM must contact the Comptroller's office to create a FINET Accounting Accrual entry placeholder.

#### TIP

*FHWA usually closes their Financial Management Information System (FMIS) the last two weeks in September, so if you plan your project to advertise in September, allow sufficient time for the advertising obligation process.*

## UNDERSTANDING FEDERAL-AID

### Federal Project Reimbursement

The Federal-aid Highway Planning and Construction Program is a ***reimbursable program***. This means federal funds are ***never advanced*** to the state or local municipalities. The project must incur eligible costs, then request reimbursement for the federal pro rata (proportionate allocation) share. Enhancement projects have a minimum of 80 percent federal and 20 percent state or local share. Other fund types range from 94.18 percent to 50 percent federal participation rate, depending on what is mandated by U.S. Congress in the transportation bill. The reimbursement UDOT receives for each project is limited to the federal agreement amount in FMIS. Funding breakdown is shown on ePM screen 710.

## Locate the Federal Percent on a Federal Project using the ePM 710 Screen

Select the Project Number tab, then the Current Federal tab

Federal %

Fund	Phase	2012 Federal Funding	Prior Federal Obligations	Prior Obl. Pct.	2012 Federal Obligations	Current Obl. Pct.	2012 Available Federal Obligations	2012 State Funding	2012 Other Funding
BM	ALL	2,900,760.53	354,889.50	94.18	2,900,760.51	94.18	0.02	179,257.02	0.00
ST_SPOT_SFTY	ALL	0.00	0.00	1.00	0.00	.00	0.00	0.00	0.00

The Sum of Prior and 2012 Federal Obligation=Total Obligation to Date

This represents state match for what was obligated during 2012

Project expenditures are incurred daily on active federal-aid projects. The UDOT Comptroller's office processes a weekly federal billing to FHWA for reimbursement of eligible project expenditures incurred the previous week. An electronic bill is interfaced into FHWA's Rapid Approval and State Payment System (RASPS) for next day reimbursement to UDOT. This tight federal reimbursement schedule makes accurate coding and timely correction of project expenditures critical. See **Financing Federal-aid Highways** for details.

## OTHER AGENCIES MATCHING SHARE

**Federal-aid Agreement (FAA):** This agreement holds local governments responsible for their match and ineligible cost on projects administered by UDOT. The agreement needs to show estimated match costs and the requirements for advancing the funds, such as milestone and time frames. UDOT holds local government funds in their behalf on deposit, then bills against them quarterly.

**Betterment Agreement:** These are separate agreements where local governments and other agencies request facility upgrades. Betterment agreements define and make the local agency responsible for funding and maintaining these improvements.

## Ineligible Federal Reimbursement Costs

Principles and standards for determining eligible costs for federal awards, projects, and programs are established under **Federal 2 CFR Part 225**. These principles help UDOT promote effective program delivery, efficiency, and better relationships between the Federal Government and other agencies.

FINET recognizes the eligibility of federal reimbursement on project expenditures through the activity code. All activities beginning with the prefix 8 are eligible. ***FINET will recognize the project as eligible for federal reimbursement if there is no activity within the coding block. Expenditures with an activity prefix 7 are ineligible.***

See [project expenditures incurred on federal-aid and state programs](#) for more information.

### TYPES OF PROJECT INELIGIBLE COSTS

- ROW economic remnants (23 CFR 710.203, Subpart 6)
- Food/beverage at meetings
- Office/engineering supplies for multiple projects
- Training (exception on annual project set up)
- Equipment purchase (in very limited situations allowed with prior FHWA approval)
- Reception/entertainment costs
- Labor activities pertaining to general administration/operation of department not directly related to the project
- Betterments
- Computer supplies
- Books
- Costs that benefit the entire program and not a specific project
- Maintenance
- Fines and penalties

## PROJECT COST MANAGEMENT

Project cost management is accomplished through three basic processes:

- **Cost estimating:** Estimating design and construction costs needed to complete the project
- **Cost budgeting:** Assigning cost estimates to individual work items to serve as a baseline budget
- **Cost control:** Controlling changes to scope and schedule that impact the project budget

Project accounting codes are set up by Program Finance to help UDOT track project finances in the accounting and business systems (FINET, FMIS, ePM, OMS, PDBS). Program Finance assigns a project number, FINET program and phase codes, after a project is approved on the STIP. FMIS project ID numbers are generated automatically when federal funds are programmed. Each phase of a project has a specific authorization process and an associated charging phase code.

### TIP

*Approval must be placed before proceeding to the next project phase.*

After the numbers are assigned, Program Finance obtains the necessary approvals **R-709** (federal), or **R-76** (state) forms. The project phase is now ready for spending.

The Utah Transportation Commission, Program Finance Director, Financial Authorization Team, STIP Coordinator, PM, and Region Program Manager each play a specific role to ensure funding adjustments are made, authorized, and updated in each business and account system.

## PHASE CODES

- 04M Concept Development - UDOT
- 24M Concept Development - Consultant\*
- 20N Environmental - UDOT
- 25N Environmental - Consultant\*
- 01D Preliminary Eng - UDOT
- 15D Preliminary Eng - Consultant\*
- 03C Construction Eng - UDOT
- 13C Construction Eng - Consultant\*
- 06K Contractor Payments\*
- 07R ROW
- 12S State Forces
- \_\_H TOC/Research/Planning
- 10U Utility Relocations Contracts\*
- 02A Post Audit Costs
- \_\_T Cooperative Agreements

\* Restricted for contractual expenditures

# PROJECT ACCOUNTING REPORT TOOLBOX

COGNOS is Utah state's reporting and performance management tool. The **COGNOS PM Toolbox** contains project financial reports from the State Finance and UDOT Data Warehouses. These databases provide flexible and efficient access to project accounting financial data. It collects information from systems that help manage the Federal-aid and State Highway Program. Project financial data is updated daily.

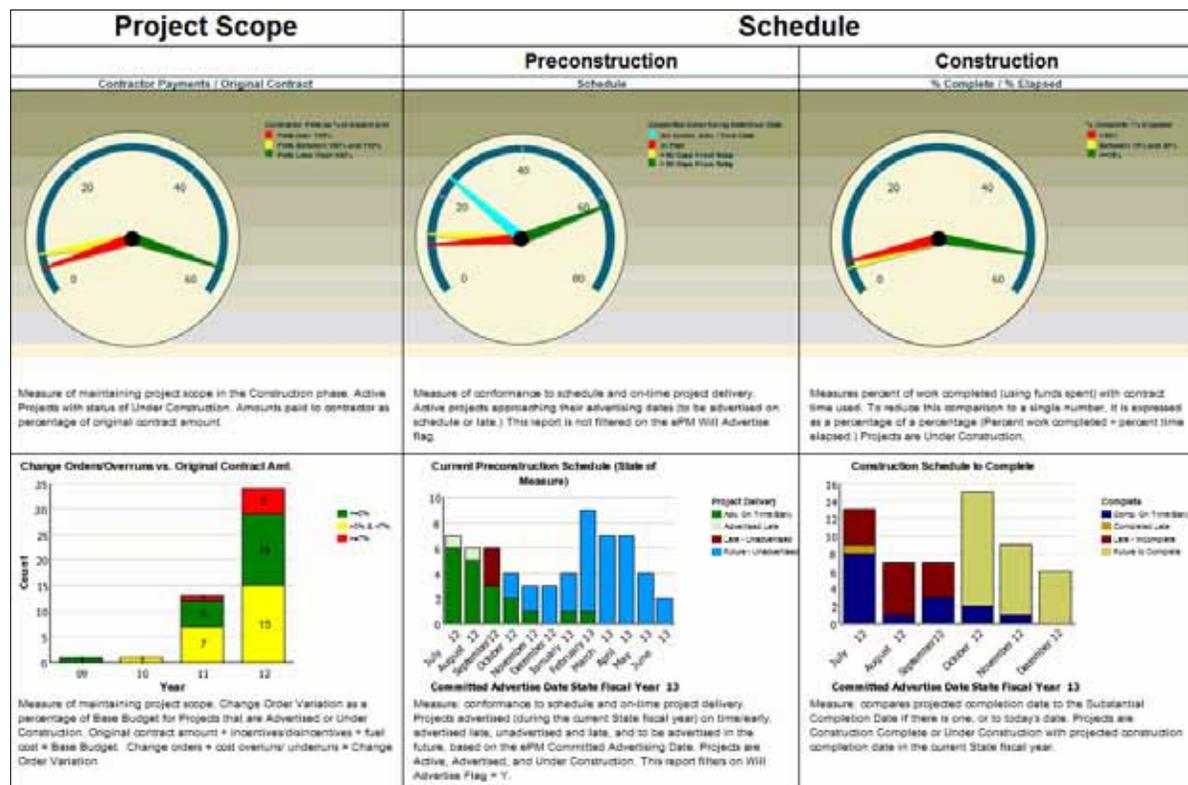
**Project financial data is only as good as the quality of the input.** The PM is responsible for monitoring and verifying the quality of project financial and budget information.

## UDOT and State Data Report Tools

Data comes from the accounting and business systems and goes into databases to create various COGNOS reports. The UDOT and state databases provide efficient web-based access to project accounting reports to help validate the ePM 505 and 495 screen expenditures. Refer to the **Data Integration Chart** to better understand how the ePM information feeds these databases and reports.

**TIP**

*Review the instructions on how to access the State Finance Data and Reports.*





**UDOT electronic Program Management  
STIP Project Amendment Report  
PIN 9997 - 500 South. Vernal Avenue West to 1500 West**



epm330\_amendment (v 1.0)

Report Run on: October 10, 2012 9:50 AM

Reg	Cnty	Rt.	Beg	Len	Project Location				Concept Description					
					Prior	Obl.	2012	2013	2014	2015	CD	Total	Fed Aid	State
3	UINTAH	2794	1		Other: VERNAL 500 SOUTH to: 2.07 for: 2.07				Reconstruction - No Added Capacity					
	LOCAL_GOVT				\$0	\$130,000	\$67,902	\$0	\$0	\$0	\$197,902	\$0	\$0	\$197,902
	STP_SU_JHC				\$0	\$0	\$1,072,616	\$0	\$0	\$0	\$1,072,616	\$1,000,000	\$0	\$72,616
	<b>Total</b>				\$0	\$130,000	\$1,140,518	\$0	\$0	\$0	\$1,270,518	\$1,000,000	\$0	\$270,518

Request	Type	Status	Amendment Description	Comments	Proj. Value	CAA
04/30/12	YEAR CHNG	APPRV	Year Amount Change for the Fund LOCAL_GOVT 2013 AMOUNT - \$67,902.00 2012 CD Amount - -\$67,902.00 Staff Approved on 04/30/2012	With the approval from the JHC on 4/27/2012, please move this project forward from FY 2016 to 2013. rmp 4/30/2012	\$1,270,518	\$1,270,518
04/30/12	YEAR CHNG	APPRV	Year Amount Change for the Fund STP_SU_JHC 2013 AMOUNT - \$1,072,616.00 2012 CD Amount - -\$1,072,616.00 Staff Approved on 04/30/2012	With the approval from the JHC on 4/27/2012, please move this project forward from FY 2016 to 2013. rmp 4/30/2012	\$1,270,518	\$1,270,518
04/12/12	TECHNICAL	APPRV	Technical Modification to the Project Project F-LO47(14) to F-2794(3)D	Project has a local route.	\$1,270,518	\$1,270,518
04/11/12	YEAR CHNG	APPRV	Year Amount Change for the Fund LOCAL_GOVT 2012 AMOUNT - \$130,000.00 2012 CD Amount - -\$130,000.00 Staff Approved on 04/11/2012	Per receipt of check from the Utah Transportation Special Service District, this action moves \$130,000 to current year to allow the PE/CE to begin. rmp 4/11/2012.	\$1,270,518	\$1,270,518
12/06/11	FUND AMT	APPRV	Fund Amount Modification for the Fund of STP_SU_JHC Staff Approved on 12/06/2011 Commission Approved on 12/06/2011	Match should be in the Other category. rmp 12/6/2011	\$1,270,518	\$1,270,518
12/06/11	FUND AMT	APPRV	Fund Amount Modification for the Fund of STP_SU_JHC Staff Approved on 12/06/2011 Commission Approved on 12/06/2011	Should be local match. rmp 12/6/2011	\$1,270,518	\$1,270,518

## FUNDING INCREASE/DECREASE PROCESS

The PM works with the Region Program Manager to give project budget recommendations to the Program Finance Director (STIP Coordinator). The STIP project amount is amended if changes such as an increase, decrease, or transfer of funds are needed at any time in a project life cycle. Here are two situations you may face when dealing with budget adjustments:

- **A requested amount greater than 25 percent of the project value or \$500,000, whichever is lower:** A UDOT Commission action is required to approve the amendment. Remember that the STIP is a financially constrained document, approved annually by the UDOT Commission, FHWA, and FTA. Funds added to one project must be taken from another project or program in the same or previous funded year. Federal funds are adjusted in FMIS by Program Finance. Project adjustment reports are sent from Program Finance to the Comptroller's office to update FINET and federal billing records to ensure fiscal accountability.
- **Local government project funding changes:** The local government or urban area MPO or Joint Highway Committee must be included in the negotiation when a funding adjustment involves local government-sponsored or pass-through funds. Their approval is needed before a STIP amendment. MPOs create the local Transportation Improvement Plan (TIP) that roll into the STIP. Their TIPs will be amended at that time as well.

## POTENTIAL FINANCIAL HAZARDS

Below are solutions to prevent common financial hazards that a new PM can actively manage and avoid:

- **Verify financial authorization:** Verify that the R-709 and/or R-76 authorization form is in ProjectWise at the beginning of each project milestone. This confirms the project has received authorization from FHWA and/or UDOT Program Finance.
- **Verify that funds for the next project stage are in the current year:** Confirm in ePM that the next phase of project activities (such as Environmental, Preliminary Engineering, or Construction) is funded for this year. Review the encumbered budget balance report located in the PM Toolbox in COGNOS.
- **Confirm environmental clearance approval:** Approval must be in place before proceeding to advertise on procurement projects, or to the PS&E Design Stage on Design-Bid-Build, which is 30 percent design at completion of the Project Delivery Network's Plan-in-Hand.



- **Coordinate early for local government betterments and FAA:** Initiate these agreements as soon as the PM is aware of the need. Coordinate unique agreement features with the Comptroller's office so they can ensure the proper billing.
- **Plan, monitor and report the project budget:** Use **ePM screen 505** to set up the budget and routinely monitor and update it to reflect new project information. See the **PM Guide**, Section 4: Budget MITAR (Monitor, Investigate, Take Action, and Report) process for details.

- **Confirm agreements are in place before proceeding to Construction Advertising:** Ensure all utility, ROW, federal-aid, and betterment agreements are in place and executed. Ensure the advertising package defines the contract limitations of construction if they are pending execution. Any limitations of the contractor's operations should be included in the project's 00555M Prosecution and Progress special provision.
  - **Confirm the on-call contract is set up before initiating a Work Task Order (WTO):** Verify that the on-call contract used for the WTO has sufficient remaining funds and length of time before proceeding with proposed WTO activities.
- 

## SUMMARY

PMs need to learn the basic accounting terms involved with cost estimating, cost budgeting, and cost control in order to manage project costs effectively.

Becoming familiar with FINET is essential because it provides an official project accounting record and details.

UDOT must have preauthorization from FHWA and Program Finance before incurring project costs. This is a critical step required for execution of project contracts and ROW activities.

***Costs are ineligible for federal reimbursement on federal-aid projects without advance authorization before starting with the next phase of work.***

Federal reimbursement only covers eligible costs. Federal funds must be matched with state or local funding sources for almost all construction or improvement projects. Projects must be approved by the Commission and listed in the STIP to receive funding.

The State Finance and UDOT Data Warehouses are critical for reporting, monitoring and analyzing integrated project financial information. The PM must actively manage financial risks and ensure the accuracy of the ePM and PDBS data that feed the databases.

## **TOOLS AND RESOURCES**

- For guidance on managing financial costs on transportation projects, refer to **UDOT 08-04** and **Project Financial Management Team**.
- Refer to the **FINET coding block** to find out more about fund accounting and cost accounting elements.
- Refer to **Fund Accounting and Cost Accounting definitions**, **Analogous Terms Guide**, and **UDOT Program Chart** for various terms and definitions.
- See **Transportation Program Funding** for an example of amending a project from a non-funded STIP year.
- See **Financing Federal-aid Highways** for details on UDOT reimbursement through FHWA.
- Refer to **2 CFR Part 225** to determine eligible costs for federal awards, projects and programs established under Federal 2 CFR Part 225.
- Refer to the first digit of the activity code to determine **reimbursement eligibility** of an **activity code**.
- See **project expenditures incurred on federal-aid and state programs** for more information on federal reimbursement costs.
- Obtain the necessary spending authority approvals by working with Program Finance to complete the **R-709** and/or **R-76** forms.
- The **COGNOS PM Toolbox** contains project financial reports from the State Finance and UDOT Data Warehouses.
- Refer to the **Data Integration Chart** to better understand how the ePM information feeds databases and reports.
- Read instructions on how to access the **State Finance Data and Reports**.
- Access **local government betterment** and federal-aid agreements.
- Use **ePM screen 505** to set up the budget and routinely monitor and update it to reflect new project information.

# 3 PROJECT PIN CREATION PROCESS

*'PROPOSED' to 'STIP' Status*



Program Planning and Funding



Program/Project Management

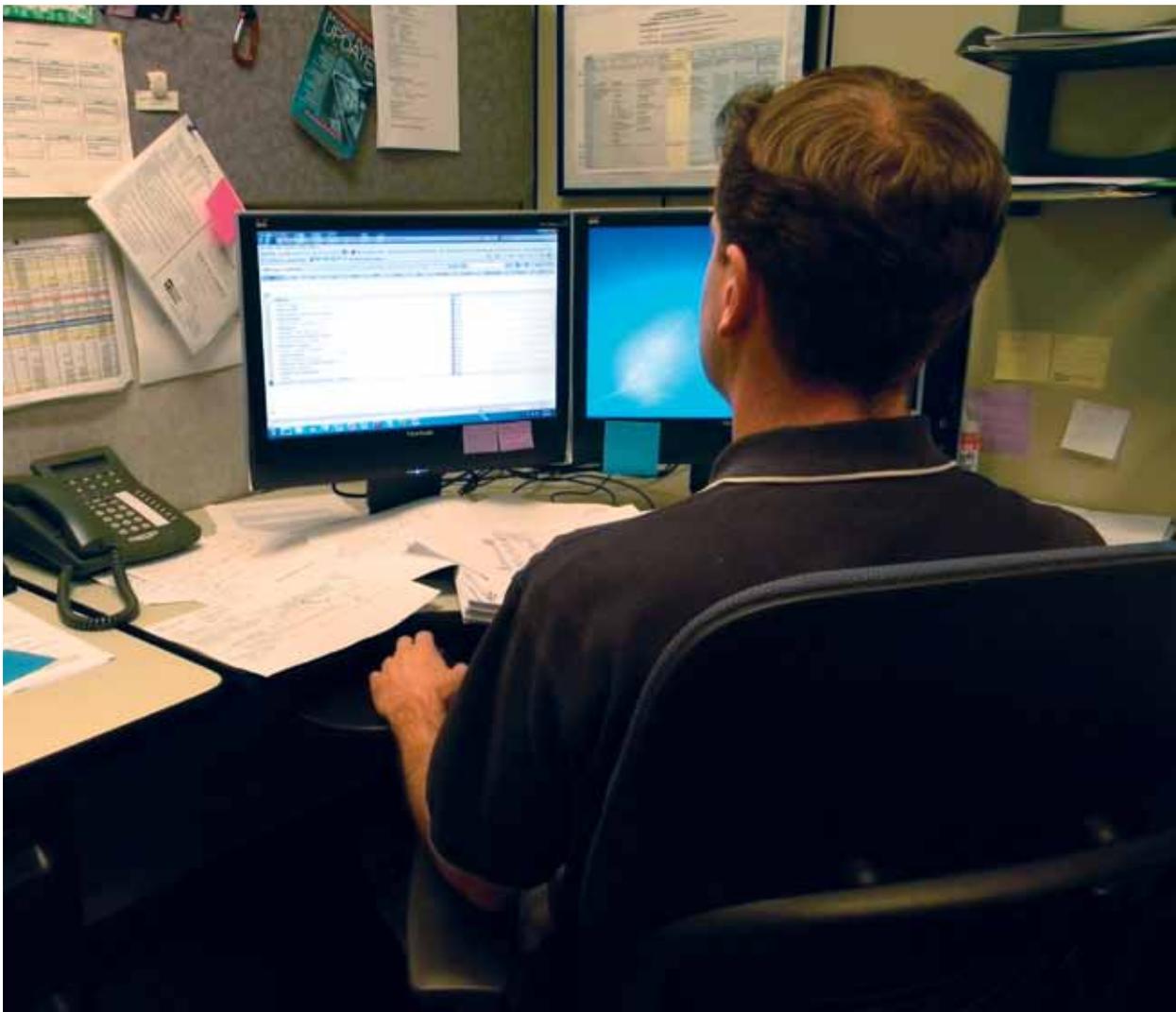


Program Finance



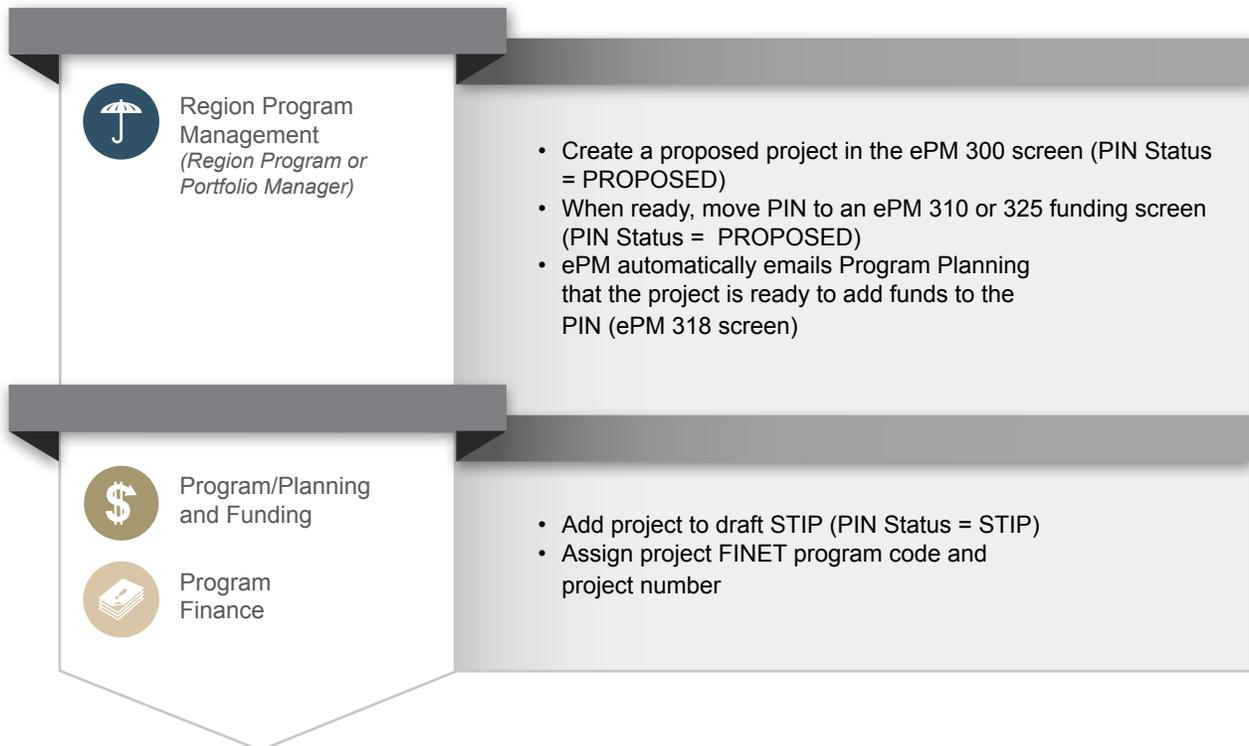
Engineering Technology Services (ETS)

The PIN is the identification number used throughout the life of a project. The PIN creation process establishes a project within UDOT's ePM business system. Only after a PIN is created can all the other phases begin. While the PM is not involved in many of these steps, it is important to understand this process because the PIN status is essential and the PM needs to know how to resolve any PIN or status issues they may face.



## PROJECT PIN CREATION PROCESS OVERVIEW

The **PIN creation process** includes creation of the project name, location, proposed value and cost estimate, and the Program or Portfolio Manager's desired delivery date. The PIN creation and funding process must occur before beginning project work activities. There are many checks, balances, and people involved in the PIN creation and spending authorization process. A PM should understand the basics of the PIN creation process and timeframes shown below:



**PROPOSED Status:** A PIN resides in ePM screen 300's PROPOSED draft list of anticipated projects after it is created by the Program or Portfolio Manager. It is not yet funded or authorized for spending. These PINs will not appear on ePM screen 710 until they are funded by Program Planning to match the project value for the draft STIP.

**STIP Status:** After the STIP is approved by the Commission, the Program Planning Finance Director will advance the PIN from a PROPOSED to a STIP status. Project FINET codes and project numbers are assigned by the Program Finance Team at this time, but spending is still not yet authorized.

## POTENTIAL FINANCIAL HAZARDS

Following are ways to avoid hazardous financial activities during the Project PIN Creation process.

- **Prevent budget hazards by obtaining authorization before work starts:** A PM can prevent early budget hazards and ineligible charges by verifying financial authorization in ePM screen 370 before beginning any phase work or initiating any contracts or agreements.

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## SUMMARY

The most important thing for a PM to know about the PIN creation process is that the Region Program Managers, the Central Portfolio Managers, Program Planning and Funding, and the Program Finance Team manage the majority of the processes using the ePM business system. PIN creation occurs before a PM is assigned. The ePM screen 300 gives Program and Portfolio Managers a place to build their wish lists of projects for their programs. PMs can view the progress and early project status of a PIN as it moves through the creation stage in ePM screen 370. The PM will receive a notification once a project is assigned to them by the Region Program Manager and work can begin for the next phase.

This process provides a workflow for Region Program Managers and Portfolio Managers to:

- Plan potential future projects (ePM 300)
- Move a potential project into the STIP approval process (ePM 300)
- Obtain state and federal spending authorization for a project (ePM 310/325)
- Assign a PM
- Move a project into the Active Design phase (ePM 370) upon setting an initial committed delivery date (ePM 510) along with the budget and cash flow information (ePM 505)

## TOOLS AND RESOURCES

- Review the ePM 300 screen '5 Year Project Plan/Concept Development' and the ePM 370 screen 'Region Program Manager Oversight' to learn more about the transitions between the ePM concept and PIN set up processes. **Tutorials are available here.** An Adobe Connect login is required for the tutorial and can be set up for you by the ePM help desk.
- Coordinate with the Region Program Manager to help resolve any funding or other PIN creation problems.

# 4 CONCEPT DEVELOPMENT (CD) PROCESS

*'PROPOSED' to 'CONCEPT COMPLETE' Status*



Program/Project  
Management



Program Planning  
and Funding



Program  
Finance



Comptroller

The Concept Development (CD) process is a critical point at the beginning of a project. This process investigates the feasibility of advancing a project for further funding. A Region Program Manager or a Statewide Portfolio Manager identifies possible projects based on various transportation planning or asset management analysis. As these projects are investigated, a concept cost estimate is developed. This estimate is critical as it serves as the baseline budget throughout the project life. CD process activities also help identify whether the environmental, social, or economic impacts are sufficient to require an Environmental Assessment (EA) or an Environmental Impact Statement (EIS) level document. At the end of the process, the concept report and project construction scope advise whether or not to proceed to construction. By carefully handling project funds and thoroughly analyzing project feasibility, you can help assure a successful project outcome.

## CD BUDGET

The CD budget is funded with Region Concept Development funds. Federal funds are never used for creating CD reports, but may be identified for future project phases such as Environmental, Design, and Construction. The CD budget only includes the team hours and resources needed to develop and prepare the final **Concept Report and Concept Cost Estimate**. Concept budget activities often include:

- Reviewing traffic and operational studies
- Analyzing accident history
- Reviewing existing project deficiencies from each technical area
- Developing alternatives
- Identifying environmental, social, and economic issues
- Considering and minimizing utility and ROW impacts
- Researching any pavement, geotechnical, structural, material, or other features required for concept decision making

## CONCEPT REPORT COST ESTIMATE

The detailed project cost estimate resulting from the CD research will include all the future financial funding needed to complete the project. This estimate is prepared and detailed by each technical area team member such as the ROW Lead, Utility Coordinator, and Design Team Leader. Each area lead will include notes about their cost estimate assumptions on the concept estimate for future team reference. These notes can help identify high risks in each area. Common risk areas are impacts to railroads, utility, irrigation canal facilities, and ROW. The project cost estimate also includes annual inflation costs projected through the recommended construction STIP-funded years. See the UDOT **Estimator's Corner** for current inflation projections.

Local government concept reports are usually a part of a Metropolitan Planning Organization (MPO), Joint Highway Committee (JHC), or UDOT Transportation Enhancement (TE) application process. Request a copy of the concept report from the local agency or the planning organization so you understand the approved project scope.

This early concept estimate serves as the basis for the total project budget and funding approval. The future PM and team will have to manage the project within this budget. The Concept budget is managed as part of the CD Process.

### CONCEPT COST ESTIMATE NOTE EXAMPLES

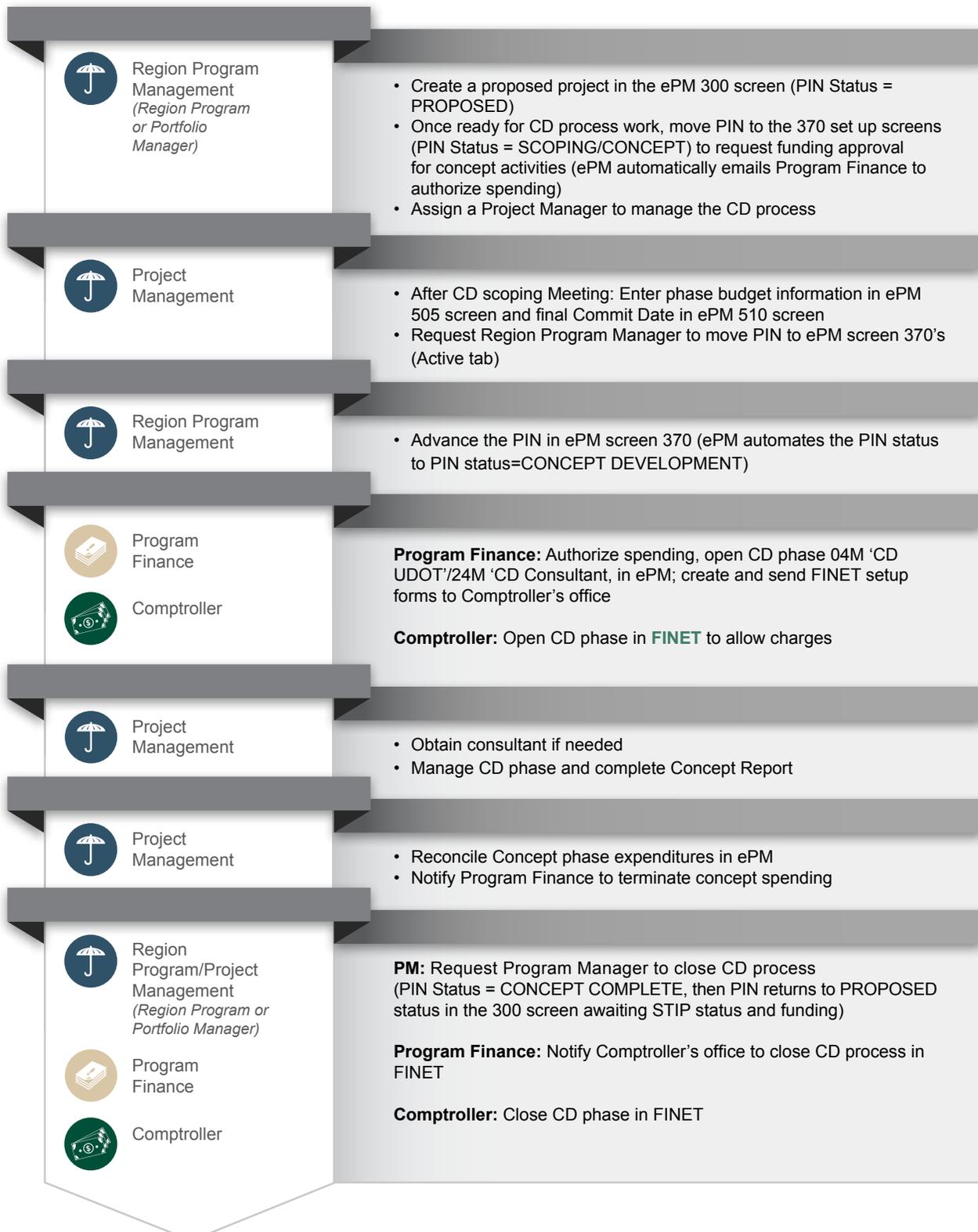
**Utility:** Estimate assumes that the project footprint avoid the irrigation canal.

**ROW:** Estimate includes nine construction easements on the east side.



## CD PROCESS

The CD cycle begins and terminates in the ePM Screen 300. These activities are completed by the Program Manager, the PM, Program Finance, and Comptroller's office. See the **ePM 300 tutorial** for further details on the CD cycle. This process can be broken down as follows:



## POTENTIAL FINANCIAL HAZARDS

Identifying financial and budget solutions during the CD process will result in a good concept cost estimate. This helps Region decision-making when the project is moved forward into a funded year. Below are two common cost estimate financial risks that can be prevented.

- **Verify financial authorization for CD activities:** Verify that the project has received funding authorization from UDOT Program Finance before charging time or starting contract work on the CD activities.
- **Confirm the Concept Report cost estimate includes all technical disciplines and their cost-related assumptions:** Communicate with all disciplines to make sure that any costs, assumptions, and project features for their discipline work are included in the **Concept Cost Estimate Form**.

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## SUMMARY

The CD Phase investigates the feasibility and need for new projects. Concept activities help develop the Concept Report and the project cost estimate. Technical area team members document their cost estimate assumptions including potential risks or unknowns. This cost estimate is the project budget for future phases.

Two common cost estimate risks can be prevented by verifying financial authorization for CD process activities and by including all technical disciplines and their cost-related assumptions in the estimate.

### ***TOOLS AND RESOURCES***

- The final Concept Report and **concept cost estimate** is created using the CD budget.
- See the ePM 300 tutorial for details on the CD cycle.
- Refer to the ePM 710 screen FINET Program Field after funding authorization is complete to verify the 04M/24M phases. are active.
- Include all costs from each discipline in the **Concept Cost Estimate Form**.
- See the **Estimator's Corner** for guidance on estimating and projected inflation costs.

# 5 PRECONSTRUCTION PROCESS

*'SCOPING' TO 'ACTIVE' Status*



Program/Project  
Management



Program  
Finance

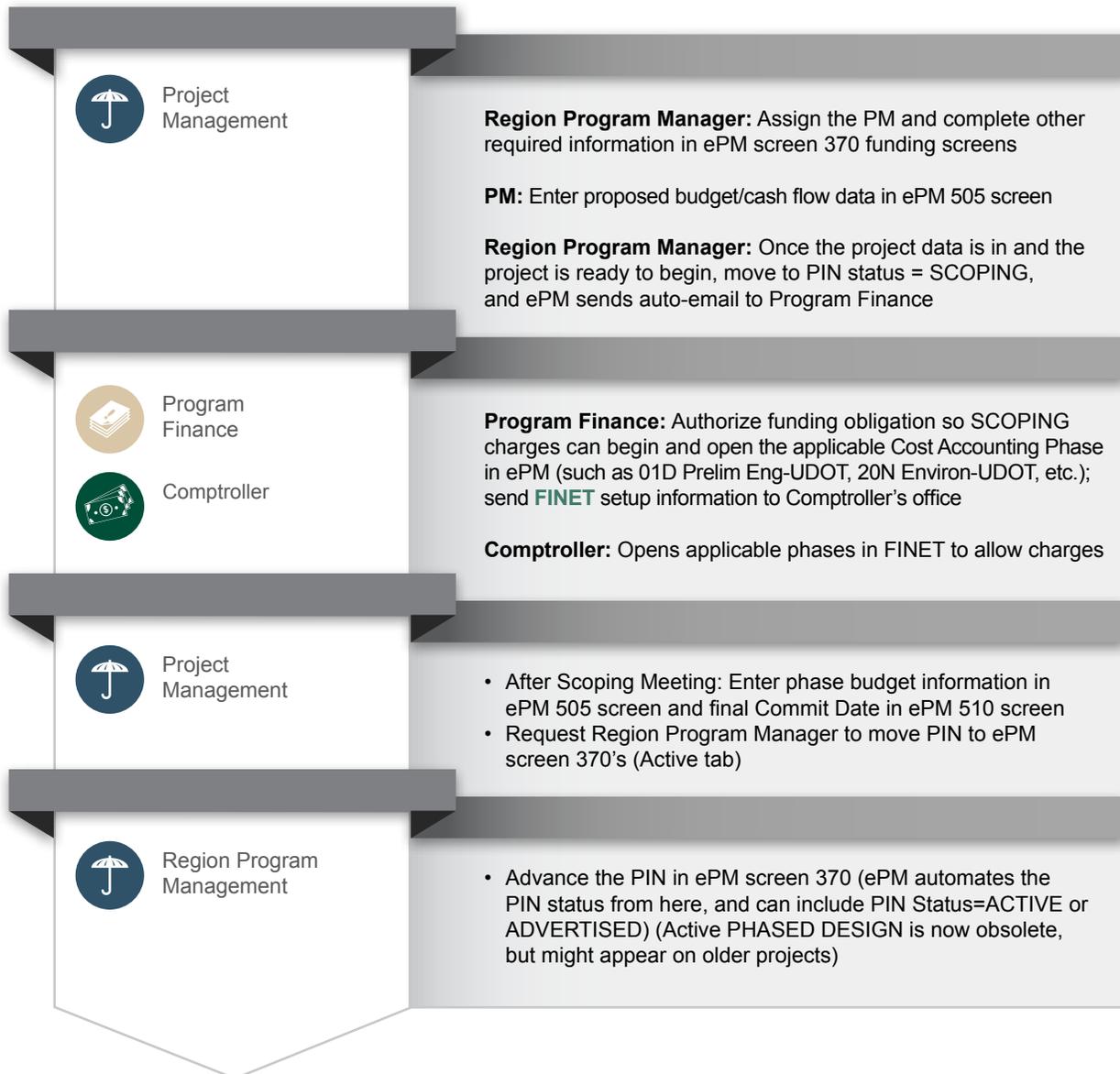
The Preconstruction process is an important part of successful project planning. A PM needs to be sure to select the appropriate type and level of resources to balance the project's schedule and quality needs. During this process a PM will create, document, approve, manage, and close a variety of project contracts and agreements.

During the SCOPING to ACTIVE statuses, delivery of the design activities required for a construction advertising package are accomplished. This can also include completing a study or environmental document. From a financial perspective, most of the costs for this process cover the spending authority to procure needed services and resources, such as consultant services, utility work, or ROW acquisition.

## SCOPING TO ACTIVE DESIGN

Scoping phase charges cannot begin until the PIN is approved to move from STIP to SCOPING status in ePM. After the PIN is in a STIP-funded year, the Region Program Manager completes any missing information in the ePM 370 screen and assigns a PM. The PM estimates the ePM 505 budget/cash flow and provides a proposed ePM 510 commit date. The PM then asks the Region Program Manager to advance the PIN status from STIP to SCOPING in the ePM 370 screen. ePM then sends an auto-email to the Program Finance Team to request spending authorization. Once the funding obligation is approved, the Program Finance Team prepares a funding authorization form (Federal R-709 or State R-76), obtains approval signatures, and then opens the applicable Cost Accounting phase(s) in FINET. Finally, scoping charges become eligible to proceed.

The following chart shows the phase activities that can begin after the STIP is approved and the PIN is designated to a funded year:



**SCOPING Status:** After the STIP is approved and the Region Program Manager follows the above steps to move the PIN status to SCOPING, the Program Finance Team receives an ePM auto-email to open the **FINET phases** for spending. Once the funding **authorization forms** are approved by Program Finance, an email is sent to the PM that Scoping work can proceed. After the PM meets with the project team to confirm and enter the budget and advertising date in ePM, the PM asks the Region Program Manager to move the status from SCOPING to ACTIVE in the ePM 370 screen.

**ACTIVE Status:** In most cases the objective of the Active phase is to complete and deliver the design for a construction advertising project. For a summary of financial activities see the **Active Process Overview**. Once the PIN is in ACTIVE status, future ePM status advancing is automated.

## IN-HOUSE RESOURCES

Selecting the Project Delivery Team and other resources is often driven by the expectations and commitments of the project sponsor's or Region Program Manager's Proposed Advertise Date (PAD)/Proposed Due Date (PDD). In-house core competencies, availability of team members, level of experience, and unique project characteristics are other deciding factors that will help you select the team.

The Project Delivery Team can consist solely of UDOT employees or a mix of UDOT and consultant team members. The PM should initiate consultant selection and contracting as soon as possible if a consultant is needed. Refer to the "Planning the Project" chapter of the **UDOT PM Guide** and the **UDOT Project Delivery Networks** for details about setting up a network.

## CONSULTANT SERVICES CONTRACTS

A Consultant Services contract is between UDOT and a consultant or between the local government (LG) and a consultant who has a UDOT agreement to perform engineering or engineering-related services. The ePM Contract Management System (CMS) is a module within ePM that tracks the workflow and maintains Consultant Services contracts, FAA, and Work Task Orders (WTO). CMS also tracks the spending authorization (R-709) requests/approvals for Consultant Services contracts.

- The R-709 for Consultant Service contracts and on-call contracts are generated through the ePM CMS module.
- If a Construction Engineering Management (CEM) consultant is needed on a project the contract must be in place by the Advertise Construction process. The project may proceed to advertisement if signatures are in process, but are not yet completed.

### Local Government

LG projects are almost always designed by consultants and LG-authorized representatives always help to select the consultant.

## Consultant Selection

Consultants are selected based on the **Brooks Act** (40 USC 11), which is a qualifications-based selection process for architects and engineers. There are various qualifications-based selection processes developed by Consultant Services that meet the requirements of the Brooks Act. These processes range from selecting a consultant directly from prequalified lists to a full Request for Qualifications (RFQ). The selection process recommended is based on the estimated contract value and complexity of the project. See the **PM Guide** for details.

### General Engineering Services and Local Government Pool

- On-call: \$200,000 per contract and \$40,000 per WTO\*
- Direct-select: \$0 - \$150,000 per contract
- Request for Pool Letter of Qualifications: \$150,000 - \$600,000 per contract

### RFQ (no \$ cap)

- Streamlined RFQ
- Request for Letter of Interest
- Standard RFQ

Understanding the various selection process will help you determine which one to choose based on the project's need, rather than choosing the quickest or easiest process. This helps preserve the integrity of UDOT's contract process and builds trust within the consultant community. This can also save a PM from re-work and the need to begin another selection process.



\* The WTO limit is \$40,000 per consultant for the life of the project (or PIN).

## Consultant Selection Pitfalls

It is unwise to use the direct-select engineering pool for services where the Independent Cost Estimate (ICE) falls within \$30,000 of the \$150,000 WTO cap. This does not allow room for scope negotiation with the consultant and may result in having to start over with another selection method.

### TIP

*Refer to Consultant Selection Thresholds and Caps for the latest cap limits.*

## Financial Management of Consultant Contracts

The PM oversees and manages Consultant Services contracts, which includes reviewing and approving consultant pay requests on behalf of UDOT. There are a number of areas where potential errors may happen that can jeopardize the project funds.

- **Work Before Notice To Proceed (NTP):** Consultant Services staff issues an official NTP on each contract. Consultant Services staff confirms the R-709 is approved before issuing an NTP.
  - **Potential Risk:** Allowing a consultant to proceed or approving payment for services performed before NTP.
- **Work Before Contract Modification:** Each contract has a maximum amount that may not be exceeded.
  - **Potential Risk:** Allowing a consultant to exceed the contract's maximum amount before a modification has been processed or payment approval on services has been made.
- **Documentation of Pay Requests:** Payment requests are required to be accompanied by appropriate supporting documentation for labor or other direct costs.
  - **Potential Risk:** Approving a payment request not supported by appropriate documentation, such as timesheets reflecting hours and days worked or other direct expenses.
- **Unit Price Rates:** Unit price fee type contracts set the rates approved for use on the project.
  - **Potential Risk:** Approving a payment request where the rates exceed the approved rates in the contract.

### TIP

*Navigating the process of project finance can be challenging at times. Learn the ins and outs by viewing the **Consultant Selection and Contracting Overview Presentation**.*

## LOCAL GOVERNMENT SPONSORED PROJECTS

LG projects require special attention from the UDOT PM. LG sponsored projects include a signed Federal-aid Agreement (FAA) developed by the UDOT PM. This agreement is the spending authorization between the LG and UDOT on behalf of the Federal Highway Administration (FHWA). The FAA defines the terms, conditions, and compliance requirements for reimbursement to the LG along with the responsibilities of the LG and UDOT. The FAA must be in place before any other contracts or agreements can begin.

LGs have the opportunity to provide a local in-kind (non-cash) match. Soft match examples include donations of materials or labor. Refer to **UDOT Local Government Assistance** to access PDFs on Flexible Match Approval Guidelines and the Flexible Match Approval Form.

### TIP

*The PM makes sure the project scope and all costs are well defined in the FAA and understood by all parties. Refer to the **Local Agency FAA form template and guidelines**.*

## LOCAL GOVERNMENT AND THIRD-PARTY BETTERMENTS (FACILITY UPGRADES)

The UDOT PM must prepare a Betterment Agreement if a LG, utility, or other third party requests facility upgrades during construction for either their project or a state-sponsored project. The Betterment Agreement includes details about the scope of work and the responsibilities and funding of each party. Refer to the **Betterment Agreement template** as a resource.

The following are important details to know about Betterment Agreements:

- The Betterment Agreement must detail what the LG or third party will pay for the cost of construction, including their percentage of CE costs. This will ensure that UDOT is able to recover all the costs related to the improvements.
- Betterment details need to be included in PDBS within the Engineer's Estimate under a non-participating detail showing the entity involved. This detailed non-participating estimate bid item allows the UDOT Comptroller's office to bill accordingly after the construction contract is awarded. This is the method by which UDOT confirms the LG allocation and reimbursement for the agreed betterment costs. Refer to the Betterment and Non-Participating presentation for **PDBS instructions**.
- Betterments are usually represented by a dollar amount that needs to be added to the STIP as part of the project value. These values come up as a funding source on the ePM 710 screen.
- UDOT requires that the total estimated cost of betterment work be advanced or deposited in escrow with UDOT prior to advertising the project.

## PROCUREMENT GUIDELINES

The method of procuring other types of services or materials will also impact the project budget. Some methods will require more effort, coordination, and lead-time than others. In order to make the best selection decision, it is important to learn about all the procurement options available. The Utah State Division of Purchasing and General Services provides purchasing and contract oversight to UDOT along with other state and local government agencies.

**Purchasing 101 training** and a **UDOT Procurement Guide** are also available.

## UTILITY AGREEMENTS

There are various types of utility agreements and fund reimbursements that can be used if a project cannot avoid impacts to a utility facility. Agreement types and their costs include:

- **Utility Line Relocation or Adjustment:** Check with the Region Utility Coordinator to determine the cost (50 percent reimbursable, 100 percent reimbursable, company's desired betterment work, and cost participation ratios.)
- **Master Utility Agreement:** Subsequent supplemental agreements for specific location, especially used for design-build projects.
- **Reimbursement for Railroad Flagging and Inspection:** With or without railroad crossing work.
- **Letter Agreement:** Lump sum, under \$5,000, 50 or 100 percent reimbursement, no audit.
- **Reimbursement for Power Source Installation:** Usually a lump sum. Contact the Region Utility Coordinator to arrange hook-up.

An important financial hazard with all utilities is the **Buy America** Federal Regulation requiring all U.S. steel purchases to qualify for federal-aid reimbursement.

### TIP

*Be aware of the most current highway transportation bill regulations.*





## ROW AGREEMENTS

A ROW agreement is required if a project cannot avoid impacts to a property or if a construction easement is needed to allow the contractor access to a property. Before ROW acquisition can begin, the planned ROW budget is established through the ROW Cost Estimate prepared by the Central ROW Lead. This estimate is required for Program Finance to generate the R-709 ROW funding authorization and includes the appraisal, appraisal review, agent information, property parcel specifications, and easement acquisition costs. It is helpful to routinely verify the ePM 505 screen ROW estimate with the latest ROW costs shown in the ePM ROW module and the ePM 750 screen, Ownership Status.

**ROW authorization must be obtained before the Advertise Construction Process, or else all of the federal project funds are in jeopardy.** For the construction plan package, a 00555M Special Provision must be written to include any limitations of the contractor's operations for parcels or easements that have not been acquired. These same parcel and easement limitations must be mirrored in the ROW certification before the project can proceed to the Advertise Construction process.

## ELIGIBLE CONSTRUCTION ACTIVITIES

As you proceed through design, keep in mind that the type of construction activities allowed on a project are defined by the program funding source.

- **Core program funds** are the source for most project funds.
- **Restrictive program funds** include alternate types of roadway funds with defined limitations on how they can be used.

Be sure you understand the limitations of the project-specific funds to better ensure the projects are not jeopardized. Refer to **Guide to Federal-Aid Programs and Projects**, which will help guide your selection method for procuring project resources.

## OTHER PROJECT AGREEMENTS (PASS-THROUGH)

There are two types of pass-through projects – **State Pass-Through** and **Federal Pass-Through**. Both pass-through projects can be reimbursed, but Federal Pass-Through requires proof of work completed before reimbursement. Federal Pass-Through projects are defined as funds received by one state agency or institution and transferred to other state agencies or institutions to carry out the project's programmed purpose. **No funds are advanced before work is complete.**

### COMMON PASS-THROUGHS AND SIMILAR AGREEMENT TYPES:

- Federal lands
- Scenic by-ways
- Indian reservations
- Safe routes to schools
- Safe sidewalk programs
- Safety spot improvements
- Selected house bill projects

There are other types of projects managed similarly to pass-through projects, but these are project-specific. The PM will need to work with the Region Program Manager to develop these agreements and plan how to document, manage, and financially close these projects.

### UDOT'S ROLE AS A 'PASS-THROUGH ENTITY'

UDOT's role as a 'Pass-Through Entity' on federal projects is to provide a federal award to a third-party 'subgrantee' to carry out a federal program.

#### **Third-party (3P) Subgrantee's Role:**

- Determines who is eligible to receive funds
- Performance is measured by meeting program objectives
- Responsible for programmatic decision-making
- Responsible to adhere to applicable program compliance requirements
- Uses the funds to carry out a program of the organization rather than those of the 'Pass-Through Entity'

## POTENTIAL FINANCIAL HAZARDS

Following are ways to avoid hazardous financial activities during the Preconstruction process:

- **Follow the necessary procedures before starting LG projects:** The FAA must be executed before spending funds on a LG project.
- **Deposit funds before executing contracts:** LGs must deposit funds for the specific phases before UDOT can execute any contracts.
- **Include betterment details:** Betterment details need to be included in PDBS within the Engineer's Estimate.
- **Choose an efficient, yet thorough, procurement method:** A procurement method that initially appears to be the shortest, simplest method can lead to backtracking and double work if it turns out to be an inappropriate method.
- **Prepare estimates before advertisement:** The total estimated cost of the betterment work needs to be advanced or deposited with UDOT before advertising the project.
- **Acquire NTP before beginning work:** Consultants should not proceed and payment approval should not occur before receiving the NTP.
- **Modify the contract before costs exceed contracted amount:** Consultants should not exceed the maximum contract amount or expend additional funds before a contract modification approval.
- **Use required documentation:** All payment requests must be supported by appropriate documentation.
- **Do not approve payments that exceed approved rates:** Payment requests should not be approved when they exceed the approved rates in the contract.
- **Acquire environmental document approval:** The environmental document must be approved before beginning any ROW acquisition or finalizing utility agreements.
- **Verify proper steps are taken before starting ROW acquisitions:** The PM needs to verify the Federal financial authorization date is in place and notify the LG before ROW appraisals and acquisitions can begin.
- **Create ROW budget before starting work:** The ROW budget must be established and ROW funds authorized before beginning ROW work.
- **Make sure all documents are in place before advertising:** ROW certification must be obtained before the Advertise Construction process can begin.

## SUMMARY

The Preconstruction process requires the PM to develop, document, approve, manage, and close a variety of project contracts and agreements. To prevent jeopardizing project funds associated with these documents:

- Understand UDOT, state, and federal-aid contract processes
- Communicate early and often with the other contracting entities
- Ensure contracts and spending approvals are in place before proceeding to the next activities

### TOOLS AND RESOURCES

- Refer to the Planning the Project chapter of the **UDOT PM Guide** for further information about selecting the Project Delivery Team.
- Refer to **UDOT Project Delivery Networks** to learn about setting up a project network.
- Refer to the **Brooks Act** (40 USC 11) to better understand the qualifications-based selection process for architects and engineers.
- Refer to **Consultant Selection Thresholds and Caps** for the latest UDOT Consultant Pool cap limits.
- Learn the ins and outs of **Consultant Selection with a Contracting Overview**.
- Refer to **Purchasing 101 training** and the **UDOT Procurement Guide** for Utah State Division of Purchasing and General Services purchasing guidance.
- Refer to **Buy America** for financial details and impacts on any project, especially those with utility items.
- Verify your ePM 505 ROW estimate with the latest ROW costs in the ePM ROW module, screen 750, Ownership Status.

### Local Government and Third-party Financial Tools

- Refer to the **Local Agency FAA form template and guidelines**.
- Refer to the **Betterment Agreement template** and the **PDBS instructions** for entering “betterments” and “non-participating” as contract bid items for third-party and LG betterments.
- Refer to **UDOT Local Government Assistance** to access PDFs of Flexible Match Approval Guidelines and the Flexible Match Approval Form.

# 6 ADVERTISE CONSTRUCTION PROCESS

'ADVERTISED' Status



Program/Project Management



Program Finance



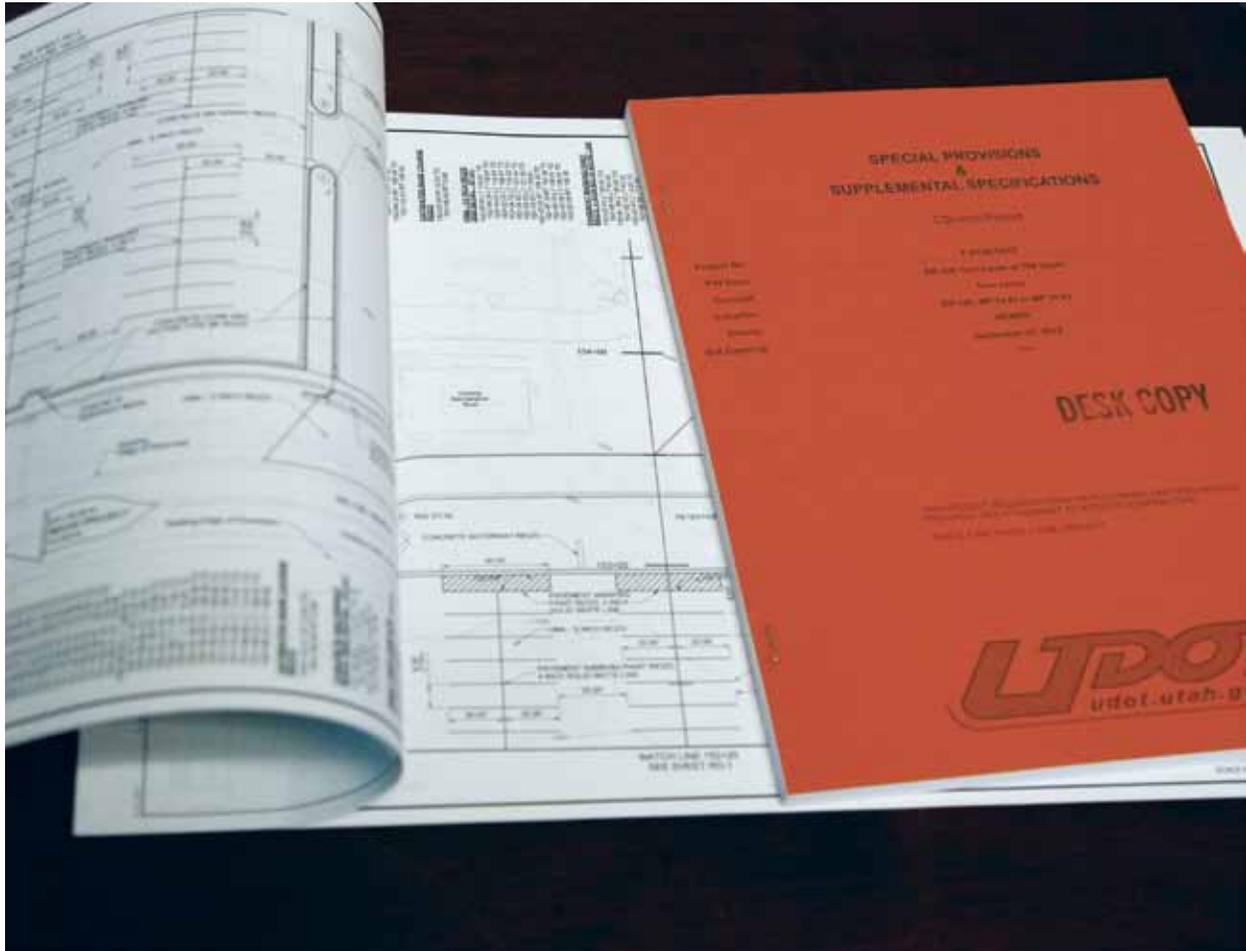
Construction Advertising



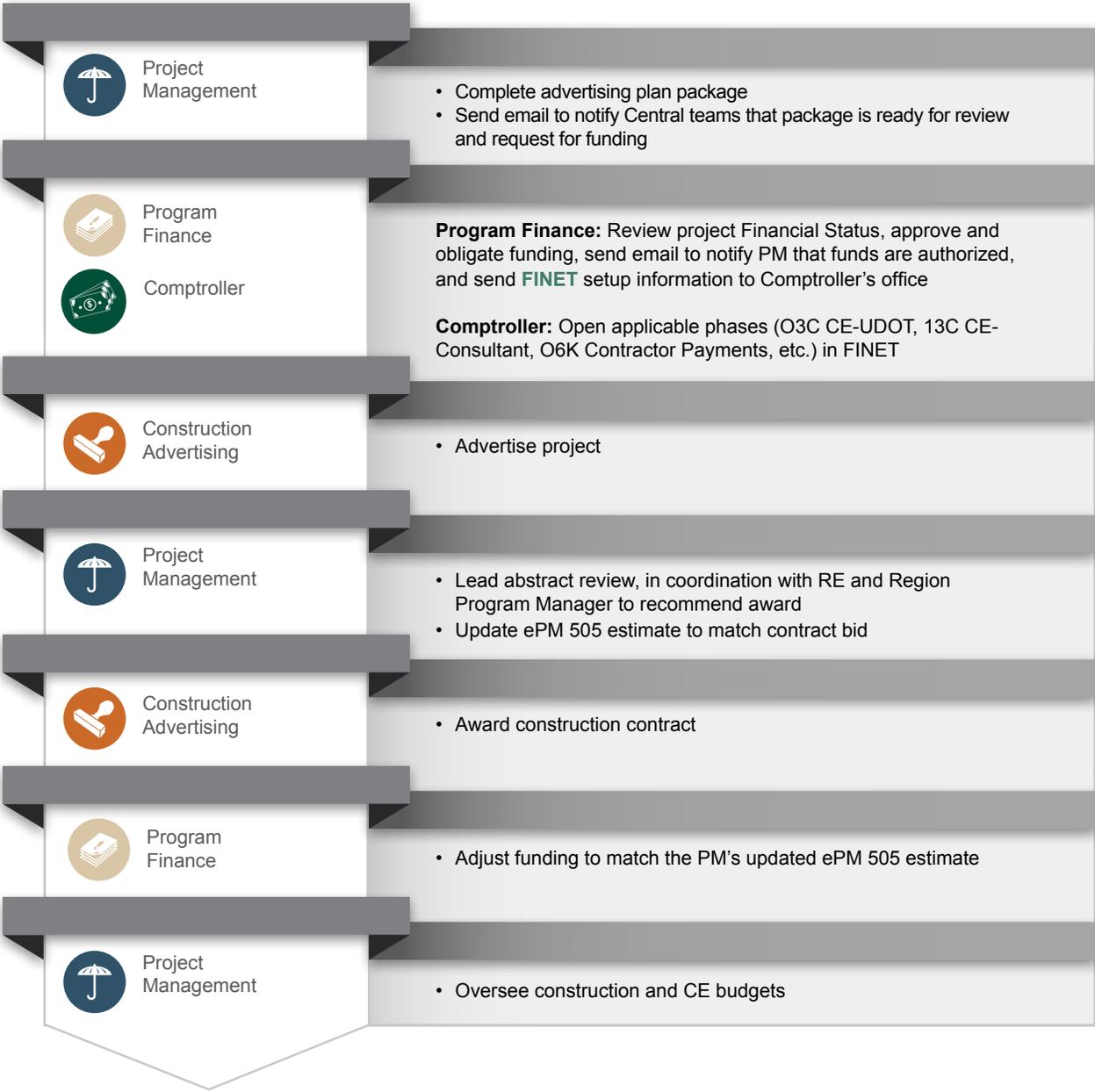
Engineering Technology Services (ETS)

Preparing to advertise a construction contract is often one of the most hectic and hazard-prone times for a project. This is mainly because state and federal project advertising is heavily regulated. Advertising is also when the bulk of project funds are authorized for spending. This provides a critical opportunity to mitigate financial hazards by:

- Providing a quality construction cost estimate
- Verifying expenditures and sufficient remaining funds
- Obtaining final construction spending approvals



The following chart shows the advertising activities leading into construction:



Once the PIN is in ACTIVE status, all future ePM status advancing is automated, including ADVERTISED and AWARD statuses.

# CONSTRUCTION ADVERTISEMENT

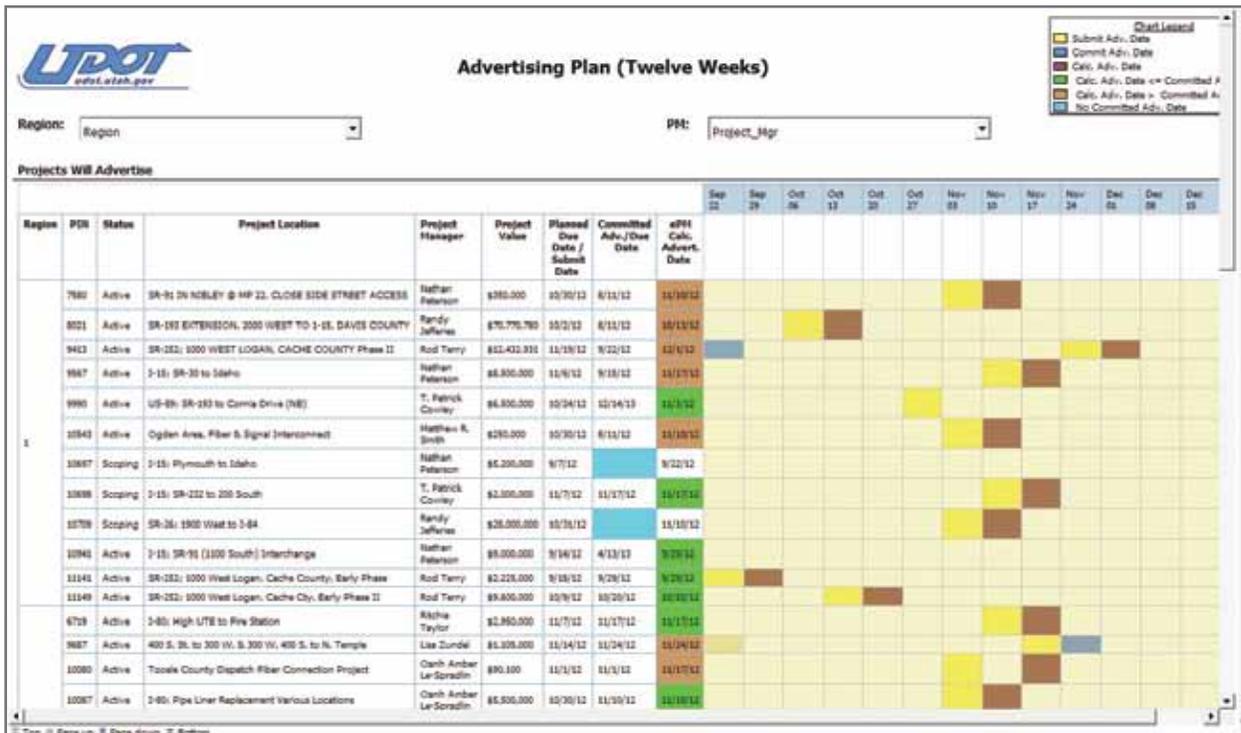
Two UDOT central office teams that serve important financial roles as you proceed to advertise are the Construction Advertisement and the Program Finance groups.

The Construction Advertisement team is responsible for the integrity of UDOT's public advertising and bid letting for all heavy highway construction contracts. They conduct bidding through PDBS, which is the source for important financial documents, including the Engineer's Estimate. Interested contractors submit their bids through the Electronic Bid System (EBS). Their bid is compared against the Engineer's Estimate, as well as other bidders at bid opening.

**TIP**

Refer to the following for additional advertising guidance:

- UDOT Central Construction and Getting Started with Project Advertising are especially useful if your design team has not advertised a project recently.
- FHWA Contract Provision Federal-aid Construction Contracts includes a list of items and activities that jeopardize federal reimbursement of construction costs. Become familiar with these.



## PROGRAM FINANCE

The Program Finance team helps assure project financial quality throughout the life of the project. Their role is especially important to verify a project's budget status during the Advertise Construction process. The PM needs to coordinate with Program Finance to verify the project financial information required as the project's advertising funding authorization is prepared. The chart below shows the source of data that Program Finance uses to verify project funds, obligations, and expenditures to complete the project's **T-725**, Authorization to Advertise for Construction.

### Where to Find Project Financial Information

Preliminary Engineering	ePM 495 screen expenditures and encumbered totals
Consultant PE	All authorized contracts totaled
ROW	Estimated cost (Central ROW)
Utility Force Account	All authorized contracts and agreements totaled (Region Utility Coordinator)
Construction	Engineer's Estimate in PDBS
CE Oversight (In-house)	CE contract amount matches Engineer's Estimate in PDBS
Consultant CE	CE contract amount matches with all authorized contract totals
UDOT Contingency	ePM 505 screen matches Engineer's Estimate in PDBS
Incentives	Engineer's Estimate in PDBS
State Furnished	Engineer's Estimate in PDBS
Additive #1, #2, #3...	Engineer's Estimate in PDBS

## ADVERTISING NOTIFICATION

Quality controls for the advertising and financial documents are the PM's responsibility. The PM must check that the Engineer's Estimate is uploaded into PDBS, and that advertising checklist documents are saved into UDOT's ProjectWise business system and marked for advertisement. The PM then notifies both Construction Advertising ([constadvert@utah.gov](mailto:constadvert@utah.gov)) and Program Finance ([programfinance@utah.gov](mailto:programfinance@utah.gov)) by email that the project is ready to advertise.

**TIP**

*Before sending an email notification that your project is ready to advertise:*

- *Adjust your PE estimated amount to include actual plus your forecasted in-house (UDOT team members) and consultant costs. Be aware that the ePM 495 screen expenditures can lag behind actual costs.*
- *Verify that the amounts on the current Engineer's Estimate and the ePM 505 screen match.*
- *Refer to File Guidance Contingency 5-5-9 Percent for a list of items to include in contingency.*
- *Refer to Additives Bid Table for examples.*
- *Refer to Estimator's Corner to improve the quality of your Engineer's Estimate.*

## FUNDING AUTHORIZATION

Program Finance completes the construction funding authorization forms. They will obtain the UDOT Deputy Director's signature for construction funding approval on the **T-725 form** and FHWA's signature for approval on the **FHWA's R-709 form**. The R-709 and T-725 forms are then scanned into ProjectWise and marked for advertisement. The PM, Comptroller's office, and Construction Advertisement team are emailed the ProjectWise link to access approval documents as needed. After approval, the applicable dates are added to the PDBS system.

**TIP**

*Plan on five to seven business days for funding authorization because many UDOT and FHWA staff are involved in this approval process. The 10 Day Target Advertising Schedule time frame includes this time frame and additional details.*

## PROJECT ADDENDA

It is common for contractors to identify errors and omissions that impact the Engineer's Estimate and project budget during the advertisement period. An addendum needs to be created and submitted to the Construction Advertisement team if there are changes to the project advertising documents. The PM must initiate and manage the addendum submission process. The PM will work with the Region Program Manager and Program Finance if an addendum requires additional funds that will exceed the project value limits.

**TIP**

*Refer to UDOT's Addendum Manual to learn how to modify contract documents during advertisement.*

## CONTRACT BID OPENING

UDOT has a rigorous, controlled bid process in place to ensure competitive, fair, and equitable bidding and award. Contractors submit their bids through the Electronic Bid System (EBS)—a software application that manages the bidding process. At bid opening, their bids are compared against one another and against the Engineer’s Estimate.

The PM is allowed to review the bid abstract if the lowest responsive bid is equal to or less than 110 percent of the Engineer’s Estimate. Before awarding the contract, the PM and Resident Engineer (RE) review the bid abstract for potential areas of risk such as unbalanced bids or large differences in specific bid items reflecting apparent errors in the advertising package. The PM coordinates with the Region Program Manager to decide whether or not to award a contract to the apparent low bidder.

The PM follows the **UDOT 08B-12 policy** for contract award guidance if the lowest responsive bid is greater than 110 percent of the Engineer’s Estimate. Refer to the **10 Percent Over Engineers Estimate Guidance Document** for abstract approval.

## CONTRACT AWARD

The PM consults with the RE before recommending award of the project to the apparent low bidder. Next, the PM obtains award approval from the project sponsor such as the Portfolio Manager or Local Government if needed. The PM then adjusts the ePM 505 screen award and contingency amounts according to the **Project Budget Recovery Guidance**. Program Finance mirrors the ePM 505 screen update in FMIS and forwards the approval to the Comptroller’s office for FINET updates.

The purpose for this step is to recover unused project funds for re-programming to new projects. This process does not apply to non-UDOT sponsored projects. The PM emails Construction Advertising to proceed with the Notice of Award (NOA).

Construction Advertising sends the apparent low-bidder an award letter based on the PM’s request to award and forwards a copy of the letter to Program Finance. This triggers Program Finance to adjust FMIS to the ePM 505 screen, Project Total Estimate. The contract NOA is now issued by the UDOT Construction Division and the ePM PIN status automatically moves from Advertised to Awarded.

Following is the automated PIN status change process:

- ePM looks for a Notice to Proceed date in PDDBS
- The PIN status is changed to Under Construction and the Effective Date changes to current date
- A description is added to the Modification Comments on ePM Screen 745.

Refer to the Help section of ePM for a complete description of all **automatic PIN status updates**.

**TIP**

- *The PE phase for expenditures automatically closes 30 days after the FMIS R-709 advertised approval date. Contact Program Finance if a design issue is identified later during construction.*
- *Construction phases 03C (UDOT Construction Engineering), 06K (Contractor payments), and 13C (Consultant Construction Engineering) are opened for charges.*
- *Program Finance adjusts FMIS to match the PM's revised ePM 505 estimate for federally funded projects and the excess project funds are returned to the region master PIN for re-programming.*
- *Excess funds return to the general fund for state funded projects.*

## RE-ADVERTISEMENT OR NON-AWARD

Program Finance de-obligates federal funds and de-authorizes the construction phase if the project is not awarded. There is no automatic notification at this time. The PM must contact Program Finance to notify them that a non-award has occurred. The funding will remain programmed on the project until the re-advertisement or a decision is made by the Region Program Manager to re-assign the funds.

## POTENTIAL FINANCIAL HAZARDS

It is important to understand the Advertising Construction process in order to allow the team sufficient time to complete their work and to prepare advertising and financial approvals.

To help address possible risks:

- **Coordinate routinely with the designer throughout the design phase:** Verify the project scope and design expectations to prevent a last-minute budget crisis at advertising.
- **Complete necessary tasks before advertising:** Review outstanding PE contracts and prepare any needed contract modifications before advertising.
- **Prepare documents to provide answers to contractors:** Have your Construction Engineering Management (CEM) contract NTP in place before Advertising, so your assigned RE is available to answer contractor bid questions.
- **Advertise at the right time of year to optimize bidding opportunities:** Refer to the **Estimator's Corner** for best planning and practices.
- **Make sure processes are recorded and completed accurately:** Coordinate early and closely with Program Finance to verify project expenditures and outstanding contract obligations. Program Finance monitors their workload using the Weekly Advertising Report (WAR) in the **COGNOS PM Toolbox**. Keep the Submit for Advertisement date current (found on the ePM 510 screen) as it is a valuable communication tool for the central office teams.
- **Ensure the quality of estimates:** Coordinate early with Construction Advertising to ensure the quality of your Engineer's Estimate. Refer to the **Estimator's Corner** for tips.
- **Minimize scope creep:** The PM needs to closely monitor and assist where possible to minimize scope creep on LG projects.

## SUMMARY

Advertising a construction contract is a challenging, high-risk time for a project. Up to now, the PM has been working primarily with the Project Design team. The PM now coordinates closely with new teams who have stewardship and financial oversight tasks that ensure the integrity of UDOT's construction contract process. Early coordination and routine communication with these teams will go a long way to help the project advertise on time and within budget.

### TOOLS AND RESOURCES

- Refer to **UDOT Central Construction** when getting started with project advertising.
- Refer to **FHWA-Contract Provision Federal-aid Construction Contracts**, which includes items and activities that may jeopardize federal reimbursement of construction costs.
- Refer to **File Guidance Contingency 5-5-9 percent** for contingency information.
- Refer to the **Additives Bid Table** for examples of an Engineer's Estimate in PDBS.
- Refer to **Estimator's Corner** to improve the quality of your Engineer's Estimate.
- Refer to the **10 Day Target Advertising Schedule** for time frame after notifying the central office your advertising package is complete in Project Wise.
- Refer to **Project Budget Recovery Guidance** when preparing for contract award.
- Refer to the **COGNOS PM Toolbox Weekly Advertising Report (WAR)** to improve communication and trust with Central Advertising teams.
- Refer to the UDOT **Addendum Manual** for guidance on modifying contract documents during advertisement.
- Follow the **UDOT 08B-12 policy** for contract award guidance.
- Refer to the **10 Percent Over Engineers Estimate Guidance Document** for abstract approval.

# 7 CONSTRUCTION AND POST-CONSTRUCTION PROCESSES

*'AWARDED' to 'CONTRACT CLOSEOUT' Status*



Construction

Program/Project  
Management

Comptroller

The Construction process is where the contractor finally begins their work. This process starts at the contractor's Notice of Award (NOA), where PIN status equals Awarded, and ends at Contract Closeout. While the contractor constructs the project, the RE manages the day-to-day aspects of the project. The RE inspects and verifies that the project is built according to contract documents. The details and scope of the project are found in the Preconstruction Plans, Specification, and Engineer's Estimate (PS&E).

After construction work on the project is complete and the contractor notifies the RE that the project is substantially complete, the RE arranges a final inspection. Once the project has passed the final inspection, the RE initiates the Contract Completion and Closeout processes. Following are details leading from Award to Construction Closeout:

## UNDER CONSTRUCTION OVERVIEW

The PM's role during construction is to monitor and ensure that the project scope, schedule, and budget meet the project's contracted intent. The PM must coordinate with the RE to manage the Construction Engineering (CE) budget, minimize scope creep, and ensure construction overruns and Change Orders do not exceed the project funds. The PM must also see that all ROW acquisitions, utility, and third-party commitments are fully satisfied. To avoid additional construction costs and delays to the schedule, commitments must be completed on schedule and must not impact the contractor operations.

## CONSTRUCTION CHANGE ORDERS

The RE coordinates with the PM on all Change Orders. The RE has authority to approve Change Orders of less than \$25,000 as long as it does not modify the specifications or exceed the Project Value. The RE prepares an Authorization to Proceed (Form C107) that gives the RE and the contractor two weeks to negotiate and approve the Change Order in case of emergency work or delays to work progress. The PM assists the RE in establishing that the cumulative total of all Change Orders does not exceed the Project Value, approves Change Orders that fall within their approval authority limit, and recommends approval for those that exceed the RE's approval limit. Refer to **UDOT Policy 08B-10**, for Change Orders greater than \$25,000. The Active Project Summary on the ePM 506 screen, the same report as PDBS Project Detail, helps determine if there are sufficient funds to cover the proposed **Change Order (Form C-100)**.

When funds are not sufficient, the PM and RE coordinate with the District Engineer and Region Program Manager to either resolve the scope or obtain additional funding for the project. The funding request is initiated by the RE using the **UDOT COFN Form C118**, which is advanced to the Comptroller's office for final processing to allow invoices to be paid once funds are located, approved, and added by Program Finance. See the **UDOT CONF Form C118 instructions** for further details.

## CONSTRUCTION CONTRACT CLOSING OVERVIEW

Once the contractor notifies the RE that the project is substantially complete, the RE coordinates the final inspection and post construction conference. The PM attends these meetings along with other local, region, and central stakeholders involved in the project. The RE continues to work with the contractor to verify the materials certification and documentation closeout. After verification of the project documentation by the RE and Region Contract Specialist, the RE submits the final contractor payment request to the UDOT Central Construction office. After the Region Contract Specialist (RCS) and Central Construction Division complete their final documentation review, and a Final Construction Contract Letter is issued to the contractor by the Central Construction office. Program Finance is sent a copy of the Final Construction Contract Letter, which triggers the Financial Closeout process of the project.

The UDOT Construction Division has committed to closeout construction contracts within 150 days from substantial completion. The PM will want to monitor progress to meet this goal. Further information on tracking your project through the construction and post-construction processes and PIN statuses can be found below.



## CONSTRUCTION COMPLETION PROCESS DETAILS

The RE enters the date the roadway is open and construction is no longer impacting traffic into PDBS, and the ePM system automatically changes the PIN status to SUBSTANTIALLY COMPLETE.

- ePM finds a substantial completion date in PDBS
- The PIN status is changed to SUBSTANTIALLY COMPLETE, the Effective Date is changed to the current date, and Modification Comments are added on the ePM 745 screen
- Time begins for a 150 day completion goal to closeout the construction contract

### SUBSTANTIAL COMPLETION

The RE can call a project as Substantially Complete when the following have occurred:

- The public has full unrestricted use of facilities
- All safety features are in place
- Only minor incidental work remains for physical completion
- The contractor and RE mutually agree that remaining work will not impede the public

For full definition see Section 00570 of 2012 UDOT Standard Specifications

## POST-CONSTRUCTION COMPLETION PROCESS DETAILS

### Contractor Activities

*Timeframe: Complete 30 days after PIN status = Substantially Complete*

The date the contractor's final punch list and all construction site work is complete, the RE enters this information in PDBS, and the ePM system automatically changes the PIN status to PHYSICALLY COMPLETE.

- ePM finds a physical completion date in PDBS
- The PIN status is changed to PHYSICALLY COMPLETE, the Effective Date is changed to the current date, and Modification Comments are added to the ePM 745 screen

### Contractor Activities

*Timeframe: Complete 30 days after PIN status = Physically Complete*

The date when all contract documentation and contractor obligations are fulfilled, the RE enters this information in PDBS and the ePM system automatically changes the PIN status to CONTRACT COMPLETE.

- ePM finds a contract completion date in PDBS
- The PIN status is changed to CONTRACT COMPLETE, the Effective Date is changed to the current date, and Modification Comments are added to the ePM 745 screen

## Resident Engineer Activities

*Timeframe: Complete 30 days after PIN status = Contract Complete*

The date when all contract documentation and contractor obligations are fulfilled, the RE enters this information in PDBS, and the ePM system automatically changes the PIN status to REGION REVIEW.

- ePM finds a notice of contract completion date in PDBS
- The PIN status is changed to REGION REVIEW, the Effective Date is changed to the current date, and Modification Comments are added to the ePM 745 screen

## Region Contract Specialist Activities

*Timeframe: Complete 30 days after PIN status = Region Review*

The Regional Contract Specialist reviews the contract documents for completeness and accuracy and submits a final documentation package to Central Construction.

- ePM finds a notice of region documentation review completion in PDBS
- The PIN status is changed to CENTRAL REVIEW, the Effective Date is changed to the current date, and Modification Comments are added to the ePM 745 screen

## Central Construction Activities

*Timeframe: Complete 30 days after PIN status = Central Review*

Central Construction reviews documentation and processes the Final Pay Estimate.

- ePM finds a notice of the Final Pay Estimate in PDBS
- The PIN status is changed to CONTRACT CLOSED OUT, the Effective Date is changed to the current date, and Modification Comments are added to the ePM 745 screen
- ePM notifies the Comptroller’s office the project is ready for final payment and audit

**The timeline to close out construction contracts using the substantial completion date as a baseline, includes:**



## Central Closeout Team Activities

*Timeframe: Varies by project*

A collective group including Construction, Civil Rights, Consultant Services, and ROW completes the Central Closeout activities.

- Closeout and financial documents are finalized for Audit review
- The Comptroller's office authorizes the final contractor payment and the retention release

## Program Finance Activities

*Timeframe: Varies by project*

Program Finance advances PIN status to CONSTRUCTION CLOSEOUT and the project moves to the next process, Financial Closeout.

## POTENTIAL FINANCIAL HAZARDS

Construction item overruns, especially on major items, and Change Orders are the highest risk items that can damage the project budget during the construction phase. The best practices for construction item overrun prevention include:

- **Administer a constructability review:** Make time for a quality plan review and field review with an experienced construction expert during the design phase.
- **Conduct a project risk review:** A project risk review will help to develop an appropriate contingency to mitigate risks.
- **Manage a reconstruction investigation:** Do a quality check to determine potential overruns, especially on a project's major cost items such as HMA, UTBC, and granular borrow.
- **Maintain proactive construction communication:** Schedule routine communication with the RE to monitor overruns and ask frequent questions about the quantities of major items.

Prevent Change Order budget overruns:

- **Plan ahead:** To have a quality plan advertising package in place.
- **Prevent scope creep:** By communicating regularly with the RE.
- **Stay involved:** Prevent contractor claims by staying involved to help monitor whether there are potential conflicts from the contractor's perspective. Refer to **UDOT 08B-91**.

## LOCAL GOVERNMENT HAZARDS

- Monitor any LG scope creep to ensure federal funds are not jeopardized, which is a common tendency for all projects during the Construction Phase
- Modify the FAA if a LG's additional estimated share exceeds \$25,000
- If the LG chooses not to award the contract, all federal funds expended must be returned and unauthorized until readvertising or other actions are taken

## SUMMARY

The majority of a project's costs are incurred during the construction phase. Commitment to monitoring project finances is important. The PM continues to monitor the budget, follows up on any unresolved ROW acquisitions and utility commitments, and keeps in touch with the RE on project progress to ensure the project does not experience scope creep. Refer to **UDOT PM Guide** for additional tips on managing a successful construction phase.

The PM should continue to monitor progress during post-construction to ensure timely construction closeout.

## TOOLS AND RESOURCES

- Compare the ePM 505 and 495 screens and update 505 screen accordingly. Both of these will feed and ensure an accurate 506 Active Project Summary Report.
- Refer to Financial Reports in the **PM Toolbox** for project encumbrances and the project expenditure cost summary.

# 8 FINANCIAL PROJECT CLOSEOUT PROCESS

'CLOSEOUT' to 'CLOSED' Status



Program/Project  
Management



Construction



Program  
Finance



Comptroller

The last phase of the project lifecycle is the Financial Project Closeout process. This includes many different activities, but this chapter will focus on the financial aspects of project closeout. Final payment is made, issues are resolved, funds are reconciled, and project spending authority is terminated during this process. Timely project closeout is the responsibility of the PM and allows re-programming of excess project funds toward other projects.

Prompt project closing within the Federal-aid and State Highway Program is critical to UDOT and FHWA in order to optimize the limited financial resources under UDOT's stewardship. Unexpended funds from promptly closed projects can be used for new projects.

## ePM PROJECT CLOSEOUT NETWORK

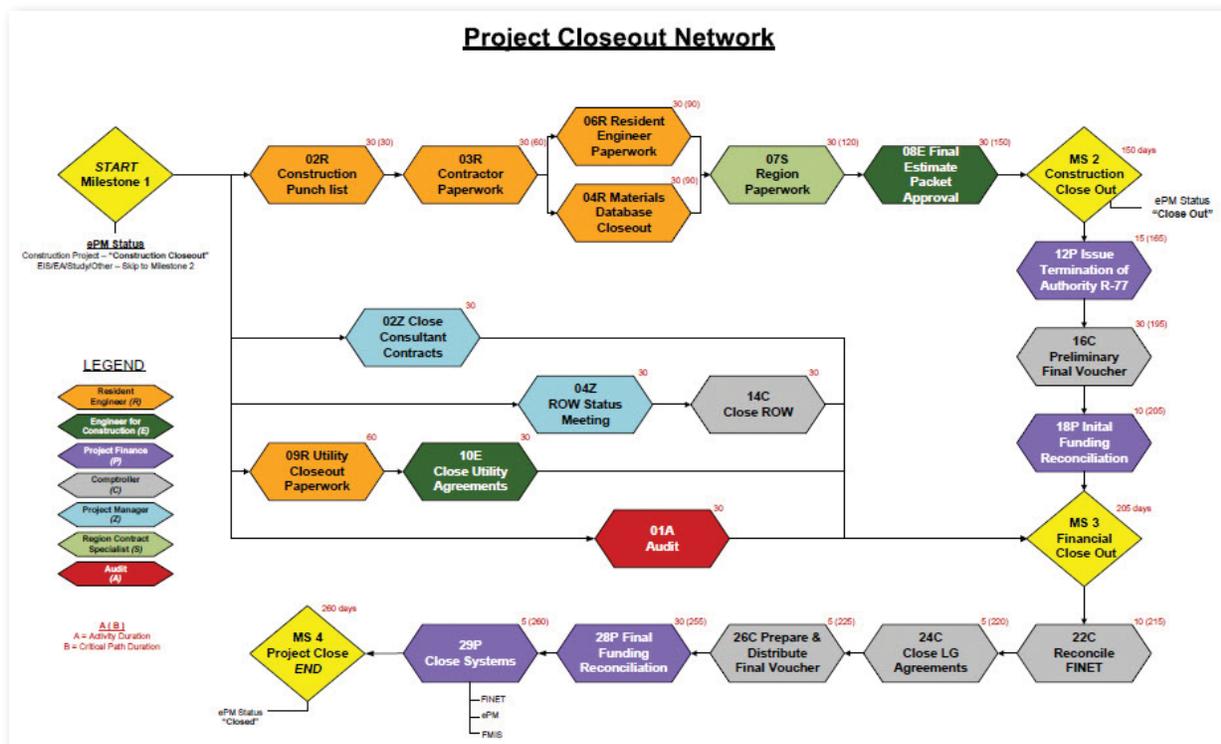
- The Project Closeout Network was developed to outline and track the steps necessary to properly close out projects in ePM. For construction projects, the Project Closeout Network begins on the date the RE marks the project as Substantially Complete in PDBS. Refer to the **Construction Closeout Process Timeline** for construction project closeout activities. For non-construction projects, the Project Closeout Network begins when the PM determines that the intent of the project is complete.

### SUBSTANTIAL COMPLETION

The day determined by the Engineer when the public has full unrestricted use of the facilities from an operational and safety standpoint. Refer to Section 00570 of the UDOT Standard Specifications for a full definition of substantial completion.

The PM initiates the project closeout by setting up the Project Closeout Network in ePM. This setup includes selecting the Closeout activities based on the characteristics of the project, assigning management units (MU) or team member to those activities, and selecting a network closeout completion date.

- Refer to **Project Closeout Network activities in ePM** for a tutorial and documentation that shows PMs and Activity Leaders how to setup and update the project in ePM. The Project Closeout Network ends when all contract obligations are met and the project is completely closed in ePM, FINET, and FMIS. Termination of project spending authority takes place through form **R-77**. Unexpended funds are released once the project is closed. At this time funds for any project overrun must be found. Coordinate with the Region Program Manager to locate an appropriate funding source. After funds are reconciled, Program Finance moves the ePM PIN status from “Close out” to “Closed.”



## PROJECT TRACKING ORACLE DATABASE

The Project Tracking Oracle Database was developed to track the closure of specific construction, consultant, and utility contracts. The database tracks if consultant or utility contracts require a post audit from UDOT’s Internal Audit Division. The region PM Support Technicians are setup to help access this database.

## POTENTIAL FINANCIAL HAZARDS

A major responsibility of the PM is to make certain that all financial commitments have been met before closing the project. Below are solutions for avoiding closeout problems:

- **Check contracts and evaluations:** Check that all consultant contracts are closed and evaluations completed.
- **Coordinate with the Comptroller's office:** Coordinate with the Comptroller's office for any warranties, ROW condemnations, ROW Right of Occupancy (ROO), and ROW litigations.
- **Check outstanding contracts:** Verify there are no outstanding utility, railroad, or other third-party contracts.
- **Complete audit:** Be sure to plan a budget for any needed post audits. See **Closeout Project Audit Cost Estimates** for guidance. Confirm that the final UDOT audit is complete.
- **Locate additional funding:** The PM will work with the Region Program Manager to locate additional funding to meet obligations of any costs that come in after the release of funds, or that exceed the total project budget.

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## SUMMARY

It is important to consider the Financial Project Closeout process throughout a project's lifecycle. This will ensure the proper steps and financial documents are in place for a closeout that may sometimes be many years in the future. A little closeout planning during each phase of the project will go a long way toward a successful closeout process when that time arrives.

### ***TOOLS AND RESOURCES***

The following tools are available to assist PMs in efficiently tracking and managing a project's closure:

- Use the **ePM Project Closeout Network** to track the necessary steps in closing a project.
- Refer to the **Financial Project Tracking Oracle Database** to track the closure of specific contracts related to the project.

# 9 CONCLUSION

*“Some Project Managers go over their budgets very carefully every month; others just go over them.” – Unknown*

One of the most important services a UDOT Project Manager provides is to deliver quality projects to the public in a fiscally responsible way. In these changing economic times, it’s even more critical to manage funds efficiently to better support **UDOT’s Strategic Direction**. This Project Financial Management resource can serve as a core guide to ensure delivery of a financially healthy project.

Initially PMs should take the time to become familiar with the content and chapter formats, so it will be easier to locate the tools and reference materials quickly as you need them in the future. The guide also references many additional resources and links to help steer away from potential project financial hazards throughout the project’s lifecycle.

Refer to the complete financial life cycle chart to view the financial process in its entirety.

## PROJECT FINANCIAL LIFE CYCLE

Initial Spending Request Through Financial Closeout



**TIP**

See the full Project PIN Status Chart.

# 10 GLOSSARY

## **23CFR**

*Title 23 – Code of Federal Regulations*

Regulation to implement and carry out the provisions of federal law relating to the administration of federal-aid for highways. (fhwa.dot.gov)

## **5-5-9 Contingency Estimate**

The UDOT recommended percentage of construction contingency amount based on the type of project:

5% for ORANGE book projects

5% for PURPLE book projects

9% for BLUE book projects

Contingency items include FUEL ADJUSTMENTS, MATERIAL ADJUSTMENTS, OVERRUNS, UNDERRUNS, and CHANGE ORDERS.

## **10-Day Advertising Schedule**

The Central Project Teams' target schedule from the time they receive the project package to the time the project's advertisement notice is published at [utahlegals.com](http://utahlegals.com)

## **ABC**

*Accelerated Bridge Construction*

A method of bridge construction that uses innovative planning, design, materials, and construction methods in a safe and cost-effective manner to reduce the onsite construction time that occurs when building new bridges or replacing and rehabilitating existing bridges. (fhwa.dot.gov)

## **Abstract**

The PDBS bid opening tabulation that compares the contractor bid proposals with the Engineer's Estimate.

## **AC Agreement**

*Advanced Construction Agreement*

An AC Agreement allows the state to advance a federal construction project without obligating the federal-aid. The state or local agency bears all expenditure outlay to cover the agreement. This is typically handled through Systems Planning and Programming.

## **AC Conversion**

*Advanced Construction Conversion*

When the intended federal-aid and/or obligation authority is available, a portion or the entire AC amount may be converted to obligated funds. Eligible expenditures may be billed for reimbursement to the state or local agency after the AC Conversion. (23CFR Chapter I Subpart G 630.709)

## Accounting System

Technology or software programs that assist an organization to account, record, summarize, interpret, and present timely financial data (Ex: UDOT FINET or FHWA's FMIS systems) in contrast to business systems such as ePM and PDBS.

## Addendum (to advertising package)

If an error is discovered after advertising the contract for construction, an addendum is prepared to correct the error.

## ARRA

*American Recovery and Reinvestment Act of 2009*

The primary objective for ARRA was to save and create jobs almost immediately. Secondary objectives were to provide temporary relief programs for those most impacted by the recession and invest in infrastructure, education, health, and 'green' energy. (Wikipedia)

## ATMS

*Automated Traffic Management System*

ATMS is a component of an Intelligent Transportation System (ITS). ATMS integrates technology primarily to improve the flow of vehicle traffic and improve safety. Real-time traffic data from cameras, speed sensors, etc. flows into the Transportation Operations Center (TOC) where it is integrated and processed (e.g. for incident detection), and may result in actions taken (e.g. traffic routing, DMS messages) with the goal of improving traffic flow. (Wikipedia)

## Additives

During the design process, contractors are required to bid add-on portions of work in anticipation of receiving low bid prices where additives can be selected.

## Administrative Record

The record which reflects all communications, media events, meeting minutes, etc. applicable for environmental NEPA documents.

## Advertising Checklist

A guidance document that assists a project team to prepare a contract package (Plans, Specifications, and Engineer's Estimate) for advertising used to verify the certifications and approvals to proceed to advertise.

## Amendment

An audit trail for any changes made to a project in ePM.

## Apportionment

Apportionment is a term which refers to a statutorily-prescribed division or assignment of funds. An apportionment is based on prescribed formulas in the law and consists of dividing authorized obligation authority for a specific program among the states. Examples include Interstate Maintenance (IM), National Highway System (NHS), Surface Transportation Program (STP), Congestion Mitigation and Air Quality (CMAQ), and Bridge Replacement and Repair (BRR) programs. (txdot.gov)

## Approved Amount

Requested funds that have been authorized by the FHWA.

## Arterial

A functional classification of a roadway that is found in both rural and urban environments, which primarily focuses on high levels of mobility through relatively higher overall speeds rather than land access. (fhwa.dot.gov)

### **Arterial, Minor**

Streets and highways linking cities and larger towns in rural areas in distributing trips to small geographic areas in urban areas (not entering identifiable neighborhoods). (fhwa.dot.gov)

### **Arterial, Principal**

Major streets or highways, many with multi-lane or freeway design, serving high-volume traffic corridor movements that connect major generators of travel. (fhwa.dot.gov)

### **Audit (see Post Audit)**

The act of scrutinizing files for infractions to the 23CFR.

### **Authorization**

Federal and/or state spending approval for STIP projects and programs.

### **Authorization Signature**

Signature required from authorized UDOT and/or FHWA representative(s), after requesting funds from FHWA or other officials, before spending can occur.

### **Award**

Owner's notice to a bidding contractor of the acceptance of their submitted bid on a project.

### **BVI**

#### *Bid Variation Index*

A statistical comparison that measures the variation of construction bid prices among bidding contractors on a given project.

### **Betterment**

Facility construction improvements, beyond the scope of the project, that are added to a UDOT project and are funded by a third party (i.e. local government, or utility).

### **Betterment Agreement**

A signed document detailing the facility construction improvement items to be constructed, and the financial responsibility between UDOT and the third party.

### **Bid Abstract - See Abstract**

### **Bid Letting**

Publishing a government contract for bid.

### **Bid Opening**

A price validation process used to accept, compare, and evaluate construction bids or proposals submitted by contractors, to ensure fair and equitable selection.

### **Blue Book Project**

Projects that may include new construction, rehabilitation, or reconstruction, in order to extend the life of bridges and pavement. Funding consists of federal and state funds on Interstates, National Highway System, and federal-aid eligible routes.

### **Bridge Funds**

Various federal funding programs dedicated to replace or rehabilitate existing bridges.

### **Brooks Act**

Qualifications-based selection process for architects and engineers defined by US Code 40 USC 11.

### **Business System**

The IT tools and programs that comprise the information architecture of an organization, such as UDOT's ePM, OMS, PDBS, and ProjectWise.

**Buy America**

Federal construction contract provision that requires the project include no steel or iron materials or, if steel or iron materials are used, all manufacturing processes, including application of a coating for these materials, must occur in the United States. **23 CFR 635.410**. Projects unable to meet this requirement could jeopardize their federal funds.

**C107 (UDOT Construction Division form)***Authorization to Proceed with Extra Work*

Required before proceeding with any construction contract change or extra work.

**C128 (UDOT Construction Division form)***Report on Assembly of Final Estimate*

Used to ensure complete documentation for the closing of a contract and is required by FHWA for the project closing process. This is included in the final letter packet.

**C190 (UDOT Construction Division form)***Project Acceptance Report*

Used to document substantial and physical completion and is required by FHWA for the project closing process. This is included in the final letter packet.

**C196-A (UDOT Construction Division form)***Project Materials Certification and Attachment A*

Provides certification of the project materials to the District Engineer and is required by FHWA for the project closing process. This is included in the final letter packet.

**CAA***Commission Approved Amount*

Initial funding amount programmed on each project in the STIP. The Utah Transportation Commission Approved Amount is found in the ePM Program Development module, on the 710 screen under 'Project Number' tab. The cost of the project is not to exceed this number.

**CatEx***Environmental Categorical Exclusion*

A CatEx is prepared for actions that do not individually or cumulatively have a significant effect on the environment. These are actions that do not: induce significant impacts to planned growth or land use for the area; require the relocation of significant numbers of people; have a significant impact on any natural, cultural, recreational, historic, or other resource; involve significant air, noise, or water quality impacts; have significant impacts on travel patterns; and otherwise, either individually or cumulatively, have any significant environmental impacts (23 CFR 771.117(a)). (UDOT Environmental Process Manual of Instruction)

**CCP***Construction Completion Packet*

The CCP is from central construction stating the construction has been completed on a project. A series of forms designed to summarize the construction phase of a project, including time to complete, material acceptance, DBE commitments, change orders, material over/under runs, and contractor payments.

## **CD Budget**

### *Concept Development Budget*

A nominal amount (usually \$10K) assigned to a project for the CD team to conduct a study to determine the feasibility of that project. CD funds are always non-participating.

## **CEM Budget**

### *Construction Engineering Management Budget*

The CEM is the portion of a project budget that provides construction engineering oversight on a project.

## **CEM**

### *Construction Engineering Management*

Engineering services to oversee and administer the construction contract.

## **CFC**

### *County of the First Class Fund*

House Bill 287 from the 2001 General Legislative Session created a special revenue fund that receives 25 percent of Salt Lake County's 0.25 percent public transit sales tax that was approved by voters in the November 2000 general election. Funds can be used for I-15 and other state highway projects within Salt Lake County and for debt service on bonds issued to pay for such projects as prioritized by the Commission. (udot.utah.gov)

## **CFR**

### *Code of Federal Regulations*

The administrative law of the federal government. Highways are covered under 23 CFR, Acquisition under 48 CFR, Transportation under 49CFR, etc.

## **CHF**

### *Centennial Highway Fund*

The CHF is an allocation of state and federal money for use in building capacity-driven transportation projects. Uses include construction, major reconstruction, or major renovation of state and federal highways, the most prominent of which was the I-15 reconstruction in Salt Lake County. (udot.utah.gov)

## **CHNF**

### *Critical Highway Needs Fund*

During the 2007 Utah Legislative Session, House Bill 314 created the CHNF. This fund is used on various transportation projects throughout the state as prioritized by the Commission based on recommendations developed by UDOT under criteria identified in state law. (udot.utah.gov)

## **CMAQ**

### *Congestion Mitigation Air Quality*

A type of federal funding that may be added to a project to assist in obtaining or maintaining a certain standard of air quality.

## **CMGC**

### *Construction Manager General Contractor*

This is a modified design-build process in which the owner holds the contract for both the consultant designer and the contractor.

## **CMGC Project**

### *Construction Manager General Contractor Project*

Contracting process in which a contractor is selected to aid with the design and is then invited to propose a price for the construction of the project. This is intended to identify and reduce project risk and cost of construction by involving the contractor in design decisions. Time is saved while the project is in design and construction risk is minimized.

**CMPO***Cache Metropolitan Planning Organization*

The CMPO is responsible for comprehensive transportation planning in portions of Cache County, Utah. (cachempo.org)

**CMS***Contract Management System*

ePM Business System module used for consultant contracting.

**CO***Change Order*

Change Orders modify the contract and are required for, but not limited to, the following conditions: pan or specification change or addition, differing site condition or significant change in the character of work; change in DBE commitment; extension of contract time; extra work required that cannot be tied to an original bid item; and acceptance of a value engineering proposal. (UDOT Construction Manual of Instruction)

**CPM***Critical Path Method*

A scheduling technique that uses activity durations and dependencies to calculate the longest path of planned activities to the end of the project, and the earliest and latest that each activity can start and finish without making the project longer. (Wikipedia)

**Capital Costs**

The value of the physical features on a project.

**COGNOS**

State of Utah's business and performance reporting tool.

**Commission Minutes**

Minutes taken during UDOT Transportation Commission meetings that contain pertinent information regarding projects, including funding.

**Comptroller's Office**

UDOT division office responsible for supervising the quality of accounting and financial reporting.

**Concept Report**

Report developed by the Concept team documenting the proposed project need and defines the limits, scope, and cost estimate for the project.

**Congressional District Code**

Required 2-digit numeric field identifying the geographical congressional district in which a project is located.

**Consultant Contract**

A contract written by UDOT Consultant Services for architectural/engineering services or engineering related services for either UDOT or local government projects. The funding may be state, federal, or local government. A consultant contract has various methods of qualification-based selection (i.e. General Engineering Services and Local Government Pool, Request for Qualifications, Request for Letter of Interest, or Engineer of Record).

**Contingency**

Planned funds set aside for unknown future events or emergencies. See 5-5-9 Contingency Estimate.

## **Contract Mod**

### *Contract Modification*

A contract modification may introduce or cancel specifications or terms of an existing contract, while leaving intact its overall purpose and effect.

## **Corridor Preservation**

Land purchase in anticipation of future road construction.

## **Cost Accounting**

A systematic process for recording and reporting all the costs and revenues of an organization in a way that can be used to improve its management

## **Cost Budgeting**

Allocating cost estimates to individual work activities.

## **Cost Estimating**

A process used to approximate the cost of a project. Highway project cost estimating includes the cost of mapping, survey, design, preparing an environmental document, utility impact relocations, right of way (appraisals, appraisal review, agents, acquisitions, and easements), construction materials and labor, and audits.

## **DB**

### *Design-Build*

There are several types of DB projects, including best value and low bid.

Generally, UDOT develops documents that identify the end result product, establishes the design criteria, and a preliminary design that provides information on unknowns such as the geotechnical data, to minimize a contractor's risk. Prospective bidders develop design proposals based on these documents. The design-build concept allows a contractor maximum flexibility for innovation in the selection of design, materials, and construction methods.

With DB, the contractor assumes a much larger role in the control of the project, with UDOT handling more of an advisory and quality assurance role. (UDOT PM Guide)

## **DBB**

### *Design-Bid-Build*

UDOT designs the project and develops a set of plans, specifications, and an estimate (PS&E). These documents are advertised to the contracting population and they submit bids for the work. The lowest responsive bidder is selected to perform the work. UDOT maintains control of the construction project. (UDOT PM Guide)

## **DBE**

### *Disadvantaged Business Enterprise*

DBEs are for-profit small business concerns where socially and economically disadvantaged individuals (i.e. African Americans, Hispanics, Native Americans, Asian-Pacific and Subcontinent Asian Americans, and women) own at least a 51 percent interest and also control management and daily business operations. (USDOT)

**DE***Design Engineer*

An engineer that designs roadway projects.

**Direct Select**

A consultant selection process where a firm is selected from a pre-qualified list of firms, such as from the UDOT General Engineering Pool.

**DUNS Number***Data Universal Numbering System Number*

A universal numeric identifier used to track entities receiving federal awards and must be provided on all federal grant applications.

**Dixie MPO***Dixie Metropolitan Planning Organization*

The Dixie MPO is designated by the state of Utah to oversee transportation planning in the urbanized and urbanizing areas in Utah's Washington County—historically known as 'Utah's Dixie.' ([dixiempo.wordpress.com](http://dixiempo.wordpress.com))

**EA***Environmental Assessment*

A NEPA document prepared for a project that is not on the CatEx list, and does not have significant environmental impacts (i.e. minor widening project).

**EBS***Electronic Bidding System*

A UDOT software application that manages the project construction bidding process.

**EE***Environmental Engineer*

An engineer that manages the NEPA process.

**EIS***Environmental Impact Statement*

A NEPA document for a project that is determined to pose significant environmental impacts. Typical for projects with a new alignment and can take three to four years to complete.

**ePM***Electronic Program Management*

A UDOT software application that holds all spending information regarding STIP projects and programs.

**ePM 300 Screens**

The initial project PIN creation setup screens primarily used by Planning and Programming, Program and Portfolio Managers, where they describe and propose a project, move it onto the STIP, set up funding and allow the team to plan the project scope.

**ePM, 495 Screen – Expenditure Summary**

Specific screen found in the ePM Project Development module under the 'Financial' tab. Shows the project expenditure summary.

**ePM, 505 Screen – Cost Estimate Engineer's Estimate**

Specific screen found in the ePM Project Development module under the 'Financial' tab. Shows the Project Manager's planned cost estimate of a project.

## **ePM, 710 Screen – PIN/Project Setup**

### *Project Information*

Specific screen found in the ePM Project Development module under the 'Setup' tab. Shows detailed project and funding information (i.e. descriptions, route name, and location, etc.).

## **ePM, 750 Screen – Ownership Status**

Specific screen found in the ePM ROW module that includes details about ownerships, parcels, land values, the agent's log, condemnations, summary, deeds, and status.

## **ePM, 861 Screen – Report Selection**

Specific screen found in the ePM Project Development module under the 'Reports' tab which can generate various reports such as budgeting, projects, and Gantt.

## **Earmark**

Federal funds that are set aside for a specific project. This funding can only be used for the specified project. Any unexpended funds are returned to the FHWA.

## **Eligible**

Costs that meet federal standards for reimbursement of federal funds.

## **Encumbrance**

Reflects contractual project financial commitments prior to an actual expenditure. Management tool to prevent overspending.

## **Engineer's Estimate**

Term given to a document found in PDDBS that is created by the project engineer, that gives a detailed breakdown of costs in all phases of the project to advertise for construction contractor. This document must remain within

the project value.

## **Environmental Document**

A NEPA (National Environmental Policy Act) document to determine whether certain actions (such as building a roadway) 'significantly' affect the quality of the human environment.

## **Environmental Documentation/ Project File**

A file that contains all the relevant environmental documents for a given project. Maintaining an accurate and up-to-date project file is an important task in any NEPA study. This documentation includes the Administrative Record. (UDOT Environmental Process Manual of Instruction)

## **Expenditure**

Any incurred cost to a project.

## **FAA**

### *Federal-Aid Agreement*

A signed agreement between UDOT and a local government which describes the funding responsibility for a local project.

## **FHWA**

### *Federal Highway Administration*

The Federal Highway Administration (FHWA) is an agency within the U.S. Department of Transportation that supports state and local governments in the design, construction, and maintenance of the nation's highway system (Federal-Aid Highway Program) and various federally and tribal owned lands (Federal Lands Highway Program). (fhwa.dot.gov)

**Final Construction Letter**

A letter issued from the Engineer for Construction and Materials that terminates a construction contract and releases the contractor.

**Finance Systems**

Processes and tools that help an organization track and manage resources and aid planning and decision-making such as INET and FMIS.

**FINET***Financial Network*

Utah State's financial management software system that provides accounting information to help agencies analyze, make sound decisions, and maximize use of tax revenues. The FINET program uses cost accounting elements input into expenditure documents. Those programs with a 5 or 4 prefix identify involvement of federal funds on the project.

**FINET CODING BLOCK**

A set of coding elements used by Utah state agencies to record, classify, and retrieve financial information by category and subcategories.

**FMIS***Fiscal Management Information System*

Federal system used to enter and track obligation of funds, expenditures, information, and financial changes and adjustments on federally funded projects.

**FMIS Action**

Any adjustment or obligation within the FMIS system that requires signature authorization.

**FMIS Number**

A unique number generated for each project in ePM which identifies it within the FMIS system.

**FONSI***Finding of No Significant Impact*

A FONSI is both the decision by FHWA that the project has no significant impacts and the documentation of that decision. A determination that the project will have no significant impacts is made by FHWA, following consideration of the analysis presented in the EA, consideration of comments on the EA made by agencies and the public, UDOT's selection of the preferred alternative, and any changes in the proposed action based on the comments received. (UDOT Environmental Process Manual of Instruction)

**FV***Final Voucher*

A document generated by the Comptroller's office that breaks down all costs on all sub phases of a project or program. Every penny that was programmed for the project is accounted for by this final document.

**Federal-aid Program**

All federal funds that states are allowed to expend, providing federal criteria is met.

**Federal Bill – Reimbursement**

A weekly bill submitted to FHWA for reimbursement to the state for costs incurred on federal projects. Initially, the state covers the funding of any given federal project. Only after submitting necessary documents and receiving authorization of funds by FHWA, does this qualify the state to be reimbursed by FHWA.

**Federal Funding**

Money from the federal government to fund UDOT's federal-aid program.

## **Fiscal Year**

Dates within a specific time frame in which fiscal expenditures are recorded. The Utah State fiscal year differs from the federal fiscal year.

## **Flexible Match**

Public and private contributions are allowed to be counted toward the non-federal match for federal-aid projects. Candidate federal-aid projects for flexible match must be identified at the time of project application. The candidate project requires evaluation of the total project funding for determination of flexible match feasibility and pre-approval by the UDOT Local Government Programs Engineer. Soft match is a match credit to a project derived from a non-project source, such as toll credits or off-system bridge credits. The amount the state spends on these projects can be credited to another using federal-aid funds. The federal share on the federal-aid project does not change with the non-federal share satisfied by a soft match. However, the billing ratio is up to 100% of cost incurred depending on the amount of soft match.

## **FTA**

### *Federal Transit Administration*

The USDOT federal agency that provides financial and technical assistance to local public transit systems.

## **Funded Year**

Funds that show in the current year in the STIP. Only current funded year funds can be reimbursed.

## **Funding Priority**

The funding source that is determined or required to be the first to be expended on a project that has more than one funding source.

## **GIS**

### *Geographic Information System*

A technological field that incorporates geographical features with tabular data in order to map, analyze, and assess real-world problems. (GISlounge.com)

## **Green Book Project**

Projects that may include new construction, rehabilitation, or reconstruction for extending the life of bridges and pavements. Funding consists of state construction funds or dedicated federal funds.

## **HCP**

### *Highway Construction Program*

The HCP contains revenue from legislative appropriations. These funds are used for construction and reconstruction of state and federal highways as assigned by the Transportation Commission. The projects funded by this program are intended to be smaller in scale and for congestion relief. Once the projects included in the current Statewide Transportation Improvement Program (STIP) are complete, the program is finished; There is no additional funding. (udot.utah.gov)

## **HPP**

### *High Priority Project*

Term given to a project that is deemed more important to construct and is funded with earmarked funds.

## **ICE**

### *Independent Cost Estimate*

A cost estimate performed by responsible UDOT agent to estimate the amount needed for contracted professional engineering services to be performed.

**IM*****Interstate Maintenance***

Discretionary funding program that provides funding for resurfacing, restoration, rehabilitation, and reconstruction (4R) work, including added lanes to increase capacity, on most existing Interstate system routes.

**ITS*****Intelligent Transportation System***

Information and communication technology (applied to transport infrastructure and vehicles) that improve transport outcomes such as transport safety, transport productivity, travel reliability, informed travel choices, social equity, environmental performance, and network operation resilience. (Wikipedia)

**Incentives**

Financial rewards for completion of a portion of the work on a project on or before schedule.

**In-kind Match (see Flexible Match) Innovative Contracting**

Any method of contracting that varies from low-bid contracting. Includes incentive/disincentives, warranties, Price + Time Bidding, lane rental, additives, alternate bidding, Design-Build, and CMGC.

**Interstate System**

A network of limited-access roads including freeways, highways, and expressways forming part of the National Highway System. (Wikipedia)

**JHC*****Joint Highway Committee***

Administers several types of federal funds that are allocated to Utah each year by Congress for use on transportation facilities in the rural and small urban areas throughout the state. In addition to these funds, specific dollars are also set aside for bridges on the local system in all areas of the state. (UDOT PM Guide)

**Jurisdictional Transfer**

The process for the transfer of a highway or roadway from one jurisdiction to another. The transfer of jurisdiction is usually from the state to a city or county when the highway's function or management objectives are more aligned with local functions.

**LG*****Local Government***

A city or county government which operates independent of UDOT.

**Local Match**

Funds contributed to a project by a local entity that are required as a pre-determined percentage match for federal funds on a given project.

**Local Route**

A local road that is not maintained by UDOT.

**MAG MPO*****Mountainland Association of Governments  
Metropolitan Planning Organization***

MAG MPO serves the three county region of Summit, Wasatch, and Utah Counties, Utah, population of 588,003 (2008 Census Estimate). (mountainland.org)

## **MAP-21**

*Moving Ahead for Progress in the 21st Century Act*

2012 federal surface transportation act that authorizes highway funding for fiscal years 2013 to 2014.

## **Memorandum of Understanding (MOU)**

A formal letter describing an agreement defining stewardship and responsibilities between FHWA and UDOT.

## **MP**

*Milepost*

A system used to designate exact points along a roadway alignment. All Interstate routes are mileposted beginning at the most westerly or southerly point. The beginning point is milepost '0'. If the first interchange on the route is located between milepost 4.0 and 5.0, it is numbered as Interchange #4. The next interchange, if located at milepost 8.7, would be numbered as Interchange #8, etc. With this system the motorist can easily determine the location and distance to a desired interchange. (fhwa.dot.gov)

## **MPO**

*Metropolitan Planning Organization*

A federally mandated and federally funded transportation policy-making organization in the United States that is made up of representatives from local government and governmental transportation authorities. Utah has four MPOs: CMPO, DIXIE, MAG, WFRFC. (Wikipedia.org)

## **Master PIN**

A method of grouping PINs with similar objectives into categories. The three uses of Master PINs include Region, Portfolio, and MegaProjects. A region uses a Master PIN to track all projects in the region that are not part of a Portfolio or a MegaProject. A Portfolio uses a Master PIN to track all the projects that are funded by that Portfolio. MegaProjects will often use a Master PIN to capture all the various PINs that cumulatively make up the MegaProject.

## **MITAR**

*Monitor, Track, Investigate, Report*

A project management process used to improve the efficiency of managing the scope, schedule budget, and quality of a project.

**Monitor:** Track and compare project progress to the baselined Project Plan.

**Investigate:** Explore the causes and possible resolutions to changes in Scope, Schedule, Budget, and Team.

**Take Action:** Manage and record the changes, issues, and risks that emerge as the project progresses.

**Report:** Communicate actual performance, progress, variances, and actions taken to appropriate members of the organization.

## **MOU (See Memorandum of Understanding)**

## **MU**

*Management Unit*

Financial code used to describe a distinct organizational management unit.

**NBI***National Bridge Inventory*

The aggregation of structure inventory and appraisal data collected to fulfill the requirements of the National Bridge Inspection Standards that each state prepares and maintains. An inventory of all bridges subject to the National Bridge Inspection Standards. (fhwa.dot.gov)

**NBIS***National Bridge Inspection Standards*

Federal regulations establishing requirements for inspection procedures, frequency of inspections, qualifications of personnel, inspection reports, and preparation and maintenance of a state bridge inventory. (fhwa.dot.gov)

**NBIS Inventory Number**

Each structure over 20 feet measured along the center of the roadway is given a structure number assigned by UDOT Structures to track inspections, maintenance, and projects (this also includes LG structures).

**NEPA***National Environmental Protection Act*

NEPA requires federal agencies to integrate environmental values into their decision-making processes by considering the environmental impacts of their proposed actions and reasonable alternatives to those actions. (epa.gov)

**NHS***National Highway System*

This system of highways designated and approved in accordance with the provisions of 23 U.S.C. 103b. (fhwa.dot.gov)

**NOA***Notice of Award*

Written confirmation of an award of a contract by the owner to a successful bidder.

**Nonparticipating**

Activities or items that are determined to be ineligible for federal participation and must be paid with non-federal funds. (mdt.mt.gov)

**NTP***Notice to Proceed*

Letter from an owner to a contractor stating the date the contractor can begin work subject to the conditions of the contract. The performance time of the contract starts from the NTP date.

**OA***Obligation Authority*

The total amount of funds that may be obligated in a given fiscal year. This is comprised of the obligation limitation amount plus the amounts for programs that are exempt from the obligation limitation. (fhwa.dot.gov)

**Obligation**

A federally committed dollar amount for a specific project sub-phase.

**Obligation Limitation**

An annual Congressional restriction or ceiling on the amount of federal assistance that may be obligated during a specific period of time. This is a statutory budgetary contract that does not affect the apportionment or allocation of funds. Rather, it controls the rate at which these funds may be used. (fhwa.dot.gov)

### **On-Call Contract**

A contract with a consultant for architectural /engineering services to perform particular tasks to supplement UDOT staff for peak periods or for particular expertise currently unavailable within the Department that may be billed to various projects. There are various limitations on this contracting method, which include: a) contract limit, b) project limit within the contract, c) fee type is unit price, d) selection rules still apply, e) duration limit of one-year with the ability to extend for one additional year, f) no retainage is required.

### **Operating Costs**

Project costs that are not used to fund the physical features of a roadway; such as studies, design, construction oversight, etc.

### **Orange Book Project (see Pavement Preservation Program)**

Preservation projects that include pavement and bridge preventive maintenance. Funding may consist of state and/or federal funds.

### **Out Year**

Refers to a fiscal year in the future.

### **Overflow**

Project cost in excess of programmed funding on Federal-aid projects. Additional funding sources must be identified for overflow expenditures.

### **Overrun**

An unexpected contract item cost that exceeds the contracted quantity due to an under-estimation of the item quantity.

### **OSR**

#### *Operational Safety Report*

A report that includes a review of accident history, existing features, and a recommendation to correct these issues. OSRs are provided at the beginning of projects during the concept and scoping phases so that safety planning can be a part of the entire project development process. (udot.utah.gov)

### **PDBS**

#### *Project Development Business System*

A UDOT software application that allows UDOT, its consultants, and contractors to document and control construction projects.

### **PDC**

#### *Project Design Criteria*

Established state and national standards and procedures that guide the establishment of roadway layouts, alignments, geometry, and dimensions for specified types of roadways in certain defined conditions. The principal design criteria for roadways are traffic volume, design speed, the physical characteristics of vehicles, the classification of vehicles, and the percentage of various vehicle classification types that use the roadway. (iowadot.gov)

### **PDT**

#### *Project Delivery Team*

The team of technical specialists assigned to deliver the project design, study, etc.

**PE*****Preliminary Engineering***

Work necessary to advance a project from concept stage to award of contract. Includes scoping, planning studies, developing alternatives, environmental documentation, project design, and preparation of all project plans and contract documents. (Idaho DOT)

**PFV*****Preliminary Final Voucher***

Document generated by the Comptroller's office that defines all expenditures on a project. This differs from a final voucher in that consultant and utility contracts may not be complete at the time it is issued. This document precedes the final voucher.

**PIN*****Project Identification Number***

Identification number assigned to a project in ePM.

**PM*****Project Manager***

The individual responsible for the execution and completion of a project from cradle to grave, which involves managing the scope, schedule, budget, and quality of a project with the help of a technical team comprised of UDOT employees and/or consultants from various disciplines.

**PM Tech*****Project Management Technician***

The UDOT individual responsible to provide support services for the PMs in a given region.

**PS&E*****Plans, Specifications, and Estimates***

Plans, Specifications, and Estimates (PS&E) are the detailed plans and accompanying specifications and construction cost estimates that serve as documents for construction contract letting purposes. Plans are the contract drawings that show the location, character, and dimensions of the prescribed work, including layouts, profiles, cross section, other miscellaneous details, and quantity summaries. Specifications are the compilation of provisions and requirements for the performance of prescribed work. The estimate is a list of all bid items and quantities estimated bid prices, total cost for each bid item, and the total estimated cost for the proposed project. (txdot.gov)

**Pass Through**

Federal funds that are passed directly through UDOT to the receiving entity. The state never deposits the funds, only distributes them. UDOT serves to 'pass-through' the funds in order to provide federal assistance to other local agencies, MPO's, JHC, federal lands, etc. because there isn't a federal organizational structure to provide assistance directly to the final sub-recipient.

Pass-through entities (UDOT) and sub-recipients are equally responsible for the management of federal-aid received.

Example: The state receives funds from FHWA and distributes them to the city, county, private party, or other entity.

**Pavement Preservation Program**

Consists of preventive maintenance projects that include pavement maintenance. Funding may consist of state and/or federal funds.

### **Pay Request (or Payment Request)**

An invoice prepared by a consultant or service provider requesting payment from the owner.

### **Pending Action**

Anything entered into FMIS that is waiting for federal approval and/or authorization.

### **Planned Funds**

Funds that are part of the federal apportionment for a fiscal year. These funds are programmed in the STIP and ePM to be obligated with specific criteria set by FHWA.

### **Policy**

Defines the broad guidelines by which UDOT's administrative groups develop their administrative rules. (udot.utah.gov)

### **Portfolio Manager**

An individual who typically resides at the UDOT central office and is charged to oversee the funds to meet the goals of a defined transportation program (such as Bridge Preservation, Spot Safety Improvement, Barrier Treatment, etc.).

### **Post Audit (see Audit)**

UDOT Internal Audit Division performs post audits on utility contracts (over \$25,000) and consultant contracts (over \$250,000). Contracts less than the threshold amount may also be selected for post audit if there have been past audit problems with an entity, the entity is not familiar with federal regulations, or otherwise selected for audit review.

### **Pro Rata**

*Proportional Ratio*

The percentage at which federally funded projects are matched by either the state or local funds.

### **Procedure**

States how policy will be implemented.

### **Program**

Programs are approved on the STIP as an allotment of money that is designated for a certain type of work. Projects are then selected by a Program/Portfolio Manager based on criteria designated for that program. (UDOT PM Guide)

### **Program Manager**

A Region individual responsible to plan and develop methods and procedures to implement and deliver their regional program. They coordinate program activities and manage personnel responsible for project management functions.

### **Program Finance**

The UDOT department responsible for the obligation and authorization of funding.

### **Program Finance Director**

Individual from Systems Planning and Program Division who is responsible to program funds and work with the regions to plan and schedule UDOT's funded programs for the STIP.

### **Project**

Projects are approved individually on the STIP. A project has a defined beginning and end undertaken to meet unique transportation needs. (UDOT PM Guide)

### **Project Accounting Codes**

Codes set up by Program Finance and the Comptroller's office to track project finances.

**Project Budget Recovery**

UDOT process where the PM adjusts the project cost estimate to match the actual award amount in ePM screen 505. The goal is to recover funds in order to make them available to re-obligate toward other prioritized projects.

**Project Delivery Networks**

UDOT templates outlining the stages, activities, and tasks used for producing successful projects. Each network focuses on a distinct area of project delivery, and includes design, concept, environmental, and project closeout.

**Project File**

Hard and electronic copies of all required documents and necessary e-mails for a given project or program for program finance.

**Project Value**

The total funds available for a project.

**ProjectWise**

A Bentley application that UDOT uses for project file management and collaboration.

**Purple Book Project**

Projects that address only the pavement surface, that includes resurfacing for asphalt pavements or work of similar scope and function for concrete pavements.

Work items are limited to pavement resurfacing and other work that is necessitated by that resurfacing. (UDOT Purple Book Scoping and Development Process Guidelines)

**R-76*****State-Only Funded Project Funding Authorization Form***

Form generated by Program Finance and used by UDOT that authorizes the spending of state funds on a project.

**R-77*****Termination of Authority Form***

Document generated by Program Finance after receipt of the final letter, or email from the PM for non-construction projects, that terminates the spending authority of a project.

**R-709*****Federal Funding Authorization Form***

UDOT form generated by Program Finance that authorizes the spending of funds on a program or specific sub phases of a project.

**RASPS*****Rapid Approval and State Payment System***

Electronic financial transfer system used to make federal reimbursement to the states within two days of receipt of their reimbursement requests.

**RE*****Resident Engineer***

The individual responsible for the day to day construction management of a project.

**RFP*****Request for Proposal***

An invitation to contractors or consultants to submit a proposal on a specific project.

## **RFQ**

### *Request for Qualifications*

An invitation to consultants to submit a statement of qualifications on a project-specific scope of work and approach, usually for a complex project. It does not have a dollar cap, and the process usually takes two to four months. The RFQ process is a qualifications-based selection following the federal Brooks Act which requires that engineering firms are selected based upon their competency, qualifications, and experience rather than by price.

## **RLOI**

### *Request for Letter of Interest*

PM's email request (sent to at least three qualified firms from the LG/GE pool) asking whether they are interested in submitting a Pool Letter of Qualification for a needed project.

## **ROD**

### *Record of Decision*

The ROD (signed by FHWA) constitutes the official federal decision and action for the project under NEPA, meaning that FHWA and UDOT can proceed with ROW acquisition and final design of the project. (UDOT Environmental Process Manual of Instruction)

## **ROO**

### *Right of Occupancy*

An agreement with a property owner that grants permission for UDOT to allow unimpaired construction to begin on a highway project prior to the landowner signing a ROW contract. The PM needs to follow up to ensure the ROW agent completes the final contract, and that all financial or other commitments are completed with the property owner.

## **ROW**

### *Right of Way*

A division within UDOT Project Development who's primary responsibility is to acquire property needed for highway purposes and relocate displaced businesses or persons. The division is also responsible for the management of properties acquired, and the oversight of local government highway projects using state and federal funds, utilities, access management, statewide permits, right of way plans, maps, and records. (udot.utah.gov)

## **ROW, Acquisition**

The process of acquiring real property (real estate) or some interest therein. (UDOT Acquiring Property Brochure)

## **ROW, Certification**

A Right of Way certification of approval by UDOT's ROW Director confirming the project has cleared all right of way project impacts before proceeding to advertise for construction. If the project is allowed to advertise with limitations these should be described in the project Special Provision 00555, Limitation of Operations.

Maintenance projects without complications do not require ROW certification but do require the certification form for 'No Right of Way Required.'

## **ROW, Incidentals**

Any expenses incurred from the acquisition of ROW, i.e. appraisals, relocation costs, closing costs, lawyer fees, etc.

## **ROW Module**

Right of Way Division's ePM module used to track a project's ROW acquisition process, budget, and progress.

## **ROW, Shotgun Estimate**

Document created by the ROW agent when properties must be acquired for the building of roads. The property purchased could be multiple parcels that are fully or partially impacted by a road construction project. The shotgun is a breakdown of the costs of the acquisition. An R-709 must be submitted along with this document for requesting funds from FHWA.

## **RPLOQ**

*Request for Pool Letter of Qualifications*

A qualifications-based consultant selection process where the PM invites at least three prequalified firms on the GE/LG Pool to submit a Pool Letter of Qualifications (PLOQ).

## **RUE Engineer**

*Right of Way, Utilities, and Environmental*

Engineer that oversees ROW, Utilities, and Environmental.

## **Red Book Project**

Safety Spot Improvement projects, that may include new signal equipment at warranted intersections, guardrail end treatments, intersection lighting route markers, school zone sign upgrades, turn lanes, shoulder treatments, passing lanes, and other spot safety work.

## **Rescission**

Legislation enacted by Congress that cancels the availability of budget authority previously enacted before the authority would otherwise expire. (fhwa.dot.gov)

## **Systems Planning and Programming (SP&P)**

Division that supports UDOT's overall efforts through four major business areas: 1) monitor transportation system conditions, 2) identify transportation needs, 3) establish transportation plans, 4) determine program. (udot.utah.gov)

## **SR**

*State Route*

Roads that comprise the state road system.

## **STIP**

*Statewide Transportation Improvement Program*

UDOT's Statewide Transportation Improvement Program (STIP) is a five-year plan of highway and transit projects for the state of Utah. The STIP is approved by the FHWA and Federal Transit Administration (FTA) and includes all TIP projects as adopted by the Metropolitan Planning Organizations (MPO) and approved by the Transportation Commission.

## **STIP Coordinator (see Program Finance Director)**

UDOT employee who coordinates with the regions to plan and execute the STIP program.

## **STP**

*Surface Transportation Program*

Federal program that provides flexible funding that may be used by states and localities for projects on any Federal-aid highway, including the NHS, bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities.

## **Streamlined RFQ**

### *Request for Qualifications*

An invitation to consultants to submit a statement of qualifications on a specific scope of work usually for a simple project. A simple project is defined as not requiring an 'Approach to the Project' as an evaluation criteria. This is usually a faster variation of the RFQ process and takes approximately 1½ months. (See RFQ)

## **SUE**

### *Subsurface Utility Engineering*

A branch of engineering practice that involves managing certain risks associated with utility mapping at appropriate quality levels, utility coordination, utility relocation design and coordination, utility condition assessment, communication of utility data to concerned parties, utility relocation cost estimates, implementation of utility accommodation policies, and utility design. (ASCE)

## **Scenic Byway**

Roads designated on the National Scenic Byways Program (NSBP) that have, outstanding scenic, historic, cultural, natural, recreational, and archaeological qualities. (fhwa.dot.gov)

## **Soft Match (see Flexible Match)**

## **State Forces/Furnished**

State employed man power or state-owned materials that may be used on a project. Must have justification for use, due to noncompetitive selection.

## **State Funding**

Funding that will not be reimbursed by federal funds. No federal authorization is needed.

## **Stewardship Agreement**

An agreement to formalize the roles and responsibilities of the FHWA, Utah Division, and UDOT in administering the Federal-aid Program.

## **Sub Phase**

Each project is subdivided into several phases. A sub phase denotes one of these divisions. Examples include: 01D for in house PE, 06K for construction, 03C for construction CE, etc.

## **Substantial Completion**

The date the Resident Engineer determines the following have occurred on a construction project:

- The public has full unrestricted use of facilities
- All safety features are in place
- Only minor incidental work remains for physical completion
- The contractor and RE mutually agree that remaining work will not impede the public

## **T-725**

### *Project Authorization Memo*

Document that shows the breakdown of costs on each sub phase of a project along with the funding sources. This document is submitted to the Deputy Director for signature prior to the advertisement of the project.

**TIF***Transportation Improvement Fund*

The TIF was created in the 2005 Special Session by House Bill 1008 and contains revenue from legislative appropriations, sales tax, and vehicle registration fees. These funds are used for maintenance, construction, and reconstruction of state and federal highways as assigned by the Transportation Commission. (udot.utah.gov)

**TIGS***Transparency in Government Spending*

A UDOT website that shows the public how funds are being spent on projects.

**TIP***Transportation Improvement Program*

The Transportation Improvement Program is a staged, multi-year, intermodal program of transportation projects covering a metropolitan planning area that is consistent with the metropolitan transportation plan. (txdot.gov)

**TOC***Traffic Operations Center*

UDOT central location for gathering traffic information using advanced technologies such as cameras and traffic and weather sensors. Operators use this information to monitor traffic, detect accidents/problems, and take actions necessary to return traffic flow to normal. (udot.utah.gov)

**UDOT***Utah Department of Transportation*

State agency that constructs roads, bridges, highways, paths, etc. for the state.

**UDOT 08 Policies**

Policies and Procedures that outline UDOT's project development processes from concept to design and construction. These include basic concepts, functions, responsibilities, actions to be taken, and the position that is responsible for performing the action.

**uGate**

A UDOT software application that provides spatial and non-spatial data from throughout UDOT in one location.

**uPlan***UDOT Planning Network*

A UDOT developed web-based mapping and information tool designed to assist local agencies and UDOT during the transportation planning process.

**Unexpended Funds**

Programmed funds on a project that have not been expended.

**Utah Transportation Commission**

A committee of members appointed by the governor to serve as part of an independent advisory committee which prioritizes projects and decides how funds are spent. (udot.utah.gov)

## **Utility Agreement**

An agreement that establishes how a utility company will be partially or completely reimbursed for utility work required due to a UDOT project. Traffic lights, electricity, gas, sewer, rail roads, etc. are all considered types of utilities that may have an impact on a project. A utility agreement is created to determine what type of utility services will impact a road construction project. The utility agreements are usually between UDOT and the utility company and costs are typically reimbursed by UDOT to the utility company at 50 percent or 100 percent, although other ratios can apply.

## **VMS**

### *Variable Message Sign*

Electronic roadway signs that provide changing but specific information to roadway users. Messages are controlled by the TOC and may be used for the purpose of construction, incident management, traveler information, and maintenance activities. (cotrip.org)

## **Various Routes**

A project with multiple routes that are not defined/mapable in ePM.

## **W10A**

### *Federal Funding Balance Report*

FMIS report that shows exact federal funding amounts obligated and remaining to be expended by the state.

## **W96A**

### *Federal Authorization Form*

FMIS report that shows all obligated funding on a project.

## **WFRC MPO**

### *Wasatch Front Regional Council*

The WFRC is an association of 60 cities and five counties organized for the purpose of pursuing goals of common interest. The WFRC area of service comprises Davis, Weber, Morgan, Salt Lake, and Tooele Counties and the cities contained therein. (wfrc.org)

## **WTO**

### *Work Task Order*

A request for specific consultant work using a preapproved on-call contract. (LoDaRy)

## **Yellow Book Project**

Emergency UDOT bridge repair projects.



