Project Management Procedure

SUBJECT: PROJECT DEVELOPMENT BUDGET AND ESTIMATES	NUMBER: PMO-3.5
RESPONSIBILITY: PROJECT MANAGER / PROJECT COORDINATOR	EFFECTIVE DATE: April 27, 2018
	SUPERSEDES: PMO-3.4

STATE LOCATION AND DESIGN ENGINEER APPROVAL:

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State Location and Design Engineer

This procedure outlines the actions required to develop, update and monitor the project development estimates and budgets. The Project Manager, with close collaboration and support from Team Members, is responsible for the development and management of the estimates and budgets for Preliminary Engineering (PE), Right of Way (RW) and Construction (CN) throughout the entire project life cycle. Approved estimates are shown in the Six Year Improvement Program (SYIP) and are the official budget for the project. Monitoring and updating estimates are critical for the accuracy and preparation of the SYIP, federal strategy, prioritization bill, TIP/STIP, etc.

GENERAL

Developing Project Cost Estimates
Project estimates are developed for PE, RW and CN phases. The Project Cost Estimating System (PCES) is the application used to document and share project cost estimate information. Generally cost estimate accuracy increases as the project moves through the project development process and more details are finalized. The following chart shows expected estimate accuracy level for key development process phases.

Expected Level of Cost Estimates by Development Phase*					
Planning / Pre-Scoping	Scoping	Preliminary Design	Detailed Design	Final Design / ROW Acquisition	Advertise Project
+/- 40%	+/- 30%	+/- 25%	+/- 20%	+/- 15%	+ /- 10%

* Assumes typical level of plan development for project phase. Values listed for Advertise Project refer to variance between Contractor bids and Construction Division's Engineer's Estimate and within this range no additional documentation is required from Construction and the bid is automatically recommended for award.

Monitoring Project Budgets and Expenditures
The Project Manager monitors the project budget and expenditures using the Tableau Certification Report, Integrated Project Manager (iPM), Project Pool, and PCES.

Updating Project Cost Estimates
The Project Manager has the authority to update estimates at any time during the project development process, but shall update estimates (Preliminary Engineering, Right of Way, and Construction)

- At each project milestone, such as: Scoping/Preliminary Field Inspection (PFI); Public Hearing/Willingness; Field Inspection; Right of Way; Pre Advertisement Conference and Advertisement
- When significant changes effecting cost occur between milestones
- As needed for development of the SYIP, Federal Strategy, and TIP/STIP or as otherwise directed by VDOT Management.
- As needed to update projects requiring a Financial Plan in accordance with the FHWA Efficiencies Agreement – https://insidevdot.cov.virginia.gov/div/ld/QSP/Shared%20Documents/VDOT-FHWA%20_Agreements_and_Memoranda/EFFICIENCES_AGREEMENT_May-07-final.pdf

Providing Estimates Prior to Advertisement Submission
The Project Manager must gain approval from the appropriate District Project Development Engineer (DPDE) or the District Construction Engineer (DCE) before providing an estimate that differs from the SYIP to anyone outside of the Department. Current Project Cost Estimates including specific unit prices may be provided to Consultants under contract with VDOT or under contract to a locality on a VDOT project. Project Cost Estimates provided to anyone outside of the Department are compiled using PCES. The Project Manager coordinates responses to requests for PCES information from outside of the Department with the appropriate DPDE, DCE, and Communications Division. Responses are to be provided to the customer within five working days of the request.

Providing Estimates after Advertisement Submission to Construction Engineer
After submission of plans to the Construction Division for advertisement, any inquiries from outside the Department regarding project estimates developed during the Scoping, Preliminary, Detailed or Final Design phases are to be referred to the Construction Division's Estimate Engineer. The Engineer's Estimate prepared by the Construction Division for evaluation of bids is not public information and excluded from the provisions of the Freedom of Information Act according Article § 2.2-3705.6 of the Code of Virginia.

Locality Administered Projects
Estimates for locality administered projects may be developed by parties other than VDOT. These estimates cannot be changed without the locality's concurrence. For additional information on locally administered projects, refer to the Locally Administered Projects Manual. When estimates for these projects exceed available funds, additional funding must be provided by the Locality, the Metropolitan Planning Organization (MPO), or other sources, or the project may be delayed. At Submission Stage, the Project Coordinator reviews estimates and determines if sufficient funds are available. The Local Assistance Division works with the District Planning and Investment Manager (PIM) to verify fund availability.

Allocation and Authorization of Funds
When a project is established in the SYIP, the Commonwealth Transportation Board (CTB) allocates funding based on priorities and eligibility. The Project Sponsor establishes a job number in the Project Pool for each project phase. The Program Management Division authorizes each project phase based on the project schedule and available allocations. In general, authorization to begin activities in each phase is not issued until the phase is fully funded in an approved Six Year Program or Plan. Expenditures should not exceed the authorized amount. The Project Manager shall monitor accumulated expenditures and if they approach 90% of the authorized funding and additional funds are needed, the Project Manager/Project Coordinator must update the estimate in PCES, generating an estimate revision, possibly the automated IID-1 and begin the Revision Request process.

Project Estimate Revisions

Project estimate information is relied upon and used by numerous groups, both inside and outside of VDOT. As a result, estimate revisions are closely monitored and rules have been created regarding submission and approval of these revisions based on project systems and the responsible approvers of projects estimate changes. The District PDE and PIM is to assure all necessary approvals are obtained from localities and CTB Members prior to entering estimate changes in PCES that would automatically trigger any Revision Request process in Project Pool.

DETAILS

Developing Project Cost Estimates - PCES offers flexibility and several options for creating estimates. Estimates are developed for each phase using workbooks in PCES or through a manual process. When the workbook is used in PCES to create the estimate, a Construction Engineering and Inspection (CEI) cost is automatically included in the estimate. Estimates developed manually must have supporting documentation and an explanation of how the estimate was developed. Team Members can create the RW phase estimates in RUMS and PCES then extracts the latest RUMS estimate into the PCES website and workbook. The Project Manager uses a dropdown list in PCES to identify how the estimate for each phase was created and the source.

Consultants working on projects for VDOT have limited access to PCES and can upload estimates into the 'Pending Approval' section of PCES for the Project Manager's review and approval. The Project Manager reviews and approves the Consultant's pending estimate, uploads and selects the estimate as 'Recommended' for the appropriate milestone stage in PCES.

- The **Initial Estimate** populates automatically in PCES from the Program Estimate entered by the Project Sponsor in the Project Pool at Project Initiation and is reviewed and approved by the District Project Development Engineer (PDE) and District PIM.

- **Scoping/Preliminary Field Inspection (PFI) and Public Hearing Estimates** are developed using PCES. Request and obtain estimates and supporting data from Team Members. Use the PM-104 Form to Request Right of Way Estimates and the Action Item feature in iPM to request estimates from Team Members in other functional areas. The lead design engineer typically compiles the complete estimate and forwards to the Project Manager to upload, select milestone stage using drop-down and recommend. For the Scoping/PFI Estimate, upload, select and recommend the Scoping Estimate in PCES as soon as the Scoping process is complete and the Scoping task in the iPM Project Schedule has actual finish dates. The scoping estimate shall be uploaded into PCES and recommended within ten (10) working days after the Scoping task is complete. This Scoping budget then becomes the baseline estimate in the Dashboard. If a scoping estimate is not uploaded and recommended within this timeframe, Dashboard will assign the most recent uploaded and recommended estimate as the scoping estimate.

- **Field Inspection, Right of Way Acquisition, Pre-Advertisement and Final Submission Estimates** - The option to use TRNS.PORT in conjunction with PCES is available in early stages of project development but project estimates must be created in TRNS.PORT, including the CEI costs no later than the Field Inspection stage. The project manager uses the PM-104 Form to request Right of Way estimates and the Action Item feature in iPM to request estimates from Team Members in other functional areas. The Project Manager then uploads, selects and recommends the TRNS.PORT estimate for the project in PCES.

- **Award Estimate** – The Project Manager cannot enter the Award estimate in PCES until the appropriate Award information has been entered into TRNS.PORT by Construction Division staff. Once entered, the Award Date and Amount automatically populate the appropriate fields in the Project Pool. At this time, the 'Edit' button for the Award Stage Estimate in PCES becomes available. The Project Manager selects Expenditures as the source for the PE phase and selects RUMS, PCES or Manual as the source for the RW phase. The Project Manager has the option of selecting 'Award', 'CERS' or 'Manual' for the CN Phase estimate. Selecting 'Award' will populate the CN Phase estimate with the Contract Budget amount shown on the Fund Distribution Sheet. Selecting CERS will populate the CN Phase estimate with the Total Projected Expenditures in CERS. Selecting Manual allows for an estimate to be entered manually. Refer to the Construction Budget Development and Management Procedure for additional information related to managing the construction project cost.

Monitoring and Updating Project Budget and Expenditures – Project expenditures should be monitored on a regular basis to ensure project milestone updates and quarterly project financial certification requirements are met using Tableau Certification Reports, iPM Reports, MyiPM, Cardinal and PCES.

- Use the quarterly Tableau Certification Report to verify charges are reasonable, expected and coded correctly.

- Use the iPM Over Budget Report, the MyiPM feature or PCES to monitor the financial status of the project.

- Request supporting data from team members to document unusual charges.

- Work with District Program Management Analyst to correct any errant charges.

- When expenditures reach 90% of the authorized phase funding, the Project Manager must ascertain whether additional funding will be required in order to complete the phase. If additional funds are needed, the Project Manager must submit the PM-100 and/or PM-102, or other documentation for approval. This information must be uploaded to iPM Documents prior to updating the estimate in PCES. This will generate an estimate revision, possibly the automated IID-1 form, and begin the Revision Request process.

- At no time should the Project Manager allow project expenditures to exceed the authorized project allocations or phase estimates.

- Some estimate updates may be substantial enough to automatically generate a IID-1 Request to Adjust Ad Date/Estimate form and the Revision Request process in Project Pool. This automated feature is governed by the Total Estimate Cost change (all phase estimate changes combined) of $50,000 or +/- 10%. Any estimate change revision requires approval from both District PDE and PIM. **NOTE: FHWA requires modification of the phase agreement for any phase estimate decrease of $250,000 or more on federally funded projects**.

- Active project phases (phases authorized and open to charges) require the identification of transfer funding regardless of the percentage increase. Inactive Phases (Not authorized or open to charges)

do not require identification of transfer funds and will be coordinated by COPMD and District PIM staff in the annual SYIP update based on funding availability, eligibility and priorities. **NOTE: House Bill 2 establishes a prioritization process for transportation projects relative to cost so estimate changes may impact the performance of a project in the prioritization process and whether it receives funding or not.**

- Refer to the Project and Program Financial Management Page for additional information related to Project Financial Certification process and the Estimate Classification and Accuracy Guide for more information on estimate classification types, accuracy and rounding.

TOOLS AND RESOURCES

- Project Development Process
- SYIP
- Project Pool and User's Guide
- PCES and User's Guide
- Introduction to Tableau Workbooks
- Level II Report Page
- Cardinal
- TRNS.PORT
- Construction Expenditure Report System CERS
- iPM (Action Items, Reports, MyiPM) and User's Guide
- IID-24 Request to Transfer Funds Form
- IID IID-1 – Pool Guidance
- IID-1/IID-24 Reference Guide
- Request RW Data (PM-104) to request Right of Way Estimates
- Guide to Local Administration of VDOT Projects
- Project Management Body of Knowledge (PMBOK) - Chapter 7, Project Cost Management.
- Project Scoping Report Form (PM-100)
- Project Scoping Worksheets
- Project Change Control Form (PM-102)
- Risk Management Form (PM-103)
- Estimate Classification and Accuracy Guide
- Urban Construction and Maintenance Program Guidance Urban Manual