

Policy: 3A-9- Cost Estimating Purpose
Section: Commissioner's Policies - General
Office/Department: oDEPT OF TRANSPORTATION

Reports To: DOT BUDGET SUMMARY ROLL-UP
Contact: (404) 631-1000

Purpose and Goal

To provide guidance for estimating the cost of Reimbursable and Non-Reimbursable Utilities, Right-of-Way, and Construction prior to the Letting of projects in the State Transportation Improvement Program (STIP), Transportation Improvement Programs (TIP), Construction Work Program (CWP) or Long Range (LR) Program in support of the continuous updating of estimated programmed costs.

Implementation and Responsibilities

Project Source Offices: The Source Office responsible for developing proposed projects for addition to the Construction Work Program (CWP) is responsible for developing the Initial Cost Estimate required by this policy. The Source Office is typically the Office of Planning. Other Source Offices include District Offices, Design Offices, Metro Planning Organizations (MPO's), Office of Traffic Operations, Office of Maintenance, Division/Office of Program Delivery, and Local Governments.

Office of Program Delivery: The Project Manager is responsible for submitting Cost Estimate Updates for construction, right-of-way, and utilities listed in Table 1. The Project Manager requests cost estimates updates for right-of-way, utilities, and construction from the GDOT office/Consultant responsible for preparing these. The Project Manager is responsible for monitoring project costs changes to immediately address the need for a STIP/TIP Amendment or Administrative Modification as directed by this policy. They are also responsible for tracking and ensuring the Right-of-Way Plans Cost Estimate is submitted in time to meet the project's schedule for Right-of-Way Authorization.

Office of Transportation Investment Act: The Project Manager is responsible for submitting Cost Estimate Updates for construction, right-of-way, and utilities listed in Table 1 for Transportation Investment Act (TIA) if required for projects which include funding sources other than TIA. The Project Manager requests cost estimates updates for right-of-way, utilities, and construction from the GDOT office/Consultant responsible for preparing these.

Table 1 – Required Programmed Cost Estimate Updates Submitted by Project Manager

Estimate Update	When Submitted
Concept Development	After Concept Report Approval
Preliminary Field Plan Review (PFPR)	After PFPR Report Plan Revisions Affecting Costs Have Been Made
Final Field Plan Review (FFPR)	After FFPR Report Plan Revisions Affecting Costs Have Been Made
Annual	Between 120-calendar days and 60-calendar days Prior To June 30th
Cost Increase or Decrease	Project Scope or Design Changes That Increase or Decrease Cost By \geq 10%
STIP/TIP Amendment or Administrative Modification	Cost Increase > \$2,000,000 (not captured by one of the estimate updates above)

The Project Manager is responsible for completion of the Revisions To Programmed Cost Interoffice Memo template which must be used to submit all Programmed Cost Estimate Updates for review and processing.

Office of Roadway Design, District Design Office, or Consultant Design Phase Leader: The Design Phase Leader (DPL) is responsible for developing updated Construction Cost Estimates requested by the Project Manager. The DPL also has the unique and important role as the party best suited to initiate or realize design changes that affect construction cost and potentially affect utilities and right-of-way cost. Changes in Right-of-Way, Utility, and Construction costs that have the potential to require a Cost Increase/Decrease Update or a STIP/TIP Amendment or Administrative Modification as described by this Policy must be addressed immediately. For this to occur the DPL must bring these design changes to the attention of the Project Manager so they can request and submit the applicable updated cost estimates.

Office of Utilities: District Utilities Offices are responsible for developing updated Reimbursable and Non-Reimbursable Utility Cost Estimates requested by the Project Manager. The State Utility Office is responsible for developing the Final Utility Cost Estimate used to authorize reimbursable utility funds for projects being let for construction. They provide a copy of this estimate to the Project Manager for their use in updating Programmed Utility Cost.

Office of Right Of Way: District Right of Way Offices are responsible for developing updated Right-of-Way Cost Estimates requested by the Project Manager. The State Right Of Way Office is responsible for developing a Right-of-Way Cost Estimate based on the completed right-of-way plans and submitting this estimate used for updating Programmed Right-of-Way Cost via the electronic CostEstimatesandUpdates@dot.ga.gov mailbox and copying the Project Manager.

Engineering Services: Engineering Services is responsible for reviewing and processing Annual Cost Estimate Updates, PDP Milestone Cost Estimate Updates, and Cost Increase/Decrease Updates required by this policy. Their review focus for right-of-way and utility cost estimates included with these updates is on completeness as they do not have subject matter expertise in these areas. Their review focus for construction cost estimates included with these updates is on pay item usage and general assessment of quantities and item prices. They are not responsible for independent verification of quantities. This Office will provide comments and return to the Project Manager any estimate update requiring clarifications or corrections. Engineering Services will review and process resubmittals from the Project Manager in the same manner.

Engineering Services will prepare a Cost Estimate Updates spreadsheet every month which contains cost estimate updates they have reviewed and are ready for further processing. All Cost Estimate Updates received by the 7th of each month will be reviewed for inclusion in that month's spreadsheet. They submit this spreadsheet by the 15th of each month to the Chief Engineer for review and approval and copy the Office of Program Control and Office of Planning. Engineering Services is responsible to track and continue managing the review and approval process and final distribution including to the Office of Planning and the Office of Financial Management (OFM) for their updating of programmed costs in TPRO.

Engineering Services is also responsible for developing the Final Construction Cost Estimate (Engineer's Estimate). The Engineer's Estimate will be prepared by Engineering Services for all GDOT Let projects with the exception of some Maintenance and Design-Build projects.

Office of Program Control: The Office of Program Control is copied on all Cost Estimate Update spreadsheets submitted to the Chief Engineer for informational purposes only.

Office of Planning: The Office of Planning is copied on all Cost Estimate Update spreadsheets submitted to the Chief Engineer for informational purposes only. They also receive a copy of all Cost Estimate Update spreadsheets approved by the Chief Engineer.

Office of Financial Management: The Office of Financial Management (OFM) updates programmed costs for Right-of-Way, Utilities, and Construction. They update these costs in TPRO when they receive a Cost Estimate Updates spreadsheet approved by the Chief Engineer. The Office of Financial Management shall be responsible for applying inflation factors to estimates based on programmed year and current inflation index.

Required Costs Estimates

Initial Cost Estimate

A Project's Initial Project Cost Estimate is developed by using an array of resources which may include the aid of software determined by the Department. A site visit to the project is encouraged prior to completing the Initial Cost Estimate for Right-of-Way, Utilities, and Construction. The Project Source Office must provide basis and justification for the cost estimate and shall be submitted with the proposed project when it is added to the Construction Work Program. This information shall be included in the project file maintained by the Office of Financial Management.

When the Office of Planning is the Project Source Office identifying and programming a new project, they generate the Initial Cost Estimates for Scoping (if applicable), Preliminary Engineering (PE), Right-of-Way, Reimbursable Utilities, and Construction.

When the Division of Program Delivery is the Project Source Office they often utilize their consultant contracts to develop project scope and Initial Cost Estimates.

Other Project Source Offices will be responsible for developing and documenting their own Initial Cost Estimates

When a new interchange is identified and programmed, the Initial Cost Estimate generated as a part of the Interchange Justification Report (IJR) will remain the programmed cost until the Approved Concept Report estimate is submitted and approved.

No updates to the original cost estimate will be generated for the following activities:

- Adding an additional PE Phase for a project if a PE phase is already programmed in the STIP/TIP.
- Adding an additional PE Phase for a project if a PE phase is programmed for oversight purpose.
- Adding a Scoping Phase if identified for an existing project that has already had PE work.

Preliminary Engineering Authorized

Once PE is authorized, the Project Manager is responsible for directing the preparation of Right-of-Way, Utility, and Construction Cost Estimates. The Design Phase Leader is responsible for preparing construction cost estimates for projects under the direction of the Project Manager. The Final Construction Cost Estimate (Engineer's Estimate) will be prepared by Engineering Services for all GDOT Let projects with the exception of some Maintenance and Design-Build projects.

Annual Cost Estimate Updates

The Project Manager shall submit at a minimum updated project cost estimates for the Right-of-Way, Utilities, and Construction Costs annually via the electronic CostEstimatesandUpdates@dot.ga.gov mailbox. The Project Manager shall request updated cost estimates from the Office of Right-of-Way, the Office of Utilities, and the Design Phase Leader. As with all estimate updates, the Annual Cost Estimate update must be based on the current project design and Construction Cost Estimate prices.

Updated project cost estimates are needed by the end of the State Fiscal Year (June 30th). To achieve this goal, an Annual Cost Estimate Update needs to be submitted between 120-calendar days and 60-calendar days prior to June 30th. This will allow for review of the estimate update by Engineering Services, potential corrections, resubmittal by the Project Manager, and approval by the Chief Engineer in time to meet the June 30th deadline. The Construction Cost Estimate portion of the Annual Cost Estimate Update may be submitted before the Utility and/or Right-of-Way Cost Estimates. This is to assist with the review and any corrected

resubmittal. An Annual Cost Estimate Update does not have to be submitted in this time period if another estimate update required by this policy has been submitted and approved within 120-calendar days prior to June 30th as long as Construction, Utility, and Right-of-Way costs have not changed.

The Project Manager is responsible for Annual Cost Estimate updates for projects that have been designated "Prepare for Shelf" or "Plans on Shelf" and remain on the shelf and projects that have been advertised for Letting but not awarded.

Cost Estimates at Plan Development Process (PDP) Milestones

Project Cost Estimates shall be updated at the following PDP milestones:

- Concept Development Cost Estimate
- Preliminary Field Plan Review (PFPR) Cost Estimate
- Right-of-Way Plans Approval Cost Estimate
- Utility Relocation Plans Cost Estimate
- Final Field Plan Review (FFPR) Cost Estimate

Concept Development Cost Estimate

Submittal of Concept Reports and Revised Concept Reports follow established procedures and usually require cost estimates to reflect anticipated preliminary engineering, reimbursable utility, right-of-way, construction and other costs for the Preferred and other Alternatives. These estimates are used by decision makers in the review and approval process for these Reports. Construction Cost estimates are prepared using the AASHTOWare Project Estimation.

The approved Report will not be used to update Programmed Costs as the estimates may need further refinement after the review and approval process has completed.

The Project Manager shall request updated cost estimates from the Offices of Right of Way and Utilities and the Design Phase Leader once the Concept Report is approved. The estimates shall be updated at this milestone to reflect the approved concept. The Project Manager submits this Programmed Cost Estimate Update directly to the electronic CostEstimatesandUpdates@dot.ga.gov mailbox.

Preliminary Field Plan Review (PFPR) Cost Estimate

The Project Manager shall request updated cost estimates from the Offices of Right of Way and Utilities and the Design Phase Leader after the plan revisions (resulting from the PFPR) have been made. The estimates shall be updated at this milestone to reflect the corrected PFPR plans. The Project Manager submits this Programmed Cost Estimate Update directly to the electronic CostEstimatesandUpdates@dot.ga.gov.

Approved Right-of-Way Plans Cost Estimate

The State Right of Way Office will develop a Right-of-Way Cost Estimate based on the completed right-of-way plans. The State Right of Way Office submits this Cost Estimate Update directly to the electronic CostEstimatesandUpdates@dot.ga.gov mailbox to update Programmed Right-of-Way cost and copies the Project Manager. It is still the Project Manager's responsibility to track and ensure this is done in order to meet the project's schedule for Right-of-Way Authorization.

Final Reimbursable Utility Cost Estimate

The Office of Utilities shall update the Final Reimbursable and Non-Reimbursable Utility Cost Estimate as the Utility Relocation Plans are submitted by the affected Utility owners and after the Final Field Plan Review has been held. They provide the Project Manager a copy of this estimate. The Project Manager should submit this estimate to the CostEstimatesandUpdates@dot.ga.gov mailbox.

Final Field Plan Review (FFPR) Cost Estimate

The Project Manager shall request updated cost estimates from the Office of Utilities and the Design Phase Leader after the plan revisions (resulting from the FFPR) have been made. The estimates shall be updated at this milestone to reflect the corrected FFPR plans. The Project Manager submits this Programmed Cost Estimate Update directly to the electronic CostEstimatesandUpdates@dot.ga.gov mailbox. The GDOT Letting Schedule for Processing Projects also requires the inclusion of an updated cost estimate as part of the Corrected FFPR Plan package submitted directly to Engineering Services not later than 18-weeks prior to the Management Let Date to begin development of the Final Engineer's Estimate. Because of this, processing of the FFPR Programmed Cost Estimate Update submitted to the electronic CostEstimatesandUpdates@dot.ga.gov mailbox is done as follows:

- Updated cost estimate submitted to the electronic CostEstimatesandUpdates@dot.ga.gov mailbox within 22-weeks of the Management Let Date will not be reviewed and processed to update the estimated programmed costs unless the project is programmed as "Prepare for Shelf". This is done because for projects being let, the Engineer's Estimate will be under development before processing the update cost estimate would normally be completed.
- Updated cost estimate submitted to the electronic CostEstimatesandUpdates@dot.ga.gov mailbox more than 22-weeks before the Management Let Date will be reviewed and processed to update the estimated programmed costs.

It is imperative for Project Managers to immediately engage their Office Senior Management and the Office of Financial Management during development of the corrected FFPR plans estimate whenever there is a 10% or greater increase/decrease in reimbursable utilities or construction costs as compared to programmed costs or the need for a STIP/TIP Amendment or Administrative Modification is anticipated. To wait for the processing of a Cost Estimate Update submitted or the Final Engineer's Estimate development wastes valuable time needed to respond.

Cost Increase/Decrease Updates

At any time there is a 10% or greater increase or decrease in utility, right-of-way, or construction costs a Programmed Cost Estimate Update shall be submitted immediately by the Project Manager. The Design Phase Leader must notify the Project Manager of any design changes that affect right-of-way, utilities, or construction costs. The Project Manager must request updated cost estimates from the Offices of Right of Way and Utilities and the Design Phase Leader. The Project Manager uses these to prepare a Programmed Cost Estimate Update to be submitted directly to the electronic CostEstimatesandUpdates@dot.ga.gov mailbox.

STIP/TIP Amendments and Administrative Modifications

The Project Manager shall notify their Office Senior Management and in-turn the Office of Financial Management of the potential need for a STIP/TIP Amendment or Administrative Modification through the Office of Planning, for cost increases greater than \$2,000,000 or whenever the current Right-of-Way, Utilities, or Construction cost estimate differs by 20% or more of the amount currently in the STIP/TIP. The need for a STIP/TIP Amendment or Administrative Modification is identified in one of two ways:

- Development of an Annual, PDP Milestone, or Cost Increase-Update required by this Policy.

- At any time when initiated or realized design changes that increase right-of-way, utility, or construction costs by more than \$2,000,000 and has not already been included in one of the Updates listed above. The Design Phase Leader must notify the Project Manager of these design changes. The Project Manager must request updated cost estimates from the Offices of Right of Way and Utilities and the Design Phase Leader. The Project Manager uses these to prepare a Cost Estimate Update to be submitted directly to the electronic CostEstimatesandUpdates@dot.ga.gov mailbox.

Final Construction Cost Estimate (Engineer's Estimate)

The FFPR Corrected Plans Package along with changing the Construction Cost Estimate phase in AASHTOWare Project Estimation to the 3-EE-Engineer's Estimate phase is due to Engineering Services (ES) no later than 18 weeks prior to the scheduled Letting date for projects being let and projects designated as "Prepare for Shelf". ES shall prepare the Final Engineer's Estimate for the Department and shall submit this information to the Office of Financial Management no later than 12.5 weeks prior to the scheduled Letting date for their use in the funding authorization process. ES shall change the Construction Cost Estimate phase in AASHOTOWare Project Estimation to the 4-CBA-CBA Estimate phase for use by the Office of Construction Bidding Administration (CBA) no later than 10 weeks prior to the scheduled Letting. Revisions to the plans prior to the advertisement or amendments after advertisement should be in accordance with the PDP. Upon submission of the final plans package to the CBA, the Engineer's Estimate will be adjusted to accommodate approved plan revisions and/or amendments to the contract prior to the scheduled Letting. This updated Engineer's Estimate shall be used for comparison of bids received at the scheduled Letting and to consider the awarding of a project to construction.

Procedures for Developing Construction Cost Estimates

All Estimates

- Cost Estimates shall be prepared in today's dollars.

Initial Cost Estimate

- Project Source Offices will be responsible for developing and documenting their Initial Construction Cost Estimates.

Annual, PDP Milestone, and Cost Increase/Decrease Cost Estimates

- AASHTOWare Project Estimation will be used for all estimates and a copy downloaded from GDOT 411 is included in the submitted Programmed Cost Estimate Update (Consultant Design Phase Leaders (DPL) may not have access to GDOT 411 in which case the Project Manager (PM) will be responsible for downloading the estimate).
- The current Construction Cost Estimate name in AASHTOWare Project Estimation must be the seven (7) digit PI Number as shown on the Preconstruction Status Report.
- Current Specification Year must be used in AASHTOWare Project Estimation.
- In AASHTOWare Project Estimation a Bid History Profile which is State wide and includes all project types and duration of 24-months is commonly used and typically provides accurate item prices (example: BHP-ALL-Statewide – 24 months).
- All items must be priced by the DPL by using the AASHTOWare Project Estimation generated price or pricing the items themselves using other available resources such as GDOT Item Means Summary, Bid Tabs for similar let and awarded projects, etc.
 - AASHTOWare Project Estimation generated prices do not relieve the DPL of the Engineer's responsibility to review these prices as part of their QC/QA processes.
- Items categorized as Lump Sum items such as "Traffic Control", "Clearing & Grubbing", or "Grading Complete" requires engineering judgement from the DPL by using previous project experience as well as other available resources.

- The DPL may request assistance directly from the GDOT Engineering Services Estimating Section to review certain pay item prices. This is done by submitting requests to the electronic DesignerEstimateQuestions@dot.ga.gov mailbox and copying the PM. Engineering Services may request and the DPL will provide current plans, calculations and other items necessary for them to assess prices. Engineering Services will copy the PM on all email correspondence to the DPL.
- The current Revisions To Programmed Cost Template will be used for all Programmed Cost Estimate updates submitted by the PM to the CostEstimatesandUpdates@dot.ga.gov mailbox.
 - The DPL completes the Total Liquid AC Adjustment and Validation of Final QC/QA pages of the template.
 - The DPL recommends to the PM a contingency percentage based on their knowledge of the project and complying with the guidelines contained in the Risk and Contingencies section in this policy.
 - The PM completes the remainder of the template.
- A contingency will be added to construction cost estimates using the guidance in the Risk and Contingencies section in this policy.
- Do NOT add Contingencies or E & I in AASHTOWare Project Estimation.

Engineer’s Estimate

- Development of the Engineer’s Estimate begins when the Corrected FFPR submittal to Engineering Services is received.
- Engineering Services independently prices each item using their internal procedures.
- The Chief Estimator ensures the Engineer’s Estimate is updated for any revisions prior to advertisement and any amendments issued during the advertisement period.

Risk and Contingencies

A contingency percentage will be added to construction cost estimates based on Project Type and to reflect the progression of design. The table below will be used for all construction cost estimates updates submitted after the Initial Cost Estimate. The contingencies below will be added by the Project Manager (PM) to the construction cost estimate template for each project at the identified milestones as well as the annual updates occurring between or after each milestone. The Design Phase Leader provides a contingency recommendation to the PM.

Project Type	Risk	Contingency		
		Concept	PFPR	FFPR
Enhancement/Bicycle/Pedestrian Facility/Safety	Low	5% to 10%	0% to 5%	0% to 5%
Reconstruction/Rehabilitation No Added Capacity	Low	5% to 10%	0% to 5%	0% to 5%
Maintenance-Restoration and Rehabilitation	Medium	5% to 15%	0% to 7%	0% to 5%
Bridge New/Replacement	Medium/High	10% to 15%	0% to 7%	0% to 5%
New Construction	High	10% to 20%	5% to 10%	0% to 5%
Reconstruction/Rehabilitation Added Capacity	High	10% to 20%	5% to 10%	0% to 5%

References:

None

History:

revised to reflect new software: 08/26/2020;

revised and added to TOPPS: 06/05/01;

added to Manual of Guidance: 10/22/85

Reviewed: 8/26/2020