Memo

February 9, 2023

To:	System Expansion Committee Chair Balducci and members of the System Expansion Committee
Cc:	Julie Timm, Kimberly Farley
From:	Eric Beckman, Portfolio Services Office and Ron Lewis, DECM
Subject:	Capital Project Cost Contingency Overview

PURPOSE

This memo outlines the major types of capital project cost contingency and how Sound Transit staff manage cost contingencies through the lifecycle of a system expansion project. This is in response to the SEC work plan and accompanies the presentation to the SEC in February 2023. Additionally, this memo will be included in the Board Resource Book for Board member onboarding and future reference.

DEFINITION

Cost contingency is an amount added to a project cost estimate to allow for scoped items, conditions, or events for which there is uncertainty, and that experience shows will likely result in additional costs. Uncertainties could include planning and estimating errors and omissions, minor price fluctuations (other than general escalation), variations in market and environmental conditions, and design developments and changes within the project scope. Cost contingency is included in budgets as an industry best practice and is expected to be used during the course of a project.

Contingency is not intended to add work that is outside of the project scope. If additional scope is desired, agency staff will follow a separate process to define and approve the additional scope and subsequent adjustments to project cost and schedule (see R2009-24 Scope Control Policy and M2002-22 Policy on Reimbursement to Sound Transit by Partner Agencies for Out of Scope Work).

TYPES OF CONTINGENCY

Consistent with industry standards, staff identify and track several types of contingencies. Isolating the different types of contingencies is important because each one addresses a separate purpose and requires a different level of approval and tracking.

The different types are:

- **Design allowance** is included in project estimates as the design work is under development. As the level of design increases and the work is fully understood and detailed, the design allowance decreases, so that there is no design allowance at the 100% design stage.
- **Allocated contingency** is added to include "known unknowns" as a reasonable buffer against minor changes, unanticipated site conditions, or market uncertainty of a specific line-item budget or contract.
- **Unallocated contingency** (UAC) is intended for "unknown unknowns" which are outside the reasonable assumptions of allocated contingency. UAC is allocated to a project phase, not specific line items.
- **Project contingency** is a separate item that is for extraordinary events. It is set aside in a separate project budget phase and requires Board approval to reallocate.
- **Project reserve** is a separate budget within the agency's finance plan and requires Board action to reallocate.

MANAGING CONTINGENCY THROUGH PROJECT LIFECYCLE

Sound Transit manages these types of cost contingencies through the projects' lifecycle, starting with project initiation and ending at the project closeout (which is beyond revenue service). The agency has several internal

policies or procedures that outline this work, including Project Controls Policies & Procedures (PCPPs) 02, 12, 13, and 21 (links available upon request).

Highlights from these steps include:

- **Project initiation**: When projects are initiated and development begins, an initial budget is established to complete work through preliminary engineering.
    - The initial budget is informed through a combination of independent estimates, comparisons to similar work, and the Unit Cost Library. Our internal guidelines recommend 10% contingency allocated to contracts and other external work, and 10% unallocated for general unknowns.
    - The contingencies are assessed and validated at the initial meeting of the agency's internal project management oversight process, Phase Gate. The contingencies are also built into the project budget that the Board approves.
- **Project baselining**: Contingency is fully established when we baseline the project, which occurs at approximately the 60% design level and requires Board approval. The agency's strategy is to wait to fully establish contingency until this point in project development so that staff have more knowledge of and confidence in the cost estimate based on design specifications, ground conditions, risk, etc.
    - A thorough review of project scope, risks, and schedule establish the contingency levels at baseline. While staff follow industry and FTA best practices around estimating and contingency levels, they often conduct an additional quantitative risk analysis to ensure we have appropriate contingency for specific project needs.
    - When the agency baselines a system expansion project exceeding $25M, the quantitative risk assessment (QRA) process helps ensure that we have sufficient cost contingency with at least 80% confidence that we can complete the project within budget.
    - The baseline project cost estimate is reviewed by staff and an independent estimator, in accordance with the 2021 recommendations from an independent consultant (Triunity). Following that, staff confirm readiness through the internal Phase Gate process. The Board approves the baseline as a project action, after which staff begins to track and report out balances.
    - Contingencies are expected to be all used by the end of a project.
        - Staff identify milestones in the project at which times we expect changes in the risk profile. For example, when the design is 100% complete and contractor bids are received, we'll have high construction cost certainty and reduced risks for market conditions. If bids are high, contingency is used to absorb the increase. This is considered a contingency drawdown.
        - The project's baseline risk and contingency management plan forecasts the drawdown through project completion, and we track and report out the remaining balance, in the Project Performance Tracker and Agency Progress Report.
        - The baseline drawdown plan also includes a minimum contingency line, which is the point at which recovery actions are required.
- **Throughout project final design, construction, and activation**: staff continue to monitor the contingency drawdown and report in the Project Performance Tracker and Agency Progress Report.
- **Project closeout**: When we establish our contingency at baseline, we expect to draw down all of it. Any contingency that remains is unspent budget.
    - The unspent budget is decommitted from the project at closeout, which requires Board action for a budget amendment, in this case, a decrease.
    - The agency is working to develop more guidance to staff on when and how to release unspent budget.
    - For projects with a federal grant or loan (specifically FFGA or TIFIA), regulations require projects to have a committed, complete budget until approved for closeout. Because of this, although we

recognize we have savings on several projects in service, we are unable to immediately reallocate and spend those funds.

ROLES FOR USING AND APPROVING CONTINGENCY

Board and agency policies define who can approve use of contingency, and when or for how much. Depending on the amount of the spending request, the general roles are:

- **The project team**, including the project director, can approve small working budget transfers, to utilize allocated or unallocated contingency, and small change orders out of available contract contingency.
- **A department executive director** can approve larger budget transfers and large change orders out of available contract contingency.
- Above $1M in phase budget shifts, **Board action** is required. Board approval is also needed to use project contingency, or project reserve, and for actions increasing the contracting authority to $2M or more for goods and services contracts, or $5M or more for engineering or construction contracts.

NEXT STEPS

Staff are developing more agency guidance to define how to reallocate any unspent budget after the project is at closeout, which is beyond the in-service milestone.