Pre-Baseline Project Cost Estimate Management

System Expansion Committee
06/08/23

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Today's presentation

- Overview of managing project cost estimates for pre-baseline projects, including preparing, reviewing and validating estimates.

- No board action required.

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When cost estimates are updated

VOTER APPROVAL

PLANNING

DESIGN

CONSTRUCTION

START OF SERVICE

- >1% engineering
- Board issues plan for voter approval

Initial Estimate

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When cost estimates are updated

VOTER APPROVAL — **PLANNING** — **DESIGN** — **CONSTRUCTION** — **START OF SERVICE**

- >1% engineering
- Board issues plan for voter approval

Initial Estimate

Alternatives Development
- 1-2% engineering

Update Estimates
- Board identifies Preferred Alternative (PA) and others to study in Draft EIS

Draft EIS
- Technical analysis & approx. 10% design

Update Estimates
- Board confirm or modifies PA

Final EIS
- Advance to 20-30% design

Update Estimates
- Board selects project to build

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When cost estimates are updated

VOTER APPROVAL

PLANNING

DESIGN

CONSTRUCTION

START OF SERVICE

- >1% engineering
- Board issues plan for voter approval

Initial Estimate

Alternatives Development
- 1-2% engineering

Update Estimates

- Board identifies Preferred Alternative (PA) and others to study in Draft EIS

Baseline Estimate
- Board approves baseline at 60% (earlier for Design Build)

Draft EIS
- Technical analysis & approx. 10% design

Update Estimates

- Board confirm or modifies PA

Final EIS
- Advance to 20-30% design

Update Estimates

- Board selects project to build

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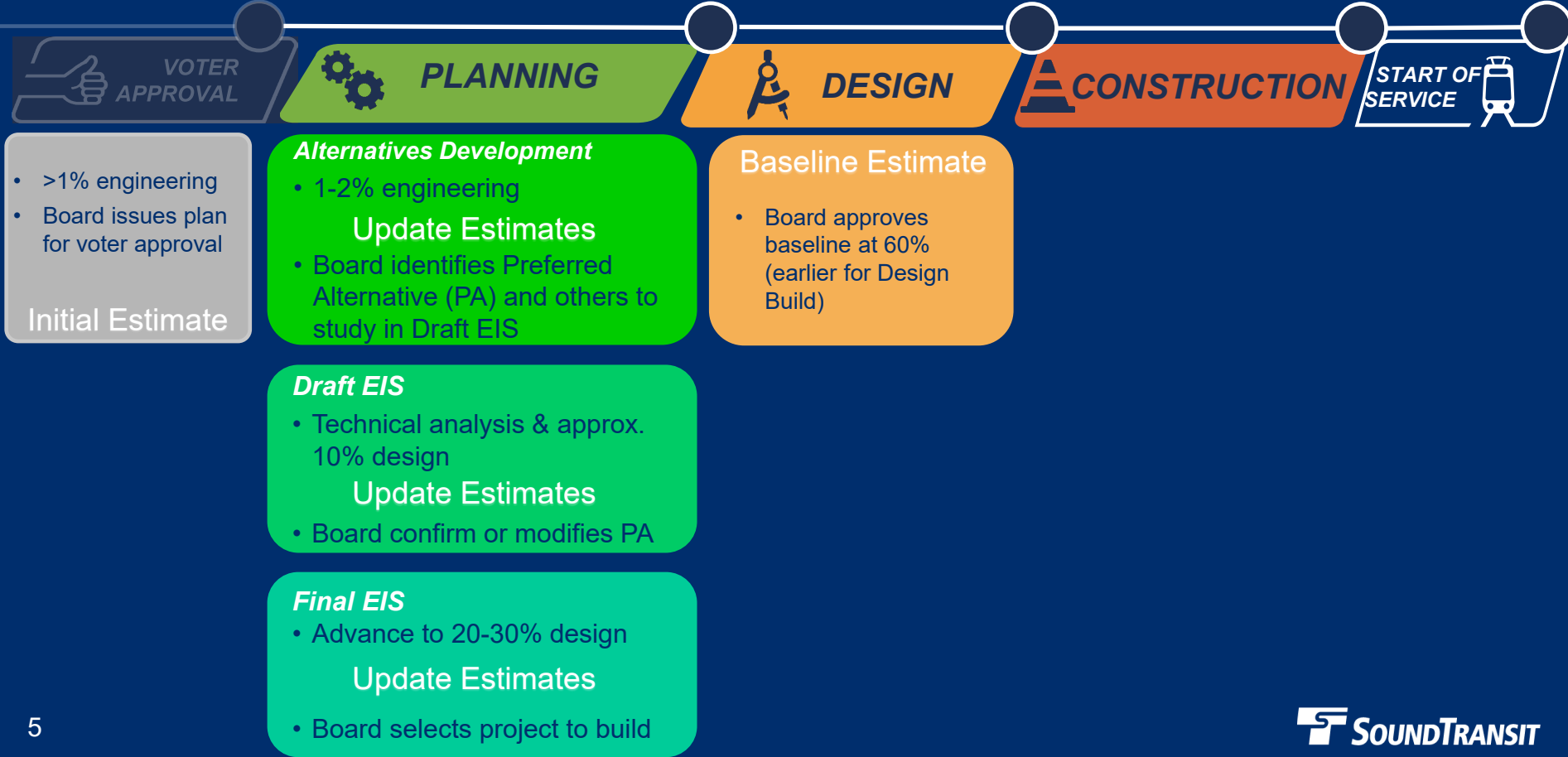
Cost estimate validation

Design Complete & Initial Estimate Prepared

- Is it complete?
- All requirements met?

Review by ST Cost Engineer & Independent Estimator

- Is it high quality?
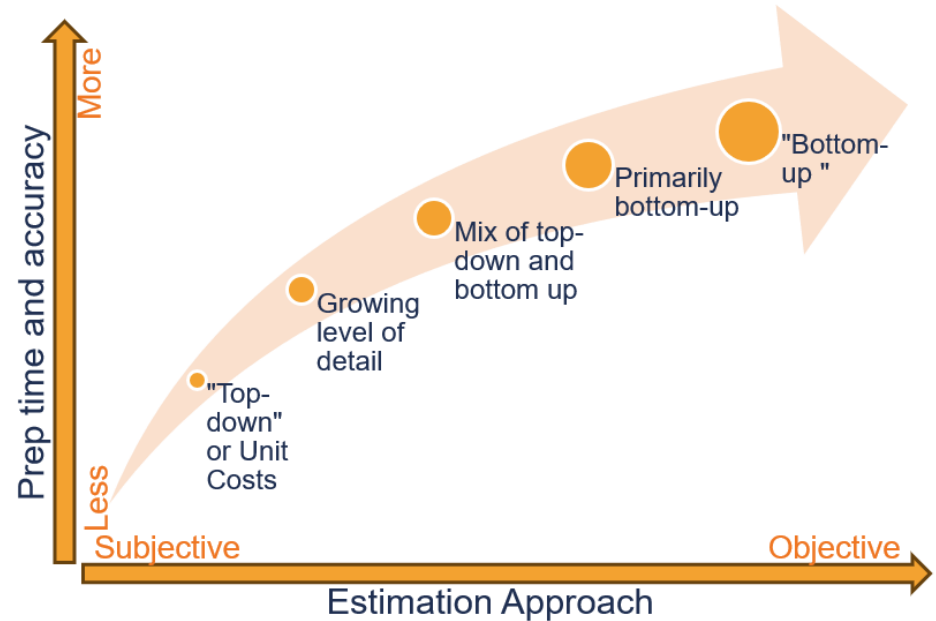- Consistent with similar projects?

Value Engineering and QRA

- Are we getting the best value?
- Is contingency enough to cover risks and uncertainties?

Finalize and Report Out

- How does it compare to the finance plan?
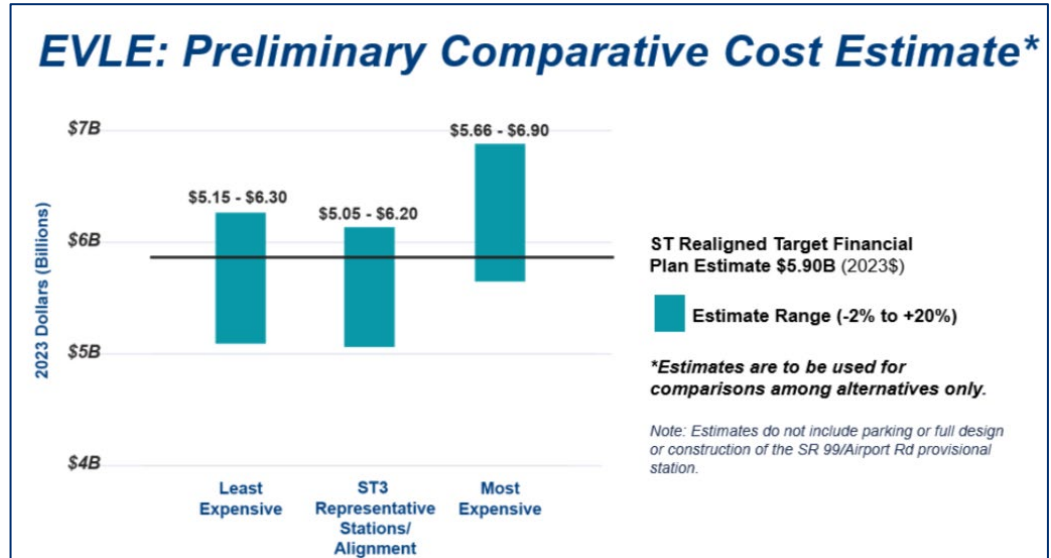- *Board briefing or action*

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Cost estimate classes and accuracy

- ST3 initial estimates were "Screening" or "Feasibility" type estimates

- As design advances, the methodology changes and accuracy increases

- Some elements may be different classes than others within a project

More

Less

Prep time and accuracy

"Bottom-up "

Primarily bottom-up

Mix of top-down and bottom up

Growing level of detail

"Top-down" or Unit Costs

Subjective

Objective

Estimation Approach

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Establishing cost estimate range

- During development, several alternatives are considered

- Each estimate has an uncertainty range per its class

- Range is based on industry standard and ST experience

EVLE: Preliminary Comparative Cost Estimate*

$5.66 - $6.90
$5.15 - $6.30
$5.05 - $6.20

ST Realigned Target Financial Plan Estimate $5.90B (2023$)

Estimate Range (-2% to +20%)

*Estimates are to be used for comparisons among alternatives only.

Note: Estimates do not include parking or full design or construction of the SR 99/Airport Rd provisional station.

Least Expensive | ST3 Representative Stations/Alignment | Most Expensive

2023 Dollars (Billions)

Everett Link example from today's presentation

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How changes and variances are tracked

- Technical review & analysis is done for each major cost estimate
- Perform reconciliation to ensure estimates represent fair and reasonable costs
- Complete a cost estimate variance analysis including differences from the voter approved plan and other prior estimates

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Financial Plan updates

- The Financial Plan includes an estimate for all projects in planning to ensure the full cost is accounted for

- Estimates originate from voter-approved plans and are updated at major milestones based on Board actions

- The Financial Plan is updated in the spring and fall; there may be a short lag between a Financial Plan estimate and a new estimate
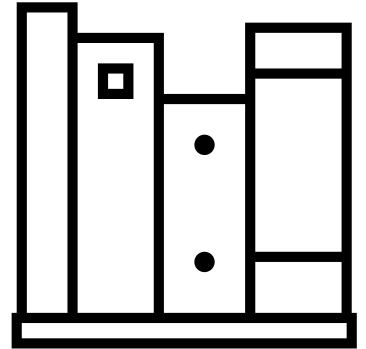
2021 program realignment

- The Financial Plan was updated to reflect affordable delivery dates

- Most ST3 projects were updated in the plan based on interim cost estimate trends and schedule changes to ensure an affordable plan
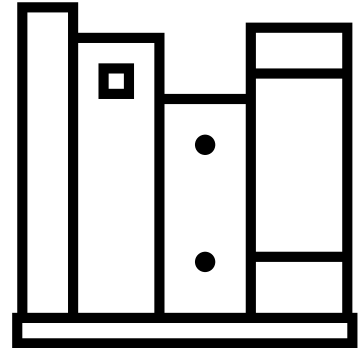
Future project briefings and actions

- 2023 briefings and actions for development projects:
  - Everett Link: identify alternatives for EIS evaluation (today's meeting)
  - Stride Bus Rapid Transit baseline (pre-baseline briefing today; July action for baseline)
  - Ballard Link: Denny Station status report and potential action on preferred alternative (July)
  - OMF South EIS update (Q3/ Q4)

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Thank you.

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