

Updated Project Cost Estimates

Executive Committee

January 7, 2021



Why we're here

- Update the Board on capital cost estimates for ST3 projects currently in the project development phase:
 - West Seattle & Ballard Link Extensions
 - Tacoma Dome Link Extension
 - Link Operations & Maintenance Facility South
 - SR 522 & I-405 BRT, and Bus Base North
- Discuss the factors influencing cost changes and response actions.

Discussion only, informing future Board actions.

Current construction not affected

- This latest review applies only to cost estimates for projects not yet baselined.
- 7 of 8 projects currently under construction are below budget and on schedule.
- By 2024 we remain on track to nearly triple the region's light rail system from 22 to 62 miles.
- Similar cost pressures increased baseline budgets for the Lynnwood and Federal Way extensions prior to beginning construction.

ST3 Plan cost estimates

Previous methodology reviews

State-appointed Expert Review Panel, September 26, 2016:

"The level of allowances, contingencies and reserves at this very early stage of planning and design is appropriate. Further, the capital cost estimating methodology is sound and consistent with good industry practice."

"It is important to recognize that at this stage of project planning (and when the projects go to the ballot) the necessary environmental work has not begun for most of the projects... This makes cost estimating with any precision difficult."

Process of refining estimates

- ST3 Plan estimates were conceptual in nature and based on very limited design. The plan identified risks for cost to grow beyond initial estimates.

"Cost risk: The projects in Sound Transit 3 are based on conceptual engineering estimates. The risks for costs to grow beyond initial estimates include: faster than anticipated growth in construction costs; faster than anticipated growth in real estate values; the addition of new required elements or projects not currently included in the plan and more expensive project elements. The Sound Transit Board will closely monitor and manage project scope and cost risks to minimize cost increases. In addition, the Sound Transit 3 Plan includes contingencies within the project budgets that allow for uncertainties and unforeseen conditions that arise during the design and construction of the projects."

Process of refining estimates

Continued

- ST3 project estimates were developed in 2015, refined in 2016 and updated in 2019 and 2020.
- Inevitable early design uncertainty requires significant contingencies (70% or more in ST3).
- Current estimates reflect approximately 10% design for light rail projects, and 10-30% design for bus rapid transit projects.
- The Board formally baselines project costs and schedules, usually at 30-60% design.
- Contingencies are reduced as designs advance and are typically in the 15-20% range entering construction.

Real estate cost pressures

- Growth in property values and the pace of development are continuing well beyond expectations, despite the pandemic recession.

As weather cools, housing market heats up

Usually, home prices rise quickly in the spring and level off in the fall. This year, though, that trend was reversed as the shoppers who stayed home in March and April due to the pandemic reentered the market in late summer.



Source: S&P CoreLogic Case-Shiller Home Price Index

THE SEATTLE TIMES

Construction cost pressures

- Construction market showing continued pressures as reviewed by the Associated General Contractors of America with the Board in 2019:
 - Costs of construction materials.
 - Labor shortages.
 - Increased construction bid prices or lengthening completion times.

Project cost pressures

Continued

- Better understanding of site conditions gained only through project development may yield scope requirements greater than anticipated in planning allowances
- As design and engagement advances, project scopes tend to increase and need to be managed.
- Some scope changes are due to unforeseen jurisdictional or regulatory requirements.
- Other scope changes are from lessons learned, such as need for redundant stairs and multiple station access points.

Project cost pressures

Contingencies & soft costs

- Contingencies added based upon a fixed percentage of overall estimated costs.
- Contingency percentages, are derived from standard industry metrics and the detail level of the estimate.
- Soft cost percentages for ST3 estimates derived from 15 years of agency project experience and historical data.

Peer agencies facing cost challenges

San Francisco (SFMTA)

- **Central Subway**

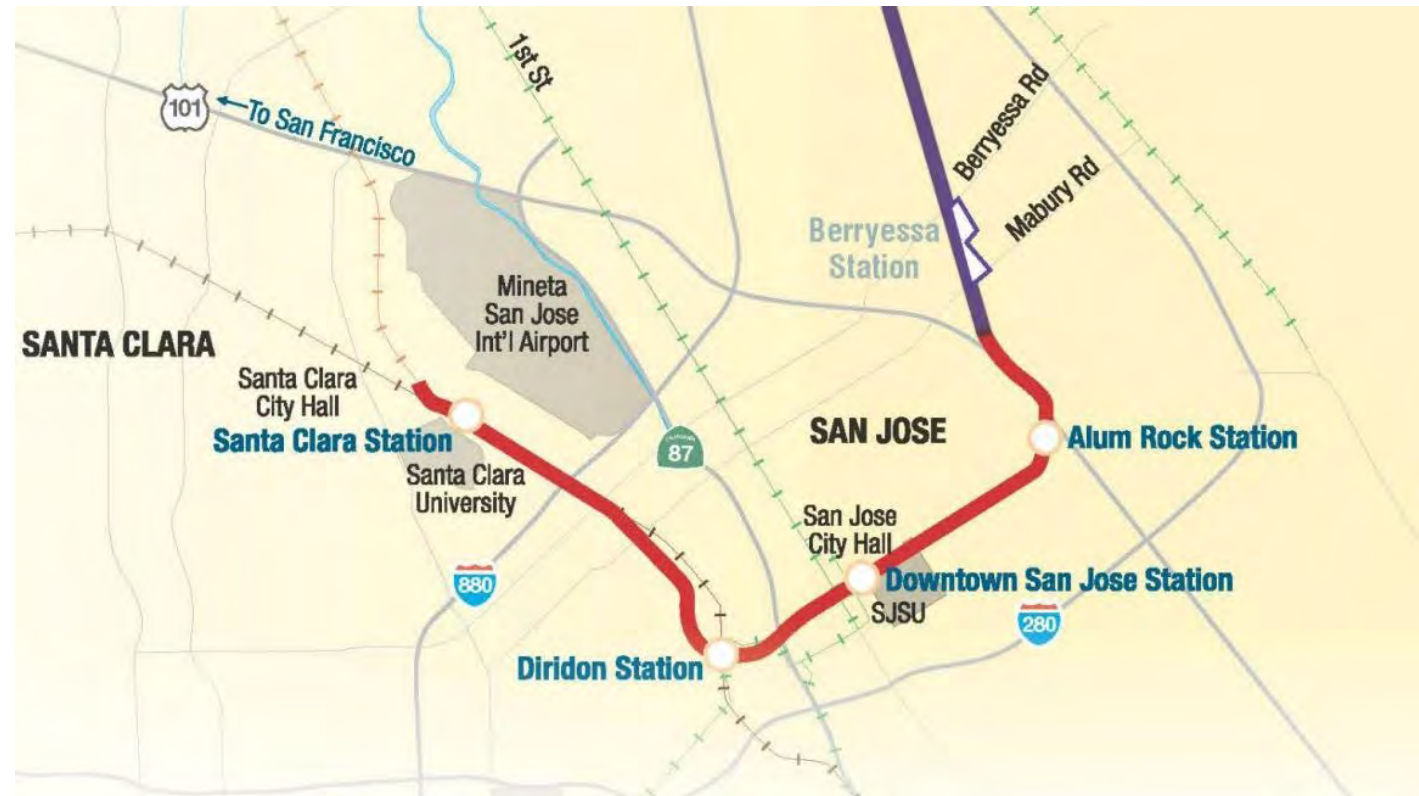
- 1.7 miles; 4 stations
- Opens 2022.
- 15% over \$1.6 billion budget.



Peer agencies facing cost challenges

San José (VTA/BART)

- **Silicon Valley Phase 2 ext.**
 - 6 miles; 4 stations
 - Opens 2030.
 - 38% cost growth since 2018.



Peer agencies facing cost challenges

Los Angeles (L.A. Metro)

- **Regional Connector**
 - 1.9 miles; 3 new stations
 - Opens 2022.
 - 9% cost increase to \$1.6 billion.



Change in cost estimates

- Cost estimate changes are being driven by three factors:
 - Right-of-way (property acquisition and relocation costs, etc).
 - Design advancement and additions.
 - Expanded scope required for soil conditions, utility relocations, stormwater management, and environmental mitigation
 - Added scope for passenger, operations and maintenance needs
 - Contingencies and soft costs.
- Scale, proportional effect of these factors varies significantly across projects.
- Projects establishing new transportation corridors in rapidly developing urban areas are seeing the most growth

Cost estimate increase categories

Summary for light rail projects with updated estimates

	Change from 2019-2020	% Increase of total*
Right-of-way	\$2.09-\$2.47 billion	40%-43%
Design advancement & additions	\$1.7-\$2.28 billion	35%-37%
Contingencies & soft costs	\$1.05-\$1.42 billion	22%-23%
Total	\$4.84-\$6.17 billion	42%-50%

Rounded to nearest tens of millions, 2019\$

Tacoma Dome Link Extension

In millions, 2019\$

	ST3	2019	2020	Chg vs. 2019
• Cost estimate:	\$2,431	\$2,999	\$3,308	10%

What has changed since 2019?

- Elevation of three miles previously assumed to be at-grade.
- Cost and complexity of complying with stormwater requirements.

OMF South

In millions, 2019\$

	ST3	2019	2020	Chg vs. 2019
• Cost estimate:	\$649	\$759-1,366	\$1,167-2,424	54% / 77%

What has changed since 2019?

- High risk and cost variance between sites, especially for the Midway Landfill Superfund site.
- Conducted operational analysis resulting in need for additional track work, systemwide storage facilities, and 50% larger site footprint.
- Increased stormwater requirements apply here as well.

West Seattle/Ballard Link Extensions

In millions, 2019\$

	ST3	2019	2020	Chg vs. 2019
• Cost estimate:	\$7,094	\$7,929	\$12,103-12,581	53-59%

What has changed?

- \$2.13 billion for right-of-way acquisition, including acquiring newer commercial or multi-family developments.
- \$1.27 billion for construction, including larger aerial guideways, higher mined station costs, and improved understanding of utilities and environmental work.
- \$775 million in corresponding increases to soft costs and contingencies.

Example: West Seattle Junction

WSJ-2, Preferred Alternative
Elevated Fauntleroy

Parcel for station + tail tracks	2019 estimate	2020 estimate
	\$76 million	\$252.7 million

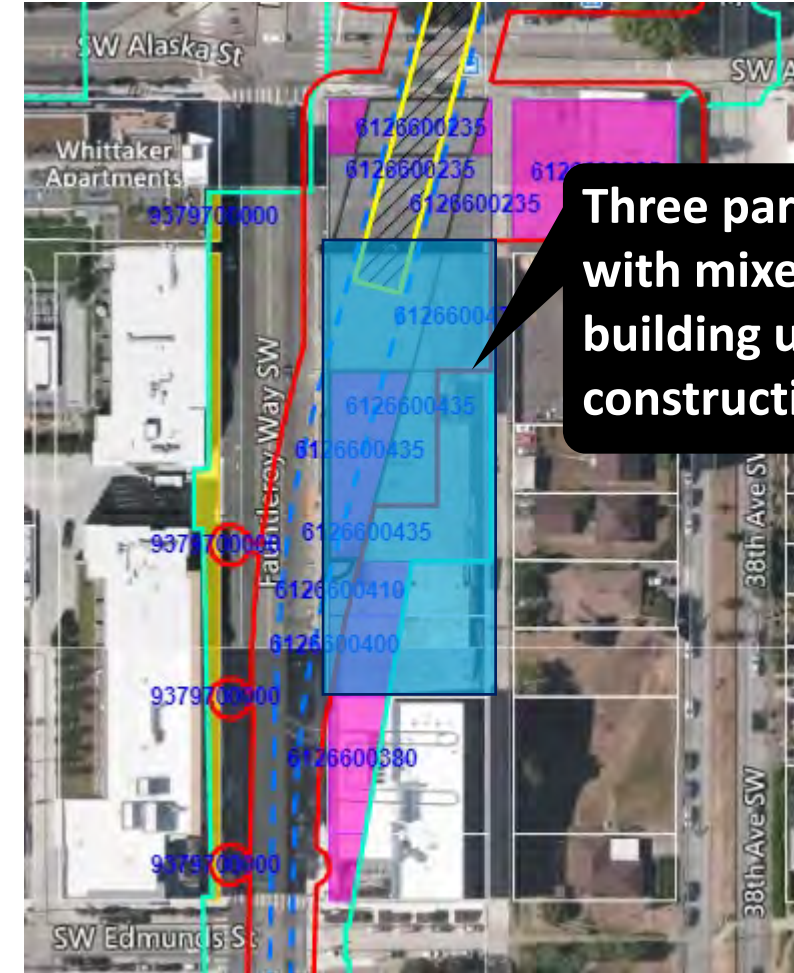


306 unit apartment development on Fauntleroy way finally underway; Demolition happening



The seven story 306 apartment project at 4722 Fauntleroy Way SW will feature a 306-unit mix of one- and two-bedroom residences, as well as studios and live-work units.
Image from Legacy Partners

Wed, 07/03/2019



Three parcels with mixed-use building under construction

Example: West Seattle Junction

Parcels in 2015



Example: West Seattle Junction

Parcels in 2020



SR 522 & NE 145th Bus Rapid Transit

	ST3	2019	2020	Vs. 2019
• SR 522/145th BRT	\$481	\$658	\$544	-17%

What has changed since 2019?

- Design refinements that reduced right-of-way needs.
- Partnership opportunities reduced requirements for standalone ST investments.
- Example: roundabout added near Shoreline South/148th Station that performs as well as original plan that would have cost more and required additional property acquisition.

I-405 Bus Rapid Transit

In millions, 2019\$

	ST3	2019	2020	Vs. 2019
• I-405 BRT	\$1,037	\$1,088	\$1,016	-7%

What has changed since 2019?

- Little has changed and project costs have held steady around \$1 billion.
- BRT benefits from use of existing and planned WSDOT infrastructure.
- Partnership opportunities with WSDOT at multiple station locations.



BRT bus base

In millions, 2019\$

	ST3	2019	2020	Vs. 2019
• BRT bus base	\$191	\$208	\$238	+14%

What has changed since 2019?

- Increase due to accommodating 40 additional buses for either potential ST Express needs or future BRT growth.
- Higher property costs.



Responding with independent cost review

- The scale of these cost changes merit a third-party, independent review of our methodologies.
- We are procuring a consultant this month.
- The work will cover both current estimates and underlying methodologies.
- We will expedite the work and provide results in April to inform the realignment process.

Cost Updates to Long-Range Financial Plan

- \$5.2 billion (2019\$) in assumed costs added for projects in development
- \$2.7 billion(2019\$) adjustment assumed for later light rail projects, a 36% increase.
- Total increase to financial plan assumptions are \$7.9 billion (2019\$), or \$12 billion (year-of-expenditure dollars).
- To be adjusted through ongoing design and independent cost estimate review.

Implications for realignment

Responding to both revenues and costs

- The realignment process will respond to both COVID-19 revenue impacts and updated cost estimates.
- Current projected affordability gap is 10.9% of the agency's Long-Range Financial Plan through 2041.

Implications for realignment

Responding to both revenues and costs

- Staff will provide a more thorough review of the affordability gap at the Jan. 21 realignment workshop.
- Independent review will support further updates to cost assumptions and methodologies.
- Now is the time to identify these challenges when scope choices can still be made to contain cost growth.

Thank you.



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