

SOUND TRANSIT

ST3 COST ESTIMATING METHODOLOGY – O & M



Expert Review Panel
JULY 13, 2015



SOUNDTRANSIT

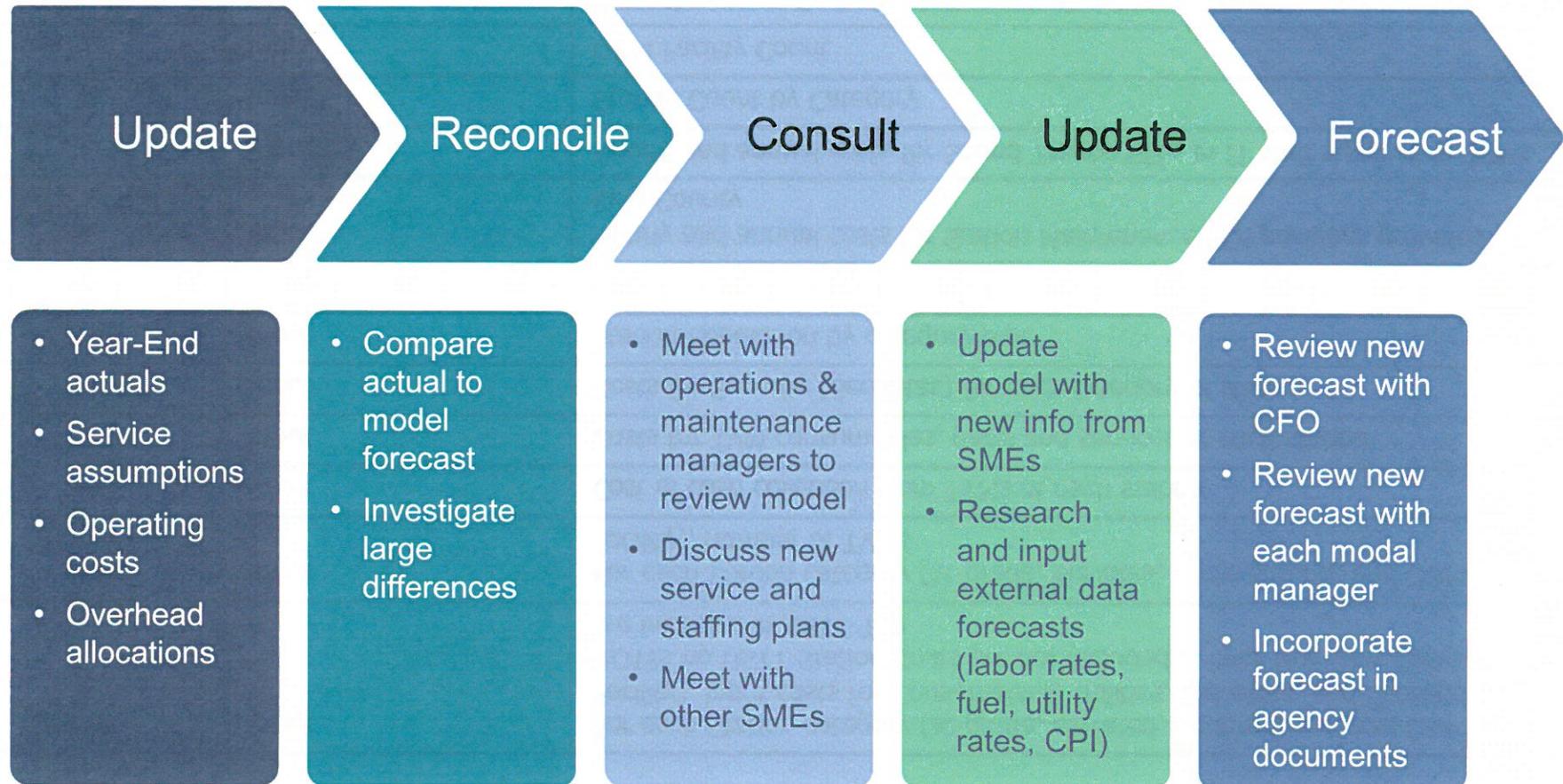


O & M Model Background

- ❑ Improves upon ST2 forecasting
- ❑ Uses experiential data to estimate costs
- ❑ Provides greater level of detail
- ❑ Uses Excel workbook to forecast long-range costs for each of ST's transit modes:
 - ❑ Link light rail
 - ❑ Sounder commuter rail
 - ❑ ST Express regional bus
 - ❑ Tacoma Link rail

O & M Cost Model Update Process

For each mode:



O & M Sample Input / Output

□ Light Rail model – Station Costs

Station	Input	For each Station category (at-grade, elevated, underground, and O&M Facility), input costs for Consumables, Utilities, Elevators, and Escalators. NOTE: no DSTT Station Costs are not included in links from this sheet—they are included in DSTT Tab
	Input	For each Station category (at-grade, elevated, underground, and O&M Facility), number of TVMs
	Input	Cost of cash collection from TVMs at each station
	Input	Costs for TVM consumables, parts and services at each station
	Input	Costs for Security (Securitas) for each category of station
	Input	Station Population by category type
	Input	Current and future staffing plan by FTE for Station Facility Maintenance
	Input	Hourly and annual costs for Station Maintenance FTE positions provided by King County
	Input	Hourly and annual costs for Sound Transit FTEs in IT staff supporting TVMs
	Input	Station Count by Category
	Input	O&M Facility Count
	Output	Total Operating Costs by station category line is linked to the model upload sheet line items Underground Station Costs, At Grade Station Costs, Elevated Station Costs
	Output	Total OMF Costs line is linked to the model upload sheet line item OMF Costs

O & M Cost Development for ST3

- Use existing O & M cost models
- Unitize costs to use in ST3 proposals
- Incorporate assumptions from staff and consultants on headways, alignments, vehicles, stations, and other operating statistics
- Apply unitized costs to assumptions

Examples of Inputs & Cost Drivers - Rail

Assumption Input

- Alignment – elevated, at-grade, or below-grade
- Catenary & TPSS
- Signal maintenance / MOW
- Traction power – each of 3 utilities
- Station – elevated, at-grade, or below-grade
- Security / Fare enforcement
- LR Vehicle operating
- LR Vehicle maintenance
- Insurance – Vehicles, Property, Liability
- Parking Garage
- Operating & Maintenance Facility

Cost Driver

- Track Miles (different costs for each type of alignment)
- Track Miles
- Track Miles
- Track Miles
- Stations (different costs for each type of station)
- Formula = Zone + Boardings
- Vehicles
- Vehicles
- Vehicles, Facilities, Boardings
- Garages
- OMF

Other Required Inputs - Rail

- LRT headways
- LRT vehicles – peak
- LRT vehicles – spares
- LRT annual platform vehicle hours
- LRT vehicles / train
- LRT ridership (annual boardings)

Summary

- Sound Transit's O & M models provide detail costing for direct, indirect, and allocated modal expenses which can be used in estimation of ST3 transit operations costs for any planned segment of any mode.

- Questions?