

Vertical Conveyance Portfolio Update

Rider Experience and Operations Committee

11/4/21

Why Are We Here

- To Provide an Overview of Estimated Growth of our Portfolio of Elevators and Escalators
- Impact of Assuming Management of the Downtown Tunnel Assets, Remediation Efforts and Challenges
- Briefly Discuss Recent Program Enhancements and Continuous Improvement

Conveyance Team Vision Statement

Create a **PASSENGER** focused vertical conveyance program centered on **SAFETY** and **RELIABILITY** by leveraging maintenance, technology & data to optimize performance and keep all stakeholders better informed.

Current Asset Portfolio



101
Elevators

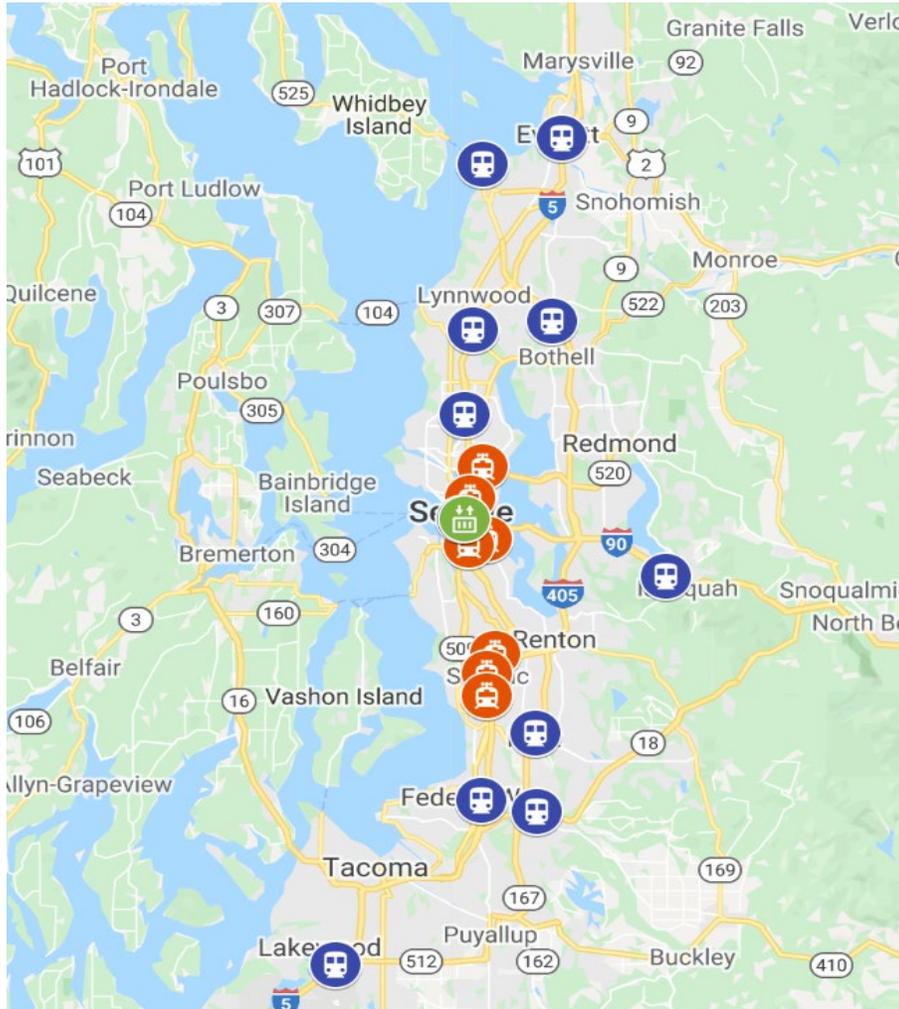


92
Escalators

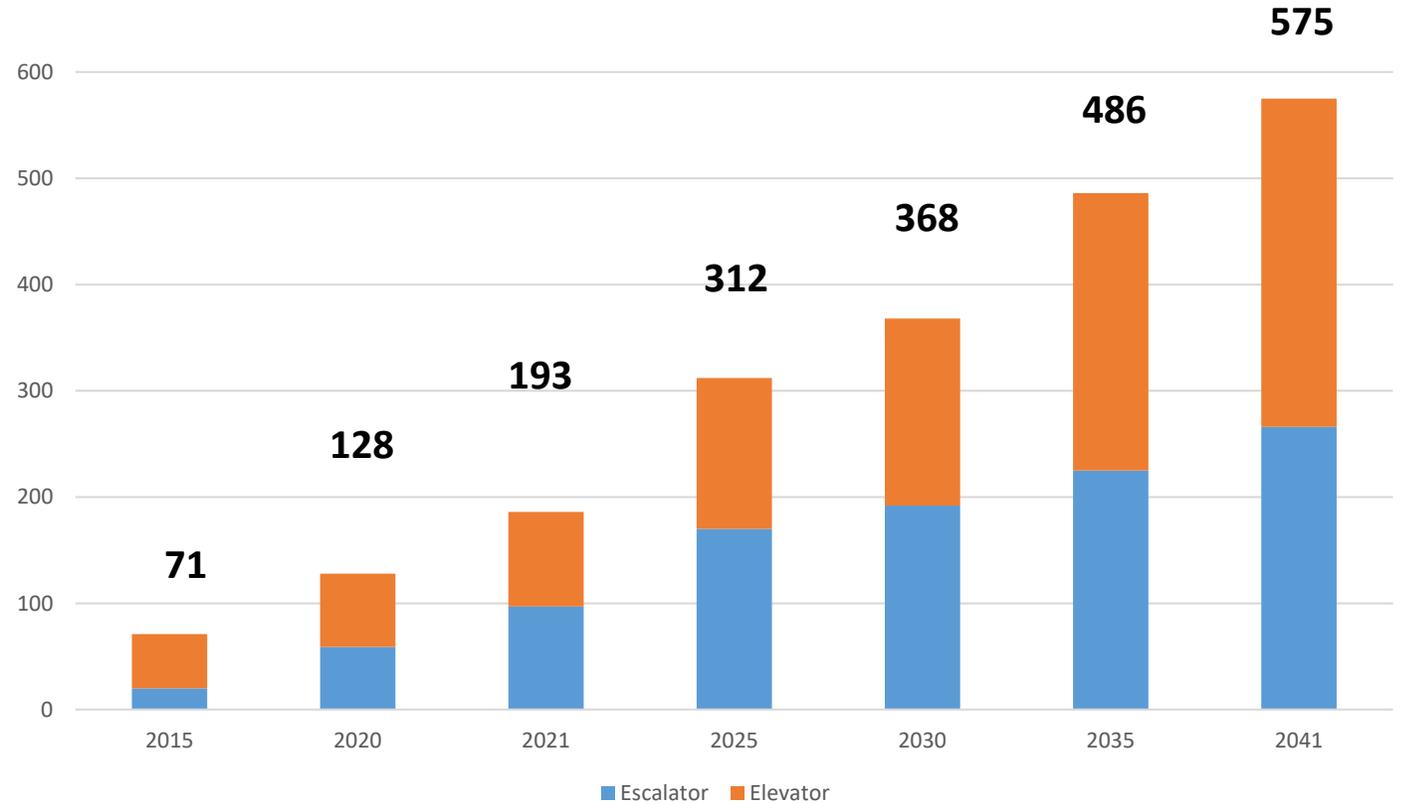
193
Total
Assets

- Roughly 50/50 split elevators & escalators
- Includes all Northgate Link Extensions
- Includes Downtown Tunnel Assets

Projected Portfolio Growth



Spans from Everett to Lakewood – 70 Miles



- Current fleet will grow by 60% through 2025
- Estimated to be a fleet of 575 by 2041

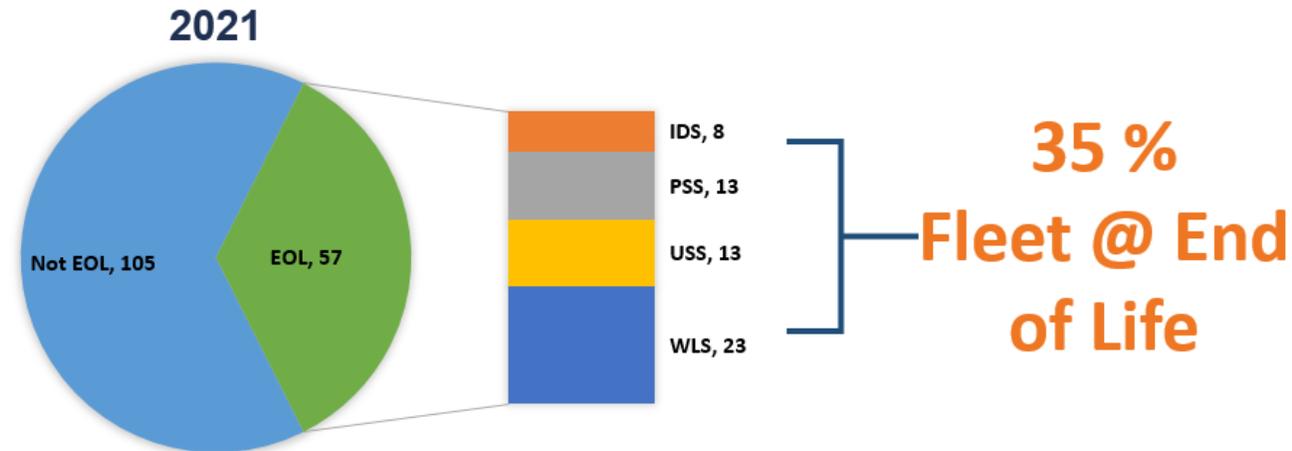
Northgate Opening: New Expansions = New Assets

- The opening of U District, Roosevelt and Northgate added 28 assets to our portfolio
- Implemented lessons learned from U-Link
- Units installed with the latest technology and energy efficiency options



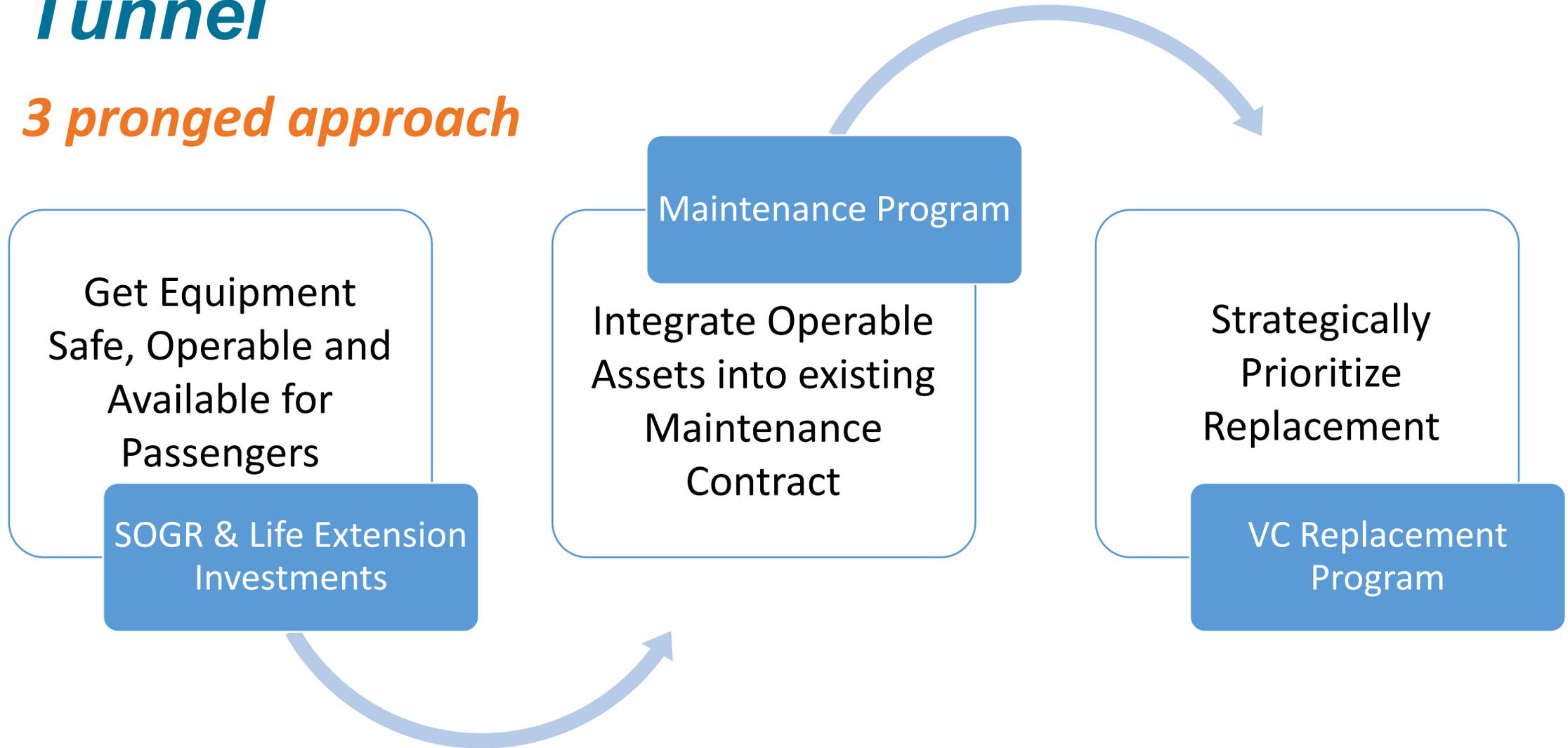
Downtown Tunnel Elevator/Escalator Impact

- Management transfer from KCM completed on January 1, 2021
- Most assets were installed between 1987 - 1989
- Assumed 58 total pieces of equipment of which 28 units were inoperable upon transfer



Strategy and Approach to the Downtown Tunnel

3 pronged approach



Short Term Downtown Tunnel Mitigation



Downtown Tunnel Assets

New VC Assets



- 2021 Downtown tunnel repair budget of \$3.6M (\$8.7M 2020 Board Motion)
- Replacing critical components such as chains, bull gears, door equipment, handrails and upgrading safety equipment

Downtown Tunnel Performance

Westlake, University Street, Pioneer Square, International District Stations

- Increased elevator availability from **81.8%** to **98%** overall
- Increased escalator availability from **30.1%** to **75%** overall
- Inoperable units on January 1st 2021 – **28 of 58**
- Current inoperable units – **8**

Complexity & Constraints

Service Interruption

- Elevator/Escalator
- Transit

PASSENGER IMPACT

Elevator/Escalator
Replacement

LIMITED QUALIFIED
VENDORS &
ASSOCIATED LOCAL
LABOR

STATION DESIGN
INGRESS & EGRESS

Replacement Program Risks

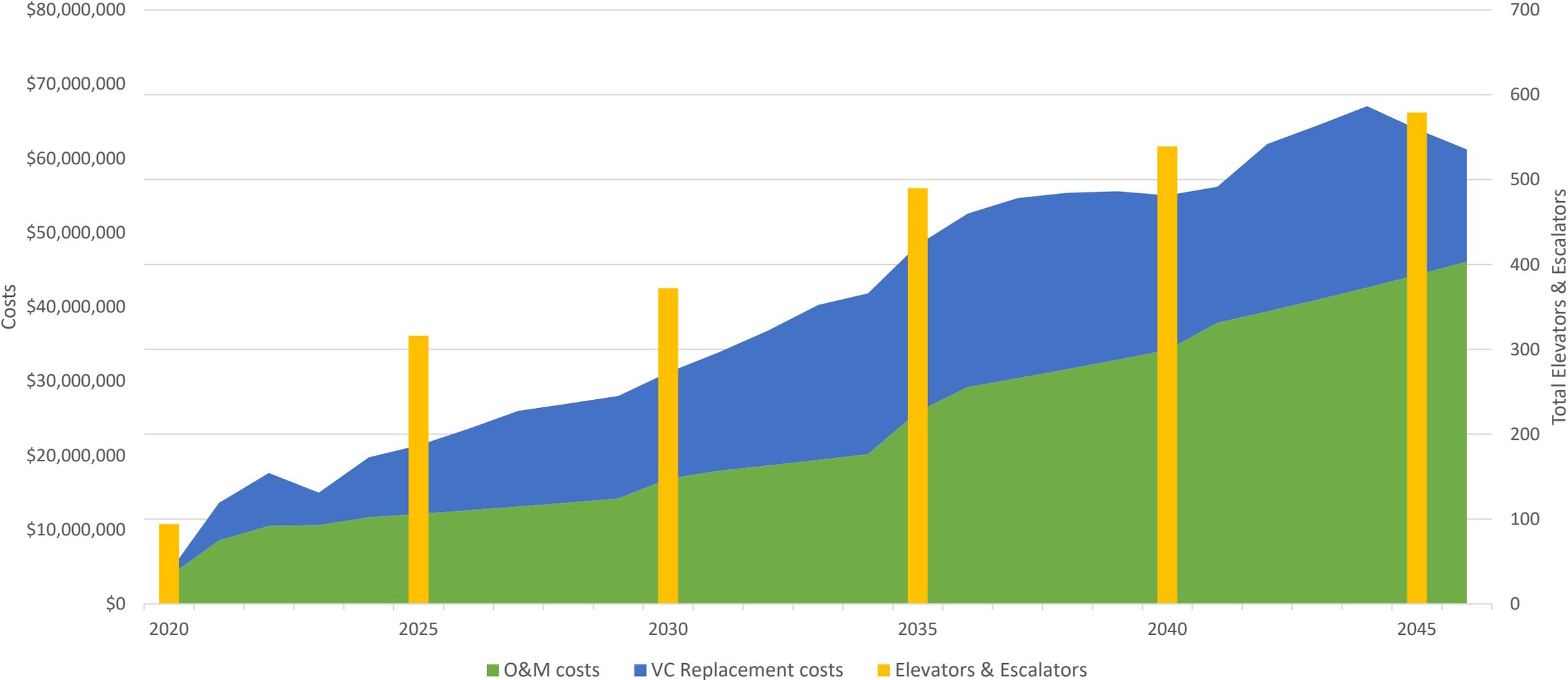
- *Sustained Reliability for EOL+ assets*
- *Competing Capital Projects (Expansion & NSEP)*
- *Long Lead Time for Manufacturing*
- *First Major Facilities Asset Replacement for Sound Transit*

Agency Focus on Elevators/Escalators

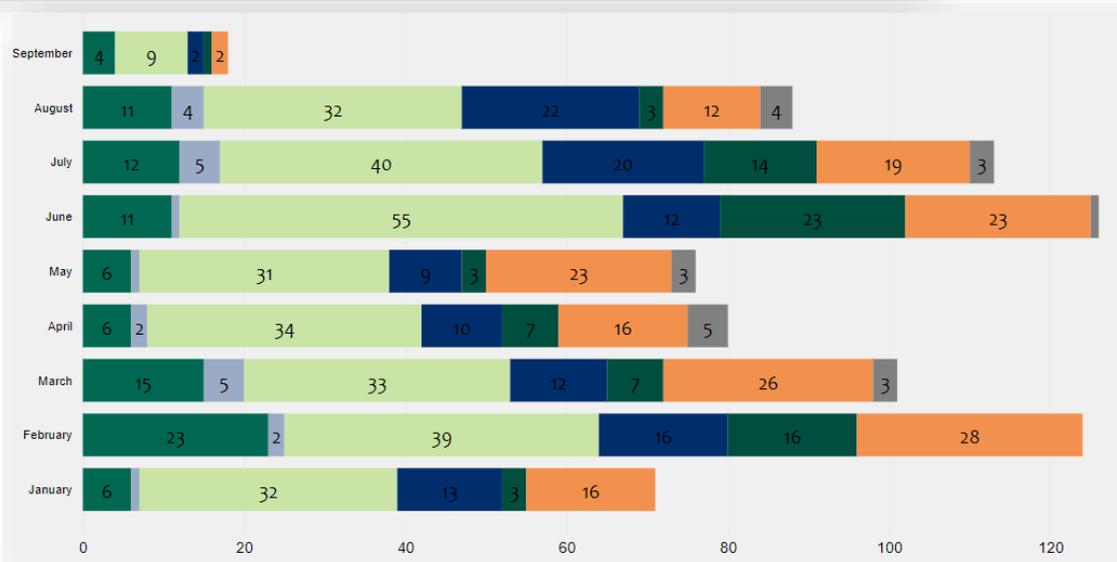


- Elevators and escalators are now considered a “mode” within Sound Transit
- Enhanced our maintenance contract in 2019
- Increased our team size from 1 to 4

Estimated Annual Cost Projections



Data Gathering, Analysis and Reporting



- All Equipment Outages are Vetted Every Business Day
- Each Outage is Documented for Time, Category and Resolution
- Overall Monthly Availability Reports are Available at <https://www.soundtransit.org>

Continuous Improvement

- Enhance Data Reporting
- Better understand component service life expectancy
- Decrease number of unplanned outages
- Increase communication with all stakeholders
- Continue piloting new technology solutions



Thank you.



 [soundtransit.org](https://www.soundtransit.org)

