

Vertical Conveyance Asset Lifecycle Management

Citizen Oversight Panel

9/15/21



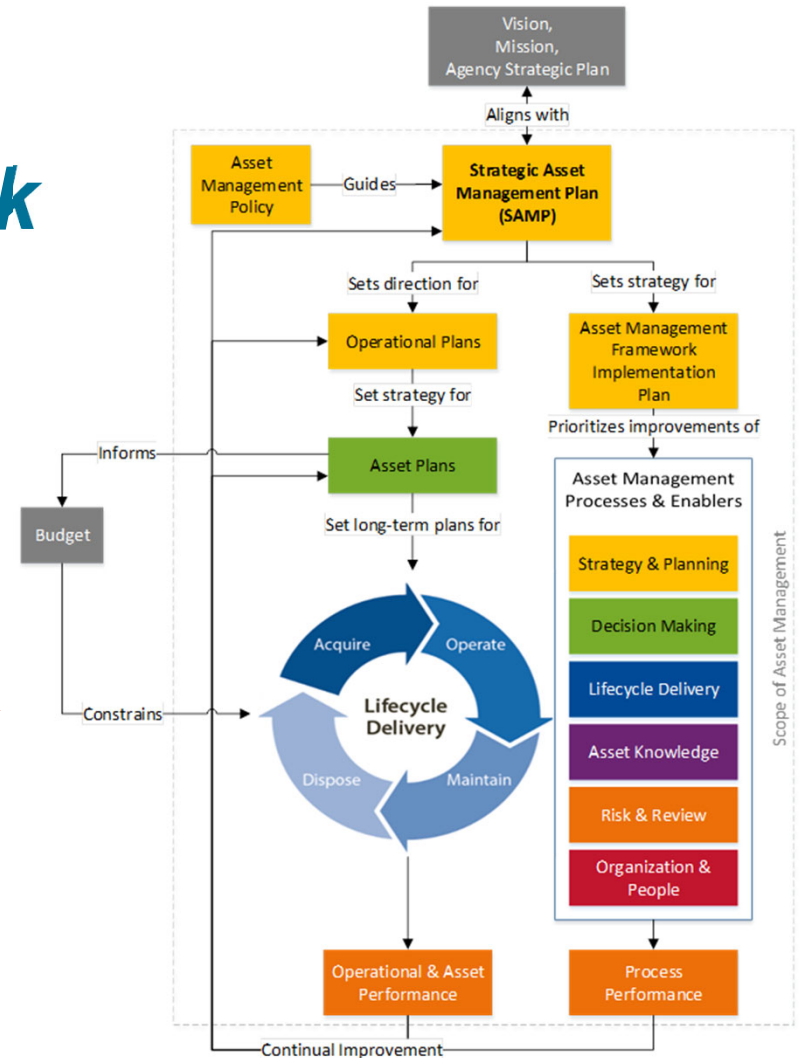
Why Are We Here

- To Provide an Overview of our Current Portfolio of Elevators and Escalators
- Briefly Discuss Estimated Expansion Growth through 2041
- Impact of Assuming Management of the Downtown Tunnel Assets
- Provide a Summary of our Approach to the Lifecycle Management of this Equipment

Sound Transit's Asset Management Framework



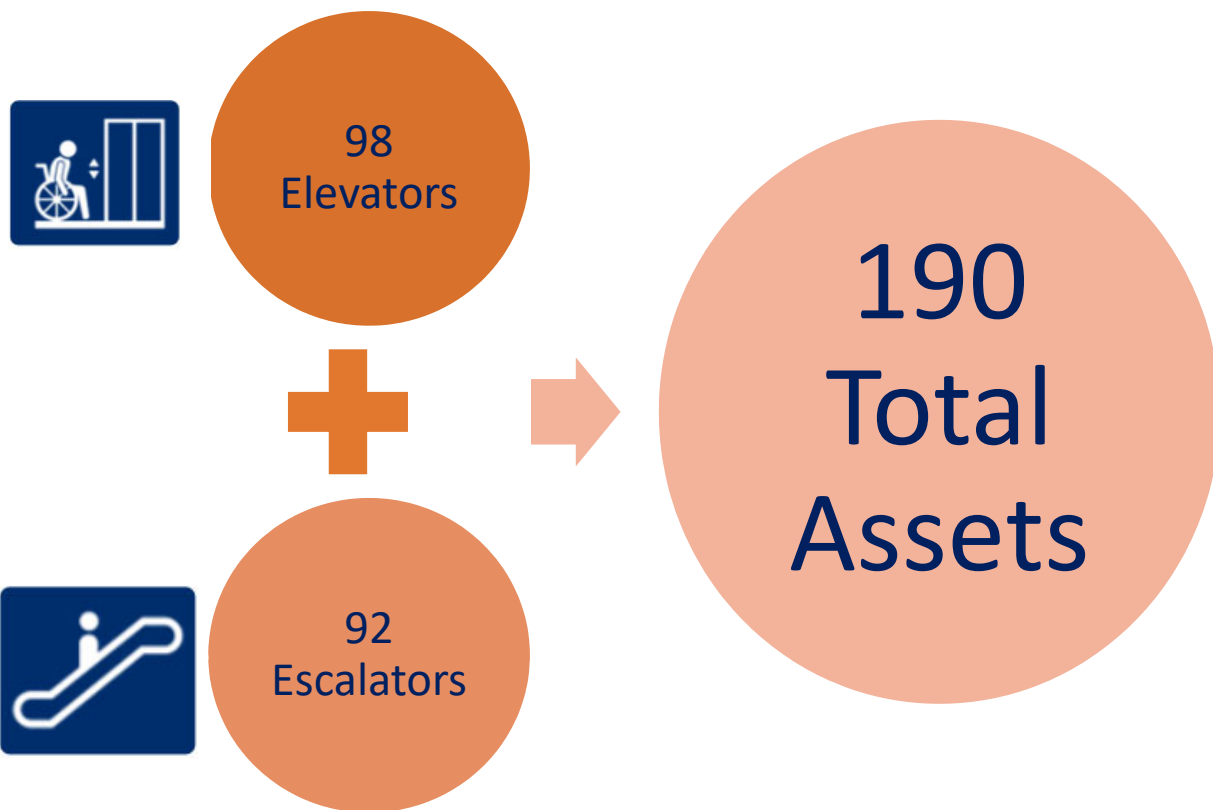
Asset Management Conceptual Model
The Institute of Asset Management



Conveyance Team Vision Statement

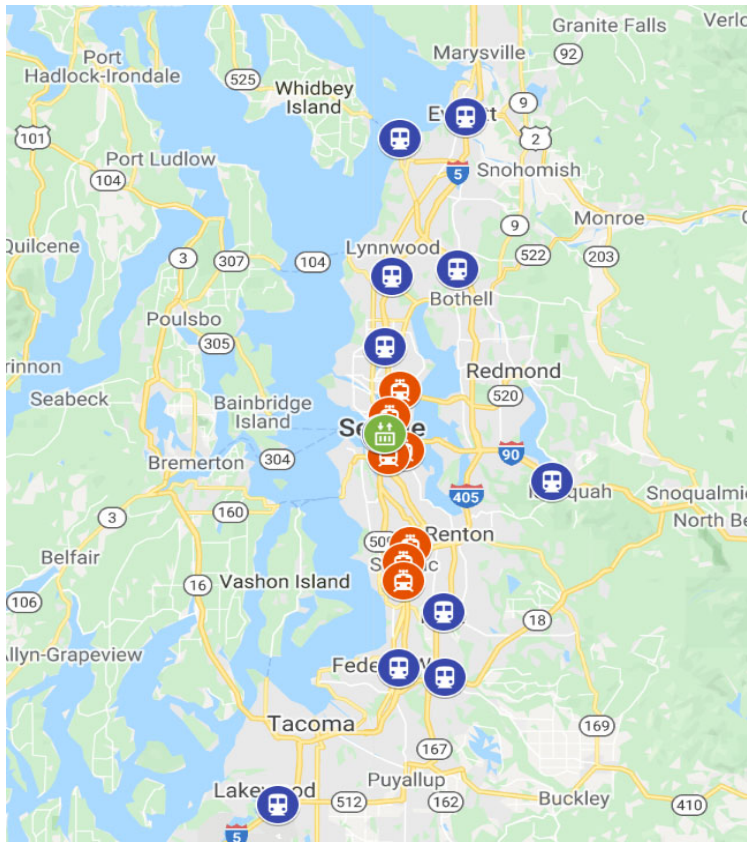
Create a **PASSENGER** focused vertical conveyance program centered on **SAFETY** and **RELIABILITY** by leveraging maintenance, technology & data to optimize performance and keep all stakeholders better informed.

Current Asset Portfolio

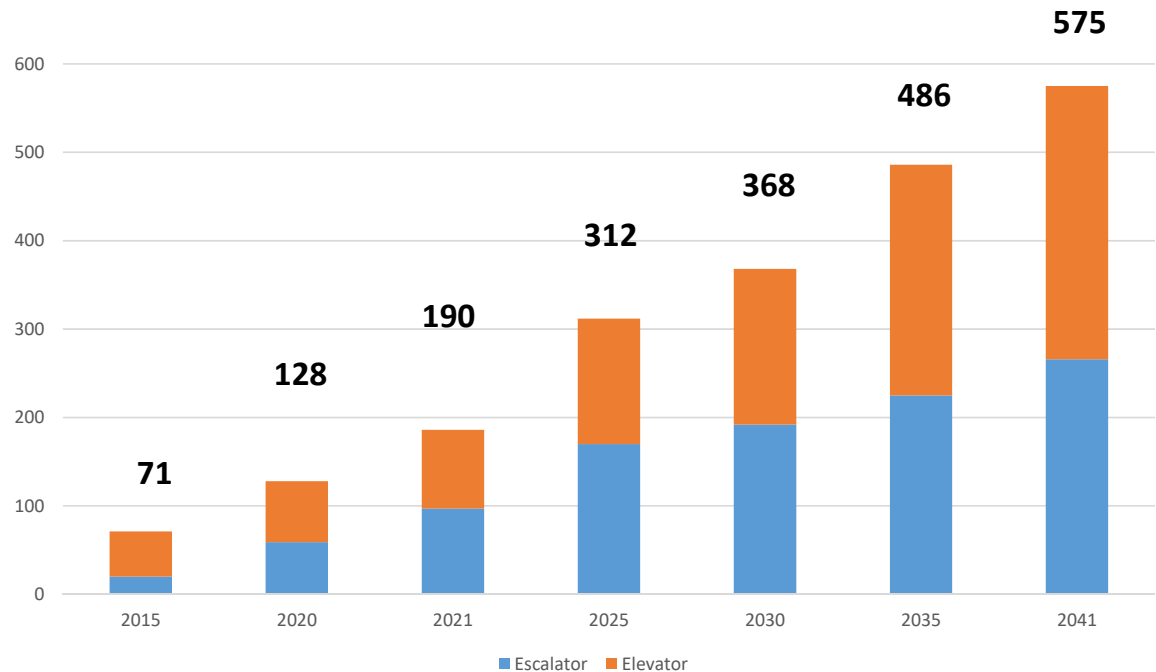


- Roughly 50/50 split elevators & escalators
- Includes all Northgate Link Extensions
- Includes Downtown Tunnel Assets

Projected Portfolio Growth



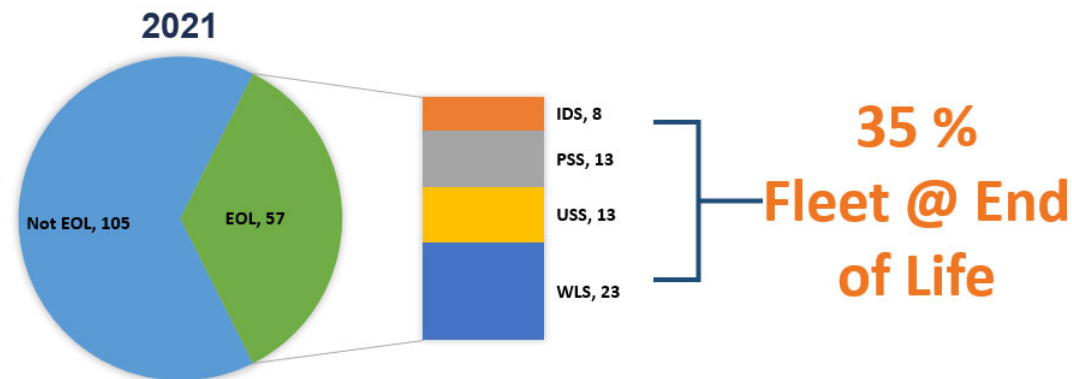
Spans from Everett to Lakewood – 70 Miles



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

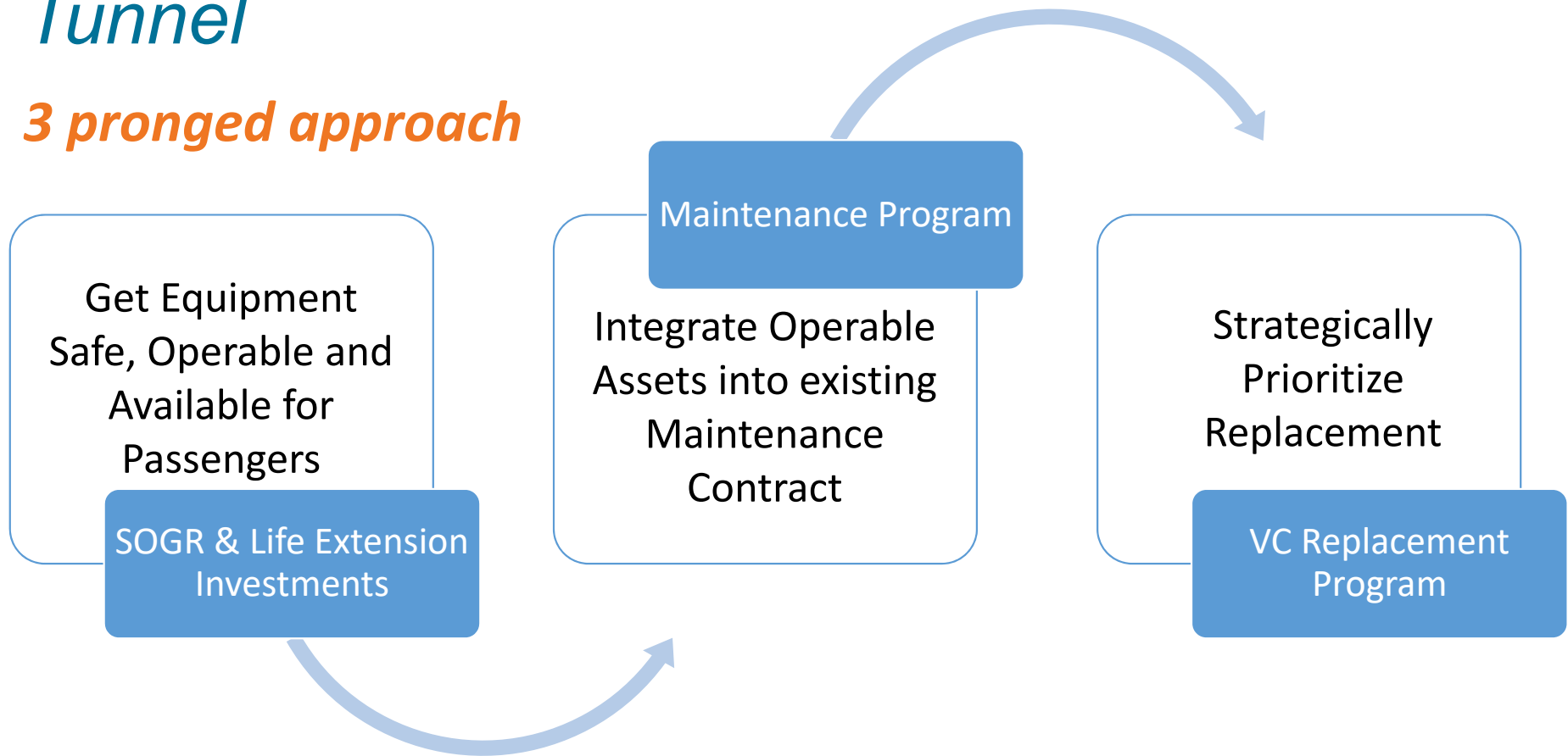
Downtown Tunnel Elevator/Escalator Impact

- Management transfer from KCM completed on January 1, 2021
- 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



DSTT

New VC Assets



- 2021 DSTT repair budget of \$3.2M (\$8.7M 2020 Board Motion)
- Replacing critical components such as chains, bull gears, door equipment, handrails and upgrading safety equipment

Downtown Tunnel Performance

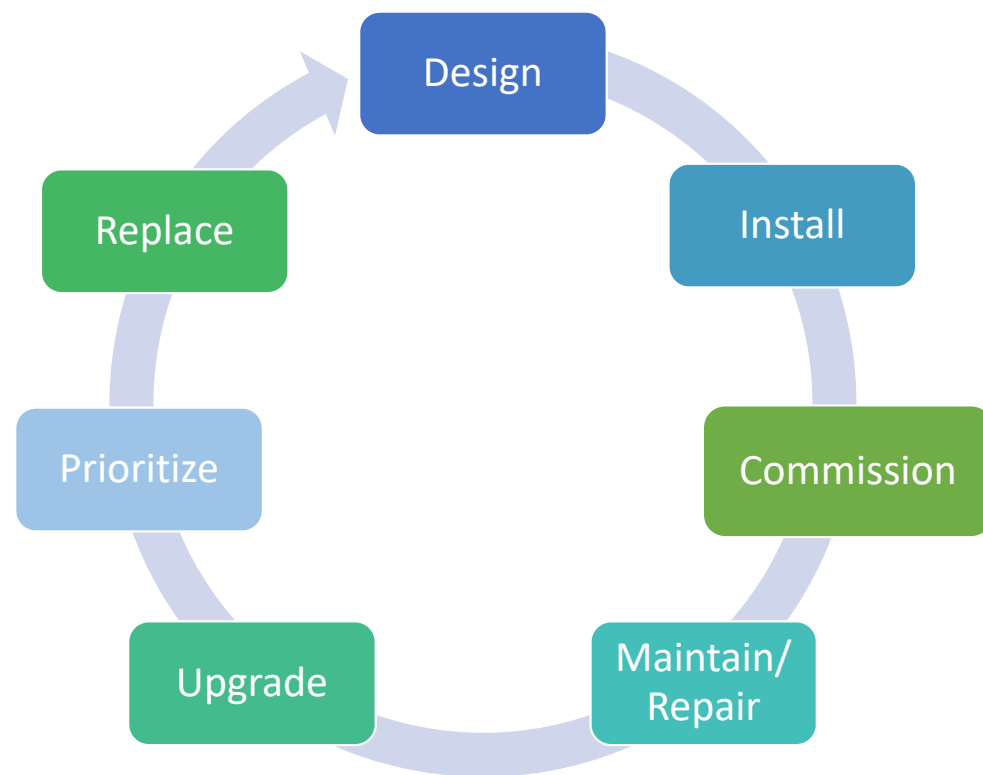
Westlake, University Street, Pioneer Square, International District Stations

- 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**

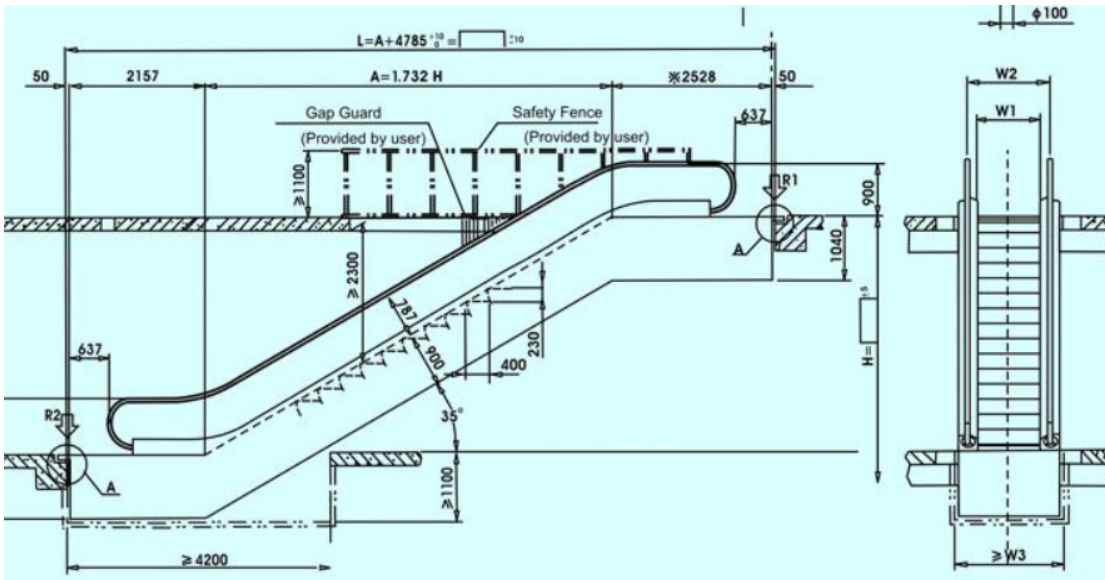
Elevator/Escalator Lifetime Cycle

- General life expectancy for transit elevator/escalators is 25 Years
- 2024 will begin seeing replacement needs within the existing portfolio (4)*

**King Street & Union Station*



Specifications and Design



Engaged Early in the Process

In Planning, Construction Specifications and Design Review

Installation/Commissioning

- Regular Inspections During Construction
- Conduct State Pre-Inspections
- Observe Initial Testing and Commissioning Events



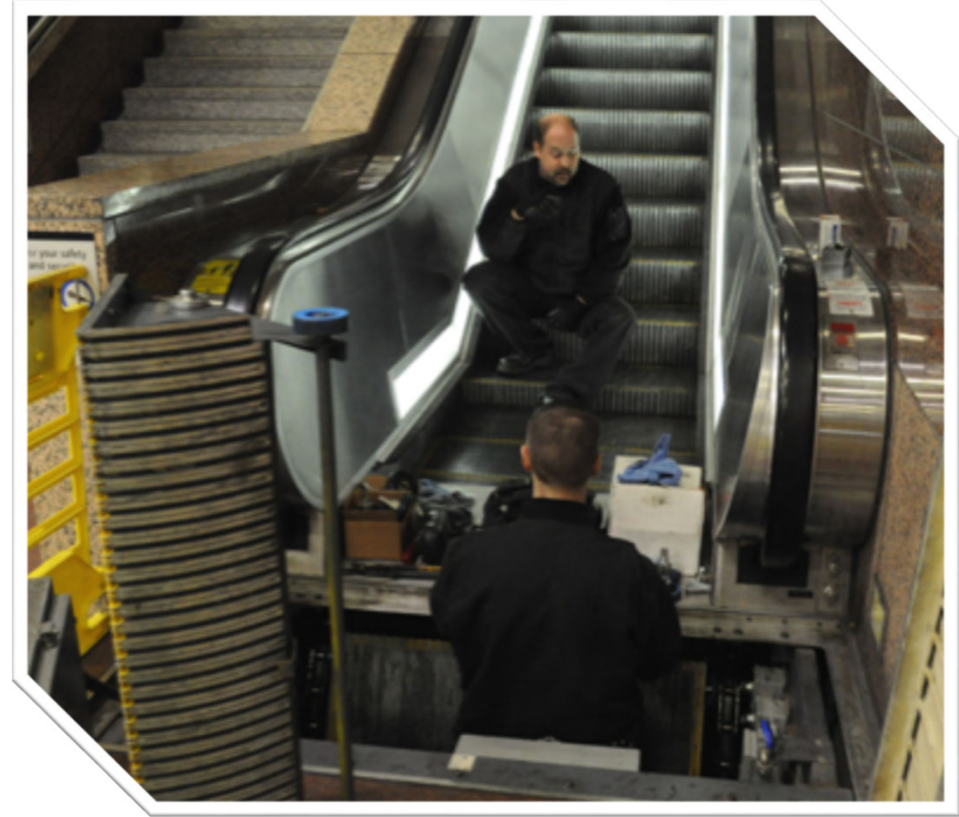
Asset Information



- Determine Manufacturer Recommended Spare Parts and Maintenance
- Identify Critical Components of all Assets

Maintenance/Repair

- Monthly, Quarterly, Semi-Annual and Annual Tasks
- Contracted Response Times
- Spare Parts Inventory
- Contract Management Efforts

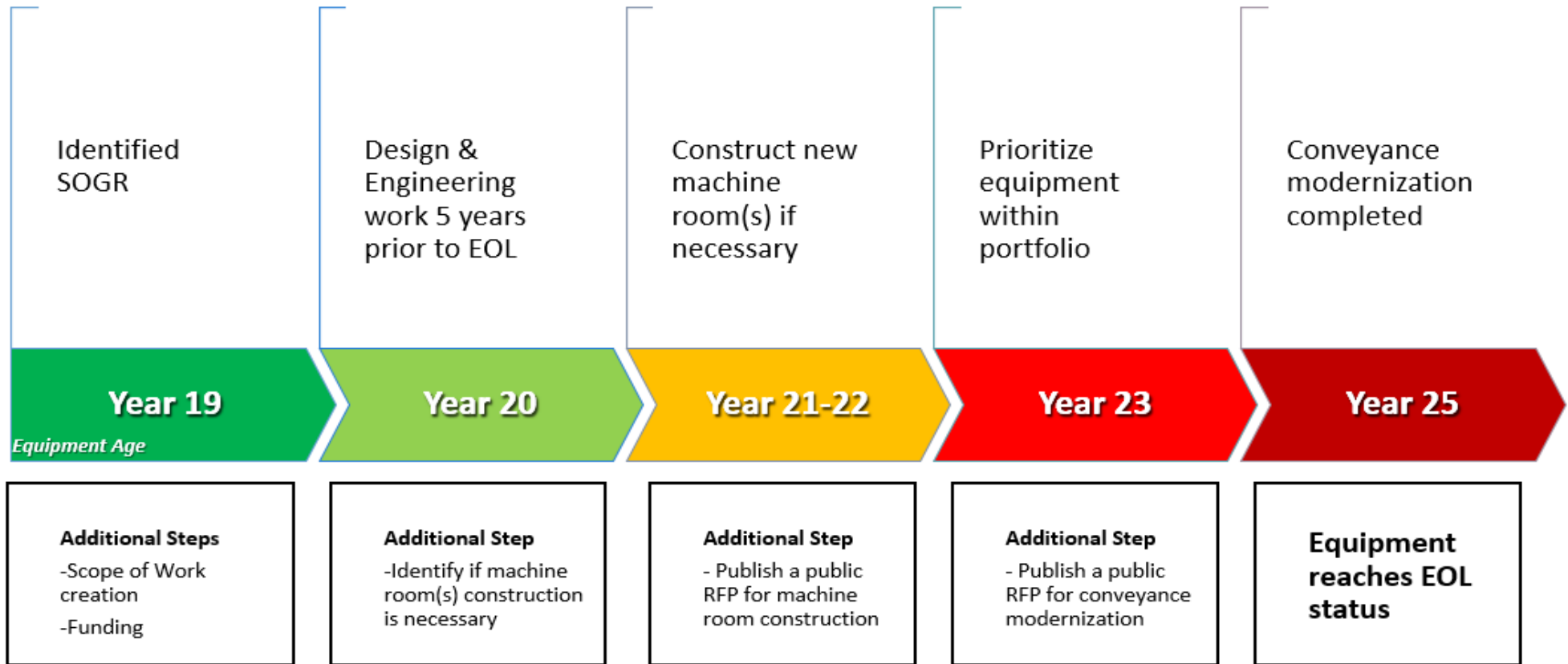


Data Gathering, Analysis and Reporting

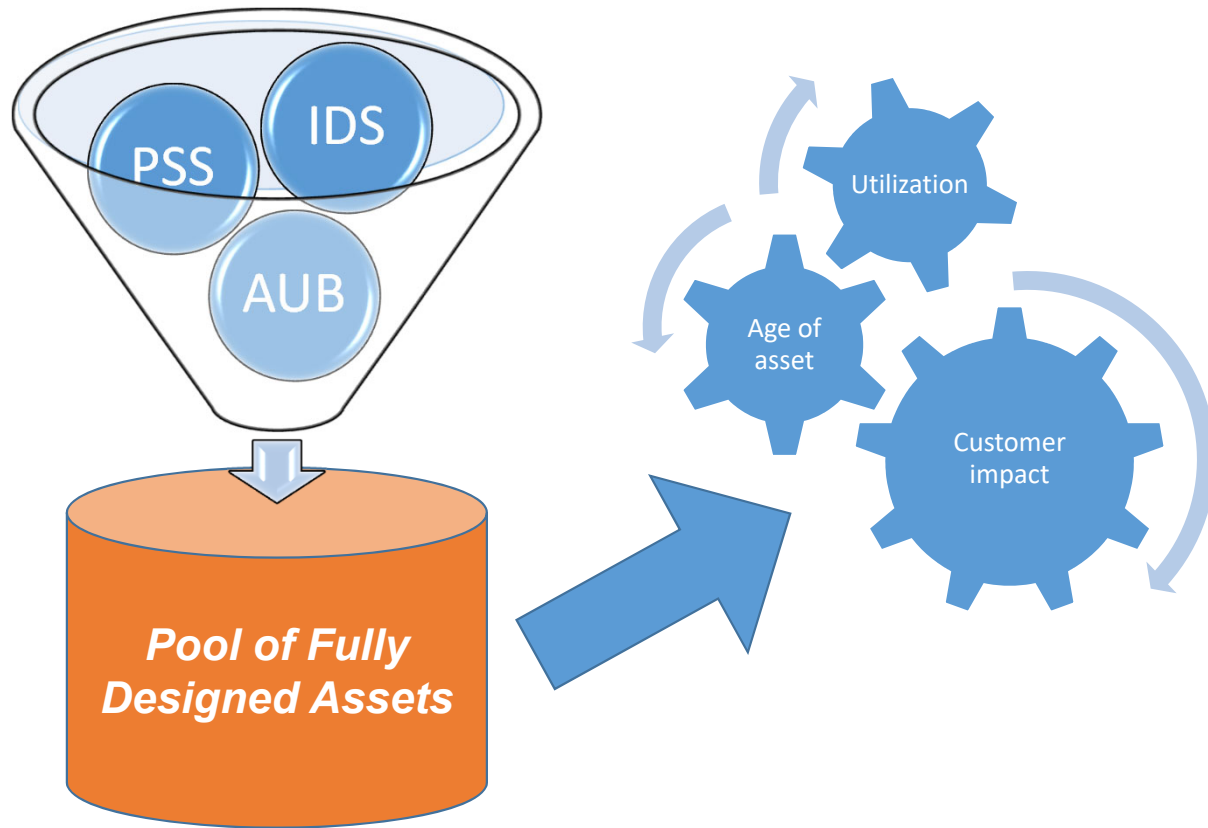


- All Equipment Outages are Vetted Every Business Day
- Each Outage is Documented for Time, Category and Resolution
- Overall Monthly Availability Reports are Available at <https://www.soundtransit.org>

Programmatic Approach to Replacement



Annual Replacement Prioritization



- An annual asset prioritization will determine what assets are most in need of replacement
- VC Team scores each asset individually
- Scoring categories will include customer impact, age, overall availability and obsolete components

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*

