

Vertical Transportation Program Update

Community Oversight Panel

5/14/25



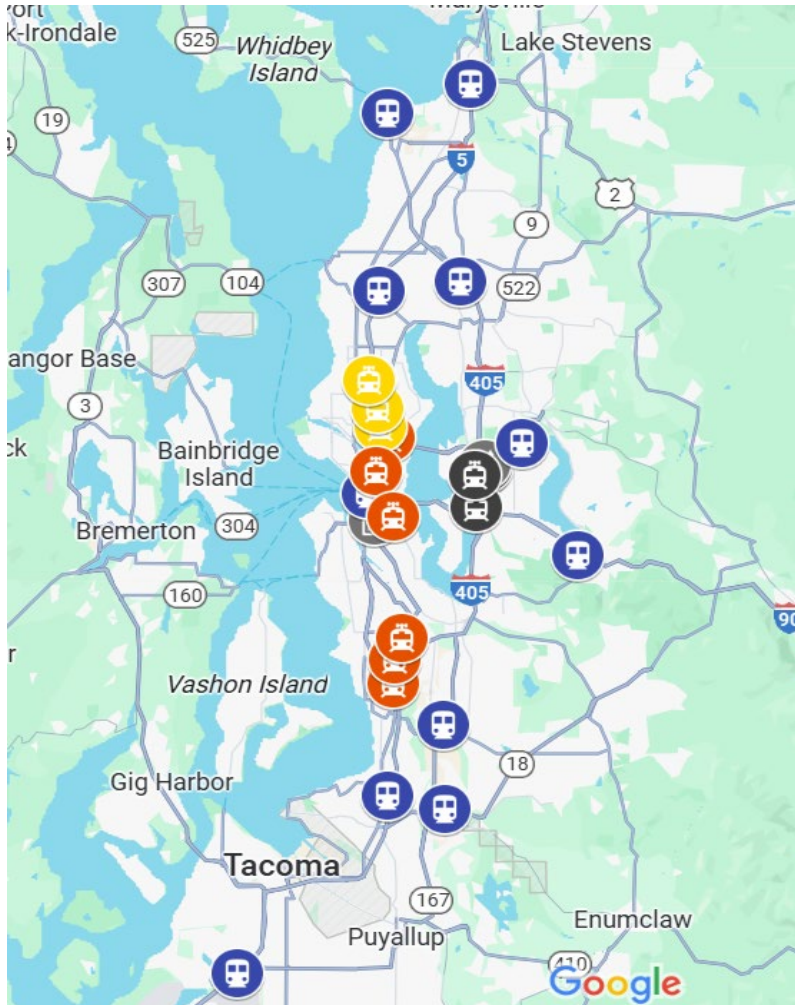
Why we are here

- An overview of our current elevator/escalator portfolio and performance targets
- Information on our overall Vertical Transportation (VT) program
- Current VT Program enhancements
- VT performance updates

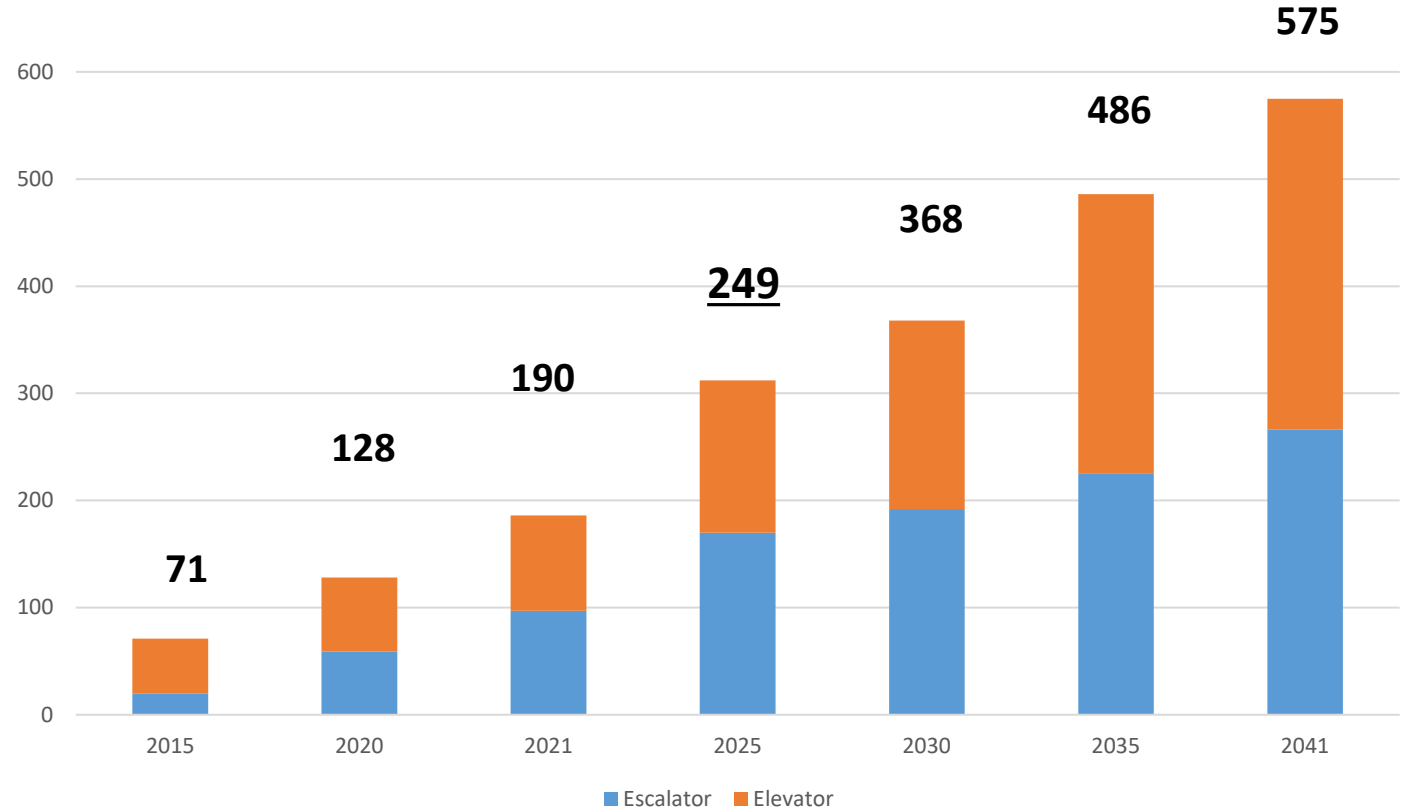
Vertical Transportation Mission Statement

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

Projected Portfolio Growth

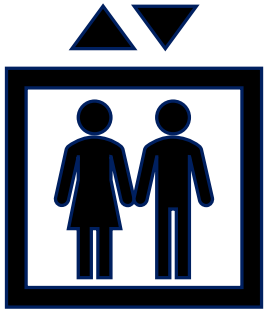


Spans from Everett to Lakewood – 70 Miles



- Current VT assets total 249 today
- Estimated to be a portfolio of 575 by 2041

Current portfolio and performance targets



140 Elevators – Target 97% monthly overall availability



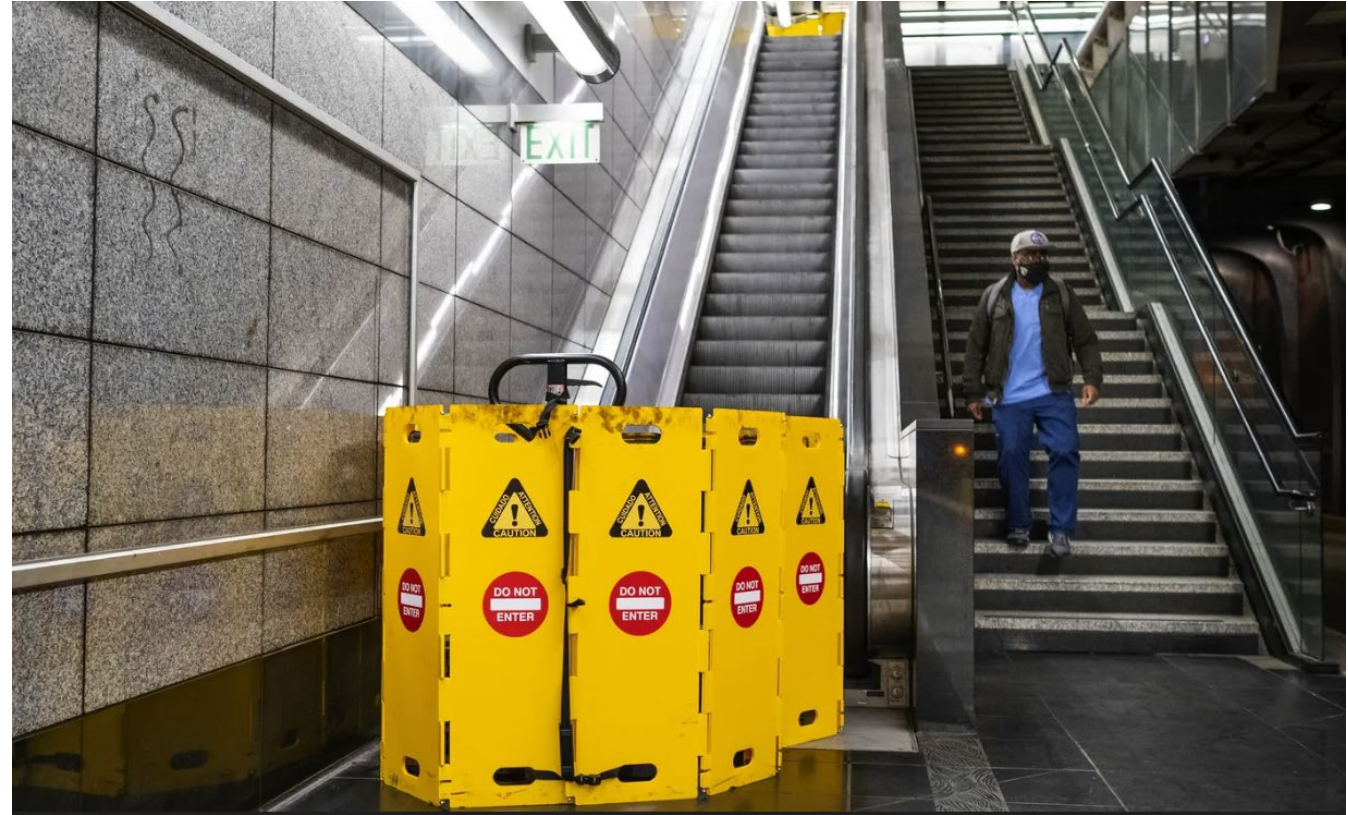
109 Escalators – Target 95% monthly overall availability

*New target of <3% overall mechanical out of service hours v. total available hours

Why do VT assets become inoperable

- Outage categories:

- ☐ Misuse
- ☐ Vandalism
- ☐ Power Outage
- ☐ Environmental
- ☐ Mechanical Failure
- ☐ Incident/Accident



Who maintains or assets



- **Currently 2 maintenance vendors**
 - ☐ **Mid – American Elevator**
 - ☐ **Shindler Elevator**
- **Comprehensive maintenance contract**
- **Technicians specifically assigned to ST**
- **Contracted response times**

How our assets are maintained

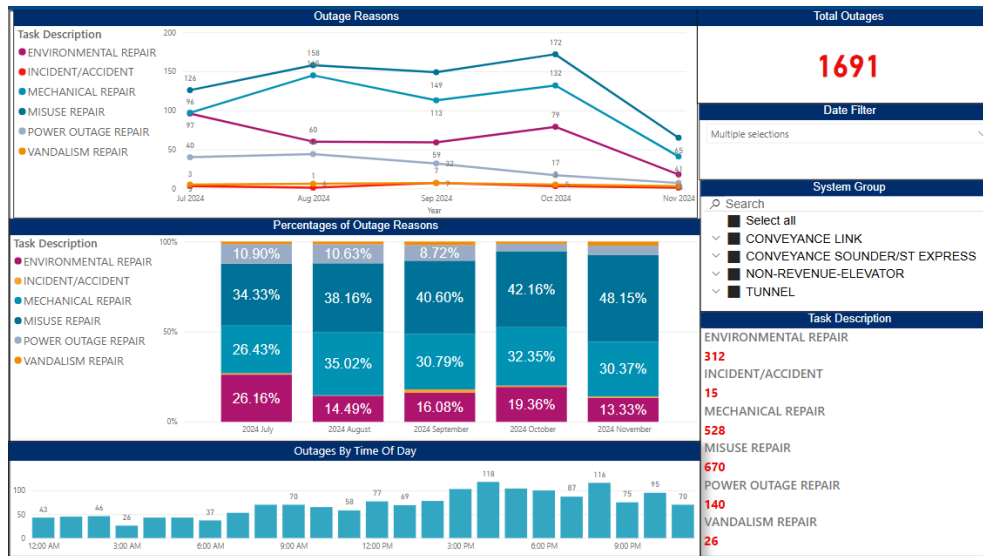
- State requirements
- Nested monthly, quarterly, bi-annual and annual task requirements
- Detailed spare parts inventory



VT Team maintenance management

Maintenance Log – Traction			Maintenance Frequency (e.g., "annual", "semi-annual", etc.)											
Routine Maintenance Requirements 8.6.1.4.1(a)			or - NA (Item not installed.) or - ND (Item not due this year.)											
SEC Module	8.6 Code Reference	CAR Module Tasks	(Symbol) indicates month task is due. Initials indicate month specified task was completed and that all associated devices function according to code and manufactures' specification.											
Car	8.6.4.9	Cleaning of car tops												
Hoistway	8.6.4.13.1(b)	Maintain car door electric contacts or car door interlocks, where required												
Hoistway	8.6.4.13.1(c)	Maintain door reopening devices												
Hoistway	8.6.4.13.2	Maintain closing force												
Hoistway	8.6.4.15	Maintain car emergency system												
Hoistway	8.6.4.16	Maintain stopping accuracy												

- Monthly audits of every VT asset
- Weekly vendor meeting to discuss performance and areas of concern



- Daily interactions with vendor Operations teams and technicians
- Detailed data gathering, trend analysis and reporting

VT program enhancements



- Live monitoring hardware
- Enhanced outage and dispatching protocols
- Additional data analysis
- VT deep cleaning
- VT Modernization Program

VT performance

2024

All Elevators

97.3%✓
Goal: 97%

All Escalators

95.8%✓
Goal: 95%

Mechanical
1.33%
Goal < 3%

2025 YTD

All Elevators

98.3%✓
Goal: 97%

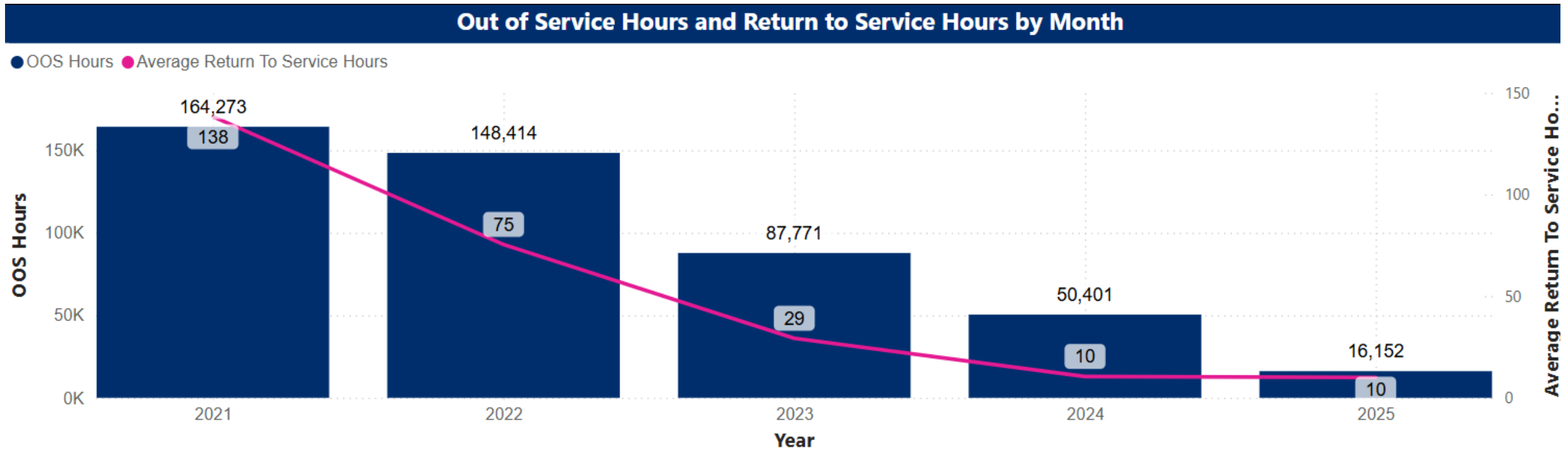
All Escalators

96.5%✓
Goal: 95%

Mechanical
1.21%
Goal < 3%

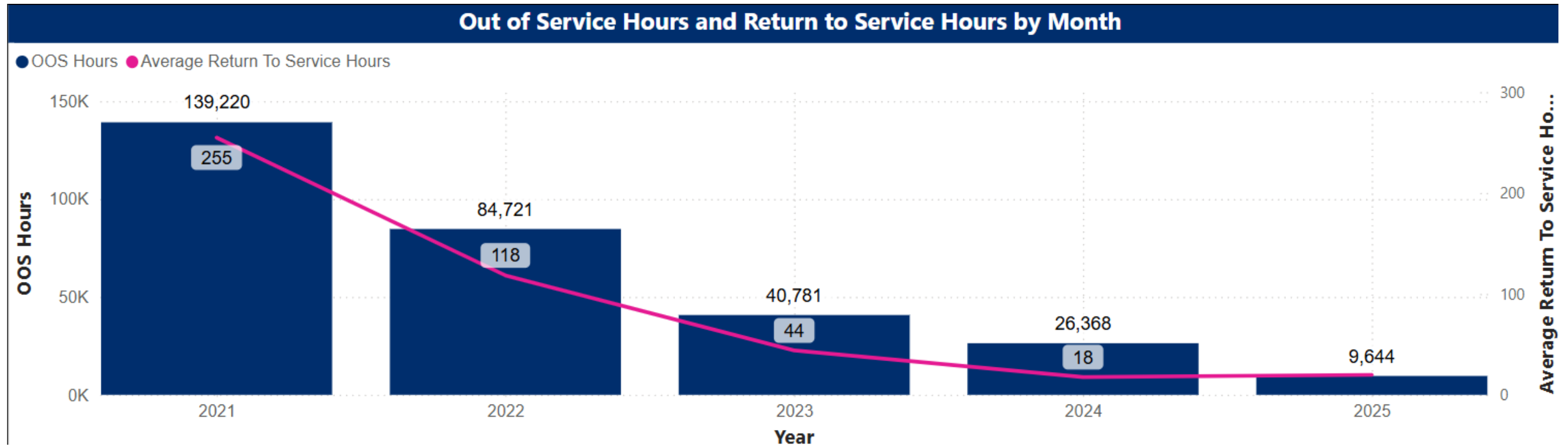
VT performance cont.

Annual Unplanned Out of Service Hours



VT performance cont.

Annual Mechanical Only Out of Service Hours



Future State

- **Predictive maintenance modeling**
- **Critical component life expectancies**
- **Failure rate analysis**
- **3D asset modeling**
- **New asset specification enhancements**



Thank you.



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