Presentation on Asset Management Community Oversight Panel

11 Oct 2023

Introductions

- *Vivian dela Rosa, Director - Enterprise Asset Management*

- *Vivian Wei, Deputy Director - Operations Asset Planning*

- *Stephanie Ratko, Director- Business Transformation*

AGENDA

The following agenda items were taken from the questions gathered from the COP regarding Asset Management:

- Update on the Tacoma Link Asset Management Plan from 2022 to present
- Update on the Procurement of the New Asset Management System
- Action Plan from the Old Asset Management System to the New System
- Present Inspection and Condition Assessments of Current Assets
- Discuss Contracted and Internal Work: Asset Management Program
- Discuss Sound Transit Learnings on Asset Management

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Modal Asset Management Plan for Tacoma Link (T-Link)

Continuity from Dec 2022 Presentation

Discussed development and strategies:

- Overview of the mode and the primary systems within (e.g., fleet, guideway, support equipment)
- Information about the systems (e.g., # of vehicles in the fleet, age, condition, etc.)
- Level(s) of Service
- Performance measures
- Risks & opportunities (i.e., what could prevent us from delivering expected level(s) of service?)
- Overall strategies for delivering expected level(s) of service
- Expenditure plan (i.e., programs/projects needed to deliver expected level(s) of service)
- Continual improvement

To 2023

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Current State - 2023

~ 40% completed and should be finalized by Q1 2024

- In 2023, Sound Transit started the development of the Modal Asset Management Plan for Tacoma Link
- Develop approach to managing assets from acquisition to disposal
- Align asset management activities to organizational goals (i.e., How does the work conducted on Tacoma Link assets support broader organizational goals?)
- Conduct risk assessment workshops to identify risks and develop mitigation plans

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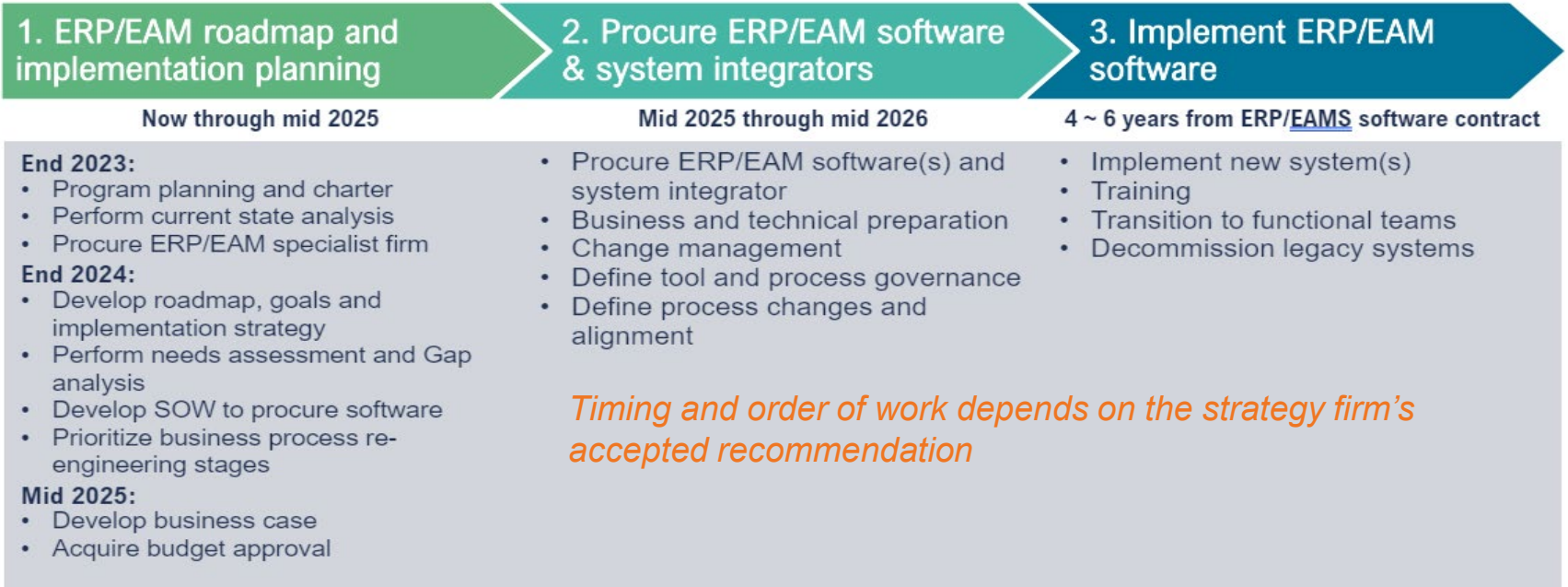# Update on the Procurement of New Asset Management System

In 2023…

- Sound Transit established the ERP/EAM Transformation Program to plan the replacement of our Enterprise Resource Planning System (ERP - Enterprise 1) and our Enterprise Asset Management System (EAMS - Trapeze)

These systems are used to support our core financial processes such as:

- budget
- accounts payable, accounts receivable,
- grants, procurement, contracts,
- property management,
- asset management, asset maintenance, and asset management work orders

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Update on the Procurement of New Asset Management System

Program and Phased Approach

1. ERP/EAM roadmap and implementation planning	2. Procure ERP/EAM software & system integrators	3. Implement ERP/EAM software
Now through mid 2025	Mid 2025 through mid 2026	4 ~ 6 years from ERP/EAMS software contract

End 2023:
- Program planning and charter
- Perform current state analysis
- Procure ERP/EAM specialist firm

End 2024:
- Develop roadmap, goals and implementation strategy
- Perform needs assessment and Gap analysis
- Develop SOW to procure software
- Prioritize business process re-engineering stages

Mid 2025:
- Develop business case
- Acquire budget approval

- Procure ERP/EAM software(s) and system integrator
- Business and technical preparation
- Change management
- Define tool and process governance
- Define process changes and alignment

Timing and order of work depends on the strategy firm's accepted recommendation

- Implement new system(s)
- Training
- Transition to functional teams
- Decommission legacy systems

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Update on the Procurement of New Asset Management System

Request for Proposal (RFP) for Enterprise Resource Planning (ERP) and Enterprise Asset Management (EAM) Systems

- Sound Transit is in the process of requesting for proposals for strategy and planning consulting services to support the replacement of the ERP and EAM Systems

- Replacement will include the integrations between the EAM and ERP systems, as well as the integrations between them and other related systems

- The RFP was posted on 7 Sep 2023

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Transition of Old Asset Management System to the New System

Action Plan

Sound Transit recognizes the importance of preserving historical asset data, complying with records retention requirements, and managing valuable asset information stored in the current system.

Therefore, we will **develop a comprehensive data migration plan** that outlines how we will handle this data during the migration to the new asset management system when that procurement is executed.

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Inspection and Condition Assessment of Assets

The next slides will discuss the condition assessment approach for the following assets (high-level):

- Track
- Bridge and Tunnel
- Facility
- Systems

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Condition Assessments

Track

Rail transit track inspections and rail transit structure inspections are performed per American Public Transportation Association (APTA) standards:

- Track walk or hi-rail inspection of all track components- weekly
- Geometry car inspection track- annually
- Rail grinding - annually (annual rail grinding program)
- Ultrasonic Rail Flaw Detection- annually
- Eddy Current Detection- annually & as needed for verification of possible defects
- Switch Inspections- monthly

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Condition assessments

Bridge and Tunnel

Federal Highway Administration (FHWA) inspections cover the construction, maintenance, and preservation of bridges and tunnels, which are required every two years. Currently we also use Bridgeworks (WSDOT System) to help track and report on inspections

- Inspection of tunnel structure and component- biennial
- Tunnels and underground section follows National Tunnel Inspection Standards (NTIS); Tunnel Operations, Maintenance, Inspections, and Evaluation Manual (TOMIE); APTA Standard for Rail Transit Structure Inspection and Maintenance
- Inspection of aerial structure and components- biennial
- Bridge inspection follows Washington State Bridge Inspection Manual (WSBIM); Bridge Inspector's Reference Manual (BIRM)

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Bridge and Tunnel Condition and Defects Database

Condition Assessments

Facility

- Visual assessment monthly, quarterly and annual inspections by Facilities team
- Triennial Facility condition assessment (covering all major systems and sub-systems) by Operations Asset Planning

Systems

- Operations is working on getting a new system in place to better record height, stagger, and wire wear for the Overhead Catenary System (OCS) which directly supports OCS asset condition assessment by 2023 to 2024, depending on procurement and vendor availability

Facility Condition Score Heat Map:
All Facilities 2021-2023

2021-2023 SGR Score Average:
Weighted Condition Rating:
3.83

Legend: SGR 5 - 4 | SGR 4 - 3.5 | SGR 3.5 - 2.5 | SGR 2.5 - 1
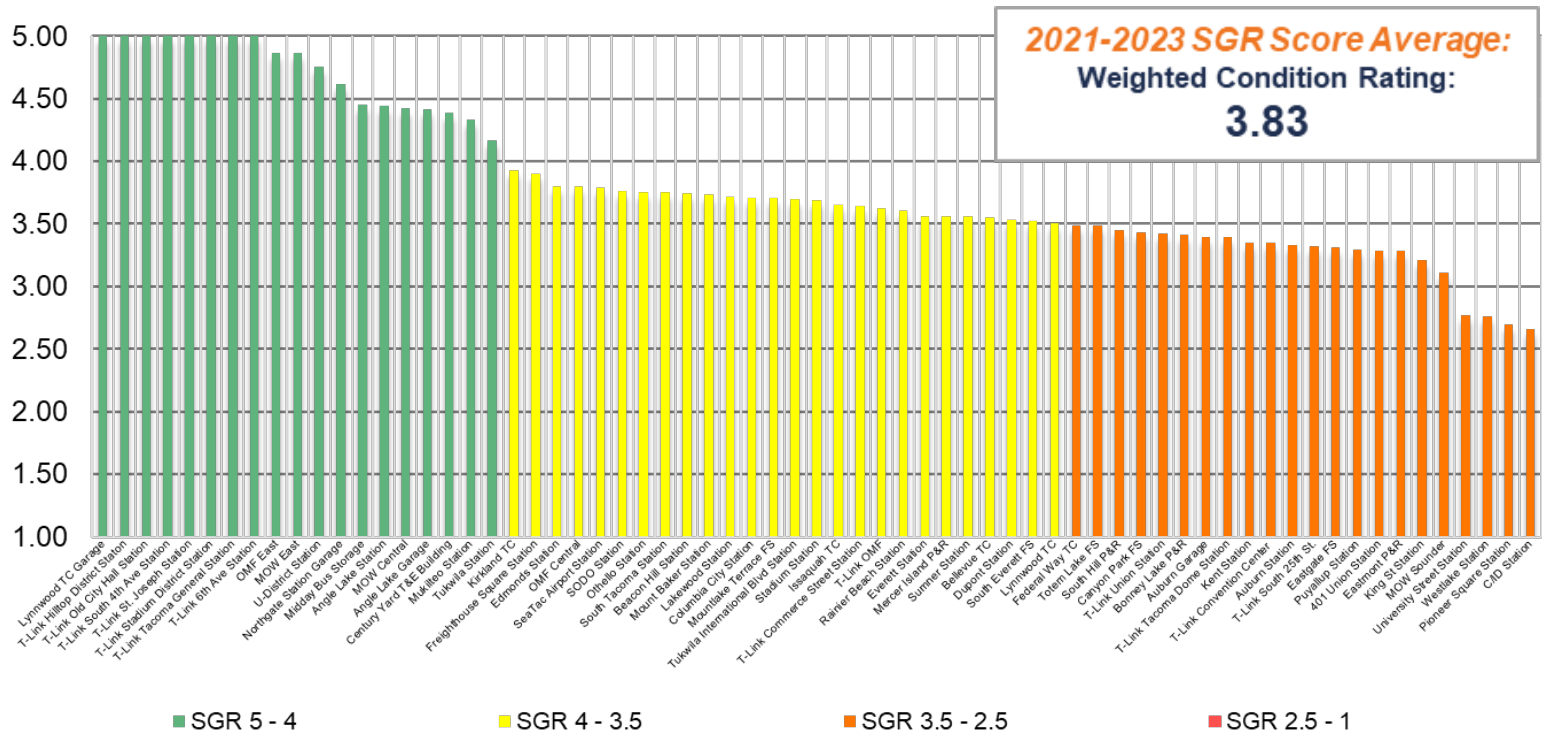
Facility Condition Rating by Asset

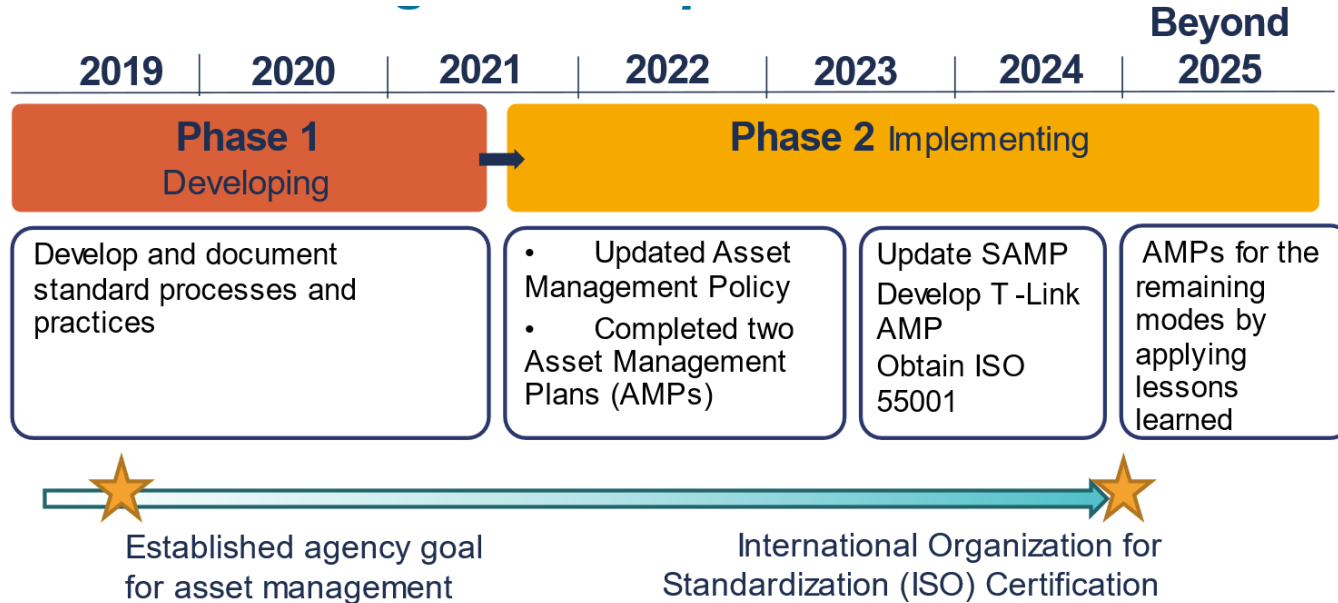| Element	Sub-Category	Element	Average Condition	Observation Count	Excellent	Good	Adequate	Marginal	Poor
Capitol Hill Station	Substructure	Foundations	4.8	5	100%	0%	0%	0%	0%
		Subgrade Enclosures	4.8	5	80%	20%	0%	0%	0%
		Slabs-on-Grade	4.8	4	100%	0%	0%	0%	0%
	Shell	Superstructure	4.8	16	88%	13%	0%	0%	0%
		Exterior	4.6	19	79%	21%	0%	0%	0%
		Exterior Horizontal Enclosures	4.5	22	41%	59%	0%	0%	0%
	Interior	Interior Construction	4.5	29	69%	31%	0%	0%	0%
		Interior Finishes	4.0	21	38%	14%	48%	0%	0%
	Conveying	Conveying	4.4	12	0%	100%	0%	0%	0%
	Plumbing	Plumbing	4.4	11	45%	55%	0%	0%	0%
	Heating, Ventilation, and Air Conditioning	Heating, Ventilation, and Air Conditioning (HVAC)	4.1	4	25%	50%	25%	0%	0%
	Fire Protection	Fire Protection	4.3	7	43%	43%	14%	0%	0%
	Electrical	Electrical	4.3	7	43%	43%	14%	0%	0%
	Communication	Communication	4.0	3	0%	100%	0%	0%	0%
	Safety & Security Communication	Safety & Security Communication	4.0	4	0%	100%	0%	0%	0%
	Integrated Automation	Integrated Automation	4.3	6	50%	50%	0%	0%	0%
	Sitework	Site Preparation	4.3	16	56%	38%	6%	0%	0%
		Liquid and Gas Site Utilities	4.6	8	88%	13%	0%	0%	0%
		Electrical Site Improvements	4.8	1	100%	0%	0%	0%	0%
		TUNNEL STATION	4.9	2	100%	0%	0%	0%	0%
Columbia City Station	Substructure	Foundations	4.5	13	100%	0%	0%	0%	0%
		Slabs-on-Grade	4.5	3	100%	0%	0%	0%	0%
	Shell	Superstructure	4.3	9	0%	100%	0%	0%	0%
		Exterior	4.1	17	47%	0%	53%	0%	0%
		Exterior Horizontal Enclosures	4.0	18	50%	11%	39%	0%	0%
	Electrical	Electrical	3.6	12	0%	33%	67%	0%	0%
	Communication	Communication	3.1	2	0%	0%	100%	0%	0%
	Safety & Security Communication	Safety & Security Communication	3.1	2	0%	0%	100%	0%	0%
	Sitework	Site Preparation	3.7	85	9%	22%	68%	0%	0%
		Liquid and Gas Site Utilities	4.0	16	6%	38%	56%	0%	0%
		Electrical Site Improvements	4.3	2	0%	100%	0%	0%	0%
International District Station (DSTT)	Substructure	Foundations	3.7	8	0%	0%	100%	0%	0%
		Subgrade Enclosures	3.7	2	0%	0%	50%	50%	0%
		Slabs-on-Grade	3.7	2	0%	0%	100%	0%	0%
		Water and Gas Mitigation	3.3	2	0%	0%	0%	100%	0%
	Shell	Superstructure	3.5	12	0%	0%	83%	17%	0%
		Exterior	2.8	23	0%	0%	35%	43%	22%
		Exterior Horizontal Enclosures	2.5	6	0%	0%	33%	67%	0%
	Interior	Interior Construction	3.1	20	0%	0%	75%	25%	0%
		Interior Finishes	2.8	12	0%	0%	58%	25%	17%
	Conveying	Conveying	2.7	10	0%	0%	0%	20%	80%
	Plumbing	Plumbing	2.8	20	0%	0%	25%	55%	20%
	Heating, Ventilation, and Air Conditioning	Heating, Ventilation, and Air Conditioning (HVAC)	1.7	13	0%	0%	0%	38%	62%
	Fire Protection	Fire Protection	2.8	12	17%	0%	33%	42%	8%
	Electrical	Electrical	2.6	18	0%	6%	6%	72%	17%
	Communication	Communication	2.6	4	0%	0%	75%	0%	25%
	Safety & Security Communication	Safety & Security Communication	3.0	4	0%	0%	75%	25%	0%
	Integrated Automation	Integrated Automation	3.3	4	0%	0%	100%	0%	0%
	Sitework	Site Preparation	2.9	23	0%	0%	61%	30%	9%
		Liquid and Gas Site Utilities	3.1	12	0%	0%	33%	67%	0%
		Electrical Site Improvements	3.1	1	0%	0%	0%	100%	0%

Asset Management at Sound Transit

- The Enterprise Asset Management (EAM) Team consists of four full time employees and supported by one on-call consultant contract for International Organization for Standardization (ISO) 55001 certification support
- After obtaining the ISO certification for Tacoma Link, the EAM Team will primarily use the in-house resources to carry out the asset management functions and activities
- The EAM Team works closely with Operations Asset Planning Team

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Asset Management at Sound Transit

Timeline

2019	2020	2021	2022	2023	2024	Beyond 2025

Phase 1 Developing

Phase 2 Implementing

Develop and document standard processes and practices

- Updated Asset Management Policy
- Completed two Asset Management Plans (AMPs)

Update SAMP
Develop T -Link AMP
Obtain ISO 55001

AMPs for the remaining modes by applying lessons learned

Established agency goal for asset management

International Organization for Standardization (ISO) Certification

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Sound Transit Continuously Learns

On Asset Management Systems

- Sound Transit continues to learn from organizations across various industries, to improve its overall asset management program and development of its asset management system
- Learning through networking and active participation in various associations such as- Institute of Asset Management, Asset Management Council, and Asset Leadership Network
- Sound Transit is currently working with an asset management consulting firm to help with the development of its asset management system
- Some staff members are active participants in technical committees and professional organizations focused on asset management, development of standards

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OPEN DISCUSSION
THANK YOU FOR YOUR TIME

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