Implementing an Asset Management Program at a Legacy Transit System

Laura J. Zale
Senior Asset Management Analyst
Southeastern Pennsylvania Transportation Authority
July 12, 2016
A Legacy Transit System

- SEPTA was created between 1964 and 1983 from the consolidation of bankrupt regional transportation providers.
- Many assets had fallen into a state of disrepair before SEPTA assumed operations.
- Documentation on assets was lacking.
Sixth largest public transportation agency in the country.
Operating area: 2,200 square miles.
Multimodal:
- Heavy Rail
- Commuter Rail
- Light Rail
- Bus
- Trackless Trolley
- Paratransit
Utilizing infrastructure maintained and owned by Amtrak, freight, and the City.
A Diverse Asset Portfolio
A Diverse Asset Portfolio

- 400 miles of mainline track
- 364 bridges
- 77 Substations/ Switching Stations

- 345 Stations and Bus Terminals
- 23 Vehicle Maintenance Shops
With Recent Funding Challenges

SERVICE REALIGNMENT PLAN
PUBLISHED SEPTEMBER 2013

Regional Rail & Rail Transit 2013

Without Critical Funding...
What Will Happen to SEPTA Rail Network by 2023

Demonstrating the Impact of Reduced Funding
• State of Pennsylvania passed a new transportation funding bill in November 2013.
• Sustainable funding source allows SEPTA to address current and future SGR needs.
• “Rebuilding the System” remains a key component of the Corporate Roadmap.
Asset Management Program Implementation

- Develop Program Framework
- Identification of Existing Practices and Gap Analysis
- Procurement of Software Tools
- Capital Needs Inventory
- Maintenance Management System Implementation
- Asset Management Plan Development
Data-Supported Decision Framework

VMIS

IMMS

SGR Database

Asset Maintenance Data

Capital Asset Data
Data-Supported Decision Framework

VMIS

IMMS

Asset Maintenance Data

Capital Asset Data

SGR Database

DVRPC

PennDOT TRANSAM

FTA Reporting

Amtrak Keystone Planning

City of Philadelphia

External Stakeholders and Partners

Informs

Informs

Informs
Data-Supported Decision Framework

- VMIS
- IMMS
- SGR Database
- Capital Planning
- Capital Projects

Asset Maintenance Data
Capital Asset Data
Project Development and Planning
Program Deliverables
On the Commuter Railroad, drivers include Positive Train Control, Plant Rationalization, and Normal Replacement.
Ensuring Safety with the Work Plan

SECONDARY WORK GROUP
CONTRACTOR
BRUSH CUTTING

SECONDARY WORK GROUP
TRACK DEPT
UGB 3.71 & 3.77
REMOVE & REPLACE BRIDGE TIMBERS
B&B DEPT
PAINT TOP FLANGES (WESTBOUND); REPLACE RETAINING WALL

SECONDARY WORK GROUP
CONTRACTOR
BRUSH CUTTING

SECONDARY WORK GROUP
TRACK DEPT
DRAINAGE & DITCHING IMPROVEMENTS

SECONDARY WORK GROUP
CONTRACTOR
BRUSH CUTTING

SECONDARY WORK GROUP
SWITCH POINT REFURBISHMENT
BARRICADE PLACED EAST OF POINT AND AT FROG

SECONDARY WORK GROUP
CONTRACTOR
BRUSH CUTTING

SECONDARY WORK GROUP
TRACK DEPT
SWITCH REPAIRS

SECONDARY WORK GROUP
TRACK / CONTRACTOR
WOODLAWN AV STREET TRACK REPLACEMENT

SECONDARY WORK GROUP
SURFACE & REGULATE

SECONDARY WORK GROUP
TRACK DEPT
UGB 3.71 & 3.77
REMOVE & REPLACE BRIDGE TIMBERS
B&B DEPT
PAINT TOP FLANGES (WESTBOUND); REPLACE RETAINING WALL

SECONDARY WORK GROUP
CONTRACTOR
BRUSH CUTTING

SECONDARY WORK GROUP
SWITCH REPAIRS

SECONDARY WORK GROUP
C&S/CONTRACTOR
CROSSING IMPROVEMENTS

SECONDARY WORK GROUP
POWER DEPT: OCS REPLACEMENT

SECONDARY WORK GROUP
POWER DEPT: OCS REPLACEMENT

SECONDARY WORK GROUP
TRACK DEPT
UGB 3.71 & 3.77
REMOVE & REPLACE BRIDGE TIMBERS
B&B DEPT
PAINT TOP FLANGES (WESTBOUND); REPLACE RETAINING WALL

SECONDARY WORK GROUP
CONTRACTOR
BRUSH CUTTING

SECONDARY WORK GROUP
SWITCH REPAIRS

SECONDARY WORK GROUP
C&S/CONTRACTOR
CROSSING IMPROVEMENTS

SECONDARY WORK GROUP
CONTRACTOR
BRUSH CUTTING

SECONDARY WORK GROUP
SWITCH REPAIRS

SECONDARY WORK GROUP
C&S/CONTRACTOR
CROSSING IMPROVEMENTS

SECONDARY WORK GROUP
CONTRACTOR
BRUSH CUTTING

SECONDARY WORK GROUP
SWITCH REPAIRS
Substation Program: Prioritized by Risk

Prioritized by Reliability, Operational Impact, and Redundancy

Overhaul of Ambler Substation (1930) to start in Summer 2016
Resiliency Program Addresses Risk

- Manayunk/Norristown Line Shoreline Stabilization
- Railroad Embankment and Slope Stabilization
- Railroad Signal Power Reinforcement
- Jenkintown Area Flood Mitigation
- Sharon Hill Line Flood Mitigation
- Subway Pump Room Emergency Power
- Ancillary Control Center
Program Status

- Enterprise Maintenance Management System implementation ongoing. (Training Summer 2016)
- Update of Capital Asset Inventory (ongoing)
- Development of Asset Management Plan (ongoing)
Moving Forward

- Final implementation of Enterprise Maintenance Management Systems (Winter 2016)

- Finalization of Framework (Post Rulemaking)

- Asset Management Plan Completion

- Development of PMP to gather asset data for ongoing projects

- Continued coordination with agency stakeholders
Implementing an Asset Management Program at a Legacy Transit System

Laura J. Zale
Senior Asset Management Analyst
July 12, 2016