Ready. Set. Go! ... almost

Asset Management at S.F. BART
• AGENDA
  – Background
  – Premise
  – Assumptions
  – Specific Objectives
  – Approach
  – Take-Aways
• BACKGROUND
  – Opened September 1972
  – Serve ~380K patrons/day
  – 104 miles, 44 stations
  – 669-car fleet
  – 5’6” gauge on
  – 1000 VDC
  – 80 MPH (avg. 33) with 20” station stops
  – Currently valued at about $25B
  – Fragmented inventory and condition data
  – Major technology transition in progress
• PREMISE

– What do we have?
– What is its condition?
– What do we need to do about it?
– When do we need to do it?
– How will we pay for it?
– What are the risks?
– How will performance be affected?
– How will region be affected?
– Necessity to be the “mother of smart solutions”
• ASSUMPTIONS

– Unlikely we’ll ever have enough money
– Drive backward from the destination – the NTD
  • CMMS-> TERM-Lite -> RTCI -> MTC -> FTA
– Urgent need to
  • Develop complete asset portfolio/register
  • Develop the ABS (Asset Breakdown Structure)
  • Assess complete/accurate condition ... in stages
– Follow path of least resistance (McGyver it!)
  • Use what’s available and laying around
    – TERM Lite
    – IIMM, PAS-55
• SPECIFIC OBJECTIVES

  – Create prioritized, time-phased CapEx and OpEx
  – Clearly understand and communicate risks
  – Clearly understand and communicate performance and service impacts
• APPROACH

ENGINE

FRAMEWORK

PRACTICES

“Core”

Level-3

IMPROVE
ENGINE

CMMS + TERM-Lite + PPM

FRAMEWORK

“Core”

IMPROVE

PRACTICES
• ENGINE:
  – Develop the inventory (in progress)
    • Instrument to accommodate attributes
    • Enable as single work authorization system
    • Use smart tech to accelerate data collection
  – Define ABS based on TERM-Lite’s model
  – Preliminary SGR condition analysis via TERM-Lite
  – Define preliminary CapEx/OpEx
    • Reconcile CapEx based on ‘expert judgment’ with ‘decay curve’-based analysis
  – Prioritize and time phase CapEx via PPM
• BEAM (BART’s Enterprise Asset Management)

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<td>ERP (w/MAXIMO) + TERM Lite Capital Assets Inventory</td>
<td>Future RTCI</td>
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-engine
CMMS + TERM-Lite + PPM

framework
NAMSPlus.US

practices

improve

“core”
• FRAMEWORK:
  – Conduct Asset Management Maturity Assessment
  – Establish governance elements
  – Establish policy, strategy and standards
  – Develop [one or more] AM Plan[s]
    • Train staff and develop capacity to do this!!
  – Develop a risk register and manage risks
  – Update the Strategic Long Term Plan
  – Develop a dashboard reporting capability
  – Integrate Knowledge Management elements
  – Achieve “Core” maturity level
Maturity Assessment Result

Risk Level

NOTE: Only 3 of 5 levels shown
Service Aims
- A Quality Customer Experience
- A Mission & Value-Driven Workforce
- A Stable, Sustainable System

BART is a high-quality transit service that supports a sustainable region.

Mission
Provide safe, clean, reliable and customer-friendly regional public transit service that increases mobility and accessibility, strengthens community and economic prosperity and helps preserve the Bay Area's environment.

Service Levels - Scenario 2
(Sample Data)

Resource Strategy
(Sample Data)

Assets
Current Replacement Value: $75 Billion

Customer Complaints
ENGINE
CMMS + TERM-Lite + PPM

FRAMEWORK
NAMSPlus.US

PRACTICES

“Core”

IMPROVE

Strategic Maintenance Program
• PRACTICES:
  – A systematic effort to modernize the way we conduct our maintenance work
    • Predictive
    • Reliability-centered
  – Integrate condition measurements
    • Collect, store, analyze asset data
    • Substitute actual data for decay curves over time
  – Decide on reinvestment priorities based on risk, performance and service requirements and costs
  – Improve and standardize PgM and PM practices
• TAKE-AWAYS
  – The journey has no final destination
  – Assess your current status (you may be surprised)
  – Do not reinvent the wheel
  – Collaborate internally and externally
  – Define the processes first, then apply technology
  – Define “good enough”, then consider further improvement goals and drivers
  – Place the risk burden where it belongs
  – Stare down institutional cynicism
  – KISS it! ... for the sake of the ‘natives’
• THANK YOU!

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