

11th National Conference on Transportation Asset Management

Convergence of Long-Range and Asset Management Planning at the Pennsylvania Turnpike

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Minneapolis, MN

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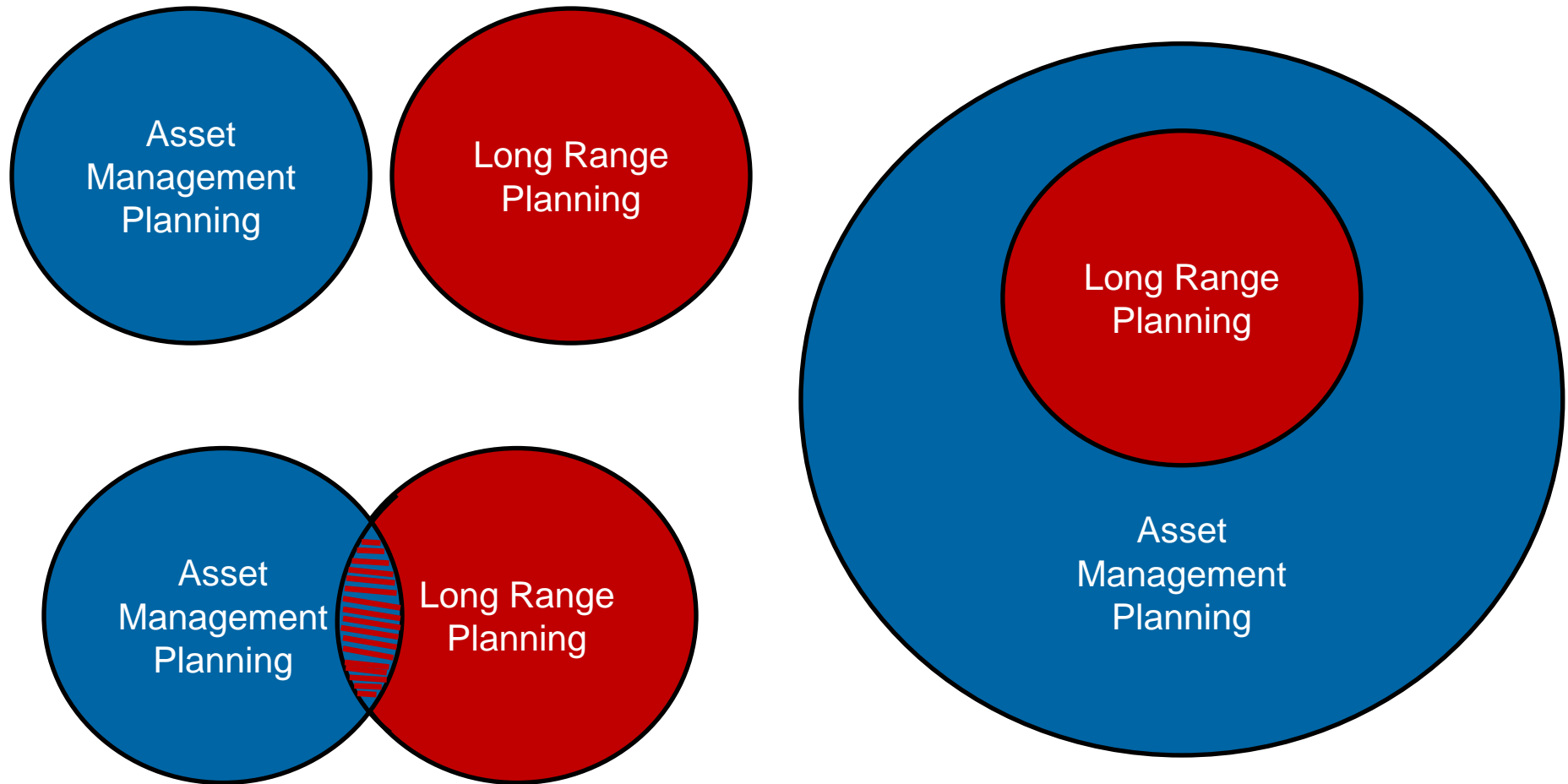


Pennsylvania Turnpike

- Opened in 1940
- 553 Miles of tolled limited access highway
- approximately 194 million motorists in 2014
- Crosses the state from Philadelphia to Pittsburgh with a number of extensions



Three Ways Agencies Think of Long Range and Asset Management Planning



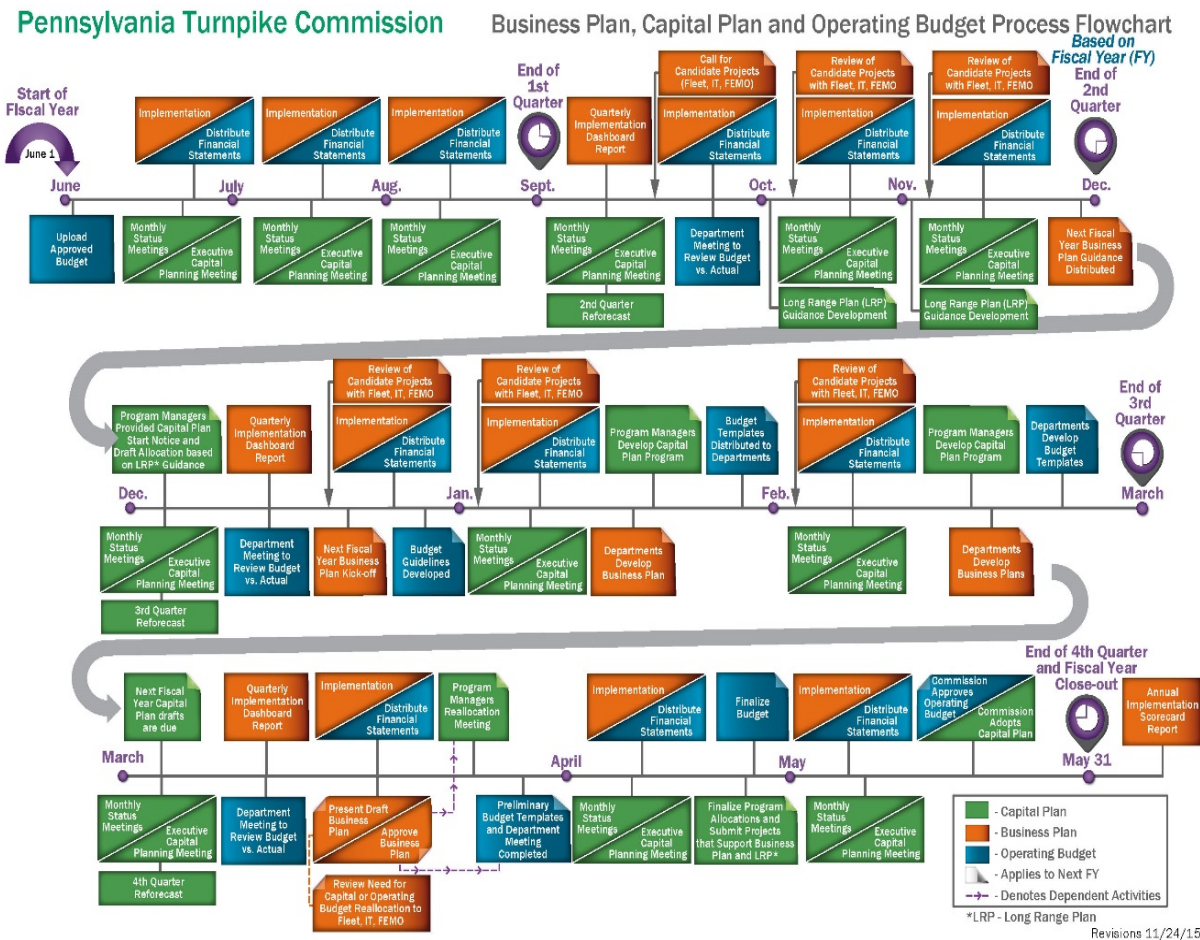
The LRP's Position within PTC's Decision-Making Framework

| | Steps to Fulfill the Mission & Reach the Vision | Supporting Documents |
|---|---|--|
| 1 | SET THE TARGET <i>(Where do we want to be?)</i> | A. Strategic Plan |
| 2 | MAP THE PATH TO REACH THE TARGET <i>(What are we going to do to get there?)</i> | B. Long Range Plan C. Capital Plan <i>(projects)</i> D. Department Core Functions E. Department Business Plans |
| 3 | ACQUIRE RESOURCES TO MAKE THE TRIP <i>(How do we finance the trip?)</i> | F. Capital Budget G. Operating Budget |
| 4 | MEASURE AND ADJUST <i>(Where are we at on the trip?)</i> | H. Strategic Performance Report I. GCE Annual Report <i>Review of Operating and Capital Budgets</i> J. GCE Condition Assessment |

| Strategic Driver | Goal |
|-------------------------------|--|
| Safety | To provide the safest possible environment for our customers, employees, and business partners |
| Customer | Meet and exceed customer expectations while providing safe, convenient, reliable travel |
| Workforce | To create a workplace environment that ensures all employees understand, respect and encourage a commitment to the Commission's values |
| Infrastructure | Manage our new investments and preserve the life of existing assets (i.e., pavement, structures, facilities, and technology) |
| Financial | Maintain a sound financial position |
| Toll Collection Technology | Achieve a cashless, non-stop travel highway system. |
| Legislative/ Regulatory | To help shape our future as an independent Commission with the appropriate resources to achieve our Mission |



Business Plan, Capital Plan and Operating Budget Process Flowchart



Many aspects of Asset Management happen through this planning process although it is not documented as such.



Typical Long Term vs Asset Management Planning

Asset Management Planning

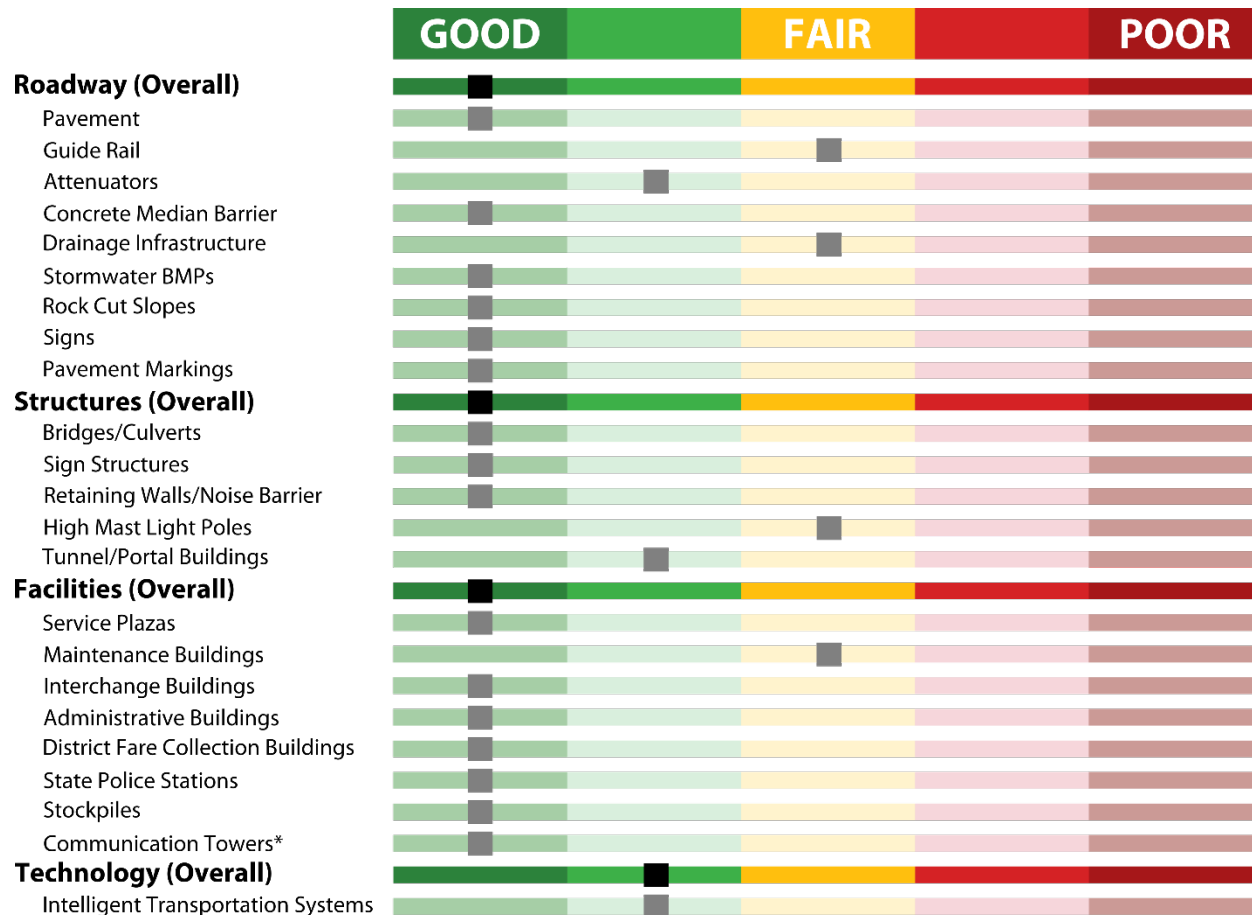
- Bottom Up
- Needs Driven
- Engineering Department

Long Term Planning

- Top Down
- Budget Driven
- Planning Department

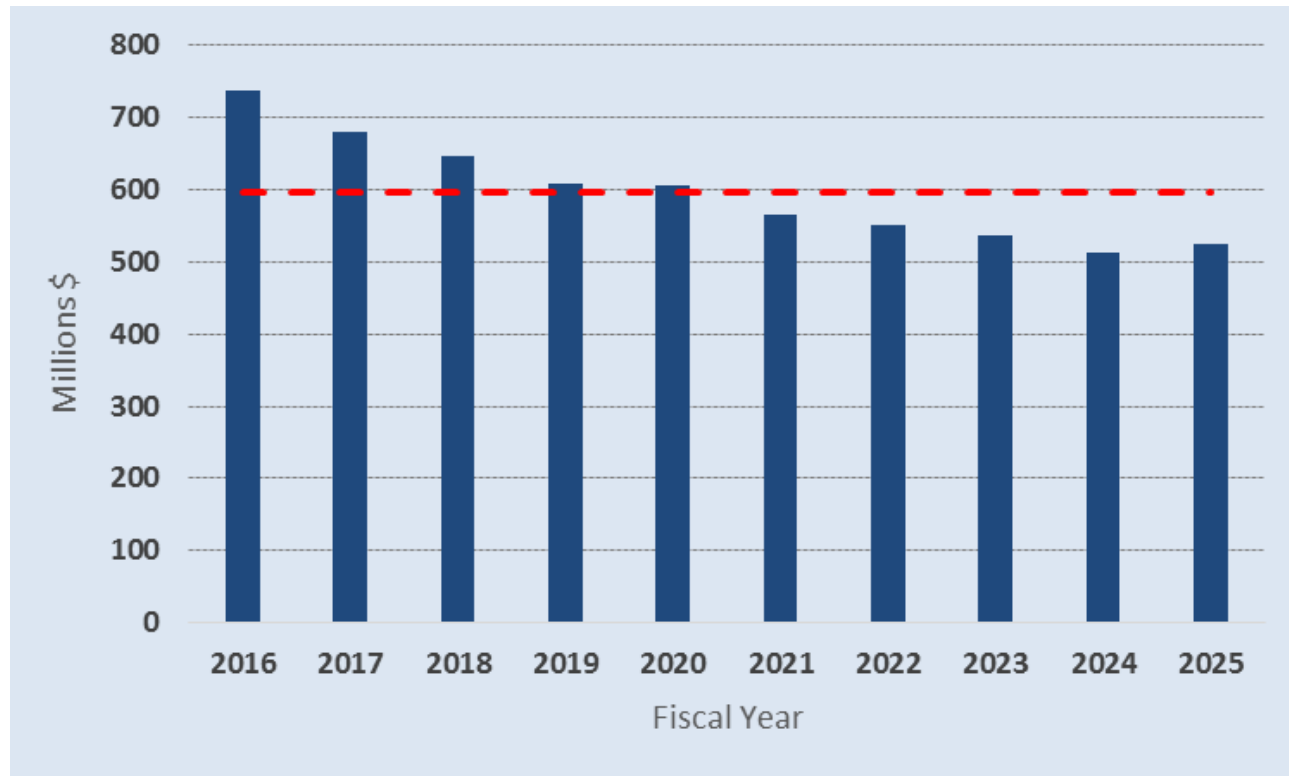


Condition Information (typical of both asset management and long range plans)

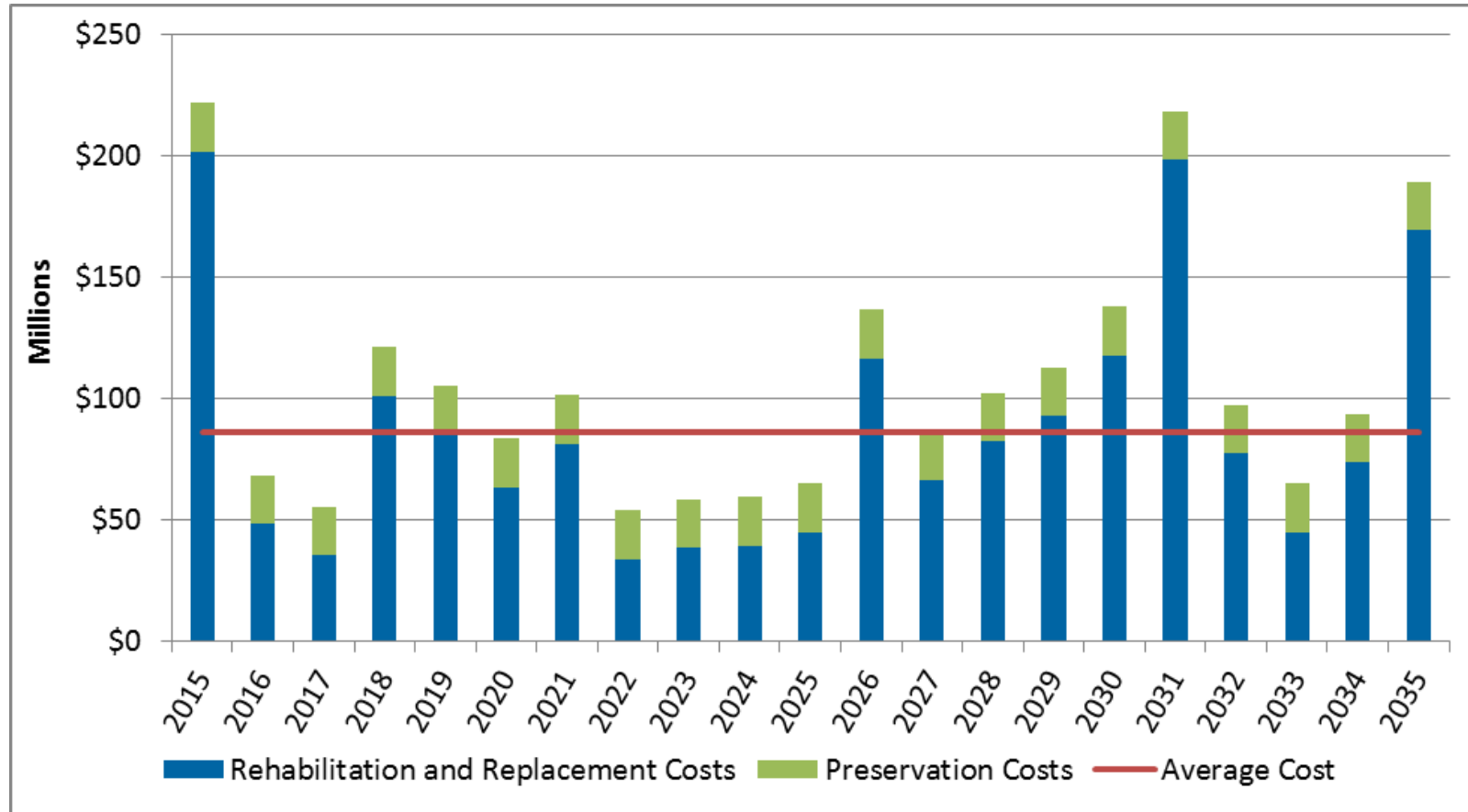


*Insufficient inspection data to provide overall rating

Proposed FY16 Ten-year Capital Plan Funding by Fiscal Year



Asset Management Needs Analysis



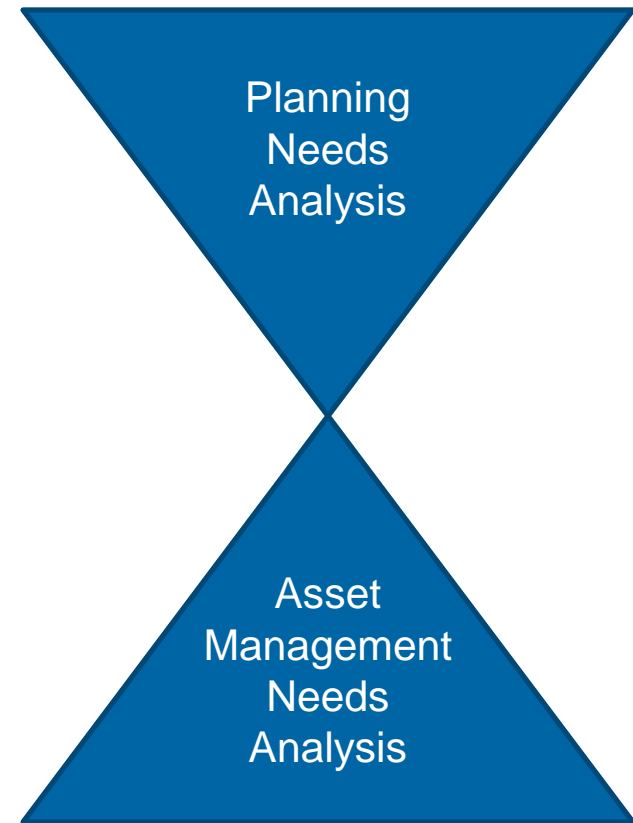
How Asset Management Planning was Brought in to the Long Range Plan

Top Down Analysis

The traditional planning needs analysis was compared against an asset management forecasting model.

The planning analysis was top down based on historical requirements and known estimates for future work.

The Asset Management Analysis modeled each asset individually to estimate future needs based on predictive modeling.



Bottom Up Analysis



Analysis Results

- For several asset classes the planning and asset management analysis came close to each other
- For other asset classes there were substantial differences which required investigation and refinement of assumptions
- Ultimately the two analysis were reconciled to each other across the board which increases confidence in the planning study



Findings

- The planning and programming arm of infrastructure agencies have an opportunity to connect their work more fully with asset management principles
- Breaking down organizational silos between engineering, maintenance and planning requires significant change for many organizations
- Organizations could reduce redundant effort by better combine planning and asset management functions that are currently separate
- There is no standard “best place” for the asset management division on the org chart – wherever it is put there will be significant need to connect with other groups



Questions?



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