



Engineering, Operations, & Technology Committee

Asset Management Program Update

Item 6b

March 10, 2025

Item 6b

Asset Management Program Update

Subject

Annual update of Asset Management Program

Purpose

Provide annual update of progress on the Asset Management (AM) accomplishments and an initial overview of the AM tools being developed to refine long-term planning

Next Steps

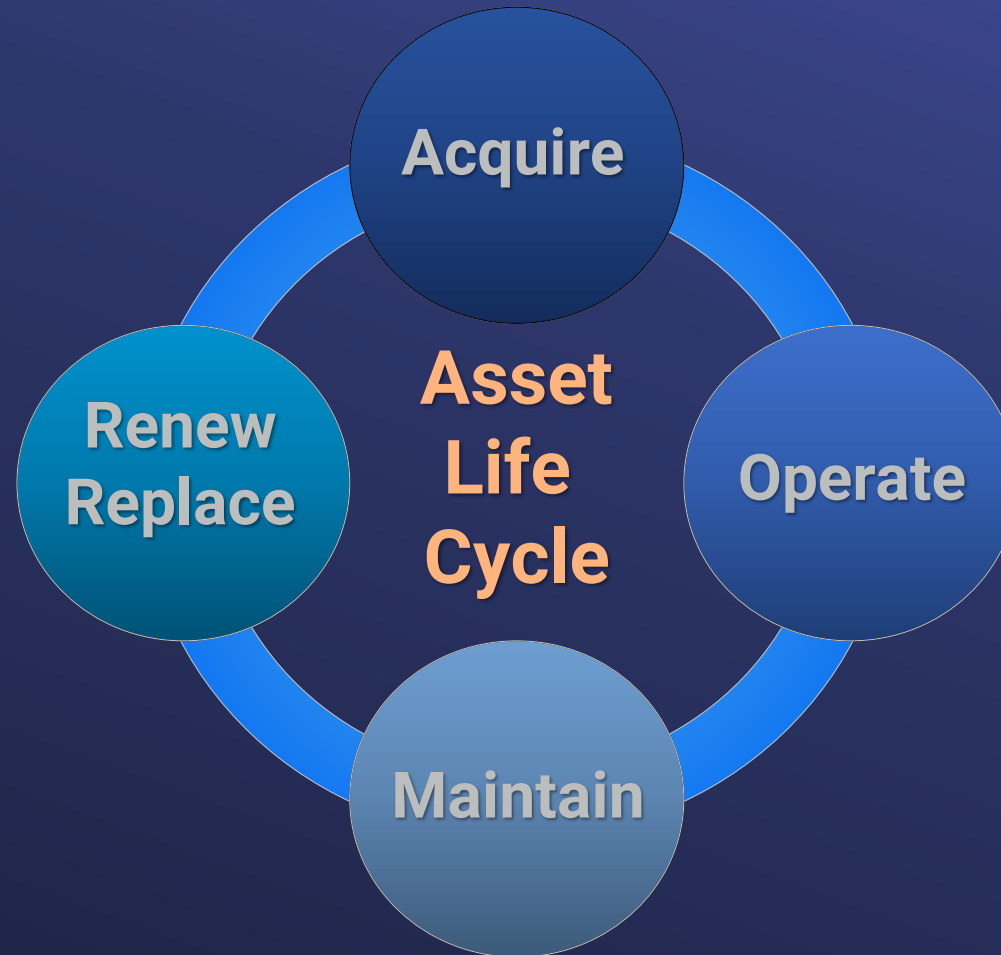
Update the Strategic AM Plan

Continue to advance AM initiatives to close maturity gaps

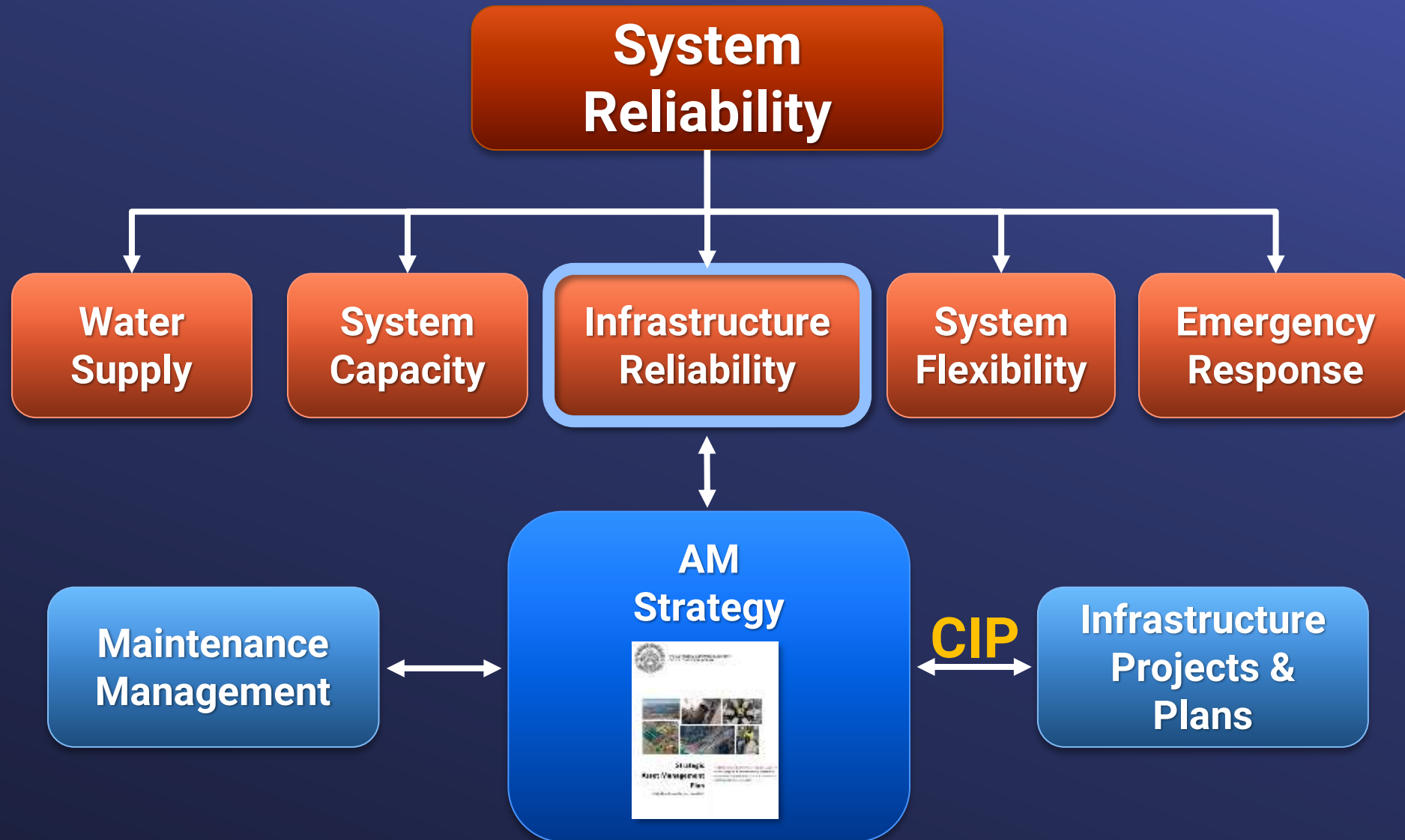
Provide additional details on Asset Management in a subsequent update

Asset Management (AM)

*“The coordinated activity of an organization to
create value from its assets” –ISO 55000*



Metropolitan's Comprehensive Reliability Approach

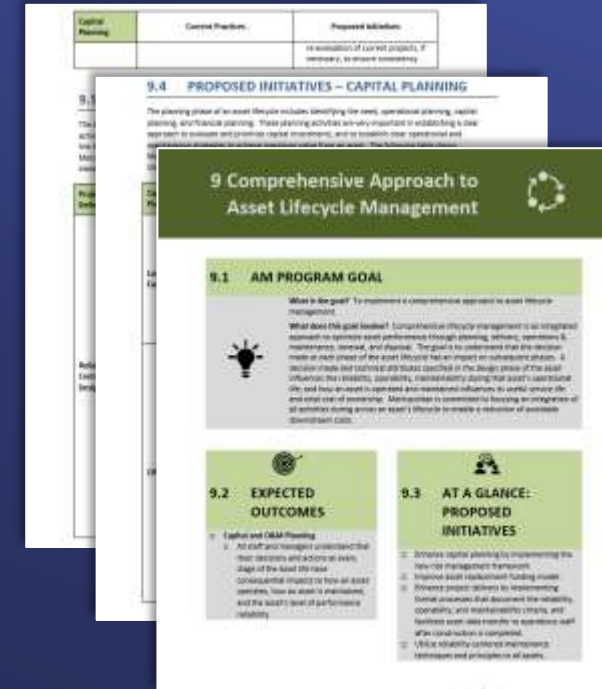


AM Program Strategic AM Plan



- Establish AM strategy & planning
- Establish sustainable AM governance
- Develop a plan for cultural transformation
- Introduce new AM decision making tools
- Implement a comprehensive lifecycle approach
- Formalize AM reporting & quality assurance
- Standardize asset knowledge management
- Coordinate condition & performance monitoring
- Implement Tactical AM Plans (TAMPs)

AM Program	Phase 1	Phase 2	Phase 3
Establish AM Strategy & Planning (2020-21)	2020	2021	2022
Develop Asset Management Policy (2021-22)	2021	2022	2023
Formalize AM Reporting & Quality Assurance (2022-23)	2022	2023	2024
Standardize Asset Knowledge Management (2023-24)	2023	2024	2025
Coordinate Condition & Performance Monitoring (2024-25)	2024	2025	2026
Implement Tactical AM Plans (2025-26)	2025	2026	2027



Strategy & "Policy"

Goals

Roadmap

Details

Metropolitan's Infrastructure

\$31B

Repl. Cost New

Adjusted for
inflation Only

\$46B

Est. Repl. Cost

Adjusted for code
& environ. costs



5 Water Treatment
Plants



12 Hydroelectric
Facilities



6 Pumping Plants



24 Dams &
Reservoirs



G.F. Napolitano Pure Water Demo Plant



830 mi. of
Distribution Pipelines



79 mi. of Canals



218 mi. of Tunnels,
Siphons, Conduits



450 Chemical/Auxiliary
Storage Tanks



11,500 Water Regulating
Valves (2 in. to 21 ft dia)



5,000 Motors
& Pumps



308 mi. of Power
Transmission Lines +
1,200 High Voltage Towers



500 Buildings, Shops,
& Other Structures

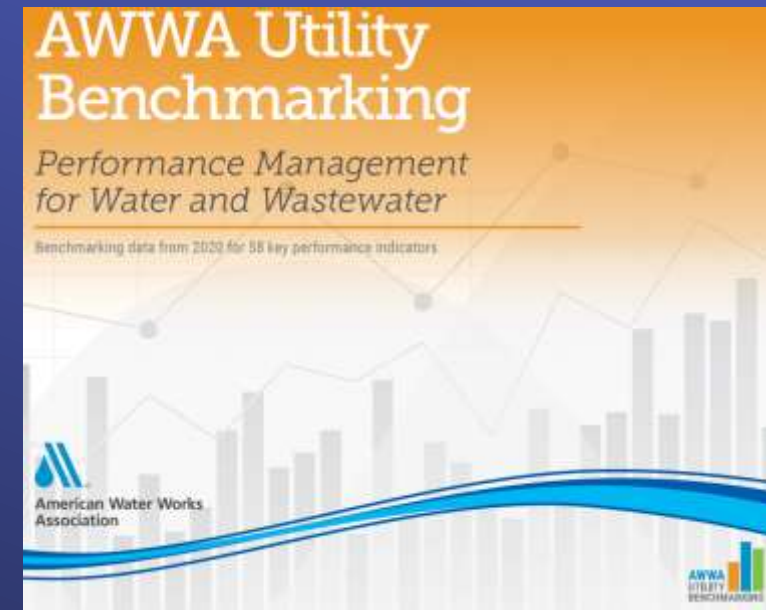


1,000 mi. of
Unpaved Road

Industry Benchmarks

System R&R Rates

- 2020 survey for water transm. & distr. pipe networks serving > 0.5M people
- Values are for R&R only
- ERC = Estimated replacement cost



Percentile of Respondents	25 th	Median	75 th
R&R Spend as % of ERC	0.70%	1.1%	2.0%
Equivalent Metropolitan Spend Based on \$46B ERC	\$322M	\$506M	\$920M

AM Program

CIP Risk Heatmap

- Data collected from +500 capital project proposals
- Considers impact of hazards to Metropolitan's mission

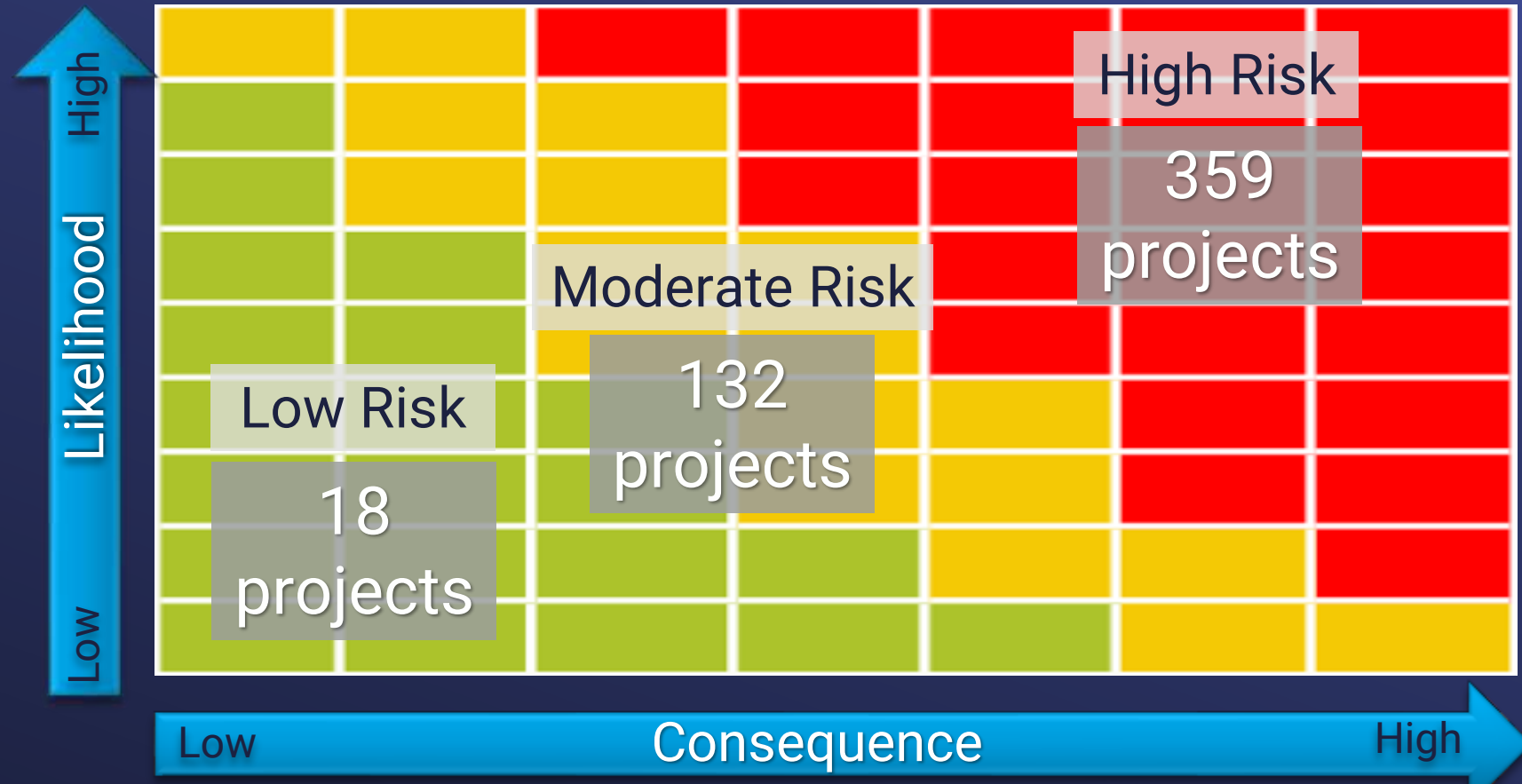
 Safety

 Compliance & Legal

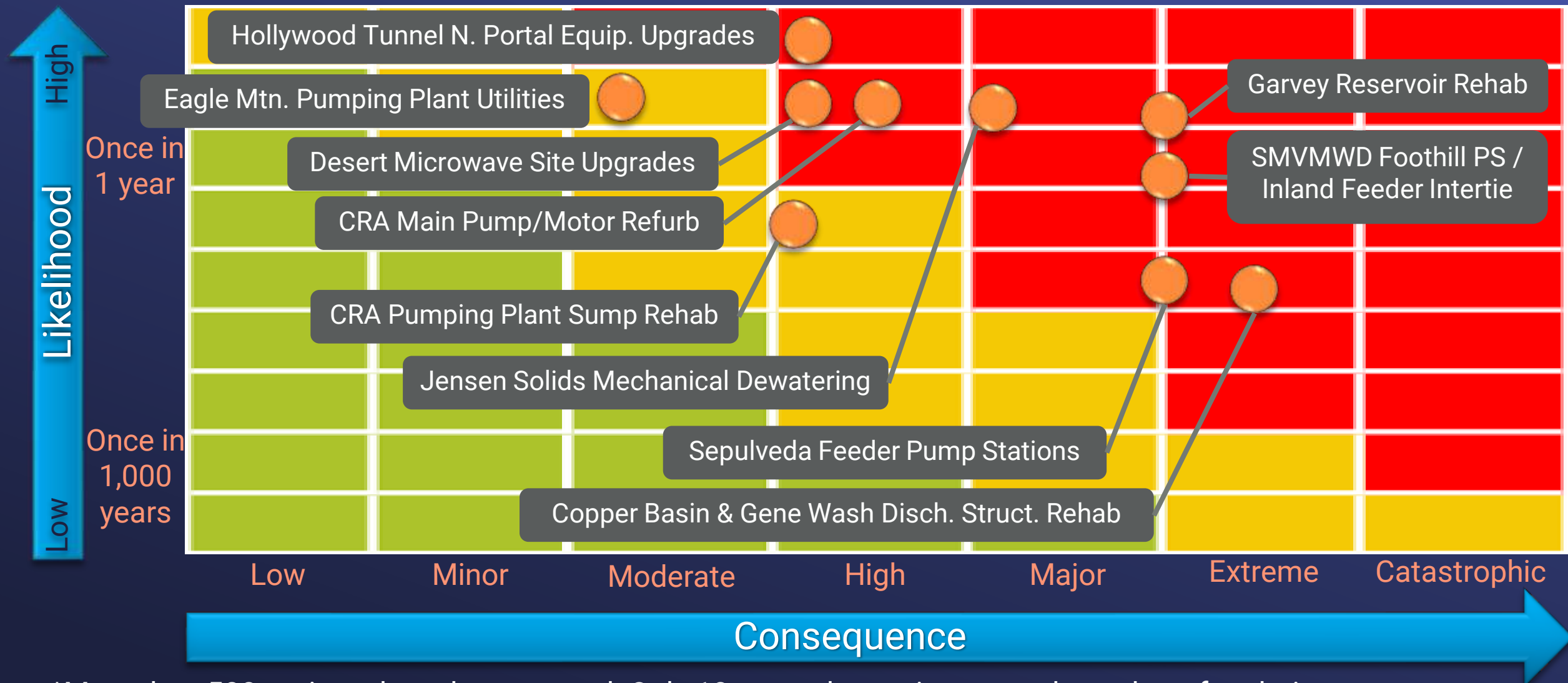
 Reputation

 Financial Impact

 Reliable Service



Sample* of Projects w/ Pre-Mitigation Risk

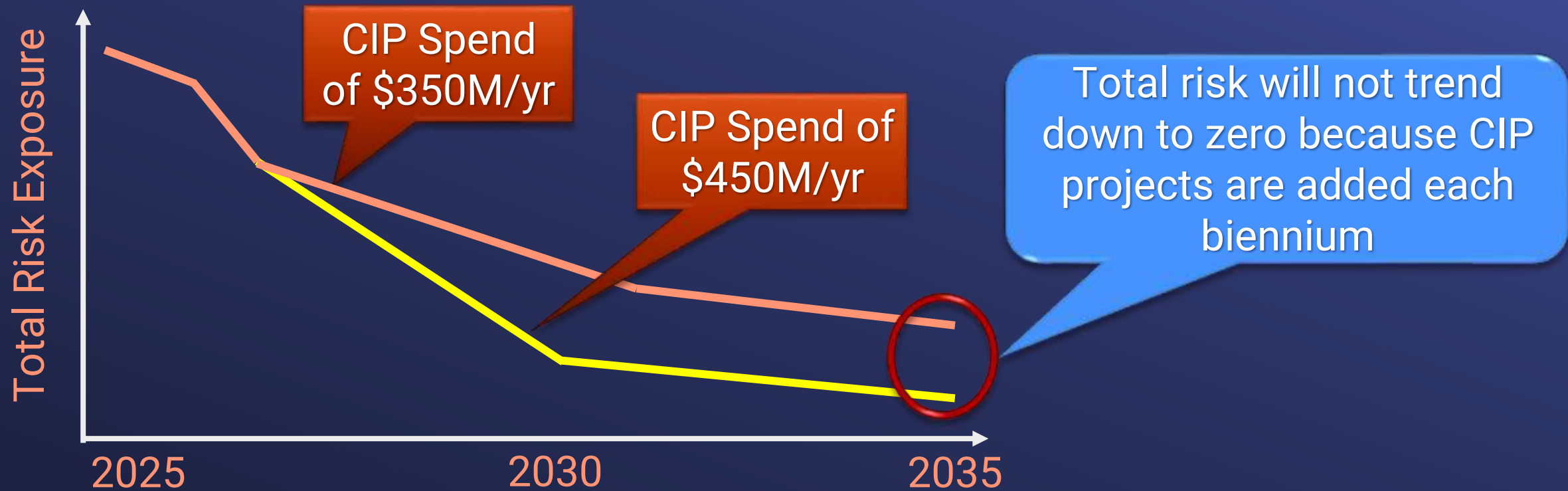


*More than 500 projects have been scored. Only 10 examples projects are shown here for clarity.

AM Program

CIP Risk Optimization Model (proof-of-concept)

- Optimize sequencing of known projects based on risk reduction
- Model cannot account for future CIPs that will be submitted

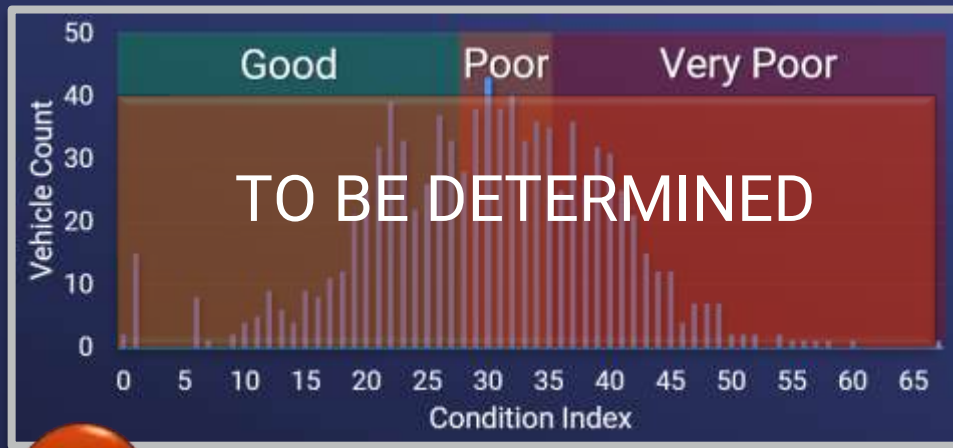


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Risk Reduction Scenarios

Comprehensive Asset Management

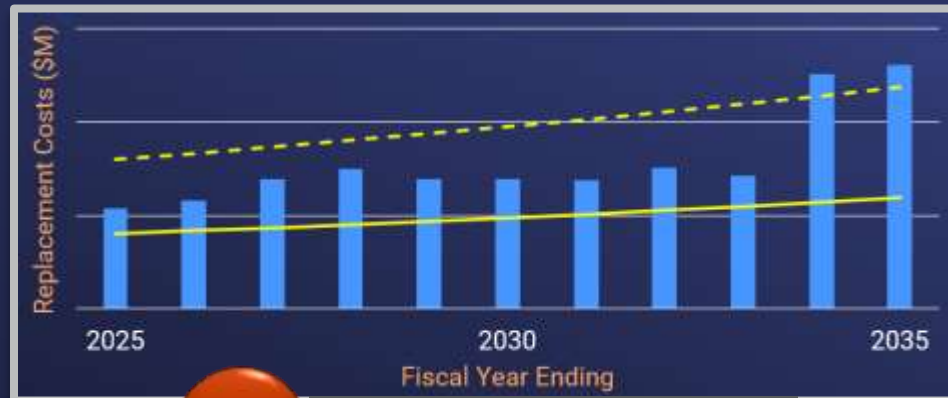
Conceptual Example: Whole Portfolio



<u>Condition</u>	Low Criticality	Moderate Criticality	High Criticality
Very Poor	\$	\$\$\$	\$
Poor	\$\$	\$\$\$	\$\$\$
Good	-	\$	\$\$

1 Condition Data

2 Risk



3 Long-Term Forecast

AM Program

Range of AM Maturity

- Extend AM approach to other assets (e.g., meters, pipelines, valves, etc.)



A Service Connection Inspections



B PCCP Inspections & Prioritization



Next Steps

- Update SAMP in 2025
 - AM maturity assessment consistent with ISO 55000
 - Benchmark AM practices with comparable agencies
- Initiate capital project to collect critical asset condition data
- Refine asset renewal forecast models
 - Summarize findings during upcoming workshops
 - Provide insight into staffing and resource needs
- Continue discussion on AM efforts to enhance long-term planning

