



Western States & Oregon Preventive Maintenance Experience



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Western States Summary

- Does your state have approval to use HBP funds for preventive maintenance?
- If not, has the state applied to use HBP funds for preventive maintenance

(9 of 13 states responded)



No Approval, No Application

- Arizona
- Utah
- Wyoming
- Washington (Prior Approval, 2001)
 - Rehab/repair/overlay concrete decks
 - Paint steel bridges
 - Scour repairs





No Approval, Did Application

- Alaska
- Oregon





Approved Preventive Maintenance

- New Mexico
 - Approval in 2005, 2010 update
 - Everything from Major Rehabs-Minor Rehabs
 - Preventive Maintenance
 - Crack Sealing, Low Viscosity Sealers
 - Polymer Concrete Deck Overlays
 - Deck Joints



Approved Preventive Maintenance

- Hawaii (January 2005)
 - Decks (sealing, overlays, cathodic protection)
 - Joints (eliminate, repair existing, new)
 - Bearings, approach slabs, beam ends
 - Scour, seismic, substructure repairs
 - Painting
- California (2009)



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Program Review

Oregon DOT Systematic Bridge Preventive Maintenance Program

October 2010



Bridge Preventive Maintenance (PM) Program

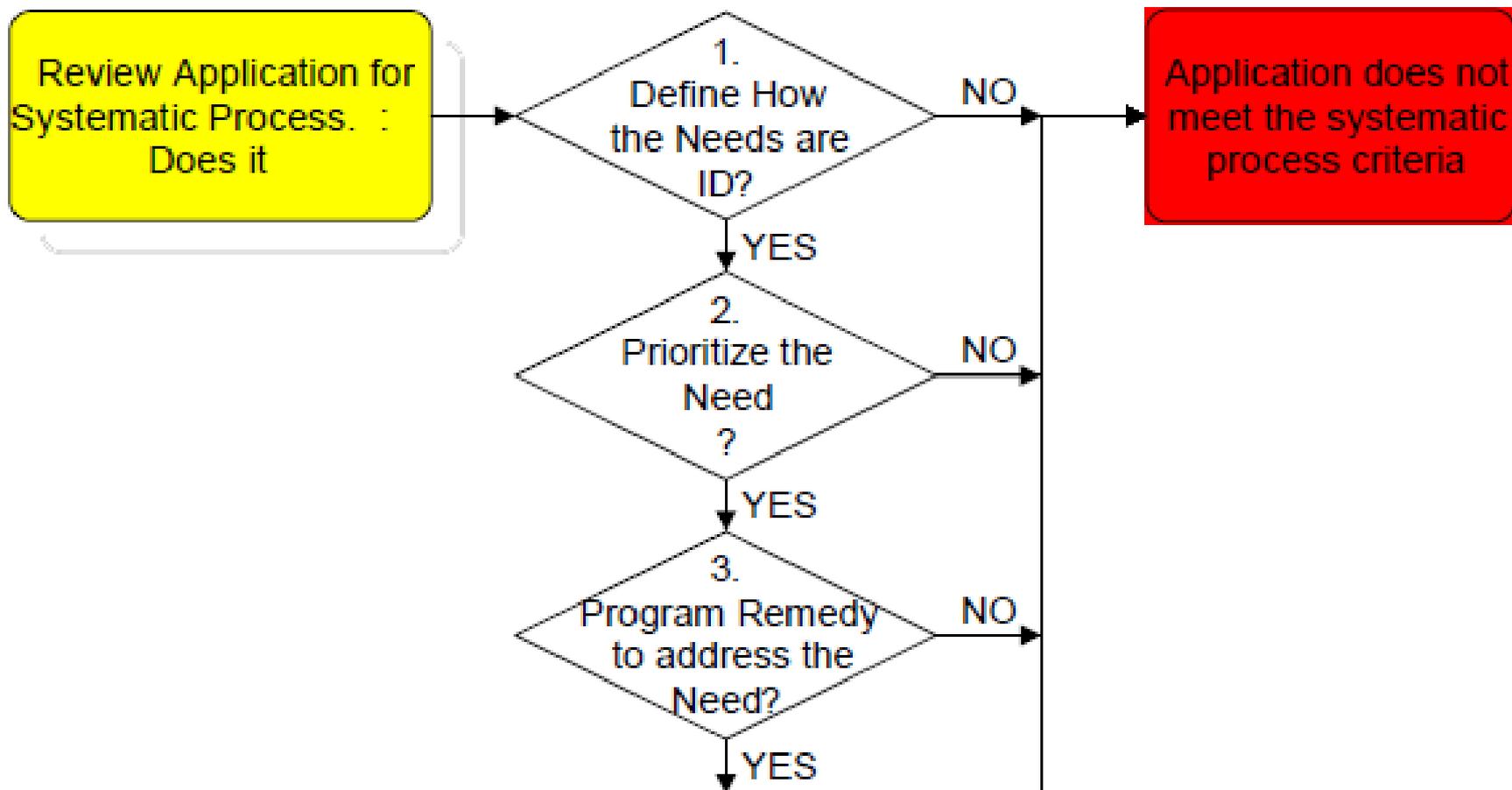
- Extend the life of the deck and other structural components
- Deck overlays provide a protective coating for the deck prolonging service life
- Keeps water from leaking onto structural elements below the deck and causing deterioration
- Repairing bridges before they become structurally deficient is cost effective
- Provide drivers with a smoother ride

Alternative is:

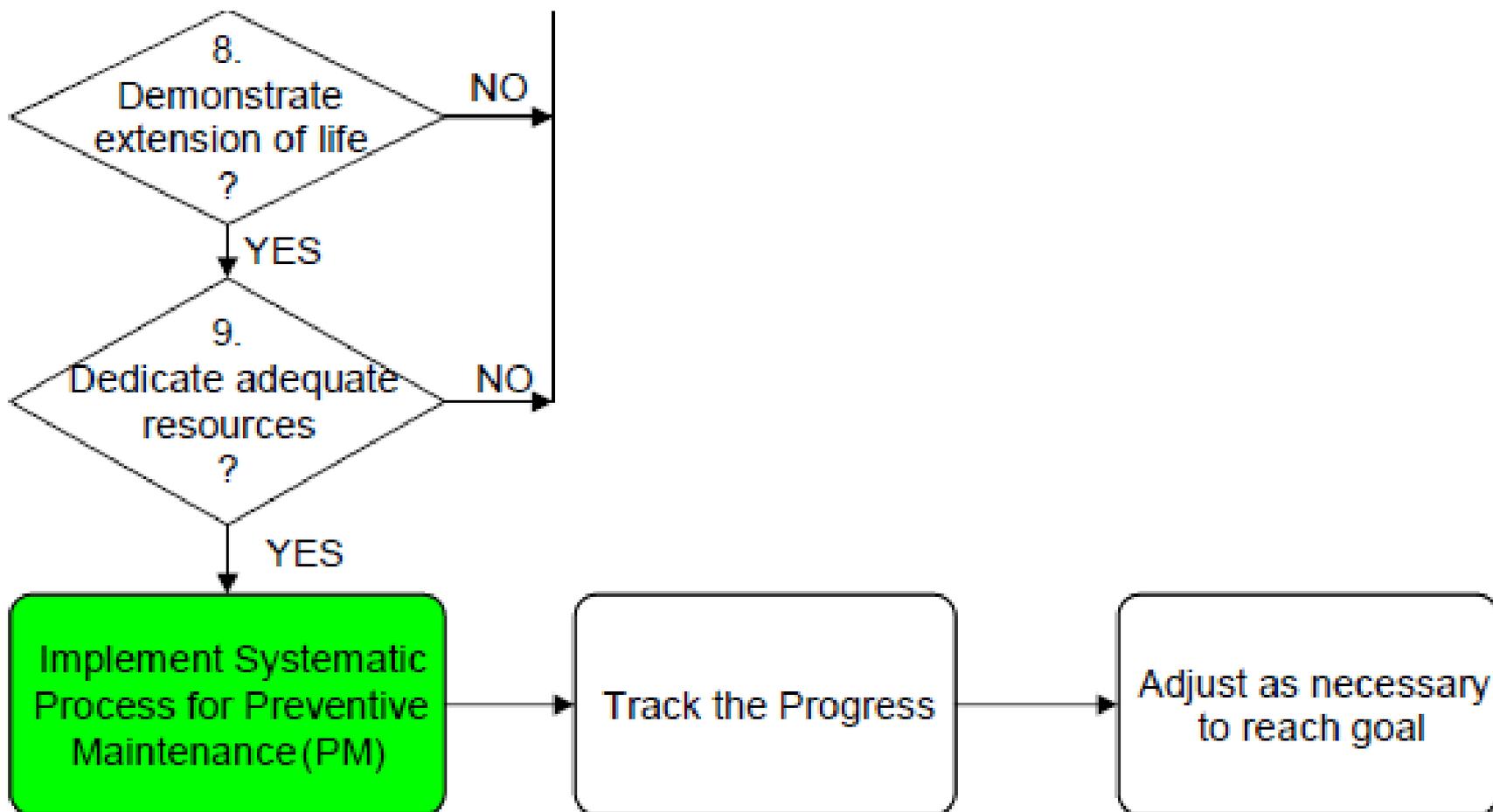
- Significant costs to both the agency and stakeholders, including detour bridges and traffic control for deck replacement



Systematic Process



Systematic Process





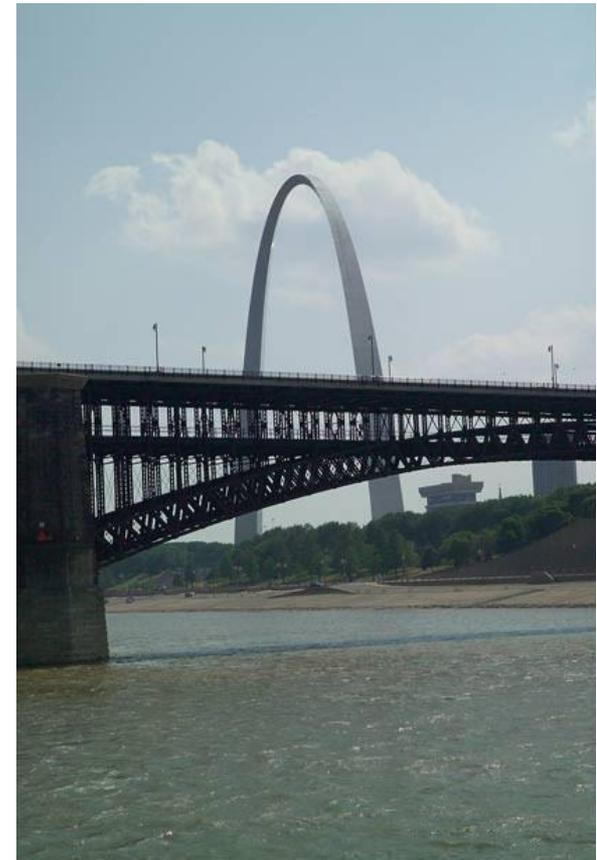
Recommendations

- Recommendations given in all areas
- Oregon modified element definitions
- Current assessment to provide a baseline
- Establish a process for collecting and analyzing data to demonstrate extension of useful life



Recent Positive Things

- Bridge Preservation Handbook
- St Louis, November 2011
- Partnership Meetings
- Webinar's





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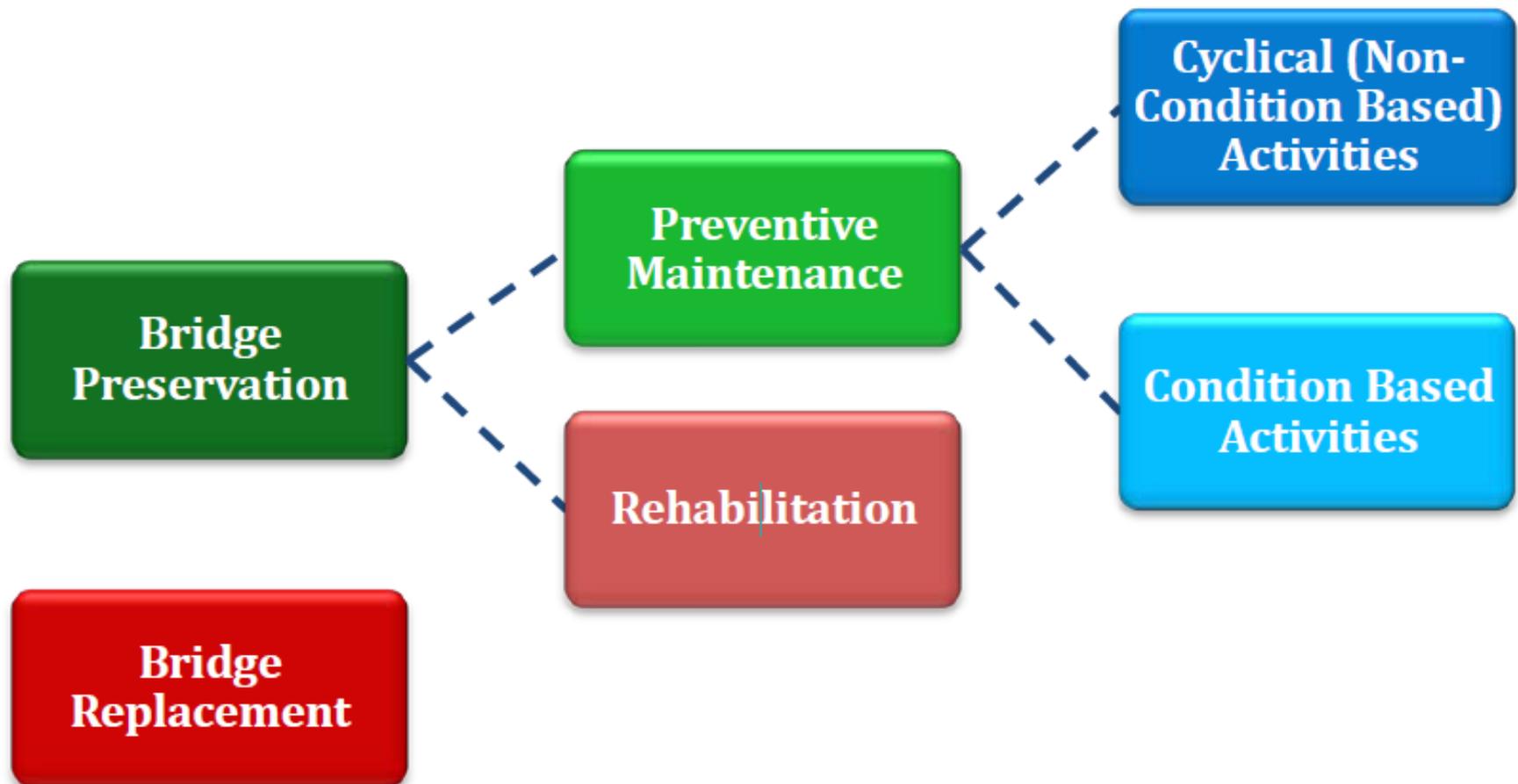
Oregon DOT Systematic Bridge Preventive Maintenance Program

October 2010

A Second Look



Bridge Preventive Maintenance (PM) Program





Cyclical Preventive Maintenance

Cyclical Preventive Maintenance Activities - Definition

Activities performed on a pre-determined interval and aimed to preserve existing bridge element or component conditions. Bridge element or component conditions are not always directly improved as a result of these activities, but deterioration is expected to be delayed.



Bridge Preservation Guide

Cyclical PM Activity Examples	Commonly Used Frequencies (Years) ⁴
Wash/clean bridge decks or entire bridge	1 to 2
Install deck overlay on concrete decks such as: <ul data-bbox="137 886 1238 1036" style="list-style-type: none">- Thin bonded polymer system overlays- Asphalt overlays with waterproof membrane- Rigid overlays such as silica fume and latex modified	10 to 15 10 to 15 20 to 25
Seal concrete decks with waterproofing penetrating sealant	3 to 5
Zone coat steel beam/girder ends	10 to 15
Lubricate bearing devices	2 to 4

Table 1: Examples of Cyclical PM Activities



The Path Forward for Oregon (1)

- Transition to new elements (NBE, BME)
- Focus on Non-Condition based activities
- Begin with Deck Sealing
 - New and Current Elements
 - Use Bridge Preservation Guide
 - Use information from other states
- If Deck Sealing is approved, focus on another activity or several activities



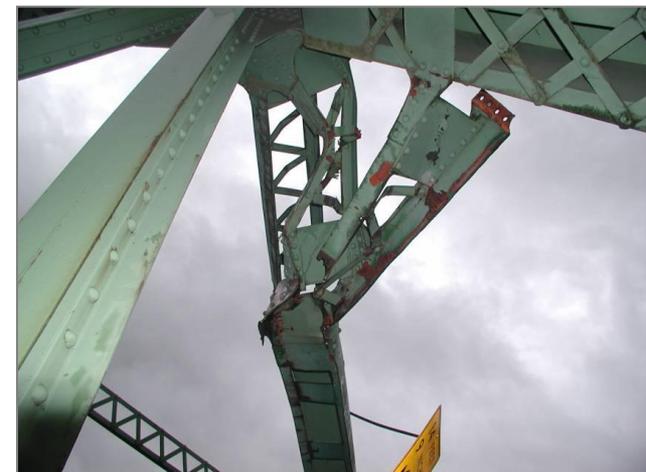
The Path Forward for Oregon (2)

- Revisit October 2010 Results
- Perhaps 0 for 9 was misperception
- Determine if there is a showstopper
 - Baseline For NBE and BME?
 - Demonstrate extension of useful life
- Choose Path (1) or Path (2)



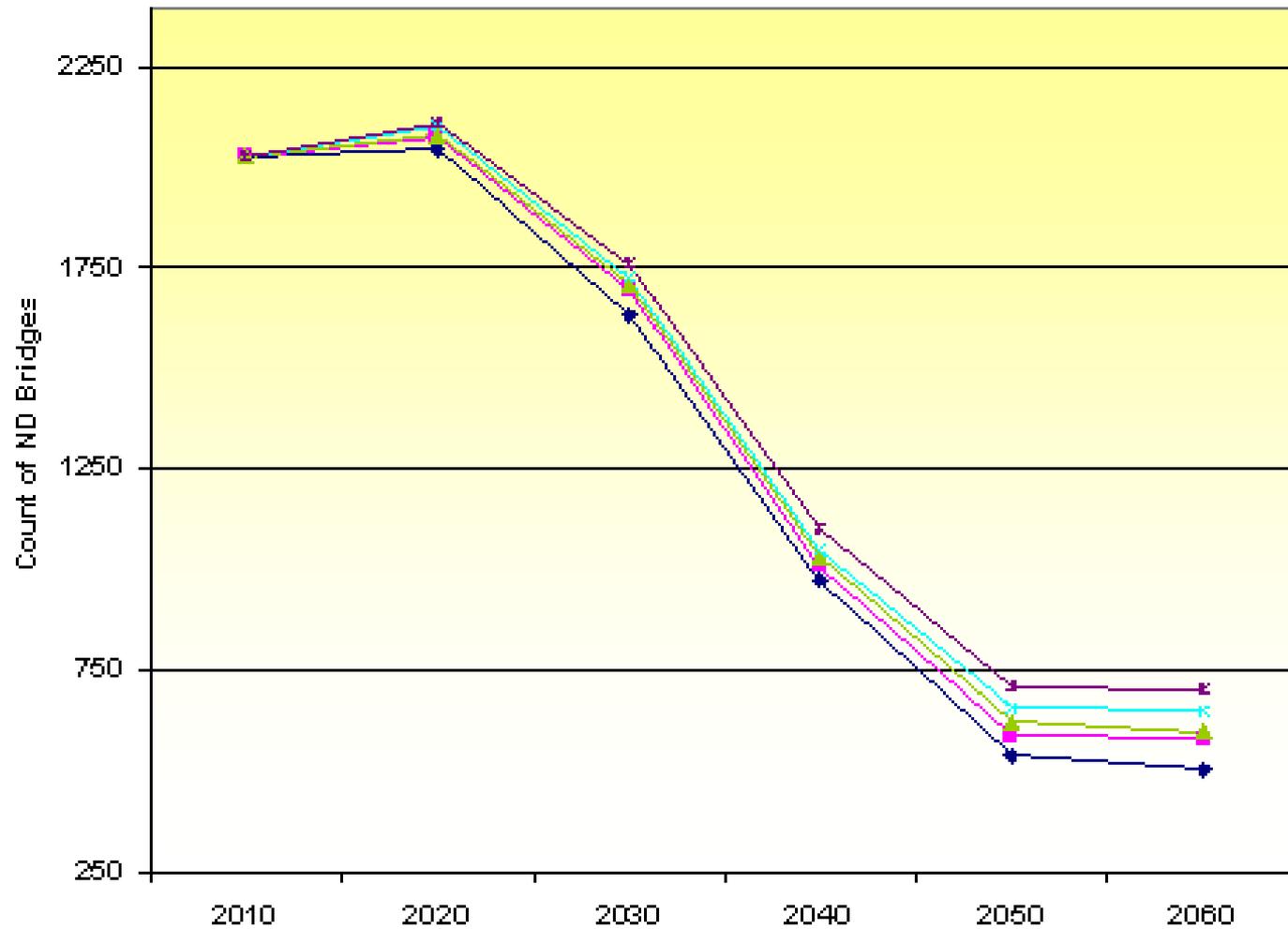
Distressed Bridge Criteria

- Structurally Deficient
 - Poor condition of a primary component
- Ten other criteria
 - Paint
 - Rail
 - Scour
 - Geometry
 - Timber
 - Cathodic Protection
 - Load Capacity
 - Moveable
 - Sufficiency Rating
 - Vertical Clearance





Non-Deficient Bridge Forecast





Questions?

