Maintenance and Preservation

Amy Ramsdell, Administrator – Delivery & Operations Division

Oregon Department of Transportation

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ODOT's Maintenance and Operations Program

Maintenance & Operations Program delivers day-to-day services like emergency and incident response, plowing snow, pavement patching, roadway striping, replacing signs and other essential services.

- Largely **performed by ODOT crews** and considered **"reactive" services**.
  - Fixing damaged guardrail, responding to an incident, replacing damaged signs.
- Maintenance has scheduled activities like mowing, bridge inspections, bridge painting, sign washing, etc. These can be **delayed or deferred when crews must react** to activities on the system to maintain user safety and access.
- Significant response efforts require contracted services.
- While our crews have **level of service guidelines, and prioritized and scheduled activities**, they spend a lot of time reacting.
  - We lack a tracking system for uncompleted work due to the redirection of resources to critical incidents.
- **With sufficient and reliable funding**, we'll have enough trained staff, supplies, and equipment to perform the work.

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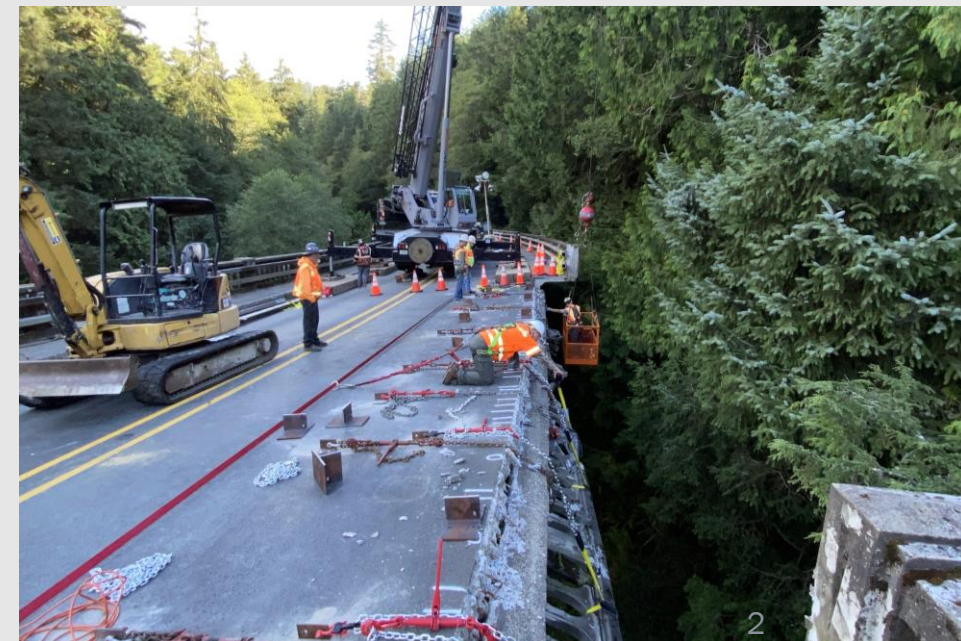
ODOT's Preservation Program

The Preservation Program funds contracted projects that rehabilitate and replace our infrastructure to ensure long-term performance.

- Projects are **prioritized based on a variety of factors** such as safety, asset condition, route designation, return on investment, accessibility and risk, and available budget.

- Construction work is **largely performed by contractors.**

- Think of these activities like **"proactive"** efforts.

- Preservation ensures our assets **reach their expected service life** and beyond.

- The cost of the project is **dependent upon a well-maintained system**; funding the work before the asset has deteriorated beyond repair.

- There is **dedicated resources** for maintaining our asset information **where required by FHWA;** Where not required, there are no dedicated resources resulting in less detailed information
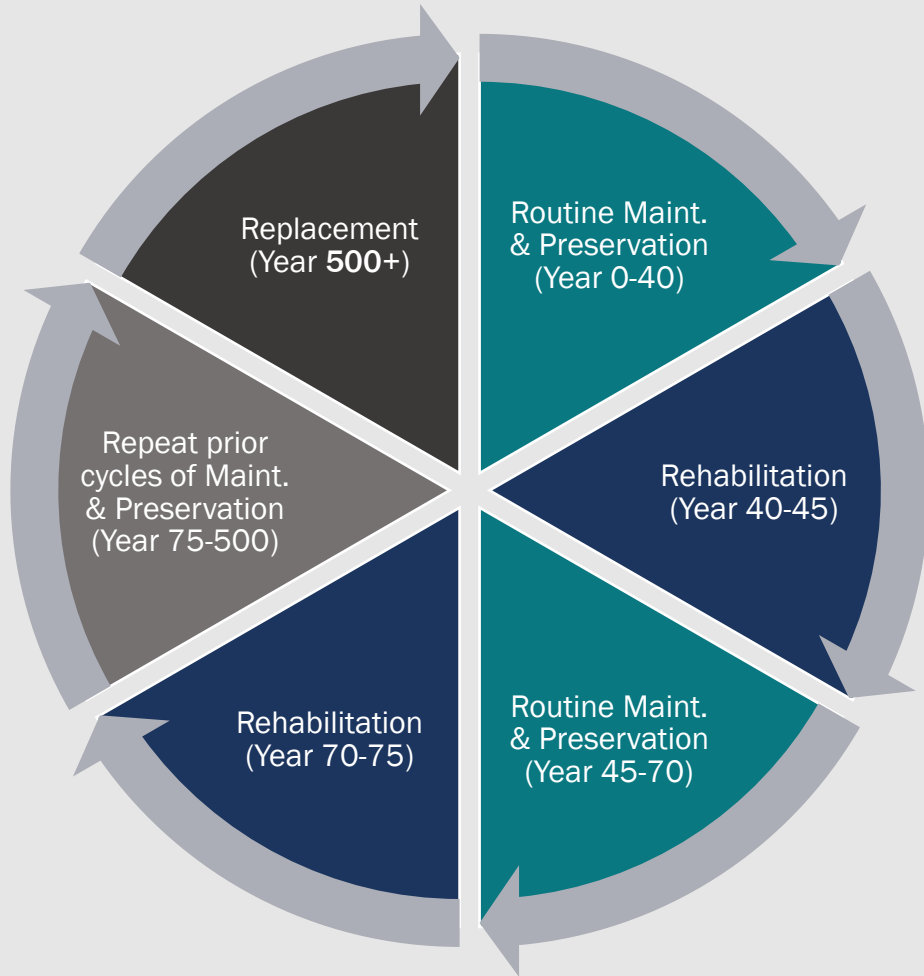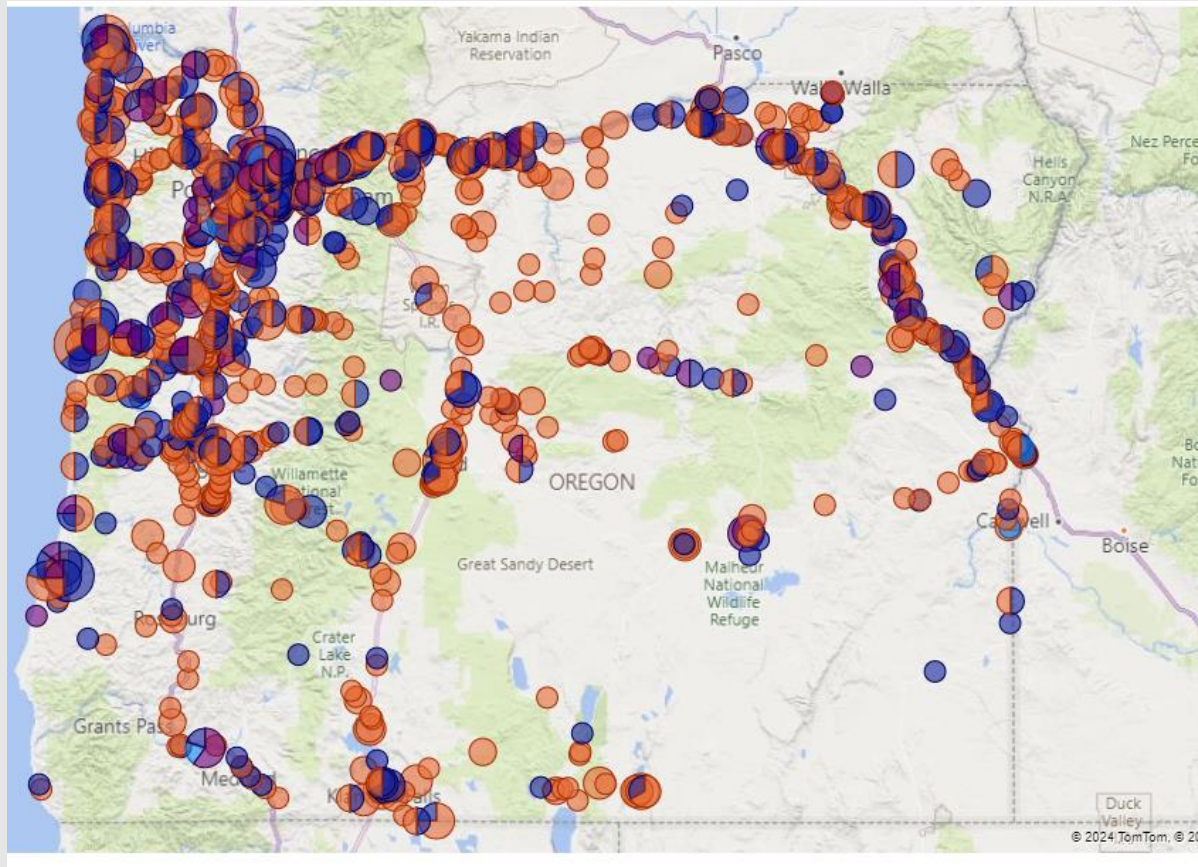
Bridge Preservation Priorities

- Timber Bridge Replacement
  - **Over 200** timber bridges
  - Built in the **1930s-1950s**

- Coastal & Historic Bridge Preservation & Rehabilitation
  - **94 historic bridges** statewide

- Seismic Lifeline Routes

- Major Bridge Maintenance
  - Maintenance delivered simple **repairs based on condition**

Moving from a 900- to 500-Year Replacement Cycle

Replacement (Year **500+**)

Routine Maint. & Preservation (Year 0-40)

Rehabilitation (Year 40-45)

Routine Maint. & Preservation (Year 45-70)

Rehabilitation (Year 70-75)

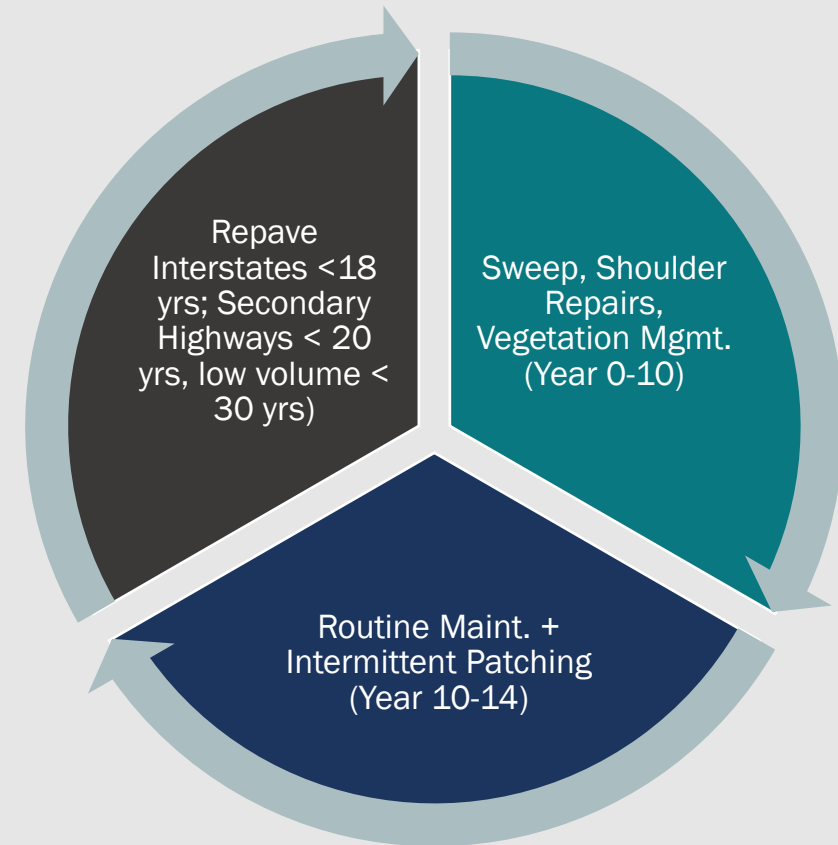Repeat prior cycles of Maint. & Preservation (Year 75-500)
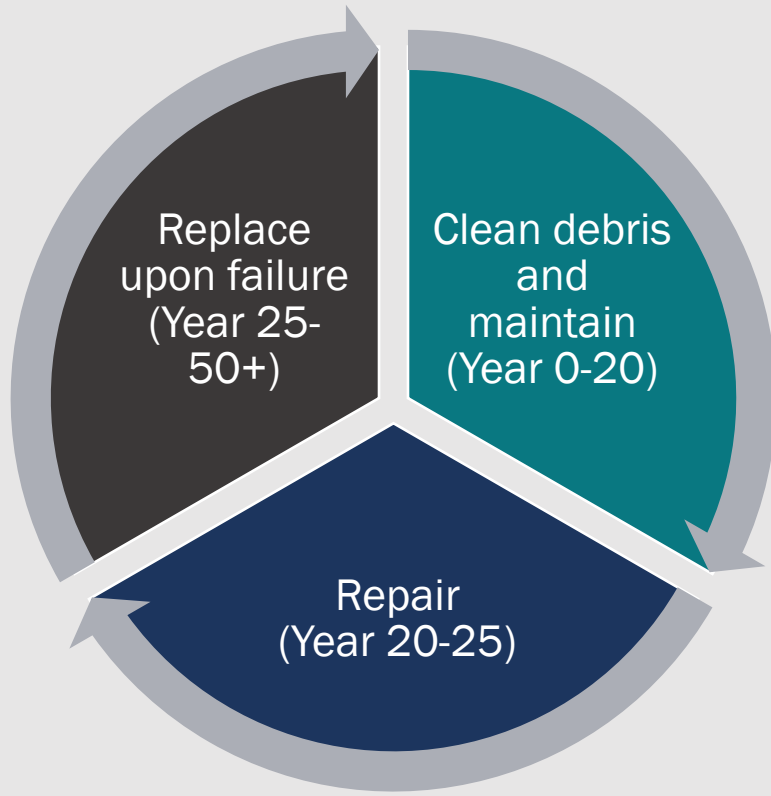
Bridge Maintenance Activities

- This map shows where we have **maintenance activities** on our **bridges**. The different colors represent the different types of activities/priorities.

- Bridge inspection and routine repairs are scheduled. **As the condition worsens**, maintenance inspections and repairs become more frequent.

- Maintenance activities are **closely coordinated** with our preservation program managers to ensure the longevity of our assets.

- The goal is to **preserve the bridge** between preservation and replacement projects.

Desired Road Lifecycle

- Pavement wearing course varies **based on use** and our **ability to conduct maintenance activities.**

- Maintenance crews perform a variety of activities that protect the road base that allows us to **extend the life of the road.**

- The sooner we repave the wearing course, the lower the cost. For example, a **2" overlay is $350,000 per lane mile** whereas **road base rehabilitation can be $2-3M/lane mile.**

Repave Interstates <18 yrs; Secondary Highways < 20 yrs, low volume < 30 yrs)

Sweep, Shoulder Repairs, Vegetation Mgmt. (Year 0-10)

Routine Maint. + Intermittent Patching (Year 10-14)

Desired Culvert Lifecycle

Replace upon failure (Year 25-50+)

Clean debris and maintain (Year 0-20)

Repair (Year 20-25)

- Estimated **40,000 culverts.**
  - ~21,000 inventoried – of these, over **29% are in poor or critical condition.**
  - Current replacement cycle is **1,310 years.**
- **~8-10 roadway closure** due to culvert failure each year.
  - Response **funded by maintenance.**
- **Without sufficient and reliable funding,** we shift from strategic, scheduled maintenance activities to reactionary and more costly activities.

Rockfalls & Landslides

- U.S. 101 – Arizona Inn Slide: **Loss of $1.06M to $2.66M+** per week in commerce.

- **Limited or no local detours**, essential supplies can't get to local communities.

- Limited **emergency services** and facilities.

- **With sufficient and reliable funding,** we could install structures and horizontal drains, inclinometers and piezometers to monitor movement, and ensure our investments in landslide mitigation lasts.

Fleet, Fuels, Materials, Supplies & Equipment

- Maintaining and operating 8,000 road miles across the state requires **reliable, durable, and multi-functional vehicles.** Costs to fuel, maintain, fix, and replace these vehicles has increased.

- **~37%** of the ODOT fleet is **beyond optimal** service life.
  - AASHTO recommends no **more than 10%** of the fleet exceed their optimal service life.

- ODOT is **transitioning its light fleet to electric,** requiring associated capital costs and ongoing maintenance. ODOT currently has **19 charging stations.**

- **With sufficient and reliable funding,** we could maintain our fleet, replace aged equipment, and preserve our specialized technicians that keep the fleet operational at a lower cost to Oregonians.

Operational Support

- Sign shop provides the signs that are **needed to ensure safety**. These are replaced quickly when damaged.

- Our storeroom warehouses **critical inventory for agency (DMV/CCD)** such as license plates and decals.

- **ODOT issues over 4,000 access/utility/miscellaneous permits annually; all permits are issued manually,** and an image of the permit is locally stored. There are no online services, databases or payment systems.

- **Oregon is 1 of only 5 states** without a Maintenance Management System to track assets, inspections, work orders (completed and deferred) and expenses related to maintenance and operation of the state highway system.

- **With sufficient and reliable funding,** we would develop a modern, integrated statewide system to improve customer service, accountability, and performance.

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Questions?