2022 Regional Transportation Plan: Local Maintenance and Preservation Expenditure Estimates

Draft Methodologies

KRCC Transportation Technical Advisory Committee

November 12, 2020

Today's Presentation

Objective: Review draft methodologies for developing city and county maintenance and preservation expenditure estimates, as part of the 2022 Regional Transportation Plan Financial Strategy.

2022 RTP Schedule

January – Summer 2020   **Fall 2020 - Summer 2021**   **Fall 2021 – Winter 2022**   **May 2022**

Preparatory Plan Work and Engagement → Preliminary Plan Analysis → Draft Plan and SEPA Analysis → Plan Adoption

Overview of RTP Financial Strategy

- The financial strategy is a federally required component of the Regional Transportation Plan

- The revenues identified in the financial strategy must cover the anticipated costs of the transportation projects along with **operation and maintenance of the existing system**

2018 RTP Total Projected Costs: $196.8 Billion ($2018 Dollars)

System Improvement Costs	$91.7 Billion
	+
Maintenance, Preservation & Existing Ops	$105.1 Billion
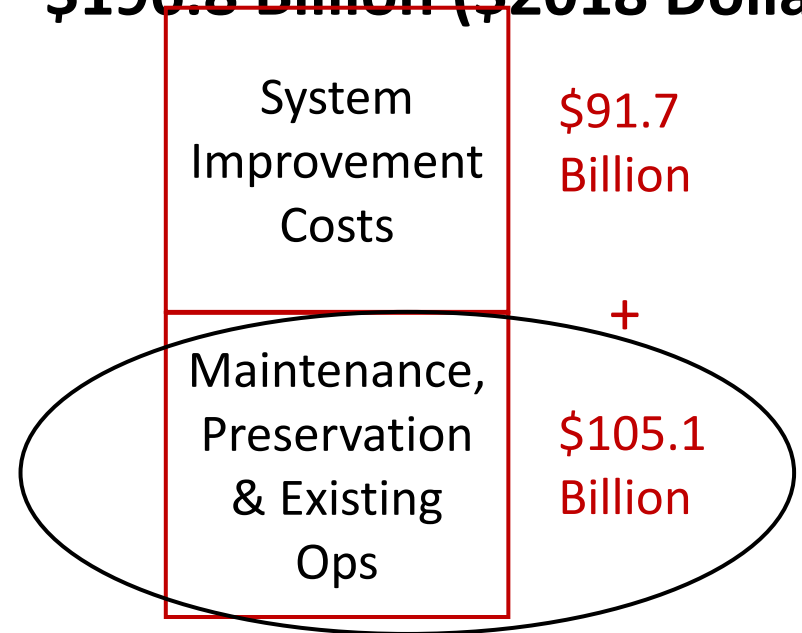
Maintenance and Preservation Expenditure Categories

2018 M&P Expenditure Total: $105.1 Billion
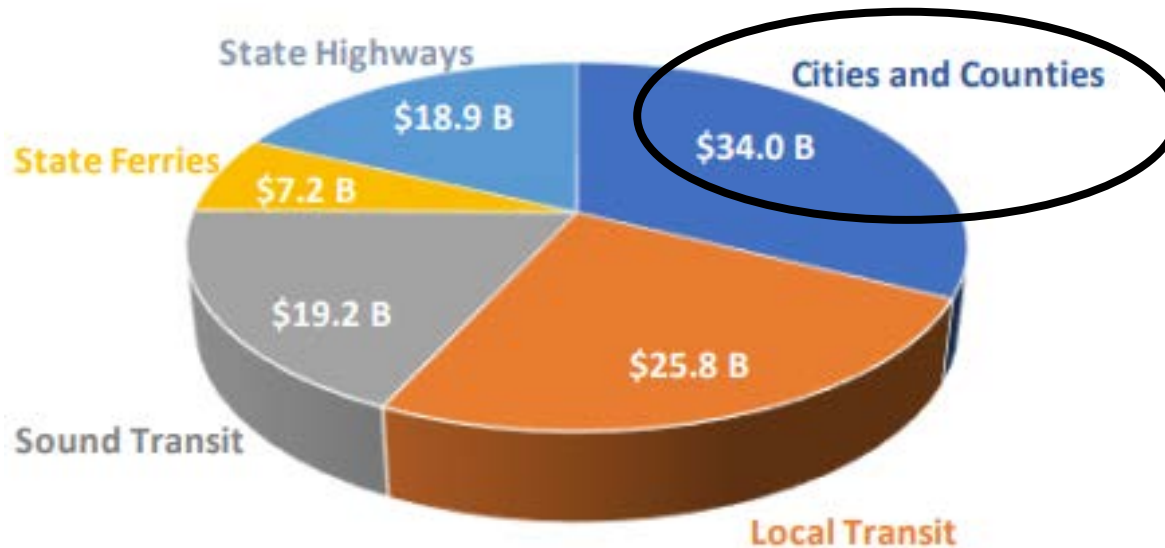
City and County Expenditure Estimate Background

- <u>Before 2014:</u> PSRC used historic Budget, Accounting and Reporting System (BARS) data from the State Auditor's Office to project M&P expenditures through the life of the plan.

- <u>2014 and 2018 RTP:</u> Began long-term shift to **capture future M&P needs based on *desired outcomes* instead of extrapolating historic trends**. This effort was further refined for the 2018 RTP.

- <u>Proposed 2022 RTP:</u> Build on previous efforts and **seek to develop a *range* of cost estimates and outcomes for some asset categories**

- Pavement

- Structures

- ITS/Traffic Control

- Stormwater

- Sidewalks and Bike Paths

- Street Lighting

- Roadside Development

- Other Maintenance

Proposed Methodology: Pavement

- **Scope:** Includes pavement on all roadway facilities

- **2018 RTP Approach**

  - ❑ Distributed surveys requesting data on backlog to get to 70 PCI and cost of maintaining that condition through 2040

  - ❑ Extrapolated by VISION typology for those that did not respond

- **Proposed 2022 RTP Methodology**

  - ❑ Similar to 2018, survey will ask for backlog to achieve and annual cost to maintain PCI rating of 70 through 2050

  - ❑ In addition, 2022 survey will also ask for:

    - ○ Annual cost to maintain current PCI through 2050

  - ❑ Similar to 2018, will calculate average costs per lane mile and use to extrapolate for smaller jurisdictions that do not fill out survey

    - ○ Key difference for 2022 RTP: Will NOT extrapolate by VISION typology

- **Proposed 2022 RTP Methodology (cont.)**

  - Improve outreach and work with jurisdictions to achieve 100% response rate for the 35 jurisdictions with population over 20K (These account for over 90% of lane mileage in the region)

  - Use data to develop regionwide cost ranges:

    - Cost to maintain existing condition through 2050 *Lower Cost*

    - Cost to reach and maintain 70 PCI through 2050 *Higher Cost*

Maintenance and Preservation City and County Asset Categories

- Pavement

- Structures

- ITS/Traffic Control

- Stormwater

- Sidewalks and Bike Paths

- Street Lighting

- Roadside Development

- Other Maintenance

- **Scope:** Includes bridges, culverts, and any other structures critical to preserving roadway infrastructure (e.g. retaining and street walls)

- **2018 Approach**

  - Used historic bridge deterioration rate to calculate 2040 condition and assigned most efficient cost improvement for each bridge to ensure it's not structurally deficient.

  - Used Dept. of Fish and Wildlife (DFW) culvert data to estimate culvert replacement costs and data provided by local jurisdictions to estimate "other structures" costs

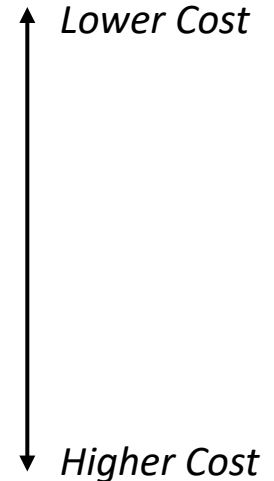# Proposed Methodology: Structures

- **Proposed 2022 RTP Methodology**

  - ❑ 2022 RTP will incorporate a new approach for developing bridge estimates

    - ○ Estimate bridge replacement timing and costs based on WSDOT useful life assumptions and estimated bridge replacement cost rates

    - ○ Estimate average annual bridge preservation costs based on extrapolation of WSDOT data for state-owned bridges

    - ○ Estimate average annual basic maintenance costs using the same rates

- **Proposed 2022 RTP Methodology**

  ❑ Develop cost range estimates and project what that would mean for bridge condition if:

    ○ No bridge M&P investments

    ○ Replace bridges once they pass their useful life threshold and invest in annual basic maintenance (but no preservation/rehabilitation)

    ○ Replace bridges once they pass their useful life threshold, invest in preservation/ rehabilitation in a timely manner and invest in annual basic maintenance

Lower Cost

Higher Cost

- **Proposed 2022 RTP Methodology (cont.)**

  ❑ For culverts, will use same approach as 2018

  ❑ For "other structures", will use similar approach to 2018 but will also utilize data available in local planning documents (asset management reports, transportation master plans, CIPs, etc.)

Maintenance and Preservation City and County Asset Categories

- Pavement

- Structures

- ITS/Traffic Control

- Stormwater

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- Roadside Development

- Other Maintenance

Proposed Methodology: ITS/Traffic Control

- **Scope:** Includes all ITS and other traffic control assets

- **2018 Approach**

  - ❏ Used survey to estimate annual cost for traffic control/ITS systems to be maintained at a predetermined "optimal" level

  - ❏ Extrapolated for those that did not respond based on lane mileage

  - ❏ Survey data supplemented with BARS data

- **Proposed 2022 RTP Methodology**

  ❑ Distribute survey similar to what was used for 2018 RTP but also include non-ITS traffic control

    ○ Key difference for 2022 survey is will include each jurisdiction's reported BARS data for ITS/Traffic Control in their respective survey and ask them to add to that number to capture optimal scenario need

  ❑ For jurisdictions that do not respond, will extrapolate based on **per-signal averages** (used lane mile averages for 2018 RTP)

  ❑ Will calculate growth rate over previous 10 years using BARS data
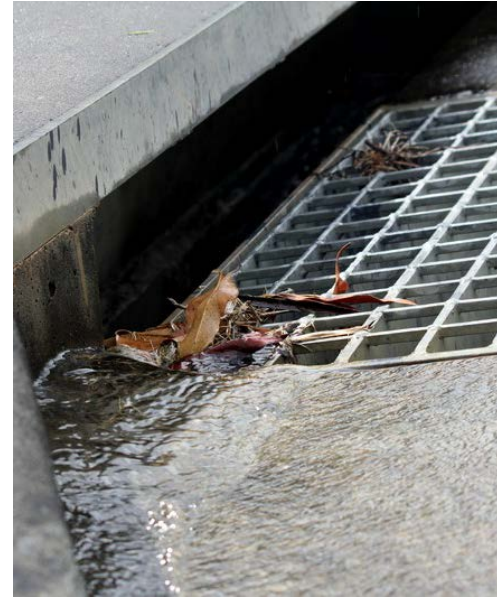
Maintenance and Preservation City and County Asset Categories

- Pavement

- Structures

- ITS/Traffic Control

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- Street Lighting

- Roadside Development

- Other Maintenance

- **Scope:** Includes all drainage systems from the point of interception within the right of way to the point of outfall. It also includes street cleaning costs.

- **2018 Approach**

  - ❑ Used historic BARS data supplemented with assumed cost increases associated with NPDES permit requirements and cycles

  - ❑ Separated Phase 1 (larger stormwater systems) and Phase 2 (smaller stormwater systems)

- **Proposed 2022 RTP Methodology**

    - Similar approach to 2018:

        - Calculate estimates for Phase I and Phase II jurisdictions separately

        - For each phase calculate growth rate for three main BARS stormwater categories: Maintenance, Preservation/Construction, and Street Cleaning.

        - Growth rate will be calculated over previous 10 years of reported BARS data.

    - Key difference for 2022: removed permit-cycle based percentage increases

Maintenance and Preservation City and County Asset Categories

- Pavement

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- Other Maintenance

Methodology for Remaining Categories

- Sidewalks and Bike Paths

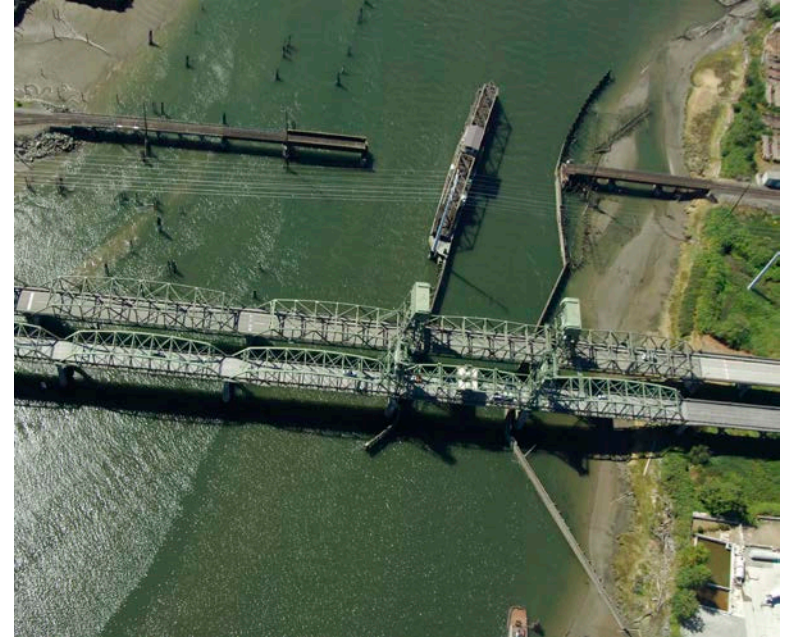- Street Lighting

- Roadside Development

- Other Maintenance

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- Maintain approach used for 2018 RTP: Use extrapolations of historic BARS data to develop estimates through 2050 for the remaining categories

- Develop the financial strategy through the first half of 2021

- Check-in with RPEC and the countywide committees in Spring 2021

Questions?

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