Model Users Group (MUG)

January 28, 2026

Puget Sound Regional Council

We are leaders in the region to realize equity for all. Diversity, racial equity and inclusion are integrated into how we carry out all our work.

psrc.org/equity

Agenda

- PSRC Staff Updates (Brice, PSRC)

- 2026-2050 RTP Modeling (Craig, PSRC)

- ActivitySim Development (Stefan, PSRC)

- Leveraging Big Data for Model Calibration (Gaurav Vyas, Bentley Systems)

- Around the Room

2026-2050 RTP Modeling

Plan Development: Scenario Analysis
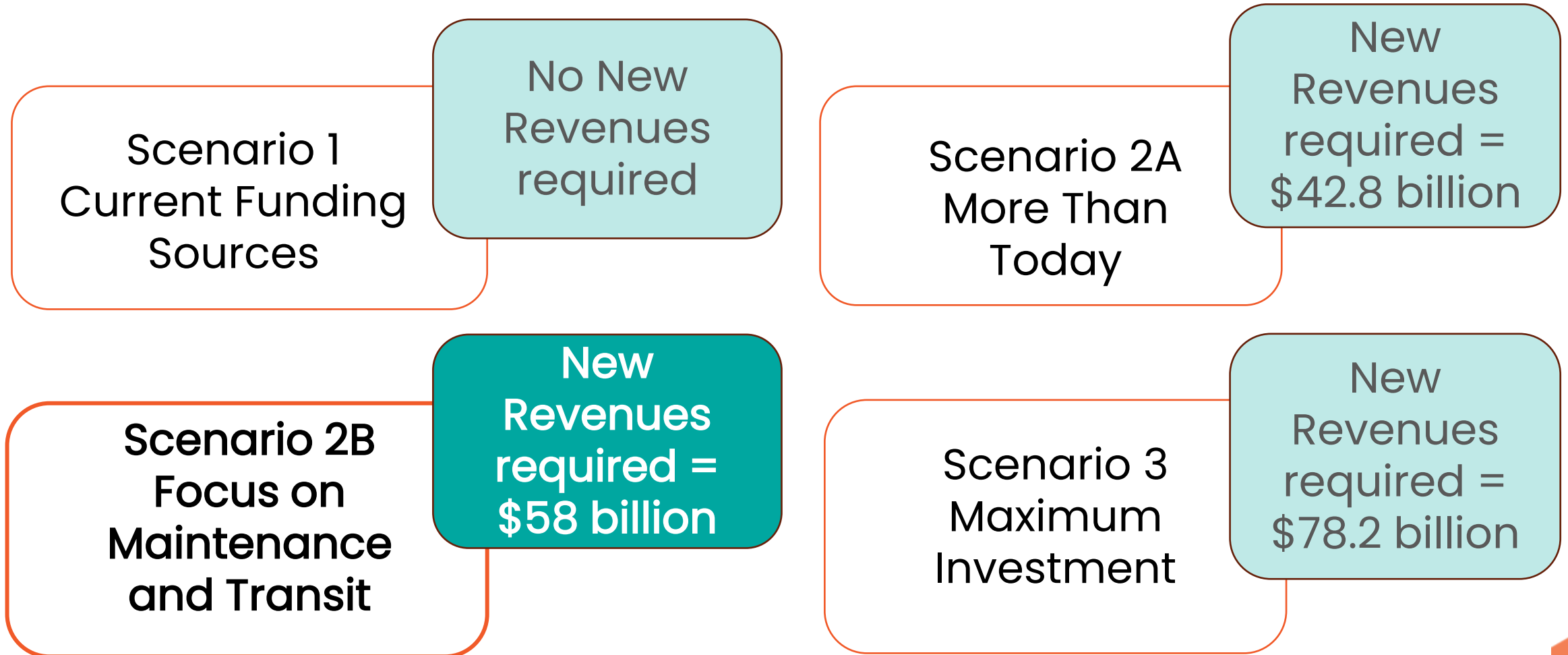
Plan Priorities

Working with PSRC's member agencies and the public, key priorities identified for the next plan include:

- Safety
- Climate
- Equity
- Transit & Accessibility
- Recognize Diverse Needs and Community Context

- Maintenance & Preservation
- Decarbonize the System
- Financial Strategy
- Ferry System Service & Reliability

Four Scenarios Advanced into Analysis

September TPB poll – majority preference for Scenario 2B

Scenario 1 Current Funding Sources	No New Revenues required	Scenario 2A More Than Today	New Revenues required = $42.8 billion
Scenario 2B Focus on Maintenance and Transit	**New Revenues required = $58 billion**	Scenario 3 Maximum Investment	New Revenues required = $78.2 billion

Regional Public Meetings

Seven RTP public meetings

- 300+ attendees

- Overall scenario preferences =

  - 23% Scenario 1, Current Funding

  - 18% Scenario 2A, More Than Today

  - 43% Scenario 2B, Focus on Maintenance & Transit

  - 16% Scenario 3, Maximum Investment

Scenario 2B – Focus on Maintenance and Transit

Regional Capacity Projects starting before 2040

Programmatic System Improvements at 70% of full unconstrained needs

New Revenues required = $58 billion

Maintenance, Preservation and Operations at full, optimal levels

Local Transit Service Growth at 2.0% per year

Plan Development: Financial Strategy

RTP Financial Strategy Requirements

*The plan must identify reasonably available sources and revenues to fund **all** investments in the plan – capital, operations and maintenance - for a financially constrained plan*

- The financial strategy is not an adopted budget – it is a general plan with reasonable assumptions

- Assumptions of new or increased revenues must include strategies for ensuring availability

  - This can include necessary local or state legislative actions

RTP Proposed Investments vs. Available Revenues

- There are stark differences in the revenue gap across sponsor categories

Sponsor Category	Percentage Gap
Counties	12%
Cities	**45%**
Local Transit	**29%**
Regional Transit	0%
Washington State Ferries	8%
Washington State DOT	7%

Preliminary Approach for Potential New Revenue Sources

- From prior discussions, focus on those sources that can be implemented consistently across the region and that are more likely to generate greater potential revenue

- Five sources identified:

  - Road usage charge

  - Increased vehicle fees

  - Increased sales tax rates for local transit

  - Increased county road levy

  - Retail delivery fee

Plan Development: Plan Analysis

Approach for Data and Analysis

- Spatial analysis was all scripted in python to make the process documented and repeatable with minimal manual processing

- Focused on new measures for transit access and relating to gaps in service

- Model outputs were all scripted – made processing and review for the RTP document quicker.

Examples of Transit Data in the RTP

There are a handful of "basic" transit performance metrics that are generally in the RTP

Metric	Today	2050
Annual Service Hours	7,518,000	14,278,000
Annual Boardings	173,324,000	531,473,000
VMT per Capita	18.9	17.1
CO2 Equivalent	40,660	6,990
Daily Transit Trips	351,000	1,028,000
Daily Walk & Bike Trips	2,600,000	4,842,000
Boardings per Hour	23.0	37.2

Transit Service Gaps

Local Transit

Equity Focus Area	Today	2050
Total People	948,000 (33%)	639,000 (15%)
People of Color	582,000 (29%)	303,000 (10%)
People with Lower Incomes	533,000 (29%)	338,000 (12%)
People with Limited English	490,000 (28%)	227,000 (9%)
People with a Disability	600,000 (32%)	395,000 (13%)
Older adults	583,000 (31%)	375,000 (13%)

Frequent Transit

Equity Focus Area	Today	2050
Total People	60,000 (11%)	105,000 (6%)
People of Color	45,000 (12%)	52,000 (4%)
People with Lower Incomes	41,000 (11%)	83,000 (6%)
People with Limited English	26,000 (9%)	44,000 (4%)
People with a Disability	35,000 (10%)	80,000 (6%)
Older adults	30,000 (9%)	68,000 (6%)

Transit Service Gaps

All-Day Transit

Equity Focus Area	Today	2050
Total People	444,000 (36%)	651,000 (25%)
People of Color	322,000 (37%)	455,000 (24%)
People with Lower Incomes	322,000 (38%)	520,000 (27%)
People with Limited English	287,000 (38%)	314,000 (19%)
People with a Disability	320,000 (39%)	545,000 (28%)
Older adults	286,000 (36%)	453,000 (26%)

High-Capacity Transit

Equity Focus Area	Today	2050
Total People	91,000 (32%)	412,000 (33%)
People of Color	55,000 (24%)	301,000 (30%)
People with Lower Incomes	48,000 (22%)	318,000 (32%)
People with Limited English	36,000 (20%)	262,000 (31%)
People with a Disability	54,000 (24%)	293,000 (30%)
Older adults	57,000 (28%)	262,000 (29%)

Plan Development: A New Plan

Draft Plan – Elements and Approach

REGIONAL TRANSPORTATION PLAN
2026–2050

➢ Streamlined plan document

- Summary of plan results and key findings
- Actions and future work

➢ Links and standalone documents for key plan elements

On the RTP Engagement Hub:

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Summary Output

- Interactive HTML summaries built with Quarto

- Shared internally as final model output

- Available for all Soundcast users

ActivitySim Development

- Daysim used for 2026-2050 RTP forecast
- ActivitySim in current development:
  - Models estimated for 2023 base year
  - Integration with Soundcast code
- Next steps:
  - Calibrate models
  - Sensitivity tests and comparison of RTP results

ActivitySim Development

- Support contract with RSG to help with model specification and estimation.

- Added Disaggregate Accessibilities:
  - Creates market segmented origin-based accessibilities by extracting destination choice logsums by purpose using a proto-population
  - Merges accessibilities to the synthetic population based on household and person segments like household zone, income and worker status.
  - These are then available as predictors in sub models:
    - Auto ownership, telecommute frequency, CDAP

ActivitySim Development

- Activitysim models estimated to 2023 survey:
  - Auto-ownership
  - Telecommute Frequency
  - Coordinated Daily Activity Pattern (CDAP)
  - Non-Mandatory tour frequency
  - Tour Mode Choice

ActivitySim Development

- Other tools under exploration and development
    - Park and ride simulation
    - SimWrapper for visualization and validation
    - Vehicle type choice model

Other Model Updates

- Updates to Python 3.11
  - [New Soundcast release](#) that works with updated Python and latest OpenPaths versions
- uv package manager
  - Single environment, more reliable install
- Code reorganization
  - cleaner model configuration
  - accommodates Daysim or Activitysim
- SynthFirm and FRISM implementation

Thank You!

Brice Nichols

Principal Modeler

bnichols@psrc.org

Puget Sound Regional Council