

# **Beyond Tomorrow**

## **Laying the Foundation for Washington's Transportation Future**

ROGER MILLAR, SECRETARY OF TRANSPORTATION

Senate Transportation Committee

January 15, 2020

# Agenda

- Challenges today; and opportunities for the future
- Where will we be in 40 years?
- Washington transportation policy goals
- Policy goals and appropriations
- Working with partners
- What's next?





# Transportation Matters

## Economy

- Washington is one of the most trade-centric states in the nation

## Quality of life

- Affordable housing
- Public health
- Access to nature, recreation

## Social equity

- Percentage of family income spent on transportation highest for the least well off
- Approximately 20% of Washingtonians don't hold a driver's license
- Transit and active transportation investments provide access to opportunity

THE STATE'S TRANSPORTATION NETWORK IS A CONNECTED SYSTEM THAT MUST SERVE MANY MODES AND USERS



**18,700**  
Highway lane miles  
**308**  
HOV lane miles



**16**  
WSDOT-operated airports



**3,344**  
state-owned bridges



**125\***  
miles dedicated bike lanes  
**405\***  
miles of sidewalk within/adjacent  
to WSDOT right-of-way



**22**  
Ferries  
**24.3 million**  
passengers per year



**333**  
miles Amtrak Cascades  
**802,000**  
annual passengers



**32**  
Transit systems

**298**  
miles WSDOT-owned shortline  
freight railroad

\*Most sidewalks/bike lanes are controlled by local jurisdictions

# Challenges today; opportunities for the future

- Washington has transportation challenges, including:
  - Initiative 976
  - Over 10 deaths weekly on our transportation system
  - State of Good Repair
  - Cascadia Subduction Zone earthquake
  - Federal treaty obligations regarding fish passage
- With these challenges comes an opportunity to rethink how we prioritize, program and fund investments to the system to:
  - Become better stewards of the entire transportation system
  - Go beyond addressing immediate wants and needs
  - Build a long-term vision for the future with the people we serve
- First, some short-term recommendations...



# Responding to I-976

## **In response to I-976 and resulting cuts to transportation revenue sources**

- Governor Inslee directed WSDOT to postpone projects not yet underway
- Delaying obligation of funds, WSDOT provides Governor and Legislature more funding flexibility while determining how to amend 2019-21 transportation budget to implement I-976 during the legislative session

## **Delayed projects include:**

- Construction projects that add capacity to the transportation system scheduled to go out to advertisement in the next six months (including any unexecuted consultant agreements related to these projects)
- State funded local agency projects with no executed agreement or projects that have a portion of the funds not under agreement
- Rail grant projects with no executed agreements
- Public Transportation grant projects with no executed agreement and/or no purchase order of equipment or vehicles have yet been placed

# Other short-term recommendations

## Deaths and serious injuries on Washington's transportation system

- Invest in safe facilities for people who walk and bike
- Invest in low-cost enhancements proven to enhance safety
- Invest in Cooperative Automated Transportation infrastructure

## State of Good Repair

- Invest in preservation now, or accept reduction in service levels and pay more later

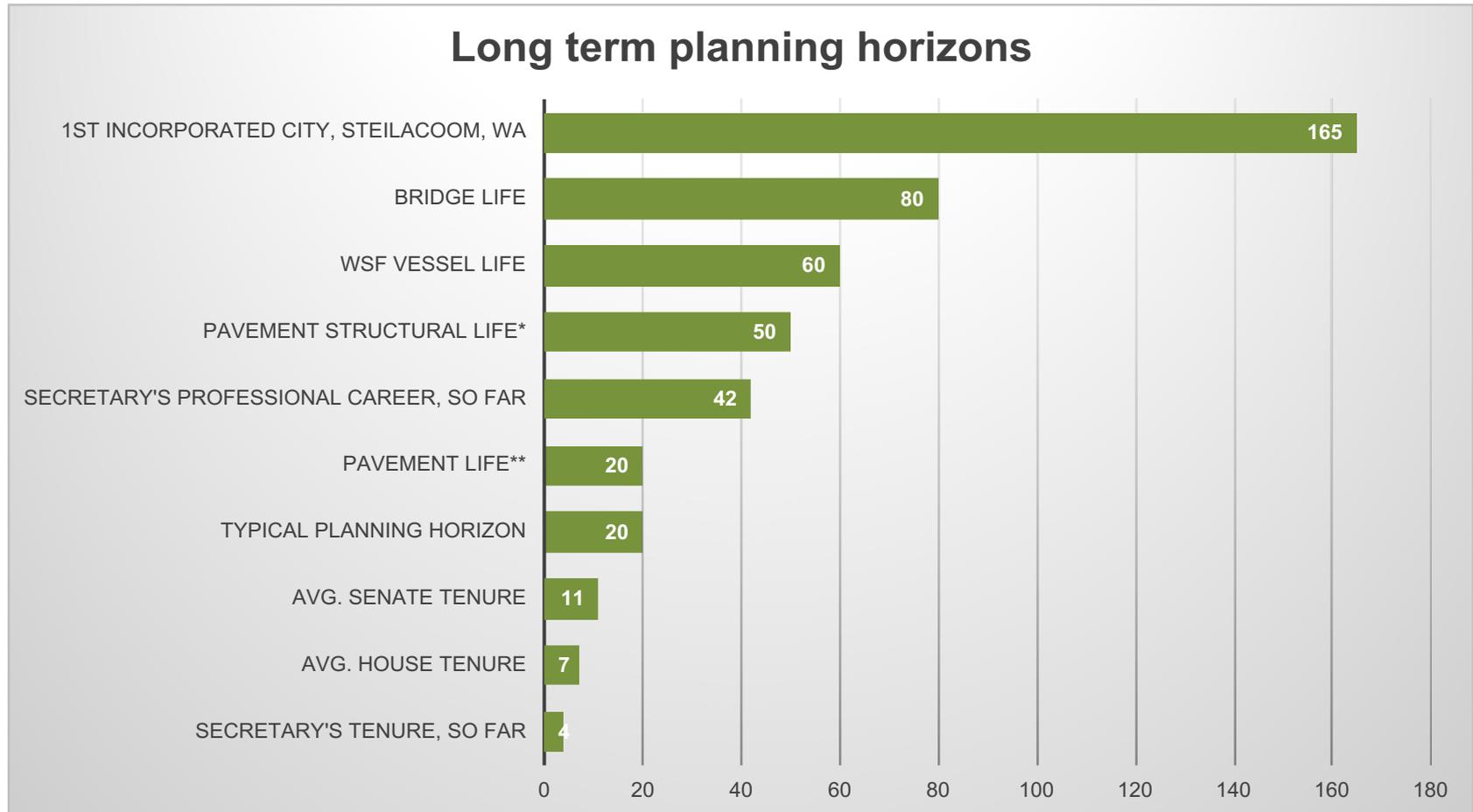
## Cascadia subduction earthquake

- Invest in seismic retrofit for lifeline routes and facilities

## Fish passage

- \$275 million for 2019-21 – design and construction work is needed to keep projects on target to meet injunction's 2030 requirement
- Compliance achievable with legislative direction on funding this session for current and subsequent biennia – much more needed over next 10 years

# Where will we be 40 years from now?

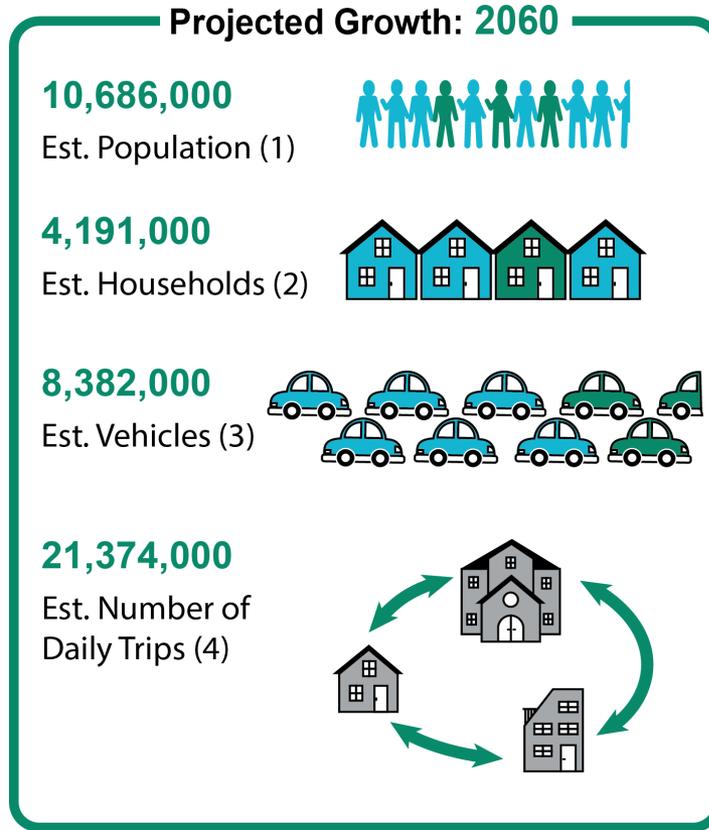
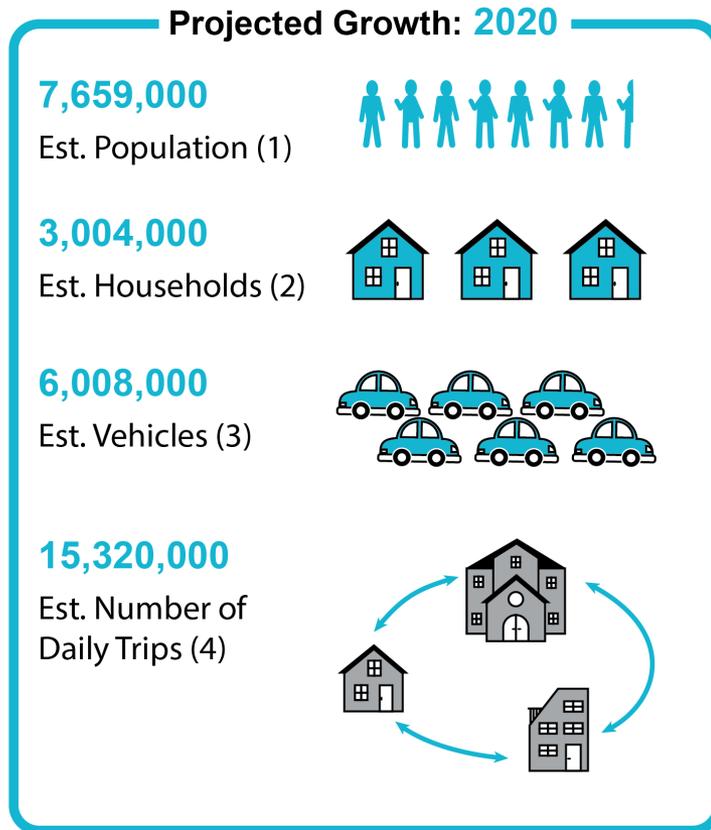


\* Pavement Structural Life refers to the foundation of the roadway, which requires maintenance of the top, or wearing surface.

\*\* Pavement Life refers to asphalt wearing surfaces, which should be replaced every 17-20 years.

# Projected growth

## 2020-2060



(1) Estimated Population (based on OFM's November 2019 "State Population Forecast" <https://www.ofm.wa.gov/washington-data-research/population-demographics/population-forecasts-and-projections/state-population-forecast> (2040 - 2060 forecast by WSDOT based on OFM's growth rate between 2030 and 2040)

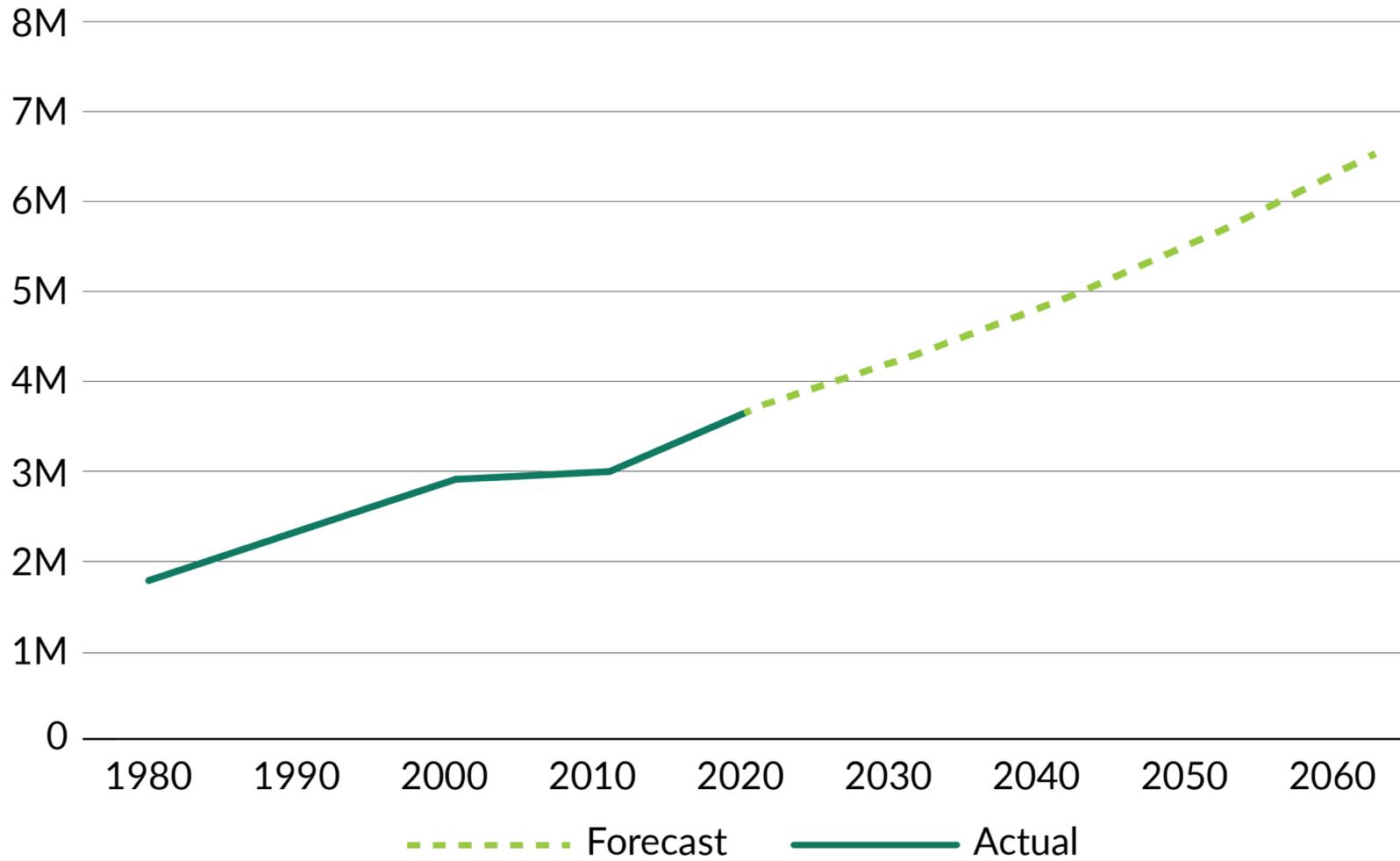
(2) Estimated Number of Households (based on 2.55 persons per household, from <https://www.census.gov/quickfacts/WA> )

(3) Estimated Number of Vehicles (based on 2.0 vehicles per household) from <https://datausa.io/profile/geo/washington>

(4) Estimated Number of Daily Trips per Household (FHWA's 2017 National Household Travel Survey, [https://nhts.ornl.gov/assets/2017\\_nhts\\_summary\\_travel\\_trends.pdf](https://nhts.ornl.gov/assets/2017_nhts_summary_travel_trends.pdf) page 22 - table 6c. Trends in the Average Annual Vehicle Trips per Household by Selected Trip Purposes [divided the 2017 Original 1,865 (trips) by 365 (days) = 5.1 trips per household per day] multiplied by the estimated number of households = the number of daily trips)

# Employment

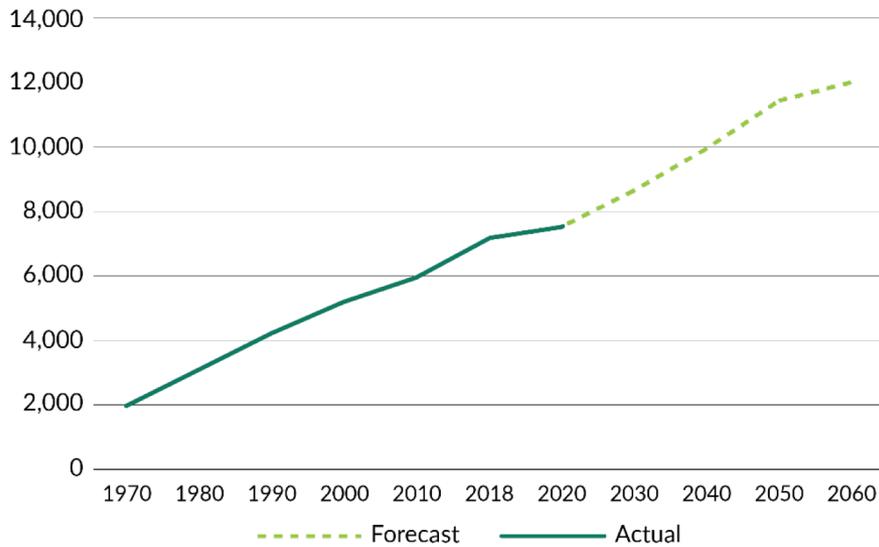
1980-2060 (in millions)



Source: Office of Financial Management, Forecasting and Research Division

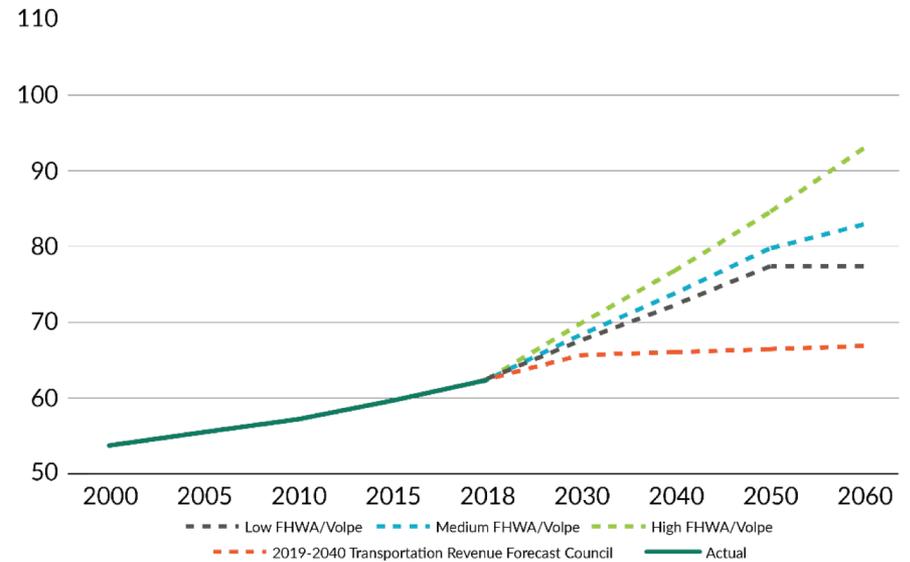
# Vehicle Registration

## 1970-2060 (in thousands)



# Vehicle Miles Traveled

## 2000-2060 ALL PUBLIC ROADS (in billions)



Source: Vehicle registrations are based on Transportation Revenue Council. Vehicle Miles Traveled are actuals for 2000 – 2018; forecasts are based on Transportation Revenue Council and Federal Highway Administration, Forecasts of Vehicle Miles Traveled, Spring 2019 (Office of Highway Policy Information).



# Response to Challenges

## Resilience

- Safety and system operation program
- \$6.9 billion system preservation need
  - Highways and bridges
  - Ferries
  - Train sets
  - Facilities and equipment
- \$1.5 billion [bridge retrofit](#) need
- \$3.1 billion [fish passage](#) obligation
- Significant projects
  - [I-5 Columbia River Bridge](#)
  - [US 2 Trestle](#)
  - [SR 18](#)
  - [Complete I-405/SR-167 Master Plan](#)
  - [I-5 System Partnership](#)
- 10-year need, none of this is funded



# Response to Challenges

## Alternative energy

- [EV charging stations](#)
- [Ferry conversion, new vessels](#)
- [Fleet conversion](#)
- [Clean transit](#) – 386 electric buses in Washington (as of December 2018)
  - WSDOT working with local partners to obtain federal grants to replace diesel with alternative fuel vehicles
- [E-bikes](#), E-scooters

## Technology and Innovations

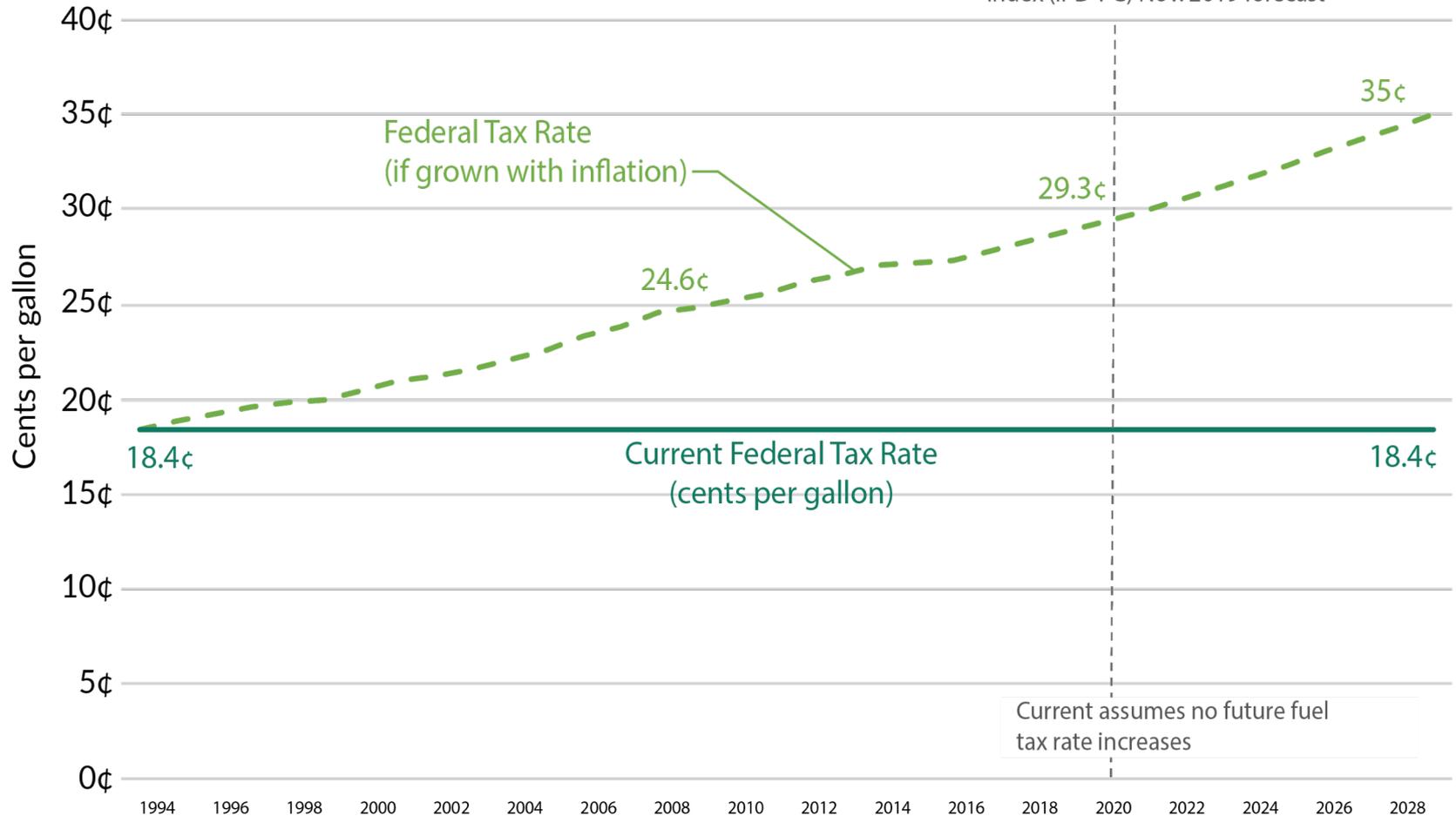
- [Transportation System Management and Operations](#)
  - [Cooperative Automated Transportation](#)
  - Mobility on Demand

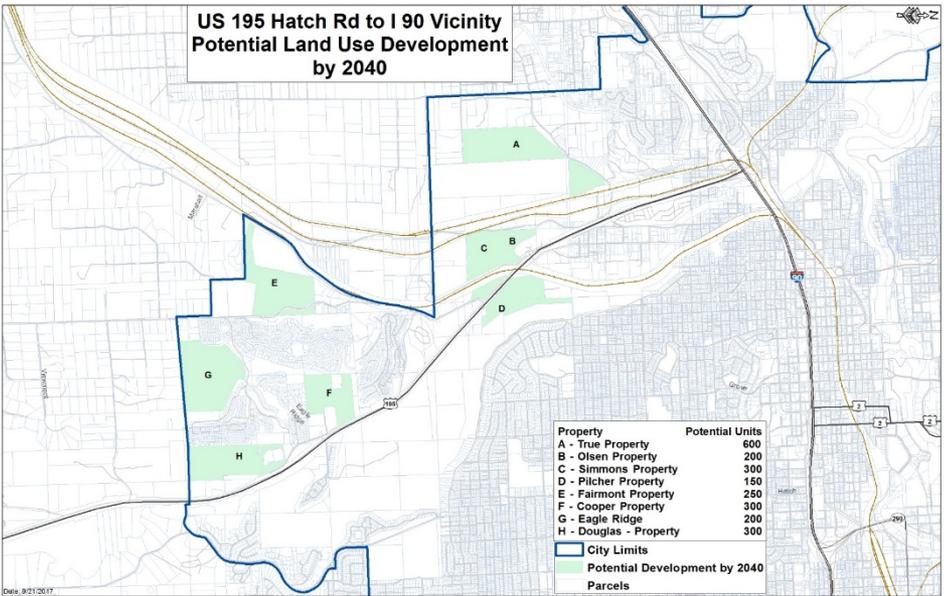
# Response to Challenges

## Governance/Financing

### Federal Tax Rate If Grown With Inflation Since FY 1994 (cents per gallon)

Inflation based on implicit price deflector index (IPD-PC) Nov. 2019 forecast





# Response to Challenges

## Governance/Financing

- [Growth Management Act](#) and State Transportation Facilities

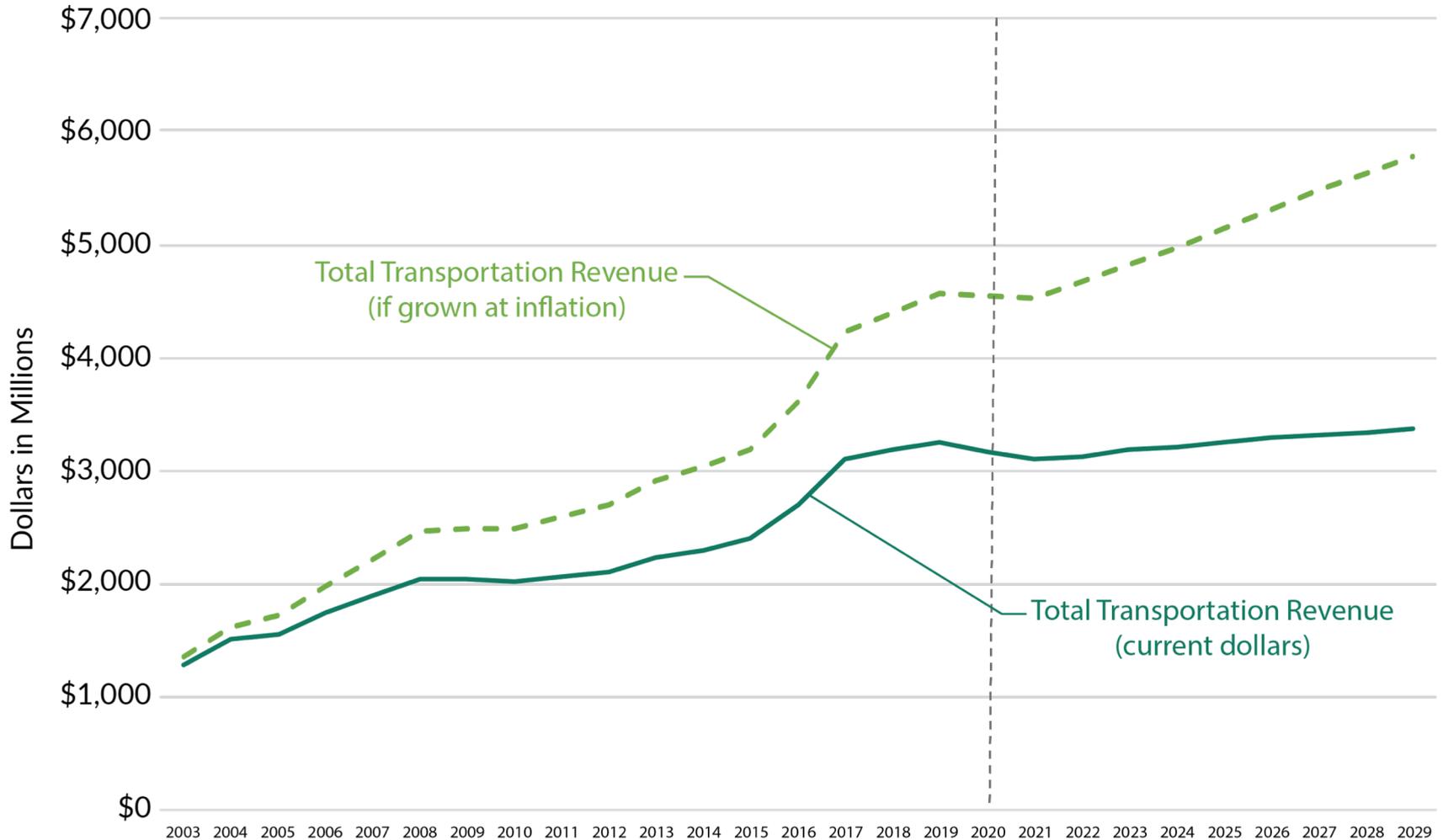
## Future of funding

- [Road User Charge](#)
- [Congestion pricing](#)
- [Tolling](#)
- Other?



1999 plans for infrastructure build-out

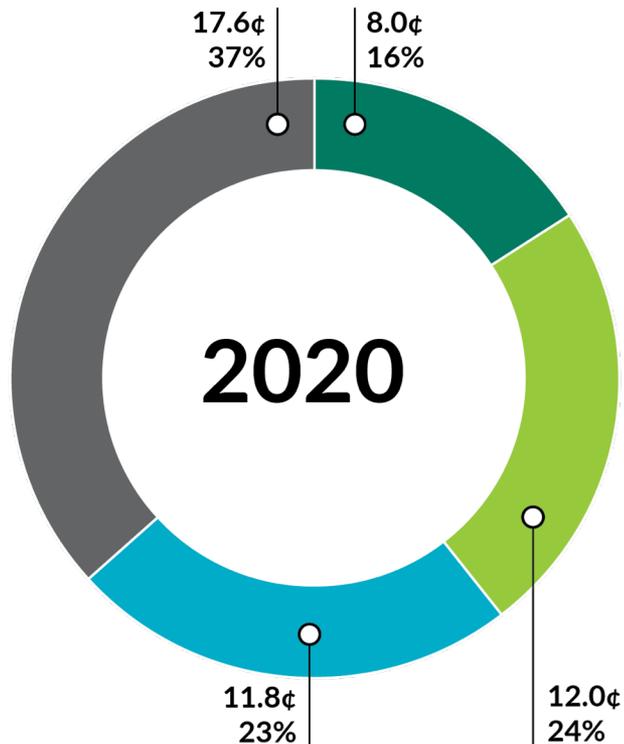
# Total Transportation Revenues – Current and Grown at Inflation (\$ millions)



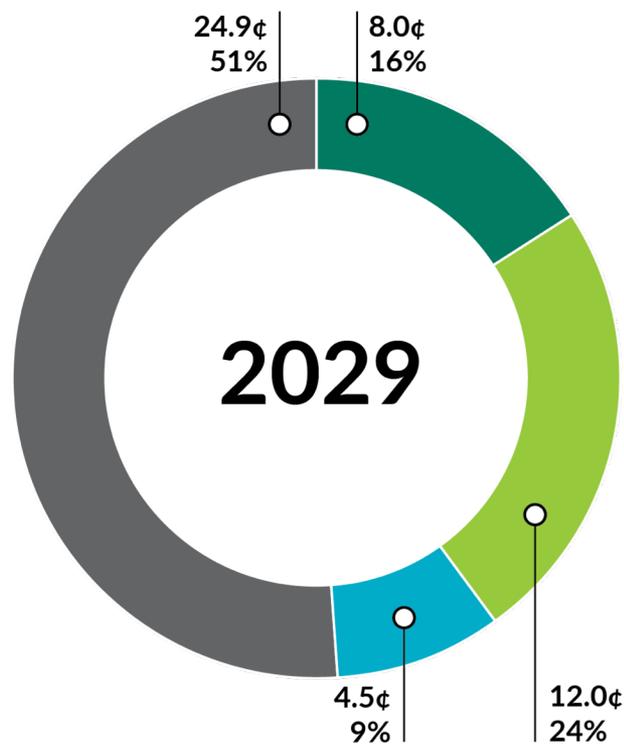
Source: Transportation Revenues based on November 2019 TRFC quarterly Forecast.

# Where does the gas tax go?

Where Does the 49.4¢ State Gas Tax Go?



Where Will the 49.4¢ State Gas Tax Go?



- WSDOT\*
- Cities & Counties (Local Government)
- Legislatively Directed Investments\*\*
- Debt Service\*\*

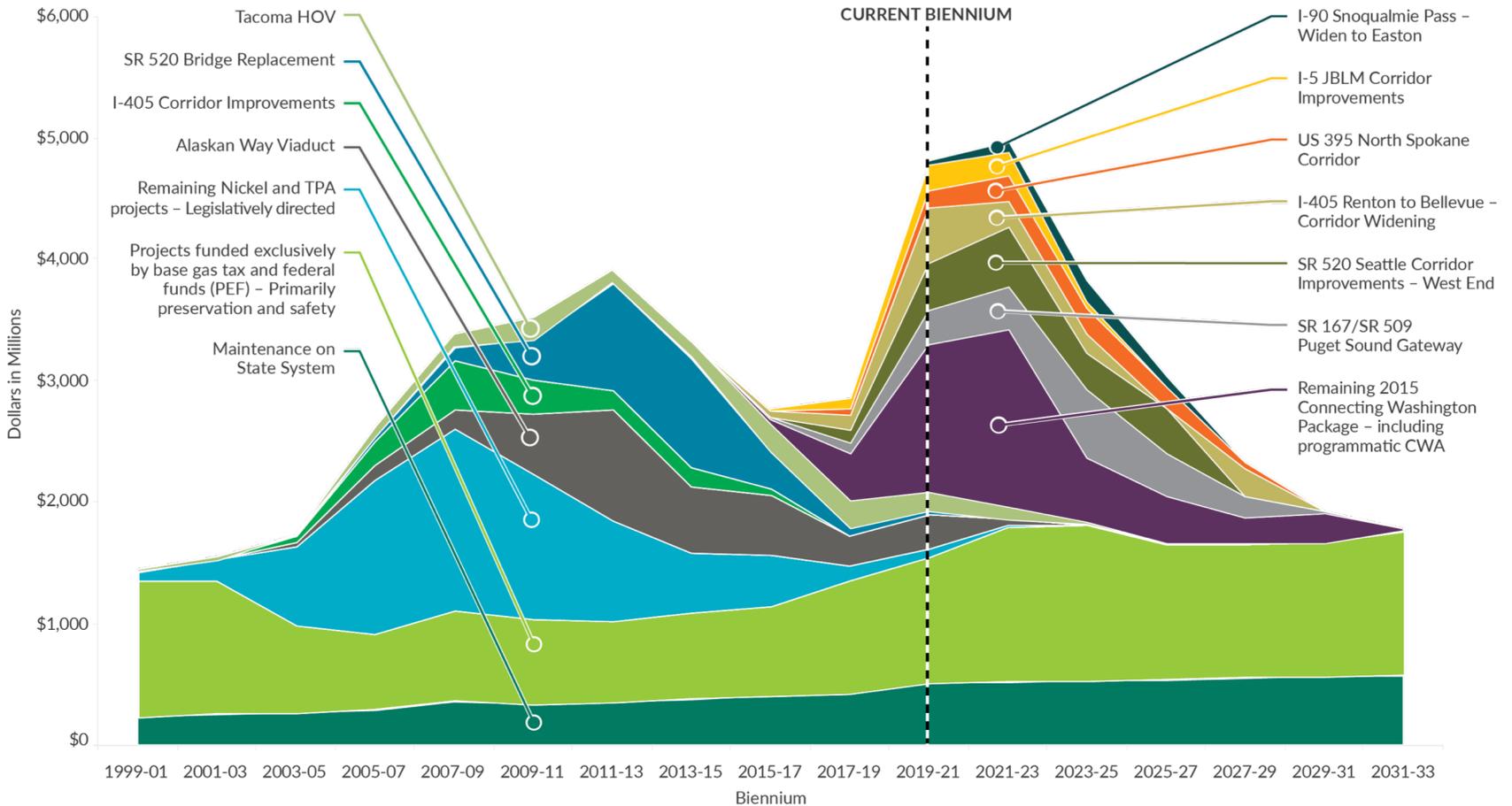
\* Includes operations, maintenance, preservation and safety improvements.

\*\* Includes funding for projects specified in the 2003 Nickel, 2005 Transportation Partnership, and 2015 Connecting Washington acts, as well as funding to pay off bonds funded by pre-2003 fuel tax.

# WSDOT Highway Maintenance and Construction Programs with Revenue Packages

## 2020 Governor's Proposed Supplemental Budget

20GOV001 (Excludes sub-programs I6 and I7)



# RCW 47.04.280

## Transportation system policy goals

- **Economic vitality** – To promote and develop transportation systems that stimulate, support, and enhance the movement of people and goods to ensure a prosperous economy
- **Preservation** – To maintain, preserve, and extend the life and utility of prior investments in transportation systems and services;
- **Safety** – To provide for and improve the safety and security of transportation customers and the transportation system;
- **Mobility** – To improve the predictable movement of goods and people throughout Washington state, including congestion relief and improved freight mobility;
- **Environment** – To enhance Washington's quality of life through transportation investments that promote energy conservation, enhance healthy communities, and protect the environment; and
- **Stewardship** – To continuously improve the quality, effectiveness, and efficiency of the transportation system.

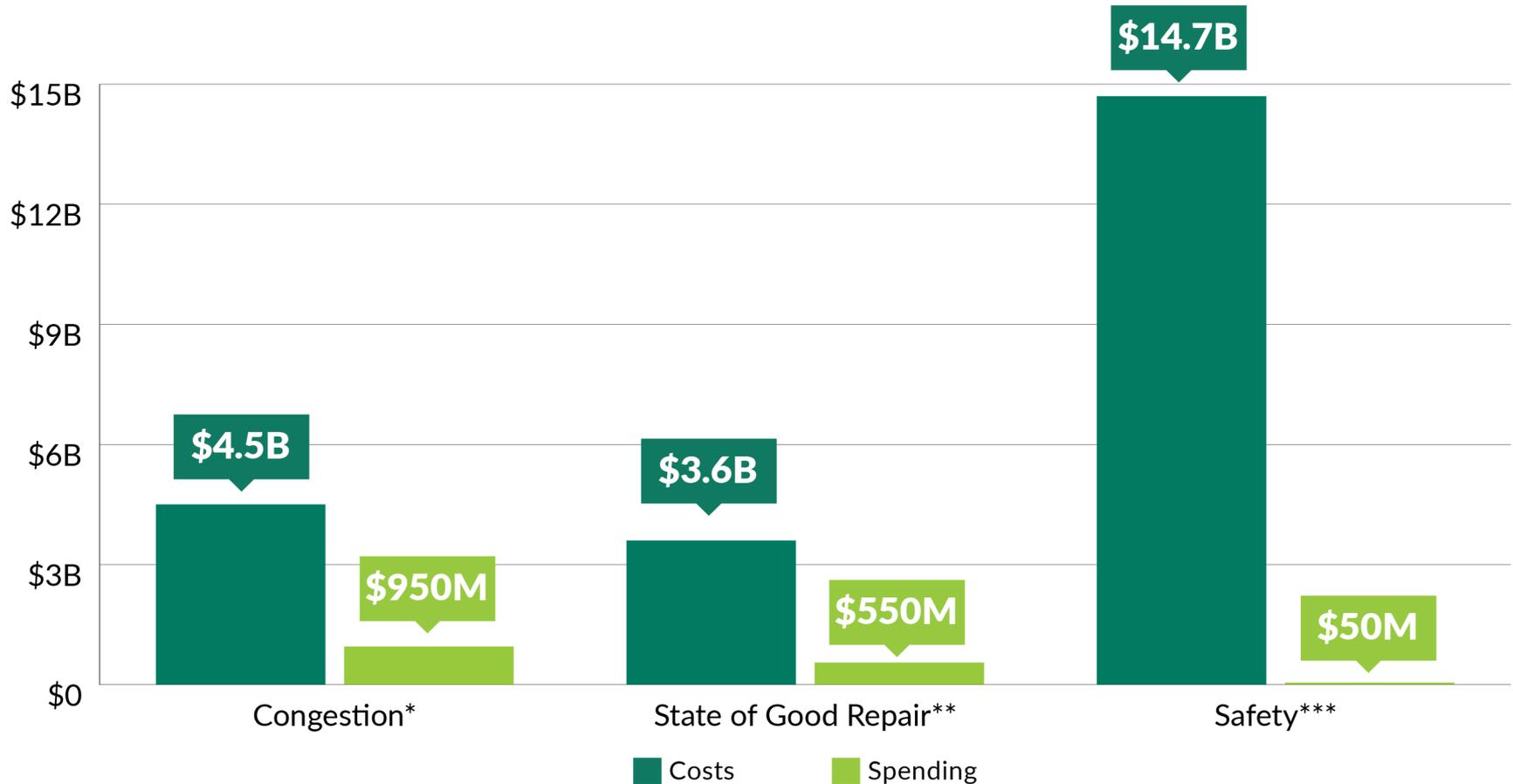
# RCW 47.01.078

## Transportation system policy goals—Duties.

To support achievement of the policy goals described in RCW [47.04.280](#), the department shall:

- Maintain an inventory of the condition of structures and corridors in most urgent need of retrofit or rehabilitation
- Develop long-term financing tools that reliably provide ongoing maintenance and preservation of the transportation infrastructure
- Balance system safety and convenience through all phases of a project to accommodate all users of the transportation system to safely, reliably, and efficiently provide mobility to people and goods
- Develop strategies to gradually reduce the per capita vehicle miles traveled based on consideration of a range of reduction methods
- Consider efficiency tools, including high occupancy vehicle and high occupancy toll lanes, corridor-specific and systemwide pricing strategies, active traffic management, commute trip reduction, and other demand management tools
- Promote integrated multimodal planning
- Consider engineers and architects to design environmentally sustainable, context-sensitive transportation systems

# Cost to Washington's economy



\* Congestion cost source: Texas Transportation Institute's 2019 Urban Mobility Report; based on value of travel delay and excess fuel consumption statewide.

\*\* State of Good Repair source: ASCE 2019 Infrastructure Report Card; estimated at \$656 for every Washington driver.

\*\*\* Safety source: Societal costs of crashes calculated using methods described in Crash Cost for Highway Safety Analysis (FHWA-SA-17-071), Chapter 6, Federal Highway Administration, Office of Safety, 2018. Economic cost components include: medical care, emergency services, market productivity, household productivity, legal costs, insurance administrative costs, workplace costs, property damage and congestion.

# Responsible stewardship – budget structure

## Currently WSDOT:

- Responsibly manages public funds as appropriated by the legislature
- Actively seeks efficiencies wherever we can
- Is limited in what we can do given existing project-based budget structure

## Future opportunities:

- Consider ways to enable executive and legislative branches to be more nimble, collaborative and responsive to near- and long-term challenges
- Is it time to rethink how we structure the budget that guides how we spend?
  - Today: opportunity to get project on list about every 10 years with new funding package
  - Proposed: Competitive process every biennium means communities would have opportunity every two years

# Accountability and transparency

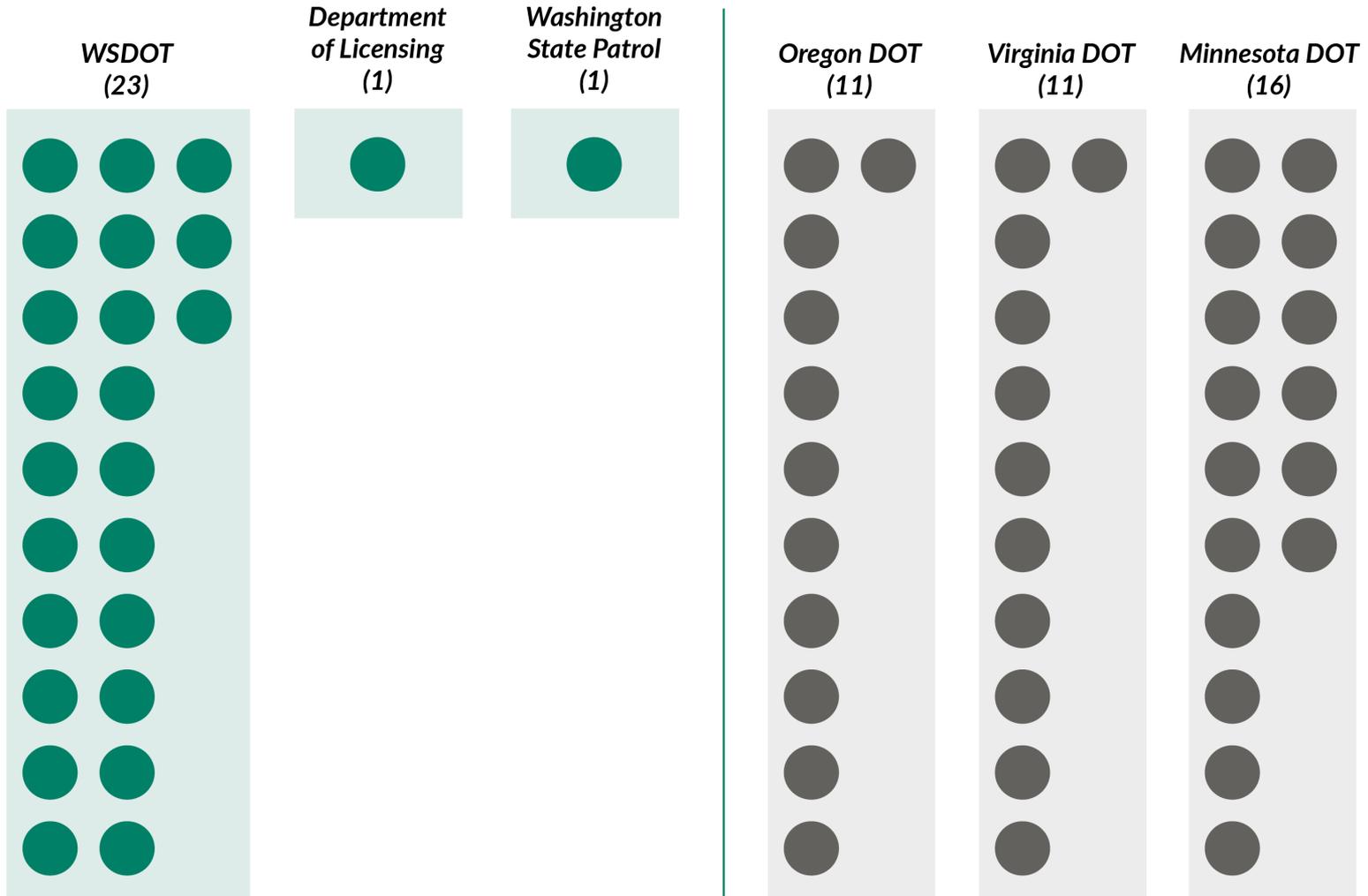
## **WSDOT is investing limited taxpayer dollars and we understand accountability and transparency is the basis of trust**

- We are regularly audited internally, by the State Auditor, by the Legislature, and by the U.S. Department of Transportation
- During the 2017-19 biennium, WSDOT submitted 126 reports directed by the legislature, totaling 5,350 pages (if printed, equals 10 reams of paper)
- Most of these reports are produced quarterly
- Many are duplicative or have been in statue for several years

## **Recommendation:** Welcome an opportunity to consider with legislators and staff how to turn data into actionable information

- Look for opportunities to streamline
- Encourage ongoing usability testing of website with legislators and staff
  - Determine how to best provide legislators information they need
  - Makes information more accessible to everyone who needs it
- Ensure reports are helpful to fulfilling legislative oversight role

# Comparison of Budget Programs



# Rethinking WSDOT budget

Fix it first – meet our collective responsibility to protect and leverage past taxpayer investment, then invest remaining funds in multimodal system expansion

- Programmatic funding for stewardship of a healthy transportation system
  - Address the Safety, Maintenance, Operation, and Preservation of the system
  - Leverage system management and the deployment of technology to add efficiency and enhance equity
  - Manage demand to optimize user experience at lowest cost
- System expansion important, but it is our least efficient tool
  - Takes years for project to go from idea to proposed project, to planned and permitted, to funded, and finally to construction
  - Stewardship of the existing system has to come first
  - Once stewardship addressed, remaining revenue has to be targeted to expansion investments that actually make a difference to the system

# WSDOT “Five Buckets” framework

Bucket Name	Definition
<b>State of Good Repair</b>	Investments that contribute to the physical condition and operational performance of an existing asset
<b>Safety</b>	Investments that improve the overall safety of our multimodal transportation network as defined by Target Zero
<b>Transportation Systems Operations</b>	Investments in system management to maximize the operational efficiency of existing system features
<b>Demand Management</b>	Investments that provide people more choices in how they travel, freeing much needed highway capacity
<b>Focused System Expansion</b>	Investments in system expansion for additional capacity, regardless of mode

# 10-year unfunded needs to meet policy goals vs current appropriation



\* Capital based on 19legfin project list; excluding program v projects; Operating based on 20Gov001

# Preservation is needed now to achieve State of Good Repair

- 4,000 lane miles of pavement are due for preservation, another 3,600 are past due, 1600 rated as poor; currently repaving 750 lanes miles per year
- 15 bridges need replacement, 19 need major rehabilitation; 2 are being replaced
- 60 steel bridges are due for painting, 39 are past due; 4 are being painted
- 56 concrete bridge decks are past due for repair, and 30 more are due; 8 are being repaired
- 17 of the 22 Ferry Vessels Have a Preservation Backlog – the average vessel is 28 years old
- More than 20% of the Palouse River and Coulee City (PCC) railway is in poor condition and only capable of 10 MPH operations; of 75 miles in poor condition, 20.8 are being replaced
- 110, or 39%, of WSDOT facilities are more than 50 years old



# Asset Management – All WSDOT

(Millions of dollars)	Replacement Value	Average Annual Need	Current plan annual average spending	Average annual funding shortfall
Highways	\$109,390	\$665	\$335	\$330
Multimodal (i.e. Aviation, Public Transportation, Rail)	\$600	\$110	\$20	\$90
Intra-Agency (i.e. IT, Facilities, Fleet, Real Estate)	\$66,480	\$125	\$70	\$55
Ferries	\$4,940	\$340	\$125	\$215
<b>TOTAL</b>	<b>\$181,410</b>	<b>\$1,240</b>	<b>\$550</b>	<b>\$690</b>

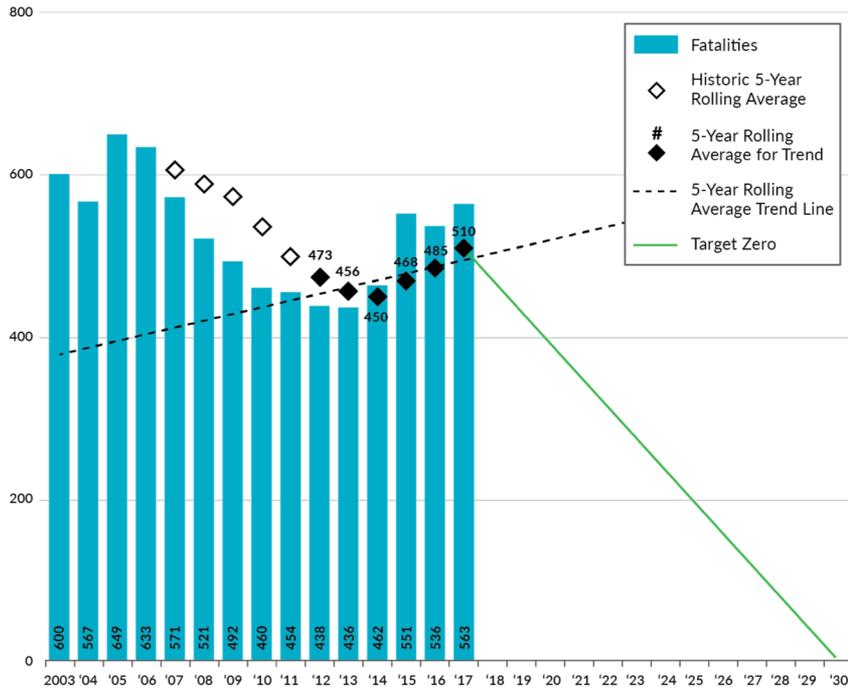
# Difficult Trade-Offs



- At current funding levels, and with I-976, WSDOT does not expect to meet federally required 10-year condition targets
- In the current plan, starting in 2021-23 and beyond, WSDOT is no longer investing in:
  - Ramp paving
  - Paving on sections in 40 MPH or lower speed zones
- Strategies are fundamentally about reducing the rate of deterioration – not about improving the condition of infrastructure
- We're not funded to make the right investments at the right time, which increases costs over time

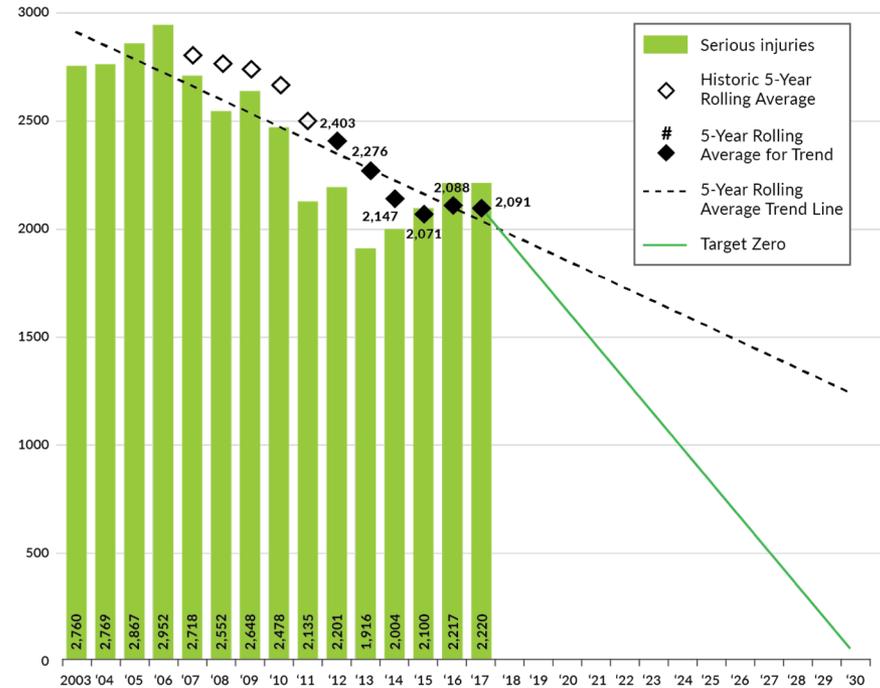
# Fatalities and Serious Injuries

Traffic Fatalities in Washington State (2003-2017)



Compared to 2012-2014, traffic deaths **increased 23%** in 2015-2017.

Traffic Serious Injuries in Washington State (2003-2017)



Compared to 2012-2014, serious injuries **increased 7%**. While vehicle miles traveled increased 6%.

# WSDOT approach to safety

- Funding for Target Zero-based safety and system operations program should focus on:
  - **Safe Systems** – An approach that recognizes:
    - Safety should not be reduced to move cars faster
    - Roads should be designed to encourage safe behavior
    - Land use decisions should include investment to safely accommodate expected transportation demand
  - **Vulnerable Road Users** – The transportation system should safely accommodate all users:
    - Setting speeds that lower potential for fatalities and injury
    - Providing safe facilities for walking and biking
  - **Enforcement** – Using technology to encourage appropriate behavior



# Transportation System Operations

**Investments in system management to maximize the operational efficiency of existing system features**

Funding: \$86 million/biennium

Unfunded need: \$567 million avg./biennium

## Traffic Operations

- Incident Response
- Traffic Management Centers
- Operational Planning
- Asset Management/Major Electrical Systems



## Operations Capital Investment

- Pedestrian Crossing Treatments
- Lane Departure Treatments
- Commercial Vehicles Freight System Improvements
- Cooperative Automated Transportation Strategy Development
- Communication Systems, i.e., Operations and Emergency



# I-5 and I-405 peak hour performance comparison

## I-5 (Northbound at NE 130th St)

Daily Volume: 105,000

Stop and Go Heavy Moderate Freeflow



## I-405 (Northbound at NE 85th St)

Daily Volume: 107,000

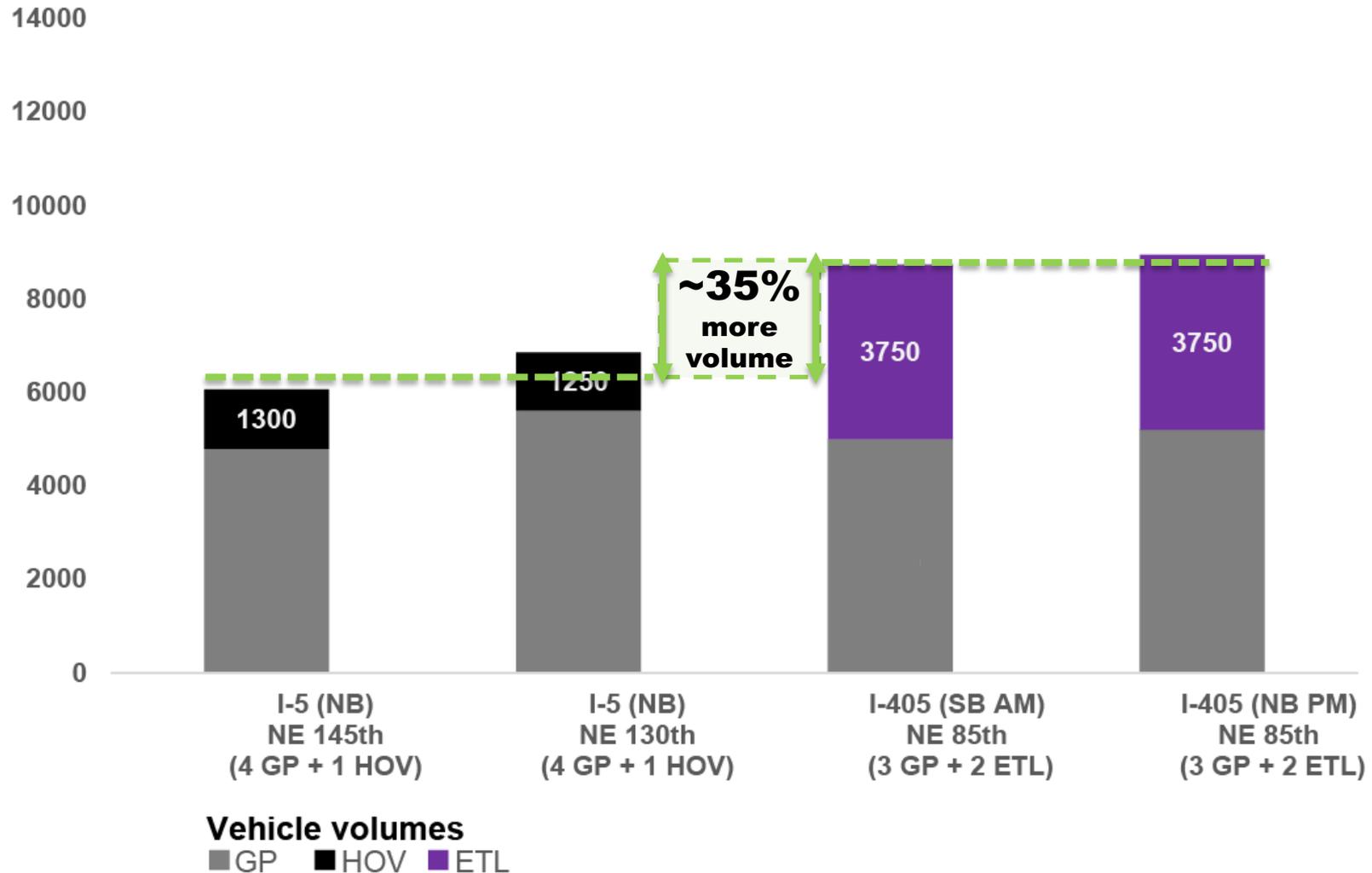
Stop and Go Heavy Moderate Freeflow



Tuesday, July 12, 2017 4:50 p.m.

Tuesday, July 25, 2017 4:30 p.m.

# I-405 section with dual express toll lanes moves more vehicles than five-lane I-5 sections with similar daily traffic volumes



# Transportation Demand Management

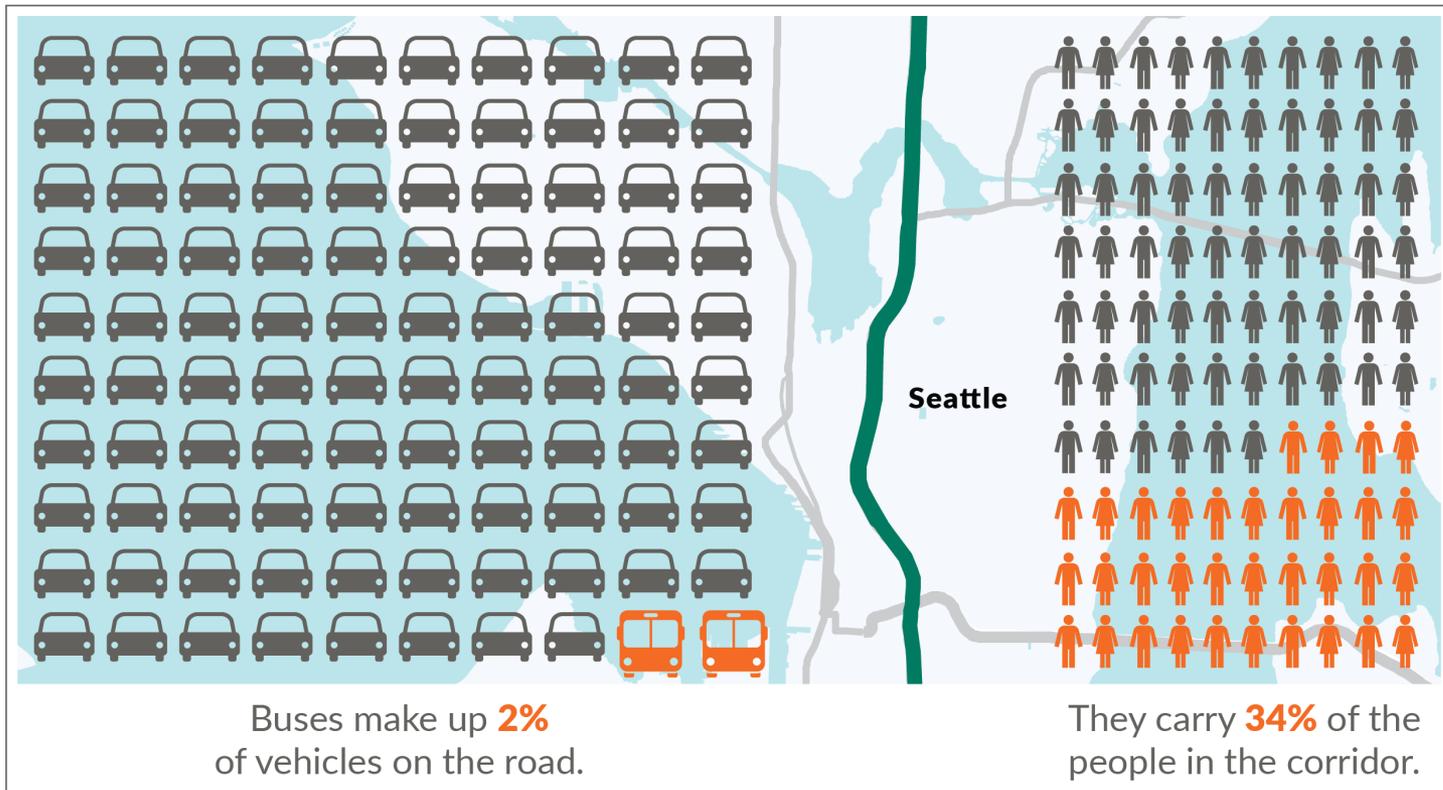
**Investments in efficient modes of transportation to provide people choices in how they travel**

Transportation Demand Management uses strategies intended to reduce travel demands among modes, times or routes. By providing choices and incentives, TDM strategies relieve pressures on segments of the transportation system.

- Maintains system performance while reducing the use of highway capacity
- Redistributes travel demand in space and time
- Supports people
- Supports placemaking in communities

- Alternative work hours
- Community-based social marketing
- Commute trip reduction programs
- Congestion pricing
- Emergency ride home programs
- Employee incentives
- Mode choice
- Non-motorized facilities and improvements
- Park and ride facilities
- Parking management
- Ridesharing
- Route choice
- Telecommuting
- Transit service and facility improvements
- Trip reduction ordinances
- Shared mobility
- Land use integration
- Local transportation network improvements
- High-occupancy facilities
- Transportation-efficient communities
- Transportation system management

# What TDM is currently doing – hidden capacity



Buses contribute added capacity on the I-5 southbound morning commute into Seattle.

# Focused system expansion

Investments in system expansion for additional capacity, regardless of mode

Strategic expansion of the system – after trying everything else

- Current efforts
  - JBLM corridor
  - Puget Sound Gateway
  - North Spokane Corridor
- Future efforts
  - I-5 System Partnership
  - High Speed Rail
  - Commercial Aviation Coordinating Commission



# “Solving” Congestion through system expansion

If we could add enough lanes to build our way out of congestion — what would that look like?

Total additional interstate miles needed to drive posted speed limit at all times:

- 451 lane miles at an estimated cost of \$115 billion
- Depending on timing and percent bonded, would require a \$2.20 to \$2.50 gas tax increase



## Greater Puget Sound area

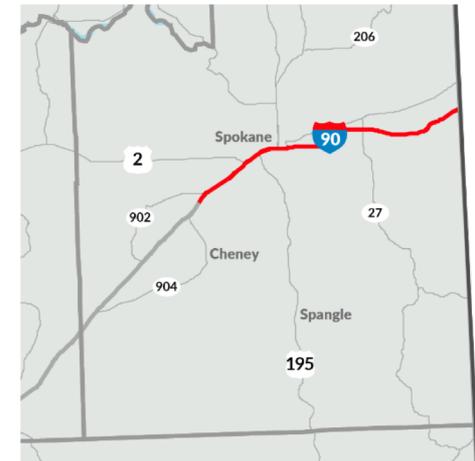
(Olympia to Marysville/Seattle to Issaquah)

- 385 new lane miles
- Maximum of four additional lanes in each direction in select locations within the Central Puget Sound



## Vancouver area

- 38 new lane miles



## Spokane area

- 28 new lane miles

# Working with transportation partners

WSDOT has multiple partners – often unsung heroes helping us with local projects that make a real difference in how state facilities work

- Competitive projects – evidence based, grounded in funding realities:
  - How much can we realistically count on from local, state, federal, tribal funding sources?
  - Prioritization for funding should be based on system need, not asset ownership
  - Grounding in data ensures we are investing limited dollars in areas where drivers, freight, transit and other modal users will see the most benefit
  - Data driven decisions can provide more certainty that projects get a green light and move forward
- Creates a funding structure that supports innovation and flexibility for those who use the system – all of us!

# What's next? Ongoing planning

**WSDOT's job is to provide data and work with partners to inform investment decisions. There are immediate, mid-term and long-term efforts:**

**JTC Study** – Legislatively directed, 10 year, comprehensive assessment of statewide transportation needs and priorities

- As part of statewide needs/priorities assessment, will develop a menu of funding options

**Highway System Plan update** – Blueprint for preserving, maintaining, improving and operating state-owned roads for next 20 years

- Legislative mandate (RCW 47.06.050)
- Recommends funding levels for programs, instead of project lists
- Collaboration with partners to develop scenarios, analyzing how different investment strategies affect system performance. Address all highway uses, modes
- Plan will be complete in 2021

**Investment Strategy** – Our long-term vision is to be so well aligned with our partners that we have a unified transportation investment recommendation to the Legislature. In the meantime, we will work to:

- Align the statewide plans with regional plans, and statewide plans with each other
- Bring the planning work together to meaningfully inform investment decisions
- Our goal: state and regional plans are the basis for Legislative appropriation decisions

# What's next? Funding resources

## Existing

### **Gas Tax**

- Restricted to “highway” purposes
- Increasing percentage going to debt service
- Diminished collections with fuel efficiency and de-carbonization of system

### **Motor vehicle fees**

- Subject to outcome of Initiative 976

### **Tolling**

- Allows us to fund and expedite construction
- Generates revenue for ongoing costs of operations, maintenance and preservation
- Gives us the opportunity to build new infrastructure
  - Second Tacoma Narrows bridge
  - SR 520 floating bridge replacement
  - Alaskan Way Viaduct replacement
  - Puget Sound Gateway program
  - I-405/SR 167 corridor improvements

# What's next? Funding resources

## Potential

### **Road Usage Charge**

- RUC pilot project demonstrated the mechanics of RUC
- Other states (Utah, Oregon) ahead of us in deployment
- Still have work to do to determine if/how to implement such a program in Washington

### **Congestion Pricing**

- Lessens SOV traffic and incentivizes use of other modes
- A form of demand management that will grow more in importance in years to come
- Other states (California, New York) ahead of us in deployment
- Still have work to do to determine if/how to implement such a program in Washington

### **Public Private Partnerships**

- WSDOT works robustly with the private sector
- Public Private Partnerships usually offer financing rather than funding
- Other countries (Australia) and states (Indiana, Virginia) ahead of us in deployment
- Still have work to do to determine if/how to implement such a program in Washington

# Conclusion

- The decisions we make today will determine our economic, environmental, quality of life, and equity outcomes for tomorrow
- We have an opportunity to plan for our future growth and develop a more sustainable transportation system
- A look ahead suggests fundamental change needed
  - New demands
  - New revenue
  - New program-based delivery structure
- Washington's transportation challenges are large, but not insurmountable. We're well positioned for change. Now's the time to get started.

We are up to this!

# Questions?

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