

# Stewardship of Washington's transportation system

**WSDOT moving to the next level**

ROGER MILLAR, SECRETARY OF TRANSPORTATION

ITS Washington Annual Conference, Seattle, WA

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# Overview

- Robust economy brings opportunities and challenges
- Overview of the state's transportation system
- Available Funding
- "Solving" congestion
- Practical Solutions
- Creating a diverse workforce and inclusive culture
- Conclusion

# Robust economy brings challenges

- Washington's economy is booming
  - Greater population and employment
  - Worsening congestion as a result
- The Central Puget Sound is “ground zero” for this boom
  - Prosperous as a region
  - Conduit to/from the rest of the state
- 2017 Corridor Capacity Report – data from 2014 to 2016:
  - 3.2% increase in passenger vehicle registration
  - 4.3% increase in drivers
  - Congestion increases on 4 of 5 monitored corridors compared to pre-recession (2007) levels
    - I-5 up 76%
    - I-405 up 33%
    - I-90 up 117%
    - SR 167 up 4%
    - SR 520 below recession levels due to carpooling, tolling





## Land use, housing and jobs

- Adding new jobs, but are we keeping up with affordable housing and transportation choices for those new workers?
- Lack of affordable housing pushes workers further from urban job centers –
  - Can't afford to live where they work
  - Travel longer distances
- Fewer transportation choices on the urban fringe – people “have to drive”
- Bedroom communities generate their own demand for services and for employees to fulfill that demand



# Freight movement is important to state economy

- Washington one of most trade dependent states in U.S. per capita
  - Foreign imports/exports valued at \$126 billion (2017)
  - \$595 billion in gross business income from freight-dependent industries (2017)
  - 29% expected growth in freight demand in 20 years
- Freight needs are great –
  - System resilience
  - Truck parking
  - Grade-crossing improvements
  - First/last mile connections
  - Preservation of industrial sites
  - Aging infrastructure



# We work with dozens of corridor partners, with competing interests, in a complex transportation network...new opportunities for WSDOT

- Convergence of complex issues –
  - Job centers – experiencing unprecedented growth throughout the region
  - Competing interests –
    - Developers – want to meet new demand, reliant on financing that is risk averse
    - Local jurisdictions – advocate for smart growth, struggle to fund local infrastructure and services
  - 65 cranes in Seattle today – New York has 20, LA has 36 – tremendous amount of activity (as of July 2018)
- Growth in the state is uneven – some communities feel left behind
- Need for even better coordination – We've had good success, also struggles
  - Small changes on state highway system can affect local streets, vice-versa
  - Closures on the state system can bring gridlock to city streets
- Reinforces need for a broader perspective, agency-wide view of our work
  - Examine impacts regionally, not just locally – look at entire system

# Overview of the state's connected, multimodal system

The state's transportation network\* is a connected system that must serve many modes and users



**18,715**  
Highway lane miles



**32**  
Transit systems



**3,312**  
state-owned bridges



**16**  
WSDOT-operated airports



**22**  
Ferries  
**24.2 million**  
passengers per year

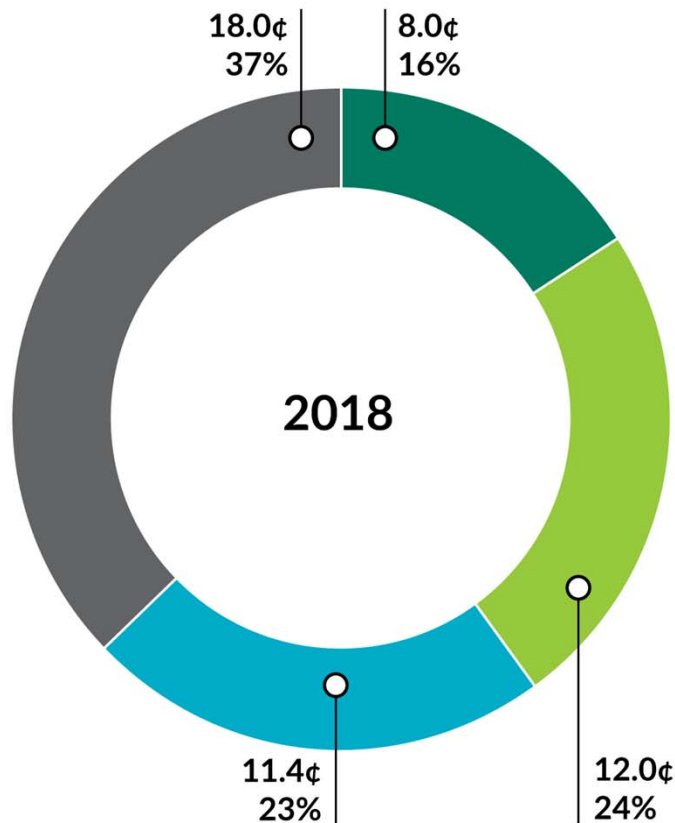


**127**  
miles dedicated bike lanes  
**400**  
miles of sidewalk within/adjacent  
to WSDOT right-of-way

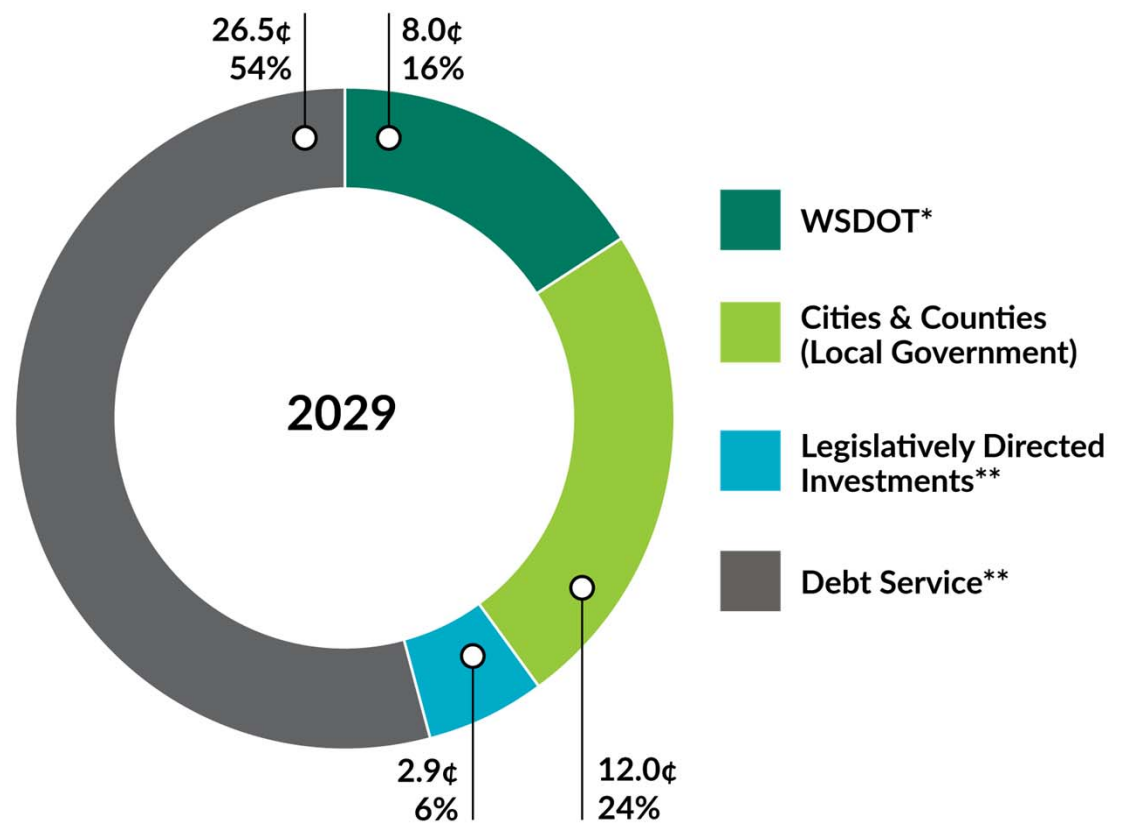
\* More detailed information included in the appendix

# Available Funding

Where Does the 49.4¢  
State Gas Tax Go?



Where Will the 49.4¢  
State Gas Tax Go?



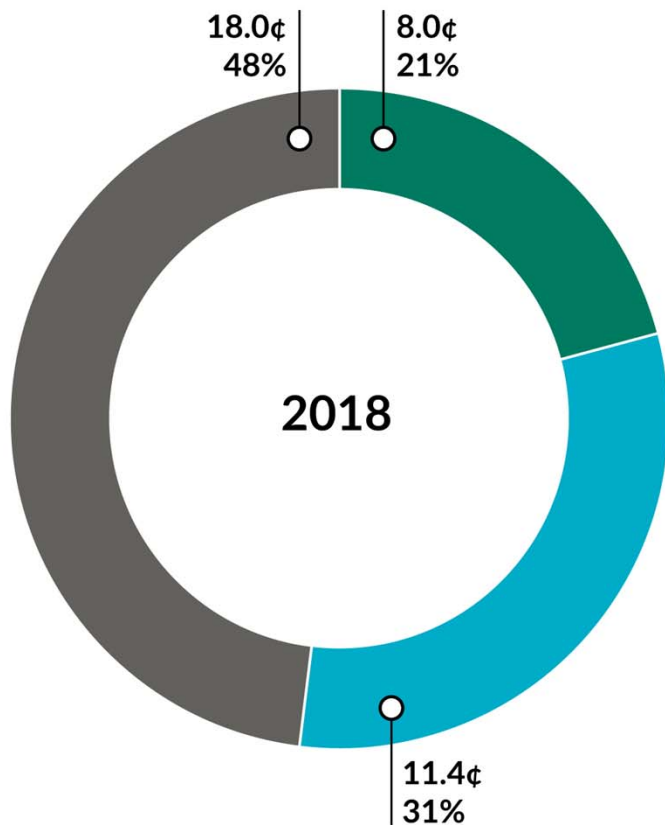
\* Includes operations, maintenance, preservation and safety improvements.

\*\* 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.

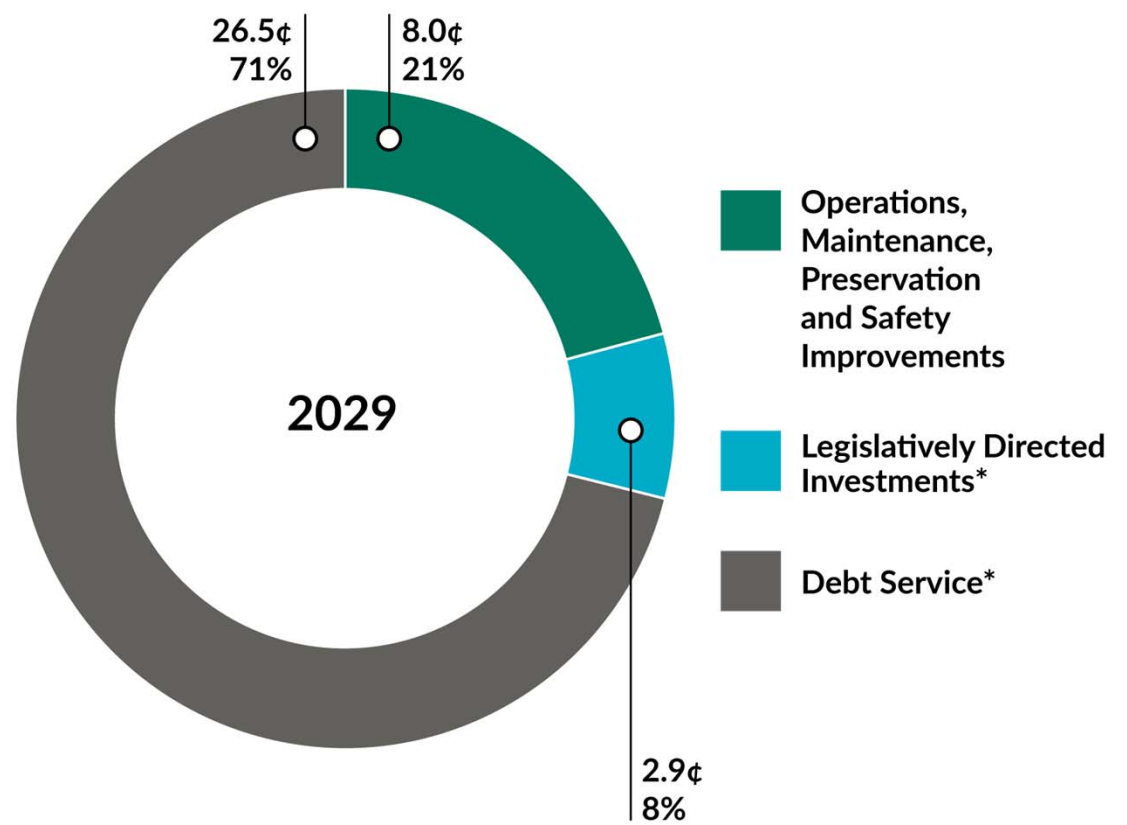


# Available Funding

Where Does WSDOT's 37.44¢  
Portion of the Gas Tax Go?



Where Will WSDOT's 37.44¢  
Portion of the Gas Tax Go?

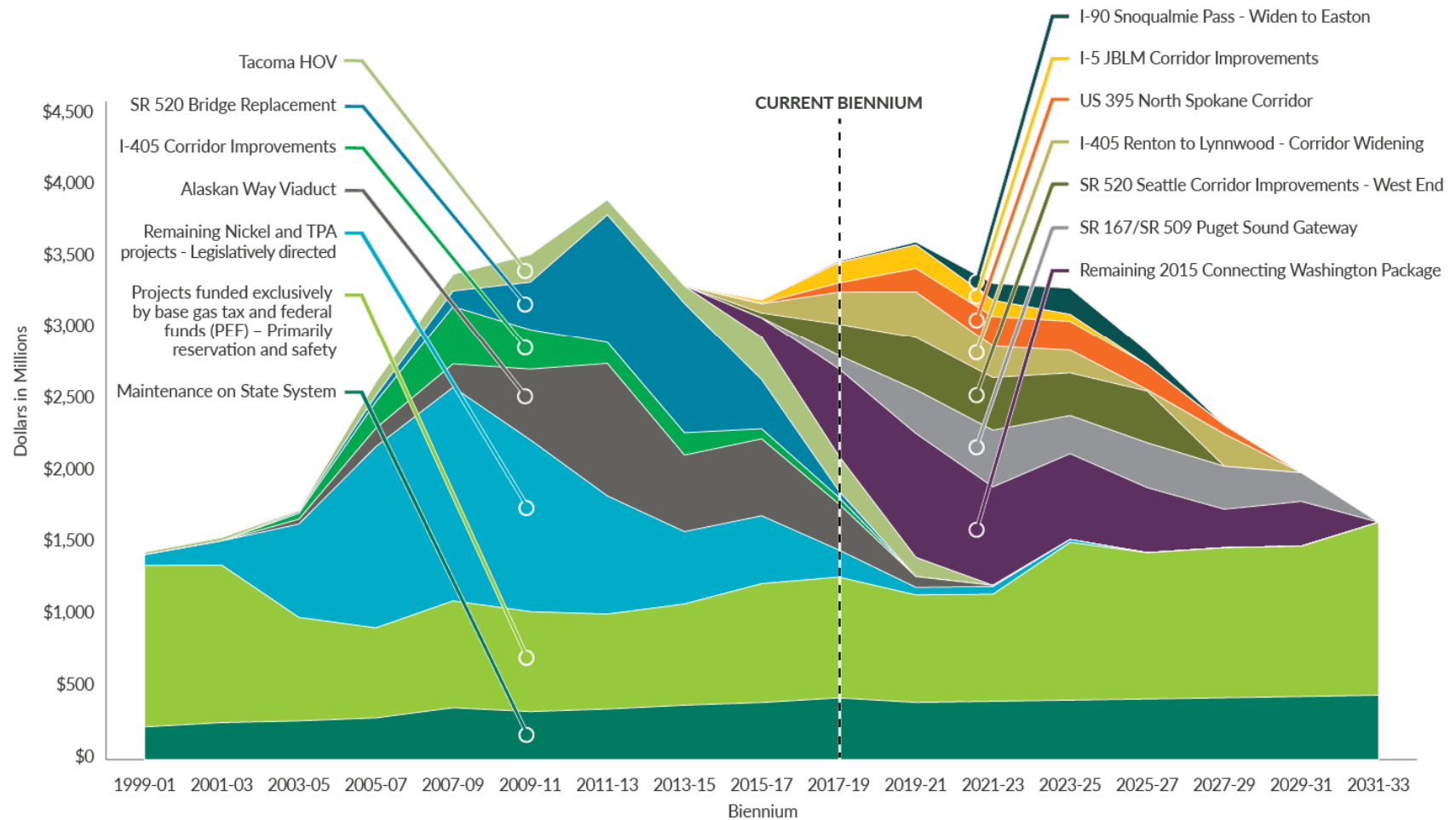


\* Includes funding for projects specified in the 2003 Nickel, 2005 Transportation Partnership, and 2015 Connecting Washington acts, as well as funding to pay off bonds funded by pre-2003 fuel tax.

# WSDOT Highway Maintenance and Construction Programs with Revenue Packages

## 2018 Governor's Supplemental Budget Request

18GOV001 (Excludes sub-programs 16 and 17)



The map displays 15 proposed transportation projects across Washington State, each marked with a red dot and labeled with red text. The projects are as follows:

- SR 539/Bay-Lyn Drive to International Boundary** (Northwest)
- SR 20/Sharpes Corner Vicinity** (Northwest)
- SR 20/Swantown Road** (Northwest)
- SR 9/204 Intersection** (Northwest)
- SR 9/Marsh Road to 2nd Street Interchange - Widening** (Northwest)
- US 2/Corridor Safety Improvements: Everett to Skykomish** (Northwest)
- SR 3/Belfair Bypass** (Northwest)
- I-90 Snoqualmie Pass** (Northwest)
- SR 510/Marvin Road I/C** (Northwest)
- SR 510/Yelm Loop Stage 2** (Northwest)
- I-5/Rebuild Chamber Way Interchange** (Northwest)
- SR 432 Longview Grade Crossing** (Southwest)
- SR 501/I-5 to Port of Vancouver** (Southwest)
- SR 14/I-205 to SE 164th Avenue** (Southwest)
- SR 14/Wind River Junction** (Southwest)
- SR 14 Access Improvements** (Southwest)
- SR 285 North Wenatchee Area Improvements** (Central)
- SR 28 East Wenatchee Corridor Improvements** (Central)
- I-82 Yakima to Union Gap (WSDOT) and East-West Corridor (Yakima County)** (Central)
- SR 240/Richland Corridor Improvements** (Central)
- US 395/North Spokane Corridor** (East)
- US 195/Colfax to Spangle-Passing Lanes** (East)
- US 395 - Intersection improvements** (East)
- US 12/Tri-Cities to Walla Walla - Corridor Improvements** (East)

# PUGET SOUND MAJOR CONSTRUCTION





# “Solving” Congestion

**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

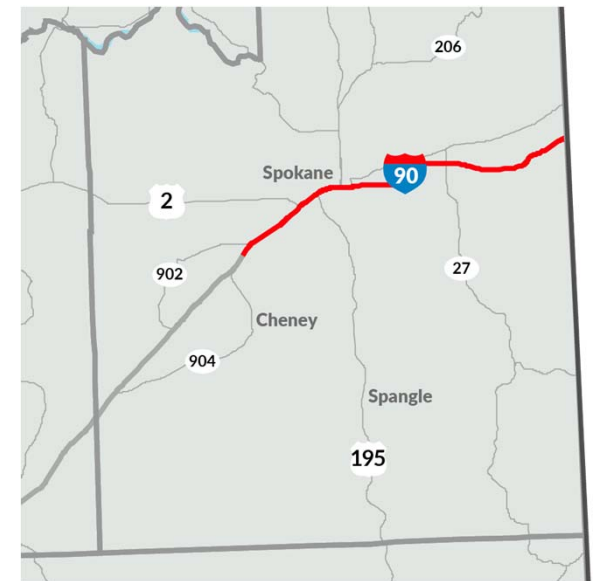
(Olympia to Marysville/Seattle to Issaquah)

- 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



## “Solving” Congestion Assumptions

### High-level analysis for the interstate system:

- Assumes no induced demand
- No growth in demand
- Does not address increased capacity needed for unrestricted travel on non-interstate connections (other state routes or local roads)
- May not address costs or timing of full environmental impacts
- No additional transit or alternative modal options
- Current year costs

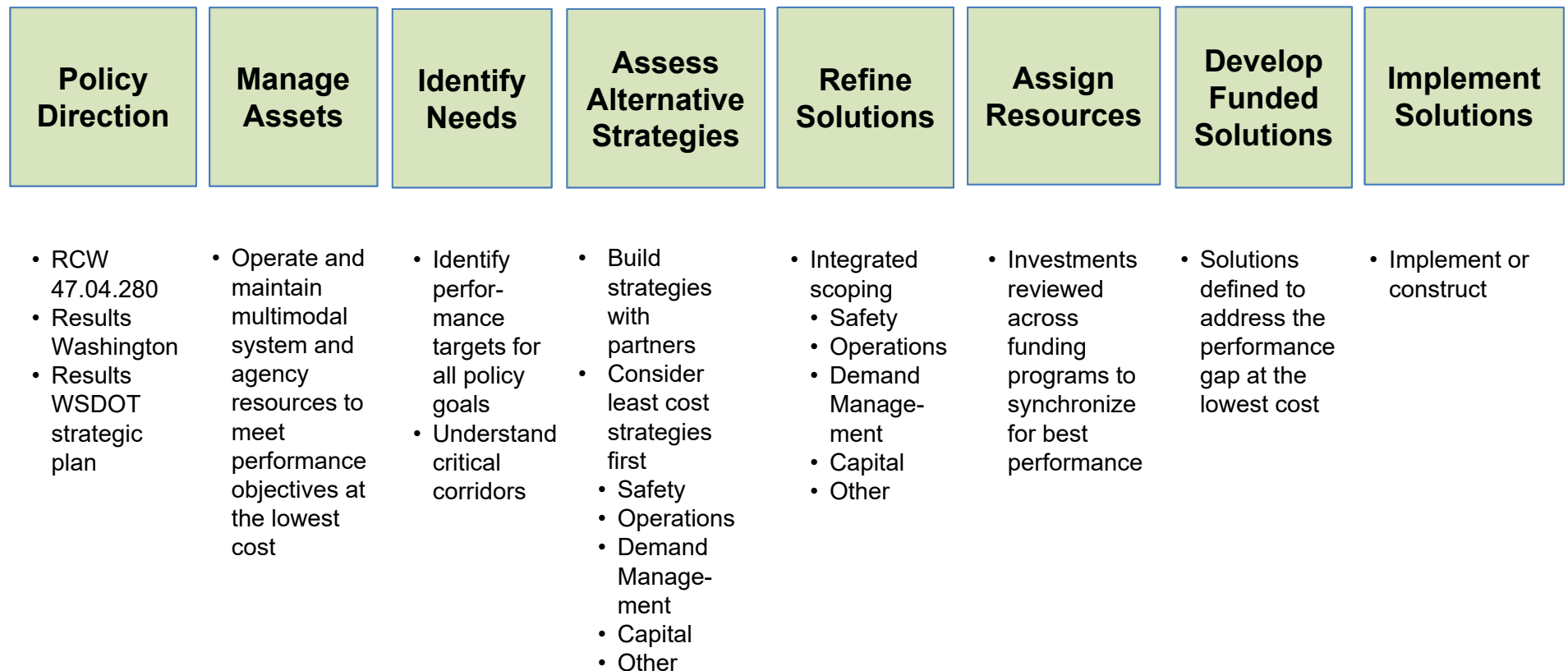
# A path forward in a congested world: Practical Solutions

## What is Practical Solutions?

- Addressing congestion within available resources
- It's the right investment, in the right location, at the right time
- It's not about fixing a problem on the state highway system, but instead, advancing to the next generation of transportation investment
  - Becoming stewards of the transportation system rather than “just” delivering projects
- We have a huge asset that we need to keep in state of good repair – make sure it operates safely – operates efficiently – manage demand – and at times, add capacity



# Proposed framework for future investment decisions





## Framework for future investment decisions (continued)

- Statewide Transportation Asset Management Plan is used to:
  - Identify performance measures and targets
  - Identify assets and their condition
  - Identify gaps between the existing condition and state performance targets
  - Perform lifecycle-cost and risk management analysis
  - Create a financial plan
  - Describe investment strategies to preserve the asset, using a Practical Solutions approach
- Corridor Sketch planning, MPO/RTPO plans are used to assess system needs and changes over time

Manage  
Assets

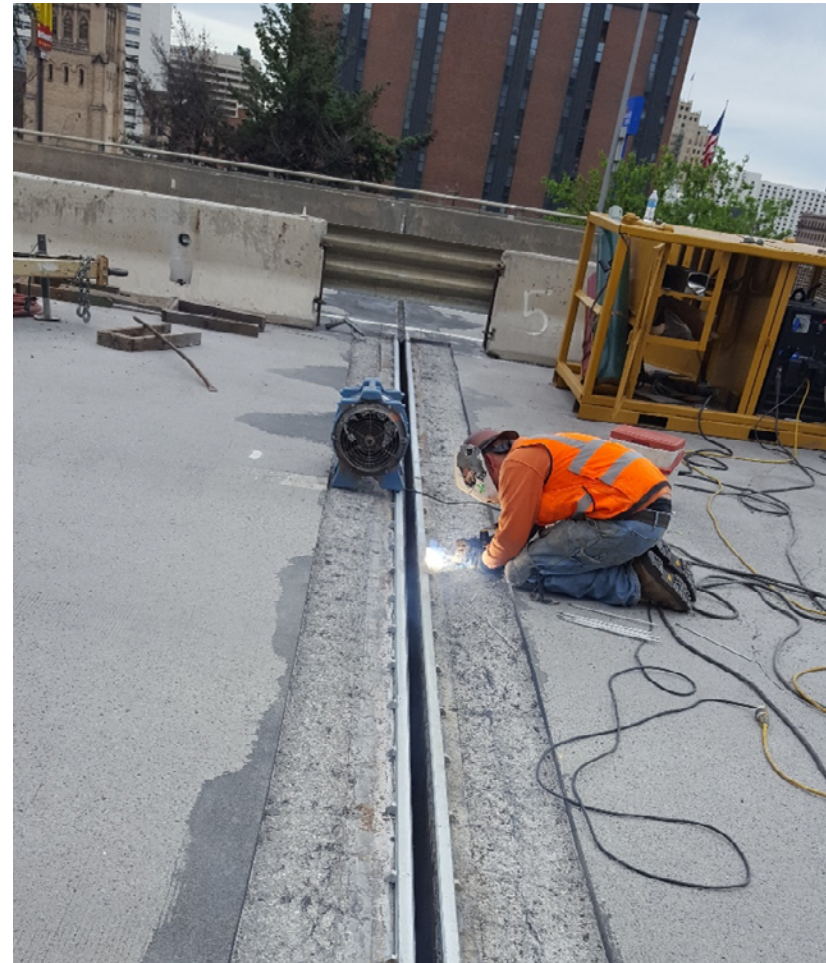
Identify  
Needs



# Practical Solutions framework

## Assess Alternative Strategies

- **State of Good Repair** – just like owning a home, you have to maintain and preserve it to keep the value of the original investment
  - Includes the physical condition of the infrastructure and how well it meets operational needs
- Annual cost for vehicle repairs and operations costs due to poor road conditions: estimated at \$656 <sup>1</sup> for every Washington driver
  - With 5.768 million licensed drivers in Washington, it adds up to an estimated \$3.78 billion spent
  - That's equivalent to a \$1.14 gas tax
- We can fix this!

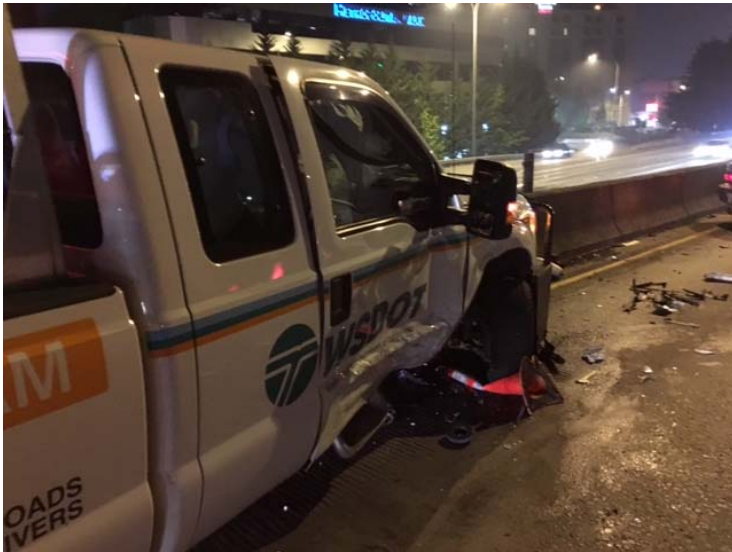


1) American Society of Civil Engineers 2017 Infrastructure Report Card

# Asset Management – All WSDOT

(Millions of dollars)	Replacement Value	10-year Average Spending (2007 - 2017)	10-year Future Annual Avg. Spending (2017 - 2027)	10-year Annual Additional Needs (2017 - 2027)	Budget, Plus Needs Annual Avg. (2017 - 2027)
Highways	\$109,390	\$330	\$335	\$330	\$665
Multimodal	\$560	\$15	\$20	\$75	\$95
Intra-Agency (i.e. IT, facilities, TEF)	\$2,145	\$55	\$70	\$55	\$120
Ferries	\$4,770	\$110	\$125	\$90	\$220
<b>TOTAL</b>	<b>\$116,865</b>	<b>\$510</b>	<b>\$550</b>	<b>\$550</b>	<b>\$1,100</b>

## Assess Alternative Strategies



## Practical Solutions Framework

- **Target Zero – the state's Strategic Highway Safety Plan**
  - Establishes priorities across multiple categories and disciplines:
    - Crash type – lane departure, intersection related
    - Road users – young drivers, motorcycles, pedestrians, older drivers (70+), heavy truck involved, bicyclists
    - High-risk behavior – impairment, speeding, distraction, unrestrained occupants, unlicensed driver, drowsy driver
    - Decision and performance improvement – traffic data systems, EMS and Trauma response, Evaluation/Analysis/Diagnosis
    - Other monitored emphasis areas – wildlife, work zone, vehicle-train, school-bus involved



# Practical Solutions Framework – Safety (continued)

Assess  
Alternative  
Strategies

- **Target Zero Goal** – reduce traffic fatalities and injuries to zero by 2030
  - 530 traffic fatalities on Washington’s roads in 2017
    - 22% higher than the state’s all-time low of 436 fatalities in 2013
  - 2,232 serious injuries on Washington’s roads in 2017
- **Societal cost of crashes** <sup>1</sup>: NHTSA estimates each traffic death has an economic impact of \$9.1 million and each serious injury an economic impact of \$1.5 million
  - For Washington, that equates an impact of \$4.8 billion for fatalities in 2016; \$3.4 billion for serious injuries
  - The combined total economic impact of fatalities and serious injuries is the equivalent of a \$2.46 gas tax
- **Infrastructure response**
  - Intersection related: installing/converting to roundabouts; optimizing traffic signal timing; dynamic intersection warnings; installing refuge islands; shortening crossing areas for pedestrians
- **We can fix this!**

1) The estimates are based on 2013 National Highway Traffic Safety Administration values for preventing fatal and serious injuries. Economic cost components include: medical care, emergency services, market productivity, household productivity, legal costs, insurance administrative costs, workplace costs, property damage and congestion.



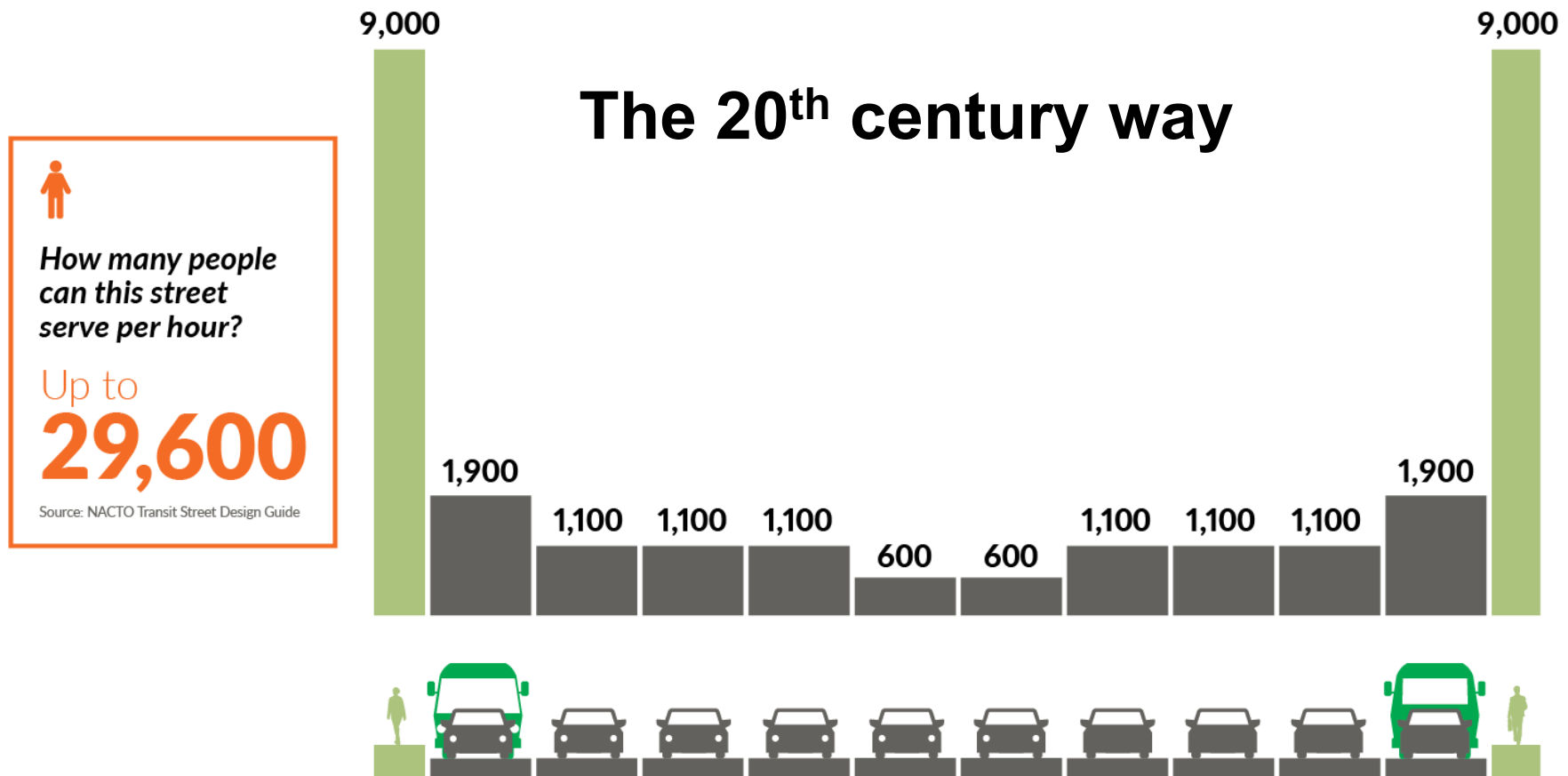
## Practical Solutions Framework

Assess  
Alternative  
Strategies

### • **Transportation System Operations**

- Smart technology – WSDOT ITS Systems
  - 6 statewide Traffic Management Centers
  - 4,000 ITS devices; 1,000 traffic signals; 3,000 illumination systems
  - 7% average annual increase in ITS devices
- Managed lanes – Dynamic tolling, HOV/HOT, Ramp metering
- Low cost enhancements - enhanced warning signs; centerline and shoulder rumble strips; high-friction surfaces on curves and ramps; median barriers; pavement edge safety treatments

# Do our old standards meet today's demands?



# A new way to look at our transportation system

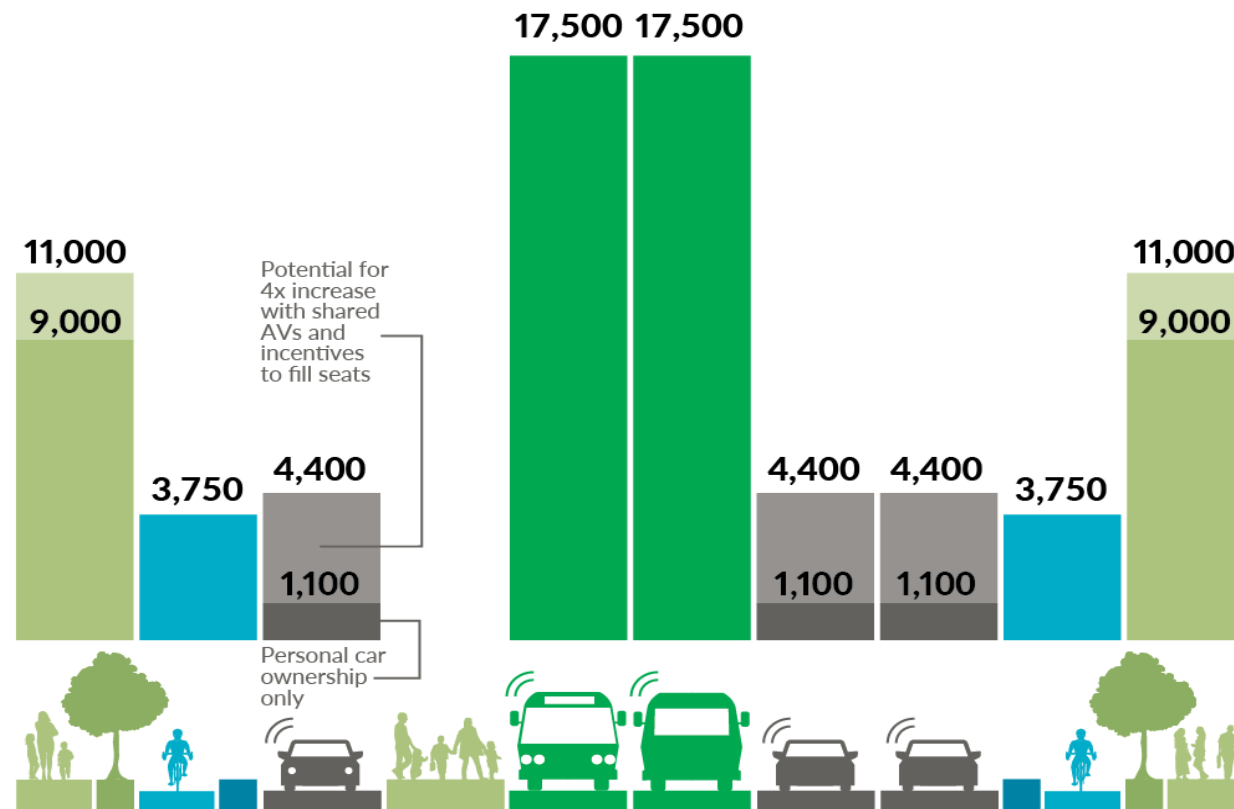
If we manage the asphalt and concrete, we can move more people



**How many people  
can this street  
serve per hour?**

Up to  
**77,000**

Source: NACTO Transit Street Design Guide





# 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



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

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

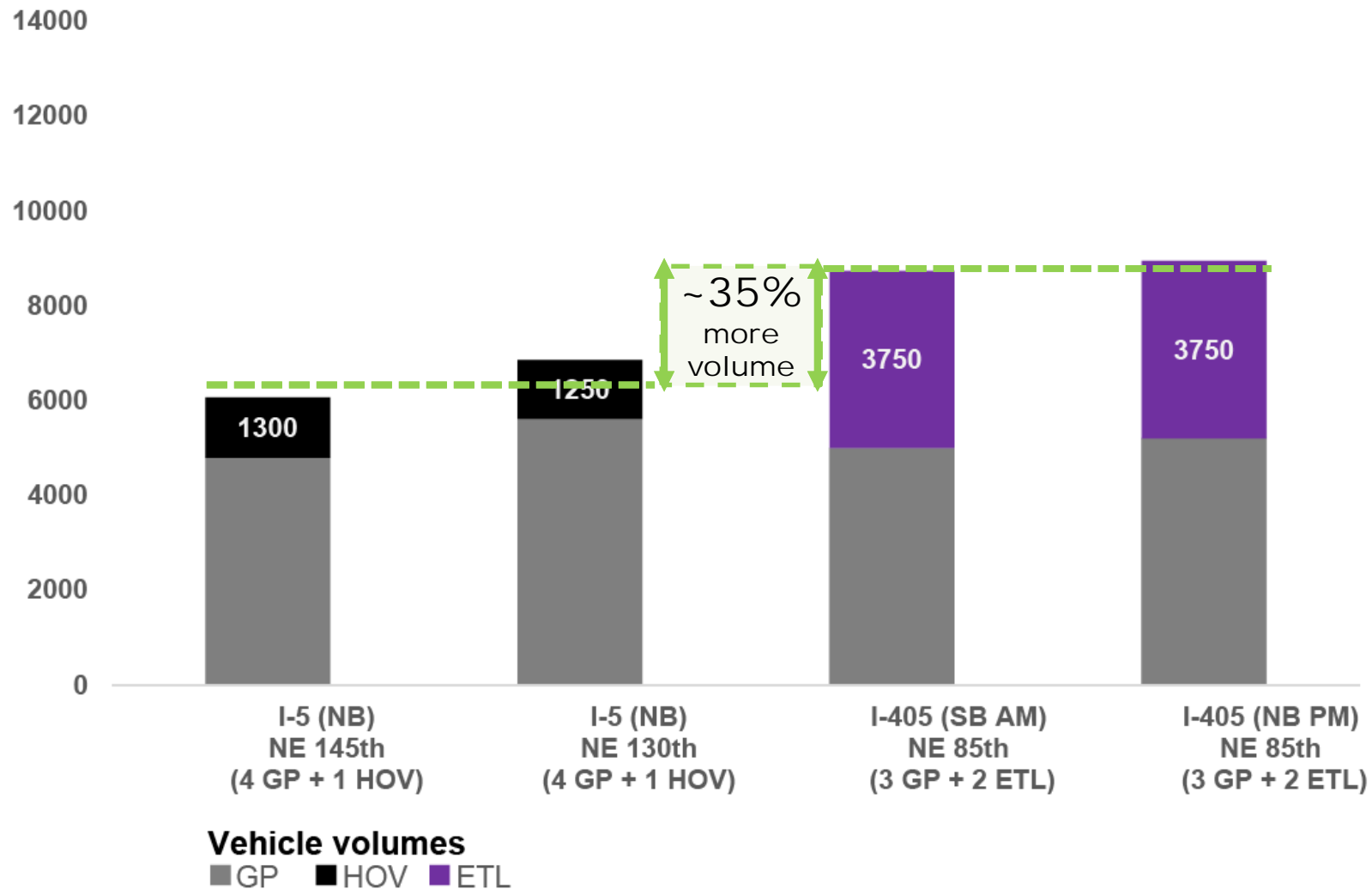
Daily Volume: 107,000

Stop and Go Heavy Moderate Freeflow

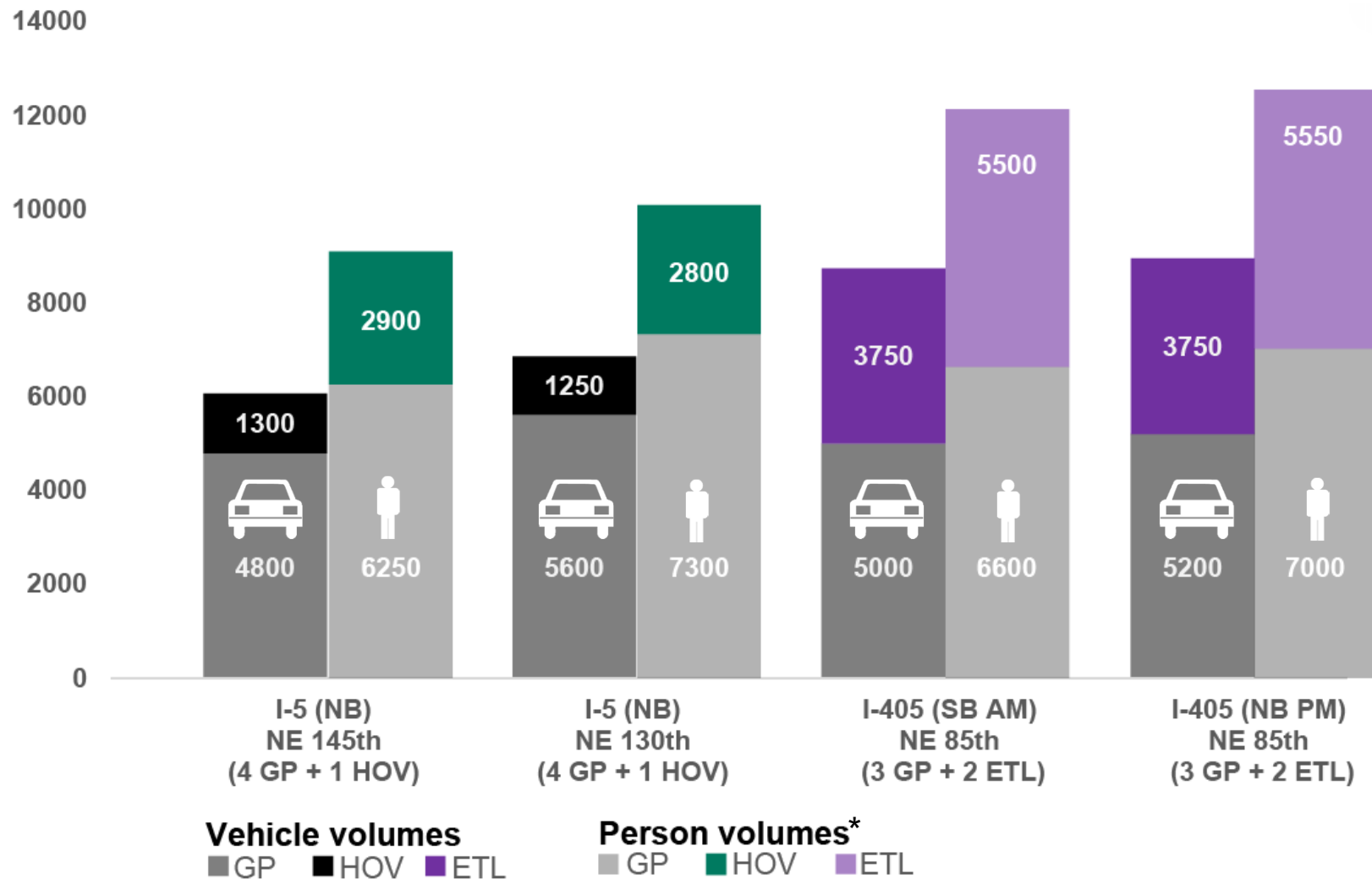


Tuesday, July 25, 2017 4:30 p.m.

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



# Comparison of volumes moved in five-lane sections of I-405 and I-5 with similar daily traffic



\*I-5 person estimates based on TRAC occupancy data (2012). I-405 person estimates based on occupancy sampling (2017). Transit ridership not included in person estimates.

## Assess Alternative Strategies

### Demand Management

- **It's all about giving people choices**
  - Off system improvements
  - CTR
  - Transit investments
  - Active Transportation investments
  - Land use – affordable housing where people work





## Focused System Expansion

- Adding capacity – last resort in some corridors
- Right solution in others:
  - Puget Sound Gateway – SR 509 and SR 167
    - Relieve traffic congestion
    - Improve freight mobility – ports, distribution centers, warehouses, industrial areas
    - Improves airport access for passengers and freight
    - Supports regional job and economic growth
  - North Spokane Corridor
    - Improves mobility from I-90 to US 395 at Wandermere for vehicles and freight
    - Supports vanpooling with park and ride lots; transit
    - Provides a pedestrian/bicycle trail along its full 10.5 mile length



# Proposed framework for future investment decisions (continued)



Assign  
Resources

Develop  
Funded  
Solutions

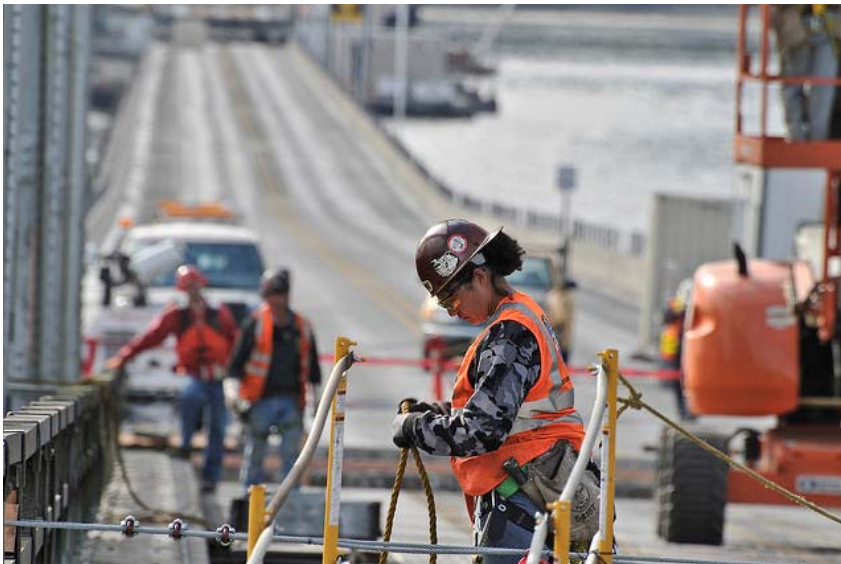
Implement  
Solutions

- Assign Resources
  - Examine how solutions rank across the state based on benefit/cost
  - Look across programs for best fit for resourcing
  - Develop prioritized list of investments
- Develop funded solutions
  - Assess design/development options for the proposed solution
  - Design/develop for the lowest cost that addresses the solution
- Implement solutions
  - Manage implementation/construction to address the performance gap

# Cost to Washington's economy

- **Congestion\***: \$3.2 billion in delay costs for the Central Puget Sound region alone
  - WSDOT's average biennial mobility program expenditure is \$1.8 billion
- **State of Good Repair\*\***: \$3.78 billion annually for vehicle repairs and operations
  - WSDOT's average biennial expenditure is \$800 million
- **Safety\*\*\***: \$8.2 billion combined cost of fatalities and serious injuries
  - WSDOT's average biennial safety program expenditure is \$100 million

- \*Congestion cost source: Texas Transportation Institute's 2015 Urban Mobility Scorecard; based on value of travel delay and excess fuel consumption for the area from Everett to Tacoma.
- \*\* State of Good Repair source: ASCE 2017 Infrastructure Report Card; estimated at \$656 for every Washington driver
- \*\*\*Safety source: 2013 National Highway Traffic Safety Administration



## Creating a diverse workforce and inclusive culture

- **Workforce development**

- WSDOT's retirement eligible – expect to lose 44 percent of engineering staff due to retirement or attrition by 2022
- 75 – 80 percent of maintenance leadership eligible in same period, along with 42 percent of maintenance staff
- 45 percent of ferry employees eligible to retire
- WSDOT aspires to recruit and retain highly competent and motivated employees
- Recruitment efforts:
  - Building a modern work environment: teleworking, flexible schedules, compressed workweek schedules, piloting “infants at work” program
  - Developing talent: re-examining our leadership training, tuition reimbursement, enhancing Knowledge Transfer process
  - Developing Talent Pipelines: targeted outreach in diverse communities; re-entry efforts



# Creating a diverse workforce and inclusive culture

- **Inclusion**

- Equal opportunities
- Disparity Study – 2017 DBE disparity study, 2018 FAA disparity study
- New 19% overall DBE goal since January 2018 (FFY 2018 – 2020)
- Mentor-Protégé program
- Enhanced apprenticeship and pre-apprenticeship support

- **Every voice is heard**

- Strive to be sensitive to the cultures of our diverse communities
- Reaching out to those traditionally underrepresented and underserved





## Community engagement

- In 2017, WSDOT conducted or participated in nearly 1,000 public forums including
  - More than 400 WSDOT-hosted informational briefings and presentations
  - Nearly 300 local-agency sponsored public meetings
  - 65 project-specific open houses
  - 15 milestone events
- In addition, WSDOT held dozens of workshops, advisory group and stakeholder meetings, conducted public surveys, as well as engaged with the public at fairs, festivals and other events

# Community engagement

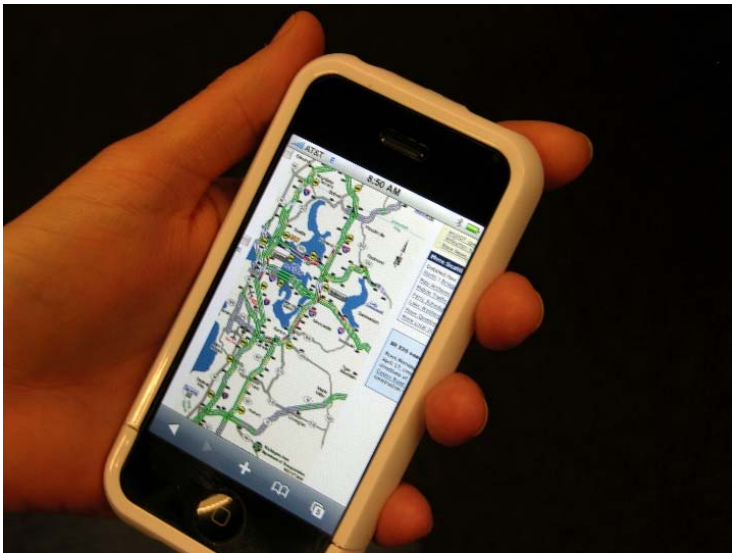
## We listen, we respond

- **Social Media Outreach**

- 883,000 mobile app downloads
- 465,000 Twitter followers for Seattle area traffic
- 275,000 Twitter followers for WSDOT announcements
- 82,000 Facebook likes
- 77 million Flickr views
- 3.1 million text messages per month

- **Proof of performance**

- Example: 2016 week-long SR 99 closure for tunneling under Alaskan Way Viaduct – with only two weeks notice:
  - Nearly 1 million social media impressions leading up to and through the closure
  - Helped drivers plan, influenced media coverage
  - Traffic was still heavy, but social media presence had noticeable effect on start and end times of peak commutes
  - Drivers altered the hours of their commute – both morning and evening commute began up to an hour earlier



# Conclusion

- We're moving from an agency that “just” delivers projects, to one that is the steward of a complex transportation system
  - We look forward to continuing to work with our partners on this stewardship of the system
- We know you are aware of problems and concerns
  - Please reach out to us so that we can work together, be part of the discussion, find a solution
  - Discover what the real problem is, ways to address it
  - Evaluate how the possible solution(s) fits with the state's overall priorities
- Together we can fix this!



# Questions?

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