

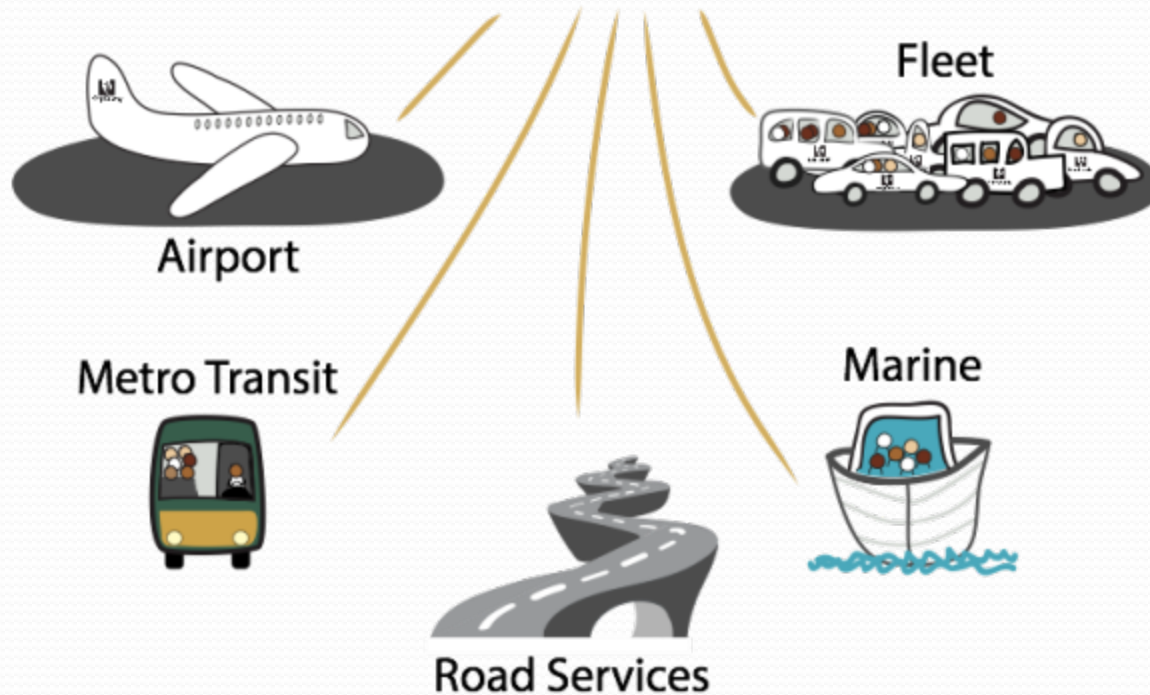
Keeping Communities Connected

King County Road Services

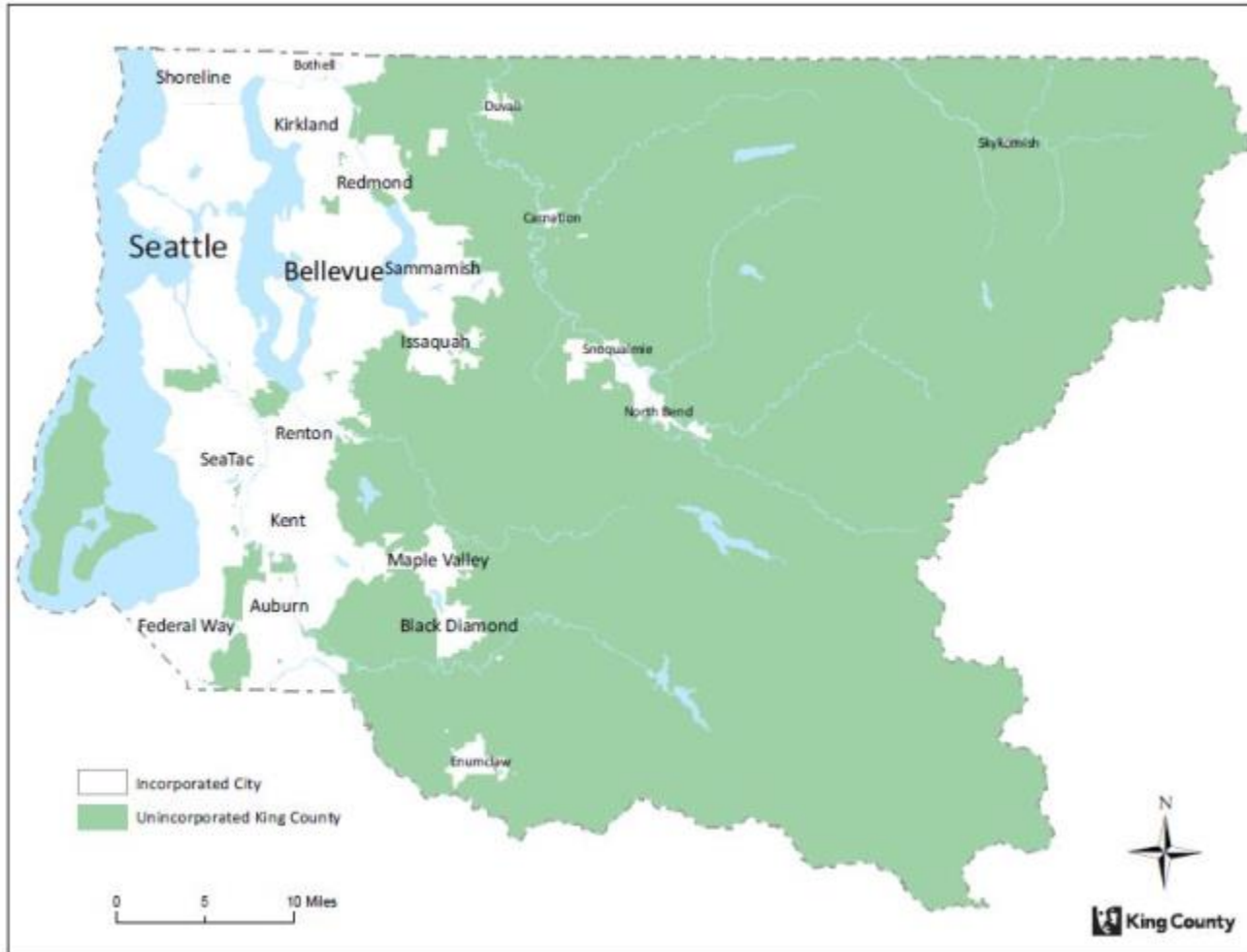


King County

Department of Transportation



State, County, City, & Private Roads

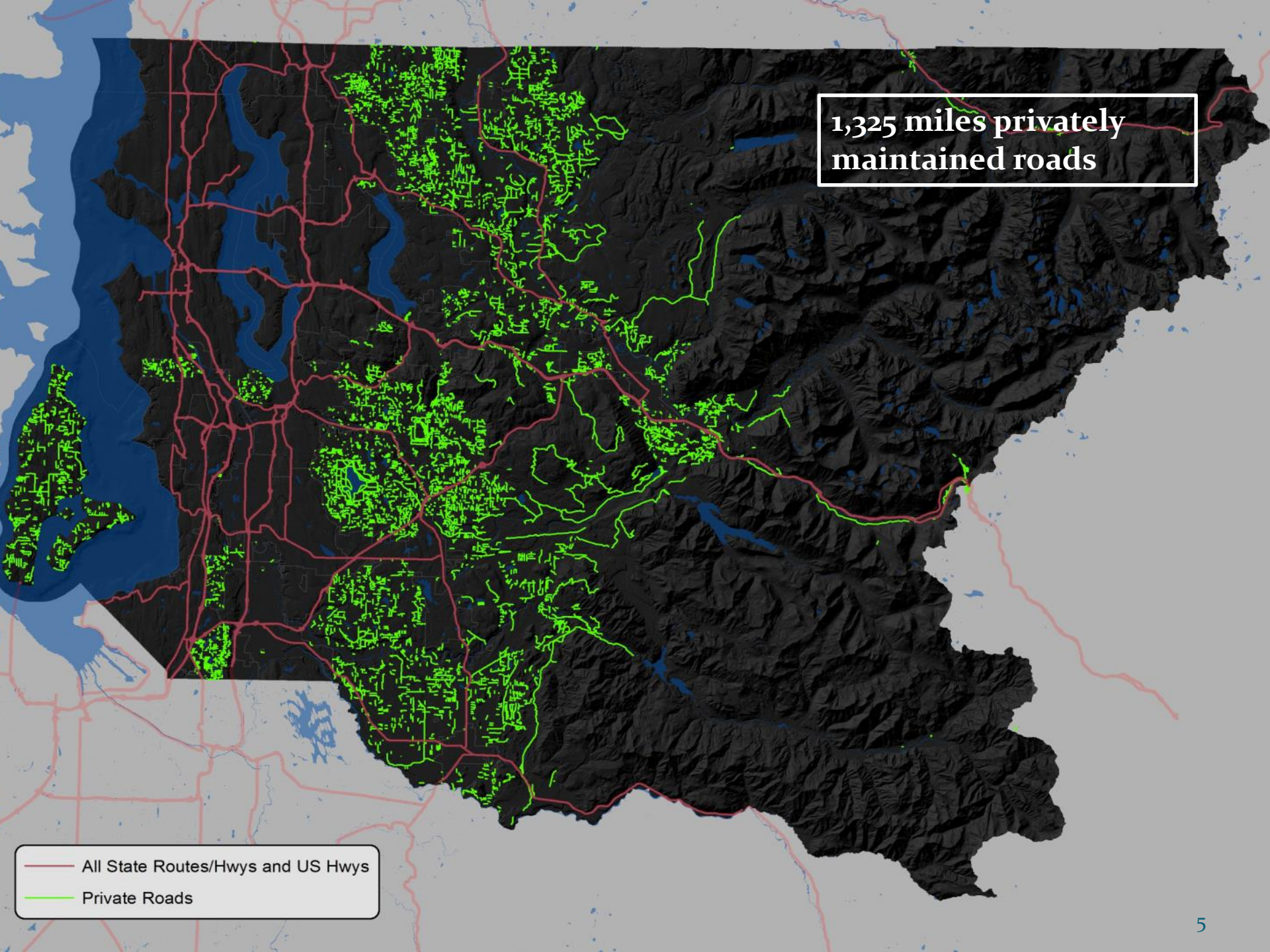


906 miles state and federal highway

— All State Routes/Hwys and US Hwys

1,325 miles privately
maintained roads

— All State Routes/Hwys and US Hwys
— Private Roads



**1,486 miles county
maintained roads**

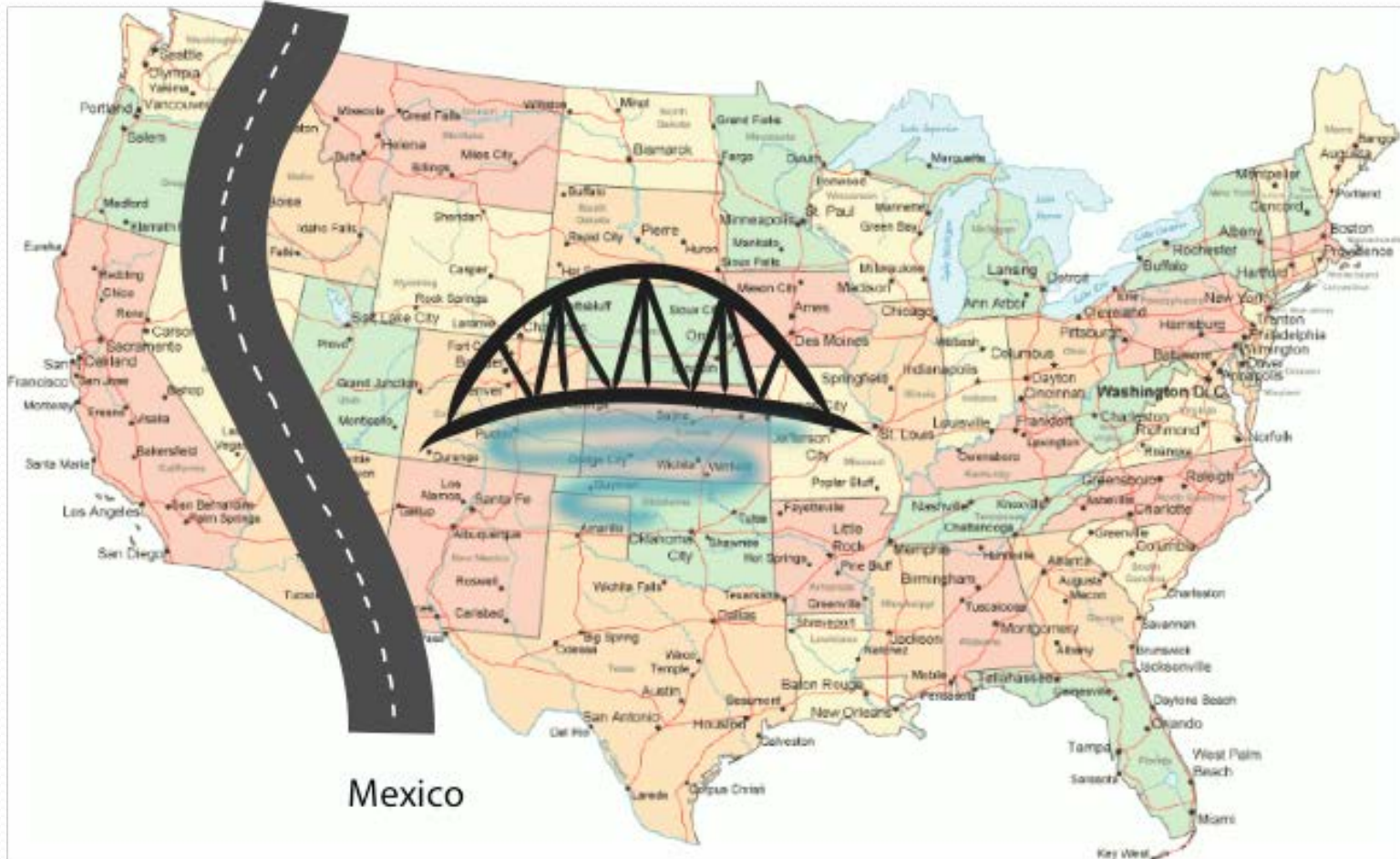
— All State Routes/Hwys and US Hwys
— All County Roads

How big is 1,500 miles of roads?



1,200 miles - Canada to Mexico

Canada



Mexico

County Road Assets

County-owned roads



County Road Assets

County-owned roads



County-owned bridges



County Road Assets

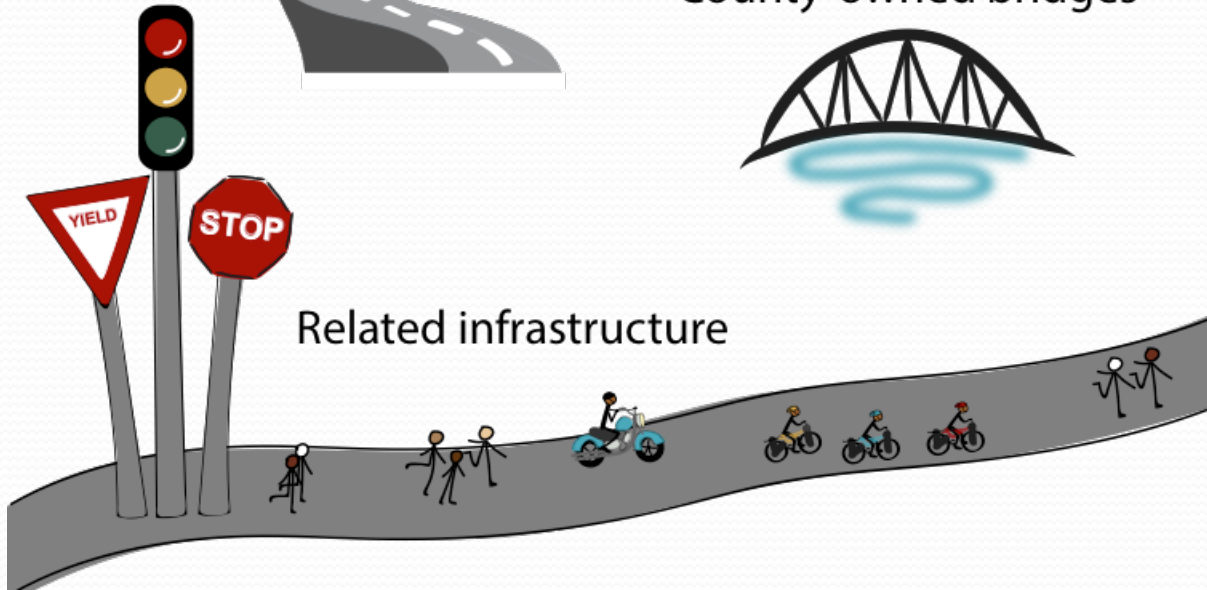
County-owned roads



County-owned bridges



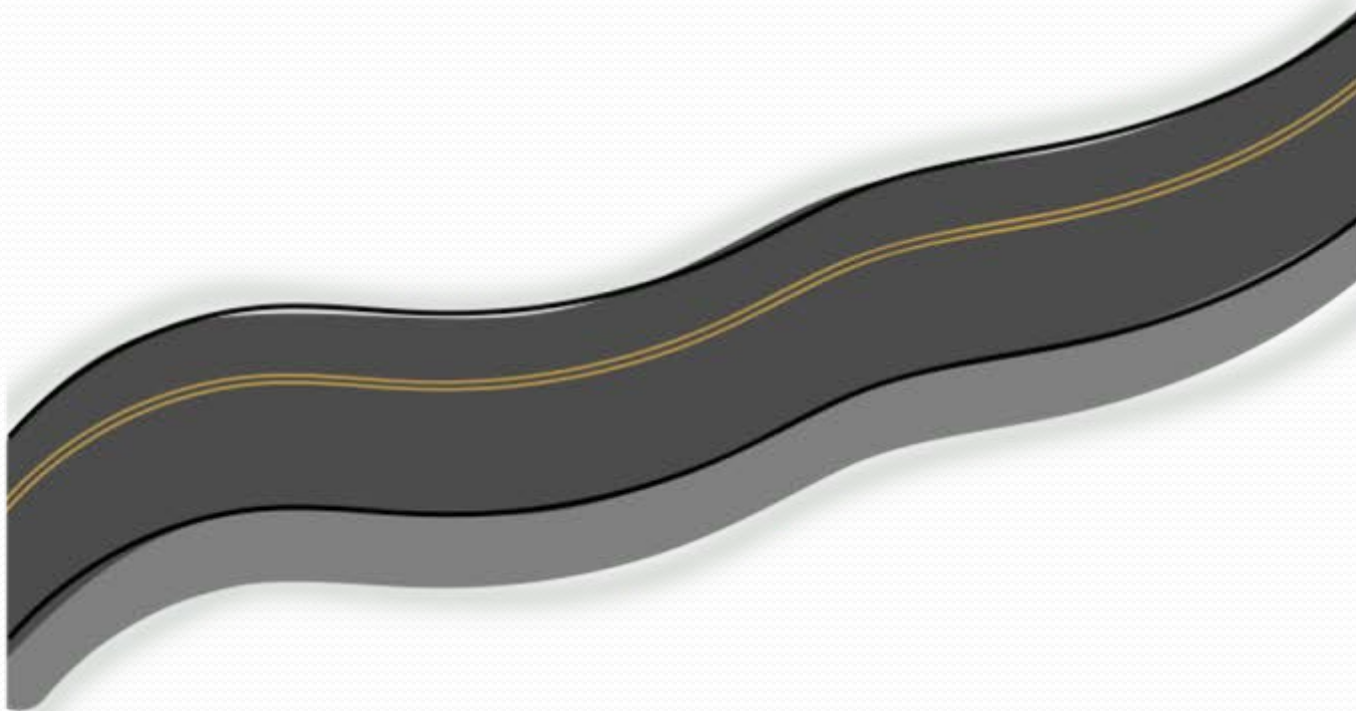
Related infrastructure



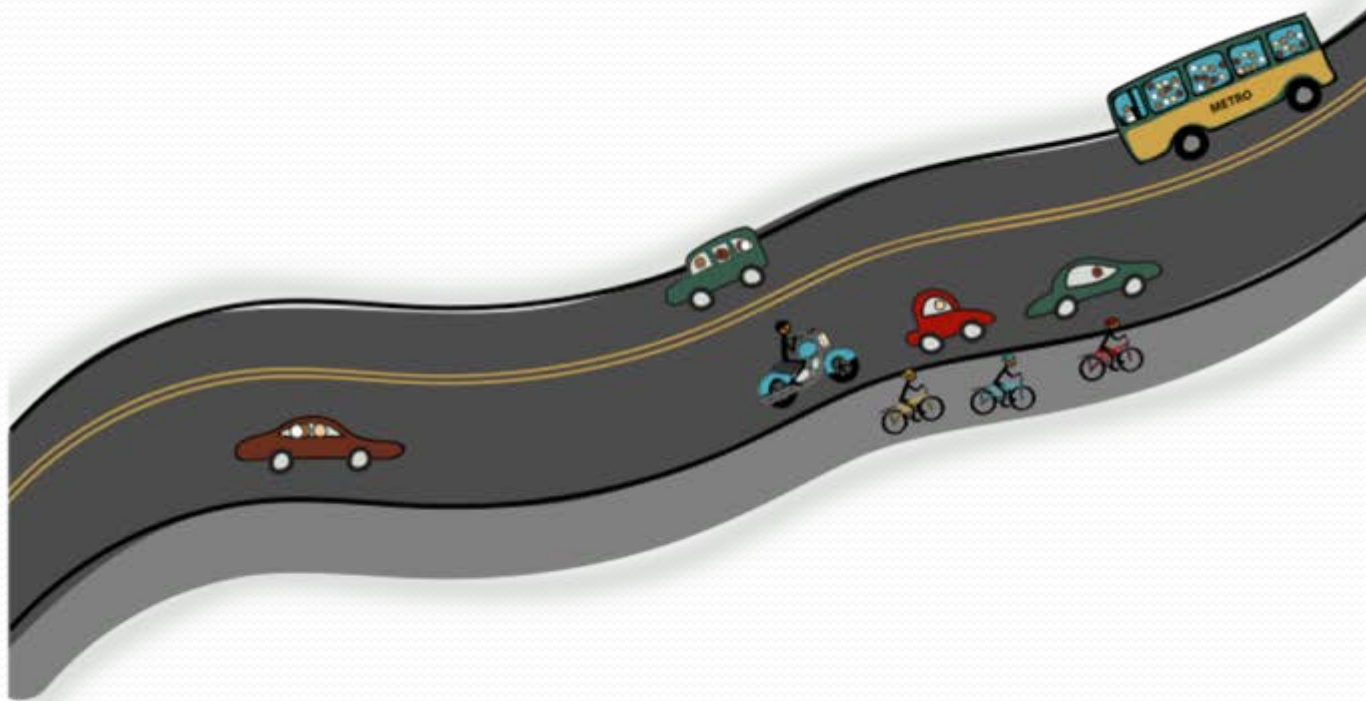
What does the infrastructure include?

- 5.7 million feet of drainage ditch
- 2.9 million feet of drainage pipe
- 114 miles of guardrail
- 44,000 traffic control signs
- 80 traffic signals
- 55 cameras

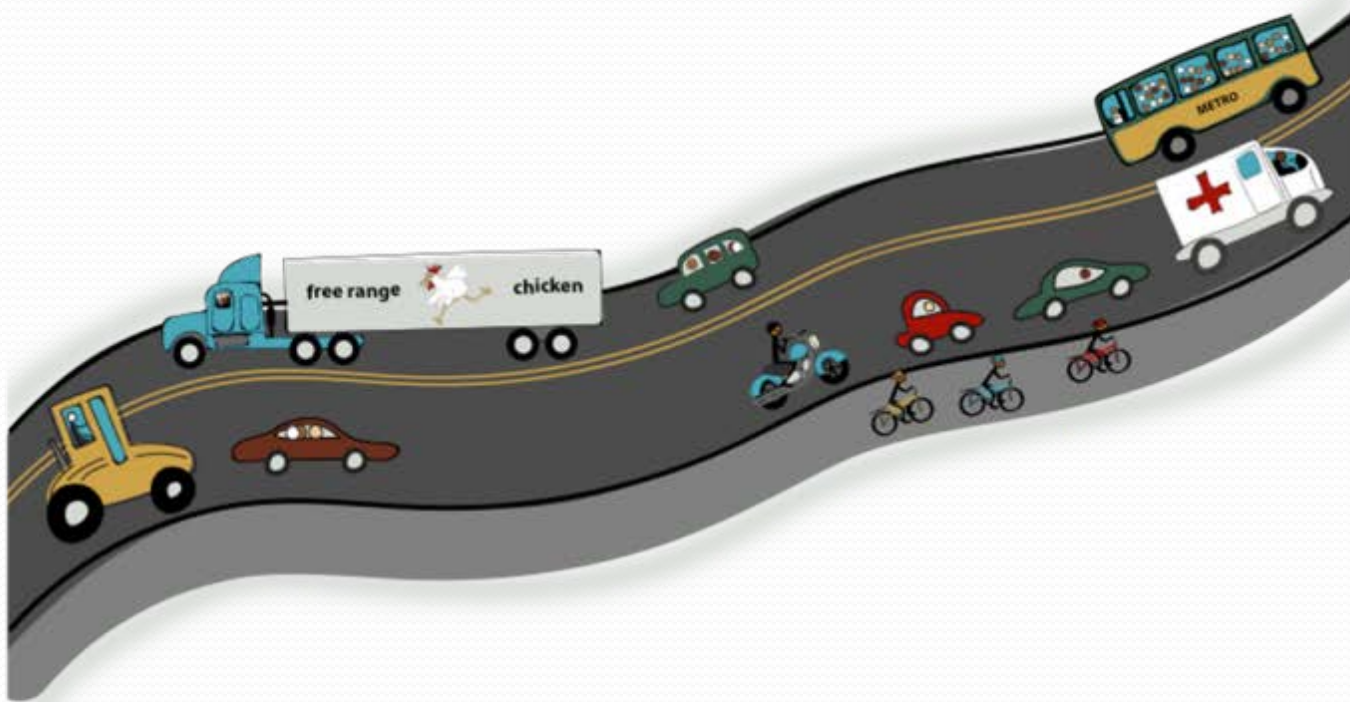
Traffic on bridges & roads in unincorporated King County



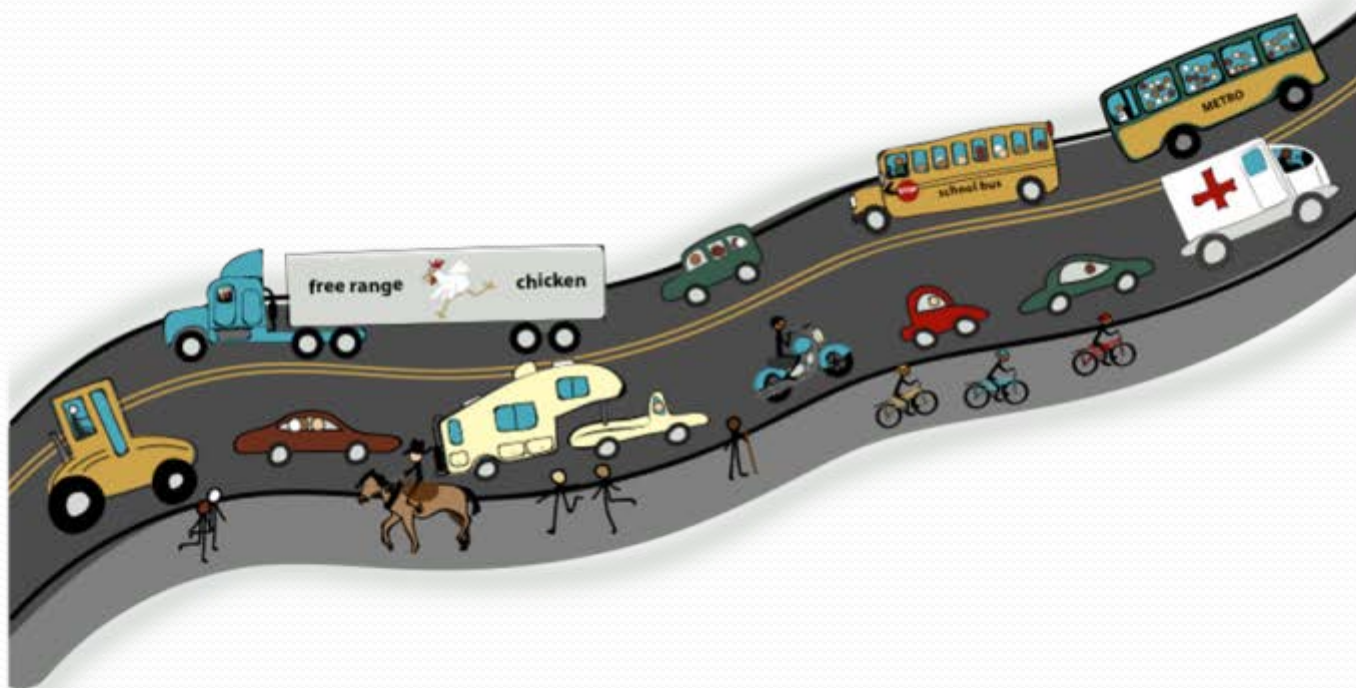
Commuting to work



Emergency workers, businesses transporting goods and services



Students, recreational travelers, farmers and pedestrians

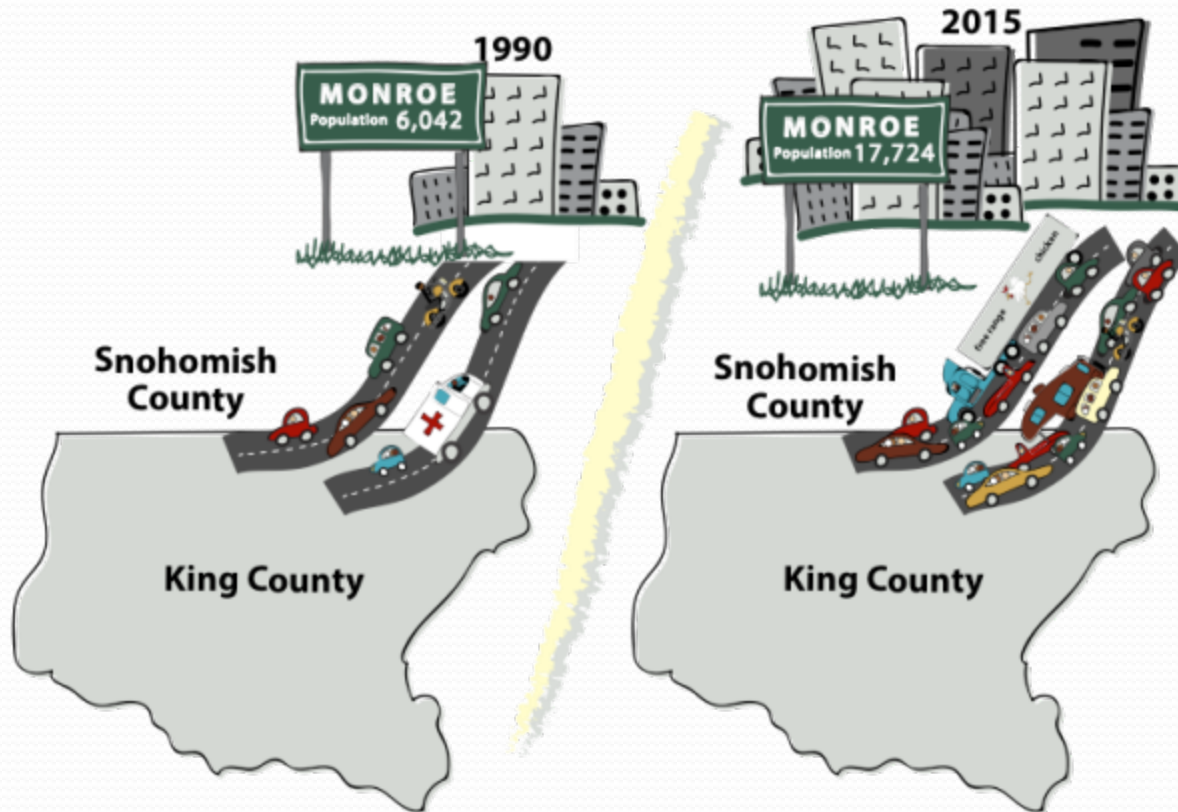


Trips on County Roads

Where are they from?

- **1 million vehicle** trips a day
- **Half** of the trips on the high volume roads come from cities and other counties
- County roads connect cities & counties
- **250,000** residents-unincorporated area
- **Two million** residents in King County

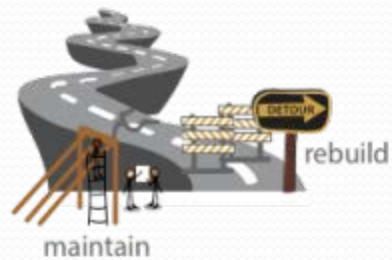
Significant traffic from cities and other counties



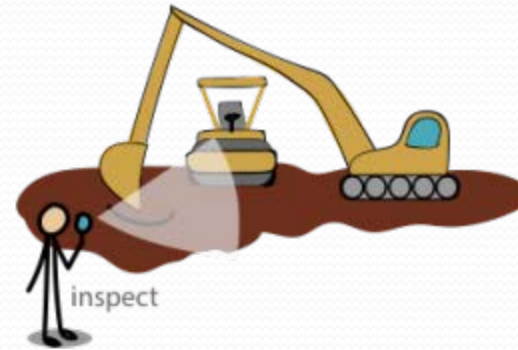
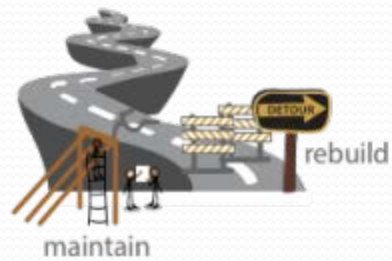
Operating, Maintaining, Replacing



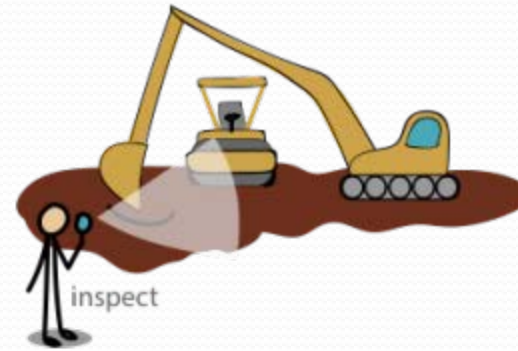
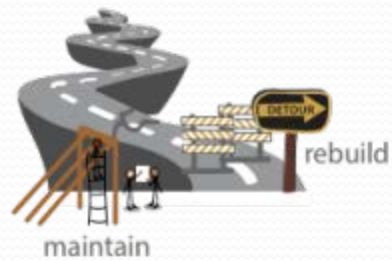
Operating, Maintaining, Replacing



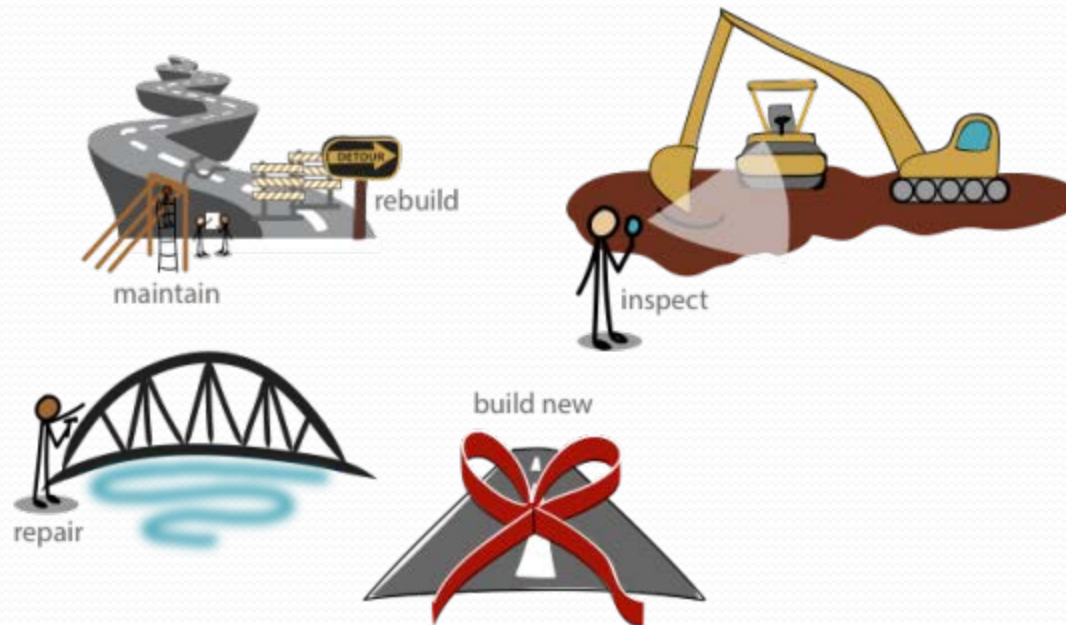
Operating, Maintaining, Replacing



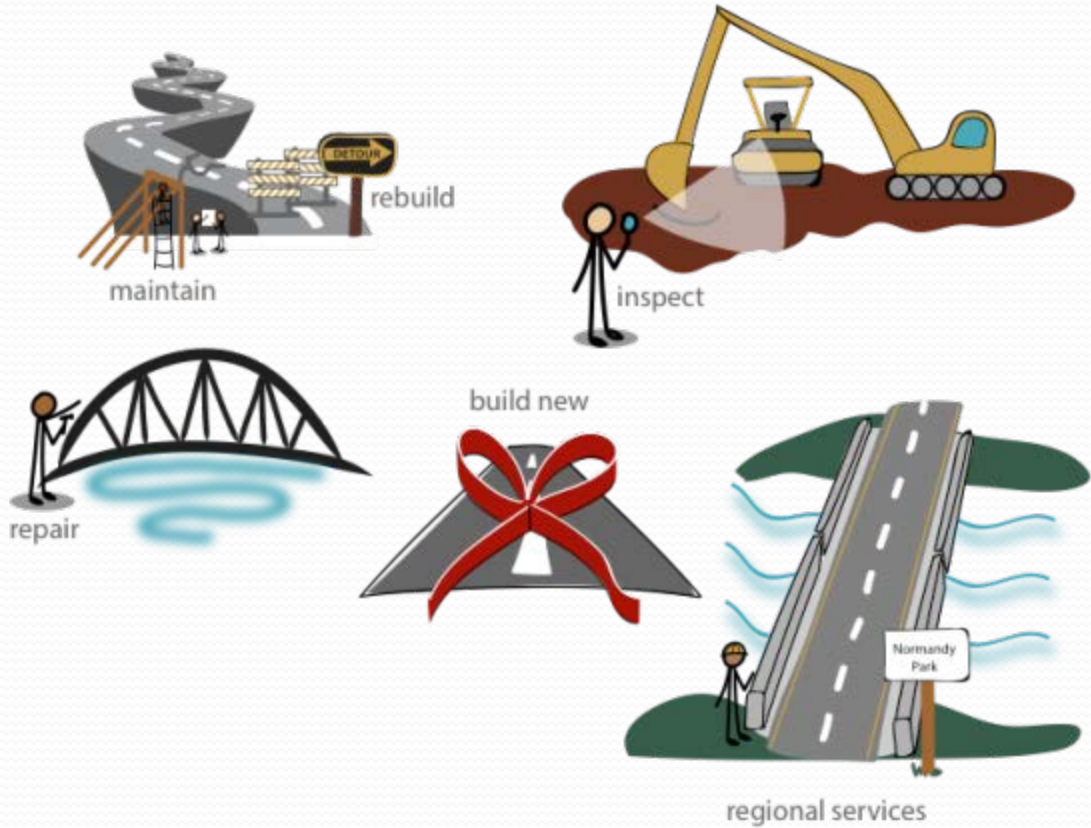
Operating, Maintaining, Replacing



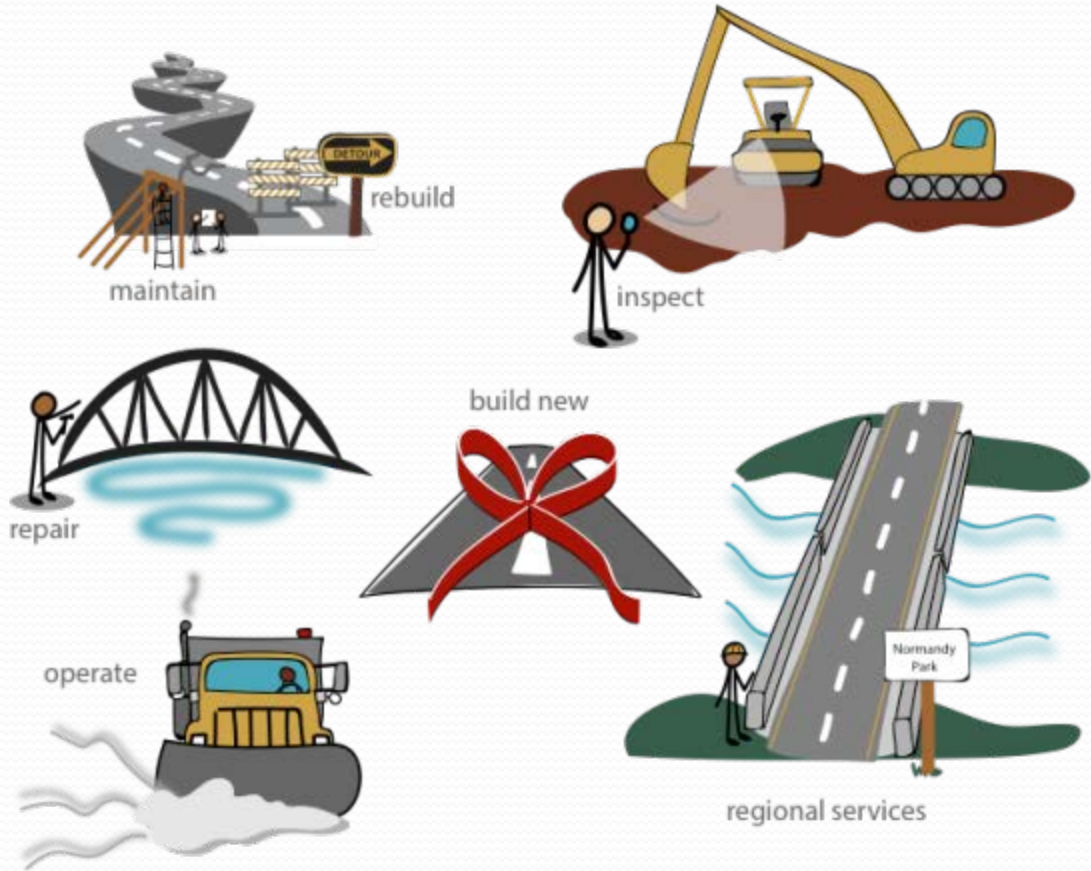
Operating, Maintaining, Replacing



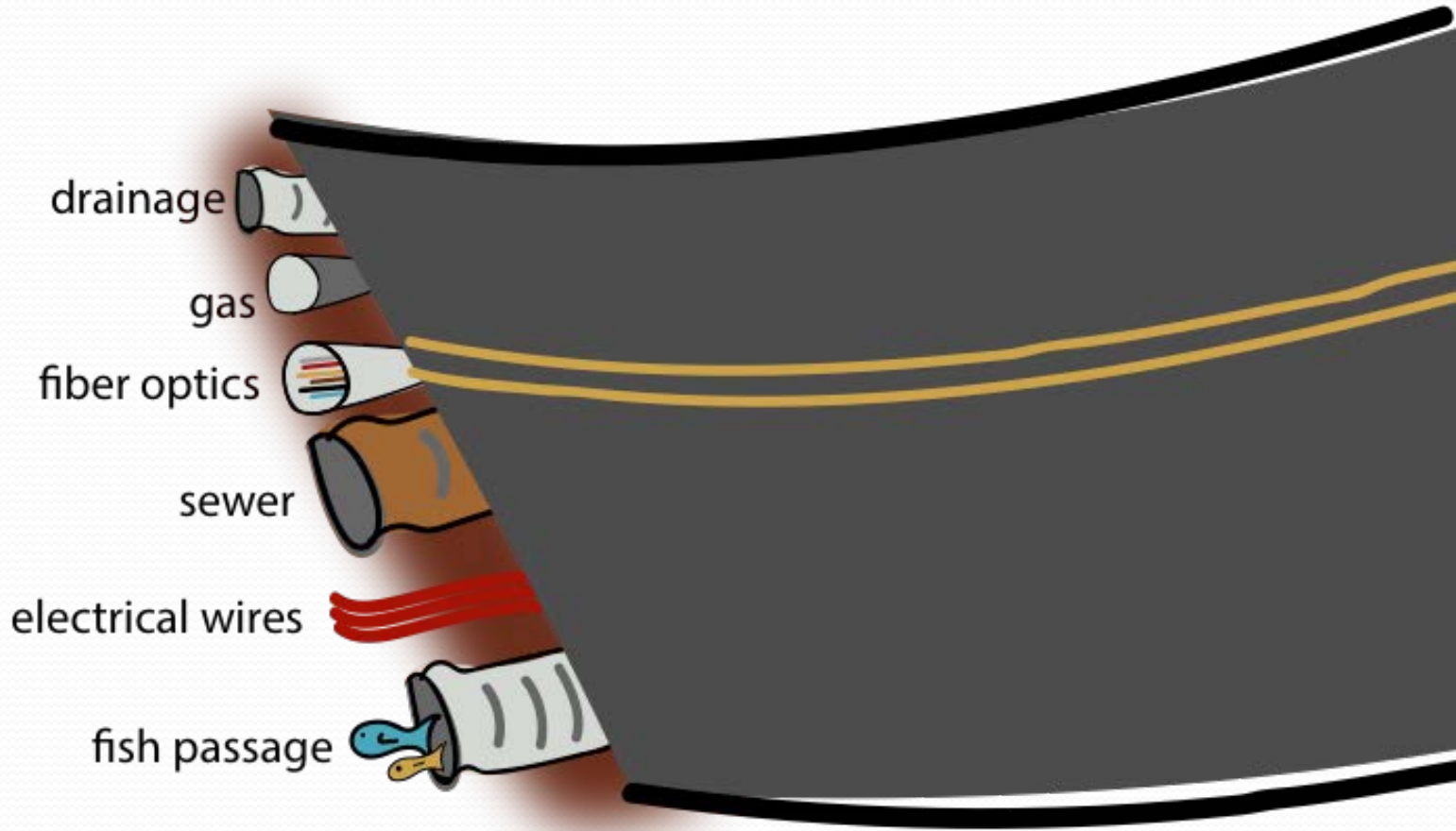
Operating, Maintaining, Replacing



Operating, Maintaining, Replacing



Under the road and in the right of way



What's under the road?

Delivering utility services

NE 127th Street near Redmond



Busy Arterials



SE Petrovitsky Rd &
140th Ave SE Near Renton



Under the Roads – Structural Elements

Logs from older roads

logs



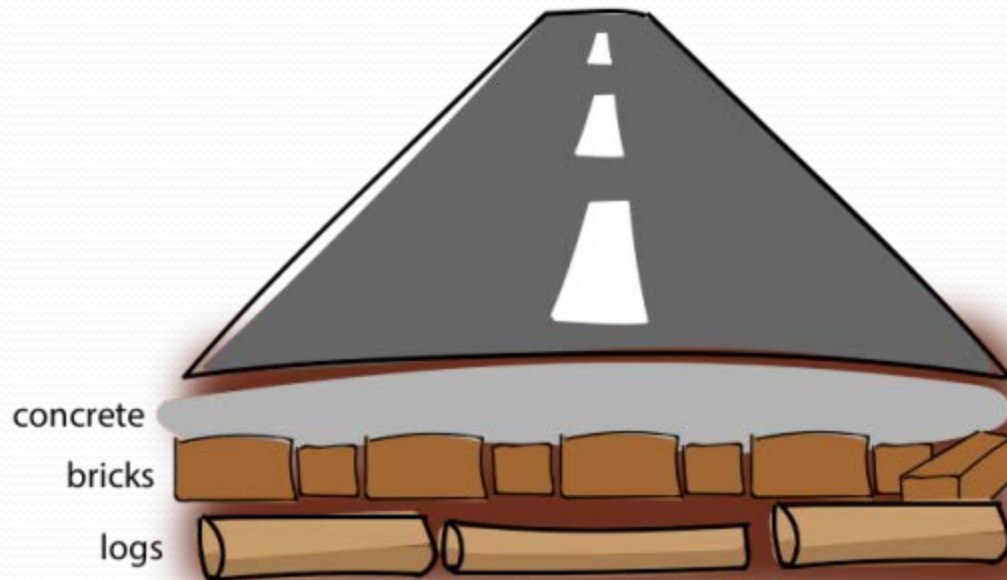
Bricks from older roads



Concrete – sometimes poured over bricks or logs



Several layers of asphalt on unstable roadbed



Logs Roads/Corduroy Roads

Puncheon road in Snoqualmie, ca. 1900



Snoqualmie, Washington; Snoqualmie
Puncheon road.

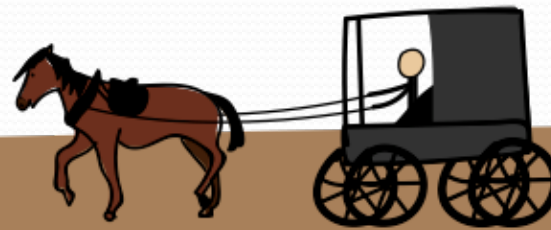
More Corduroy Roads



Old Roads – Different Uses

Higher volume and weight

1850's



1920's



today



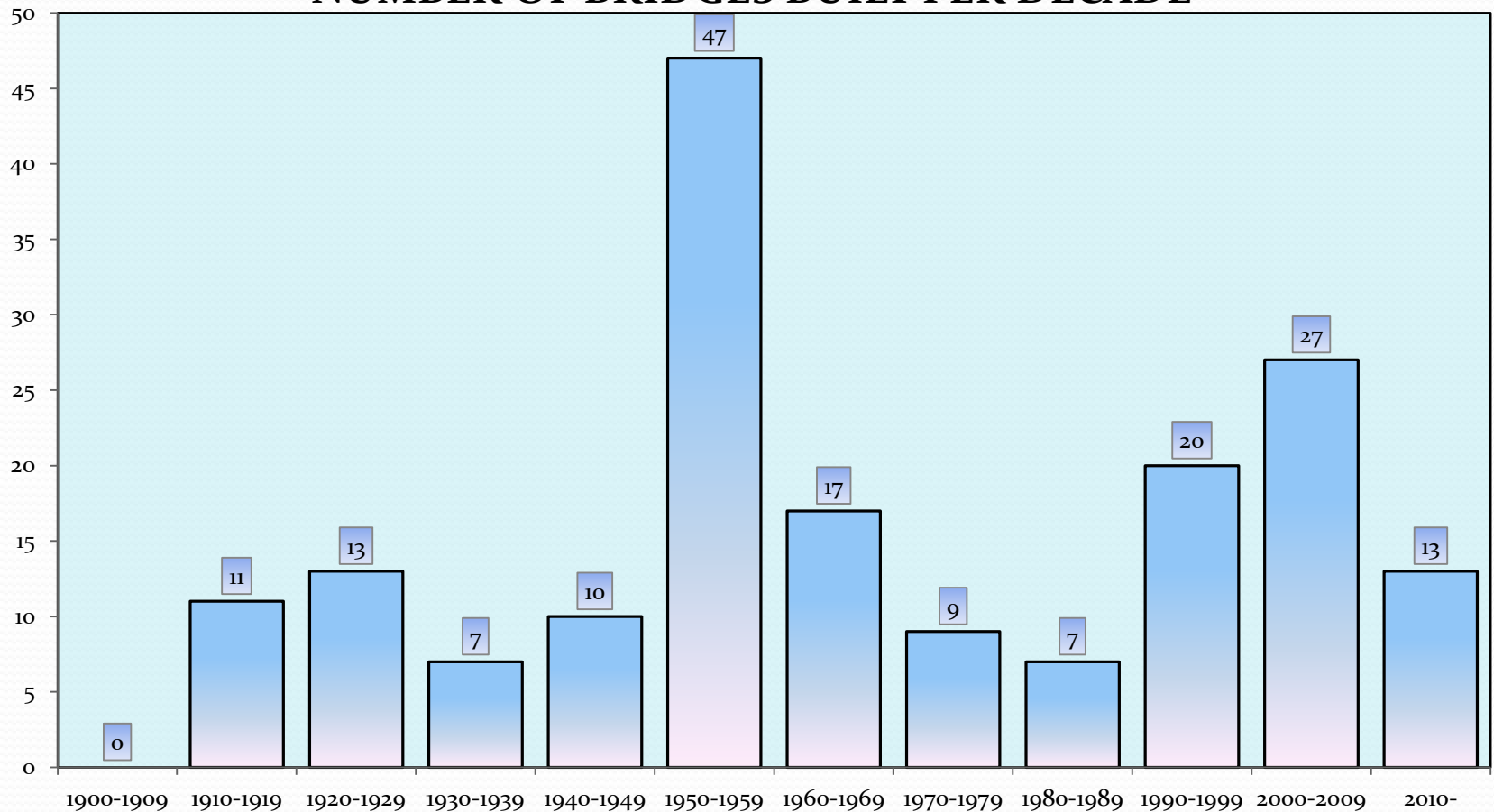
Bridges in unincorporated King County

- Oldest bridge was built in **1913**
- Total of **181** bridges including:
 - **135** Long Span
 - **47** Short Span
- **30** bridges need replacing by 2030 for a rough cost of **\$190 million**.



Why do we need to replace them?

**2015 KING COUNTY BRIDGE INVENTORY
NUMBER OF BRIDGES BUILT PER DECADE**



Unique County Bridges

Baring Bridge



- Built in 1930
- Rebuilt in 1952
- South Fork of the Skykomish River

Unique County Bridges

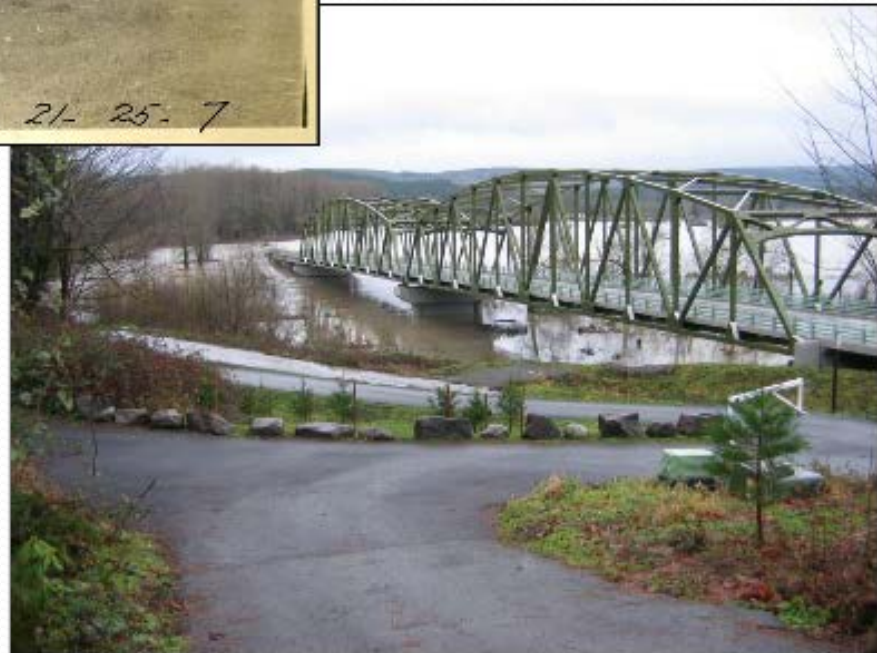


Bridge No. 398 A

Sec. 21- 25 - 7

Tolt Bridge

- Built in 1922
- Rebuilt in 1968
- Replaced in 2008
- Snoqualmie River near Carnation



Unique County Bridges



Mount Si
Bridge

- Built in 1914
- Rebuilt in 1960
- Replaced in 2008
- Middle Fork of the Snoqualmie River



Challenges

- Bridges eventually must be replaced
- From 2009 to 2014, the County replaced **15** bridges including the **eight** below:



Challenges

- And the **six** below...
- **Three** new bridges were also built.



2015–2020 Adopted Capital Program

- *How many* bridges will be replaced?
- *How many* new bridges will be built?





Planned Bridge Replacements Next 5 Years

Zero

Water, fish passage, the environment



Water is the enemy of roads

Road collapse in Freeport, Maine

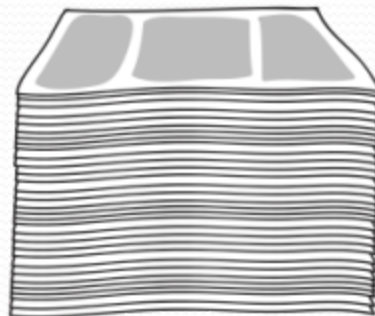


Revenue Challenges



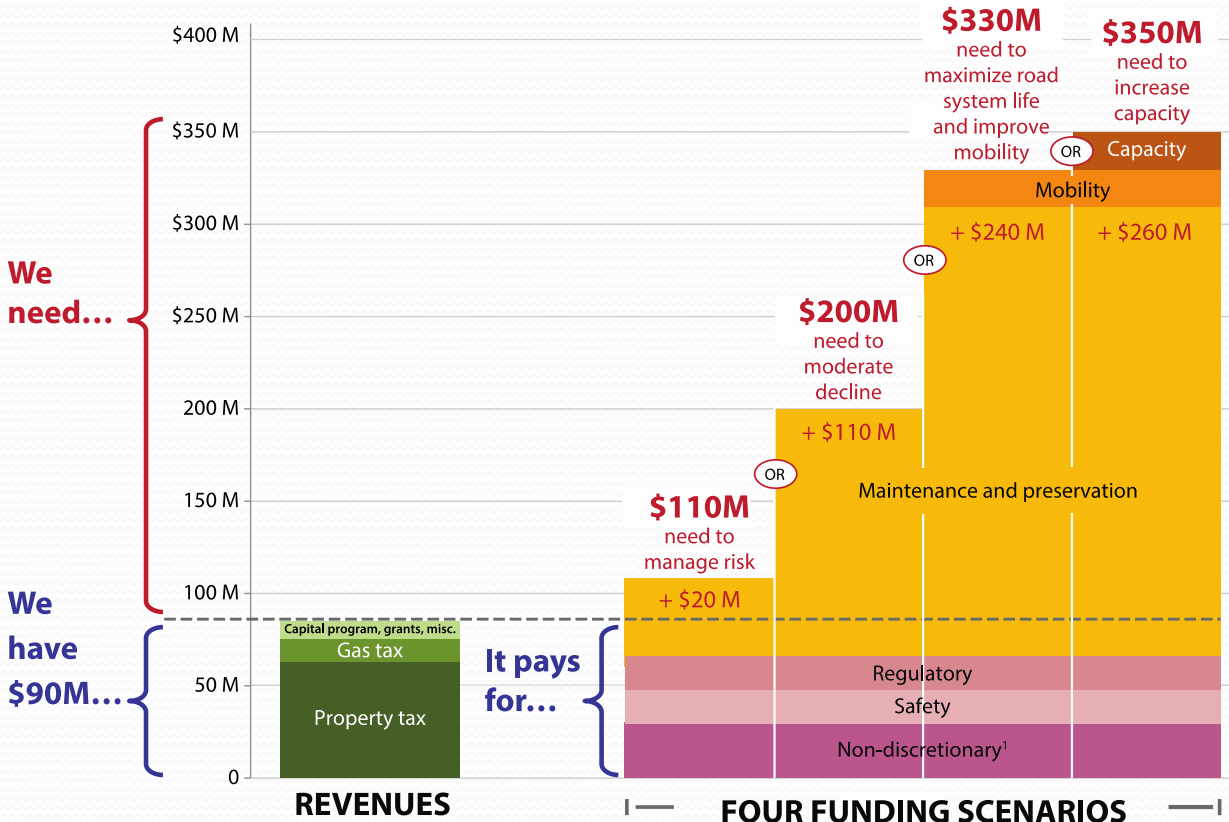
property tax

gas tax

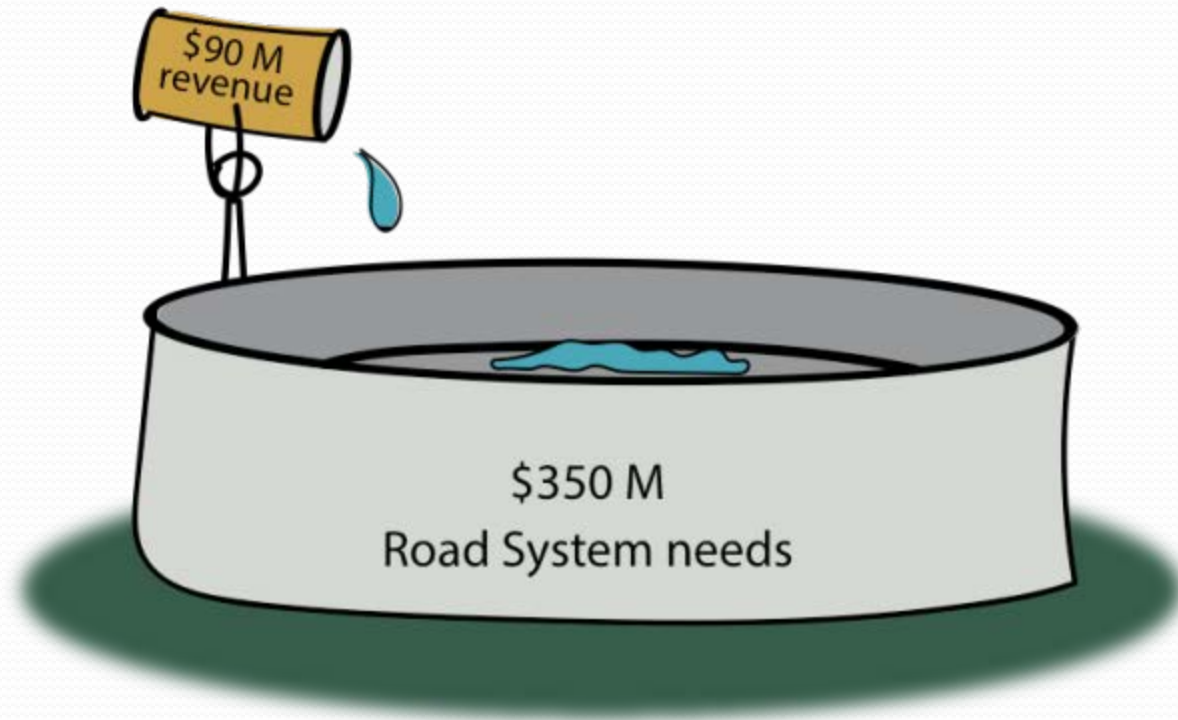


grants

Need versus Revenue

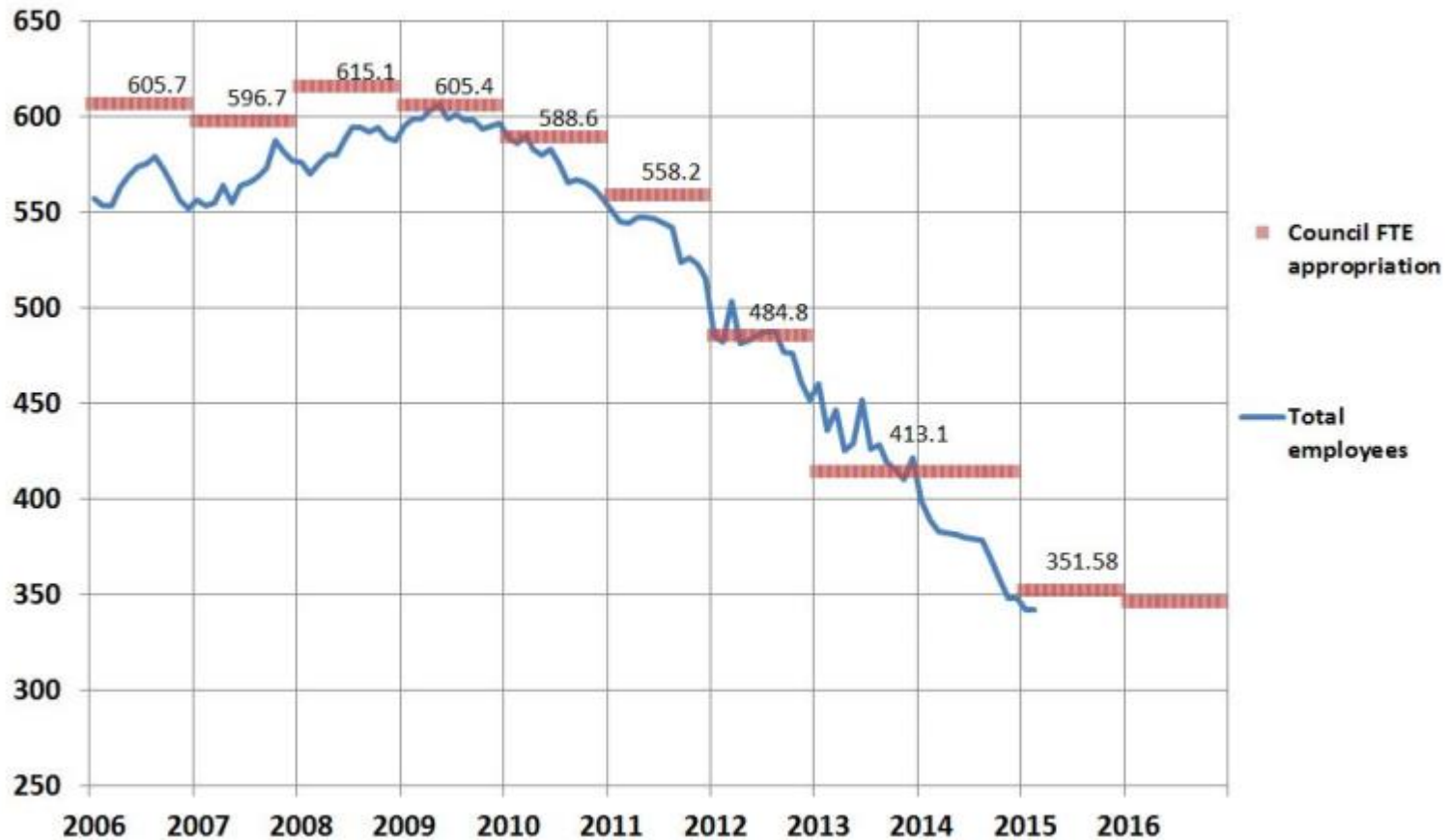


Shortfall

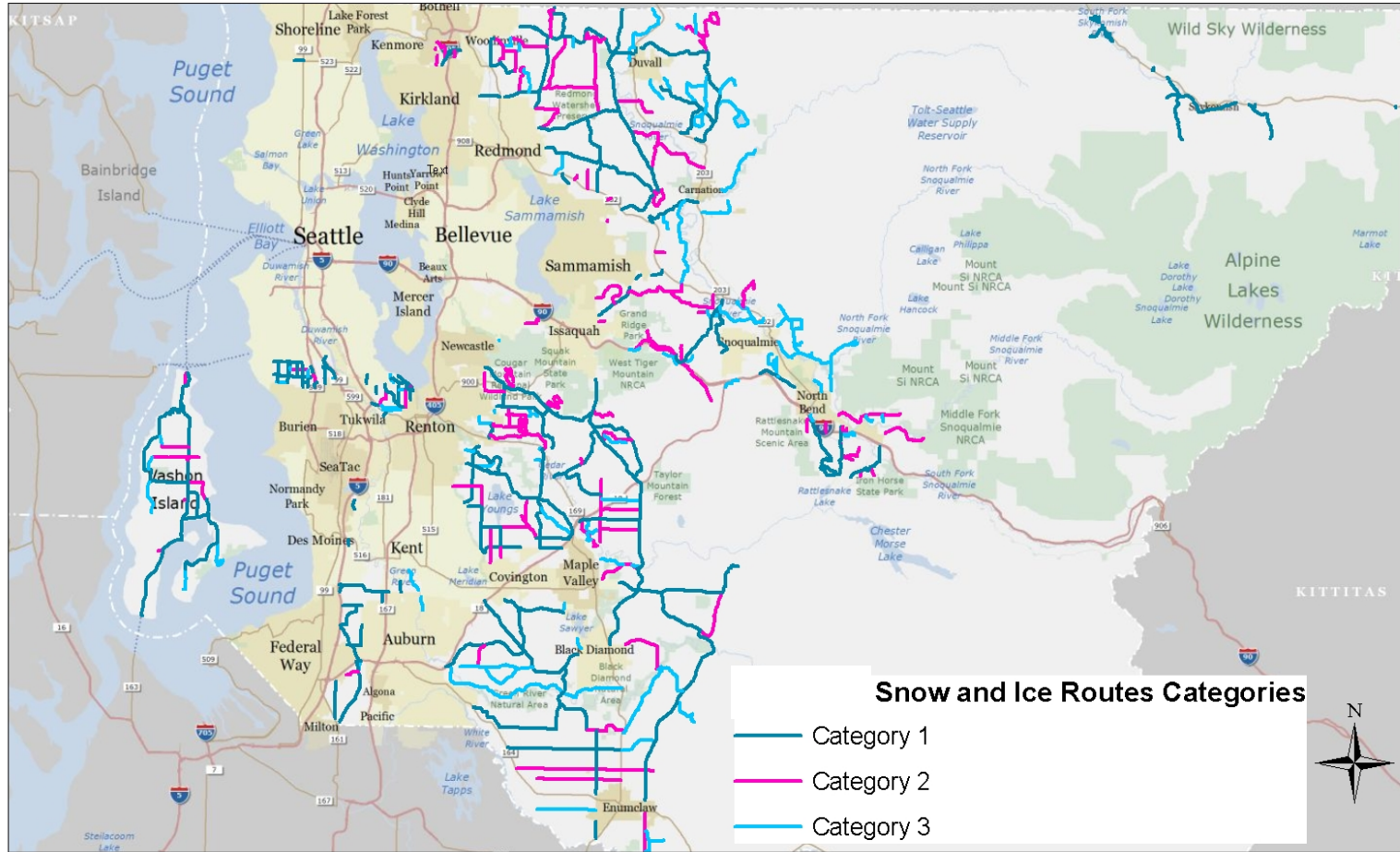


Significant staff reductions

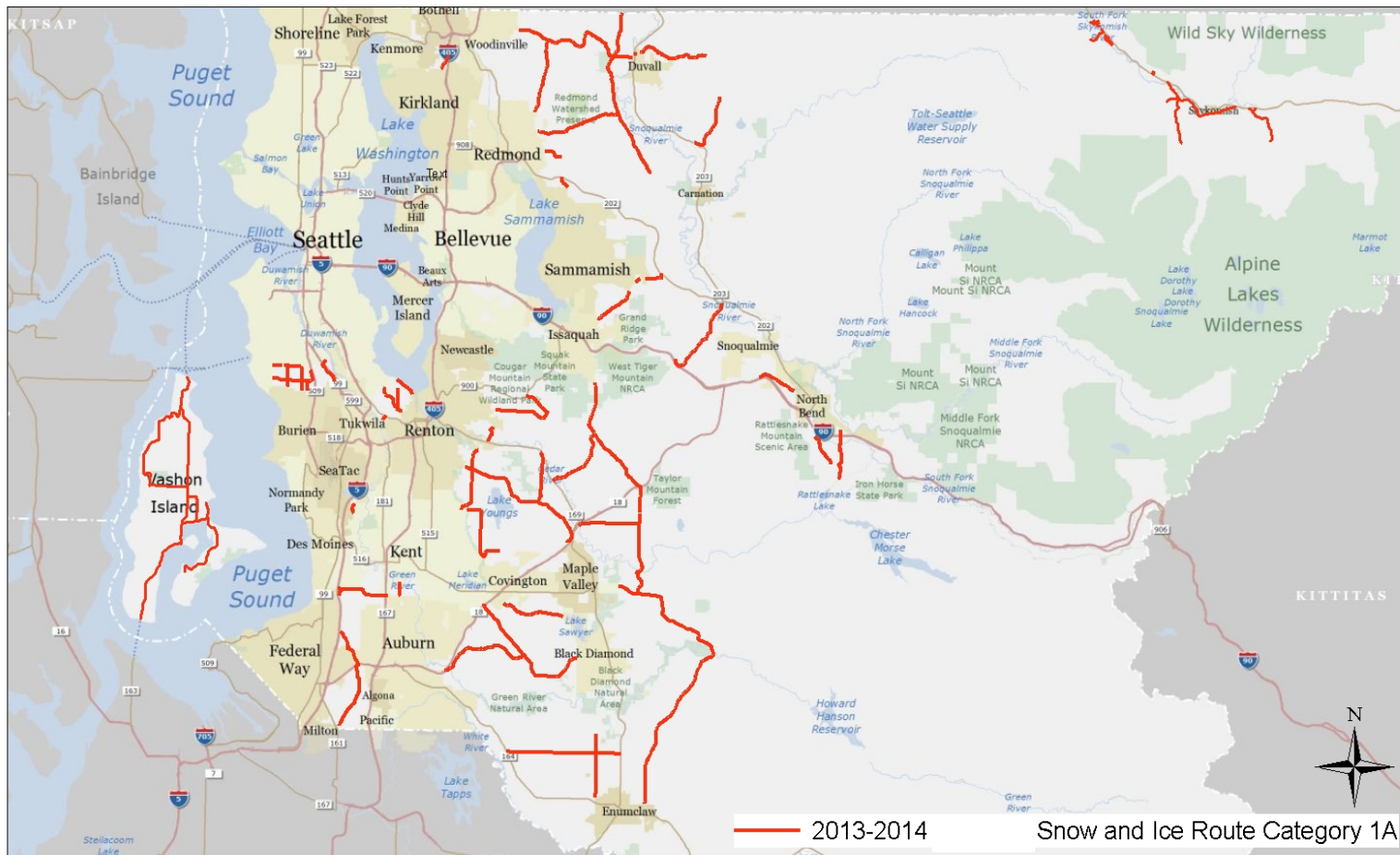
Road Services Staffing: 2006 to 2016



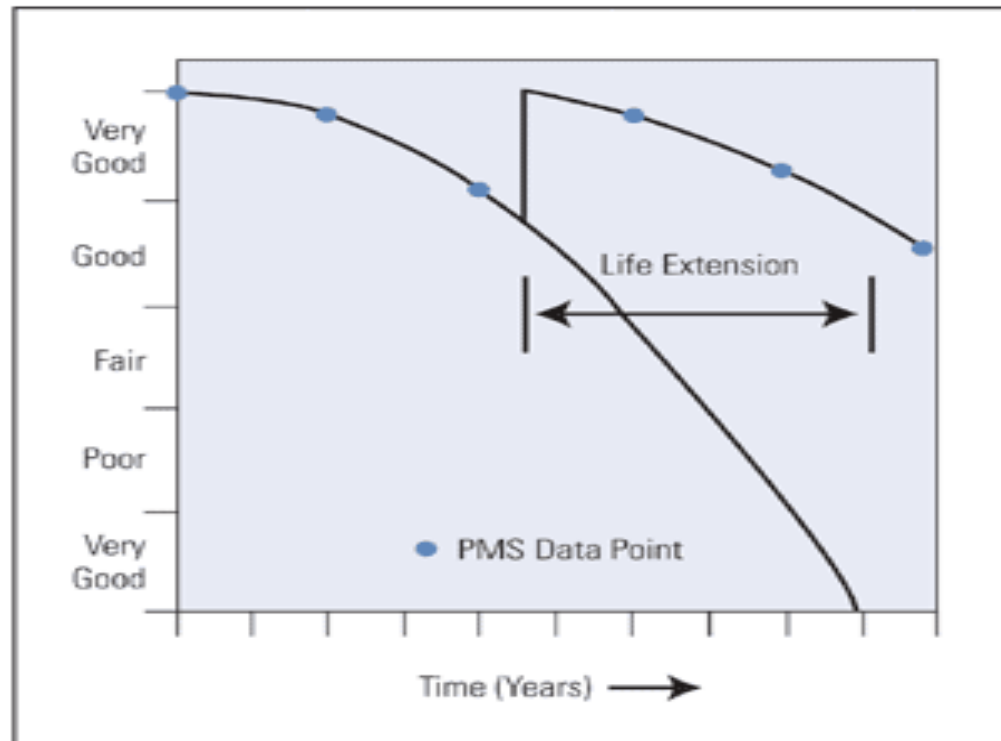
Snow Routes: 2010



Snow Routes: 2014

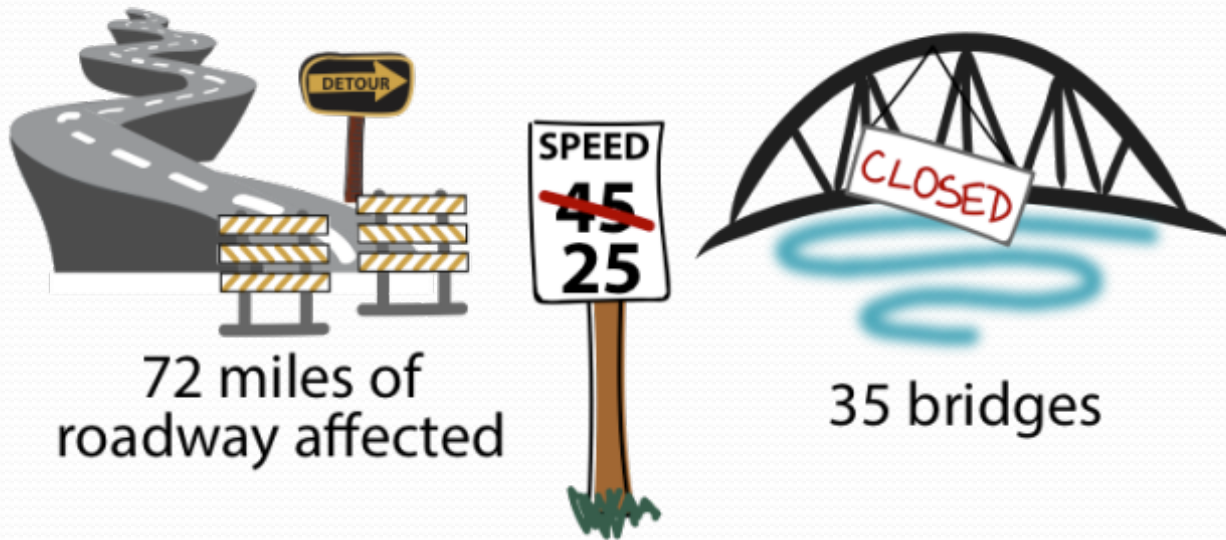


Higher road costs without life-extending benefit of preventive maintenance



Consequences

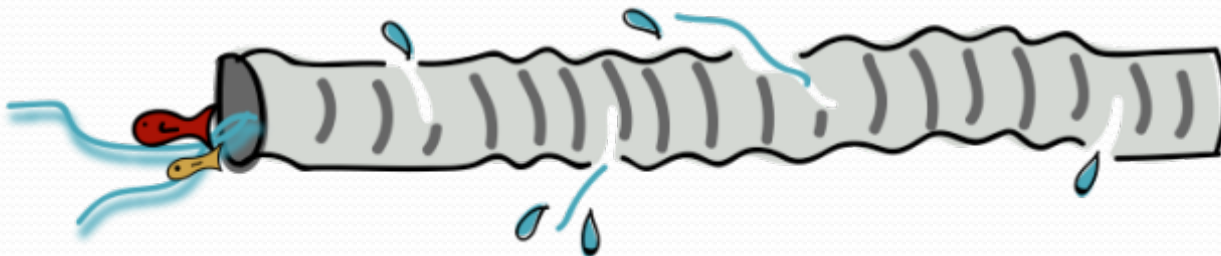
The next couple of decades



72 miles of
roadway affected

35 bridges

65% of stormwater system will be at risk



Damaged culverts can lead to road collapse & landslides



This culvert pipe is only 30 years old



One last thought...

