Traffic Safety Insights from Telematics Data

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Washington Traffic Safety Commission
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WA TRAFFIC SAFETY COMMISSION

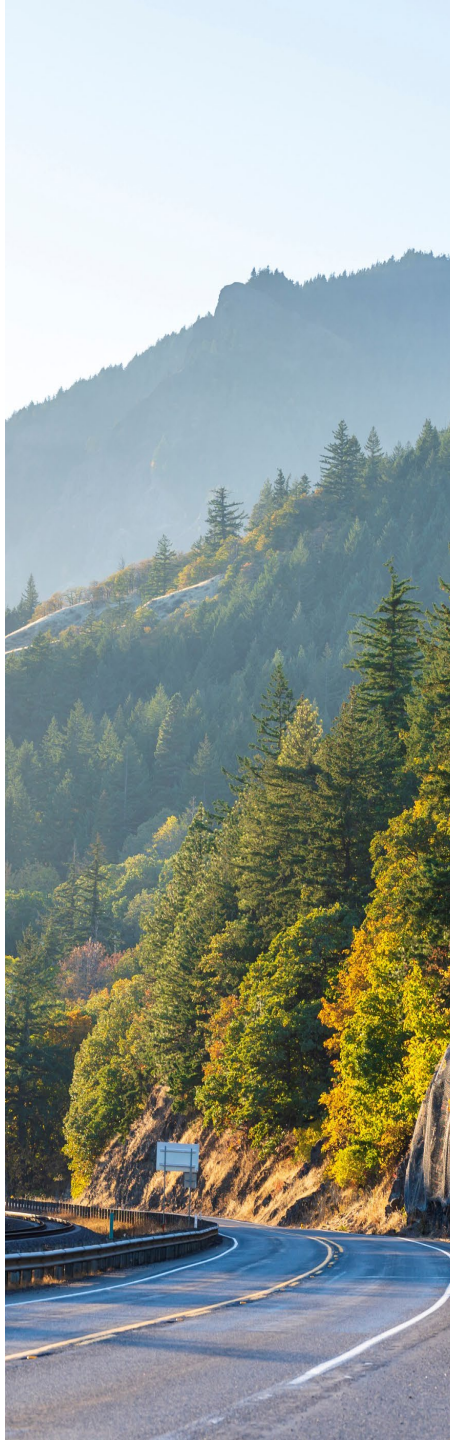
WHAT IS TELEMATICS DATA?

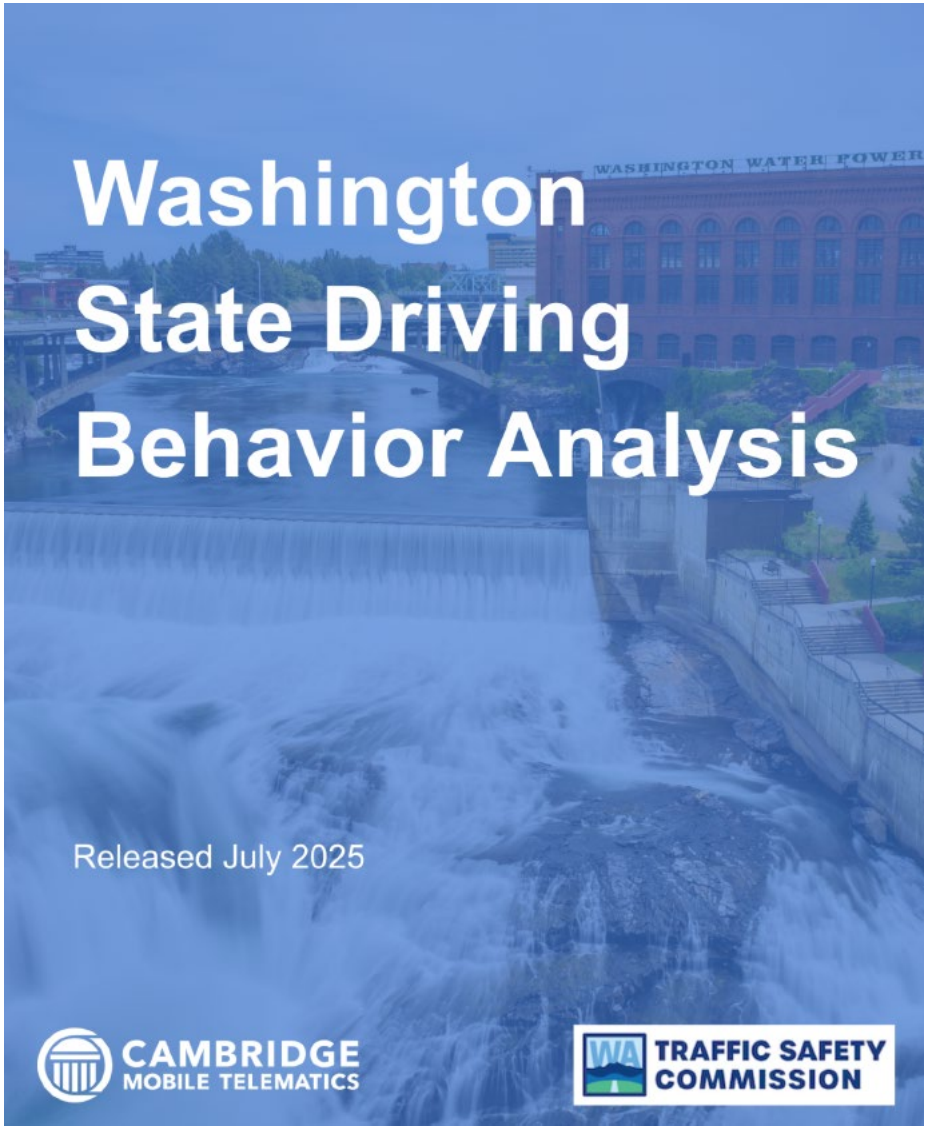
Telematics data is information collected about a vehicle or fleet using telematics technology, which combines GPS, sensors, and software to monitor and analyze vehicle and driver performance.

(9) $300,000 of the highway safety account—state appropriation is provided solely for the commission to purchase telematics data from a qualified vendor that provides anonymized information on vehicle speeds and driver behaviors, such as hard braking, on a statewide basis and in selected geographical areas based upon demographic characteristics and crash history.

WHAT IS COLLECTED?

- Specific measures may vary among different telematics providers
- Travel Speeds and Speeding Events
  - CMT speeding events are exceeding the posted speed limit by 9.3 mph or more for >5 seconds, or 12.4 mph or more when the speed limit is >55mph
- Cell phone-related distraction: phone motion and phone calls
- Hard-braking
- Hard-acceleration
- Machine-learning/AI algorithms to derive segment-level driver and vulnerable road user risk ratings





- CMT has published multiple U.S. reports describing the magnitude of risky driving behaviors
- WTSC conducted a sole source contract to procure a Washington report for statewide and county-level measures of risky driving
- Report #1 (released in 2024), June 2022 and June 2023 data
- Report #2 (released July 2025), adding June 2024 data

CMT Reports https://wtsc.wa.gov/data-collaborations/

CMT WASHINGTON DRIVER COVERAGE

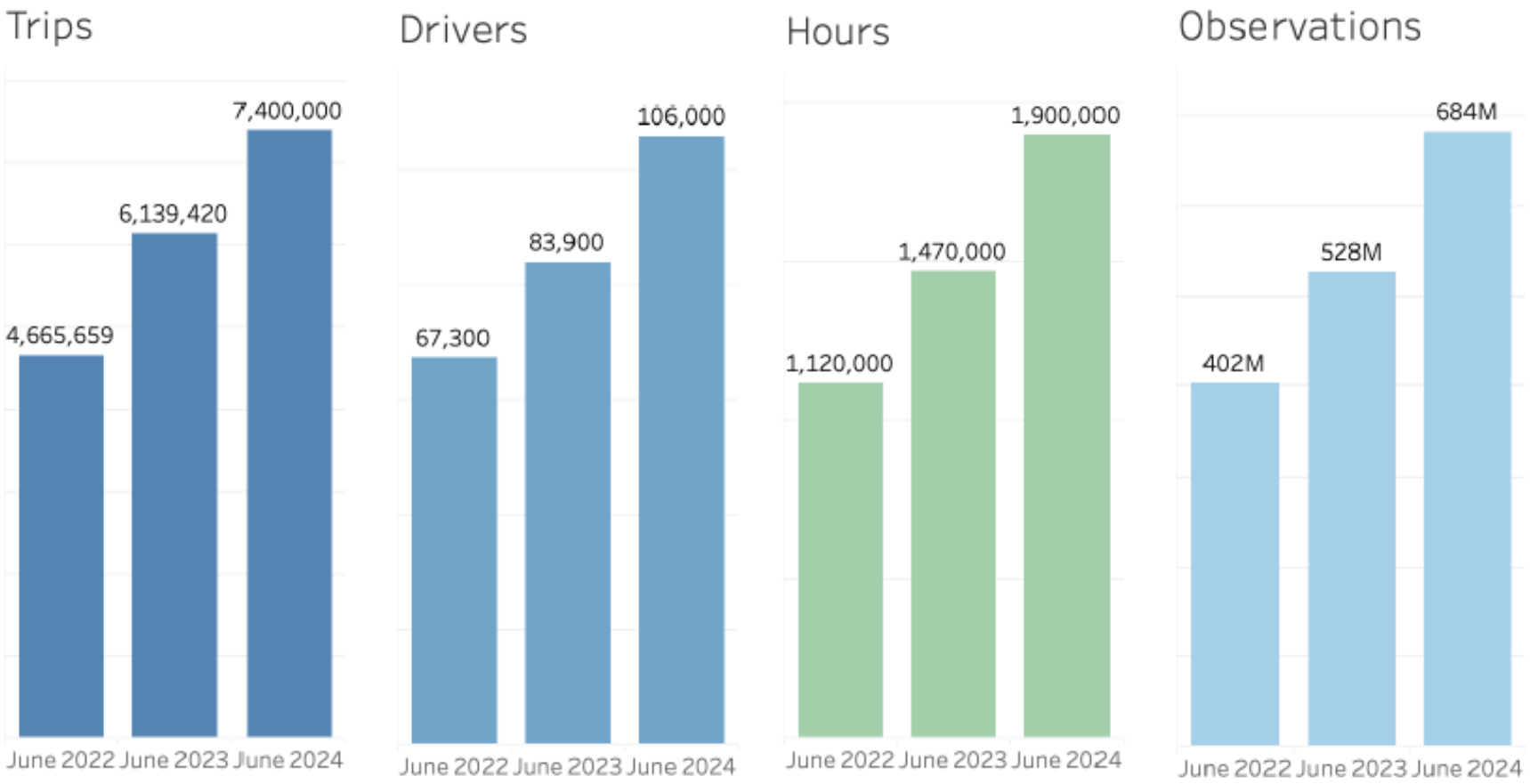
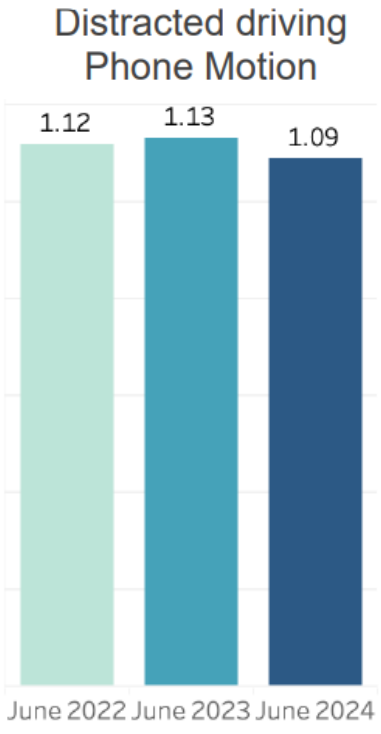
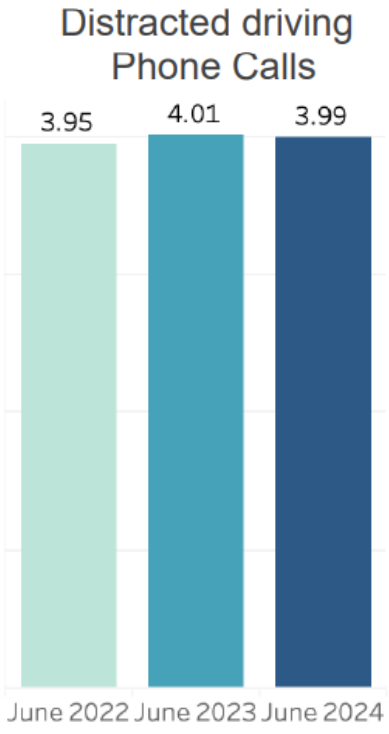
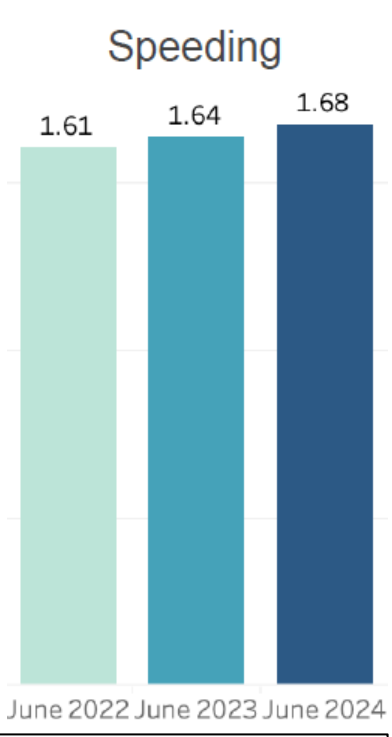


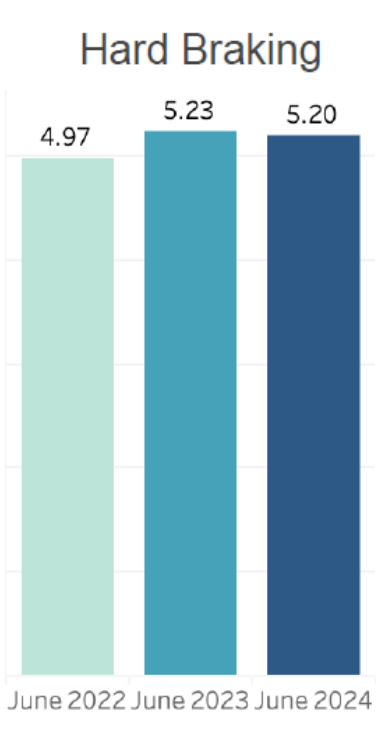
Figure 4. Trips, drivers, total trip hours, and effective roadside observations for Washington State for the three periods of study.

CMT STATEWIDE MEASURES









Number of minutes per hour of driving

Number of events per 100 miles

Speeding Example:

1.68 min/hour is equal to 53,200 hours of drivers exceeding the posted speed by ~10 mph or more in June 2024

“One in four (25%) of trips had a phone distraction event.”

“Of the 106,000 drivers in the 2024 cohort, 86,500 (81%) used their phone during a trip at least once in the month.”

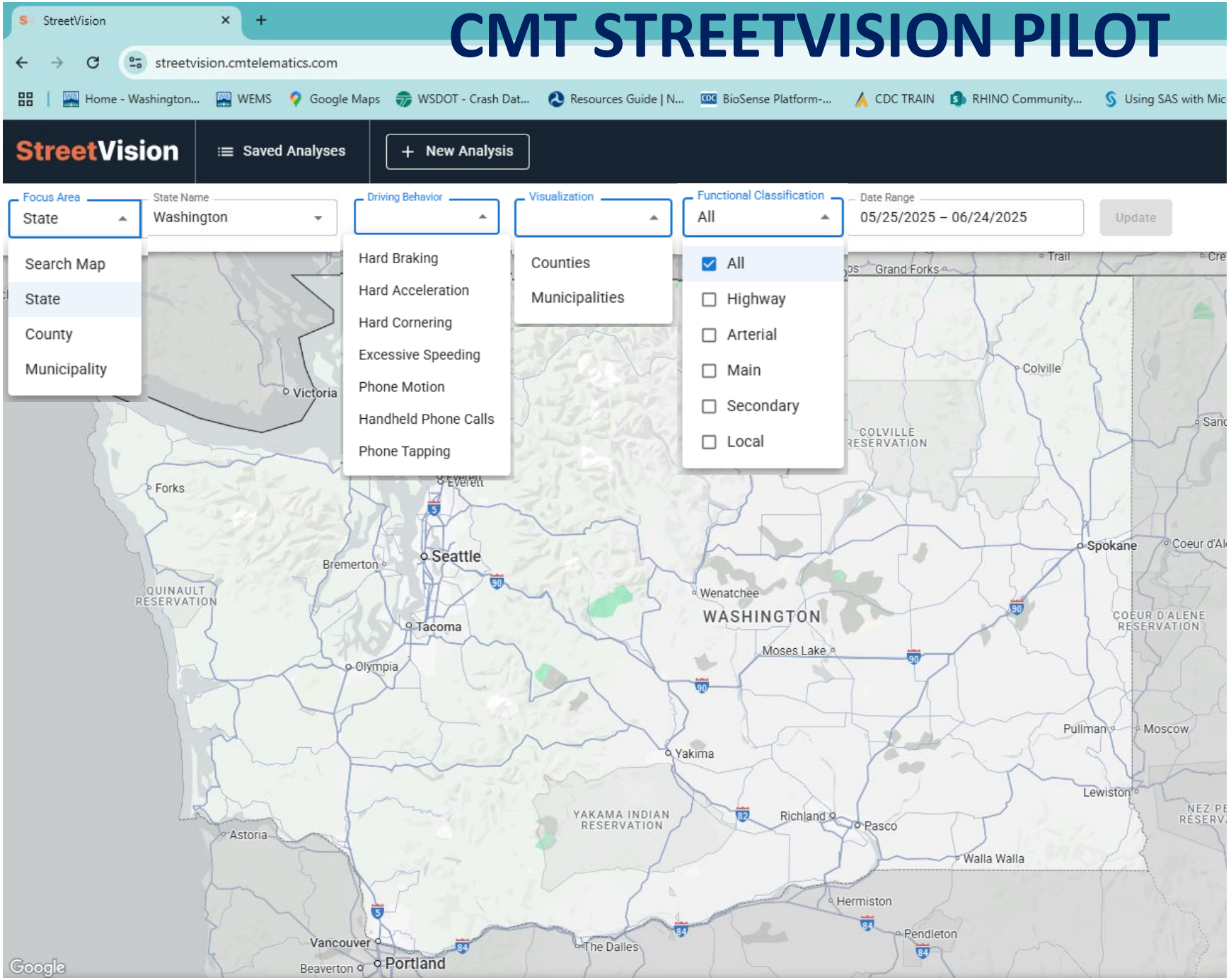
Thirteen percent of trips had a phone call event in June 2024. Over the course of the month, 73% of drivers had at least one phone call during the trips they took.

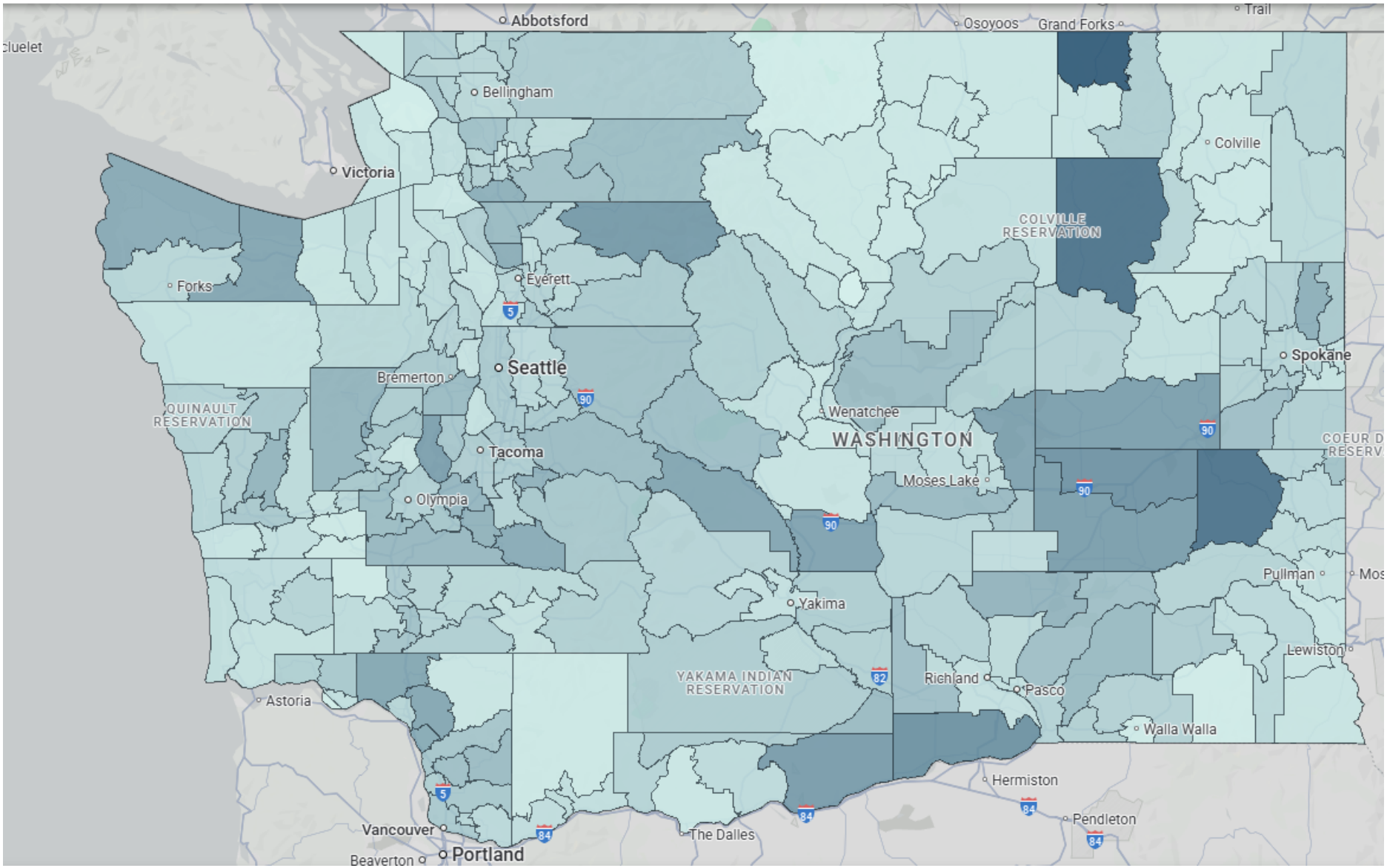
“Twenty-one percent of trips had a hard braking event in June 2024. Over the course of the month, 87% of drivers had at least one hard braking event during the trips they took.“

“Thirty-two percent of trips had a speeding event in June 2024. Over the course of the month, 90% of drivers had at least one speeding event during the trips they took.“

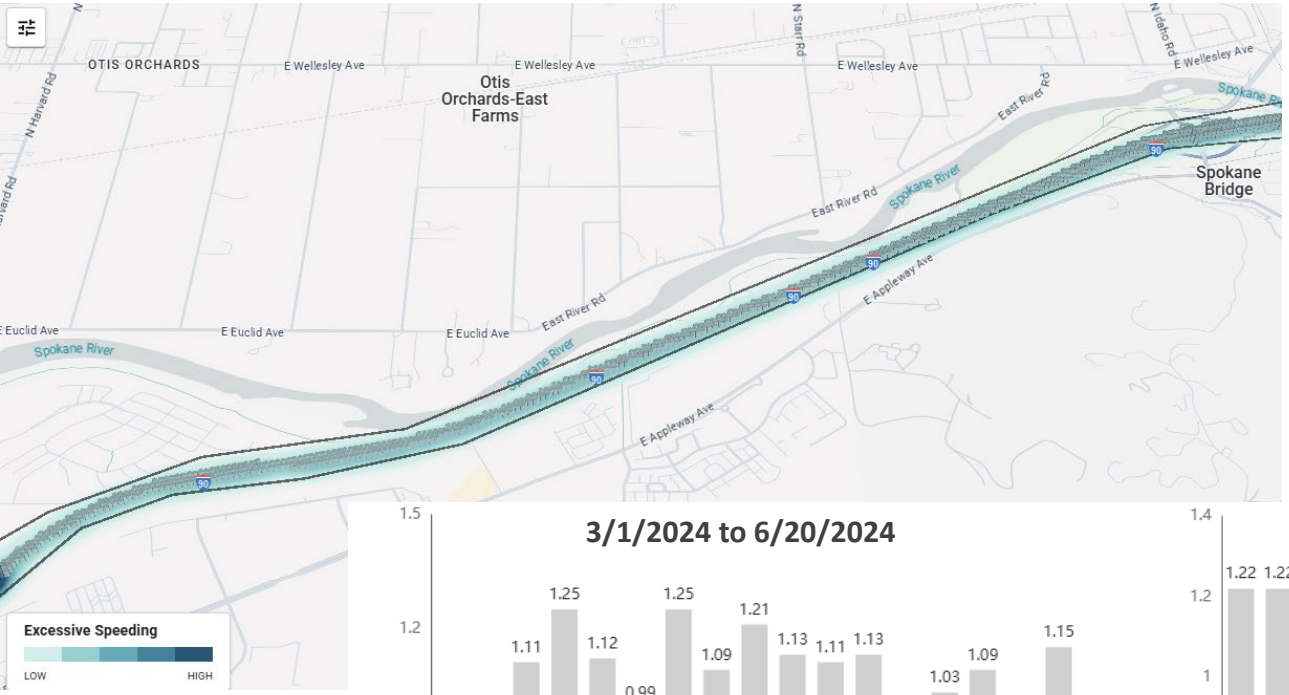
“Engaging in phone distraction while also traveling at very high speeds is extremely dangerous. In June 2024, there were 13,700 minutes of distraction with the driver exceeding 80 mph”

CMT STREETVISION PILOT

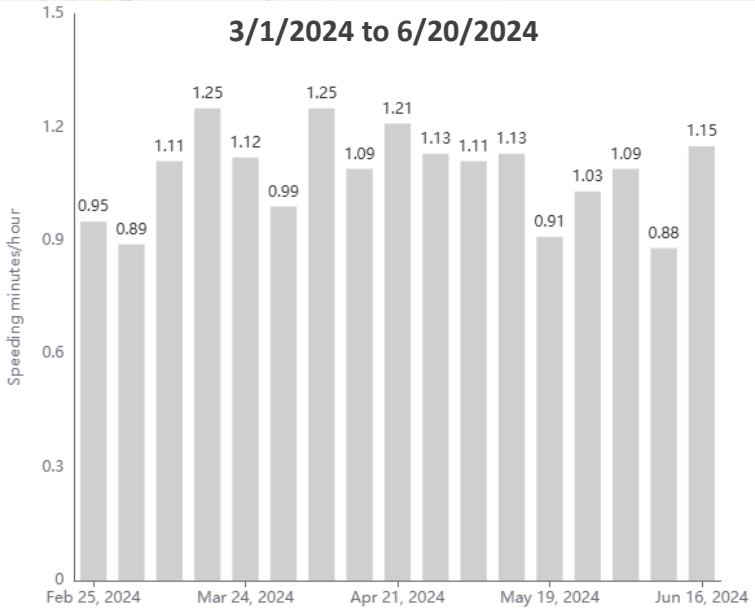


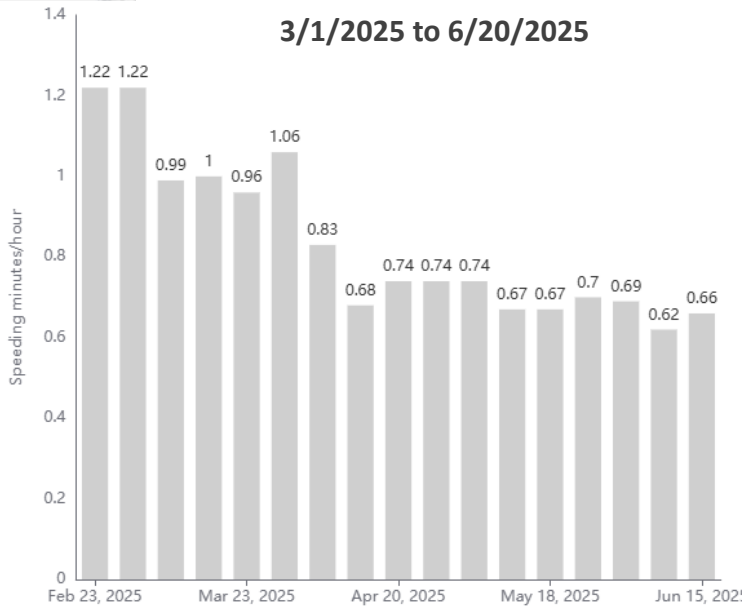

Driving Behavior
Excessive Speeding
Visualization
Municipalities
Functional Classification
All
Date Range
01/01/2025 – 05/31/2025
Update
Abbotsford
Osoyoos
Grand Forks
Trail
Bellingham
Victoria
Colville
COLVILLE RESERVATION
Forks
Everett
Seattle
Spokane
Bremerton
QUINAULT RESERVATION
Wenatchee
WASHINGTON
Tacoma
Moses Lake
Olympia
Pullman
Yakima
Lewiston
YAKAMA INDIAN RESERVATION
Richland
Pasco
Astoria
Walla Walla
Hermiston
Vancouver
Pendleton
The Dalles
Portland
Beaverton

CMT STREETVISION PILOT



WSDOT HIGHWAY SPEED CAMERA PILOT – I-90 SPOKANE COUNTY





CMT STREETVISION PILOT

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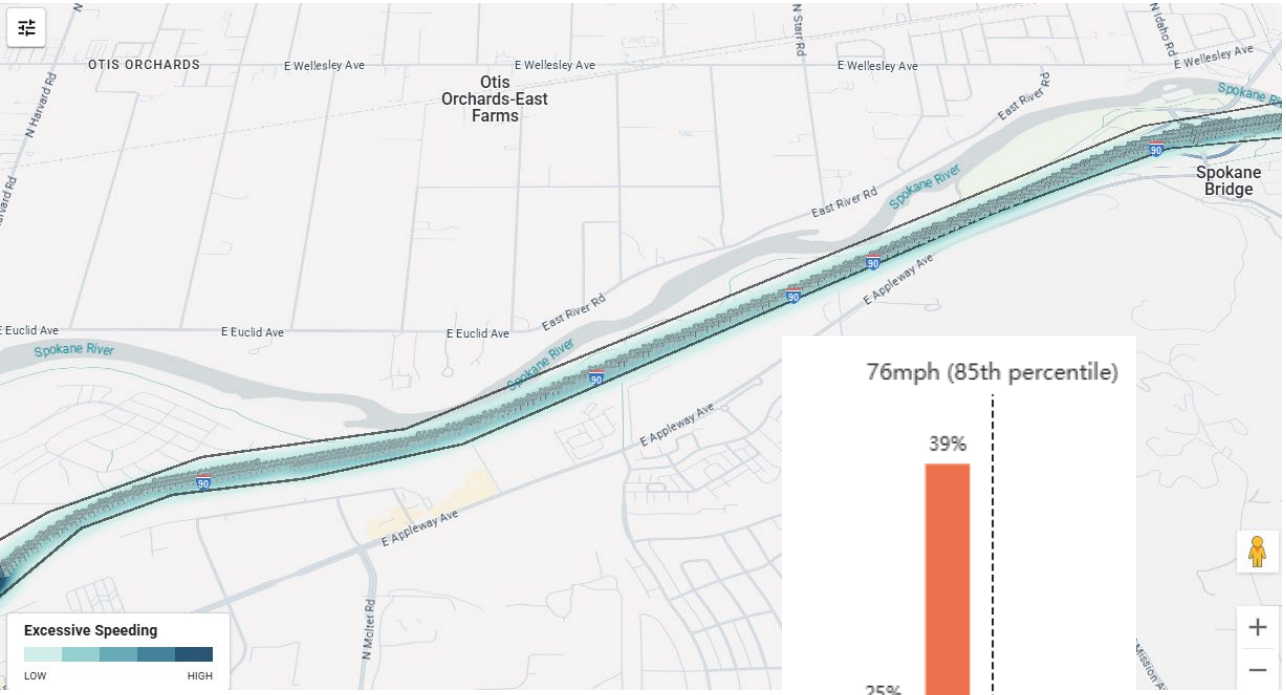
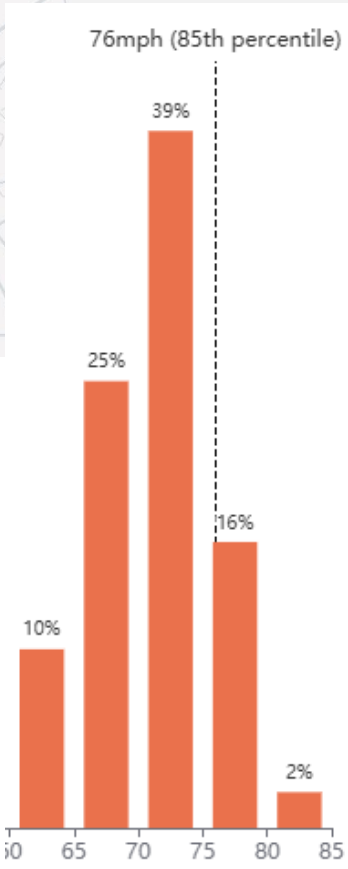
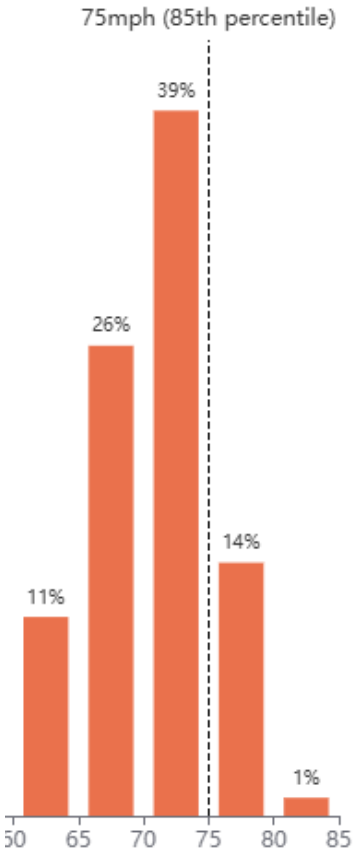


2/16/2025 to 3/31/2025



4/14/2025 to 5/31/2025



MMI KEPLER MAPS FOR WSP

Received another grant from GHSA to work with MMI (WA is the only state to receive the grant in both 2024 and 2025)

OBJECTIVES:

1) Obtain network screening analysis Kepler maps for all Washington State Routes, separated by WSP Districts.

2) Incorporate MMI data layers into internal WSP GIS data systems.

3) Conduct a before and after analysis of driver behavior at up to four locations targeted by WSP Traffic Safety Target Zero Teams and motorcycle troopers.

June 16 – July 31: TZT emphasis on four corridors in Districts 1 (Pierce), 2 (Pierce/S. King), 7 (Snohomish), and 4 (Spokane)

Before-During-After evaluation report expected by end of 2025.

DRIVER SPEEDING BY WEEKDAY/WEEKEND AND TIME BLOCK

Figure 2: Speeding risk at the Highway 101 interchange with I-5 in Olympia, Thurston County. The image on the left represents categorized speeding risk on weekdays during afternoon rush hour and the image on the right is speeding risk on weekday nights.

DRIVER SPEEDING BY WEEKDAY/WEEKEND AND TIME BLOCK WITH CRASH HISTORY

LE Maps also include:

Braking hotspots

Acceleration hotspots

Crash Risk Segment Model

Identification of 3-4 Riskiest Corridors in each district

UPDATE ON TELEMATICS DATA PROCUREMENT EFFORTS

- DES is continuing to conduct market research for the statewide contract.
  - Statewide contracts leverage the state's collective buying power to help you save money, reduce risk, and streamline purchasing. Agencies may buy products and services directly.

Questions

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https://wtsc.wa.gov/data-collaborations/

https://wtsc.wa.gov/dashboards/

https://wtsc.wa.gov/traffic-safety-reports/