

Traffic patterns on mountain passes



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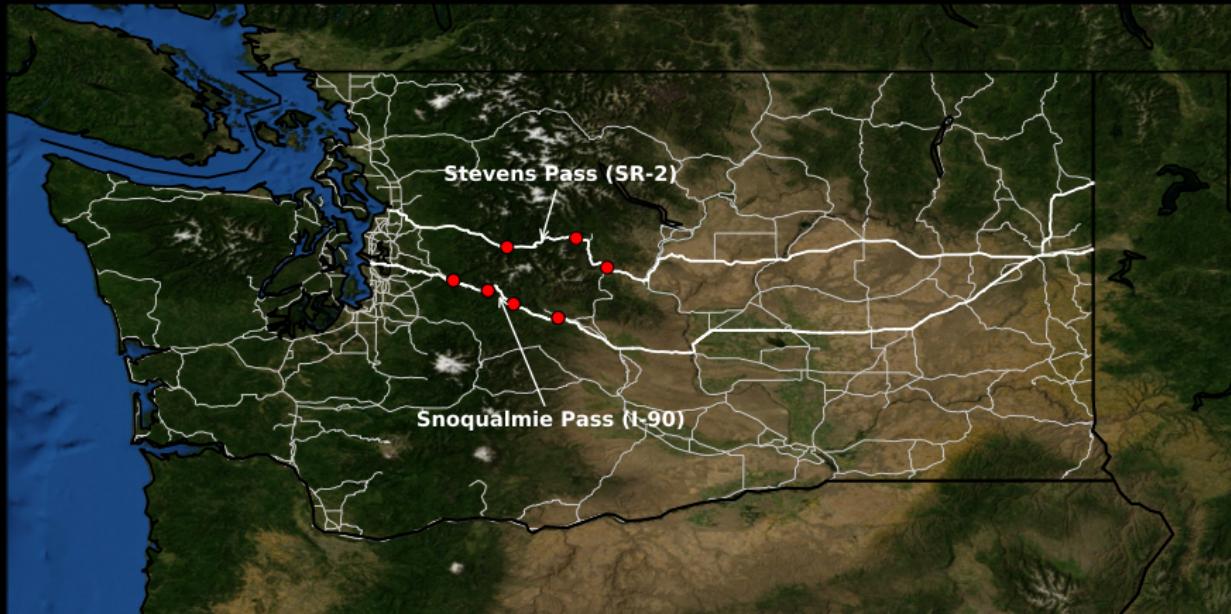
Over 20,000 cars and trucks travel over mountain passes in WA state each day.



Can we use historical traffic data to predict the busiest hours on a given day?



Hourly traffic data from WSDOT

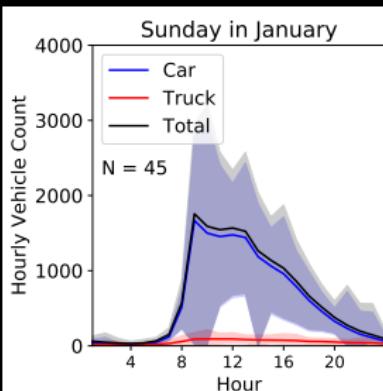


- ▶ Vehicle type and count since 2007
(1,000,000+ rows)
- ▶ Vehicle speed since 2016
(750,000+ rows)

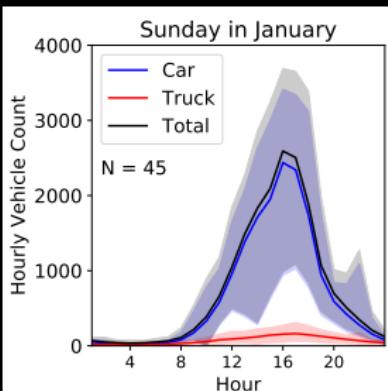
An example: Sundays on Snoqualmie Pass

Why does the distribution of busiest hours vary over the year?

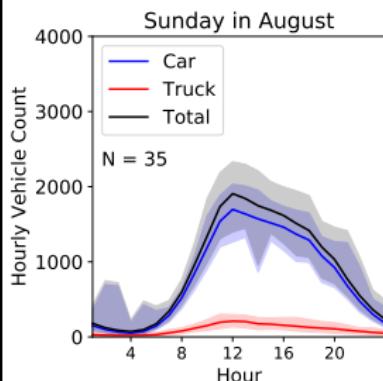
Eastbound



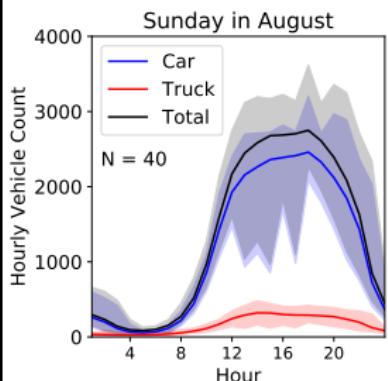
Westbound



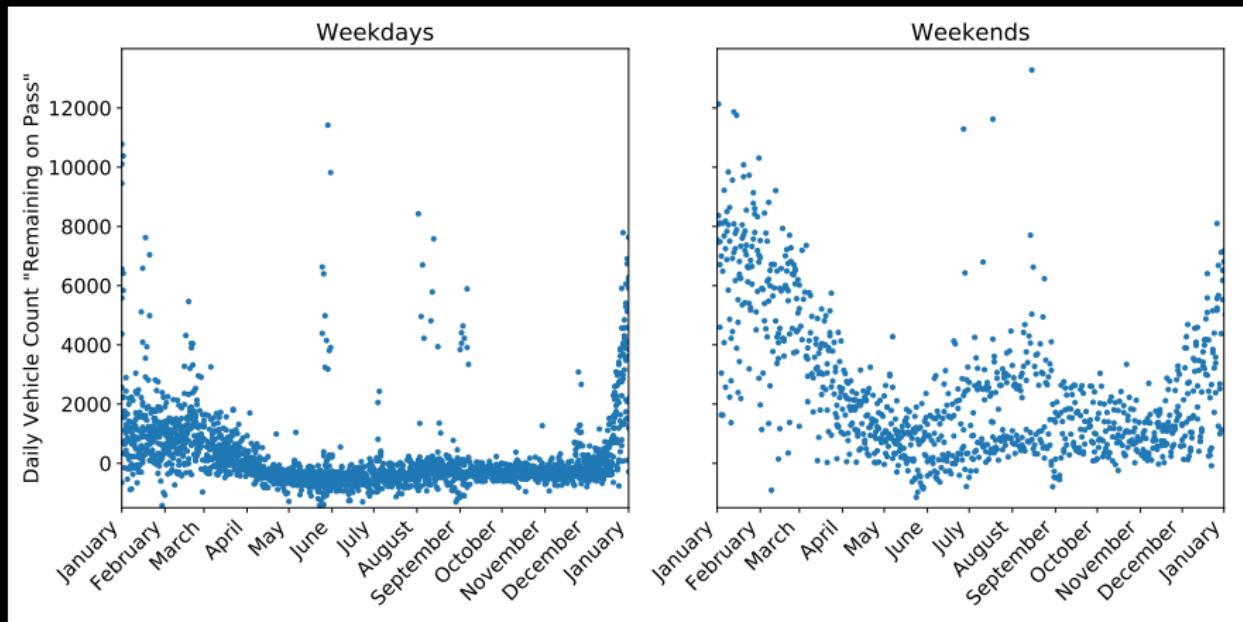
Sunday in August



Sunday in August



Ski areas on mountain passes affect traffic patterns

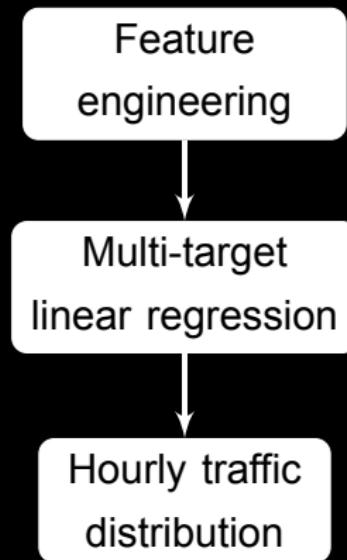


Code for all plots available at <https://github.com/kehrl/mountain-traffic>

Can we predict the busiest hours to travel on a given day?

Feature selection

- ▶ Travel Direction
- ▶ Daylight hours
- ▶ Ski resort open
- ▶ Holiday
- ▶ Week day



Users want to avoid busy hours *and* road closures.



WSDOT Passes @wsdot_passes · Feb 17

Snoqualmie: Snowing - The road is bare & wet with snow slush & ice. The west bound lanes are closed at Ellensburg d bit.ly/17B8nc



2



1



3



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Snoqualmie: Snowing hard - There is compact snow & slush on roadway. Eastbound I-90 is closed at MP 47. Travelers a bit.ly/17B8nc



2



3



3



Can we predict when a mountain pass will be closed based on current weather observations?