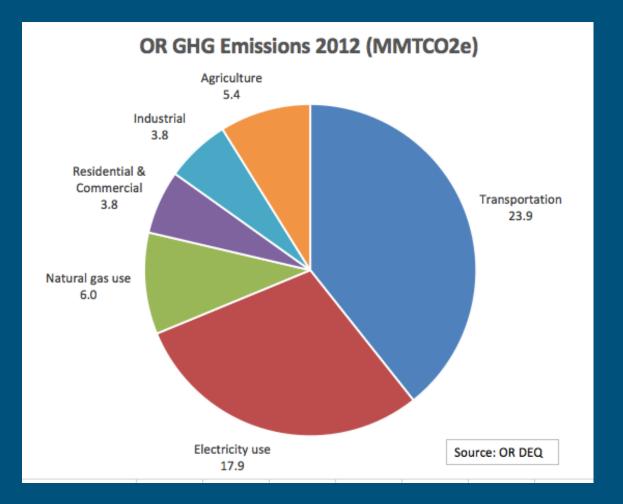
# ZEST Night May 8, 2017: Electric and Autonomous Vehicles



Zero
Emission
Solutions and
Technologies

#### **GHG** Emissions

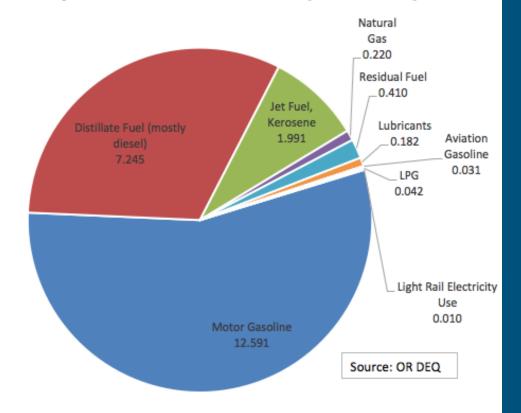
Dominated by energy used in buildings and transportation



# Emissions from Transportation

Dominated by gasoline and diesel

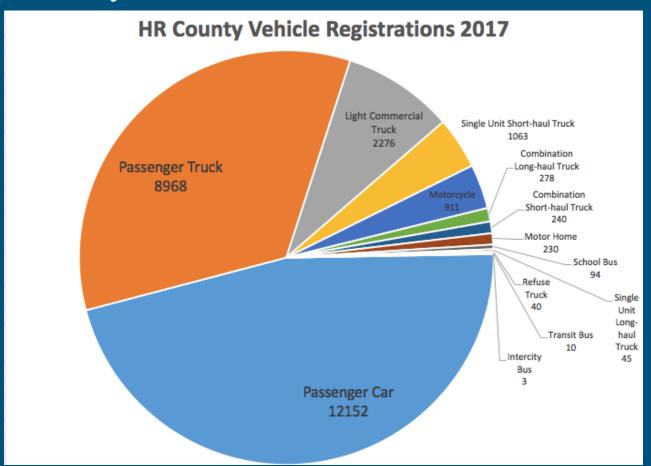
#### **OR Transportation Emissions 2012 (MMTCO2e)**



#### Hood River County Vehicles

Dominated by passenger cars and trucks

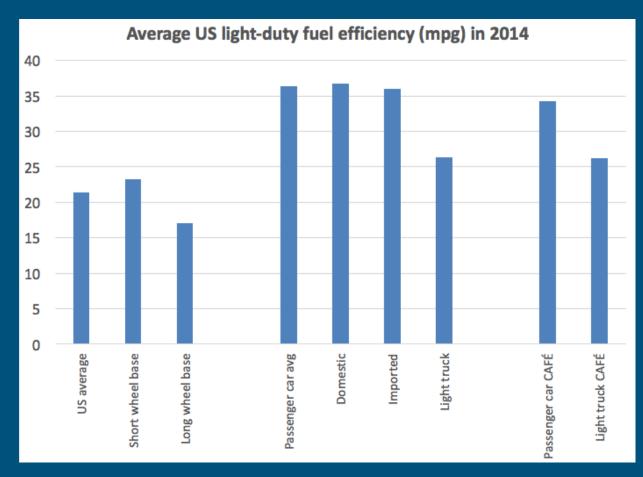
Source: ODOT MOVES modeling



#### Average Fuel Efficiencies

Improving due to CAFÉ standards

Source: US DOT



#### Columbia Gorge Express



#### **Hood River County CAT**

(Columbia Area Transit) Ridership: 20,000 yearly

Vs

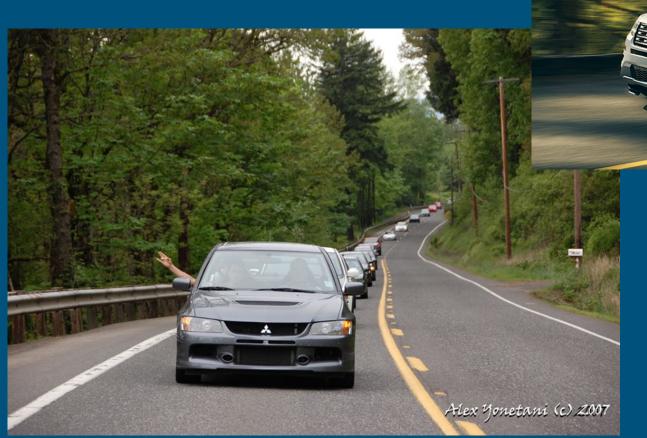
#### **Gorge Express**

Rooster Rock -> Multnomah Falls
First year, 50,000 riders (10 weekends)
\*Considering expansion to HR





### Personal Vehicles



What Zero Emission Alternatives do we have?



Hydrogen Fuel Cell (Toyota Mirai)

Electric vehicles (Tesla Model 3)



Two-wheeled and cycletype vehicles (Electric Bike)

What do we need to know to make EVs a viable option to reduce Fossil Fuel Emissions in Hood River County?

# Do EVs really reduce GHG emissions?

https://www.youtube.com/watch?v=qMJNvQ8X5Fw 4 mins (stop at 4)

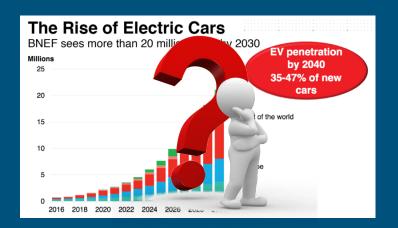
# Are EVs economically viable?

https://www.youtube.com/watch?v=Kxryv2XrnqM&t=1506s 23:10-29:30

Tony Seba's Clean Disruption Keynote presentation at the Swedbank Nordic Energy Summit in Oslo, Norway, March 17th, 2016.

#### EV Forecasts

- Bloomberg New Energy Finance predicts 35-47% of new Vehicles will be EVs by 2040
- British Petroleum (BP) predicts 1% of new vehicles by 2040
- •Tony Seba (CEO, Author, Keynote etc) predicts ALL New cars will be EVs by 2025



= Who Knows?

## How can we encourage the use of EVs in the Gorge?





#### https://www.youtube.com/watch?v=kk6UmbMLShg



#### Autonomous Vehicles

https://about.bnef.com/blog/liebreich-state-industry-keynote-bnef-global-summit-2017/ (33:27- 38)





# Lessons for a Changing World: Autonomous Vehicles (AVs)



- •Considerations for managing Avs
- Mobility as a service (Most Space Efficient)
- •But: BEWARE of Ads

# JEFFREY TUMLIN LEADING CITY PLANNING AND MOBILITY CONSULTANT

- •Parking revenue and gas tax will be eliminated. How do you make up for that revenue?
- •"Manage for the public good, not private gain"
- •Pedestrians still most efficient use of space
- •Specifics for Rural Communities
- •"Transportation as a service will take longer, individual ownership for longer"
- •Autonomous farm equipment is something to have on your radar