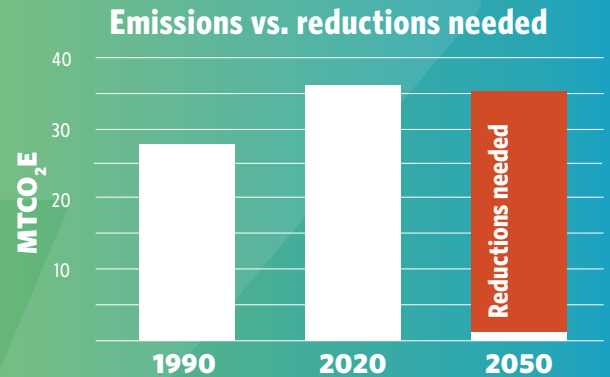


Transportation is the largest source of climate pollution in the Pacific Northwest.

We need to cut these emissions by 2050 in order to maintain a stable climate. How do we do this, and how do different options impact our health, safety, spending, transportation infrastructure, and electricity grid? How do impacts vary for different areas and communities?

While, it's possible to achieve our climate goals by only pursuing electrification, we must combine **both** electrification and reduce vehicle miles traveled (VMT) in order to address transportation inequities and achieve greater health, safety, and financial benefits. This will take strong policies and must include a focus on highly impacted communities to address existing harms and disparities.



Nearly all vehicles must be electric by 2050:



100%
of passenger and light duty vehicles



98%
of buses



93%
medium duty trucks

85%
heavy duty trucks

The research

We examined which pathways are available to decarbonize the transportation sector in Washington and Oregon. We focused on two main variables: the speed and level of conversion to electric vehicles and the amount of VMT. We also set defined geographies so we could compare impacts for cities, suburbs, small towns, and rural areas. We also were able to discern different impacts for BIPOC and low-income people based on where they live.

SCENARIO 1:

Electrification + VMT Reduction

 Near 100% electrification of all vehicle types

 27% VMT reduction

SCENARIO 2:

Near 100% electrification

 Near 100% electrification of all vehicle types

 No change in VMT compared to BAU

SCENARIO 3:

Electrification + VMT Increase

 Near 100% electrification of all vehicle types

 21% VMT increase

TRANSFORMING TRANSPORTATION



We need to switch to 100% clean electricity to move us and our goods around and reduce the vehicle miles we travel.

Both Scenarios 1 and 2 meet our climate goals. Relying on near-100% electrification only leads to significant health benefits, but it also will require significant investments and doesn't yield some of the other benefits offered by Scenario 1, which combines both electrification and VMT reduction. This is why the combined strategy, Scenario 1, to addressing our climate pollution is the optimal path.

In 2050...	Business As Usual	Scenario 1 Electrification + VMT reduction	Scenario 2: Near 100% electrification
Cumulative CO ₂ emissions (MMT)	990	475 less Least amount of CO ₂ emissions	435 less
Total health benefits	N/A	\$278-626 million Largest health savings	\$276-622 million
Work loss days avoided	N/A	4,265 Fewest work days lost to illness	4,245
Chargers needed	70,000	680,000 more Fewest chargers to meet climate goal	870,000 more
Crash fatalities	1,070	205 lives saved Fewest crash deaths	No difference
People using active transportation	450,000	250,000 more Most people walking, biking, or using micromobility	No difference

Are there other pathways?

Our research shows that we must electrify without delay and pair it with reducing vehicle miles traveled for broader benefit. We cannot succeed without electrifying nearly all vehicles and vehicle types. If we nearly double the VMT reductions of the optimal scenario but do not electrify beyond business as usual, we are 55% short of our climate goal. To reach it, we will still to electrify ~97% of vehicles alongside these ambitious VMT reductions.

We also cannot slow the rate of electrification or delay rapid electrification uptake—not even by five years. Doing so, even while reducing vehicle miles traveled, still leaves us short of our climate goals.

We need to reduce vehicle dependence and electrify as much as we can as fast as we can.

We will need strong policy action to achieve these social and climate benefits! We can see improved health and air quality, especially for low-income and BIPOC communities who are disproportionately burdened by air pollution; reduce how much money we spend to get around, decreasing transportation energy burden; and address the climate crisis.

