



The Role of Transportation in Climate Justice

City of Portland perspective

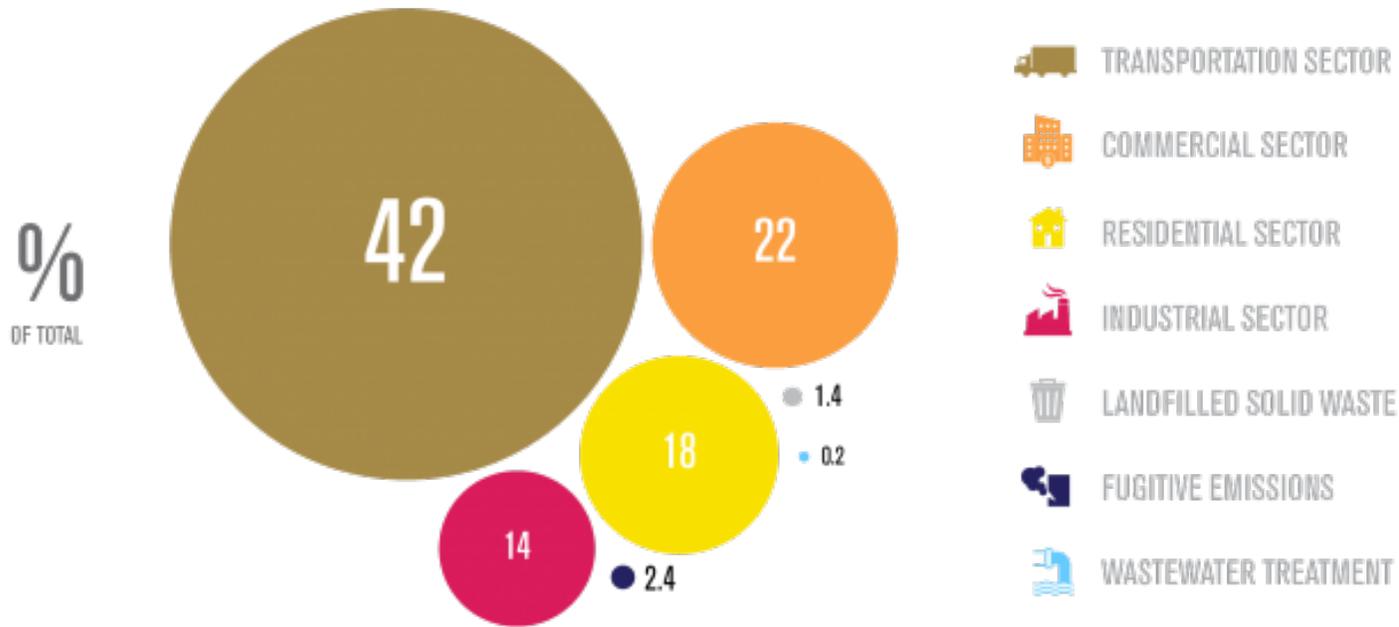
Ingrid Fish, Bureau of Planning and Sustainability
Emma Sagor, Portland Bureau of Transportation





Presentation contents

- Transportation and the climate crisis
- Portland's transportation status quo: inequities today
- City strategy for reducing transportation emissions
- Opportunities: A just transportation transition
- Thinking ahead: Aligning transportation opportunities with PCEF priorities
- Q&A



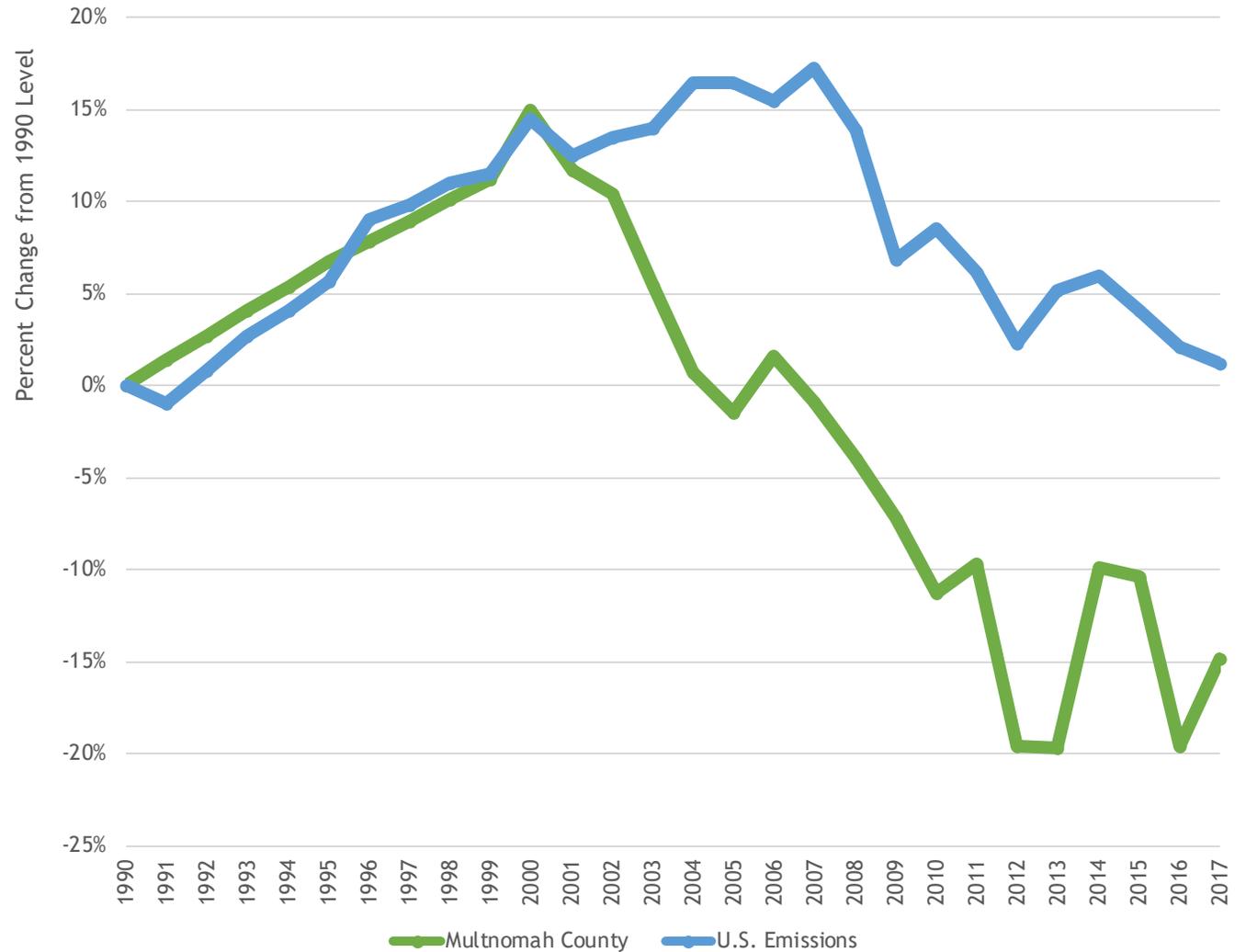
2017 MULTNOMAH COUNTY CARBON EMISSIONS
BY SECTOR

Transportation is a major contributor to the **climate crisis**

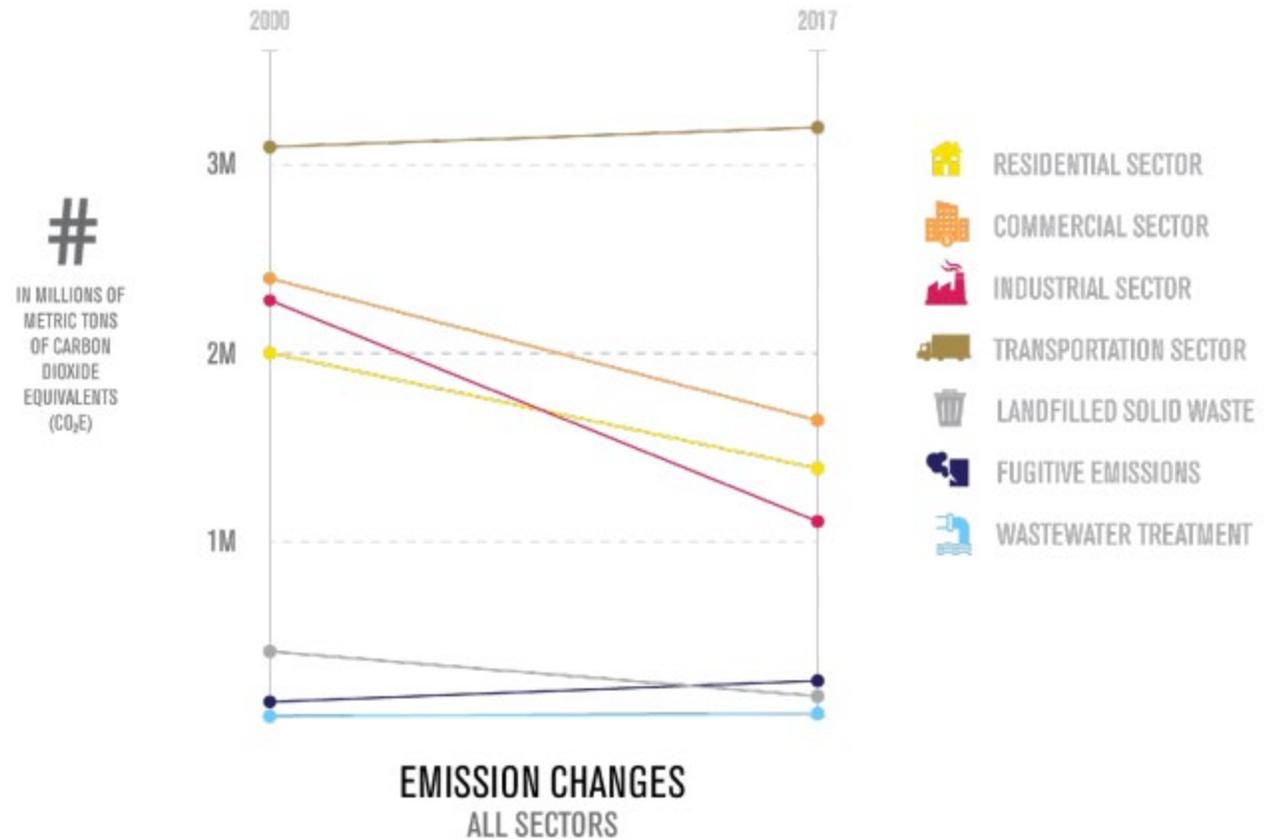
- Transportation emissions come from gasoline, diesel, propane, ethanol, and biodiesel
- Most transportation emissions are caused by combustion engine light-duty vehicles
- Combustion engine vehicles release a variety of pollutants:
 - Carbon dioxide
 - Carbon monoxide
 - Nitrogen oxides
 - Volatile organic compounds
 - Particulate matter

Portland's carbon emissions are trending in the right direction...

Change in Carbon Emissions - Multnomah County v. U.S. (2017)



...but we're heading in the wrong direction on transportation

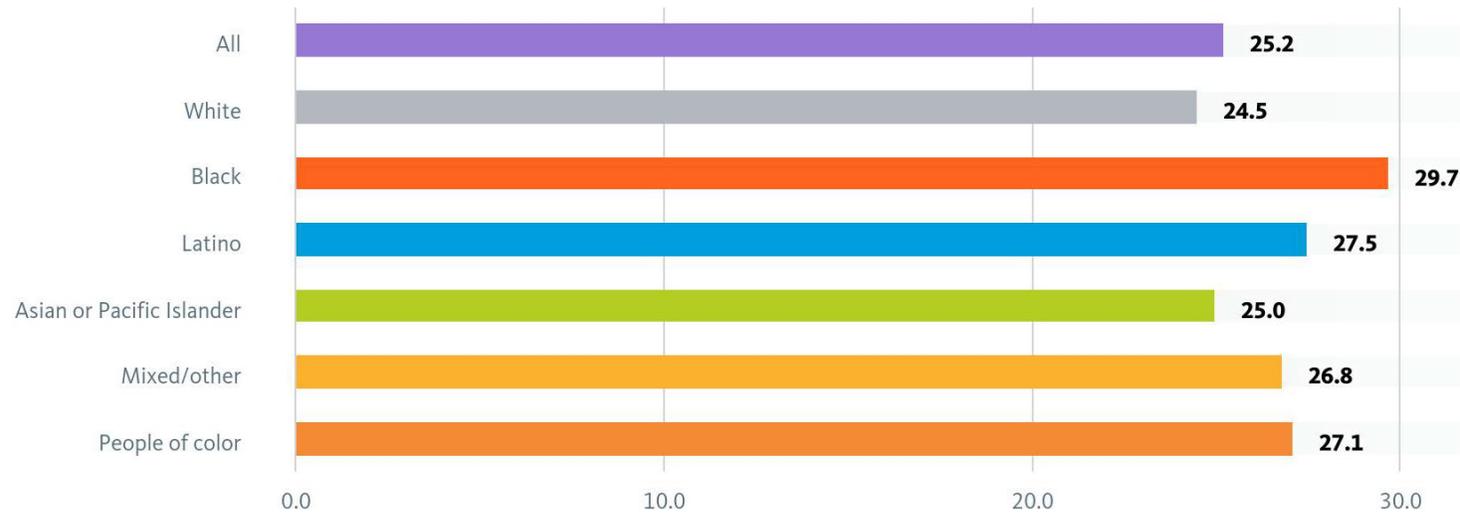


Change in transportation emissions

Last year of data	Since 1990
+6.4%	+8%



Average travel time to work (minutes) by race/ethnicity: Portland City, OR, All, 2015



IPUMS
PolicyLink/PERE National Equity Atlas, www.nationalequityatlas.org

Our transportation system is currently inequitable

Not everyone has the same transportation options, and burdens are getting worse due to gentrification and displacement

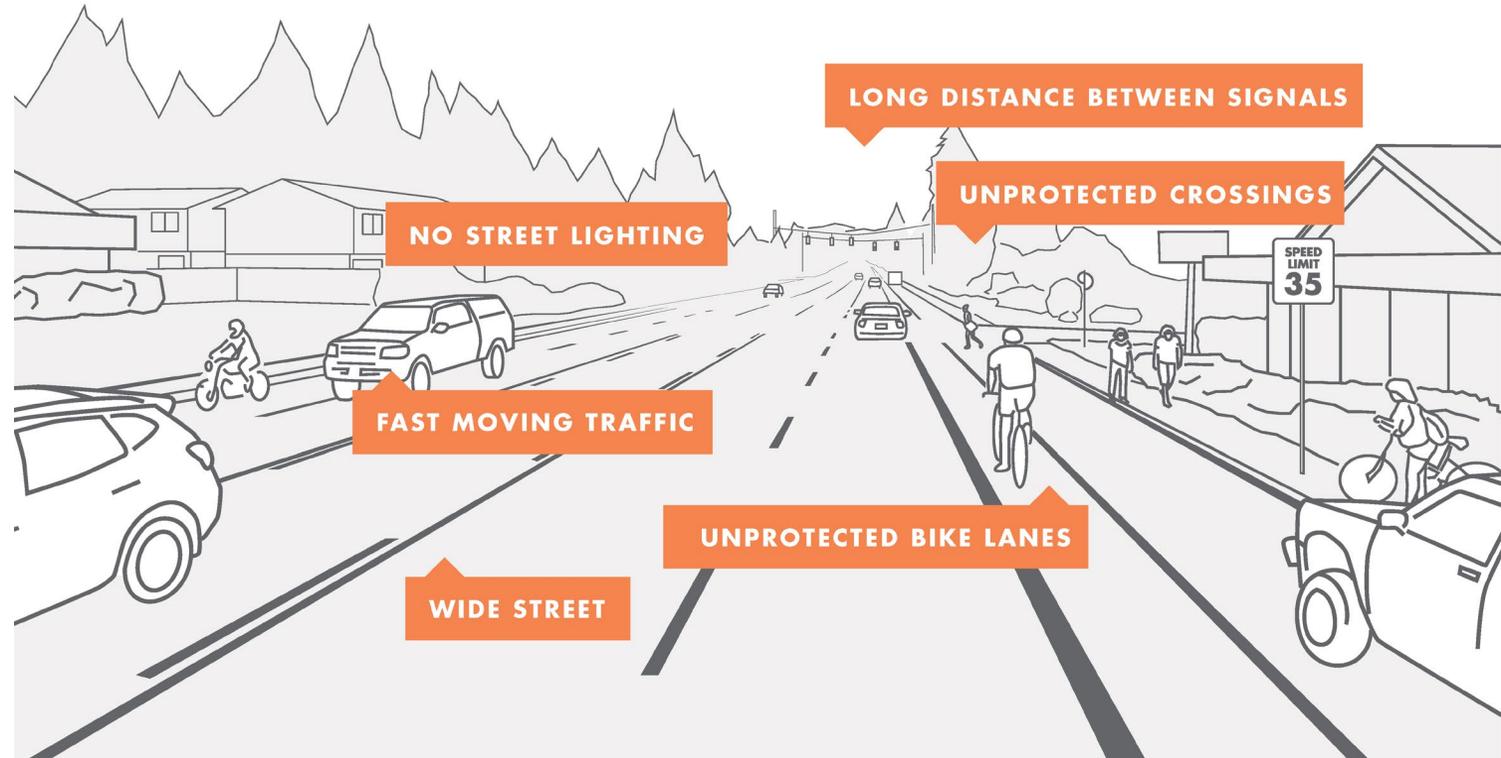
- Almost 31% of Black households do not have a vehicle. Just under 14% of white households do not have a vehicle
- Average commute times for Black commuters are 20% longer than white commuters



Our transportation system is currently inequitable

Transportation is expensive, and current prices in our system are regressive

- Car ownership is expensive, often 2nd highest household expense after housing
- Gas tax & vehicle registration fees are regressive

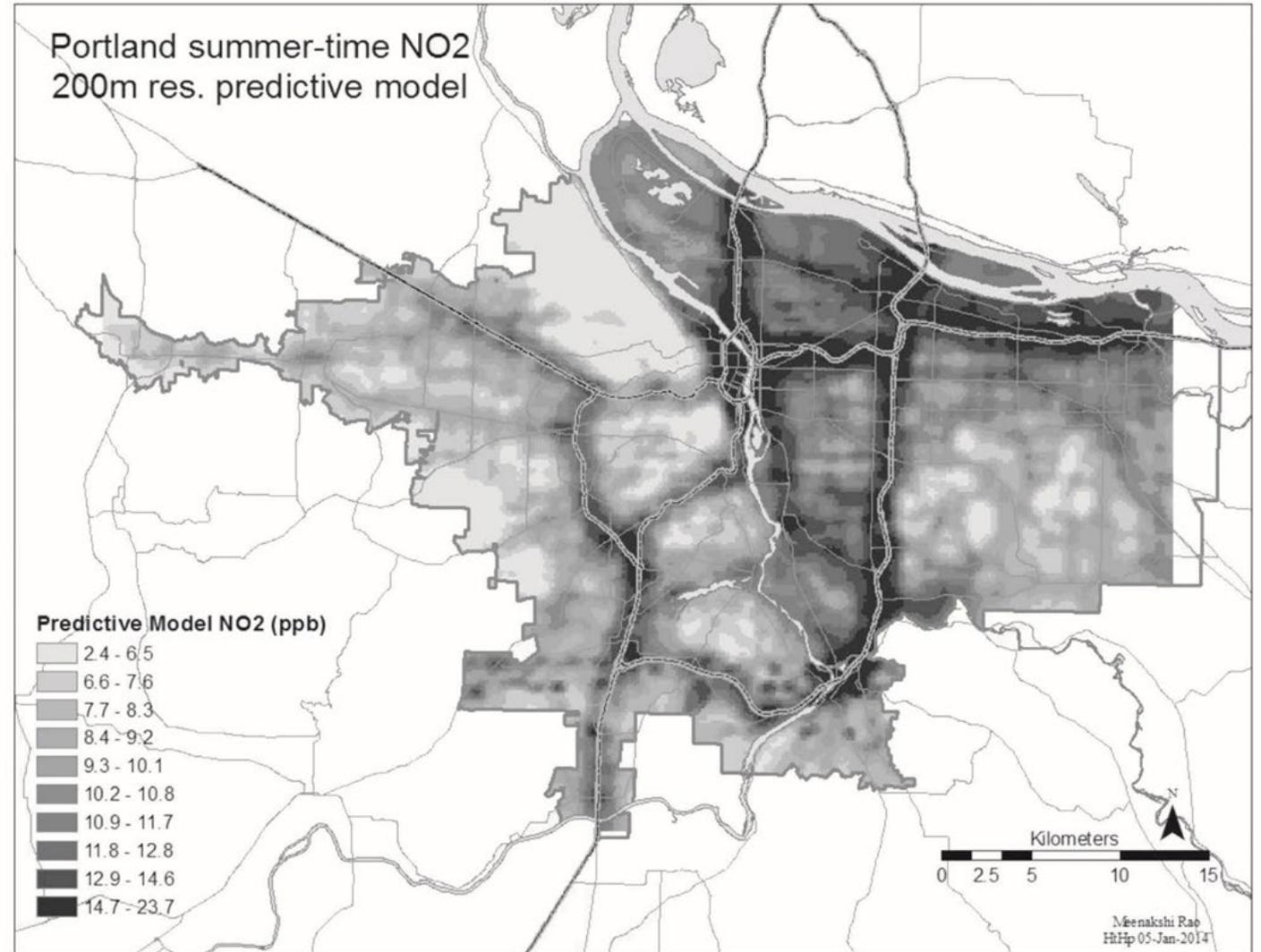


Our transportation system is currently inequitable

Communities of color, low-income communities and people with disabilities face disproportionate impacts:

- Pollution, climate and health risks
- Safety risks and crash rates
- Legacy of displacement and neighborhood impacts

Uneven pollution... uneven health risks



M. Rao et al. Environmental Pollution 194 (2014) 96-104)

Transportation Decarbonization Plan

- Densification/Strategic Land Use Policies
- Commute Mode Shift
- Fuel Switching Strategy:
 - EVs
 - Renewable Diesel
 - Renewable Natural Gas



INTRODUCTION

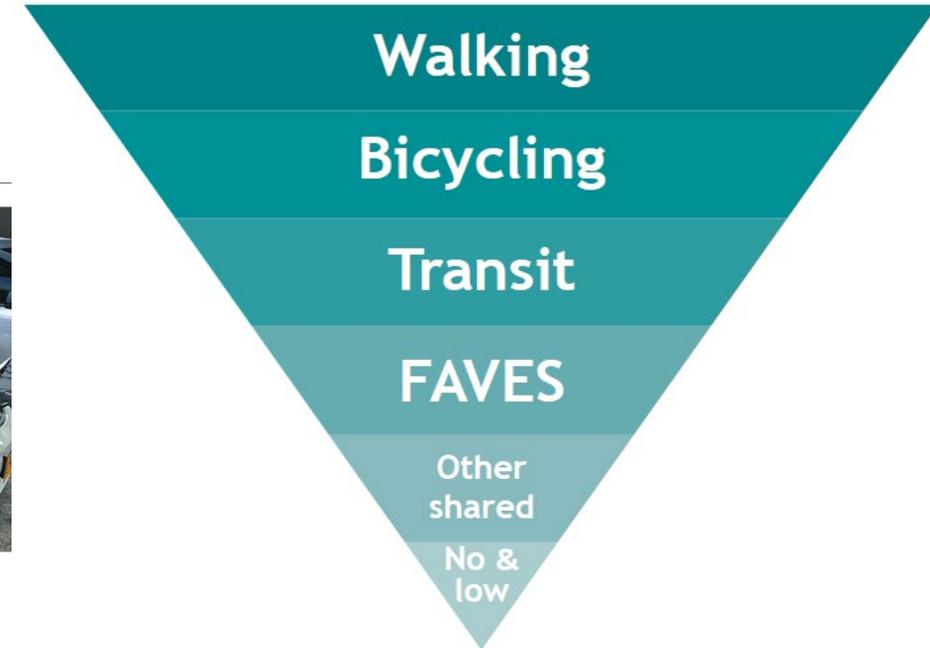
Portland's Climate Action Plan strives to reduce carbon emissions 40 percent by 2030 and 80 percent by 2050. Land use planning and transportation policies and investments are among the most important opportunities to address climate change. In Portland, the transportation of goods and people accounts for nearly 40 percent of local carbon emissions. Shifting from gasoline and diesel to lower-carbon transportation fuels, like electricity, is a key strategy to achieving Portland's climate action goals.

Portland's approach to personal mobility prioritizes safety, health, affordability and environmental quality. The City of Portland (City) is working to create a healthy connected city that enables safe and convenient walking, biking and transit use, see Figure 1. This Electric Vehicle Strategy focuses on converting the remaining vehicles on the road to electric vehicles, which is one of many strategies the City is taking to reduce carbon emissions from the transportation sector. This strategy also seeks to maximize the benefits of air quality and affordability to low-income residents and parts of Portland that are the most dependent on private vehicles.

Portland's transportation hierarchy for people movement.



Figure 1. Portland prioritizes transportation options that reduce congestion and carbon emissions.



Sources: City of Portland Climate Action Plan, Comprehensive Plan, and Transportation Systems Plan.



Portland EVs & Equity Approach

Draft Citywide EV Charging Infrastructure Location Strategy - Commercial Zones

*This map has been created for discussion purposes only and is subject to change.

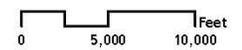
- Area within 3 miles of Central City
- Central City
- City Boundary

EV Fast Chargers

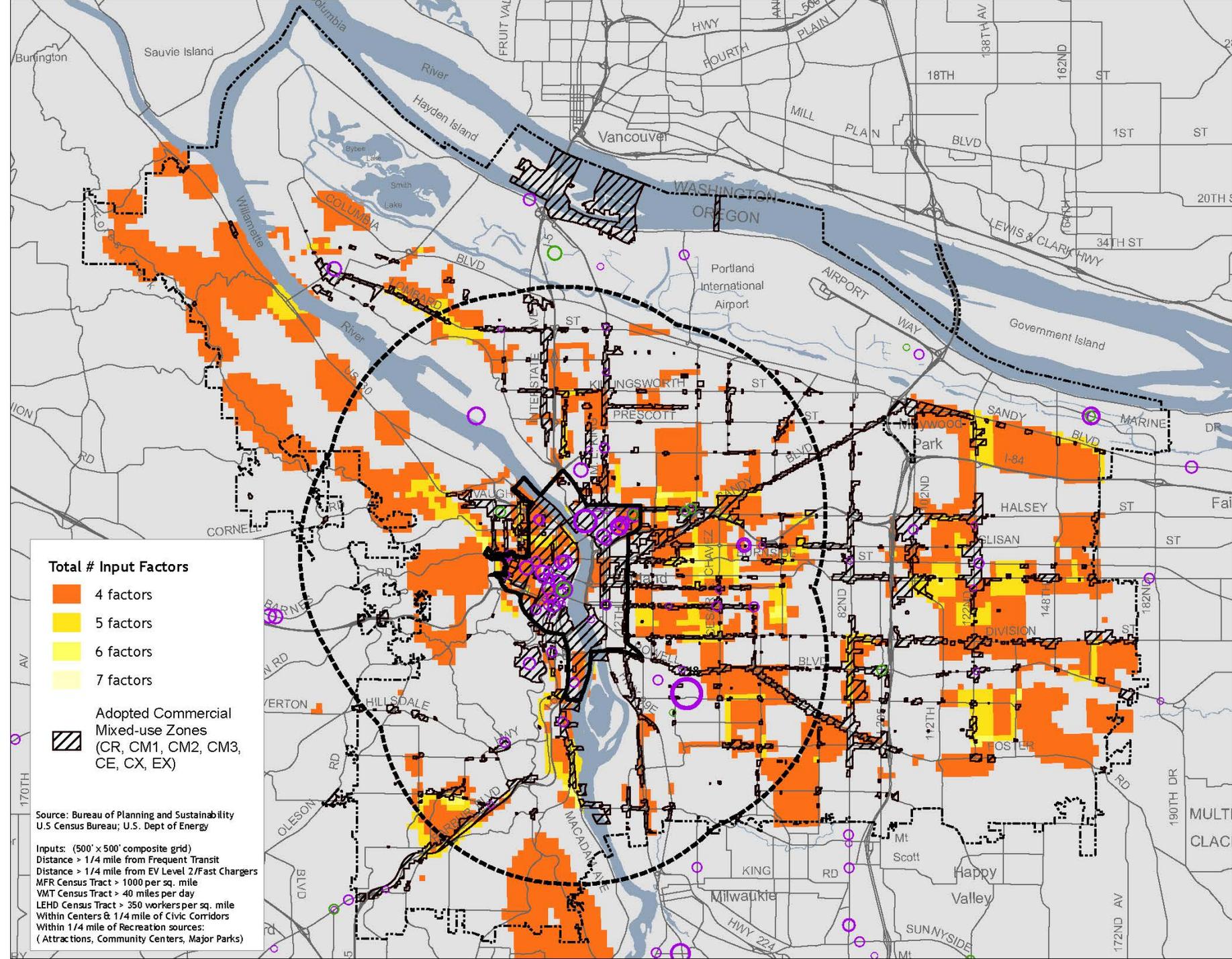
- 1
- 5
- 10

EV Level 2 Chargers

- 1
- 5
- 10



City of Portland, Oregon
Bureau of Planning & Sustainability
Geographic Information System



Total # Input Factors

- 4 factors
- 5 factors
- 6 factors
- 7 factors

Adopted Commercial Mixed-use Zones (CR, CM1, CM2, CM3, CE, CX, EX)

Source: Bureau of Planning and Sustainability
U.S. Census Bureau; U.S. Dept of Energy

Inputs: (500' x 500' composite grid)
 Distance > 1/4 mile from Frequent Transit
 Distance > 1/4 mile from EV Level 2/Fast Chargers
 MFR Census Tract > 1000 per sq. mile
 VMT Census Tract > 40 miles per day
 LEHD Census Tract > 350 workers per sq. mile
 Within Centers & 1/4 mile of Civic Corridors
 Within 1/4 mile of Recreation sources:
 (Attractions, Community Centers, Major Parks)

A just transportation transition

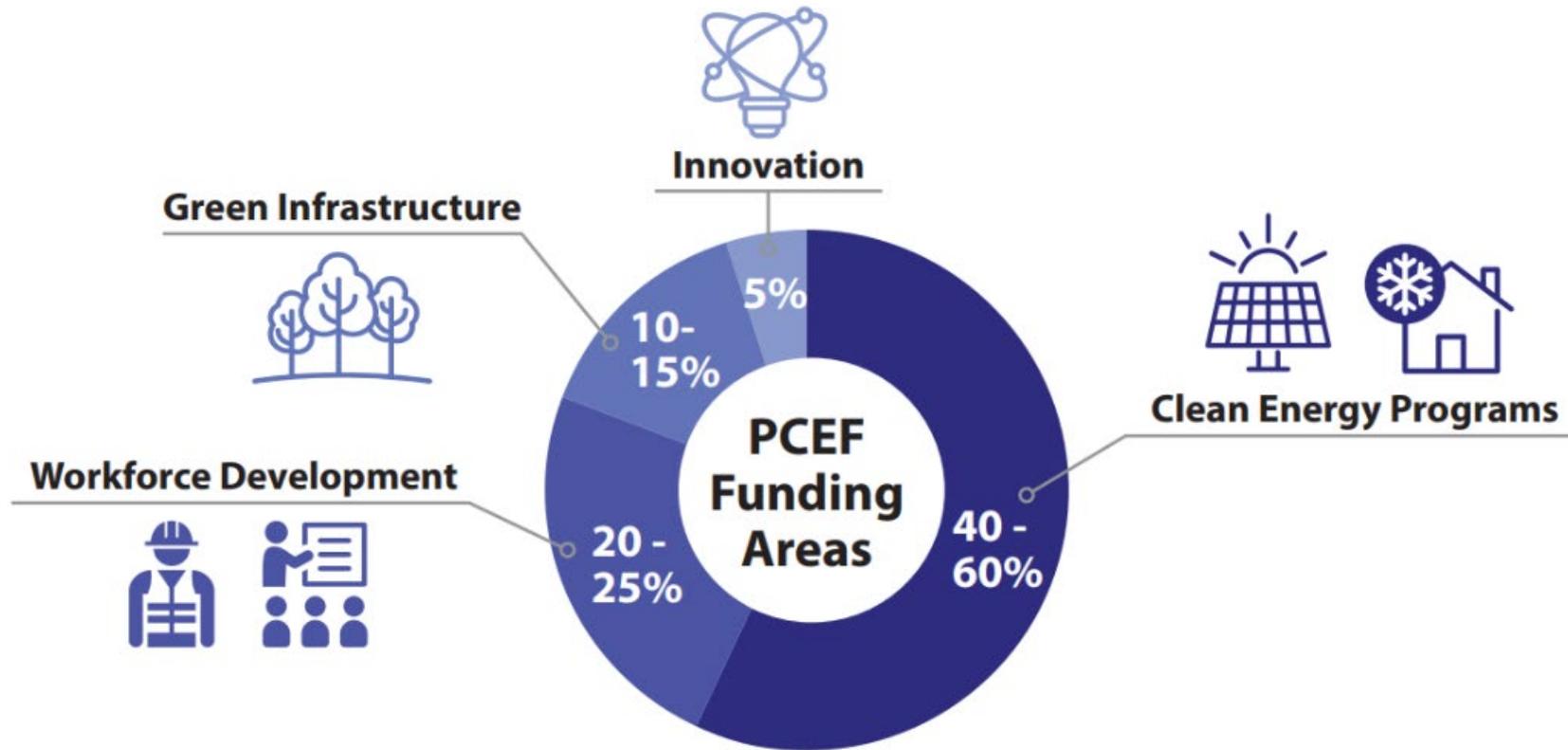
Tackling the transportation challenges we face today...

- Few people of color in the workforce
- Carbon emissions and climate impact
- Public health risks
- Neighborhood disruption
- Inequitable access
- High costs



...creates opportunities for a more just transportation future

- Career opportunities for people of color
- Expanded access to alternative fuels and low carbon options
- Public health solutions
- Placemaking projects
- Addressing disparities
- More affordable options



Aligning transportation opportunities with PCEF priorities



Clean Energy Programs + transportation

Existing community-led example:

- Community Electric Bike Program (*Forth, 11th Hour Project, Community Cycling Center, genZe, Andando En Bicicletas En Cully, PCC*)

Other ideas:

- E-bike subscription or bulk buy program
- EV tech, maintenance and infrastructure opportunities
- Micro-mobility hubs



Existing community-led example:

- NE 72nd Green Street (*Verde Builds, Colas Construction, PBOT, other contractors*)

Other ideas:

- Green transportation job training programs:
 - Tech and innovation
 - Planning and engineering
 - Construction, maintenance and operations
 - Outreach and community engagement
- Business and entrepreneurship
 - Sustainable freight and food transportation
 - Car-share

**Workforce Development
+ transportation**



Green infrastructure + transportation

Existing community-led example:

- Green feature installation and maintenance alongside sustainable transportation projects (*Verde landscape*)

Other ideas:

- “Green up the neighborhood greenways”: Programs to plant and maintain green infrastructure along bike greenways



Innovation + transportation

Existing community-led example:

- Affordable Housing Transportation Wallet (PBOT, Hacienda CDC, APANO, Home Forward, Reach CDC, Cascadia Behavioral Healthcare, Portland Community Reinvestment Initiative, Central City Concern, NW Housing Alternatives, Rose CDC, Human Solutions Inc, Innovative Housing Inc)

Other ideas:

- EV charging infrastructure powered by community-owned renewable energy
- Transportation wallet concept for small businesses, others
- Youth-focused programs (e.g. SUN Community School model)
- Outreach, engagement and encouragement programs



What questions do you have about the connection between transportation and our clean energy future?

What role can PBOT and BPS play in supporting community-led transportation solutions through PCEF?