

Autonomous Vehicles:

Portland's Smart Autonomous Vehicle Initiative

May10, 2017



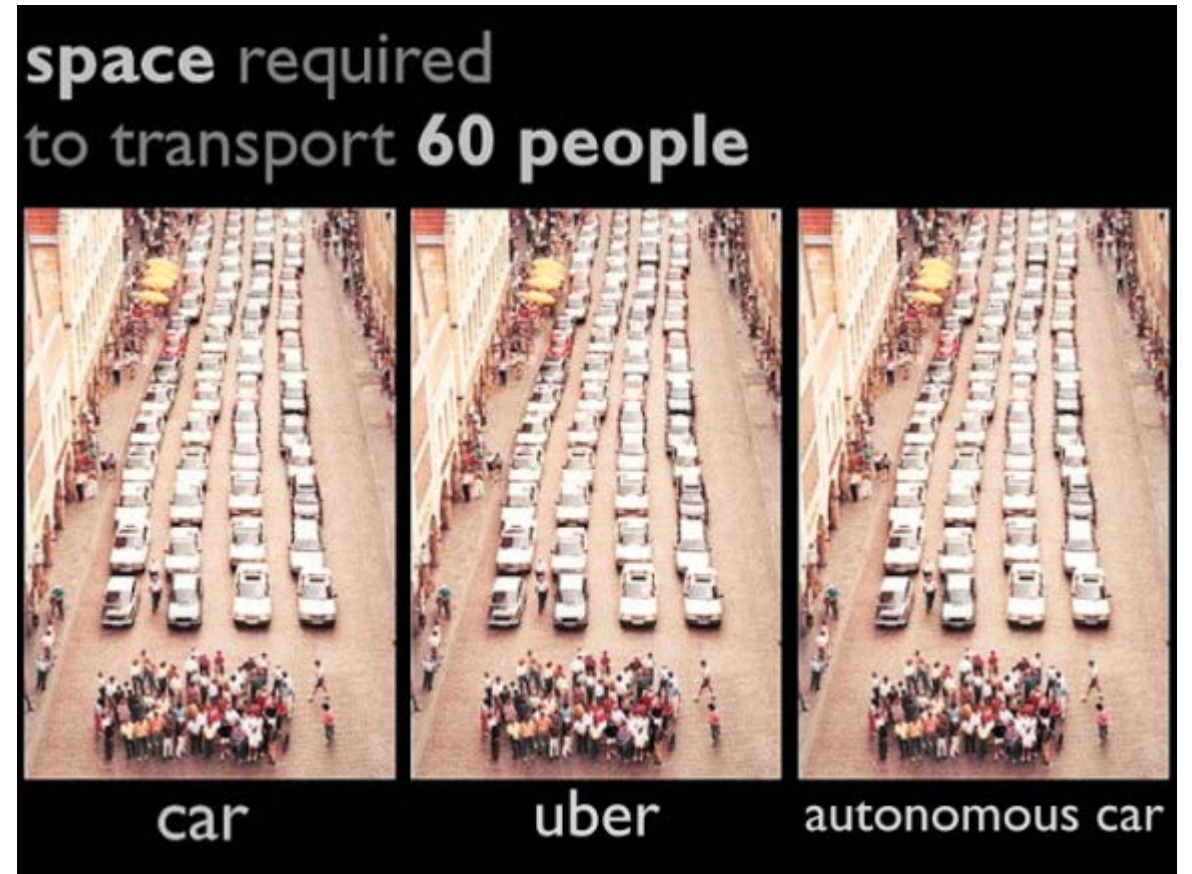
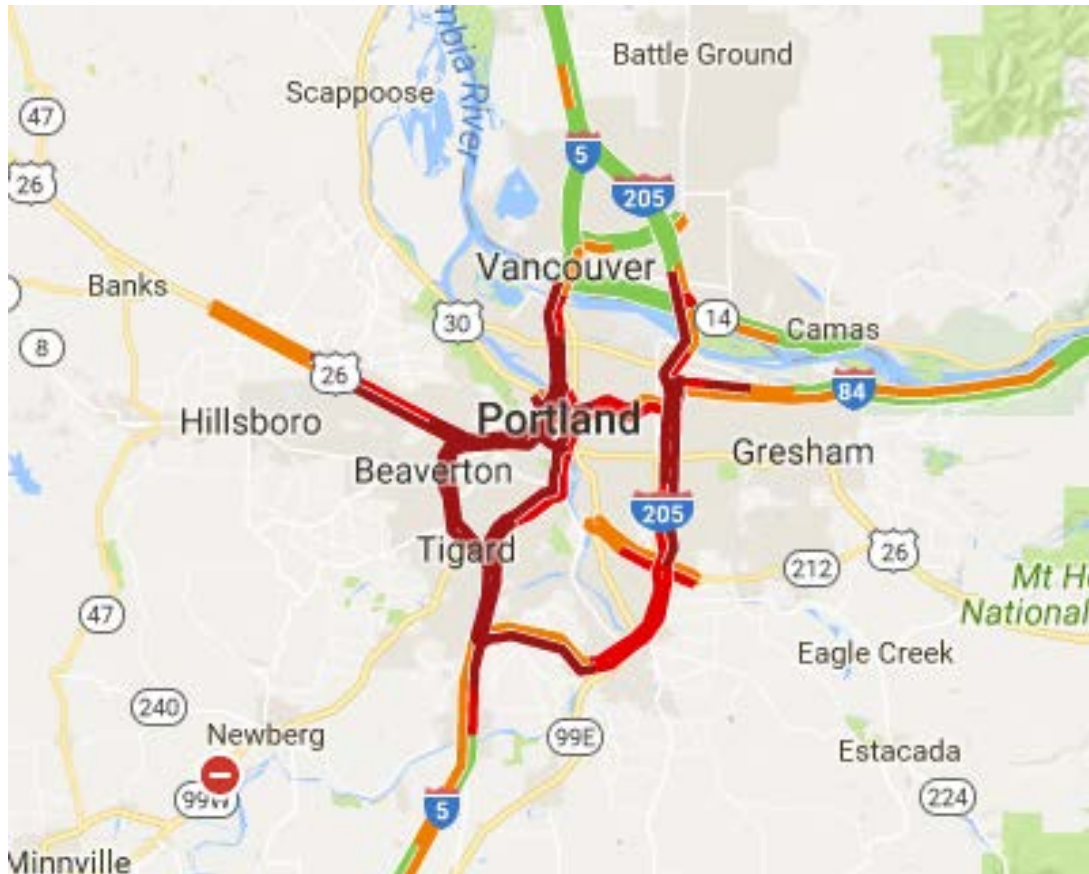
PBOT
PORTLAND BUREAU OF TRANSPORTATION

What does mobility look like in the future?



Is this what 10,000 steps looks like?

How can Autonomous Vehicles help solve congestion?



We use our cars 5% of the time and at 25% utilization

How can Autonomous Vehicles help parking demand?



**Parking is a major land use that competes with other uses
and makes development more expensive**

How can Autonomous Vehicles lower transportation cost?

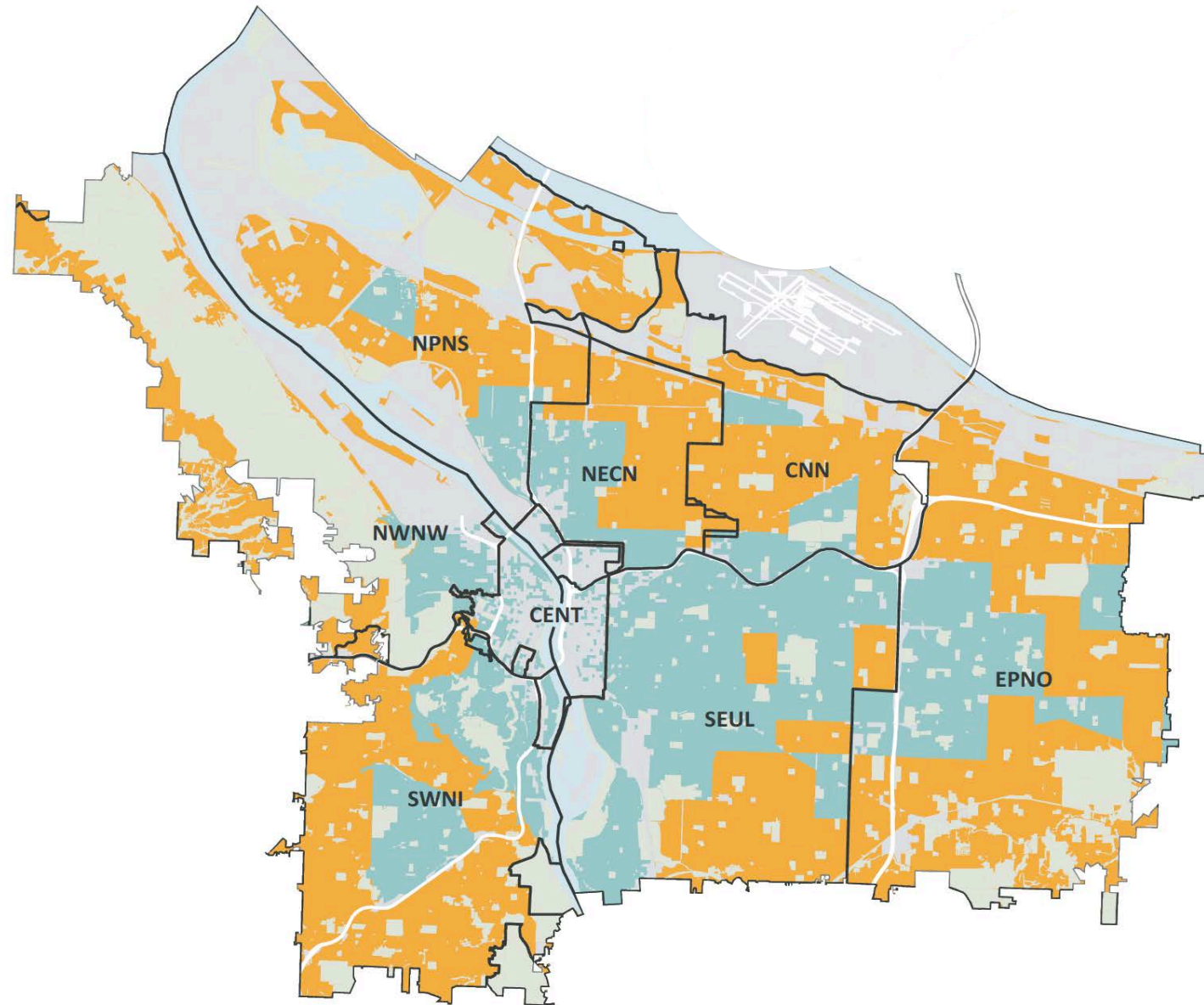
Average transportation costs as a percentage of household income

regional average of 19%

■ above
■ below

Sources: Center for Neighborhood Technology H+T Index;
Portland Bureau of Transportation 10-22-2015

Average transportation cost is calculated as a percentage of regional typical household, which assumes a household median income, the average household size, and the average commuters per household for the region.



How can Autonomous Vehicles help create great places?



EQUITY

**JOB
ACCESS**

HEALTH

ACCESS

SAFETY

CLIMATE

The Potential Promise of AV's

- **Safer streets** as AV's "see" and stop for red lights, pedestrians, bicyclists, other vehicles
- **Reduced congestion and lower cost** as fleet AV's carry more people, complement rail transit system, and use roads more efficiently
- **Less climate pollution** with fewer crashes, smoother braking & acceleration, more occupants per vehicle
- **Reduced cost of freight movement** with driverless trucks, automated delivery, and closer following distances reducing fuel costs



The Potential Peril of AV's

Crashes: Current technology recognizes vehicles better than pedestrians or human drivers = VZ Risk

Increased congestion: Driving time becomes more attractive. "Empty miles" from zero and low occupancy trips without a "time penalty"

Health and Climate: significantly more vehicle miles travelled. Adverse health impacts: pollution/inactivity

Equity: Benefits accrue to wealthy. Transit ridership drops; service cuts.

Funding: parking and fuel tax revenue drop; smart city investments increase system costs.

Jobs: significant loss of truck driver and delivery jobs requiring extensive retraining.

"Uber's Self-Driving Systems Missed Six Red Lights in SF"



Traffic



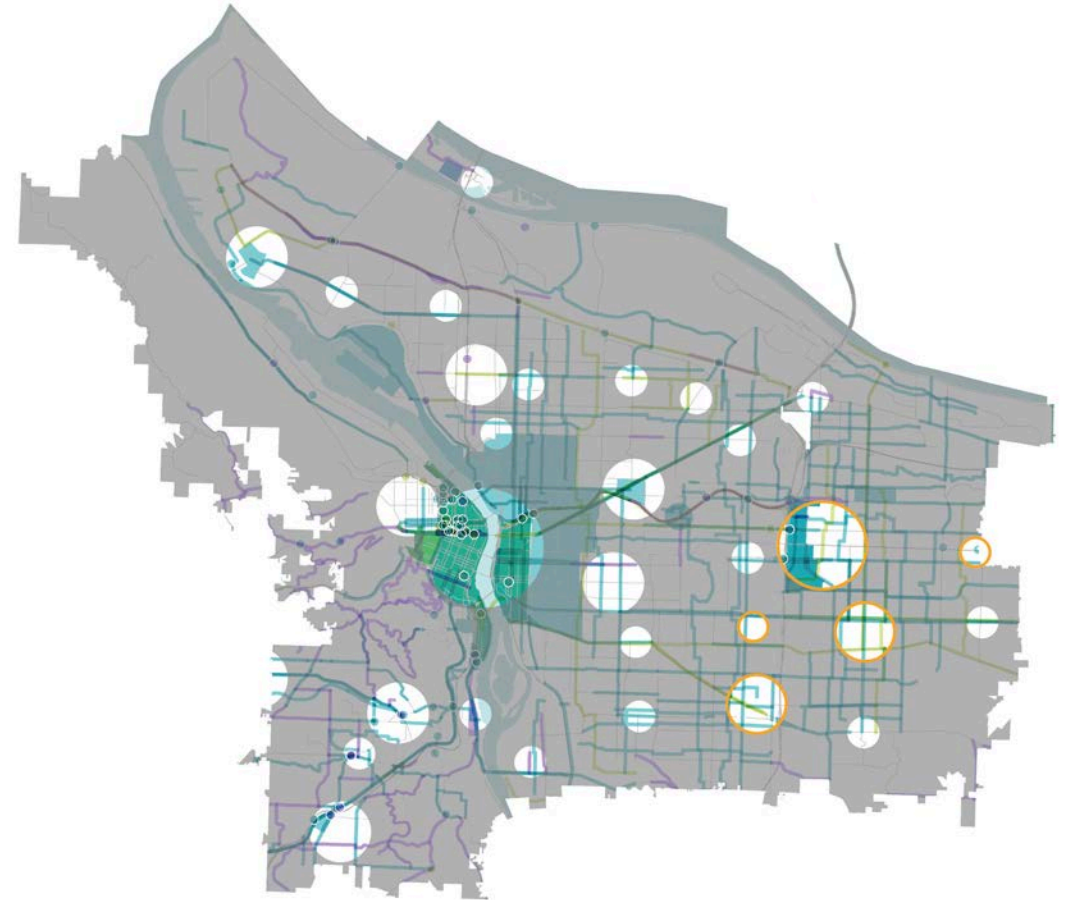
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What will determine the outcome? Policy & Actions

Policy: focus on outcomes that create a great city

- AV's should advance the outcomes/goals adopted by City Council in Comprehensive Plan
- Vision Zero= Safer Streets
- Equity: ensure benefits accrue to disadvantaged people without increased burden
- Congestion & Climate: use price signals to reduce inefficient use or "empty miles"
- Prioritize FAVES: Fleet Autonomous Vehicles that are Electric & Shared



What will determine the outcome? Policy & Actions

City AV Letter to Legislators

Portland support for AV testing

No pre-emption

Registration

Reporting

Policy: Fleet Autonomous Vehicles Electric and Shared

Equity

Cost Recovery

Interagency Legislative Workgroup



City of Portland

March 29, 2017

Representative Caddy McKeown, Chair
House Committee on Transportation Policy
900 Court Street NE, HR D
Salem, Oregon 97301

Dear Chair McKeown and Members of the Committee:

The City of Portland opposes HB 3119 as introduced because the bill preempts state and local authority to ensure safe use of our rights of way, and prematurely authorizes widespread deployment of autonomous vehicles (AVs). Instead, we encourage you to form a workgroup using the five principles below to develop legislative recommendations.

Portland is one of the world's leading cities partnering with the private and university sectors to develop best practices for testing and piloting autonomous, electric, and shared vehicles. AVs have the potential to benefit our communities by reducing crashes, improving first and last mile connections for transit users, and reducing the high cost of owning a private vehicle. AVs also have the potential to significantly increase traffic congestion, vehicle miles travelled, and climate pollution. The protections and rules of the road adopted by state and local governments will substantially determine how much benefit and how much burden we experience.

The City of Portland requests the formation of a workgroup that considers the following five principles to evaluate and shape state AV policy and legislation:

1. Maintain Authority; Build Partnerships

Maintain state and local authority to manage the testing and operation of autonomous vehicles in our rights-of-way. We strongly oppose preemption and self-certification as a replacement for registration and reporting. Both would increase risk, decrease transparency, and undermine management by those responsible for managing our rights-of-way. Instead, support and reward partnerships between the public and private sectors and between local, regional, and state transportation agencies.

2. Phasing

Phase in authorization to operate autonomous vehicles, starting with allowing testing and piloting a limited number of registered autonomous vehicles before widespread deployment.

Getting Ahead: Portland's Smart Autonomous Vehicle Initiative

April 19th Press Event

Mayor & Transportation Commissioner
Invites AV Testing in Portland

Directs PBOT to take 4 actions within 60 days:

1. Propose interim policy to Council;
2. Publish a Request For Information (RFI) as the first step towards launching AV tests that advance policy goals;
3. Adopt interim admin rule building on TNC framework for permitting, data collection;
4. Develop public engagement, evaluation, and reporting plans.

“We want to do AV right.”



Questions?