

ICLEI-Eurocities Workshop 2022

Sustainable Urban Logistics

E-Commerce Worksession

Art Pearce, Portland Oregon

Grenoble, France

Monday, 9th of May – Tuesday, 10th of May





Mt. Hood



Bikes



Beer & Coffee



IFC PORTLANDIA



Forest Park



Neighborhoods



Food carts



KEEP PORTLAND WEIRD



Environmental Conscientiousness

Important trade connections

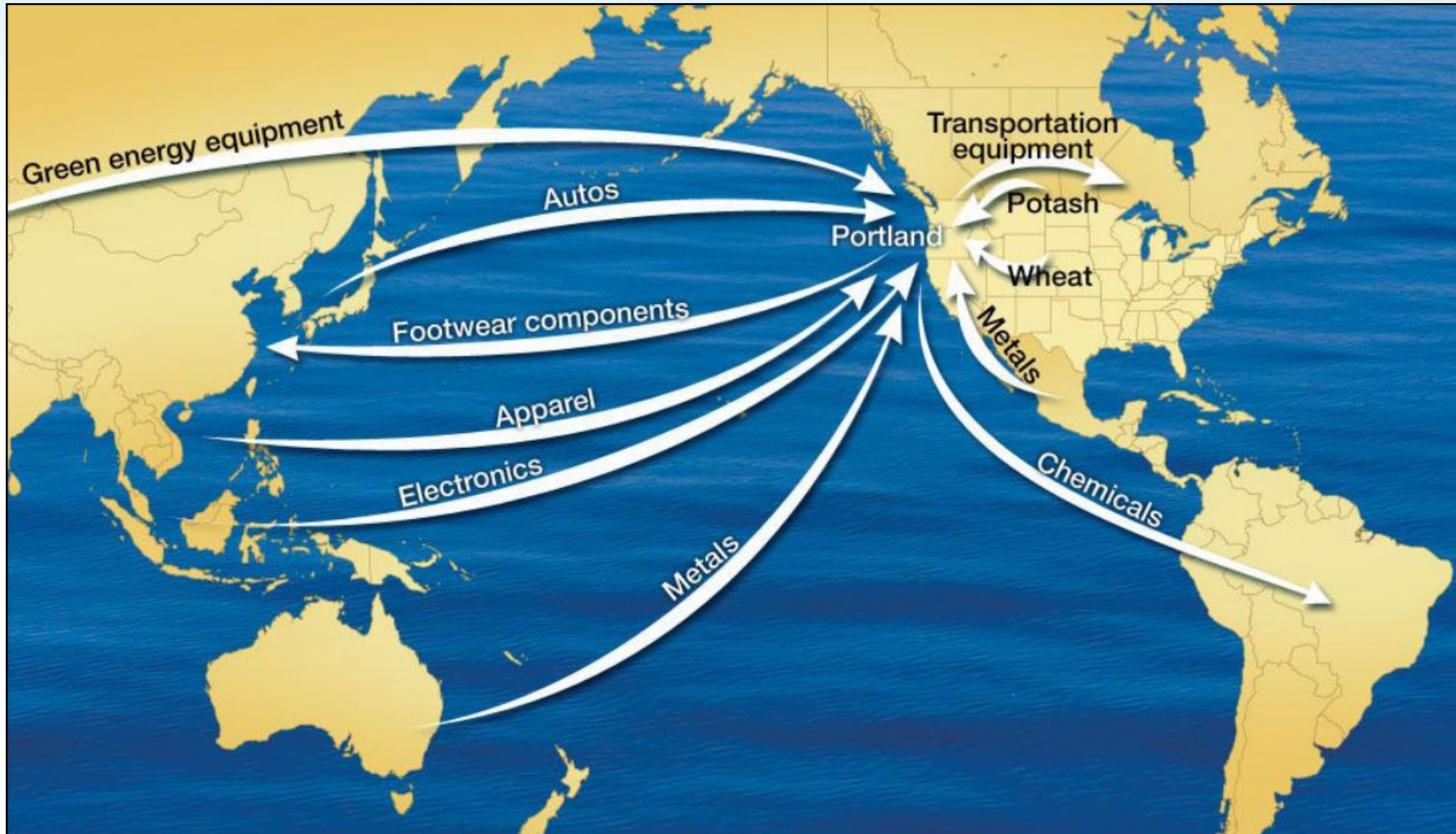


Image credit: Port of Portland

Portland Transportation: Creating a More Balanced System



Safe and Accessible
Pedestrian Environment

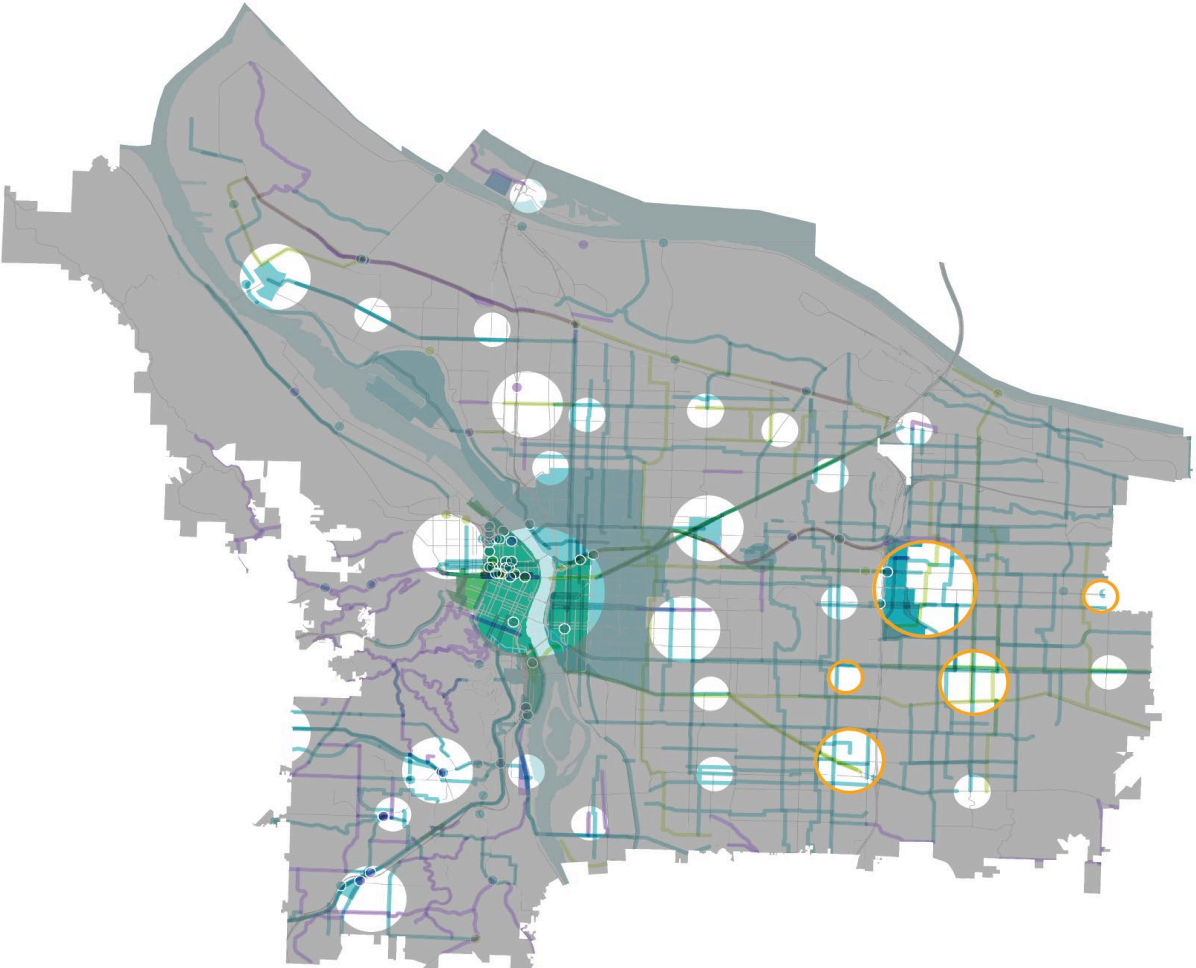


All Ages and Abilities
Cycling Network



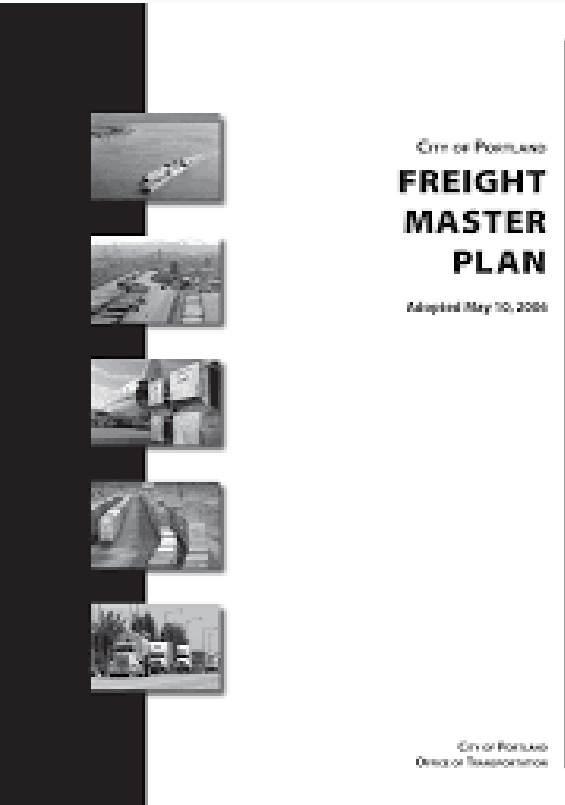
Fast and Reliable Transit

Supporting a Centers and Corridors Land Use Growth Strategy



Long History of Freight Planning and Industry Engagement

2006 Master Plan



2012 Strategy



2040 Freight Plan (in Progress)

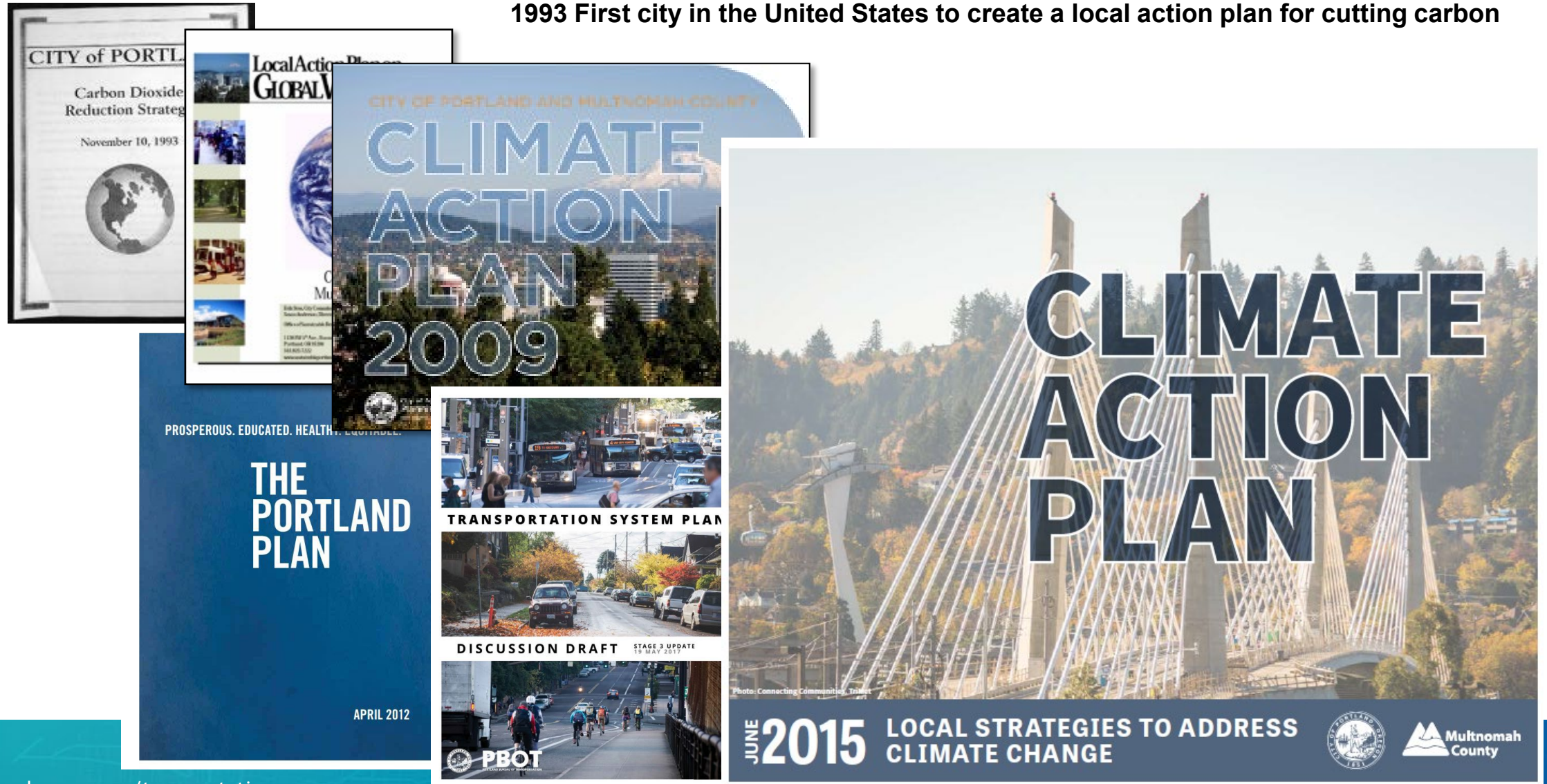
Vision

We envision Portland as a vibrant city and thriving economy that connects people, goods, and services within Portland, and to regional, national, and international markets. Our vision for the future advances a safe, equitable, efficient, and sustainable urban freight movement that enhances the quality of life for all Portlanders.



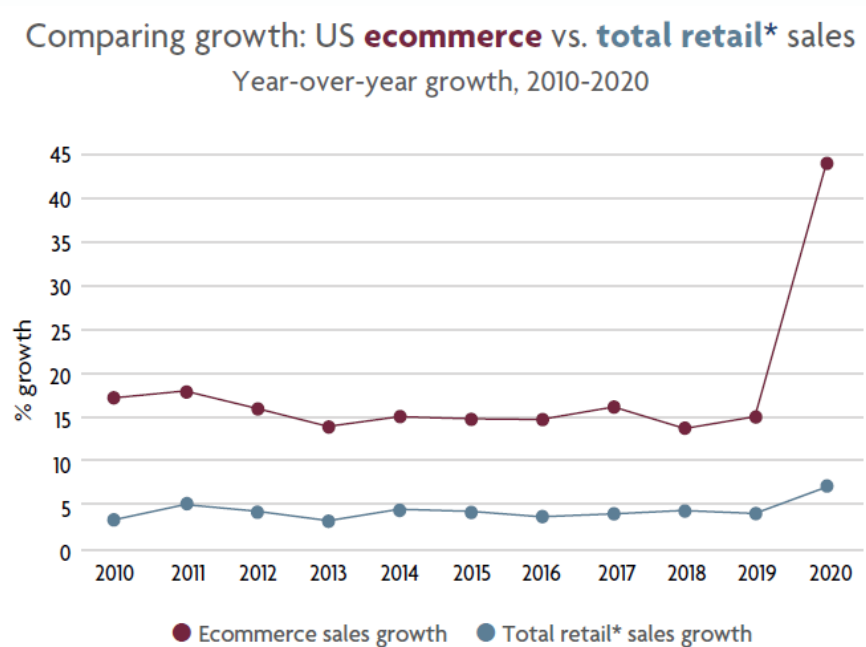
Legacy of Climate Leadership

1993 First city in the United States to create a local action plan for cutting carbon



E-Commerce Growth

During 2020, total sales of retail products in the U.S. increased by 6.6% from 2019, while online retail sales grew by 27.7%, with consumers spending 130% more on e-commerce products since 2015 ¹



Source: Digital Commerce 360, U.S. Department of Commerce; Updated January 2021

*Total retail figures exclude sales of items not normally purchased online such as spending at restaurants, bars, automobile dealers, gas stations and fuel dealers Source: The COVID-19 Pandemic and North Jersey Freight Report, March 2021

¹ Are Home Deliveries Increasing during the Pandemic?, Sorin Garber, 3/25/2021



Source: *Economic Impact of E-commerce in the Texas Triangle*, 2021

E-Commerce and Shifting Travel Behavior

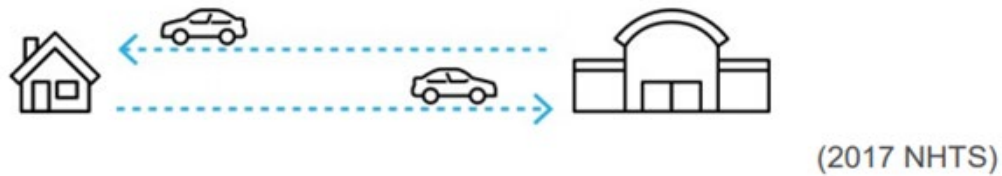
Home deliveries involve a tradeoff between a customer trip to a store and a last-mile truck/van/car delivery to your house, with uncertain impacts of this shift



Factors affecting urban truck and total VMT forecasts: ¹

- Market penetration of electrification technologies
- Private automated vehicle use

SHOPPING TRIP = 7 to 8 miles



DELIVERY TRIP

1 ADDED STOP = 0.4 mile

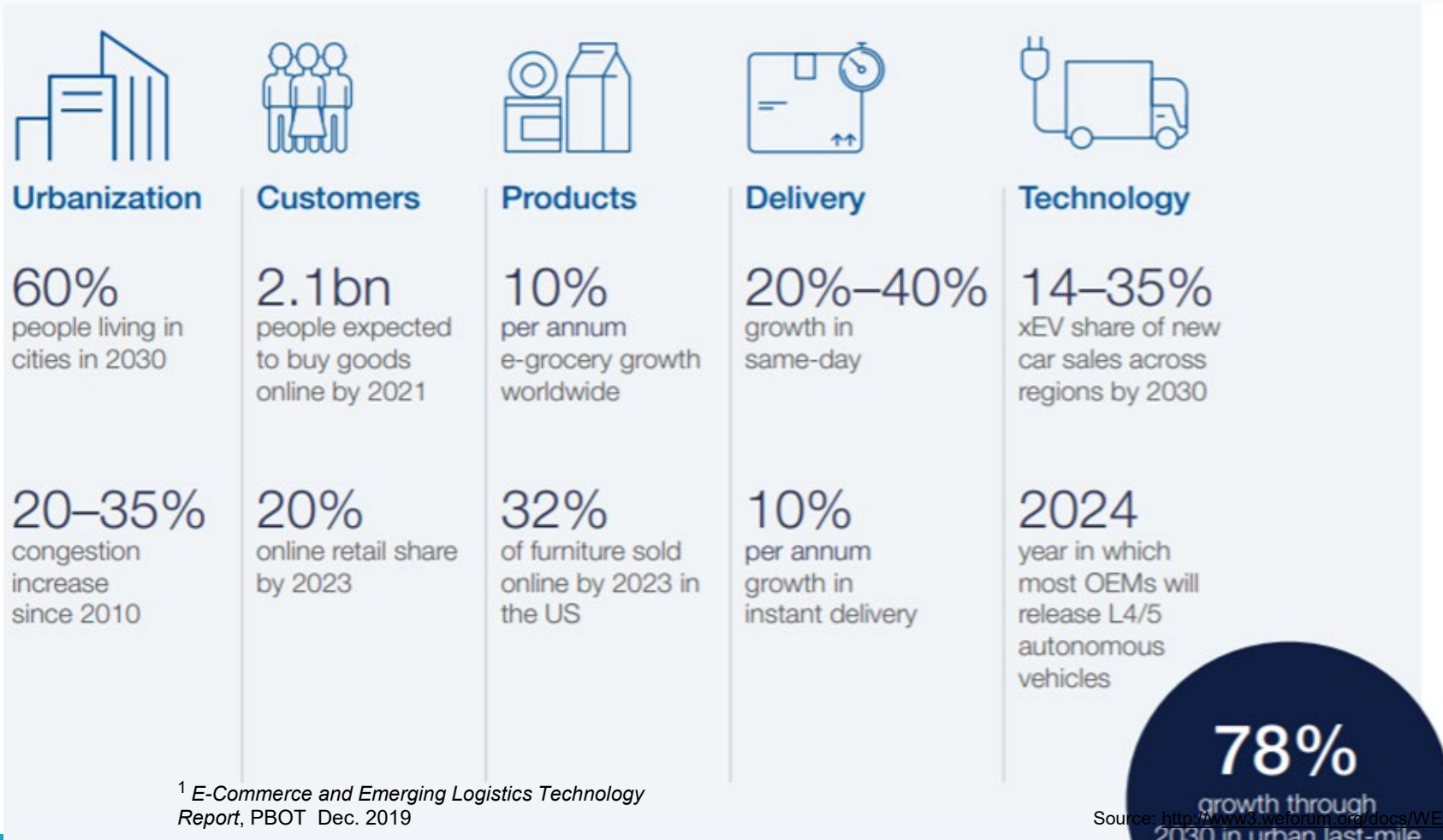


¹ *E-Commerce Impacts on Regional Travel and Energy Use: Household Shopping and Parcel Delivery Tradeoffs, Dec. 2019*

Source: PowerPoint Presentation (dot.gov)

Urbanization & E-Commerce drive Last-Mile Connection

To account for increase in deliveries, North American cities have become increasingly reliant on last-mile carriers to handle volatile demand



78%
growth through 2030 in urban last-mile deliveries

Source: http://www3.weforum.org/docs/WEF_Future_of_the_last_mile_ecosystem.pdf

Greater Need for Warehousing Capacity = Less Retail Space

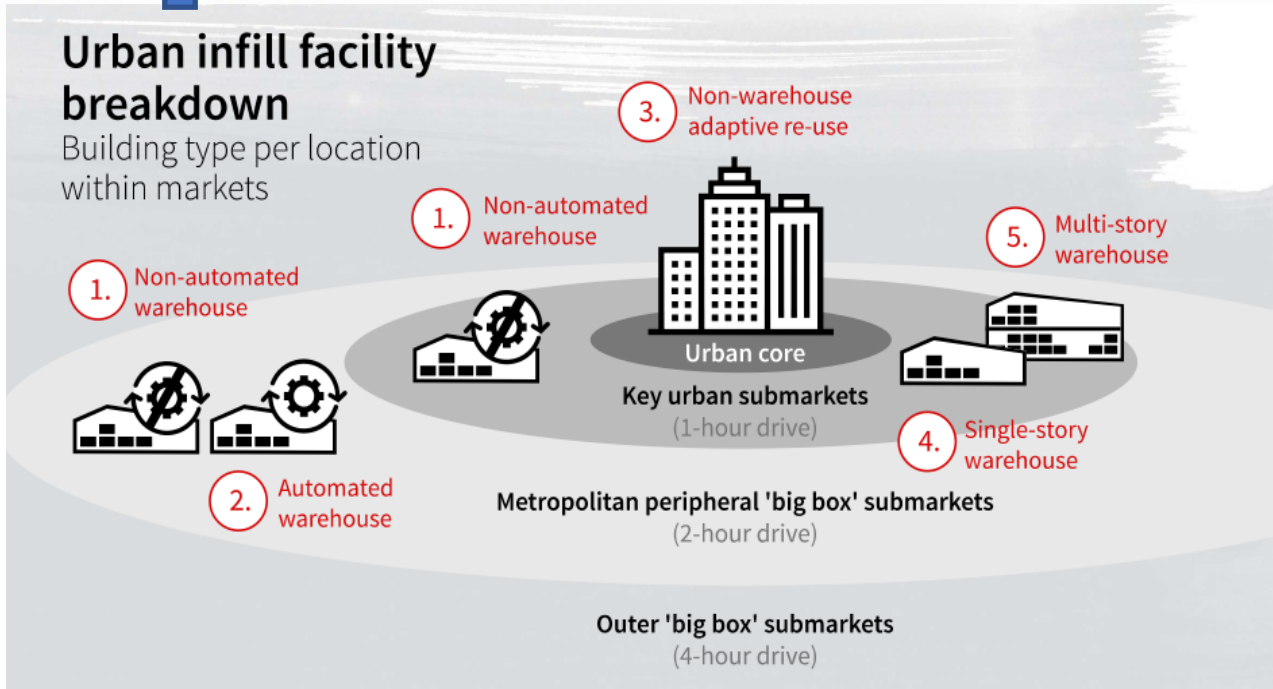
E-commerce requires three times the amount of warehouse space as traditional retail, supporting trend of increased warehouse space in Portland region ¹



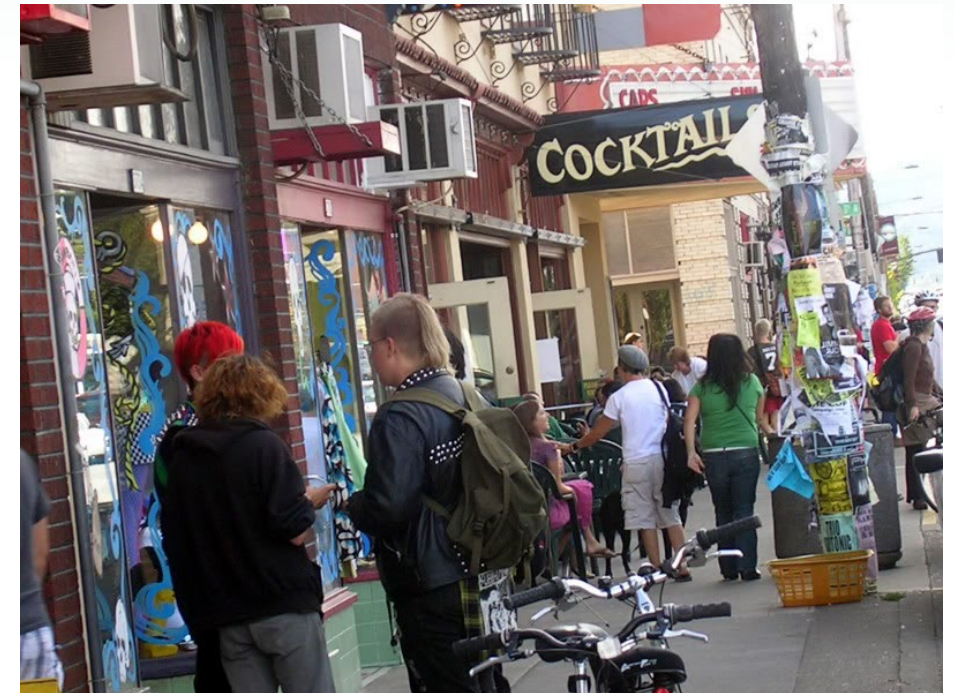
Warehousing

Urban infill facility breakdown

Building type per location
within markets



Direct Retail



Source: Jones Lang LaSalle, 2020

¹ "As Amazon Moves In, Demand for Warehouse Space Climbs", *The New York Times*, 10/24/17

² Jones Lang LaSalle, 2020

Many Potential Interventions are Being Explored to Reduce the Impact on Cities and Climate



Source: http://www3.weforum.org/docs/WEF_Future_of_the_last_mile_ecosystem.pdf

BUT HOW DO WE SORT THROUGH IT ALL?

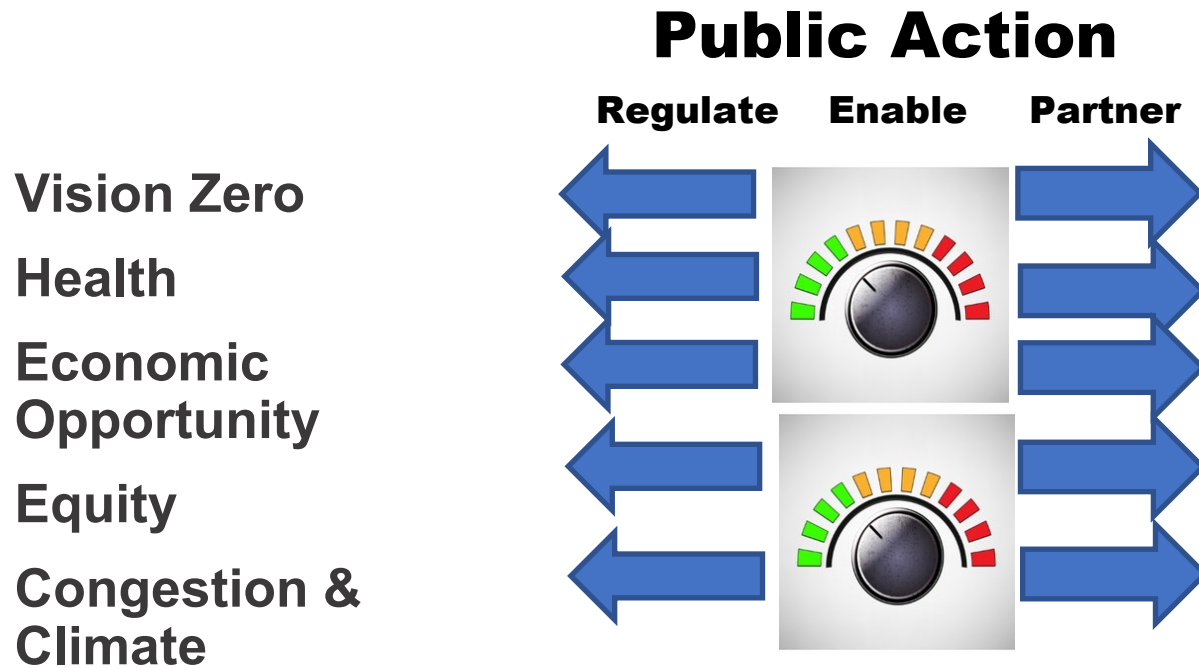


E-Commerce and New Mobility Innovations should advance the outcomes in City Comprehensive Plan

- **Vision Zero:** Prioritize Safety on our streets particularly for most vulnerable travelers
- **Health:** support active transportation and healthy communities
- **Economic Opportunity:** Support local economic growth, small business and great places
- **Equity:** Ensure benefits accrue to disadvantaged people without increased burden
- **Congestion & Climate:** Reduce burden on the transportation system and environment

Applying Outcomes-Based Policy Thinking to Disruptive Technology

How can cities assess the impact of specific proposals and influence them?



Rewarding High Performance Innovation

Public Action

Regulate Enable Reward

Set Minimum Standards
(e.g. 15 mph max speed, API data)



Set Strong Goals
(e.g. 20% equity area deployment)



Encourage Innovative Strategies
(e.g. Economic Opportunity Plan)



Monitor & Report Performance
(e.g. SOV trip reduction)



Reward High Performance
(e.g. equity area training & hiring)



Before
you hop
on, know
the rules
of the road.

- Wear a helmet. State law requires it.
- Sidewalk riding is prohibited. Ride in the bicycle lane or vehicle lane.
- Yield to people walking, biking and people with disabilities.
- Don't ride in Portland Parks.
- Don't ride while under the influence of intoxicants. It's against the law and may result in a DUII.
- One person per scooter.
- Don't bring scooters on buses, MAX, and Streetcar.
- Park scooters with care. On the sidewalk, close to the curb. Don't block the sidewalk, bike lane, or vehicle lanes.

PBOT is committed to providing meaningful access. For accommodations, modifications, translation, interpretation or other services, please contact 503-823-5185.

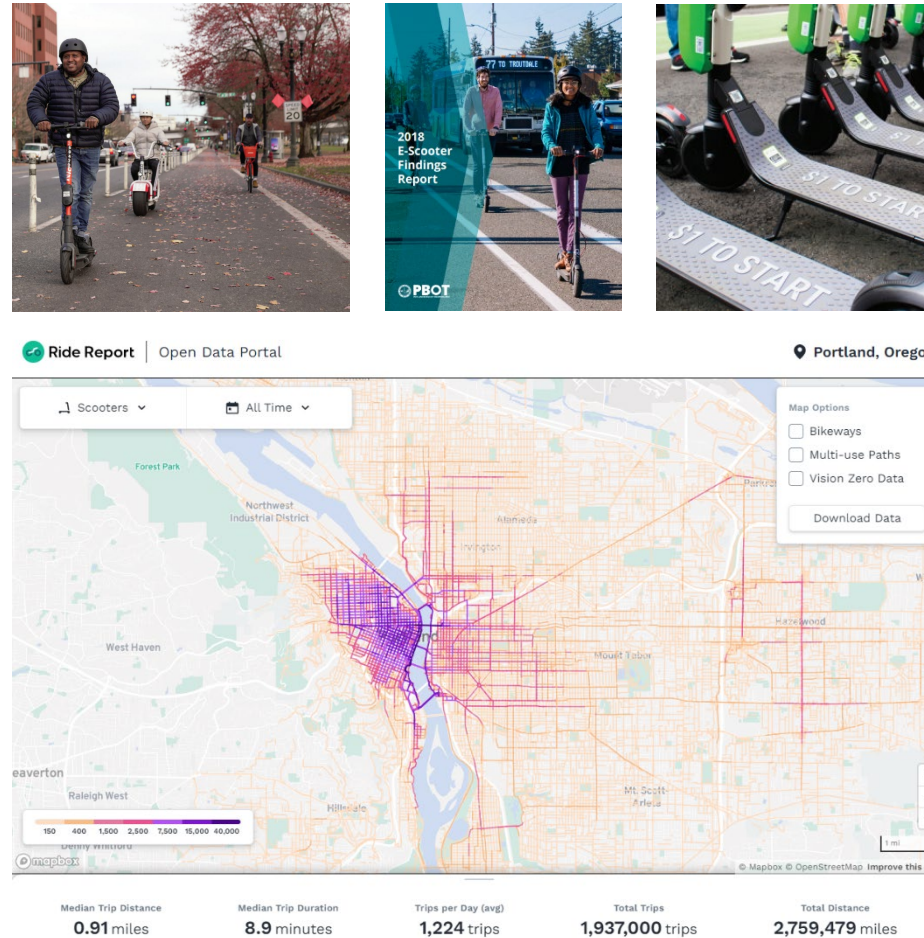
For More Information: 503-823-7483
E-scooter@portlandoregon.gov
portlandoregon.gov/transportation/e-scooter

Role Clarity- What are public entities and private innovators best at?

Goal Clarity- When should we set Performance Outputs Targets or Performance Outcomes?

Shared Electric Scooters

- PBOT used pilot and use data to evaluate impacts on safety, equity, and climate goals
- First scooter pilot: July to Nov 2018
 - Over 700,000 trips
 - 34% trips replaced car trips
- Second scooter pilot: April 2019 to present
 - Over 2.5 million trips
 - 2,887 e-scooters permitted
- Early adopter of Mobility Data Specification (MDS) for sharing data between companies and cities



More on e-scooter trip patterns:
[Ride Report Open Data Portal | City of Portland](#)

Harnessing E-Commerce to support a Livable City: Supporting micro-consolidation hubs & zero emission delivery

- Can distribution centers be scaled down to promote sustainable neighborhoods? If so, how could they also be paired with no/low impact delivery options?
- Exploring zoning code changes to encourage micro-consolidation hubs close to city center
- Developed public-private partnership to pilot innovative delivery methods with major shippers



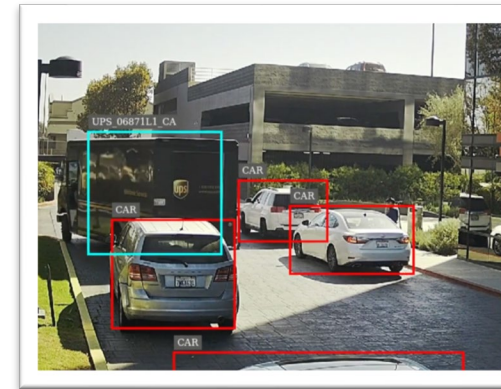
B-Line urban delivery warehouse



UPS E-trike delivery pilot with PSU

Harnessing E-Commerce to support a Livable City: Leverage curb management strategies to support zero emission delivery

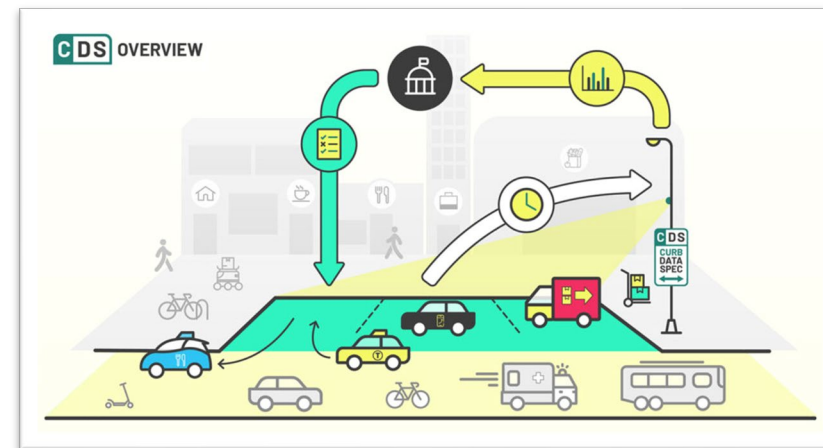
- U.S. cities are generally preempted from regulating emissions. Curb management may be one way to send signals and support ZEV adoption
- Santa Monica and Los Angeles, CA have been testing zero emission zones (ZEZ) and zero emission loading zones (ZELZ) to prioritize access
- Exploring how curb management + smart cities technologies + new Curb Data Specification may nudge the system



Automotus



LADOT



Curb Data Specification

Harnessing E-Commerce to support a Livable City: Explore regulating Food Delivery Networks to mitigate impacts

- World Economic Forum estimates delivery emissions are expected to rise 32% by 2030; traffic congestion from delivery is expected to increase by 21%
- Food delivery has more than tripled since 2017. Since Covid-19 pandemic, it has and more than doubled again.
- Exploring implementing a fee on food delivery services to reduce rapidly growing vehicle miles travelled (VMT) generated by these trips and negative mobility, climate, and safety impacts.
- Invest revenue is program supporting outdoor dining and public space
- Considering supplemental moves to protect small businesses, support drivers, obtain data, and help transition this sector to zero emission vehicles



Thanks!

