TransPort:
PBOT's Zero-Emission Delivery Zone Pilot Project

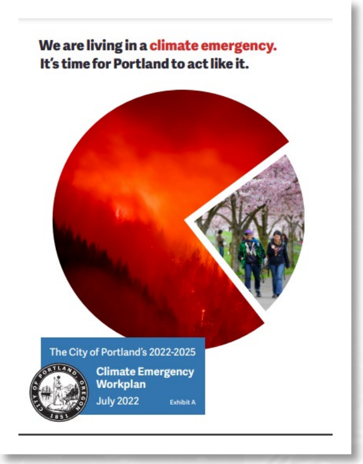
April 10, 2024

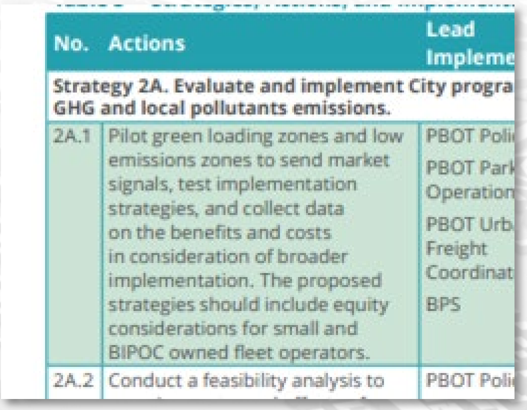
Freight decarbonization is a City priority

Communities of color and communities living with low incomes face exponentially higher health impacts of diesel pollution.

Reducing greenhouse gas emissions from freight is called for in:

- Climate Action Plan (2009)
- Sustainable Freight Strategy (2012)
- Climate Action Plan (2015)
- Climate Emergency Declaration (2020)
- Climate Emergency Workplan (2022)
- 2040 Freight Plan (2023)





No.	Actions	Lead Impleme
Strategy 2A. Evaluate and implement City progra GHG and local pollutants emissions.		
2A.1	Pilot green loading zones and low emissions zones to send market signals, test implementation strategies, and collect data on the benefits and costs in consideration of broader implementation. The proposed strategies should include equity considerations for small and BIPOC owned fleet operators.	PBOT Poli PBOT Park Operation PBOT Urb Freight Coordinat BPS
2A.2	Conduct a feasibility analysis to	PBOT Poli

PBOT
PORTLAND BUREAU OF TRANSPORTATION

INRIX

Zero-Emission Delivery Zone pilot could address key problems

The pilot project addresses 3 key City goals

- **Climate:** Transportation causes >40% of GHG in Portland and is rising. Trucks have an outsized impact on local carbon emissions.

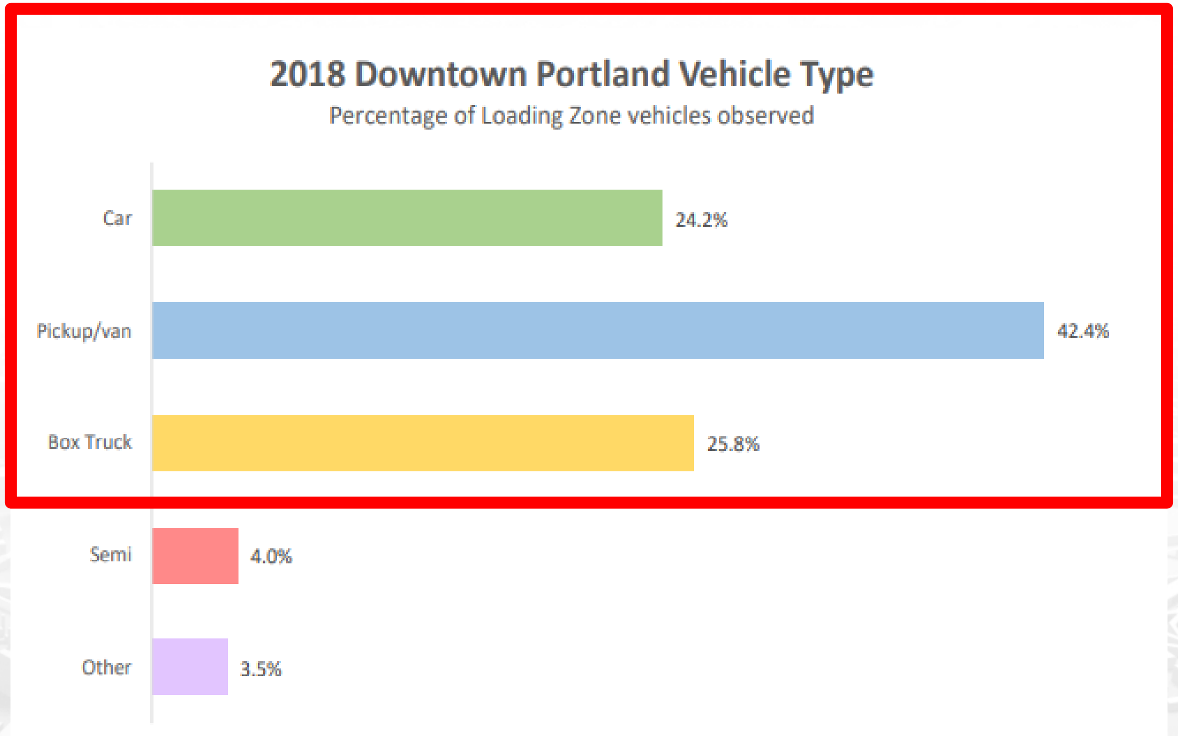
- **Public Health:** Nearly 40% of communities of color live close to the city's biggest sources of air pollution, such as freeways and industrial facilities.

- **Safety:** Downtown Portland is one of the areas with the most collisions involving trucks – types of crashes that are more likely to be serious or fatal.

Many cars, vans, and box trucks can be electrified today

Over 92% of downtown urban deliveries are vehicles types that can be electrified

- Other options like e-trike delivery also exist
- There are federal resources available to help fleets transition to low and zero-emission vehicles
- The City wants to partner with industry to support this transition

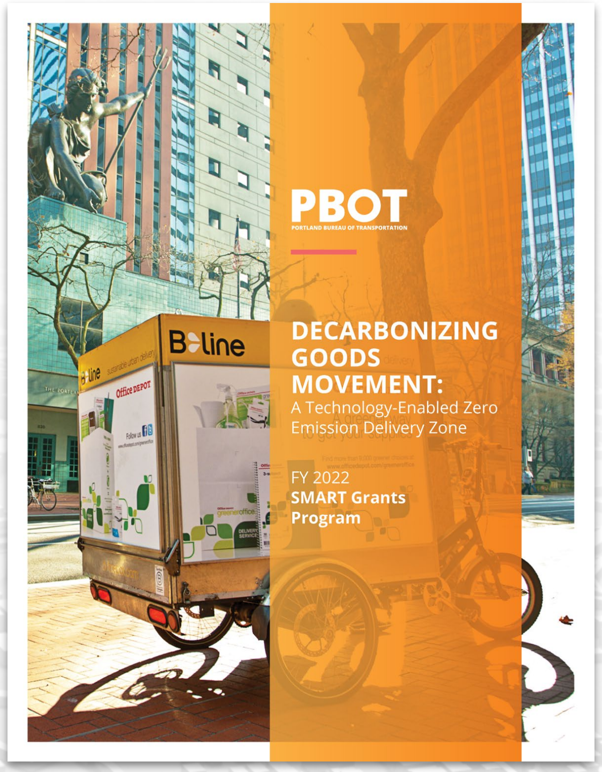


Project overview

City of Portland is delivering a pilot Zero Emission Delivery Zone

Project Goals:

1. Pilot a regulated Zero-Emission Delivery Zone;
2. Use data and technology to better understand how people and different types of vehicles use commercial loading zones and city streets; and
3. Increase micro-delivery hub operations and expand the use of e-cargo trikes as a "last-mile" delivery solution.



Project timeline at a glance

The ZEDZ pilot project has three main phases

Progress to date:

- Contracting with the federal government and project partners
- Refining project scope, schedule, and budget
- Early engagement with stakeholders and planning for public involvement activities

PBOT PORTLAND BUREAU OF TRANSPORTATION

INRIX

Testing a combination of incentives and regulations

How can a mix of incentives and regulations change behavior?

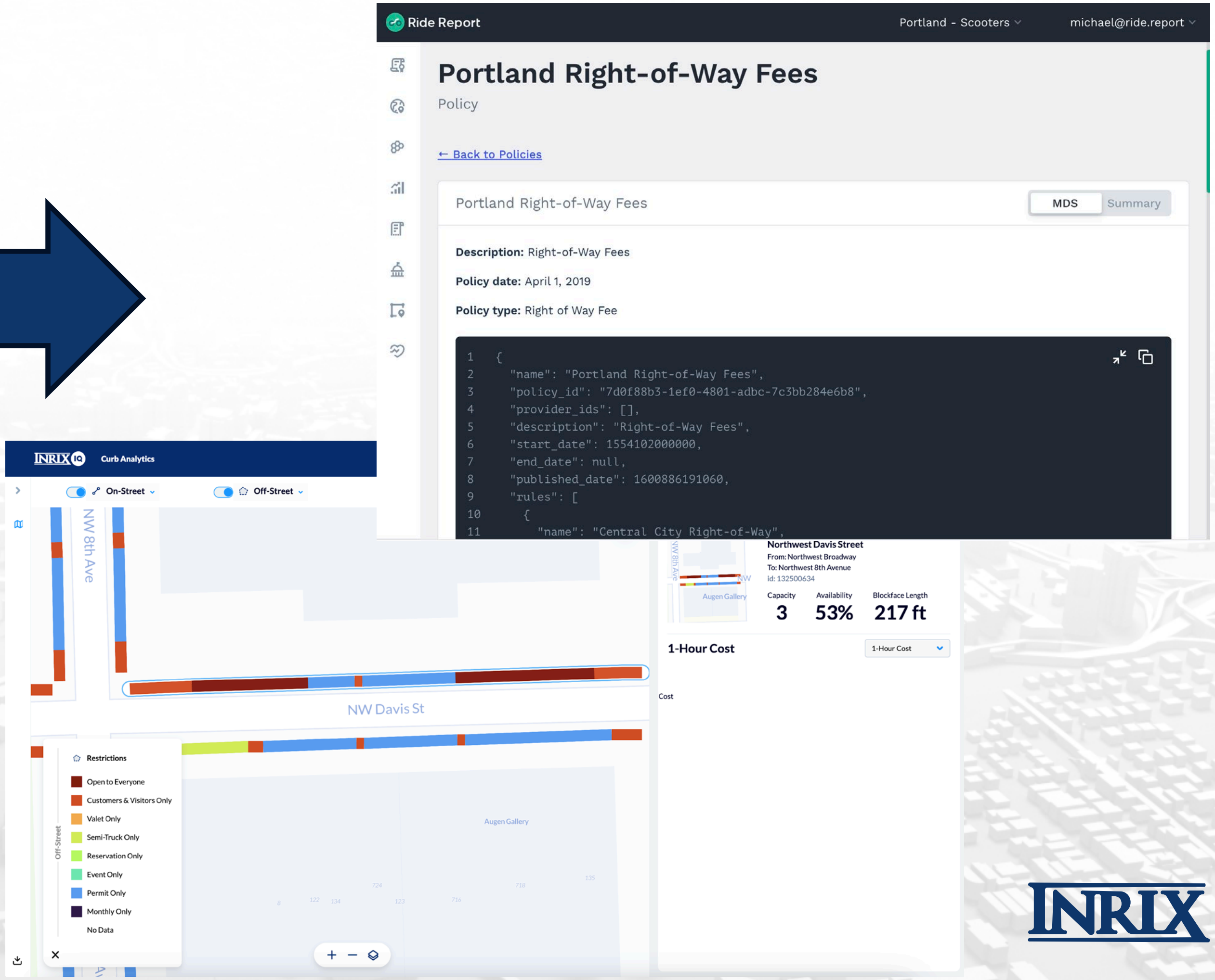
- **Curb management:** How can strategies, like zero-emission delivery loading zones, help freight companies justify transitioning their fleet sot zero-emission vehicles?

- **Technology:** How might parking sensors and other digital curb technologies help the City better understand curb use and inform potential changes to improve efficiency?

- **Partnerships:** How might public- and private-sector businesses in downtown Portland be willing to change their purchasing or delivery decisions to incentivize freight companies to transition their fleets?

Technical approach: Digitizing curb rules with open source standards

Starting point: Citywide CDS Curbs/MDS Policy APIs and Visualization/Editing



Mobility Data Specification and Curb Data Specification as a Service

Make compliance with specifications easier for operators and cities; provide value + benefits

B Line – Partner E-Trike Delivery Operator

Raw GPS Data Ingestion from existing IoT + CDS Events from Cameras

INRIX Ingestion Pipeline

Convert to MDS/CDS

MDS

CDS CURB DATA SPECIFICATION

Visualize for Analysis in SaaS Platform

Ride Report

INRIX IQ Curb Analytics

PBOT

INRIX

Incentives + Policy Modifications

PBOT Ride Report

Provide Roadway Conditions Data Back to Operators thru APIs

INRIX Curb Analytics

PBOT PORTLAND BUREAU OF TRANSPORTATION

Test parking sensor technologies

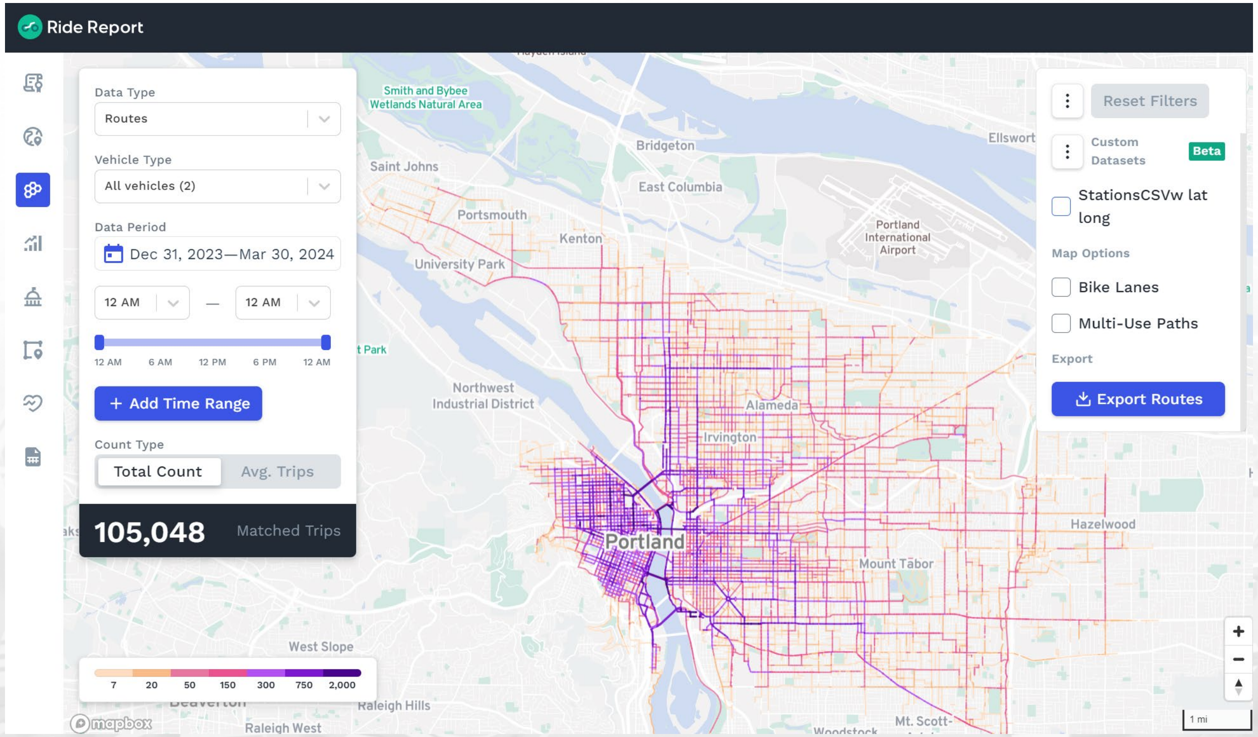
Identifying sensor companies that can track curb usage via unique identifiers

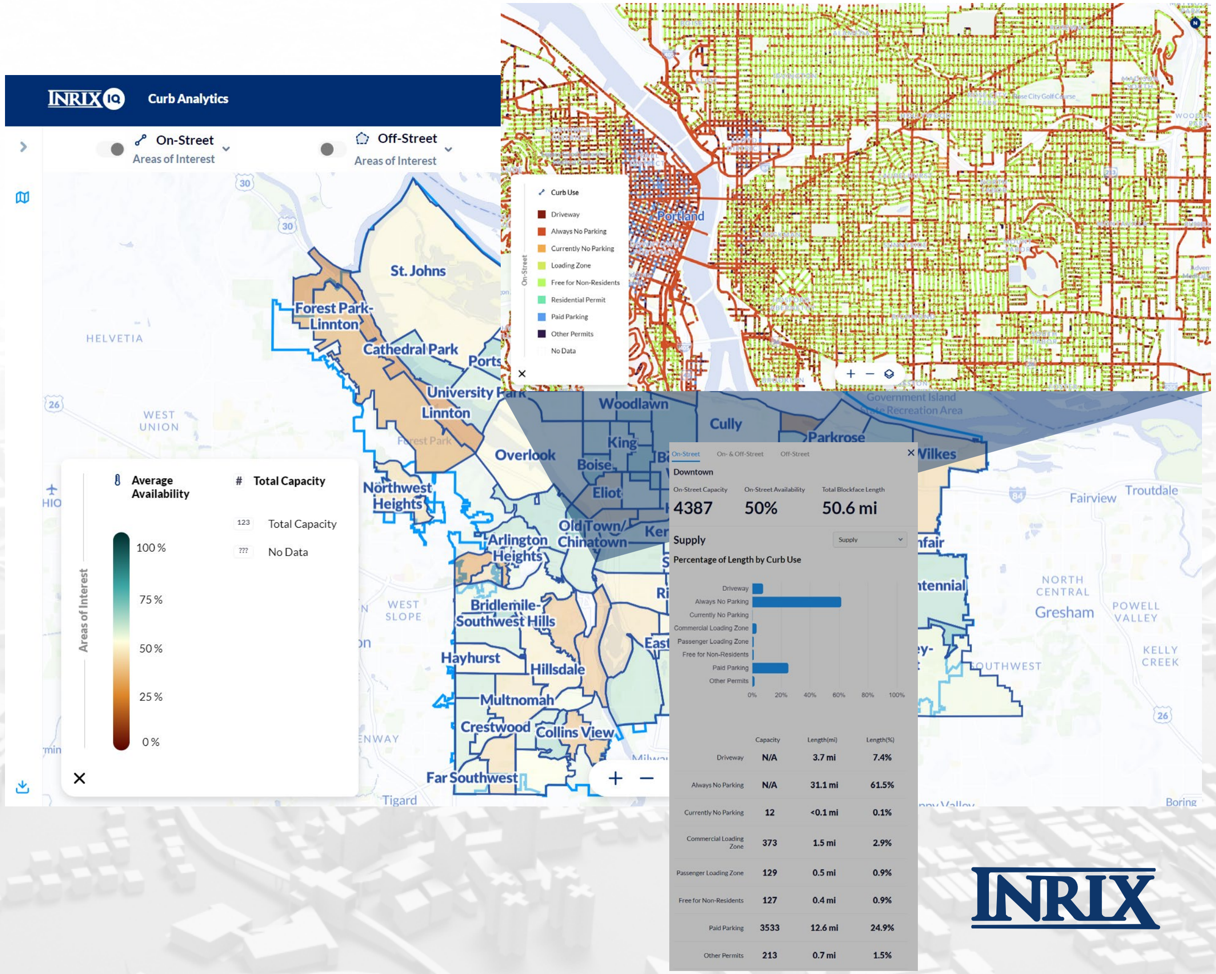
Exploring how parking sensors can:

- Identify vehicle type and vehicle mode
- Be trained to detect unique identifiers
- Calculate dwell time
- Provide other data analytics and visualizations on curb use
- Integrate data via open-source standards (CDS)
- Possibly integrate with current parking systems
- Comply with user privacy

Expansion planning

Leveraging data platforms for potential future zero emissions delivery zones





PBOT
PORTLAND BUREAU OF TRANSPORTATION

INRIX

Next steps

Fall 2023 *Winter 2024* *Spring 2024* *Summer/Fall 2024* *Winter 2024/25* *Spring 2025*

Project Planning & Development — *Public Involvement*

Demonstration Project

Project Evaluation

Questions?

- ZeroEmissionDelivery@porlandoregon.gov
- https://www.portland.gov/transportation/planning/zero-emission-delivery