



Improving the Last-Mile of Urban Goods in Seattle

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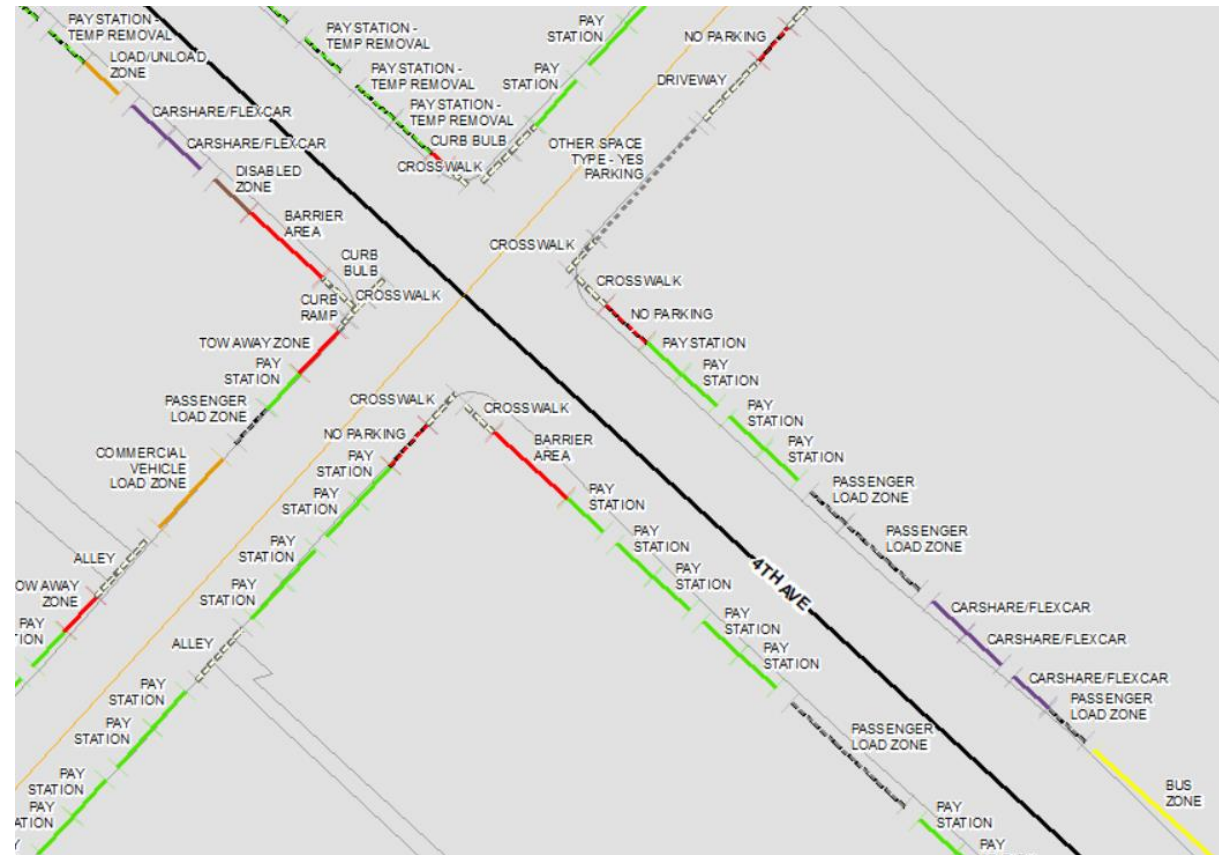
Seattle
Department of
Transportation

Outline

- Data Driven Curb Management in Seattle
- Last-Mile Freight Challenges
- USDOT SMART Grant

Curb Management in Seattle – Data Ecosystem

- **90k+** curb sign records in asset management system
- Over **2,700** block faces with digital linear curb inventory
- ~ **1,500** pay stations
- ~ **10** million annual paid parking transactions



Curb Space Managed layer maintained within our paid parking areas

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What the Data Supports

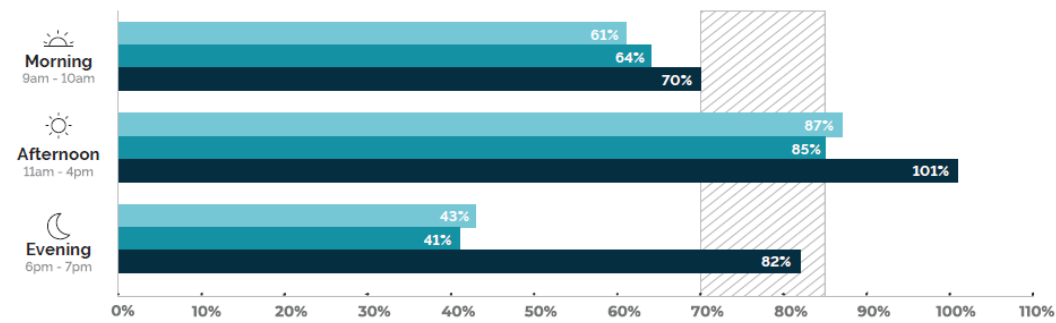
Belltown South



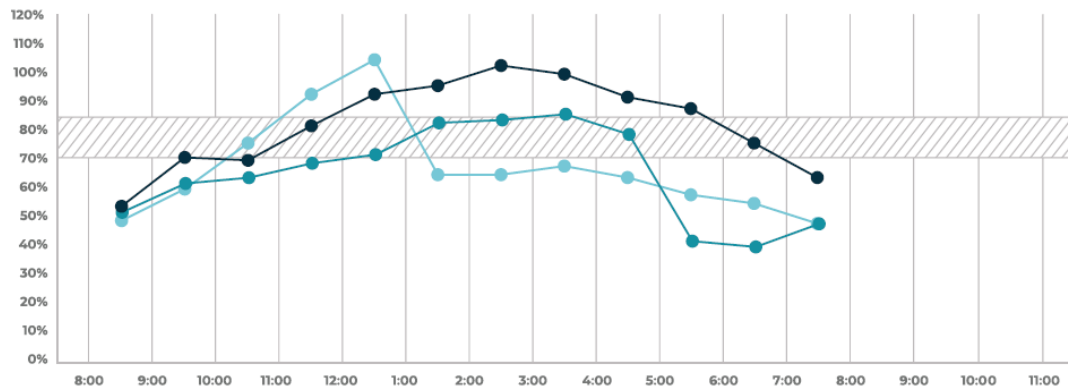
8am - 8pm 2 hours / 3 hours after 5pm

Fall 2020 Feb. 2021 June 2021 Target Range

AVERAGE OCCUPANCY



HOURLY OCCUPANCY



Curb Spaces and Temporary No Parking

Curb Spaces Temporary No Parking (Paid Areas) Temporary No Parking (Unpaid Areas) Peak Hour Parking Restrictions Street P

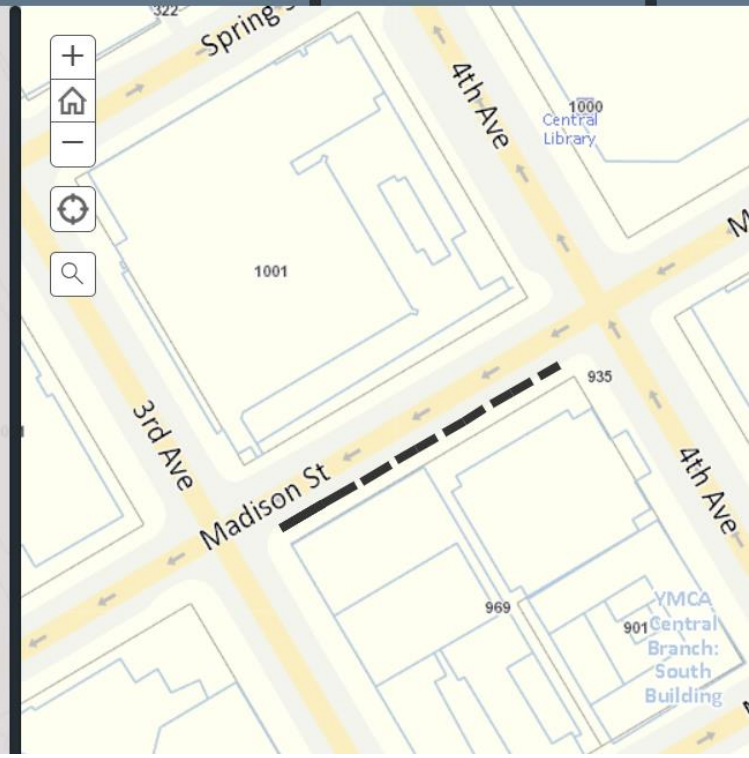
This map provides the public with context on Temporary No Parking Zones. This map only applies to **paid parking areas**. When you click on a Temporary No Parking Zone; it will display the permit recipient, no parking time frame, and location in a paid parking area. Temporary No Parking Zones are established to restrict regular parking and provide curb space for purposes such as construction activity (which may require a Street Use permit), moving vans, or to clear a street for special events like a parade.

Use the Magnifying glass to Search by Permit or Address. The search defaults to Permit. Click the pull-down arrow to select 'All' or 'By Address(Seattle)' to find an area by Address.

▼ Permit or Place or Address

- All
- Temporary No Parking (Unpaid Areas)
- By Address(Seattle):
- By Address(ESRI):

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Last-Mile Freight Challenges

- Rapid increase in commercial vehicle curb demand over last decade
- Can't manage what we can't measure
- Need modern tools to manage modern problems
 - Dynamic pricing?
 - ZE vehicles?
 - AVs?



80% of commercial buildings in urban core rely on the curb for deliveries

The Final 50 Feet of the Urban Goods Delivery System, Executive Summary, 2017.

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Commercial Vehicle Load Zone Program

- **Commercial Vehicle Pricing**

- Annual Permit (\$250)
- Pay-By-Phone (\$1 for 30m)
- Pay Station (\$1 for 30m)
- ~ 500 CVLZs

- **Challenges:**

- Permit numbers falling
- Increase in demand
- Delivery types changing
- Program not data driven



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• So what does this show us?

- Load zones not effective
- Major safety concerns

• How can data help us improve regs/policy?

- Typical vehicle length
- Average dwell time
- Vehicle typologies
- Time of day demand
- Targeted enforcement
- Street café placement



USDOT SMART Grant – An Opportunity

SMART

USDOT SMART Grant – What is it?

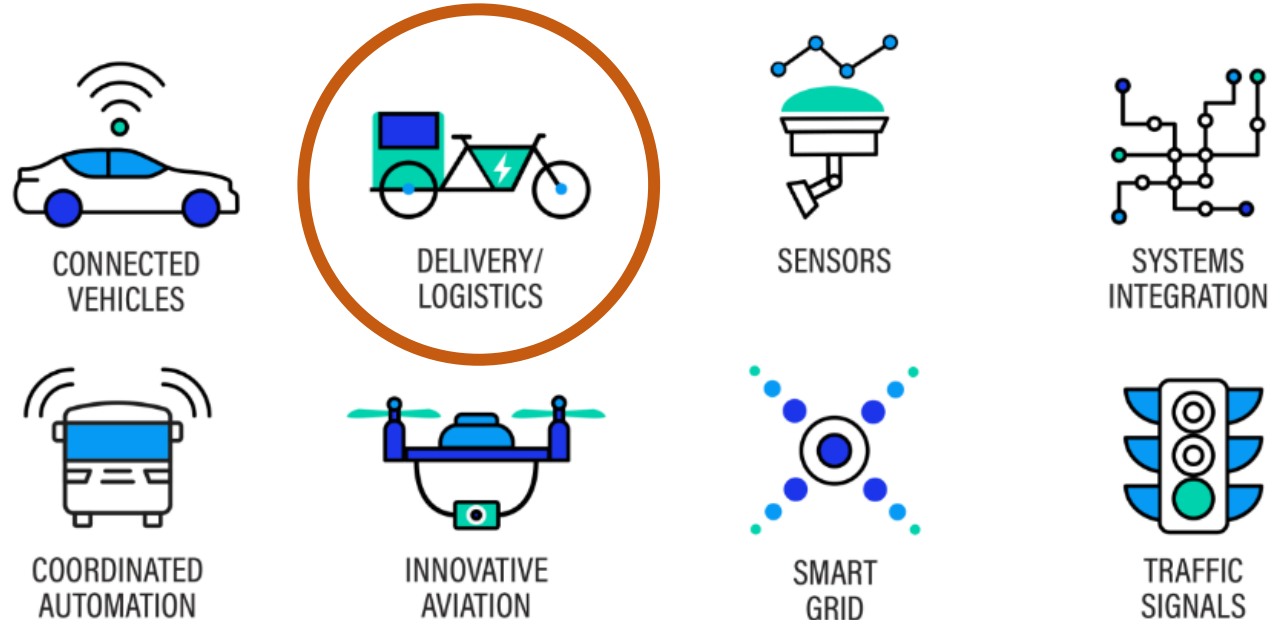
- **USDOT led initiative**

- “Technology interventions to solve real-world problems”

- **2 Stages**

- 1) 18-month prototyping
- 2) Scaled demonstration of prototype

- **Partnerships encouraged**



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USDOT SMART Grant – Project Approach



- **Address 3 Main Problems:**

1. Curbspace not meeting modern day loading demand
2. No on-going data collection for data driven program
3. Political desire to proactively manage CVs at curb

- **Partner with Open Mobility Foundation (OMF) led cohort of cities using the Curb Data Specification (CDS)**

Collaborative Cities	Collaborative Partners
Seattle	Open Mobility Foundation
Portland	Cityfi
San Francisco	Bloomberg Center for Cities at Harvard University's Kennedy School
Los Angeles	UW Urban Freight Lab
Miami-Dade County	UrbanismNext at University of Oregon
Minneapolis	
San Jose	
Philadelphia	

USDOT SMART Grant – Project Approach

- **How We Plan to Do it**

1. Work with local businesses and freight carriers
2. Build baseline conditions model
3. Prototype and assess vehicle-to-curb infrastructure (V2I) built on Curb Data Specification (CDS)
4. Evaluate different CVLZ policy scenarios



Curb Data Specification APIs

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USDOT SMART Grant – Project Approach

- **Research and Evaluation**

- Led by the University of Washington (UW) Urban Freight Lab (UFL)
- Analyze baseline conditions and develop policy scenarios
- Assess V2I technology focusing on scalability
- Develop data-driven policy and permit recommendations to be used at scale (Stage 2)

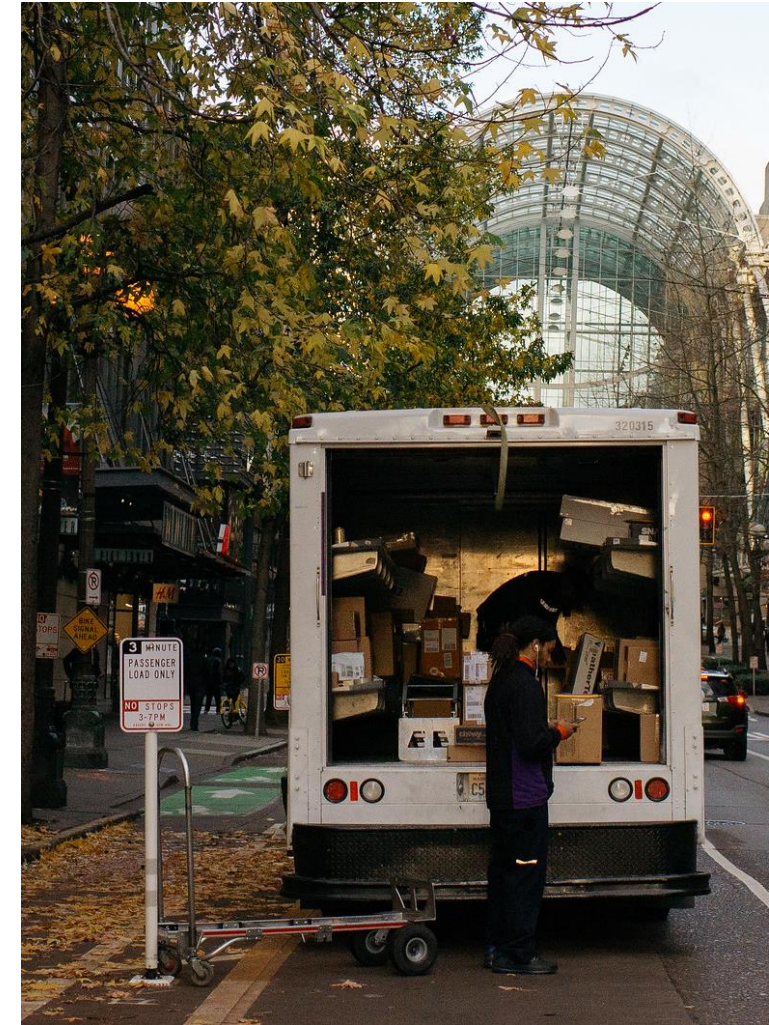


URBAN FREIGHT LAB

UNIVERSITY of WASHINGTON
College of Engineering

USDOT SMART Grant – Next Steps

- **Late 2023:**
 - Begin baseline data collection effort
 - Procure V2I technology(ies)
- **2024:**
 - Run V2I prototype
 - CVLZ Scenario development
 - Coordinate with collab OMF cities
- **Early 2025:**
 - Eval and recommendations for Stage 2



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www.seattle.gov/transportation/projects-and-programs/programs/parking-program



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