Supply Chain Transportation and Logistics Center (SCTL)
Urban Freight Lab
University of Washington

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Our Vision

World leadership in SCTL research and education to serve the powerful nexus of industry, transportation agencies and policy makers.
Research Across Boundaries

Transformative research in urban goods delivery, and sustainability.
Global Reach

Deep expertise in optimizing ports and logistics hubs operations, and multimodal freight systems management
Masters of Supply Chain Transportation and Logistics

Learn from top UW faculty and industry experts in this highly-interactive online program designed for working professionals
SCTL Center Membership

Engage with the SCTL Center in applied research at the forefront of goods delivery systems.

Please see https://depts.washington.edu/sctlctr/members
The Urban Freight Lab
Solving delivery system problems in fast-growing cities
New Seattle Freight Lab Tackles Urban Delivery Congestion

October 12, 2016

SEATTLE — In this city where residents can get practically anything delivered to their doorsteps — often within hours — trucks, bikes, cars and buses regularly jostle for space on Seattle’s streets.

The rise in e-commerce and on-demand delivery has put increasing pressure on fast-growing cities like Seattle to rethink how they manage traffic congestion, as well as curbs, sidewalks, parking and other infrastructure.

…the city of Seattle teamed up with the University of Washington to improve how goods are delivered in the city — solutions they hope can be used in other cities across the country.

Seattle pledged $285,000 over the next three years to the UW’s new Urban Freight Lab, which will test more efficient methods to deliver goods that are ordered online and delivered to large residential or retail and commercial buildings. Costco, Nordstrom and UPS are also founding members.

“We’re a growing city, so as we get denser, the congestion increases,” said Scott Kubly, Seattle’s transportation director. “There’s been so much change in the last 10 years in how goods move and how people shop that it’s really creating a level of urgency around this.”
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Final Fifty Feet: Urban Goods Delivery System Research Project

• The final 50’ of the urban delivery system:
  • Begins at the city-owned curb, Commercial Vehicle Load Zone (CVLZ), or alley
  • Extends through privately-owned building freight bays and loading docks
  • May end in a common area within a building such as the lobby, or wherever the owner takes receipt of the goods

• In the Urban Freight Lab’s first research project we have:
  • Identified the members’ top 2 measureable goals
  • Collected existent and original data to locate truck load/unload spaces in all 523 blocks of in three Urban Centers in Seattle.
  • Collected process flow data and mapped the delivery steps for 5 downtown Seattle buildings.

• In 2017 we will complete:
  • A detailed analysis of process flows in one building
  • Modeling 1-2 promising low-cost solutions
  • Pilot testing these solutions on the streets in downtown Seattle
Urban Freight Lab Goal #1

Reduce dwell time, the time a truck is parked in a load/unload space.

Public and private benefits include:

• Lower costs for delivery firms, and therefore potentially lower costs for their customers;

• More efficient use of truck load/unload spaces creates more capacity without building additional spaces; and

• Room for other vehicles to move through alleys.
Urban Freight Lab Goal #2

Reduce failed first deliveries to:

• Improve urban online shoppers’ experiences and protect retailers’ brands;

• Lower traffic congestion in cities, as delivery trucks could make up to 10% fewer trips while still completing the same number of deliveries;

• Cut business costs for the retail sector and logistics firms;

• Cut crime and provide a safer environment for residents and workers;

• Improve an amenity that adds value at multifamily properties – ensuring that tenants shopping online get their order when they expect it; and

• Ensure that all city neighborhoods can receive online orders, not just a few.
Mapping Seattle’s Goods Delivery Infrastructure

SCTL documented the locations and features of truck load/unload spaces to determine whether they are in the right places to serve surrounding land uses, and if there is capacity to meet current and future needs.

Seattle’s geospatial databases included city street parking, but privately owned loading docks and loading bays were missing.

SCTL mined existing GIS data layers:
- City of Seattle on-street CVLZs, and
- King County alleys.

We also collected original geospatial data and features of all private freight loading bays and docks in three designated Urban Centers in Seattle: Downtown, Uptown and South Lake Union.
Typology of Spatial Database

Outside of building walls

- EXTERIOR LOADING DOCK
- EXTERIOR LOADING AREA

Interior of exterior wall

- LOADING BAY
Process Flow Mapping the Seattle Municipal Tower

- Collected data from Jan. 30 – Feb. 3, 2017
- 9:00 am – 12:00 pm
- 700-5th Ave, Seattle
- CBRE building managers posted an announcement at every entrance notifying carriers that they would be monitored.
- CBRE made security, mailroom and freight bay staff available, and provided security badges for each data collector.
Questions?

• Please see http://depts.washington.edu/sctlctr/

• The UW Urban Freight Lab
  http://depts.washington.edu/sctlctr/members/urban-freight-lab

• For more information please contact:
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