

**University of Washington’s Urban Freight Lab (UFL) Collaborates with Seattle
Department of Transportation, REEF, BrightDrop, Coaster Cycles, and AxleHire to
Pioneer Shared Sustainable Last-Mile Neighborhood Delivery Hub**

FAQs

Q: What is a microhub?

A: Also known as an urban consolidation center or a delivery transfer point, a microhub is a central drop-off/pick-up location for goods and services, which can be used by multiple delivery providers, retailers, and consumers. Microhubs like the Seattle Neighborhood Delivery Hub can reduce energy consumption, noise pollution, congestion, and cost, and increase access, sustainability, and livability in cities, by allowing the final mile of delivery to be shifted to low-emission vehicles or soft transportation modes (cargo bike or walking). In addition to allowing for consolidation or deconsolidation of shipments, the design also enables neighbors to engage with additional services.

Q: What is the origin of the project?

A: The Urban Freight Lab at the University of Washington works collaboratively with our members and partners (carriers and shippers, retailers, infrastructure and operations technology providers, real estate, and vehicle and vehicle part manufacturers) to identify complex urban freight management problems and design and test solutions that can make our cities more sustainable and livable and industry more efficient. Our members voted to study a microhub project.

Q: How does the Seattle Neighborhood Delivery Hub work?

A: The combination of activities allows each operator to provide clean, neighborhood-scale services cost-effectively:

- (1) REEF has provided a fully off-street staging location where goods can be transferred from delivery trucks and vans to cargo bikes.
- (2) Goods are loaded into BrightDrop’s EP1 units and secured onto Coaster Cycles’ electric cargo bike.
- (3) Using AxleHire’s last-mile delivery technology, drivers make customer deliveries using the fastest, most efficient routes possible.
- (4) REEF’s neighborhood kitchen takes orders for food delivery that might otherwise have been fulfilled by restaurants farther away from the delivery area and fulfills them in the neighborhood.
- (5) The Urban Freight Lab’s common carrier parcel locker provides delivery density for carriers (they visit one location instead of multiple addresses), and neighbors can walk to the site at their convenience to pick up packages, completing their own last mile.

Q: Where is the Seattle Neighborhood Delivery Hub located?

A: The Seattle Neighborhood Delivery Hub is located at 130 5th Ave. N. in Seattle's Uptown neighborhood: [Map](#)

Q: How is each partner involved in the Seattle Neighborhood Delivery Hub?

A: The Seattle Neighborhood Delivery Hub provides an opportunity for testing and evaluating urban logistics strategies on the ground in Seattle's Uptown neighborhood. How each partner is involved:

- (1) Urban Freight Lab: UFL serves as a catalyst, facilitator, and evaluator, bringing both private and public sector partners together at the Seattle Neighborhood Delivery Hub for this experimental effort. Our support in data-driven learning leads to a shared understanding of the viability of novel and innovative solutions that lead to reduced traffic and emissions and increased accessibility. The Urban Freight Lab is testing common carrier parcel lockers as a last-mile solution to create delivery density, enabling carriers to transport numerous packages during a single stop, reducing dwell time and failed deliveries, both of which produce congestion, emissions, and increased costs. Customers complete their own final mile delivery.
- (2) City of Seattle:
 - (a) The technologies being tested are an important part of the City of Seattle's strategy to reduce climate emissions outlined in its [Transportation Electrification Blueprint](#), including the goal of transitioning 30% of goods delivery to zero emissions by 2030.
 - (b) As a founding partner of the Urban Freight Lab, Seattle Department of Transportation (SDOT) welcomes the opportunity to test and learn from innovative public-private partnerships that advance our climate goals around freight and urban goods movement.
 - (c) Seattle Department of Transportation supports the cargo bike pilot by authorizing commercial use of city streets, curbspace, and sidewalks.
- (3) BrightDrop: BrightDrop is contributing its first product to market, EP1 units, a propulsion-assisted electric pallet designed to easily move goods over short distances. BrightDrop's EP1 is designed to help reduce package touchpoints, costs, and physical strain on the labor force.
- (4) REEF: REEF is providing the real estate, as well as operating a neighborhood kitchen onsite. The neighborhood kitchen will prepare online delivery food orders, without front-of-house operations, reducing overhead costs for restaurateurs and providing fast and inexpensive delivery options for customers.
- (5) Coaster Cycles: Coaster Cycles developed an agile electric-assist cargo trike customized to carry BrightDrop EP1s, providing a sustainable last-mile delivery solution in densely populated areas, reducing emissions, congestion, and noise pollution produced by traditional truck delivery.
- (6) AxleHire: AxleHire is providing route optimizing technology that enables drivers to make last-mile deliveries using the fastest, most efficient routes possible.

Q: What are the expected outcomes?

A: We expect that the microhub operations will reduce truck traffic in the neighborhood, provide neighbors with safe and convenient access to goods and services, and allow our partners to test novel, zero-emissions delivery solutions.

Q: How will success be evaluated?

A: The Urban Freight Lab's analysis will help our partners to learn and refine their business models and the City of Seattle to evaluate if and how it can support future urban logistics implementations and business models.

Specifically, researchers will be answering these questions:

- (1) How does the pilot reduce road traffic?
- (2) How much CO2 is being saved using an electric vehicle for delivery?
- (3) How many packages came to the parcel lockers instead of specific addresses?

Researchers have deployed a multitude of sensors within the Seattle Neighborhood Delivery Hub site as well as on the delivery devices themselves, including cameras with vehicle recognition technology, GPS tracking sensors, and parking occupancy sensors, providing an understanding of delivery operations, such as miles traveled, speed, battery usage, interaction with other vehicles, bikes, and pedestrians, and road and parking infrastructure usage. We are also tracking activities at the site itself in terms of parking occupancy and duration, as well as mode distribution of vehicle types.

Q: What does this project mean for the future of sustainable urban goods delivery?

A: With ecommerce at an all-time high, it's important for cities to transition to safer and cleaner deliveries. The Seattle Neighborhood Delivery Hub demonstrates how commercial and residential hubs can reduce air and noise pollution and congestion, and improve safety — and provides a blueprint for other metropolitan areas to do the same.

Q: How can I see the results?

A: Follow us at SeattleNeighborhoodHub.com and on social #SeattleNeighborhoodHub. Our first report (a Research Scan) is now available: [Common MicroHub Research Project: Research Scan](#). A final report will be available in early 2022 at [Common Microhub Research Project: Overview](#).