

Planning, Policy  
&  
Programming

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Mineta Transportation Center

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## Assessing Public Health Benefits of Replacing Freight Trucks with Cargo Cycles in Last Leg Delivery Trips in Urban Centers

Data collected from interviews, focus group, and modeling will inform cargo cycle policy development for the study area and will encourage adoption of cargo cycles for other municipalities.

### WHAT IS THE NEED?

With increased urbanization, population growth and changes in goods movement patterns favoring just in time delivery, combined with reduced stock in stores, there has been increased freight movement in cities. It is not surprising that now freight makes up a large segment of urban daily traffic, contributing to emissions, noise and safety concerns. In addition, urban freight logistics and supply chains are often hindered by "last mile" delivery in urban centers.

Under such an unsustainable context, decision-makers, engineers and planners are considering innovative ways of promoting urban sustainability and guaranteeing mobility and quality of life, while ensuring an efficient urban goods distribution system.

One innovative mode gaining widespread attention for urban deliveries is cargo cycles, also known as cargo bikes. As online shopping has increased leading to concerns about congestion and climate change, cargo bikes have been introduced to several cities, including Paris, London and Dublin. Despite the recognized potential and possible success of transporting at least 25% of freight via cycle, research in this growing area is limited.



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## WHAT ARE WE DOING?

Our research will investigate the potential of cargo cycles to deliver last mile freight in Oakland, California, with a focus on West Oakland.

## WHAT IS OUR GOAL?

Data collected from the interviews, focus groups, and modeling will inform cargo cycle policy development for the study area and will encourage adoption of cargo cycles for other municipalities where congestion, pollution and other public health impacts from freight delivery are of concern.

## WHAT IS THE BENEFIT?

1. Evaluate the impact of replacing freight trucks with cargo cycles on mobility, traffic efficiency, and emissions.
2. Determine what circumstances cargo cycles can replace freight trucks, and how private commercial businesses can change their packing/delivery practices to achieve policy goals of sustainability, mobility, improved environmental, and public health (noise, road safety) outcomes.
3. Provide recommendations to improve the availability of facilities, such as consolidation centers, and dedicated bike lanes, to adopt this freight delivery.

## WHAT IS THE PROGRESS TO DATE?

This research project started in March 2020. A literature review of cargo cycle efforts and Oakland city rules regarding cargo cycles has been completed. We have also collected and analyzed community level data to identify barriers and benefits to cargo cycle implementation in the community. Collected community level data, completed analysis of noise and pollution of freight. Finalized model simulations. The Research Team is now editing the Final Report for submittal to Caltrans.

## IMAGE



Image: A customized cargo cycle.