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Improving First/Last Mile Conditions Near Highways: An Investigation of Access and Coordination Barriers

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Improving first/last mile conditions near highways: An investigation of access and coordination barriers

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Research Topic

Many transit riders must walk or bike near highways to reach transit stations. Highway infrastructure can be a significant barrier to transit access and an impediment to a safe and comfortable transit trip experience. Dark underpasses discourage walking, and curved on-ramps create dangerous conflicts between drivers and people walking or biking. As such, areas surrounding highways can be priority pathways for first/last mile improvements, which is in turn complicated by the California Department of Transportation's (Caltrans) management of highway right-of-way.

In planning first/last mile infrastructure improvements, Metro's First/Last Mile Planning program must coordinate with Caltrans to understand traffic and freight factors in a station area and implement any first/last mile interventions. Past first/last mile planning efforts, such as those along the Metro Blue Line, have encountered difficulty in changing streets at highways to create safer pathways for people walking or biking. In Los Angeles County, though, more than two-thirds of rail and busway stations are within a half-mile of a highway, meaning that improved interagency coordination and safer street designs must be an integral part of expanding first/last mile transit access.

Main Findings

- On- and off-ramps with fast-moving right turns create the most dangerous and difficult first/last mile conditions. Where feasible, separate bicycle signals can protect bicyclists from conflicts with drivers, but in cases where a traffic signal is not possible, right-angle crossings at ramps may be another option.
- Successful interagency coordination has emerged from frameworks that created repeated and predictable interactions between Metro and Caltrans.
- First/last mile plans and similar projects created opportunities for Caltrans to revisit highway conditions and expedite the implementation of previously planned biking and walking infrastructure.

Study

This study employed two approaches to address the design and coordination factors affecting first/last mile conditions at highway infrastructure. First, three case studies were conducted at Metro busway and rail stations. Each was chosen to capture a different station-highway relationship: Manchester Station is located on a highway median itself; Palms Station is located adjacent to the I-10; and Maravilla Station is about 500 feet from a major interchange.

KEY TAKEAWAYS

- First/last mile planning creates opportunities for Caltrans to revisit biking and walking conditions near highways and update facilities in accordance with modern complete streets policies.
- Ramps create the most dangerous conditions and are difficult to improve. Bikeway intersections at ramps often require signalization or carefully considered right-angle crossings to improve visibility.
- Policies that seek to yield predictability in both interagency communication and first/last mile improvement design can aid in overall coordination at highway-adjacent sites.

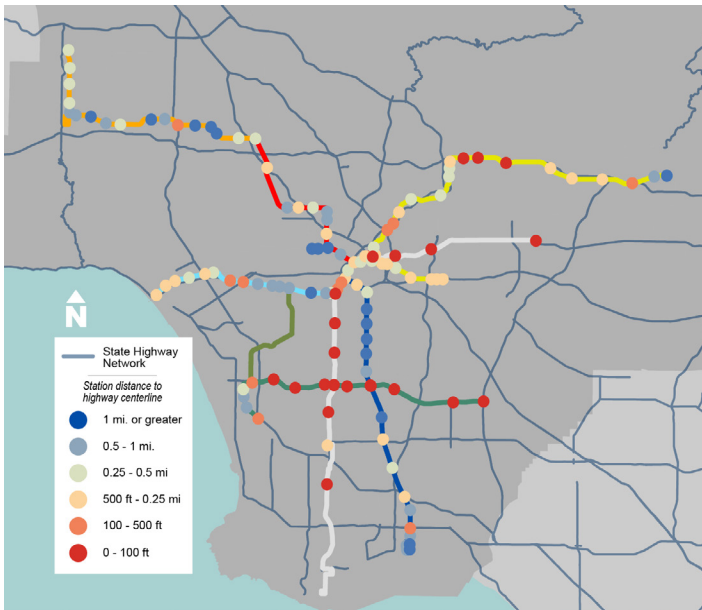


Figure 1. Metro Rail and Busway station distance from the State Highway Network

The study identified access pathways to stations, proposed improvements at highway rights-of-way, and evaluated their feasibility against current standards. Second, to understand interagency coordination issues, the author conducted seven semi-structured interviews with Metro and Caltrans staff. Interviewees were selected based on their involvement in active transportation projects near highways and their past coordination experiences.

Recommendations

- Metro should establish station area criteria to determine whether Caltrans should be involved early in a first/last mile planning project. These should include station proximity to a highway, the number of ramps and underpasses in the station area, and land uses near highways. Standardizing coordination efforts will create more predictable coordination efforts and allow Metro staff to more easily understand the traffic and freight issues that affect a site.
- Through a pre-sorted toolkit of interventions, Metro and jurisdictional partners could expedite the planning process and simplify the steps involved in vetting appropriate state standards and requirements.
- Metro and Caltrans should explore how interim first/last mile improvements might be applied and maintained. Temporary interventions can be adapted to account for later planning projects that may conflict, and their lower cost allows for greater flexibility in funding.

For More Information

Russel, Adam. (2019). *Improving First/last Mile Conditions Near Highways: An Investigation of Access and Coordination Barriers* (Master's capstone, UCLA). Retrieved from: <https://escholarship.org/uc/item/1fx5k8k9>

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