



Harbor Boulevard Pilot Innovative Transit Signal Priority Study

Orange County Transportation Authority (OCTA)

PROJECT PARTNERS

Cities of Fullerton, Anaheim, Garden Grove, Fountain Valley, and Santa Ana
Arcadis, LYT



PROJECT CHALLENGE

Harbor Boulevard is a multimodal corridor in central Orange County, California, that spans five cities and is identified as needing high-quality transit. The 12-mile Harbor Boulevard Bravo! 543 and 43 bus routes have a combined average of more than 10,000 daily boardings, 8% of all OCTA bus ridership and over 50,000 vehicles travel this route each day. Though an in-depth analysis of transit signal priority was previously conducted, it was not deployed due to the required large capital improvement. This proposed project requires less equipment and implements innovative solutions, while leveraging recent improvements local agencies have implemented.

IMPACT

A prototype area on the north end of the corridor, consisting of nine signalized intersections, will be deployed with transit signal priority and detection technology solutions for assessment and proof-of-concept evaluation. The project will provide benefits for the surrounding underserved communities, who disproportionately experience the negative impacts of transportation, environmental, and unsafe conditions. Specifically, the technologies will (1) improve transportation access by reducing travel times, (2) reduce greenhouse gas emissions and improve air quality by minimizing bus idling and stopping, and (3) increase the safety of vulnerable road users through detection technology

CURRENT STATE OF THE ISSUE

Harbor Boulevard has one of the largest California State Universities located near the route (over 41,000 students: 44% Hispanic, 21% Asian), Santa Ana College (over 36,000 students: 55% Hispanic, 8% Asian, and 1% Black), several large medical centers, Downtown Anaheim with several key destinations and employers including Disneyland, the largest employer in the county. With the high volume of vehicles, the tracked buses on this route were late 19% of the time, resulting in bus service that is somewhat unpredictable and unreliable.

POLICY QUESTIONS

1. Is the equipment owned and operated by individual agencies capable of supporting innovative transit signal priority solutions? If not, will a program need to be implemented to ensure the region is adequately positioned for such solution? 2. What should be the county's data sharing and cybersecurity requirements for a cloud-based solution? 3. How should operations and maintenance be modeled for each agency to ensure a successful transit signal priority program in the county?

STAGE 1 OUTCOMES

There are three main phases to the project, which include procuring and installing the technology solutions in the prototype area, thorough evaluation/assessment of the solutions, and conceptual design for expansion of the selected solutions along the entire corridor. A successful Stage 1 will be to complete each phase in a timely manner with stakeholders engaged and active in the planning and delivery of Stage 2 and a momentum in the county towards more transit signal priority implementations along other transit corridors.

STAGE 2 VISION

An expansion to Stage 2 will set the stage for future transit signal priority possibilities in the county and provide education to the partner agencies that may have been resistant to implementing transit priority in the past. Furthermore, improvements on the corridor may start with transit signal priority but can expand to bus rapid transit treatments to incentivize mode shift on the corridor.