

Deploying Intelligent Transit Signal Priority for SamTrans in East Palo Alto



NEED

The efficiency of local transit has a direct impact on communities such as East Palo Alto which is designated as an Equity Priority Community in part due to the number of Zero-Vehicle Households (9% have no vehicle, as compared to 6% Countywide).

The City of East Palo Alto is a place where such improvements are most needed and can potentially improve the quality of life for residents. Previously, slow bus travel speeds along University Avenue resulted in a poor rider experience. The problem has forced residents to opt for other modes of transportation, which contribute to neighborhood traffic congestion.

Given these hurdles to reliable transit access in the East Palo Alto community, the coalition of partners embarked on this project to correct the deficiencies.



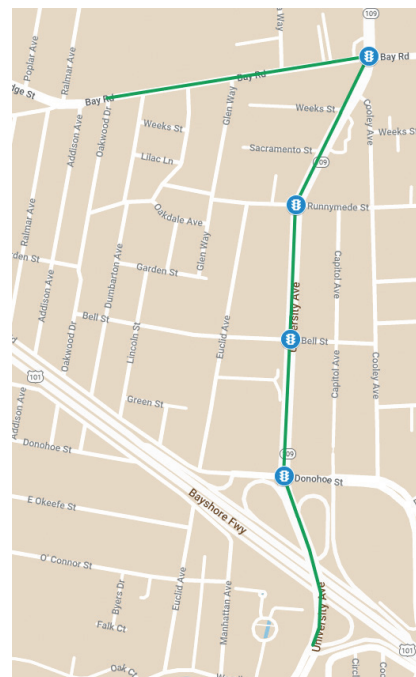
SCOPE

With funding from City/County Association of Governments (C/CAG) of San Mateo County, Sustainable Silicon Valley (SSV) formed a coalition of public and private stakeholders including San Mateo County Transit District (SamTrans), City of East Palo Alto and LYT to deliver intelligent transit priority along University Ave., a transit-dependent community.

In the Fall of 2021, SamTrans deployed a next-generation, intelligent Transit Signal Priority (iTSP) solution to address slow moving transit buses through a congested corridor in East Palo Alto.

LYT's cloud-based platform allows SamTrans buses to leverage machine learning principles and artificial intelligence to provide green lights more precisely. This improved efficiency means buses can keep on schedule while LYT.transit minimizes the disruption to other vehicles and side streets.

A unique aspect of the LYT.transit solution is that new infrastructure is not required at the intersection level. LYT.transit was deployed remotely from the LYT offices through a small device deployed inside the county's traffic management center.



iTSP Pilot Corridor

The corridor where iTSP was installed includes a subsection of SamTrans Route 281 in the following intersections:

- University Ave. & Bay Rd.
- University Ave. & Runnymede St.
- University Ave. & Bell St.
- University Ave. & Donohoe St.

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BENEFITS

The iTSP pilot deployment on University Ave. yielded a significantly positive impact on several key performance indicators:



Without iTSP, buses stop at traffic signals 70% of the time. With iTSP deployed at key traffic intersections, the pilot demonstrated that buses spent less time idling and got riders to their destinations faster and more efficiently.



Reduced northbound intersection delays by 45% and southbound intersection delays by 19%. **These reductions translate to 18% and 7% reductions in travel time for northbound and southbound respectively.**



Increased the average speed on the University Ave. corridor by 11% in the Northbound direction and 4% in the Southbound direction.



Offered a transformational opportunity for the county to make its transit system more intelligent and streamlined than ever before with a cost-efficient solution.

SCHEDULE

- Project Start: **May 2021**
- Pilot Live: **November 2021 - March 2022**
- Project End: **March 2022**