

City of Dublin Signal Timing Project

City of Dublin | City of Pleasanton | Metropolitan Transportation Commission

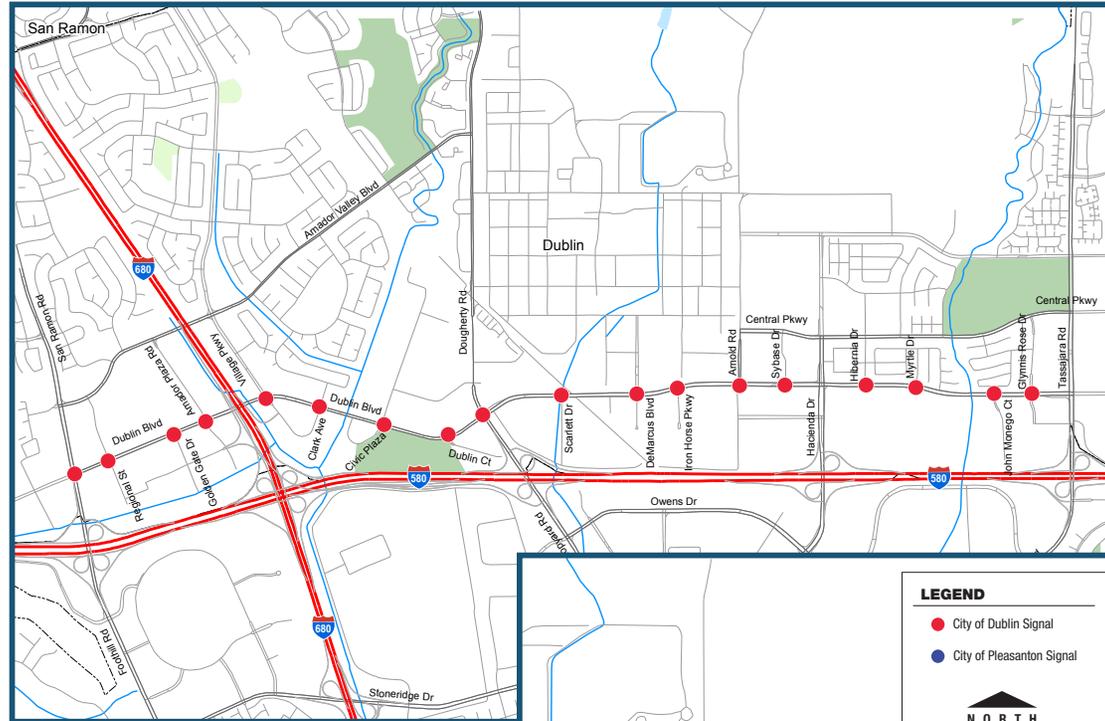
PROJECT OVERVIEW

The City of Dublin, in conjunction with the City of Pleasanton, received a grant from the Metropolitan Transportation Commission's Program for Arterial System Synchronization (PASS) to deploy optimized signal timing plans for 16 traffic signals on Hacienda Drive and Tassajara Road-Santa Rita Road and 18 signals on Dublin Boulevard. The four project intersections located at the I-580 ramps are within Caltrans right-of-way but are operated and maintained by the City of Pleasanton. The remaining signals are owned and operated by the City of Dublin.

The goal of the project was to conduct timing analysis and develop and implement signal coordination plans during the weekday AM, midday, and PM peak periods on Hacienda Drive and Tassajara Road-Santa Rita Road, as well as to develop signal coordination flush plans for incident management for the signals on Dublin Boulevard.

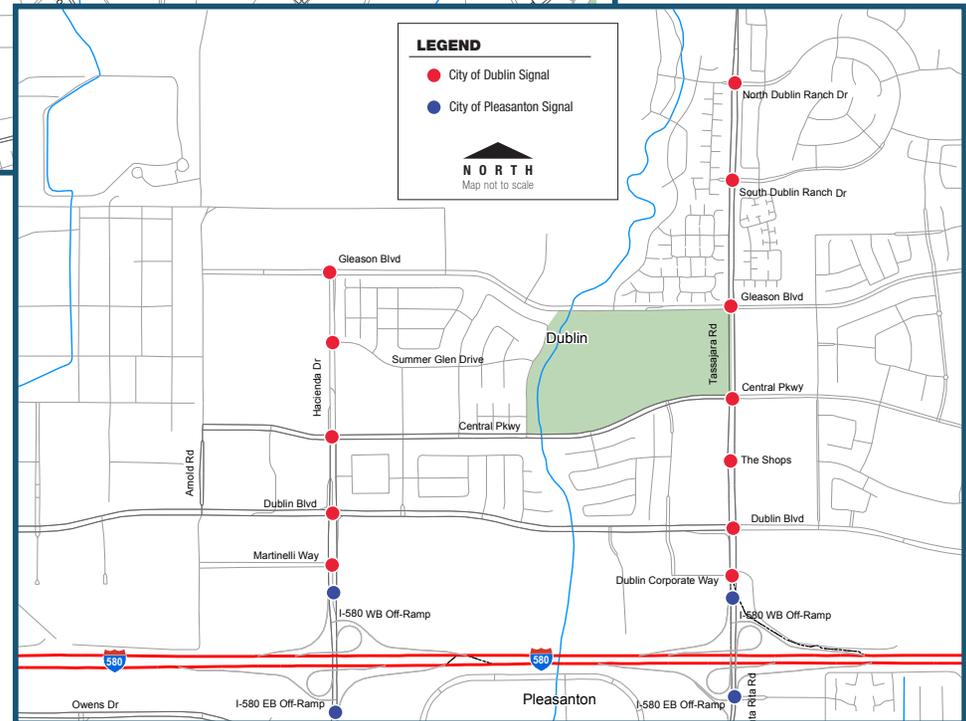
The PASS project involved the completion of the following tasks: collect turning movement counts, including vehicular, pedestrian, and bicycle counts; conduct field review of the project area; conduct travel time surveys; review actuated settings; review collision history; develop the existing conditions model; develop coordination plans for the weekday AM, midday, and PM peak periods; implement and fine-tune the recommended

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◀ Dublin Boulevard Corridor

Hacienda Drive and Tassajara Road Corridors ▶



PROJECT OVERVIEW (CONTINUED)

timings; conduct the “before” and “after” travel time surveys; and document the analyses/ findings for the project.

During fine-tuning, minor adjustments to the offsets and splits were made for each plan and the time-of-operation was adjusted during peak periods.

Flush plans were developed for Dublin Boulevard at project intersections to help manage the traffic when an incident occurs on adjacent I-580.

BENEFITS TO VARIOUS MODES



BENEFITS TO BICYCLISTS: The minimum green times were reviewed and increased at three intersections. The green times were increased to allow stopped bicyclists enough time to clear an intersection when the light turns green.



BENEFITS TO PEDESTRIANS: The pedestrian intervals were reviewed and increased at 13 intersections based on the 2012 California MUTCD to enhance safety.



BENEFITS TO TRAFFIC SAFETY: To enhance traffic safety, all timing parameters at each project intersection were reviewed. Based on the review, changes to yellow intervals to meet the California MUTCD standards were implemented at seven project intersections.

Project Costs	
Consultant Costs (Basic Services/ Plans)	\$40,000
Consultant Costs (Incident Management Flush Plans)	\$16,210
Other Project Costs (GPS Clocks, Communications equipment, etc.)	\$0
Agency Staff Costs (Estimate)	\$10,000
Total Costs	\$66,210

Measures	First Year		Lifetime (5 Years)	
	Savings	Monetized Savings	Savings	Monetized Savings
Travel Time Savings	12,629 hrs.	\$246,455	33,877 hrs.	\$661,131
Fuel Consumption Savings	38,511 gal.	\$148,620	103,307 gal.	\$398,681
ROG Emissions Reduction	0.107 tons	\$135	0.287 tons	\$361
NOx Emissions Reduction	0.097 tons	\$1,744	0.260 tons	\$4,679
PM2.5 Emissions Reduction	0.005 tons	\$1,574	0.014 tons	\$4,222
CO Emissions Reduction	1.184 tons	\$92	3.177 tons	\$246
Total Lifetime Benefits				\$1,069,319

Overall Project Benefits	Auto
Average Decrease in Travel Time	12%
Average Speed Increase	10%
Average Fuel Savings	11%
Average Reduction in Signal Delay	24%
Average Reduction in Number of Stops	38%
Overall Benefit-Cost Ratio	21:1



PROJECT BENEFITS SUMMARY



Average Reduction in Auto Signal Delay: 24%

Average Reduction in Number of Stops: 38%

Auto Fuel Consumption Savings: 11% or 103,307 gallons



Total Emissions Reduced (ROG, NOx, PM2.5, CO): 3.74 tons

Auto Travel Time Savings: 12% or 33,877 hours



Overall Project Benefit-cost Ratio = 21:1



For more info, please contact:

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