

PROGRAM FOR ARTERIAL SYSTEM SYNCHRONIZATION (PASS) FY12/13 CYCLE

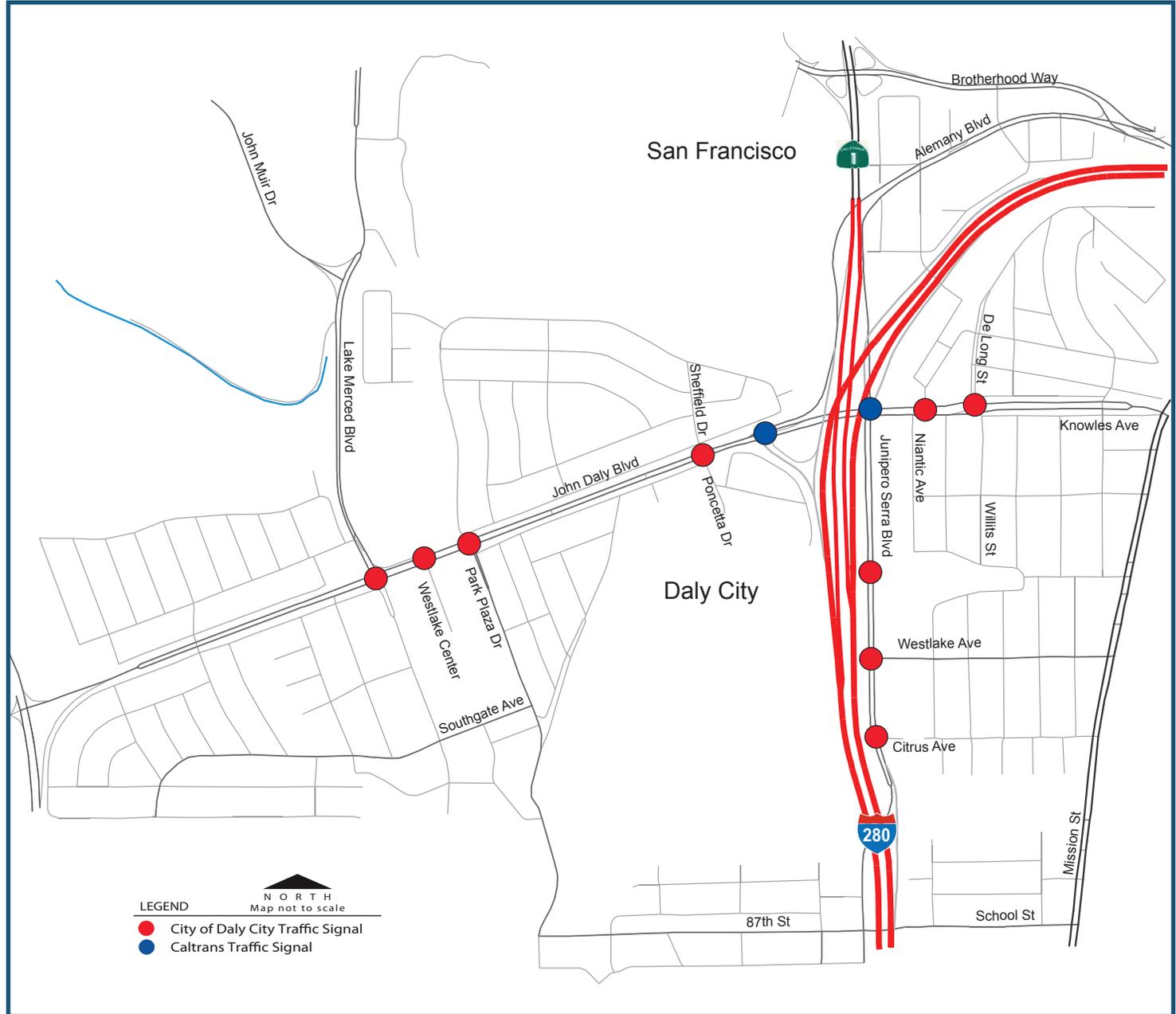
John Daly/Junipero Serra Blvd ■ Traffic Signal Timing Project

City of Daly City | Caltrans | Metropolitan Transportation Commission

PROJECT OVERVIEW

The City of Daly City, in conjunction with Caltrans, received a Program for Arterial System Synchronization (PASS) grant from the Metropolitan Transportation Commission to develop and implement optimized signal coordination timing plans for 11 signals along John Daly Blvd and Junipero Serra Blvd. The project objective was to develop traffic signal coordination timing plans for the weekday AM, midday, and PM peak periods for all project signals and weekend peak periods for six of the project signals.

The goal of this project was to facilitate traffic progression along the corridors, and achieve operational efficiency of the traffic signals with the existing capacity constraints. Attaining this goal is expected to mitigate congestion, reduce harmful greenhouse gas emissions, reduce travel time, and improve traffic safety.



...PROJECT OVERVIEW

This PASS project involved the completion of the following major tasks: collecting traffic volumes and turning movement counts, including bike and pedestrian counts, at all project intersections; analyzing this traffic data including collision data to develop optimized signal timing plans; implementing and fine-tuning the plans in the field; and conducting travel time surveys to analyze the performance of the new timing plans.

GPS SIGNAL COMMUNICATIONS

To provide a common time-source and enable communication between the City and Caltrans signals cost-effectively, GPS devices were installed at two project intersections. These devices enable the signal controllers to regularly synchronize their clocks; efficiently deploy the timing plans at the same time; and thus help maintain the efficiency of signal coordination. They are installed at the city signal at John Daly Blvd & DeLong St, and the Caltrans signal at John Daly Blvd & Southbound I-280 Ramp intersections.



BENEFITS TO PEDESTRIANS:

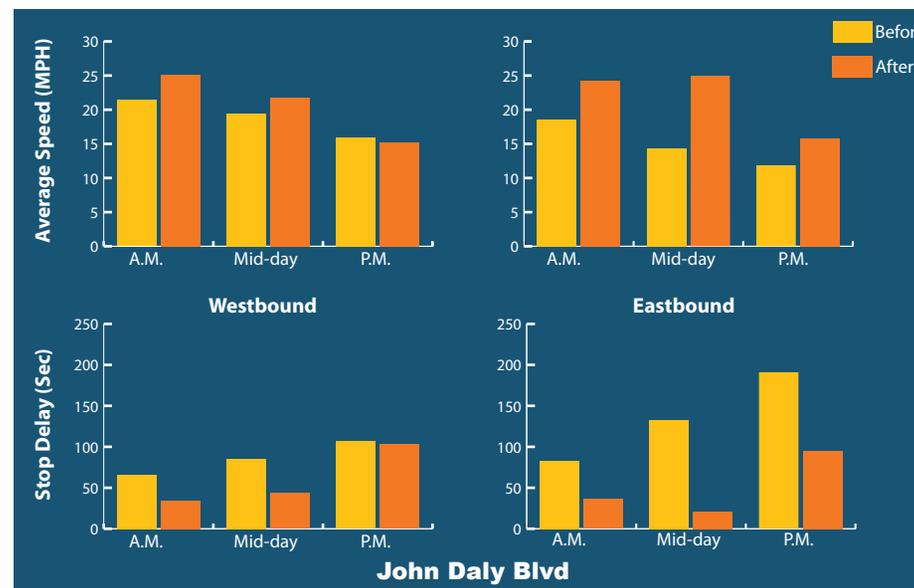
For improved safety, the pedestrian intervals were reviewed and increased at most intersections based on current 2012 California MUTCD standards. Changes to pedestrian timing were made at nine project intersections.

Project Costs	
Consultant Costs (Weekday Peak Coordination Plans)	\$26,650
Consultant Costs (Transit Travel Time Runs, Weekend Timing)	\$17,490
Agency Staff Costs (Estimate)	\$6,663
Total Costs	\$50,803

Measures	Annual Average		Lifetime (5 Years)	
	Savings	Monetized Savings	Savings	Monetized Savings
Travel Time Savings	13,200 hrs.	\$251,963	66,002 hrs.	\$1,259,814
Fuel Consumption Savings	45,045 gal.	\$181,024	225,225 gal.	\$905,122
ROG Emissions Reduction	0.36 tons	\$447	1.78 tons	\$2,237
NOx Emissions Reduction	0.47 tons	\$8,393	2.33 tons	\$41,963
PM10 Emissions Reduction	0.06 tons	\$9,388	0.32 tons	\$46,941
CO Emissions Reduction	1.95 tons	\$151	9.77 tons	\$755
	Total Lifetime Benefits			\$2,256,831
Transit Travel Time Savings	69 hrs.	\$1,311	343 hrs.	\$6,554
	Total Lifetime Benefits with Transit			\$2,263,385

Overall Project Benefits	Auto	Transit
Average Decrease in Travel Time	16%	0%
Average Speed Increase	18%	1%
Average Fuel Savings	12%	N/A
Average Reduction in Signal Delay	42%	N/A
Average Reduction in Number of Stops	37%	N/A

Overall Benefit-Cost Ratio 45:1



PROJECT BENEFITS SUMMARY



Average Reduction in Auto Signal Delay: 42%

Average Reduction in Number of Stops: 37%

Auto Fuel Consumption Savings: 12% or 225,225 gallons



Total Emissions Reduced (ROG, NOx, PM10, CO): 14.2 tons

Auto Travel Time Savings: 16% or 66,000 hours



Overall Project Benefit-cost Ratio = 45:1

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