Program for Arterial System Synchronization (PASS) FY13/14 Cycle

San Carlos Ave/ Holly St/ Industrial Rd/El Camino Real/ Ralston Ave/ Old County Rd/ Harbor Blvd

City of San Carlos I City of Belmont I County of San Mateo I Metropolitan Transportation Commission

Project Overview

The Cities of San Carlos and Belmont, the County of San Mateo, and Caltrans received a grant from Metropolitan Transportation Commission's Program for Arterial System Synchronization (PASS) to conduct a signal timing study for a total of 46 traffic signals along the San Carlos Avenue, Holly Street, Industrial Road, El Camino Real, Ralston Avenue, Old County Road and Harbor Boulevard corridors. Twenty-five of the 46 traffic signals are owned, maintained, operated by Caltrans. The traffic signal located at the Holly Street/Old County Road intersection is owned by the City of San Carlos but operated and maintained by Caltrans. Eleven traffic signals are owned, maintained, operated by the City of San Carlos. The City of Belmont and the County of San Mateo own, maintain, and operate six and three traffic signals, respectively.

The goal of this project was to facilitate traffic progression along the study corridors, and update the timing parameters to comply with recent changes in the California MUTCD traffic signal timing guidelines.

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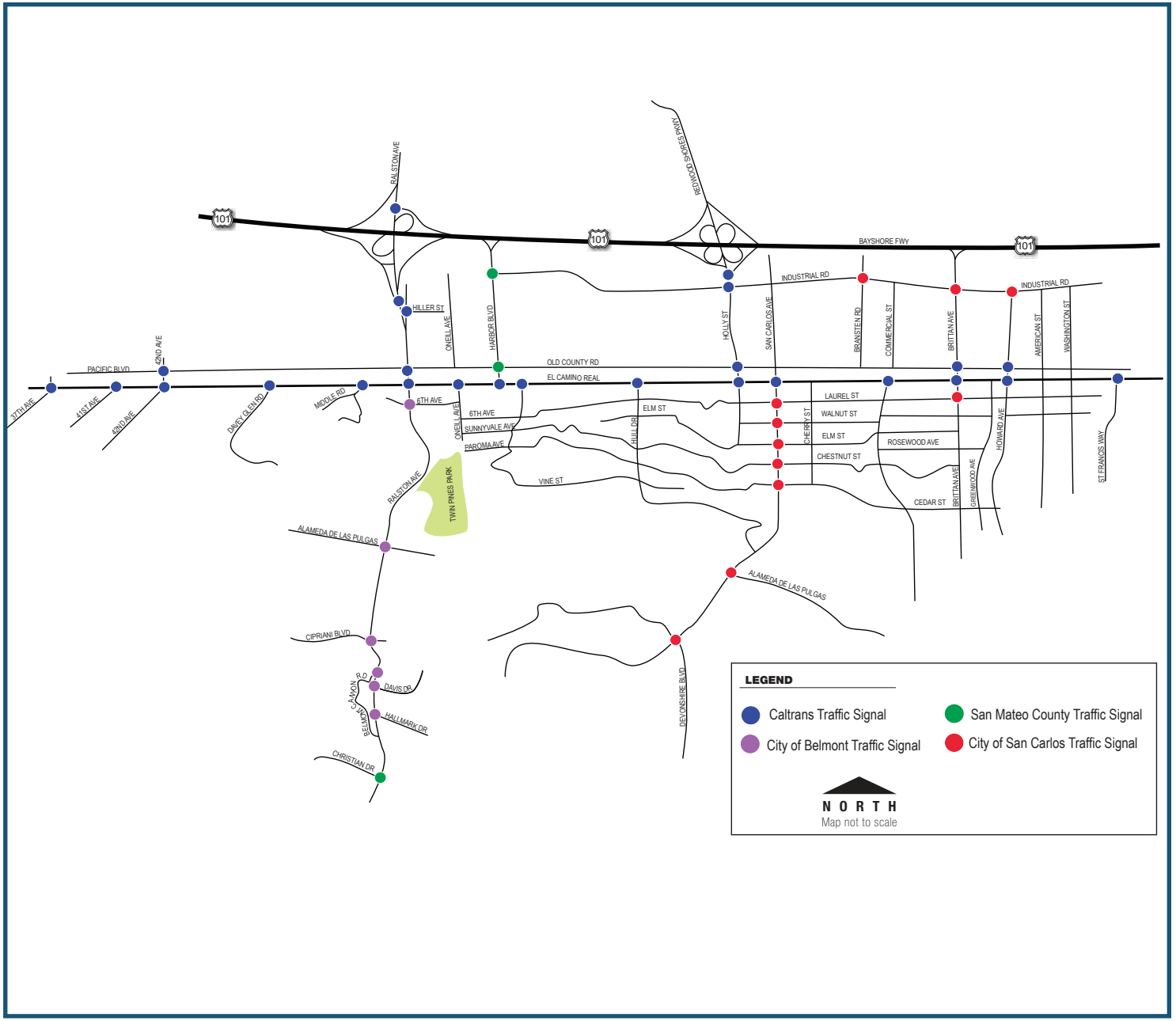

Project Overview (continued)

The PASS project involved the completion of the following tasks: collect traffic volumes and turning movement counts including bike and pedestrian counts at project intersections; analyze traffic data to develop optimized signal timing plans, implement and fine-tune the recommended timing plans in the field; conduct travel time surveys to analyze the performance measures of the new timing plans; and document the analyses/findings for the project.

Benefits to Various Modes

Benefits to Bicyclists: Per the 2012 California MUTCD, the minimum green time was increased for the through movements at each study intersection to enhance safety for bicyclists traveling along the San Carlos Avenue, Holly Street, Industrial Road, Ralston Avenue, El Camino Real, Old County Road and Harbor Boulevard corridors.

Benefits to Pedestrians: Pedestrian timing parameters were updated at several study intersections to provide adequate time for children and seniors to safely cross.

Benefits to Traffic Safety: To enhance traffic safety, the yellow clearance timing parameters were updated based on the posted speed limits along the study corridors. The All Red clearance timing parameters were updated based on the results of a collision analysis.based on the results of a collision analysis.

Project Costs	
Consultant Costs (Weekday Coordination Timing Plans)	$108,000
Consultant Costs (Additional Plans, TSP, IM Flush Plans, etc.)	$46,350
Other Project Costs (GPS Clocks, Communications equipment, etc.)	$5,000
Agency Staff Costs (Estimate)	$38,588
Total Costs	**$197,938**

Project Benefits

Measures	*First Year*		*Lifetime (5 Years)*	
	Savings	*Monetized Savings*	*Savings*	*Monetized Savings*
Travel Time Savings	177,658 hrs.	$3,467,060	476,577 hrs.	$9,300,584
Fuel Consumption Savings	506,511 gal.	$1,954,709	1,358,743 gal.	$5,243,616
ROG Emissions Reduction	1.63 tons	$2,051	4.37 tons	$5,502
NOx Emissions Reduction	1.31 tons	$23,662	3.53 tons	$63,475
PM2.5 Emissions Reduction	0.07 tons	$20,324	0.17 tons	$54,520
CO Emissions Reduction	15.40 tons	$1,190	41.31 tons	$3,193
			Total Lifetime Benefits	**$14,670,890**

Overall Project Benefits	Auto
Average Decrease in Travel Time	**20%**
Average Speed Increase	**31%**
Average Fuel Savings	**15%**
Average Reduction in Signal Delay	**42%**
Average Reduction in Number of Stops	**36%**
Overall Benefit-Cost Ratio	**97:1**

Project Benefits Summary

Average Reduction in Auto Signal Delay: 42%

Average Reduction in Number of Stops: 36%

Auto Fuel Consumption Savings: 15% or 1,358,743 gallons

Total Emissions Reduced (ROG, NOx, PM2.5, CO): 49.38 tons

Auto Travel Time Savings: 20% or 476,577 hours

Overall Project Benefit-cost Ratio = 97:1

For more info, please contact:

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