PROGRAM FOR ARTERIAL SYSTEM SYNCHRONIZATION (PASS) FY13/14 CYCLE

City of Santa Rosa Signal Timing Project

City of Santa Rosa | Metropolitan Transportation Commission

PROJECT OVERVIEW

The City of Santa Rosa received a grant from the Metropolitan Transportation Commission's Program for Arterial System Synchronization (PASS) to deploy optimized signal timing plans for the 44 signals along Marlow Road/ Stony Point, Guerneville Road, College Avenue, Hearn Avenue, and Petaluma Road. All intersections were identified for retiming during the weekday AM, midday, and PM peak periods. The corridors of Marlow Road/Stony Point Road, Guerneville Road, and College Avenue were identified for the retiming, as well as adaptive timing.

All signals are operated and maintained by the City of Santa Rosa. Seven of the 44 project intersections operate using BiTran 170 controllers, while the rest of the project intersections operate using 2070 controllers with SCATS firmware.

An analysis was performed from the collected data to develop the most optimal signal coordination plans for the City of Santa Rosa.

The PASS project involved the completion of the following tasks: data collection, review of traffic data (including collision data), development of recommendations for actuated timings, development of coordination plans for the weekday AM, midday, and PM peak periods, implementation and fine-

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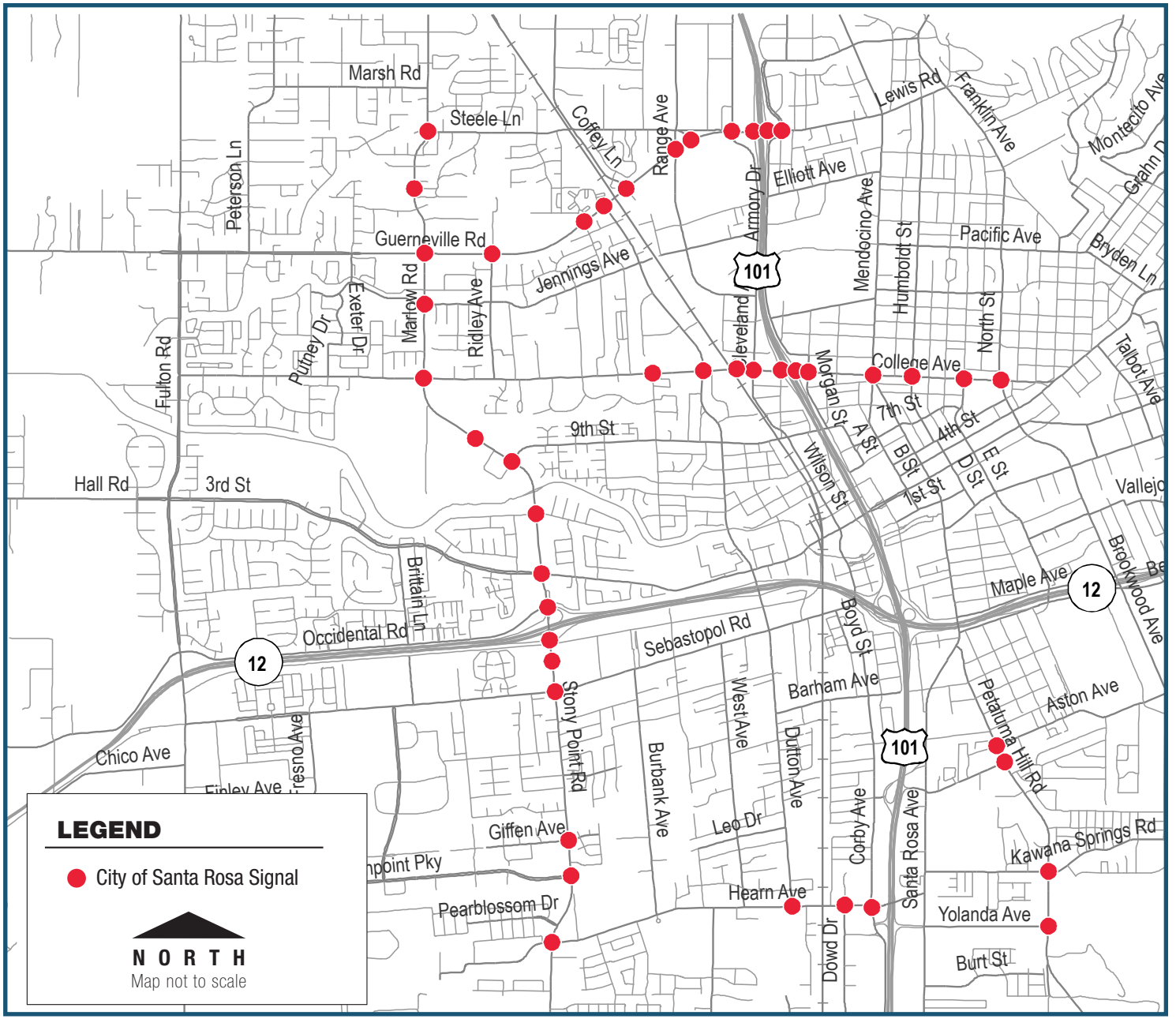


Project Overview (continued)

tuning of the recommended timings, "before" and "after" travel time surveys, and project documentation.

Fine-tuning was conducted to ensure the most effective timings were deployed into the system. Offset revisions were made to enable enhanced progression.

Benefits to Various Modes

Benefits to Bicyclists: The minimum green intervals were reviewed and calculated as per the latest California MUTCD for bicyclists on the study corridors.

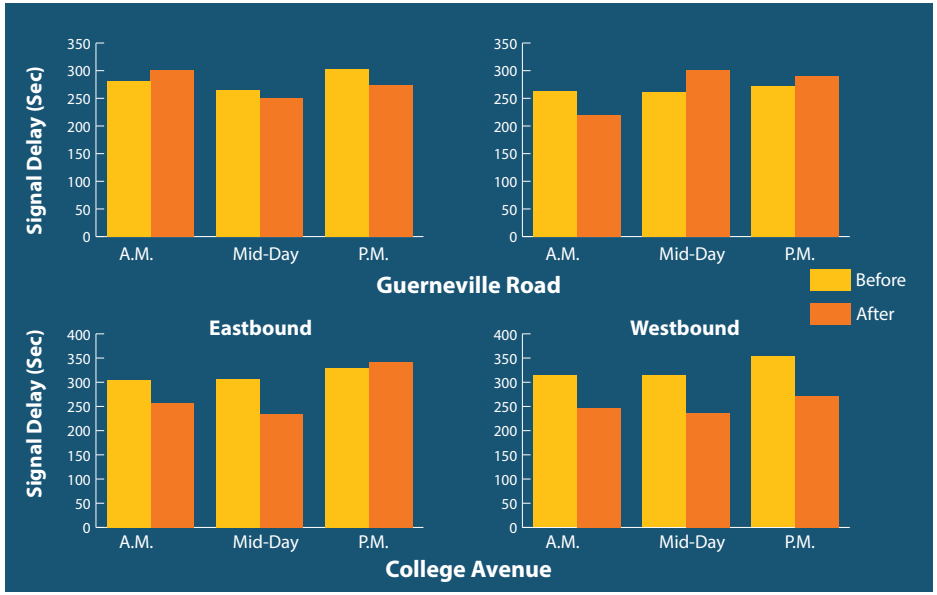
Benefits to Traffic Safety: To enhance traffic safety, all timing parameters at each project intersection were reviewed as per the latest California MUTCD. These parameters include: minimum green time, maximum green time, minimum gap, yellow time, all-red clearance time, Walk time, and Flashing Don't Walk time.

Project Costs	
Consultant Costs (Basic Services/ Plans)	$108,300
Consultant Costs (Additional Plans, TSP, IM Flush Plans, etc.)	$27,580
Other Project Costs (GPS Clocks, Communications equipment, etc.)	$2,000
Agency Staff Costs (Estimate)	$27,075
Total Costs	**$164,955**

Project Benefits

Measures	*First Year*		*Lifetime (5 Years)*	
	Savings	*Monetized Savings*	*Savings*	*Monetized Savings*
Travel Time Savings	38,664 hrs.	$754,533	103,717 hrs.	$2,024,079
Fuel Consumption Savings	83,021 gal.	$320,391	222,708 gal.	$859,468
ROG Emissions Reduction	0.28 tons	$350	0.75 tons	$938
NOx Emissions Reduction	0.21 tons	$3,772	0.56 tons	$10,119
PM2.5 Emissions Reduction	0.01 tons	$2,681	0.02 tons	$7,191
CO Emissions Reduction	2.48 tons	$192	6.65 tons	$514
		Total Lifetime Benefits		**$2,902,309**

Overall Project Benefits	**Auto**
Average Decrease in Travel Time	**7%**
Average Speed Increase	**16%**
Average Fuel Savings	**6%**
Average Reduction in Signal Delay	**16%**
Average Reduction in Number of Stops	**17%**
Overall Benefit-Cost Ratio	**21:1**



Project Benefits Summary

Average Reduction in Auto Signal Delay: 16%

Average Reduction in Number of Stops: 17%

Auto Fuel Consumption Savings: 6% or 222,708 gallons

Total Emissions Reduced (ROG, NOx, PM2.5, CO): 7.98 tons

Auto Travel Time Savings: 7% or 103,717 hours

Overall Project Benefit-cost Ratio = 21:1

For more info, please contact:

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