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

Decoto Road Signal Timing Project

City of Union City | Metropolitan Transportation Commission

PROJECT OVERVIEW

The City of Union City received a grant from Metropolitan Transportation Commission's Program for Arterial System Synchronization (PASS) to deploy optimized signal timing plans for a total of eight traffic signals along Decoto Road between 5th Street to Royal Ann Drive/Clover Street. All eight traffic signals are currently interconnected with hardware/twisted-pair cables to the City's Quicknet traffic management system located in the City Hall. Decoto Road is a major north/south regional arterial that connects with other regionally-significant arterials including Mission Boulevard, Alvarado Niles Road and the Dumbarton Bridge to the west in the City of Union City. Decoto Road serves AC Transit, the Dumbarton Express, and provides direct access to the Union City BART Station.

The goal of this project is to facilitate traffic progression along Decoto Road and update the timing parameters to comply with recent changes in traffic signal timing guidelines. The project objective is to develop traffic signal timing plans for the weekday PM peak and school PM peak periods to reduce traffic congestion, reduce traffic delays, reduce the emission of harmful greenhouse gases, reduce automobile travel time along the study corridor, and improve traffic safety.

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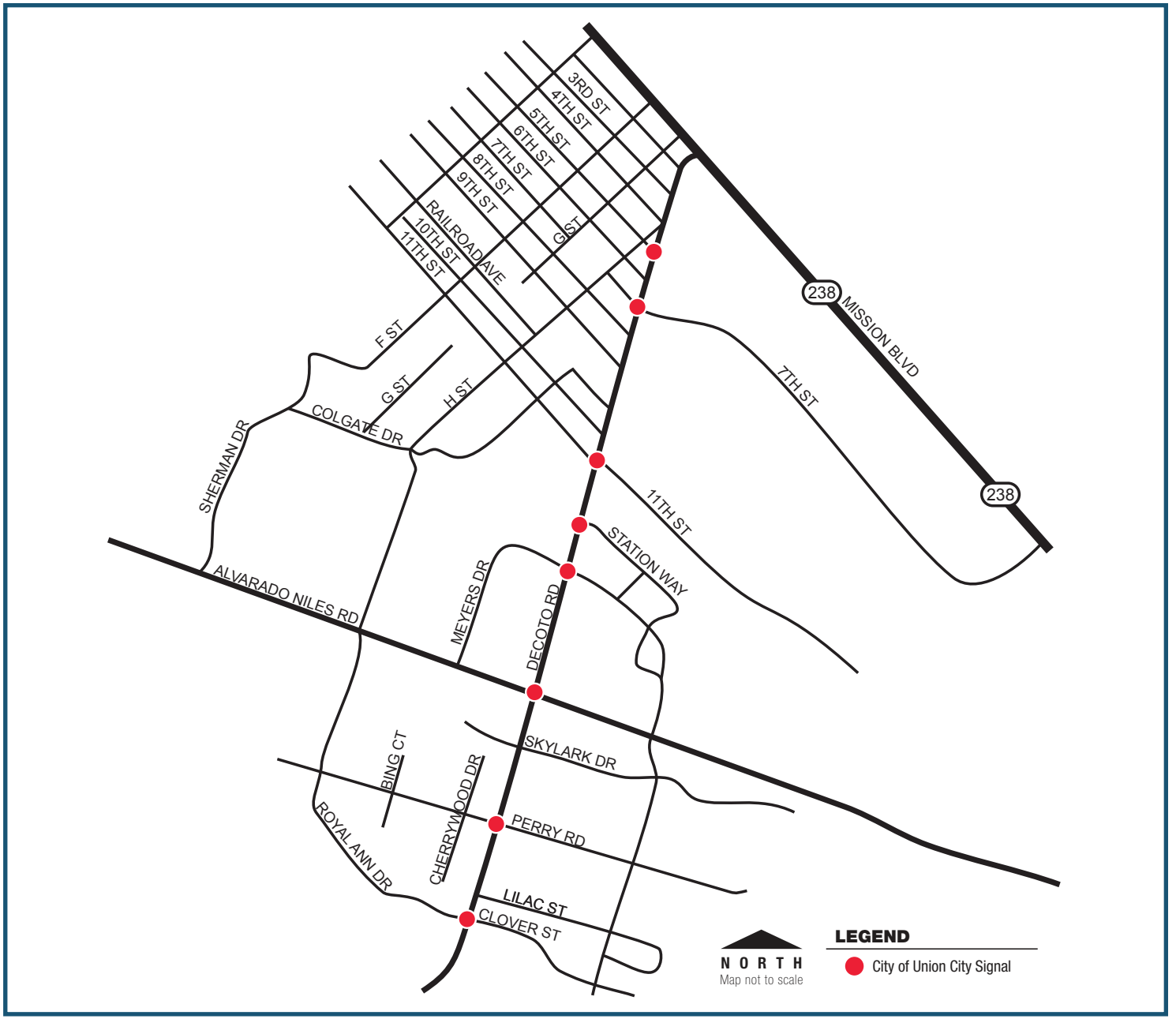


Project Overview (continued)

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

Benefits to Various Modes

Benefits to Bicyclists: Per the new California MUTCD, the minimum green time was increased for the through movements at each study intersection to enhance safety for bicyclists traveling along the Decoto Road corridor.

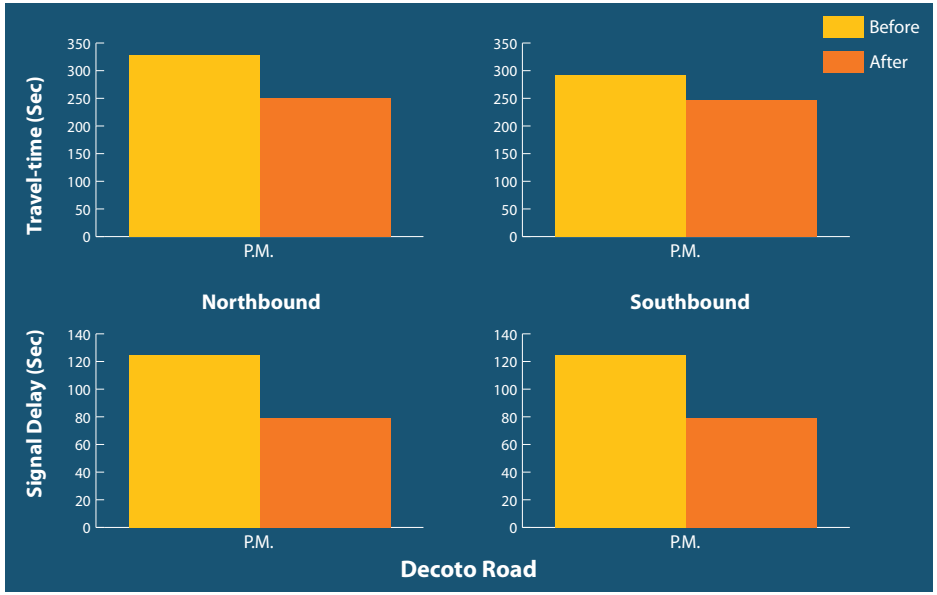
Benefits to Traffic Safety: To enhance traffic safety, the yellow clearance timing parameters were updated based on posted speed limits along the study corridor.

Project Costs	
Consultant Costs (Weekday Coordination Timing Plans)	$19,240
Other Project Costs (cabinet and controller equipment)	$0
Agency Staff Costs (Estimate)	$4,810
Total Costs	**$24,050**

Project Benefits

Measures	*First Year Average*		*Lifetime (5 Years)*	
	Savings	*Monetized Savings*	*Savings*	*Monetized Savings*
Travel Time Savings	10,807 hrs.	$210,911	28,992 hrs.	$565,780
Fuel Consumption Savings	25,553 gal.	$98,614	68,548 gal.	$264,537
ROG Emissions Reduction	0.087 tons	$109	0.233 tons	$293
NOx Emissions Reduction	0.074 tons	$1,328	0.198 tons	$3,561
PM2.5 Emissions Reduction	0.002 tons	$768	0.007 tons	$2,060
CO Emissions Reduction	0.743 tons	$57	1.994 tons	$154
			Total Lifetime Benefits	**$836,386**

Overall Project Benefits	**Auto**
Average Decrease in Travel Time	**20%**
Average Speed Increase	**22%**
Average Fuel Savings	**14%**
Average Reduction in Signal Delay	**45%**
Average Reduction in Number of Stops	**43%**
Overall Benefit-Cost Ratio	**35:1**



Project Benefits Summary

Average Reduction in Auto Signal Delay: 45%

Average Reduction in Number of Stops: 43%

Auto Fuel Consumption Savings: 14% or 68,548 gallons

Total Emissions Reduced (ROG, NOx, PM2.5, CO): 2.43 tons

Auto Travel Time Savings: 20% or 28,992 hours

Overall Project Benefit-cost Ratio = 35:1

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