

Signal Timing Briefs

April 2015 - T15-3

Mobility

DRCOG

DENVER REGIONAL COUNCIL OF GOVERNMENTS

We make life better!

Yosemite Street: Union Avenue to Hampden Avenue

The Denver Regional Council of Governments leads multijurisdictional partnerships to achieve optimal signal timing and coordination on area roadways. Adjustments to signal timing are key to ensuring the smoothest possible flow for drivers, saving time and money. Signal timing also minimizes greenhouse gas emissions and other pollutant emissions, preserving and enhancing air quality.

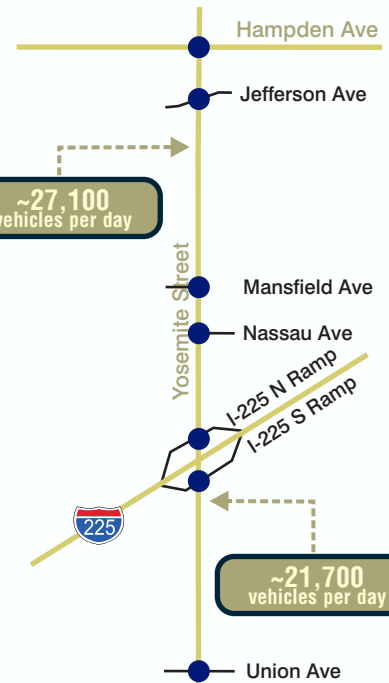


Project Description

The City of Denver will install signal equipment upgrades on Yosemite Street. This project implemented timing and coordination plans for seven signals on Yosemite Street.

Yosemite Street is a minor arterial roadway in the Metro Vision Regional Transportation Plan in the City of Denver, providing access to I-225, Hampden Avenue, and the Denver Tech Center. Land use along the roadway in the project area is a mix of commercial and residential.

Yosemite Street



Project Achievements

Performance Measures

Daily Benefits

Vehicle hours of travel
 Fuel consumption
 Time and fuel costs
 Total greenhouse gas emissions
 Total criteria pollutant emissions

152 hours reduction
 78 gallons decrease
 \$3,600 savings
 1,633 pounds reduction
 20 pounds reduction

Project Partner's Signals

● City and County of Denver

Yosemite Street: Union Avenue to Hampden Avenue

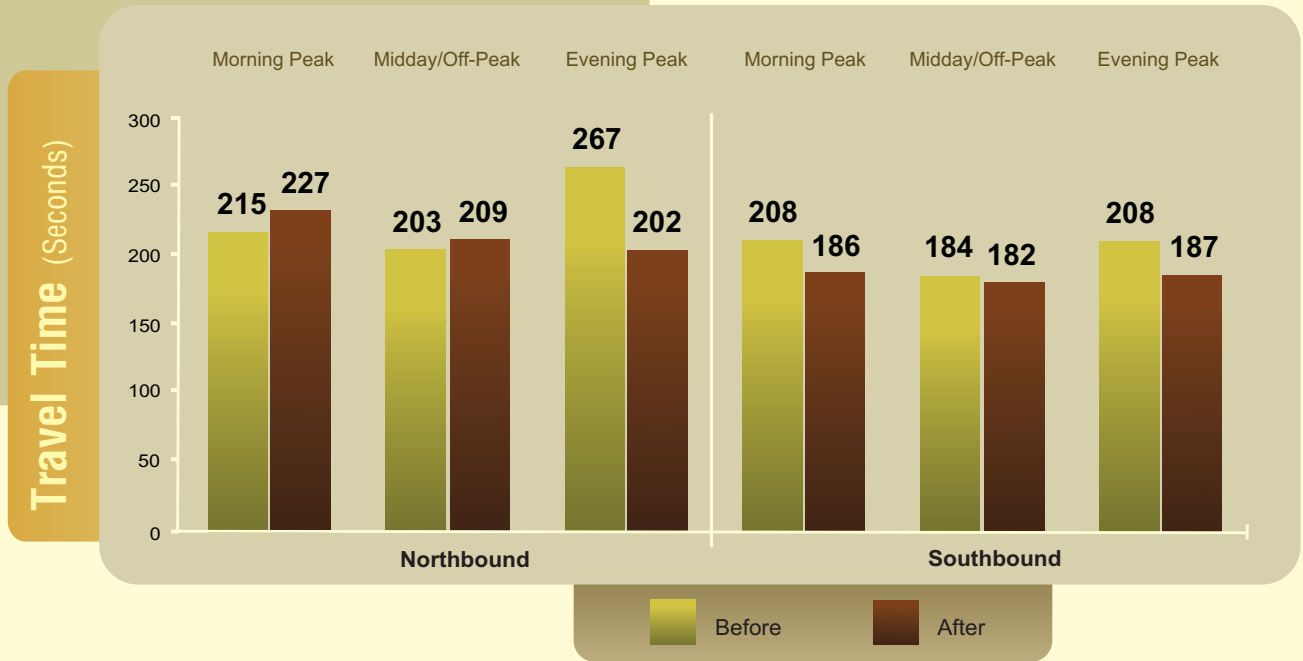
Timing Revision Weekday:

Time Period	Cycle Length (seconds)	Morning Peak		Midday/Off-Peak		Evening Peak	
		Before	After	Before	After	Before	After
		Hampden Avenue to Jefferson Avenue	6:00 - 10:00 a.m.	6:00 - 10:00 a.m.	10:00 a.m. - 8:00 p.m. ¹	10:00 a.m. - 3:00 p.m.	10:00 a.m. - 8:00 p.m. ¹
Mansfield Avenue to Union Avenue	6:00 - 10:00 a.m.	6:00 - 10:00 a.m.	8:30 a.m. - 3:00 p.m.	8:30 a.m. - 3:00 p.m.	3:00 - 6:30 p.m.	3:00 - 10:00 p.m.	
Hampden Avenue to Jefferson Avenue		120 (no change)		120 (no change)		120 (no change)	
Mansfield Avenue to I-225 Northbound Ramp		90	80	75	80	80 (no change)	
Union Avenue		120 (no change)		100 (no change)		120 (no change)	
Other Timing Parameters		--	Revised	--	Revised	--	Revised

Travel Time Improvements (1.5 miles end to end)

Improvements were obtained during the morning peak period southbound which is the predominant direction and in both directions during the evening peak period. The midday/off-peak period had no significant change.

¹ Hampden Avenue and Jefferson Avenue ran only two plans throughout the day. Now these signals have three plans that match the signals south of Hampden Avenue.



Overall Improvements

The value to motorists, in terms of weekday time and fuel savings, is calculated to be approximately \$3,600 daily, or about \$900,000 annually. An additional benefit of the project is improved reliability of signal operations, thanks to equipment upgrades. These upgrades allow traffic signal malfunctions to be quickly detected and reported. This results in less stopping and delays for the traveling public.