

Signal Timing Briefs

November 2015 - T15-8

Mobility



Highlands Ranch Parkway: Santa Fe Drive to University Boulevard

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.

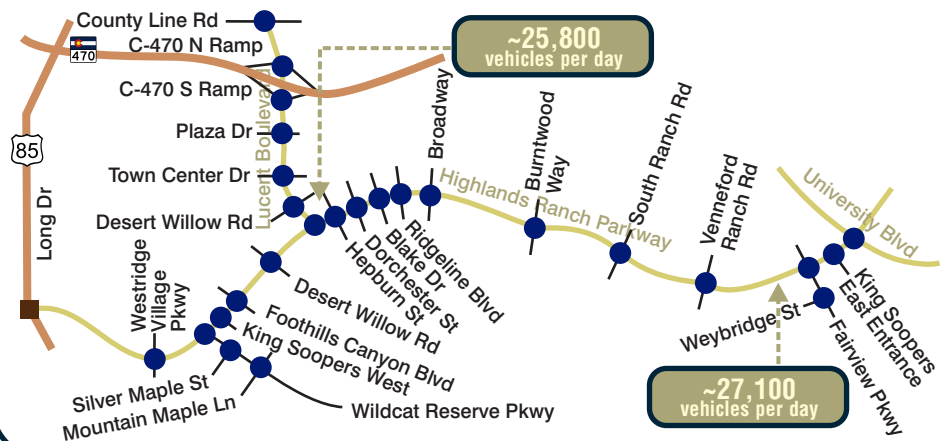


Project Description

This project implemented timing and coordination plans for 18 signals on Highlands Ranch Parkway and provided cross-coordination for two signals on Wildcat Reserve Parkway, six signals on Lucent Boulevard, and one signal on Fairview Parkway.

Highlands Ranch Parkway is a principal arterial roadway in the Metro Vision Regional Transportation Plan providing access to Santa Fe Drive, Broadway and University Boulevard through Douglas County, and is a parallel route to C-470. Land use along the roadway in the project area is a mix of commercial and residential.

Highlands Ranch Parkway



Project Achievements

Performance Measures

Daily Benefits

Vehicle hours of travel	317 hours reduction
Fuel consumption	159 gallons decreased
Time and fuel costs	\$7,550 savings
Total greenhouse gas emissions	3,306 pounds reduction
Total criteria pollutant emissions	39 pounds reduction

Project Partners' Signals

- CDOT
- Douglas County

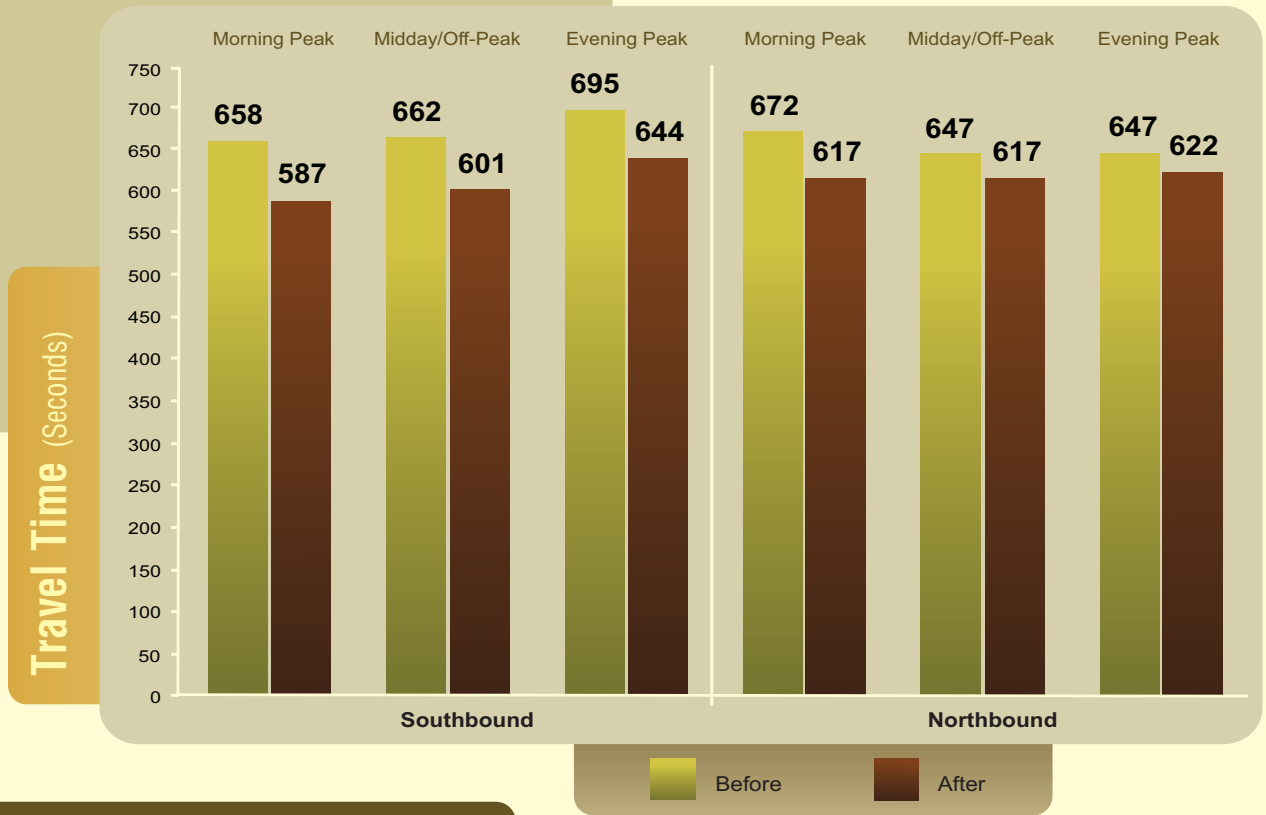
Highlands Ranch Parkway: Santa Fe Drive to University Boulevard

Timing Revision Weekday

Time Period	Santa Fe Westridge Village to Broadway Broadway to University	Morning Peak		Midday/Off-Peak		Evening Peak	
		Before	After	Before	After	Before	After
		6 - 9 a.m.		9 a.m. - 3 p.m.		3:30 - 6:30 p.m.	No Change
6 - 8:30 a.m.	6 - 9:00 a.m.	8:30 a.m. - 4 p.m.	9 a.m. - 3 p.m.	4 - 6:30 p.m.	3 - 7 p.m.		
6 - 9 a.m.		9 a.m. - 3 p.m.				3:30 - 7 p.m.	
Cycle Length (seconds)	Santa Fe	100	No Change	120	No Change	100	No Change
	Westridge Village to Broadway	106	120	110	100	120	No Change
	Broadway to University	120		100		120	
Other Timing Parameters		--	Revised	--	Revised	--	Revised

Travel Time Improvements (5.7 miles end-to-end)

Improvements were obtained during all periods in both directions.



Overall Improvements

The value to motorists, in terms of weekday time and fuel savings, is calculated to be approximately \$7,550 daily, or about \$1.89 million annually.