

Signal Timing Briefs

April 2014 - T14-8b

Mobility

DRCOG

DENVER REGIONAL COUNCIL OF GOVERNMENTS

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Monaco Parkway: Cedar Avenue to Iliff 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.

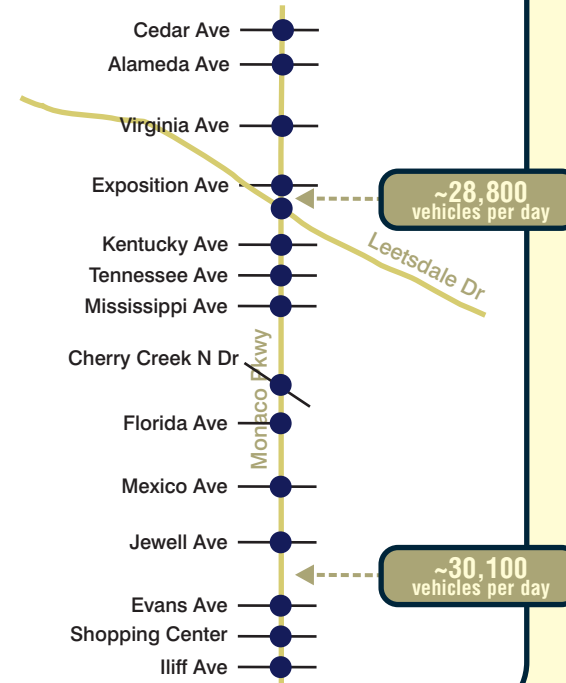
Project Description

The City and County of Denver is upgrading its traffic signal system. This project implemented timing and coordination plans for 15 traffic signals on Monaco Parkway with cross-coordination at Alameda Avenue, Leetsdale Drive, and Evans Avenue. Preliminary timing settings for the signals between Jewell Avenue and Iliff Avenue were provided by Stantec.

Monaco Parkway is a principal arterial roadway in the Metro Vision Regional Transportation Plan that travels north-south in the central Denver metro area. Monaco Parkway connects with the DTC area in the south to business centers near Cherry Creek and South Colorado Boulevard via Alameda Avenue, Leetsdale Drive, and Evans Avenue. Land use along Monaco Parkway in the project area is mostly residential with some commercial property.



Monaco Parkway



Project Partner's Signals

● City and County of Denver

Project Achievements

Performance Measures

Daily Benefits

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

389 hours reduction
 199 gallons decrease
 \$9,150 savings
 4,148 pounds reduction
 51 pounds reduction

Monaco Parkway: Cedar Avenue to Iliff Avenue

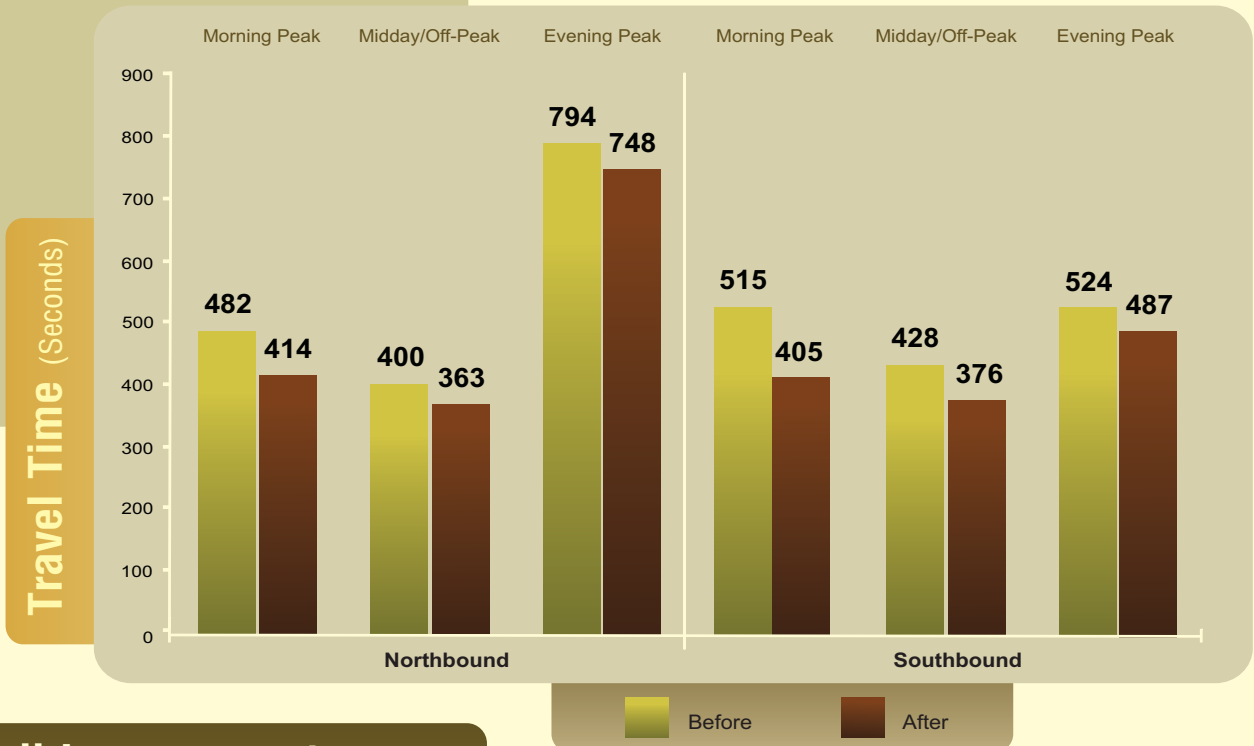
Timing Revision Weekday:

Time Period	Cycle Length (seconds)	Morning Peak		Midday/Off-Peak		Evening Peak	
		Before	After	Before	After	Before	After
		Cedar Ave to Alameda Ave	6:00-8:30 a.m. (No change)		8:30 a.m.-3:00 p.m. (No change)		3:00-6:30 p.m. (No change)
Virginia Ave to Mexico Ave	6:00-9:00 a.m.	6:00-9:00 a.m.	8:30 a.m.-3:00 p.m.	9:00 a.m.-3:00 p.m.	3:00 - 6:30 p.m.	3:00-7:00 p.m.	
Jewell Ave to Iliff Ave	100	5:00-10:00 a.m.	100	10:00 a.m.-7:00 p.m. ¹	100	10:00 a.m.-7:00 p.m. ¹	
Cedar Ave to Alameda Ave	120	120	90	100	100	120	
Virginia Ave to Kentucky Ave	110		120	120	120		
Tennessee Ave to Jewell Ave	100		90	120	100		
Evans Ave to Iliff Ave	110						
Other Timing Parameters	--		Revised	--	Revised		--

¹ One set of plans operate at these traffic signals from 10:00 a.m. through 7:00 p.m., covering two peak periods.

Travel Time Improvements (2.6 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 \$9,150 daily or about \$2.39 million 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.