

Signal Timing Briefs

April 2015 - T15-4

Mobility

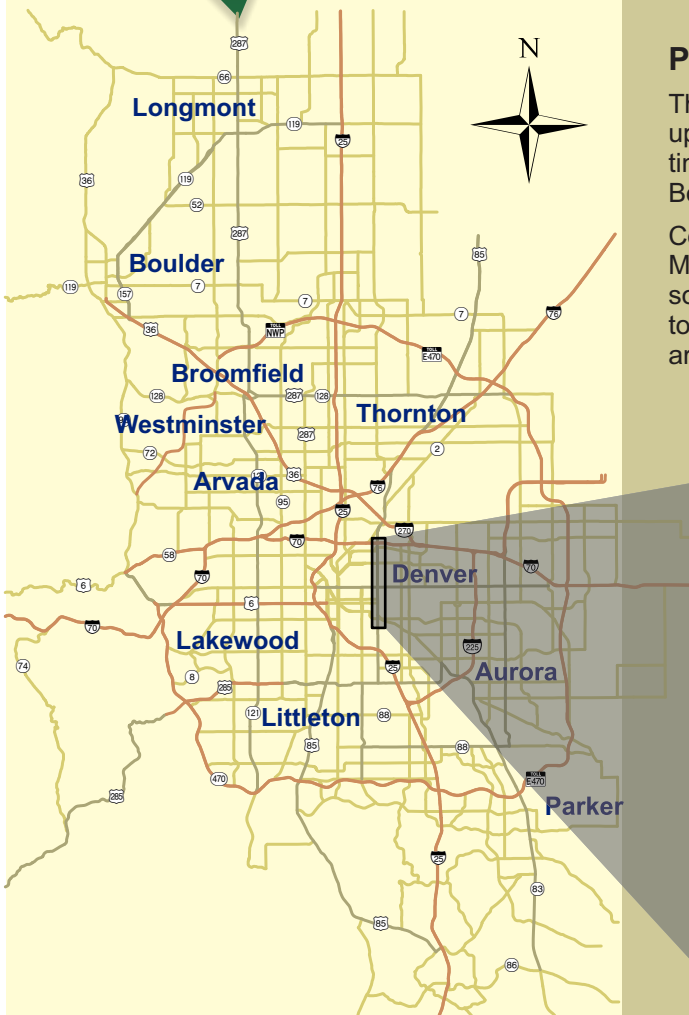
DRCOG

DENVER REGIONAL COUNCIL OF GOVERNMENTS

We make life better!

North Colorado Boulevard: 1st Avenue to 48th 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.

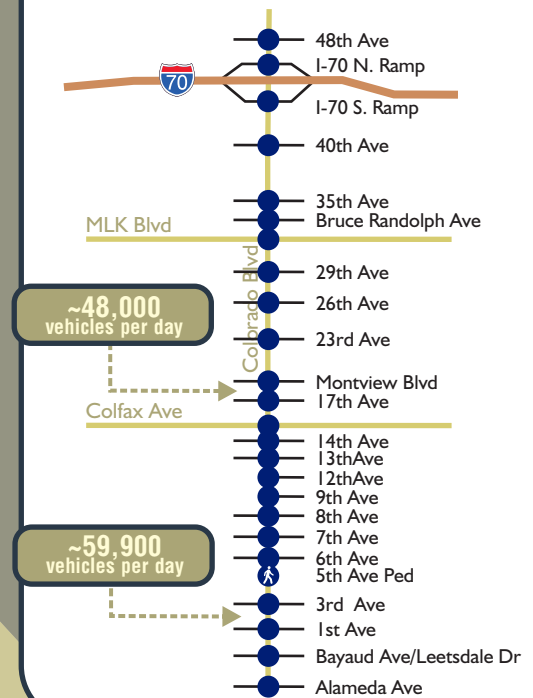


Project Description

The City and County of Denver installed signal equipment upgrades on Colorado Boulevard. This project implemented timing and coordination plans for 23 signals on Colorado Boulevard.

Colorado Boulevard is a major regional arterial roadway in the Metro Vision Regional Transportation Plan and travels north-south through the central Denver metro area, providing access to I-70 and I-25. Land use along the roadway in the project area is a mixture of residential and commercial property.

Colorado Boulevard



Project Achievements

Performance Measures

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

Daily Benefits

1,355 hours reduction
 659 gallons decrease
 \$32,050 savings
 13,659 pounds reduction
 155 pounds reduction

Project Partner's Signals

- City and County of Denver
- ♿ Pedestrian-only signal

North Colorado Boulevard: 1st Avenue to 48th Avenue

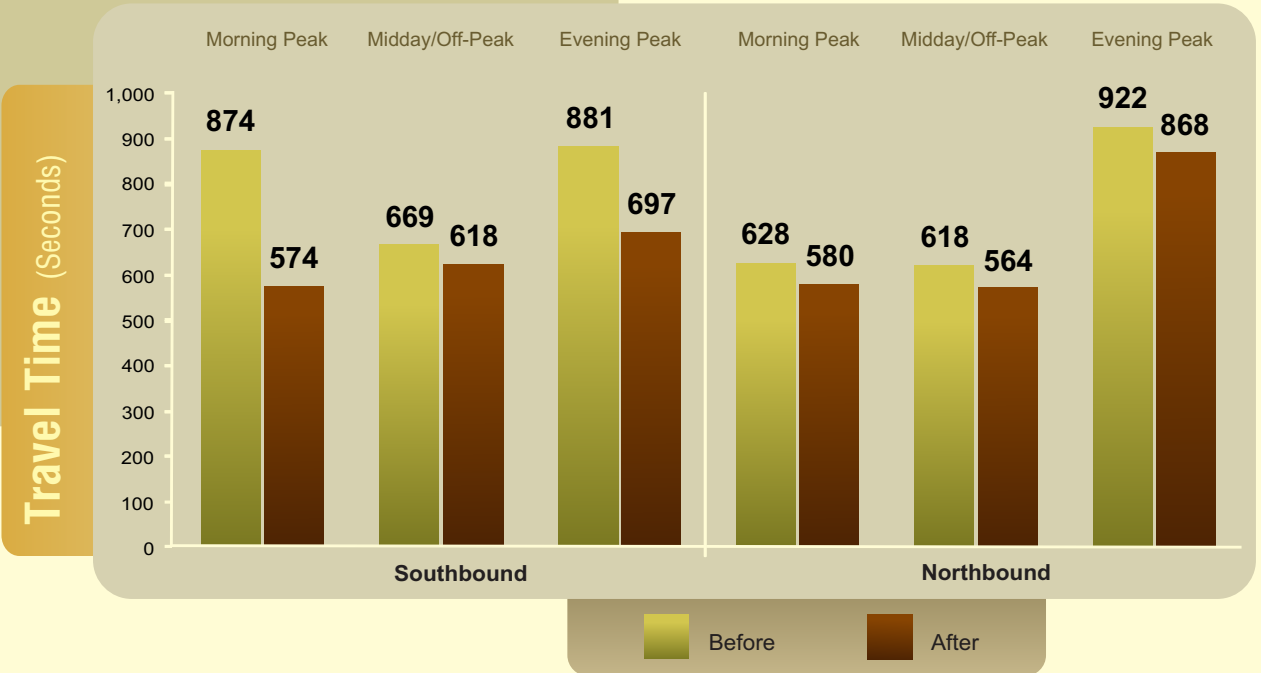
Timing Revision:

Time Period	Morning Peak		Midday/Off-Peak		Evening Peak	
	Before	After	Before	After	Before	After
	Cycle Length (seconds)	110	120	120 (No change)		120 (No change)
Other Timing Parameters	--	Revised	--	Revised	--	Revised

¹ The Colfax Avenue intersection runs a Mid-Day/Evening plan from 10:00 a.m. to 7:00 p.m.

Travel Time Improvements (3.7 miles end to end)

Travel runs were performed on a portion of the project area - between Alameda Avenue and 35th Avenue - due to on-going construction at 40th Avenue. Alameda Avenue was used as the southern starting point for travel time runs for coordination purposes. The travel runs demonstrate improvements 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 \$32,000 daily, or about \$8.0 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.