

Signal Timing Briefs

May 2014 - T14-10

Mobility

DRCOG

DENVER REGIONAL COUNCIL OF GOVERNMENTS

We make life better!

Iliff Avenue: Quebec Street to Parker Road

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.

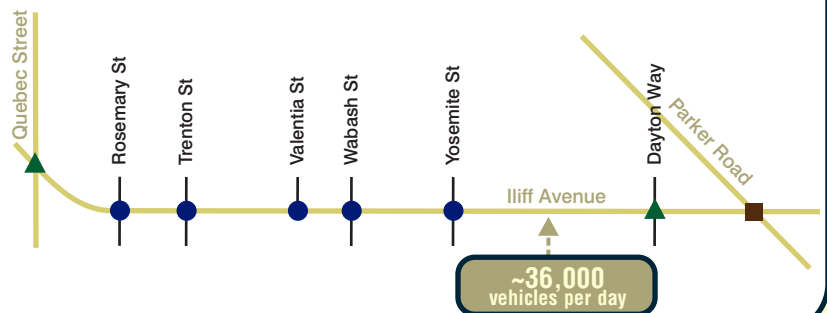


Project Description

Arapahoe County installed communication equipment upgrades on Iliff Avenue. This project implemented timing and coordination plans for seven signals on Iliff Avenue and cross-coordinated with the traffic signal at Parker Road.

Iliff Avenue is a principal arterial roadway in the Metro Vision Regional Transportation Plan that travels east-west in the southern portion of the Denver metro area and provides access between Denver and Aurora. Land use along the roadway in the project area is a mixture of residential and commercial property.

Iliff Avenue



Project Partners' Signals

- Arapahoe County
- City of Aurora
- ▲ City and County of Denver

Project Achievements

Performance Measures

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

Daily Benefits

256 hours reduction
152 gallons decrease
\$6,150 savings
3,139 pounds reduction
38 pounds reduction

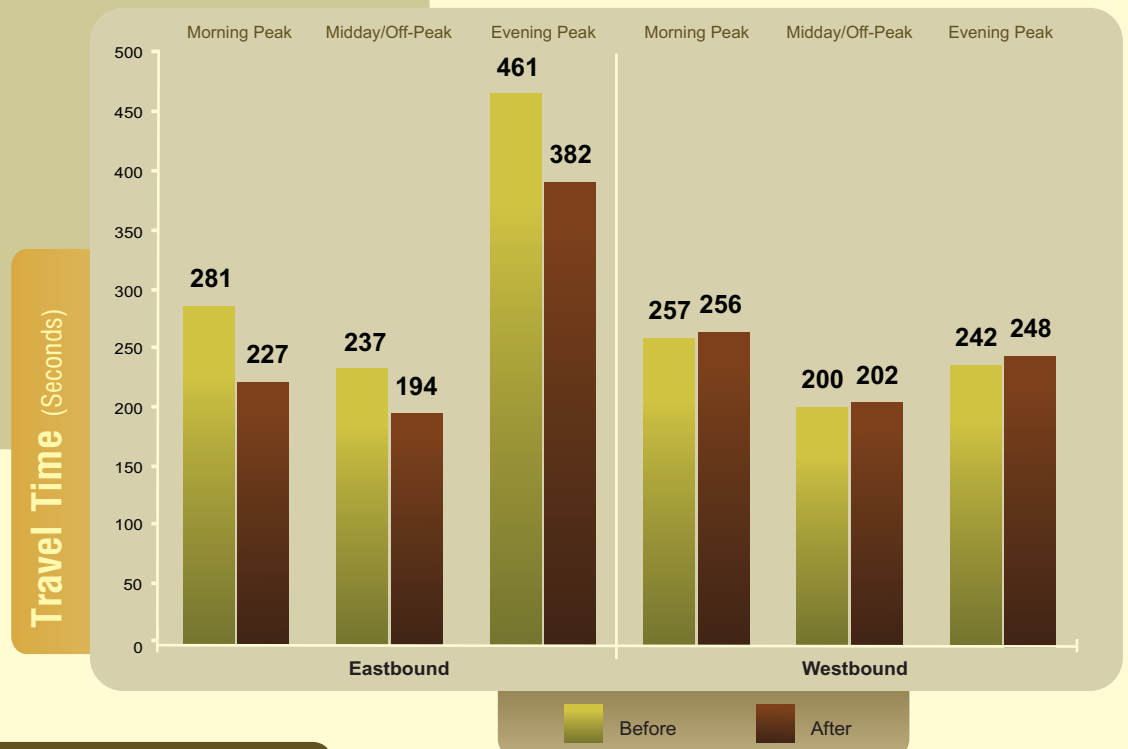
Iliff Avenue: Quebec Street to Parker Road

Timing Revision Weekday:

Time Period		Morning Peak		Midday/Off-Peak		Evening Peak	
		Before	After	Before	After	Before	After
Cycle Length (seconds)		6:00 - 9:00 a.m.	6:00 - 10:00 a.m.	9:00 a.m. - 3:00 p.m.	10:00 a.m. - 3:00 p.m.	3:00 - 7:00 p.m. (no change)	
		110	120	90	120	100	120
		120		110		120	
Other Timing Parameters		--	Revised	--	Revised	--	Revised

Travel Time Improvements (1.8 miles end to end)

Improvements were obtained during all periods in the eastbound direction. While the number of stops were reduced in the westbound direction, travel time remained essentially the same in that direction as updates for pedestrian timing requirements have lowered the vehicle capacity at Quebec Street. However, the overall benefits are positive in all periods.



Overall Improvements

The value to motorists in terms of weekday time and fuel savings is calculated to be approximately \$6,150 daily or about \$1.5 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.