

# North Colorado Boulevard: 88th Avenue to 144th Avenue



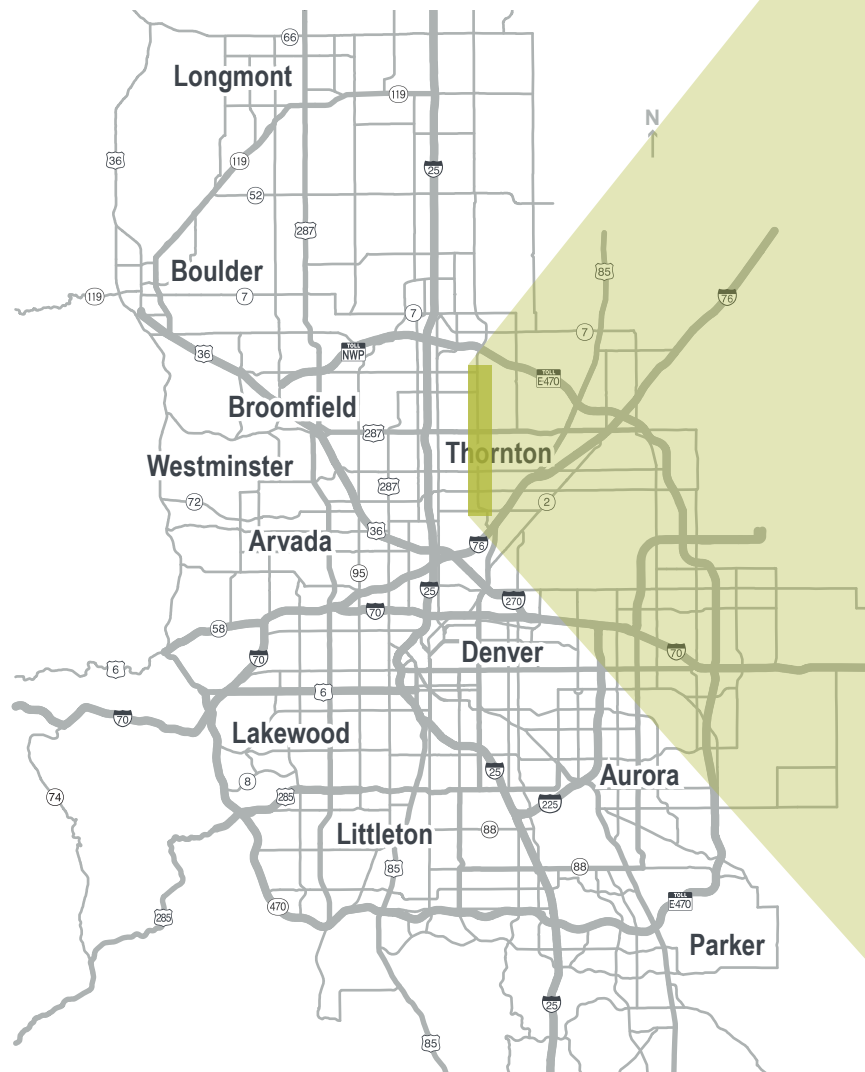
## Federal Funds for Thornton

DRCOG allocated \$529,000 in federal funds for equipment upgrades within the City of Thornton, resulting in fewer delays caused by signal or sensor malfunctions.

DRCOG engineering staff developed the signal timing and coordination plans in partnership with the project stakeholders.

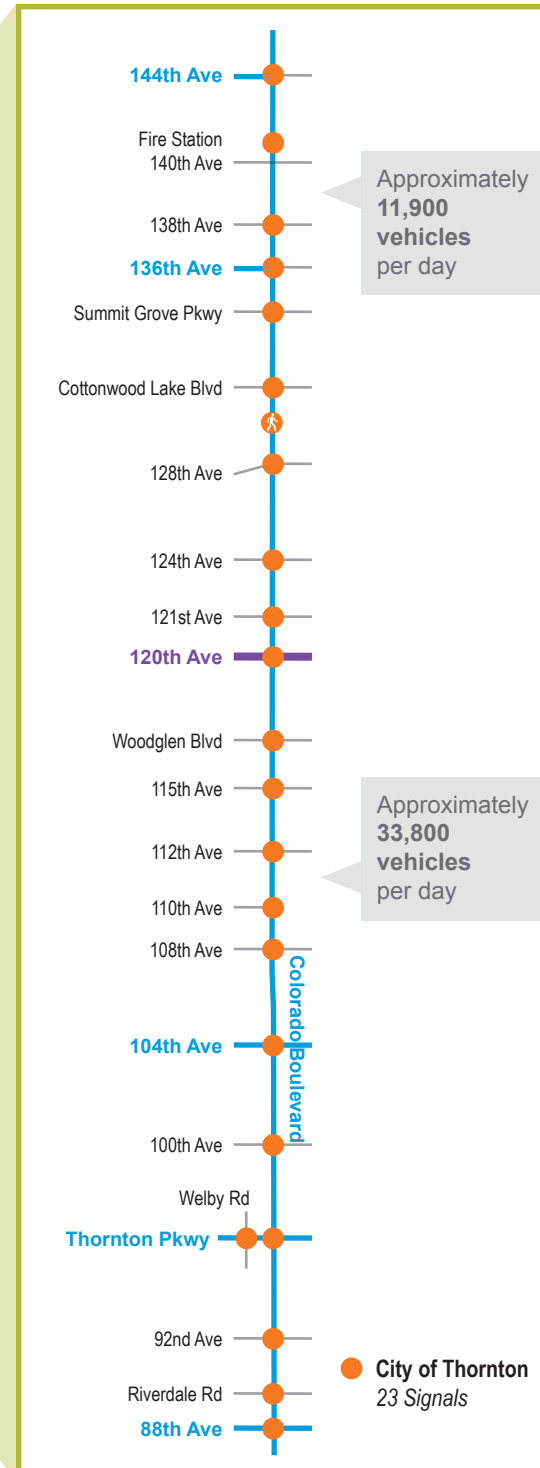
## Project Achievements

| Performance Measures                      | Daily Reduction                                 |
|---|---|
| Vehicle travel time                       | 256 hours                                       |
| Fuel consumption                          | 183 gallons                                     |
| Time and fuel costs                       | \$6,100 savings daily (\$1.53 million annually) |
| Greenhouse gas emissions                  | 3,502 pounds                                    |
| Emissions of six EPA-regulated pollutants | 45 pounds                                       |

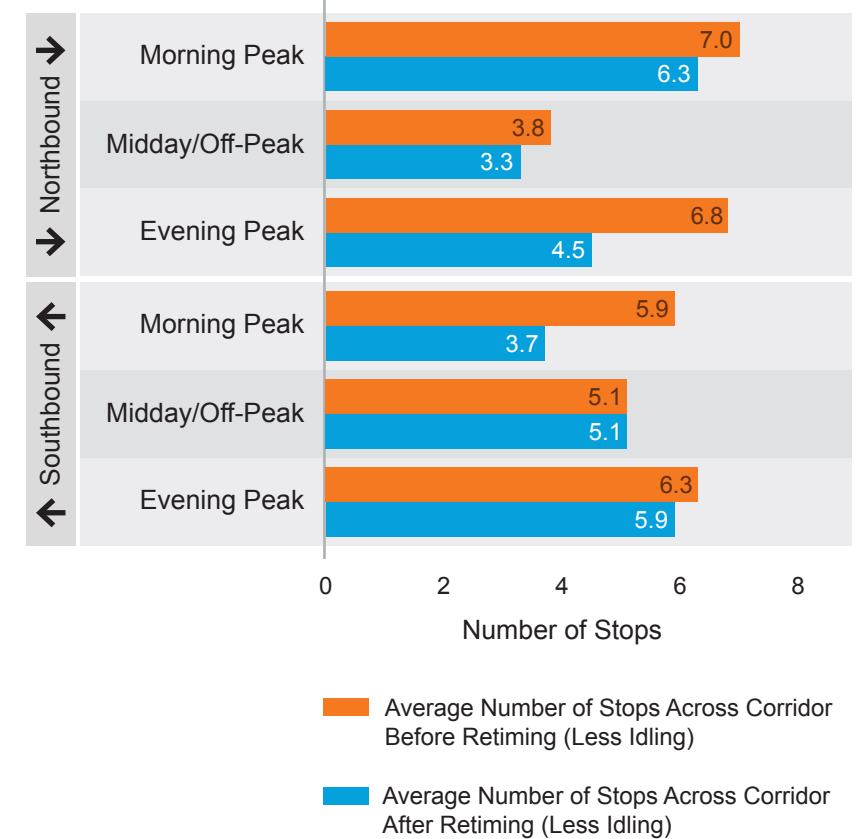
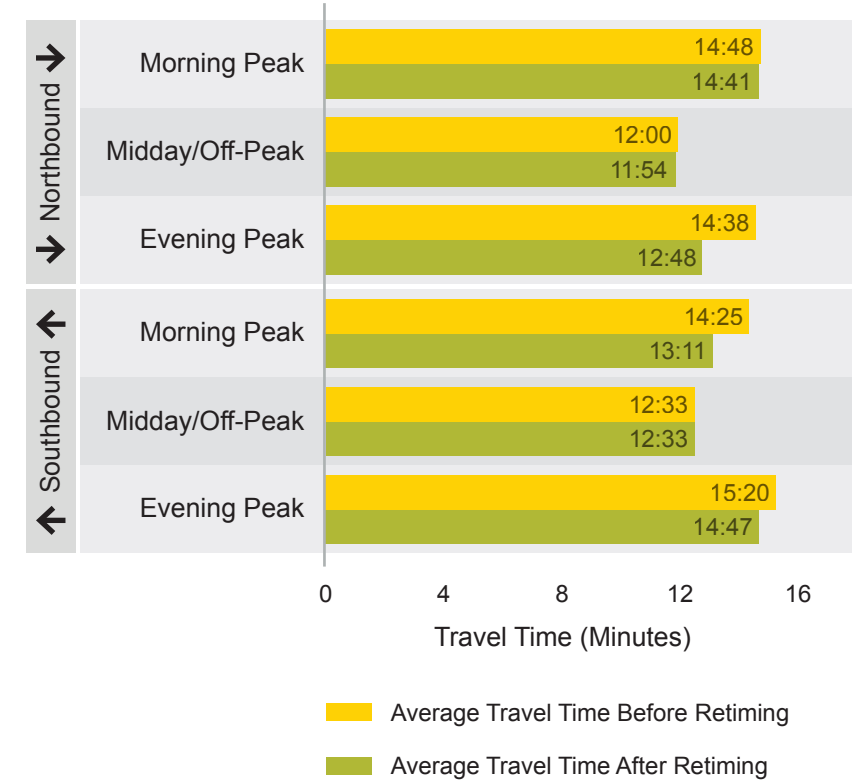


## Project Scope

North Colorado Boulevard  
(7.0 miles)



## Overall Improvements



# Traffic Signal Coordination

Traffic signal coordination allows traffic to travel along a street without stopping at every light. A major component of any coordinated signal-timing plan is properly sized cycle length shared by each intersection along the corridor. The cycle length is the time required for one sequence of signal displays (green, yellow and red) around an intersection to be lit for each approach. DRCOG's engineers evaluate cycle lengths to strike a balance between intersection capacity and delay for all users. The cycle lengths vary by time of day to account for fluctuating numbers of vehicles, bicyclists and pedestrians.

| Time of day                             | 05:30 | 06:00            | 07:00            | 08:00            | 09:00 | 10:00 | 11:00 | 12:00            | 13:00            | 14:00 | 15:00 | 16:00 | 17:00 | 18:00 | 19:00 |
|---|-------|------------------|------------------|------------------|-------|-------|-------|------------------|------------------|-------|-------|-------|-------|-------|-------|
| 1 Colorado Blvd & 144th Ave             |       | 100-second cycle |                  | 80-second cycle  |       |       |       |                  | 110-second cycle |       |       |       |       |       |       |
| 2 Colorado Blvd & Fire Station          |       | Free             |                  |                  |       |       |       |                  |                  |       |       |       |       |       |       |
| 3 Colorado Blvd & 138th Ave             |       | 100-second cycle |                  | 80-second cycle  |       |       |       |                  | 110-second cycle |       |       |       |       |       |       |
| 4 Colorado Blvd & 136th Ave             |       |                  |                  | 80-second cycle  |       |       |       |                  | 110-second cycle |       |       |       |       |       |       |
| 5 Colorado Blvd & Summit Grove Pkwy     |       | 100-second cycle |                  | 80-second cycle  |       |       |       |                  | 110-second cycle |       |       |       |       |       |       |
| 6 Colorado Blvd & Cottonwood Lakes Blvd |       |                  |                  | 80-second cycle  |       |       |       |                  | 110-second cycle |       |       |       |       |       |       |
| 7 Colorado Blvd & pedestrian signal     |       | 60-second cycle  |                  | 55-second cycle  |       |       |       |                  |                  |       |       |       |       |       |       |
| 8 Colorado Blvd & 128th Ave             |       | 120-second cycle |                  | 110-second cycle |       |       |       |                  | 120-second cycle |       |       |       |       |       |       |
| 9 Colorado Blvd & 124th Ave             |       |                  |                  | 110-second cycle |       |       |       |                  | 120-second cycle |       |       |       |       |       |       |
| 10 Colorado Blvd & 121st Ave            |       |                  |                  | 110-second cycle |       |       |       |                  | 120-second cycle |       |       |       |       |       |       |
| 11 Colorado Blvd & 120th Ave            |       |                  |                  | 110-second cycle |       |       |       |                  | 120-second cycle |       |       |       |       |       |       |
| 12 Colorado Blvd & Woodglen Blvd        |       |                  |                  | 55-second cycle  |       |       |       |                  | 120-second cycle |       |       |       |       |       |       |
| 13 Colorado Blvd & 115th Ave            |       |                  |                  | 110-second cycle |       |       |       |                  | 120-second cycle |       |       |       |       |       |       |
| 14 Colorado Blvd & 112th Ave            |       |                  |                  | 110-second cycle |       |       |       |                  | 120-second cycle |       |       |       |       |       |       |
| 15 Colorado Blvd & 110th Ave            |       |                  |                  | 110-second cycle |       |       |       |                  | 120-second cycle |       |       |       |       |       |       |
| 16 Colorado Blvd & 108th Ave            |       |                  |                  | 110-second cycle |       |       |       |                  | 120-second cycle |       |       |       |       |       |       |
| 17 Colorado Blvd & 104th Ave            |       |                  |                  | 100-second cycle |       |       |       |                  | 120-second cycle |       |       |       |       |       |       |
| 18 Colorado Blvd & 100th Ave            |       |                  | 100-second cycle |                  |       |       |       | 120-second cycle |                  |       |       |       |       |       |       |
| 19 Colorado Blvd & Thornton Pkwy        |       |                  | 100-second cycle |                  |       |       |       | 120-second cycle |                  |       |       |       |       |       |       |
| 20 Colorado Blvd & 92nd Ave             |       |                  | 50-second cycle  |                  |       |       |       | 120-second cycle |                  |       |       |       |       |       |       |
| 21 Colorado Blvd & Riverdale Rd         |       |                  | 50-second cycle  |                  |       |       |       | 120-second cycle |                  |       |       |       |       |       |       |
| 22 Colorado Blvd & 88th Ave             |       |                  | 100-second cycle |                  |       |       |       | 120-second cycle |                  |       |       |       |       |       |       |
| 23 Thornton Pkwy & Welby Rd             |       |                  | 100-second cycle |                  |       |       |       | 120-second cycle |                  |       |       |       |       |       |       |

For more information about signal timing, see: [bit.ly/SignalRed](http://bit.ly/SignalRed)  
 For more information about DRCOG's traffic operations program, see: [bit.ly/TrafficOps](http://bit.ly/TrafficOps)



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# SIGNAL TIMING PROJECT BRIEF

## North Colorado Boulevard: 88th Avenue to 144th Avenue

The Denver Regional Council of Governments (DRCOG) leads multijurisdictional partnerships to achieve optimal signal timing and coordination on area roadways. Traffic signal timing adjustments provide the smoothest possible flow for cars, trucks and buses. At the same time, safety is enhanced for all users, including pedestrians and bicyclists. Signal timing optimization saves drivers time and money, minimizes greenhouse gas and pollutant emissions, and enhances air quality.

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