



## Transportation Highways & Bridges

### Client

Colorado Department of  
Transportation

### Location

Colorado Springs, Colorado, USA

*"The CH2M HILL-led Rockrimmon Constructors team has produced quality deliverables that incorporate sound design and cost effective, quality construction and are considerate of long term operations with regard to reliability and performance. It has been our pleasure to work with CH2M HILL and we anticipate a successful completion of this major design-build project."*

*Dave Poling, CDOT  
Project Manager*

## I-25 COSMIX™ Design and Construction

### Project Highlights

- Complex construction staging for multiple work locations to widen 12 miles of I-25 to six lanes and accommodate future expansion to eight lanes; involved reconstructing 16 bridges, widening 4 bridges, and reconfiguring 2 major interchanges
- Interdisciplinary team worked with more than 14 task forces including those dedicated to maintenance of traffic, scheduling, public information, utilities, structures, drainage, geotechnical, environmental, and quality
- Comprehensive traffic control procedures maintained two-lane traffic in each direction for 15 hours per day
- Extensive public involvement and outreach program promoted public awareness of project issues, including traffic operations, progress, and overall project status

### Project Description

The largest highway construction project in Colorado Springs' history, this comprehensive project rebuilt interchanges, improved roadway alignment and storm drainage, mitigated roadway noise, and expanded I-25 to six traffic lanes through northern Colorado Springs.

Rockrimmon Constructors, a CH2M HILL-led joint venture, provided design-build services to expand Colorado Springs' highway capacity. The overall project goals for the COSMIX™ (Colorado Springs Metro Interstate Expansion) project were to:

- Maximize capacity and mobility improvements in the corridor within the program budget of \$150 million
- Minimize inconvenience to the public during construction while providing a quality product
- Provide a visually pleasing finished product and complete construction by the end of calendar year 2008

Colorado Springs has the most congested traffic in the nation among cities with populations under 500,000. I-25 was originally designed to handle 8,500 vehicles per day; however before the project started, I-25 handled approximately 100,000 vehicles per day. By the year 2020, that number is projected to be 170,000 vehicles per day.

Over the course of the project, up to 50 design and construction subconsultants, including numerous local firms, worked on COSMIX. Disadvantaged business participation totaled approximately \$13.8 million.



## Design-Build Approach

COSMIX introduced design-build contracting to highway construction in Colorado Springs, which provided innovation and flexibility to achieve more value within a fixed budget. Rockrimmon Constructors provided an integrated design-build organization including designers; constructors; and quality, safety, environmental, and public information professionals working as a single entity to meet project goals. The project was split into four segments to allow design and construction of multiple elements concurrently. These included:

### Segment 1—Bijou Street Interchange

The Bijou Street interchange, located at the southern portion of the project, involved the complex reconstruction of a 40-year-old interchange and 70-year-old bridge over Monument Creek. It improved alignment, provided a new mainline crossing, and improved storm drainage. The new bridges improved downtown access with two additional lanes, which are expandable for two more in the future. A new gravity stormwater outfall to Monument Creek for I-25 runoff was added to reduce flooding often experienced on I-25 during major storms. Community support included shuttle bus services to transport pedestrians and bicyclists across the highway when normal routes were closed.

### Segment 2—I-25 Expansion at Fillmore to Garden of the Gods Road

The Fillmore segment widened I-25 from two lanes to three in each direction, widened the median/inside section of the highway, provided an asphalt overlay, widened the Ellston Street bridges, and widened and replaced pavement. Northbound I-25 on- and off-ramps were also rebuilt.

### Segment 3—Nevada/Rockrimmon Interchange

The interchange was redesigned to eliminate a left lane exit ramp, while improving traffic flow between neighborhoods on both sides of I-25. A newly configured split-diamond interchange and new collector-distributor roads between the two interchanges improved access, traffic flow and safety.

### Segment 4—I-25 from Woodmen to North Academy

This segment added a third lane to I-25 in each direction, and widened pavement on the outside of the existing roadway pavement and asphalt overlay.

## The Finished Product

I-25 between Bijou Street and the North Academy Boulevard interchange now provides a seamless network of roadway designed to keep pace with the continued growth of Colorado Springs.