



Transportation

Client

Colorado Department of Transportation

Location

Colorado Springs, Colorado

Colorado Springs Metro Interstate Expansion (COSMIX)

The largest improvement project in Colorado Springs' history, this \$144-million project for the Colorado Department of Transportation (CDOT) rebuilt interchanges, improved storm drainage, mitigated roadway noise, and expanded I-25 to six full lanes through Colorado Springs, Colorado.

Rockrimmon Constructors, a CH2M HILL-led joint venture, was awarded this design-build contract. The project extended and expanded Colorado Springs' highway capacity from Bijou Street to the North Academy interchange by widening I-25 to six through lanes, while accommodating the future expansion to eight lanes. The award was based on the maximum number of scope elements that the team could provide within the project's fixed maximum budget. CDOT used a design-build approach to provide more flexibility in terms of cost and schedule.

COSMIX was completed 1 year ahead of the planned December 2008 completion date. During construction, CH2M HILL complied with challenging temporary erosion control requirements by partnering with CDOT's project team, the regional erosion control assessment team, and the statewide Colorado Department of Public Health and Environment management staff to develop a state-of-the-art process that will succeed anywhere in the country. We have had no environmental permit violations on this project. Also, the COSMIX project was located entirely within the sensitive Monument Creek watershed, necessitating a substantial effort to ensure compliance with all federal, state, and local water quality guidelines. During construction, the project team complied with challenging temporary and permanent water quality requirements by partnering with CDOT and the statewide Colorado Department of Public Health and Environmental management staff. As a result, Rockrimmon Constructors delivered a 100-percent compliant project as there were zero violations and zero citations.

Schedule

CH2M HILL's approach to completing the project ahead of CDOT's targeted completion in late 2008 divided the project into four construction segments to allow design and construction of multiple elements concurrently. Contributing key factors included:

- ◆ Performing proposal-phase aerial photography and pre-award project mapping that provided a head start to our 18-month design phase
- ◆ Splitting the four project segments into 14 design packages to optimize phasing
- ◆ An aggressive design and construction schedule based on the release of early design packages that facilitated early construction
- ◆ Starting critical construction elements in Segments 2 and 3 while design was ongoing
- ◆ Designing, fabricating, and delivering long-lead materials to the project site on time
- ◆ Conducting phased reviews of plans to allow early construction in each segment

Maintenance of Traffic (MOT)

The team's MOT Plan integrated safety, incident management, and public outreach to maximize traffic capacity. The team maintained two-lane traffic in each direction for 15 hours day, especially in downtown Colorado Springs, through comprehensive traffic control procedures, temporary bridges, and a project website that kept the public informed of construction updates, detours, and planned night-time closures. Work received winning raves from residents. More than 60 percent of residents living along I-25 who responded to a poll conducted by an independent firm during the fall of 2005 said COSMIX was progressing well or extremely well; 55 percent of commuters and 80 percent of businesses also felt everything went well.

Quality

The quality program used a web based data program (Expedition) to track project management, submittals, requests for information, and non-conformances. CDOT and others accessed project data for random conformance audits. Several tools improved quality, including:

- ◆ Pocket-sized quality-control checklist cards for use by all field personnel
- ◆ Discipline-specific checklists to ensure adherence with all contract requirements
- ◆ A comprehensive work-activity planning process to achieve safety, productivity, quality, and environmental protection objectives
- ◆ Period joint owner/contractor quality assurance/quality control process improvement (based on case studies) meetings.
- ◆ Periodic internal audits of all work also provided opportunities for continuous improvement when possible.

Public Involvement

To ensure that the public was kept aware of potential delays or lane shifts, our team employed a range of information methods, from providing direct media communications with local news services and newspapers to disseminating information through the project website, a toll free comment and information line, mailing flyers and bulletins, informational handouts, and email alerts.

The success of our techniques can be measured by the general satisfaction of the project by general public. According to a public opinion poll, more than 60 percent of Colorado Springs residents who live along I-25 felt COSMIX was progressing well or extremely well. The poll, conducted in late 2005, also found that 55 percent of Colorado Springs commuters and 80 percent of businesses along I-25 thought the COSMIX project progressed well with little or no impact to their commute.

A follow up survey conducted at the end of 2006 indicated even more favorable results. Commuters and residents felt that they were informed and aware of pending impacts. The traveling public as a whole indicated that it believed the project was on time and budget.

About CH2M HILL

Headquartered near Denver, Colorado, USA, employee-owned CH2M HILL is a global leader in consulting, design, design-build, operations, and program management for government, civil, industrial and energy clients. The firm's work is concentrated in the areas of water, transportation, environmental, energy, facilities and resources. With US\$6.3 billion in revenue and 23,000 employees, CH2M HILL is an industry-leading program management, construction management and design firm, as ranked by Engineering News-Record and named a leader in sustainable engineering by Verdantix. The firm has been named a FORTUNE 100 Best Companies to Work for five times. Visit us at www.ch2mhill.com, twitter.com/ch2mhill and facebook.com/ch2mhill.