EXECUTIVE SUMMARY

SH82/27th St Grade Separated Pedestrian Crossings

Category: Transportation

Strategic Infrastructure Design Improves Multimodal Safety & Regional Mobility

The SH82/27th Street Grade Separated Pedestrian Crossings project in Glenwood Springs, Colorado, represents a transformative investment in multimodal safety, regional mobility, and forward-thinking engineering. Led by SGM, this $20.7M infrastructure project tackled one of the most dangerous intersections in the Roaring Fork Valley—where more than 28,000 vehicles travel daily during the summer—by replacing a hazardous at-grade crossing with two fully accessible underpasses for pedestrians and cyclists beneath both State Highway 82 (SH82) and 27th Street.

RFTA's Future Transit Needs & Local Community Priorities Successfully Achieved

With an accelerated 11-month design window and a compact, topographically challenging site, SGM delivered a uniquely integrated design solution that met the future transit needs of the Roaring Fork Transportation Authority (RFTA), adhered to Colorado Department of Transportation (CDOT) requirements, and responded to the community priorities of the City of Glenwood Springs. SGM also incorporated structural design standards to accommodate future light rail infrastructure, including Cooper E80 rail loading—a rare specification for pedestrian underpasses—ensuring long-term resiliency.

Multidisciplinary Coordination & Commitment to Safety Mitigate Complex Challenges

Maintaining four lanes of traffic and full bus rapid transit (BRT) operations throughout the excavation of a 20-foot-deep hole and construction of a 240-foot-long underpass ramp required exceptional coordination across multiple disciplines. The team also designed and integrated a hidden mechanical boiler room within the retaining wall to power a snowmelt system—an innovative solution that ensures year-round ADA accessibility and safe passage through Glenwood's snowy winters.

The project's complexity was compounded by intricate utility relocations—including water, sewer, storm, and fiber—within narrow tolerances that SGM managed, while keeping essential systems operational.

Under Budget & Ahead of Schedule

SGM's in-house civil, structural, surveying, and utility engineering teams allowed for dynamic design coordination, helping the project remain both under budget and ahead of schedule. Originally slated for completion on October 30, 2024, the project wrapped on October 15, with enough cost savings to allow RFTA to expand paving and surface enhancements.

Thoughtful Engineering Enhances Community Value

This project stands as a model of how thoughtful engineering can elevate public safety, accessibility, and sustainability. It enhances year-round access to the Rio Grande Trail, encourages healthier transportation choices, and directly supports the City's future bike-share and RFTA light rail programs. The project site, once the location of a fatal accident in 2018, now serves as a highly visible testament to engineering's role in saving lives and shaping connected, vibrant communities.

The project also improves public health and safety not only by eliminating a dangerous at-grade crossing, but also by encouraging active transportation through improved trail continuity on the 42-mile Rio Grande Trail.

By transforming a high-risk intersection into a safe, functional, and future-ready corridor, this project redefines engineering standards for mountainous urban environments and demonstrates the lasting value of interdisciplinary collaboration.