# I-15 Northbound, 10600 S. Interchange Improvement Project Highlights

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| **Project Name:** | I-15 Northbound, 10600 S. Interchange Improvement |
| **Project #/PIN #:** | F-I15-7(314)294/11827 |
| **Year Constructed:** | 2017 |
| **ABC Element(s):** | Precast Bridge |
| **Placement Method:** | Precast Elements/Slide-in |
| **Contracting Method:** | CMGC |

**Project Description:** The I-15 Northbound, 10600 S. Interchange Improvement project improved one of Utah's busiest interchanges. Motorist exiting northbound I-15 to access the business north of 10600 South at the exiting at 10600 South were required to turn right and cross three through lanes to enter the dual left turn pockets to enter the South Towne Shops retail center. This project constructed a new northbound off-ramp under 10600 South which ties directly into Monroe Street. This reconfiguration of the northbound off ramp eliminates the need for traffic to quickly cross multiple lanes of traffic and improves safety by providing direct access to Monroe Street and adjacent shopping center, which improved traffic flow on 10600 South.

Michael Baker International and Gerhart Cole provided structural design for the underpass structure. Granite Construction was the contractor for this CMGC project. The CMGC team improved the original concept design by reducing a planned 300-foot underpass structure that had associated utility impacts, and roadway tie-in issues to a 183-foot long, three-sided box underpass structure. This solution mitigated the risks and impacts identified by the project team.

To minimize motorist and business impacts, the CMGC team worked to develop and evaluate accelerated bridge construction (ABC) alternatives. After consulting with local stakeholders, the consensus was that a short, full-closure of the interchange was preferred over months of traditional phased construction with lane reductions and congestion. This feedback combined with the ABC alternatives developed by the team led to a structural lateral slide solution with a 16-day closure of the interchange. As an additional benefit, the closure time allowed Granite full access to the existing interchange bridge deck to perform needed deck repairs and rehabilitation.

During the first phase of construction, the northbound on-ramp was temporarily modified to allow for 59-ft of the new three-sided structure to be built in-place. Additionally, the other 124-ft of the structure was built to the south of 10600 South this phase. The second phase of construction was the 16-day closure of the interchange. After excavation for the structure, precast footing were placed and the three-side structures was slide into its final location. The structure was jacked vertically by a system of eight rolling jacks bolted into the concrete walls and slide on a 150 foot long track to its final position. A series of four push/pull jacks were used to guide the structure to its final position. This was followed by placing a continuous slab between the precast footings and backfilling the roadway.

The portion of the structure that was slid was about 124-ft, about 17-ft tall with a span of about 39-ft and weighed three million pounds.

Design began in January of 2016 and construction completed in October of 2017.