

Pioneer Crossing Interchange Bridges

American Fork, UT



In 2008, a \$172 million project was initiated just south of Salt Lake City, on I-15 as part of a 1-mile reconstruction project. The project is the third diverting diamond interchange (DDI) in the US. These designs reduce the number of accidents that occur and reduce traffic congestion.

The Utah DDI includes twin two-span prestressed concrete girder super-structures over I-15. These bridges were built off location and moved into place using Accelerated Bridge Construction techniques. These were the largest multi-girder spans moved with SPMTs in the United States to date.

The two spans of the bridge were constructed on temporary support piers in the staging area. The 191-foot-long span had nine 96-inch prestressed concrete Washington State bulb tees in the cross section. The span had a 45-degree skew and weighed 2100 tons.

The spans were placed on two weekends and each individual span was placed in a single 8-hour closure, greatly minimizing the impact on traveling public. Epoxy-coated reinforcing steel (ECR rebar) was used in the deck construction to provide corrosion protection to the reinforcing steel

Team

Owner:

Utah Department of Transportation (UDOT)

Design Engineer:

Parsons Corp., Pasadena, CA

Design/Build Contractor:

Kiewit / Clyde (a Joint Venture)
Kiewit Western Company,
American Fork, UT and W.W. Clyde,
Springville, UT

Design Criteria:

- Replacement of existing structure with safer overpass.
- Increase existing overpass to 4 lanes.
- Use Accelerated Bridge Construction (ABC) methods to reduce construction traffic delays.

Total Project Cost:

\$172 million

Total Size:

LENGTH: 191 ft (bridge)

Photography:

terracon.com.

fhwa.dot.gov.