



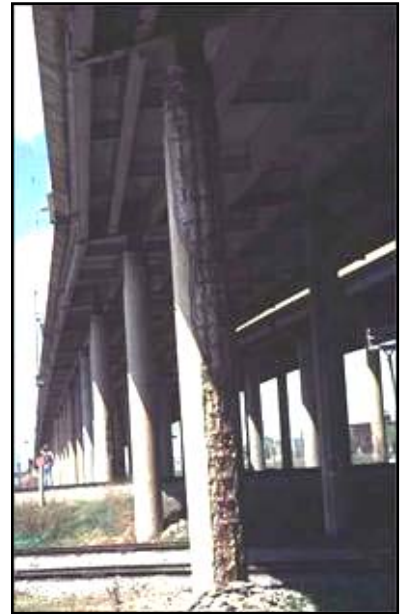
# Project Overview

## FRP RETROFIT OF BRIDGE PIERS SUBJECTED TO CORROSION DAMAGE

**Name:** I-40 Bridge  
**Type:** Bridge Structure  
**Location:** Oklahoma City, Oklahoma  
**Completed:** June 1997

### PROBLEM

Interstate Highway 40 (I-40) passes through Oklahoma City and includes a viaduct that passes over a Union Pacific railway. Many of the piers were damaged by corrosion. A conventional retrofit, which would increase column diameters from 3-ft to 4-ft, was not acceptable because the wider columns would interfere with the railroad right-of-way.



### SOLUTION

QuakeWrap® FRP Repair System was selected since it could provide the corrosion repair with insignificant increase to the pier's cross section. QuakeWrap® composite glass fabric was wrapped around the 3-ft diameter piers, adding only ¼ of an inch to the column width.

Once the FRP repair was done, the piers were painted to simulate a concrete surface.



## Technical Highlights

- 13 columns received corrosion repair
- Columns were 3-ft diameter by 35-ft high
- Repair could not disrupt railroad traffic
- 9,000 ft<sup>2</sup> of QuakeWrap® composite glass fiber used
- Added less than ¼-inch to the column diameter
- Entire project took three days

## Credits

Structural Engineer: Oklahoma Department of Transportation  
General Contractor: Concrete Services Corporation, Tulsa, OK



*“The FRP Retrofit Experts”*