



PROJECT PROFILE:

# FIVE MILE ROAD COMPOSITE BRIDGES

**Summary:** LJB replaced three bridge decks with composite technology increasing the life of the deck to more than 100 years.



## PROJECT STATS

**LOCATION:** Cincinnati, Ohio

**CLIENT:** Hamilton County

**CLIENT CONTACT:** Steve Mary

(513) 946-8418

**COMPLETION DATE:** January 2001

**FEATURES:** Composite bridge deck

Concrete beams

Corrosion resistance

Flexible design

LJB designed bridge deck replacement for three bridges on Five Mile Road in Hamilton County, OH using composite technology for bridge deck replacement.

The new bridge decks weigh only about one-fifth of the weight of conventional concrete, and they're expected to last more than 100 years.

Though these materials provide excellent design flexibility, they do present some challenges. In the case of the Five Mile Road bridges the client hoped to reuse the bridges' existing concrete I-beams, and LJB had to account for the difference in rigidity between concrete and glass-fiber composites.

LJB modified the beams to be stiffer by designing thicker top flanges on the beams. On two of the bridges, the concrete beams had been installed decades ago, before modern design standards were in place. LJB conducted a thorough analysis of the beam structures to determine their remaining strength and some of the beams were determined to be sound, which helped to control costs.



LJB was able to reuse many of the existing concrete beams, saving the client construction costs.