FRP CANTILEVER SIDEWALK LOOKBOOK

The future of shared-use paths

CREATIVE COMPOSITES GROUP

Tower Bridge

Sacramento, CA

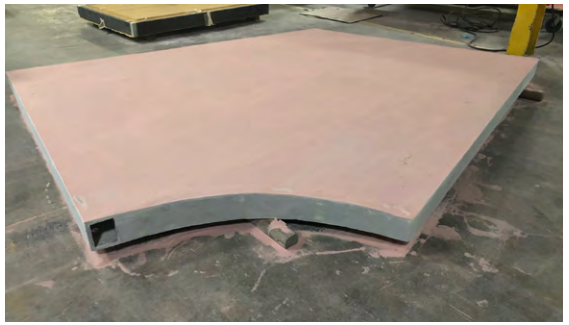
When Tower Bridge was built in 1935, it carried both automobiles and trains. The railroad tracks were removed by 1963 and today the bridge is comprised of four lanes of traffic and cantilever sidewalks. The bridge was added to the National Register of Historical Places in 1982. In 2008, the first ever Fiber Reinforced Polymer (FRP) cantilever sidewalks were added to Tower Bridge by Martin Marietta Composites. Bridge engineers decided to use FRP after determining that center span weight limits could not support wide concrete sidewalks.

Deck size	209 ft by 10 ft (each)	Thickness	5 in
Area	4180 ft^2	Weight	10 psf
Panel dimension	8 ft by 10 ft	Superstructure spacing	72 in

San Lorenzo Riverwalk

Santa Cruz, CA

The San Lorenzo River Parkway connects neighborhoods to the Santa Cruz boardwalk and amusement park. What used to be an old wooden sidewalk attached to a railroad bridge demanded a wider sidewalk to deter pedestrians from unsafely walking on the active railroad tracks and to allow for bicycle traffic. This new sidewalk includes customized curved panels at each end, as well as a guard rail attached to integral curbs.



Deck size	342 ft by 10 ft	Thickness	4-5 in
Area	3420 ft^2	Weight	7 psf
Panel dimension	20 ft by 10 ft	Superstructure spacing	6 ft

Water Street Bridge

Albany, NY

The Water Street pedestrian walkway serves as the link between government offices and Water Street parking lots, supporting daily traffic of nearly 700 New York State employees. Routine inspection in 2017 revealed severe deterioration due to salt and ice. To eliminate the need for multiple shutdowns, the Office of Government Services decided to replace all components of the walkway and widen the path to accommodate higher traffic. Traditional concrete weighed too much for the structure, but high-strength, lightweight, corrosion-resistant FRP decking proved to be an ideal solution.

Deck size	763 ft by 5.36 ft	Thickness	4 in
Area	4180 ft^2	Weight	6.8 psf
Panel dimension	22.6 ft x 5.3 ft	Superstructure spacing	56 in

Wilson-Burt Bridge

Niagara County, NY

The 442-foot long structure carries highway and pedestrian traffic over Eighteen Mile Creek. Built in 1939, the bridge had a narrow concrete sidewalk. By switching to a lightweight FRP sidewalk, a wider path was created without increasing the load on the vehicle bridge. The sidewalk is a soft gray color and compliments both the vehicle bridge deck and the structure's natural surroundings.

Deck size	442 ft by 5.4 ft	Thickness	5 in
Area	2385 ft^2	Weight	7.9 psf
Panel dimension	22 ft by 5.4 ft by 5 in	Superstructure spacing	22 ft

Higgins Avenue Bridge

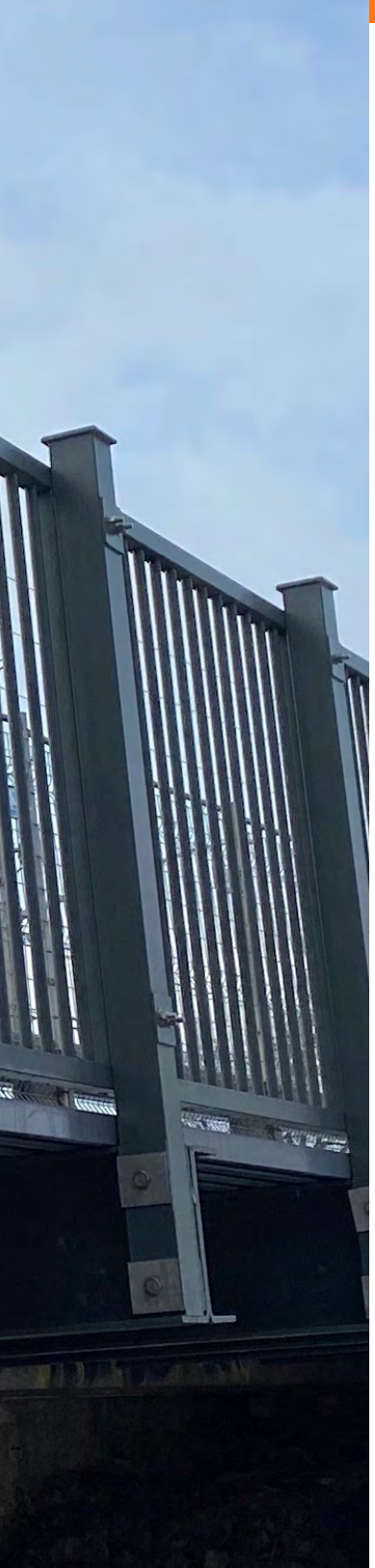
Missoula, MT

This 55-year-old connector bridge for downtown Missoula experiences heavy vehicle, pedestrian and bicycle traffic. During bridge rehabilitation, a 14-foot wide sidewalk was added to create a friendly, shared-use path. The 448-foot long sidewalk has an integral cross-slope, curbs and drainage scuppers to control water runoff. Railings are attached to the curbs. A highly durable, aluminum oxide polymer overlay provides a non-slip walking surface that can withstand steel plows clearing the Montana snow.

Deck size	448 ft by 14 ft	Thickness	4.75 to 6.25 in
Area	6,272 ft^2	Weight	9.5 psf
Panel dimension	14 ft x 12 ft	Superstructure spacing	5 ft

Speers Road Bridge

Oakville, ON



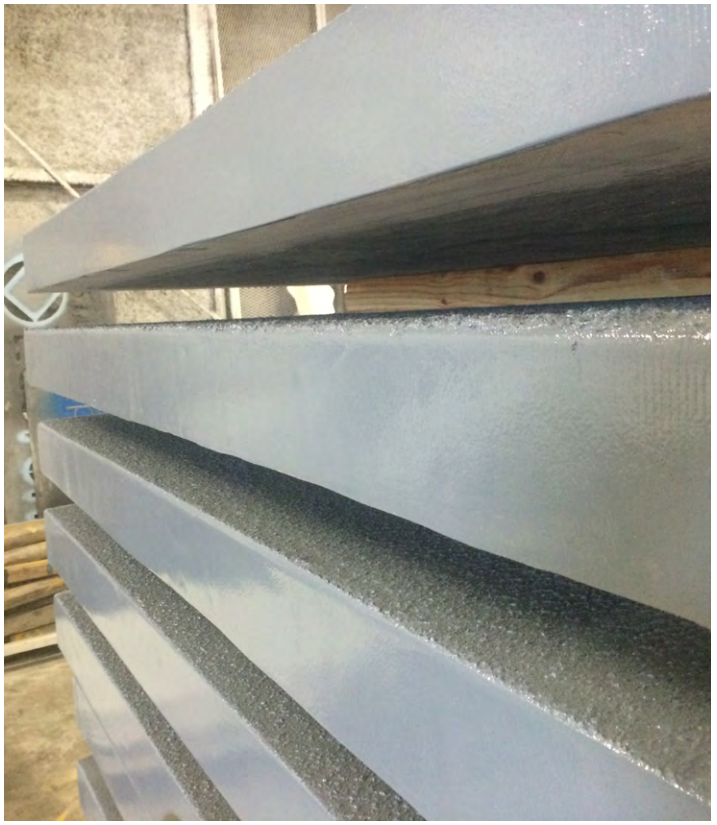
When the Oakville Department of Public Works widened the Speers Road Bridge to five lanes with separated bike lanes, an FRP cantilever sidewalk was an important inclusion. At 94 ft by 6 ft, the sidewalk structure minimized weight by using FRP pultruded elements for channel floor beams supporting the longitudinal decking planks and FRP picket railing on the outboard edge of the sidewalk.

Deck size	94 ft by 6 ft	Thickness	2.55 in
Area	564 ft^2	Weight	6 psf
Panel dimension	24.5 ft x 1 ft	Superstructure spacing	5 ft

SR 410 Bridge

Bonney Lake, WA

As part of the overall vehicle bridge rehabilitation, a wider sidewalk was added to this bridge in Bonney Lake, Washington by using FRP decking on the edge of the bridge. Pre-fabricated decking allowed for quick installation of lightweight panels, and guaranteed a long service life because of the material's corrosion resistance.



Deck size	106 ft by 6 ft	Thickness	4.5 in
Area	636 ft	Weight	8.6 psf
Panel dimension	10.6 ft by 6 ft	Superstructure spacing	6 ft

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