# HOW FRP WEIGHS UP EBOOK

## Against Concrete, Steel and Wood

CREATIVE COMPOSITES GROUP

# Introduction:

When it comes to choosing structural materials for an infrastructure project, you're probably used to seeing and selecting one of the usual suspects: concrete, steel or wood. You should consider FRP if you are accountable for selecting a material that will get the job done in terms of engineering. While the typical materials listed above can get the job done, they've shown a tendency to break down and erode quickly, costing the owner scarce financial resources and disrupting the users of the product; resulting in the engineer and their team starting another project from scratch.

What if you were able to source a material for your projects that had a longer lifespan so that you don't have to go through the process of reaching into your pocket for a new project? In comes FRP, or Fiber Reinforced Polymer. Let's take a look at how FRP weighs up against your typical materials when it comes to install, lifetime cost, and long-term durability:

# FRP

## Fiber Reinforced Polymer

# Installation Phase

## Time for Installation

**Concrete**

**Wood**

**FRP**

## Applications

**Applications in which FRP can be used:**

Vehicle Bridges | Pedestrian Bridges | Rail Platforms | Ferry Terminals & Fender Protection

## Challenges:

Fast and efficient installation and work-zone safety are among the biggest considerations for construction sites and contractors.

## FRP Solutions:

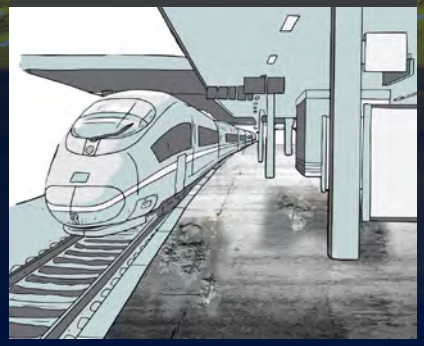
Prefabricated lightweight structures install faster than traditional materials, which saves time, money and lives. CCG has installed FRP quickly at night without affecting day-time use.

## Fun Fact:

FRP is quicker to install because it weighs 80-90% less than concrete

# 10 years in

**Concrete**



**Wood**

**FRP**

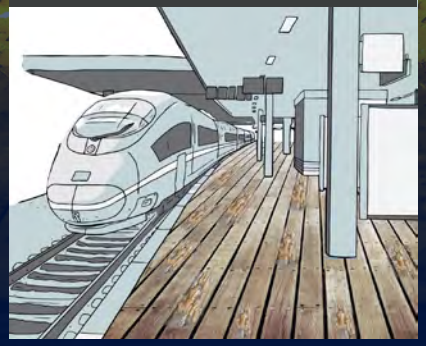
## At 10 years in, the deterioration of full concrete platforms and concrete on steel platforms has begun.

This occurs because the chemicals and salts that are put on these bridges and platforms in order to keep them "safe" actually wear the bridge down, having the reverse effect.

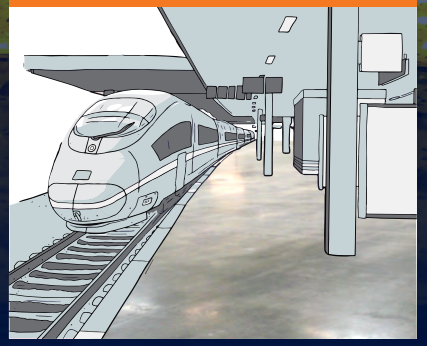
# 15 years in

**Concrete**

**Wood**



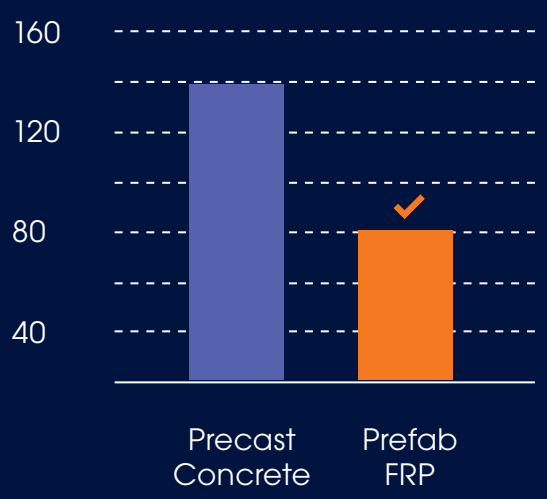
**FRP**



At 15 years in, some rail platforms have been shut down due to unsafe conditions. In some situations, this impacts access for passengers with disabilities. Agencies have to address using more costly temporary methods.

The full concrete rail platform and concrete on steel platforms have been worn down to the point where the engineer needs to restart the construction process, wasting valuable time and money.

Material & Installation (cost per Sq/ Ft.) After 15 Years



# Main Takeaways

1. **COST:**
In the long run, FRP costs less per square foot, since there is no need to start a new project 15-20 years down the line

2. **LASTS LONGER:**
Due to FRP being resistant to corrosion, the infrastructure will maintain a longer life

3. **FASTER INSTALL:**
Since prefabricated FRP is 80-90% the weight of precast concrete, the install time is cut in half!

# Industries Served

**Vehicle Bridge Infrastructure**

**Pedestrian Bridge Infrastructure**

**Mass Transit Infrastructure**

**Waterfront Infrastructure**

# Choose Creative Composites Group for Infrastructure Knowledge and Expertise

## Your Single Source for Engineered Infrastructure Projects Using Fiber Reinforced Polymer Composites

Advance your products and projects beyond the limitations of traditional concrete, steel and wood by leveraging the combined strength of Creative Composites Group (CCG). We are a leader in technical innovation that is backed by the industry's most comprehensive FRP manufacturing group for infrastructure.

CCG can help you engineer and manufacture infrastructure projects to meet the needs of future generations.

We offer comprehensive engineering, design and consultation for large infrastructure projects. Our manufacturing capabilities include the broadest range of engineered FRP solutions to enhance infrastructure. That's possible only with our proven engineering processes, end-to-end collaboration, service and support resources. Since FRP composites last longer than conventional materials, they often have a lower lifetime cost when you consider longer service life and low to no maintenance costs.

## Discover Your Custom Engineered FRP Infrastructure Provider for Utility, Waterfront, Rail and Bridges

Creative Composites Group is committed to becoming a trusted business partner who is keenly interested in your project's success. CCG works alongside your team, from owners to design engineers and contractors, to help you develop customized FRP installations that meet the most demanding structural requirements and environmental conditions.

Contact us for your next engineered FRP infrastructure project. We'd be thrilled to discuss it with you.

**CreativeCompositesGroup.com**

Contact Us | Resource Library | Our Blog | Request Quote