

Significant reduction in sub-ballast and labor costs with Tensor Geogrid Solution

CLIENT'S CHALLENGE

The 44-mile long FrontRunner commuter rail line was being constructed on an existing right-of-way that ran parallel with the Wasatch Mountains. The area is part of a natural drainage basin that included abundant soft soils and shallow groundwater. The subgrade consisted of low-to medium-strength cohesive soils and loose to dense sand. A traditional design would have used thick sections of sharp stone, sub-ballast, and ballast to help bridge the soft soils. Given the extensive soft-soil conditions and costs associated with importing high-quality stone, this approach would add considerable budget constraints.

TENSAR SOLUTION

The project engineer developed a design using Tensor's design software that reduced the required sub-ballast thickness. By incorporating Tensor geogrid, they could provide the stabilization needed to carry heavy-rail traffic while reducing the sub-ballast layer from 12 inches to 8 inches. Using Tensor Geogrids also avoided groundwater and moving over 900 feet of buried utilities which was a huge savings all on its own.

UTA Light Rail

 Weber County to Salt Lake City, Utah

Commuter Rail Constructors
Contractor

Utah Transit Authority
Owner

Terracon Consultants, Inc.
Engineer

Installation: Spring 2005 – mid-2008

Value: Required sub-ballast reduced by 4 inches. Avoided ground water and buried utilities for additional cost savings.

