



# NORTHERN LIGHTS EXPRESS PASSENGER RAIL PROJECT

RAIL PLANNING & ENGINEERING • ENVIRONMENTAL PLANNING • GEOSPATIAL TECHNOLOGY

## Project Description

As a member of a project team, Quandel Consultants provided planning and engineering services to Minnesota DOT and Wisconsin DOT for the Northern Lights Express Passenger Rail Project, a proposed 150-mile high-speed intercity passenger rail line between Minneapolis/St. Paul, MN and Duluth, MN. Quandel completed an Alternatives Analysis that identified a set of passenger rail routes for further environmental analysis. Additionally, Quandel completed 15% Concept Engineering Plans detailing the upgrades necessary to operate high-speed passenger service on two reasonable alternative routes within the corridor.

Quandel developed a methodology to reduce the overall universe of alternative rail routes (existing, abandoned, or out of service) to a set of reasonable routes. Using this methodology, the alternative rail routes were evaluated against the following criteria:

- Route distance
- Route population
- Untenable Defects
- Travel Times
- Intermodal Stations
- Ridership Potential
- Cost of Improvements

Quandel supported the project team in the analysis and documentation for each of the criteria including the following environmental data: historic and archaeological sites, section 4(f) properties, wetlands, threatened and endangered species, floodplains, wild and scenic rivers, and hazardous materials.

Quandel was responsible for developing 15% Concept Engineering Plans for each of the reasonable passenger rail alternatives. A Concept-Level Engineering Report was created to present the infrastructure cost estimates and the following supporting documentation:

- Field Report of Existing Conditions
- Cost Estimating Methodology
- Capital Cost Estimates
- Track Schematics (Existing and Proposed)

