

2025 TEAM ACHIEVEMENT AWARD

St. Vital Bridge Rehabilitation Project (City of Winnipeg)



The St. Vital Bridge in Winnipeg, originally constructed in 1965 and rehabilitated in 1988, is a critical link in the city's transportation network, carrying approximately 44,000 vehicles daily. Spanning 280 metres over the Red River, the nine-span continuous steel plate girder bridge supports two carriageways with sidewalks and is founded on a mix of piles and spread footings. In 2021, the City of Winnipeg partnered with Morrison Hershfield (now Stantec) to plan and implement a comprehensive

rehabilitation project to extend the bridge's service life by at least 50 years.

The rehabilitation scope included full deck removal and reconstruction, bridge widening, expansion joint and bearing replacement, girder strengthening with cover plates, and abutment resurfacing and protection. Roadway geometry was adjusted to accommodate the wider deck, along with improvements to transit operations, intersections, and active transportation. The bridge now features 3-metre shared-use paths and upgrades to 2.4 kilometres of pedestrian and cycling infrastructure, significantly enhancing accessibility and connectivity.

The project applied advanced engineering methods, including a sophisticated 3D structural model. This enabled a load-balancing approach to widen the superstructure without adding new girder lines. The design introduced 1.85-metre cantilevers extending beyond the existing girders—near the limits of conventional practice. Accurate modeling of the bridge's 45 variable girder cross-sections was essential to developing viable solutions. At a pier with known historical movement, geotechnical and structural modeling helped replicate pier behavior and develop an appropriate stabilization plan, based on site-specific slope movement data.

From a social perspective, the project improves safety and accessibility through enhanced active transportation routes and barrier-free design, aligned with the City's Accessibility Design Standards. Aesthetic improvements include planting more than 600 trees and creating welcoming public spaces—transforming the area for all users, not just motorists.

Economically, the \$35 million rehabilitation cost is roughly one-third of a full replacement, demonstrating strong value. Reuse of existing structural components limited material needs and reduced environmental impact. Environmental stewardship was also shown through tree protection, species-at-risk relocation efforts (such as the Manitoba Mussel), and the long-term sustainability of extending the bridge's service life to potentially 110 years.

The project's complexity was high, involving six engineering disciplines and extensive stakeholder collaboration. It required rapid production of over 200 drawings and 300 specification pages in just six months, along with detailed coordination to manage traffic impacts, public concerns, and construction challenges. MH's ISO-certified quality and risk management systems ensured efficient, accountable delivery. This rehabilitation stands as a model for sustainably revitalizing aging infrastructure to meet modern needs.

In recognition of the engineering excellence demonstrated in the "St. Vital Bridge Rehabilitation Project", Engineers Geoscientists Manitoba is pleased to present the 2025 Team Achievement Award to the City of Winnipeg.