

Reanimating a Forgotten Crossing

*Design recommendations for the redevelopment of Ottawa's Prince of Wales Bridge
into a multifunctional rail-trail bridge*

By:

Corinna Thomassen-Darby

A report submitted to the School of Urban and Regional Planning in conformity with the
requirements for the degree of Master of Urban and Regional Planning

Queen's University
Kingston, Ontario, Canada
May 2015

Copyright © Corinna Thomassen-Darby 2015

Acknowledgements

I would like to thank my parents for their unwavering love, patience, and support – I would be nowhere without them.

I would also like to thank Professor Ajay Agarwal for his continued encouragement and guidance throughout my time at SURP and while writing this report

Also, thank-you to all the students and faculty at SURP for their effort and friendship over the past two years. It has been an amazing, enriching, irreplaceable experience.

Executive Summary

Introduction and Purpose

The Prince of Wales Bridge is an out-of-service rail bridge crossing the Ottawa River just west of both Ottawa and Gatineau's downtown cores. Once linking rail lines in Ottawa and Gatineau, the bridge has now been lying idle for over ten years. The bridge, owned by the City of Ottawa, has excellent potential for adaptive re-use and has been targeted by the City's new transportation policy for conversion into a multi-use pathway, connecting into the National Capital Commission (NCC)-managed multi-use pathway network that surrounds the bridge. This report will develop design recommendations to realize this adaptive re-use project, revitalizing the forgotten structure.

These design recommendations will achieve five objectives for the new rail-trail bridge: a recreational trail, a commuting linkage, a greenway, a meaningful public space, and a celebrated heritage landmark. These design recommendations will address the structure of the rail-trail bridge, design elements to enhance the bridge's functionality, and programming techniques to animate the space.

Methods

To develop these design recommendations, the report will first undertake a site analysis to better understand the history, structure, and context of the bridge. This site analysis will be produced through a review of existing literature, using both official documents and scholarly work. A site visit will help confirm the validity of this information. The report will then perform two qualitative case studies of other similar trail bridges in North America to

draw out successful design elements for the Prince of Wales Bridge. Adding to the site analysis and case studies, a literature review of trail design manuals and minor precedents will be undertaken to produce final design recommendations for the new rail-trail bridge.



The Prince of Wales Bridge crossing the Ottawa River (Google Earth, 2013).

Site Analysis

This analysis will examine the history of the Prince of Wales Bridge, the bridge structure itself, and the landscape context surrounding the bridge. The history of the bridge provides insight into how the bridge can be developed as a heritage structure and cultural landmark.

The structure of the bridge will establish the basis for what is physically possible with a new rail-trail bridge design, and allow identification of features that should be highlighted through the design recommendations. Examining the landscape context surrounding the bridge helps determine how the new rail-trail bridge can functionally complement the surrounding land uses, urban character, and existing multi-use trail network into which the new bridge will link.

Case Studies

This report examines two case studies to understand how multi-use trail bridge conversion projects have been successful in the past, and to inform design recommendations for the Prince of Wales Bridge. Exploring two case studies will provide thick descriptions of real-life examples for how these projects have worked in practice, placing them within their contextual conditions. The two cases include the Bill Thorpe Walking Bridge in Fredericton, New Brunswick, and the Old Drake Hill Flower Bridge in Simsbury, Connecticut. The case studies show a much fuller picture of these complex bridge conversion projects, demonstrating successful precedents and providing valuable adaptable design strategies.

Design Recommendations

The design recommendations are organized around each of the rail-trail bridge's functional objectives, directed towards each objective. The recommendations work together, and can form a fairly cohesive realized design for the Prince of Wales Rail-Trail Bridge. These design recommendations are intended to realize a successful, multifunctional rail-trail

bridge that contributes to the landscape of the area and provides an excellent experience for its users.

Recreational Trail: At its most basic level the Prince of Wales Rail-Trail Bridge will function as a multi-use recreational trail bridge, linking into the surrounding recreational trail network. Installing appropriate bridge decking and railings, constructing smooth trail connections to the surrounding multi-use trail network, creating a boardwalk along the Lemieux Island section of the bridge, and installing signage oriented to recreational usage will all help develop the recreational functionality of the new Prince of Wales Rail-Trail Bridge.

Commuter Corridor: Building on the rail-trail bridge's recreational functionality, the bridge will also act as a functional linkage through its role as a commuter corridor. Separating the trail between higher-speed cycling traffic and lower-speed pedestrian traffic to allow smoother movement of users across the bridge and installing commuter-oriented signage will allow the bridge to be developed as an efficient and functional commuter conduit.

Greenway Corridor: Recognizing and developing the greenway potential of the Prince of Wales Rail-Trail Bridge will make the rail-trail bridge a unique, engaging, and environmentally valuable space. Incorporating plantings into the bridge structure, creating engaging and ecologically productive gardens at the bridge approaches, and celebrating the natural heritage of Lemieux Island will all help develop the greenway functionality of the new Prince of Wales Rail-Trail Bridge.

Public Space: The development of the Prince of Wales Rail-Trail Bridge as an engaging, high-quality public space will help trail users cultivate meaningful place-based connections with the bridge and reinforce their community and social identities. Incorporating high-

quality public amenities into the new rail-trail bridge, such as seating, lighting, and shelters will create a richer user experience. Highlighting the excellent views from the site will help connect the site to its surrounding context. Incorporating public art into the new rail-trail bridge will enhance the aesthetic and cultural character of the site. Activating the bridge space with events and programming will enliven the site and contribute to the bridge's sense of place.

Heritage Structure: Re-adapting this heritage structure in a way that celebrates the history of the bridge will help connect trail users to the bridge's past, and if they are local residents, to their own pasts and identities as well. Measures to highlight the existing structure will celebrate the bridge's innate heritage character, programming geared towards heritage themes will activate the space, and plaquing elements will help tell the bridge's story and connect users to the bridge's past.

Two renderings can be seen below to illustrate these design recommendations.



This rendering shows the finished Prince of Wales Rail-Trail Bridge, from the bridge approach on the Ottawa side looking northwards towards Lemieux Island and the Quebec shore



This rendering shows the Lemieux Island section of the rail-trail bridge, looking northward towards the Quebec shore