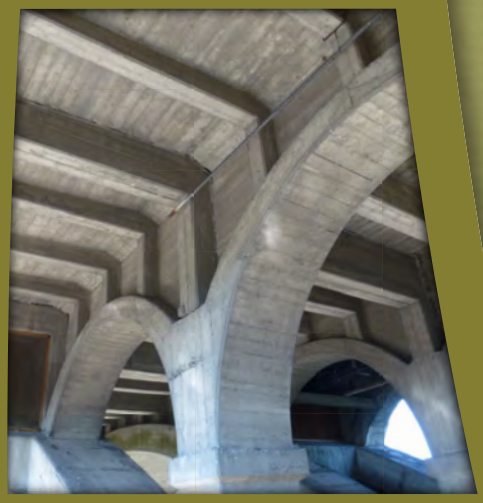

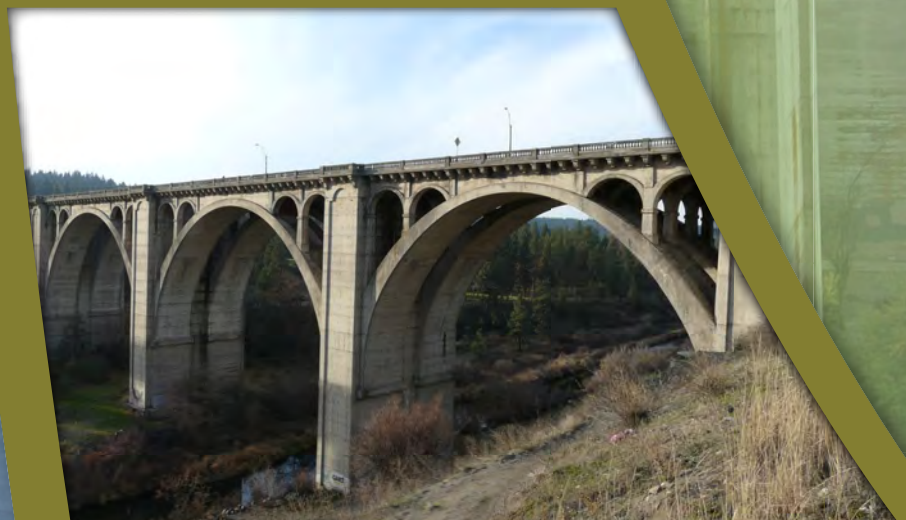

Latah Bridge Rehabilitation Study

VOLUME 2

Rehabilitation Options and Recommendations

City of Spokane

Submitted by

CH2MHILL®

December 2012

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Bridge Rehabilitation Alternatives and Recommendations

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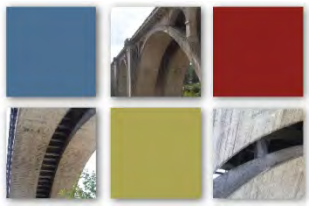


Appendixes

Exhibits **Page**

Section 1

Purpose and Need

For nearly 100 years, the Latah Bridge has played a vital role in the Spokane area's transportation network—spanning the Latah Valley and providing a key surface link between downtown and the West Plains. Since its construction in 1913, the reinforced concrete arch bridge has withstood the test of time. Because of its unique elegance and strength, the structure is woven in to the fabric of the Spokane Community as a landmark—its legacy secured by its listing on the State and National Historic Register.

Construction progress, 1912. Photo courtesy of Washington State Digital Archives.

Recently, the bridge has begun showing its age. Portions of the bridge have deteriorated to the point that the City of Spokane (City) has restricted traffic to the two center lanes of the bridge. Projected growth in the West Plains and associated transportation infrastructure improvement projects intend to increase traffic demand for the Sunset Boulevard corridor and the aging Latah Bridge.

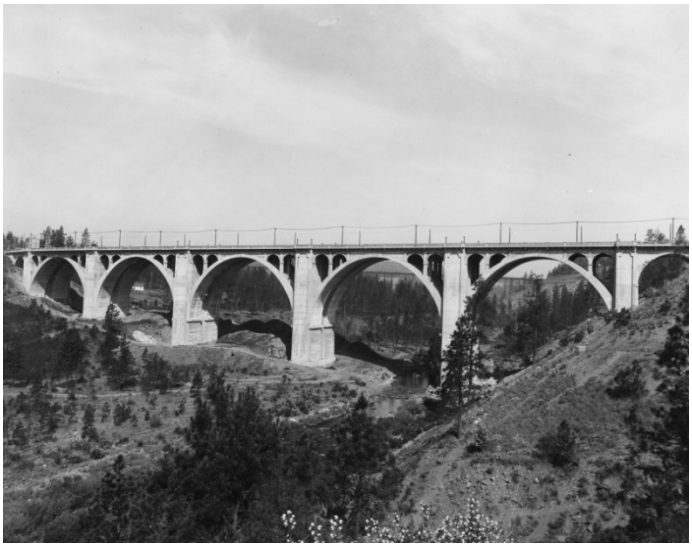
1.1 Purpose and Need

The City has initiated the Latah Bridge Rehabilitation Study (Study) in an effort to identify and develop preliminary solution alternatives that will support public use of this historic and vital transportation link for future generations of drivers, riders, bicyclists, and pedestrians.

1.2 Project Objectives

The primary goal for the Study is to develop rehabilitation solutions for the Latah Bridge that will ensure the long-term vitality of the critical link it provides in the region's transportation system. Further, the following key objectives must be addressed:

- Provide the appropriate level of inspection and structural capacity analysis of the existing structure that will provide accurate estimates of work scope and estimated costs.
- Define the baseline existing and forecast traffic demand for the corridor, including accommodating pedestrians, bicycle facilities, and potential future light rail.



Completed bridge, looking northwest, 1913. Photo courtesy of Washington State Digital Archives.

- Develop bridge rehabilitation evaluation and recommendations that include the following four primary scenarios:
  1. Repair or rehabilitate the bridge to extend its life for 20 years.
  2. Repair or rehabilitate the bridge to extend its life for 20 years and include non-motorized facilities (bike lanes, sidewalks).
  3. Repair or rehabilitate the bridge to its original like-new condition for a much longer service life.
  4. Rehabilitate and strengthen the bridge to accommodate future multi-modal loading, in addition to current legal loading conditions.

Latah Bridge today, looking southeast.

- Comply with regulatory requirements, including state and federal historic preservation requirements, while still meeting bridge performance requirements.
- Understand environmental and permitting requirements and how these could impact the project solutions or costs.
- Understand existing and future utility requirements and how these could impact the project solutions or costs.
- Provide a collaborative and transparent stakeholder coordination and public involvement process with purposeful touch points and access throughout the process.

A successful Study will result in a publicly supported preferred rehabilitation plan that is both (1) flexible to meet future transportation and utility demands and (2) highly competitive for funding resources. Further, the rehabilitation plan must provide for budget and time line adequate to accomplish the plan.

1.3 Location

The Latah Bridge is located on Sunset Boulevard, a principal arterial serving the Spokane and the West Plains. The limits of this Study are the length of Sunset Boulevard from Government Way to 4th Avenue, as shown in Exhibit 1-1.

EXHIBIT 1-1. *Project Map*

1.4 Study Process

A tailored three-step process was established to efficiently navigate the Study and accomplish the Study goals and objectives. The three primary tasks for this Study are outlined below, with key task elements identified. Exhibit 1-2 illustrates the overall Study process.

Task 1—Assess Baseline Conditions

- **Ascertain Existing Conditions**. Understand bridge condition, structural capacity, and traffic capacity.
- **Forecast Future Transportation Demands.** Understand traffic and multi-modal demands.
- **Ascertain Environmental Setting**. Understand complete array of elements that may influence rehabilitation solutions.

Task 2—Alternative Analysis and Review

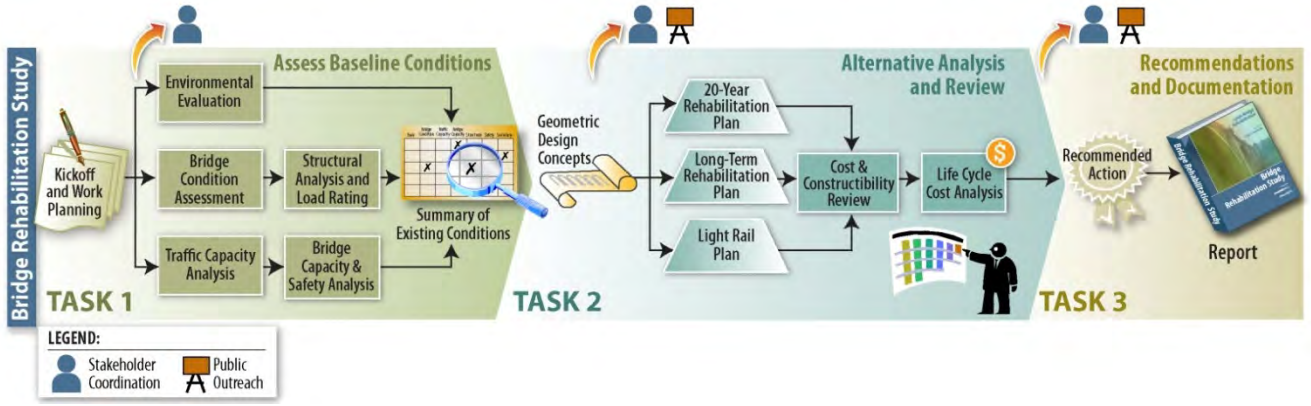
- **Develop Viable Rehabilitation Alternatives.** Develop approach and bridge geometric concepts and associated structural alternatives.

- **Assess Constructibility and Cost.** Understand key sequencing elements that may impact costs and develop reasonable estimates of construction costs for each alternative.
- **Relate Long-Term Costs.** Conduct life cycle cost analyses to understand total estimated cost for each alternative in today's dollars.
- **Review Alternatives with Stakeholders and Public.** Communicate findings and alternatives with stakeholders and general public prior to finalizing and documenting.

Task 3—Recommendations and Documentation

- **Review Study Findings.** Coordinate findings with stakeholders and general public, and make refinements as needed.
- **Document the Planning Process.** Provide a useful deliverable for the City to secure funding and implement the preferred rehabilitation plan.

EXHIBIT 1-2. *Study Process Diagram*



The process featured guidance through critical decision making points via a Stakeholder Advisory Committee, and touch points with the general public to promote two-way communication and project understanding. Documentation of the stakeholder coordination and public outreach efforts is summarized as follows and is detailed in Appendix A (including specific outreach methods, meeting notes/event recaps, and summaries of comments received).

Stakeholder Advisory Committee Meeting 1—October 14, 2011. The project was introduced, project goals and objectives were determined, and initial issues, input and questions were collected. Of the 19 individuals and organizations invited to the meeting, the following were present:

- Jon Snyder, Spokane City Council Member
- Tirrell Black, City of Spokane Planning
- Taylor Bressler, Spokane Parks and Recreation
- Kristen Griffin, Spokane City/County Historic Preservation Office
- Ryan Stewart, Spokane Regional Transportation Council (SRTC)
- Mike Frucci and Harold White, Washington State Department of Transportation (WSDOT)
- Kelly Cruz, Pedestrian Traffic and Transportation Committee (PeTT)
- Grant Wencel, City of Spokane Bicycle Advisory Board
- Randy Abrahamson, Spokane Tribe of Indians
- Dick Raymond, Inland Empire Rail Association
- Sam McKee, City of Spokane Capital Programs

Stakeholder Advisory Committee Meeting 2—December 9, 2011. Initial results of the environmental, traffic/transportation, and bridge condition baseline condition assessments were communicated. Of the 17 individuals and organizations invited to the meeting, the following attended:

- Tirrell Black, City of Spokane Planning
- Kristen Griffin, Spokane City/County Historic Preservation Office
- Ryan Stewart, SRTC
- Mike Frucci and Harold White, WSDOT
- Karin Divens, Washington Department of Fish & Wildlife
- Asher Ernst, City of Spokane Plan Commission
- Grant Wencel, City of Spokane Bicycle Advisory Board
- Brea Franco, Spokane Tribe of Indians
- Dick Raymond, Inland Empire Rail Association

Public Meeting 1—December 14, 2011. Initial results of the environmental, traffic/transportation, and bridge condition baseline condition assessments were communicated, and public input was solicited. Communication and outreach included:

- Direct mail postcards to residents
- Classified ads in Spokesman-Review and Cheney Free Press
- News releases sent by City of Spokane and picked up by Spokesman-Review and KXLY
- Public open house information sent to advisory group for distribution
- Information sent via e-mail to Jonathan Mallahan, Director of Neighborhood Services, for distribution to neighborhood councils
- Information sent via e-mail to Downtown Spokane Partnership
- Information sent via e-mail to Barb Chamberlain to promote on “Bike to Work” Facebook page
- Information sent via e-mail to the “Morning Ride Group” and posted on Spokane Rocket Velo’s website
- Information sent via e-mail to Staci Lehman at SRTC to post on website, blog, Facebook, and Twitter
- Information sent via e-mail to Spokane Bicycle Club
- Information sent via e-mail to Spokane Audubon Society
- Open house promoted on Desautel Hege Communications Facebook and Twitter pages
- Twenty phone calls to surrounding businesses

Seventeen attendees browsed the open house, asked questions, and provided input. Comment cards were used to garner responses to specific questions. A summary of the responses is provided in the Public Meeting Event 1 Recap (Appendix A).

Stakeholder Advisory Committee Meeting 3—March 28, 2012. Initial rehabilitation solution alternatives and recommendations were presented. Of the 19 individuals and organizations that were invited, the following attended the meeting:

- Joel Williamson, assistant to Spokane City Council Member Jon Snyder
- Rae-Lynn Conger, assistant to Spokane City Council Member Mike Allen
- Karen Carlberg, Grandview/Thorpe Neighborhood Council
- Corinne Mullin, Rosauers
- Tirrell Black, City of Spokane Planning
- Taylor Bressler, Spokane Parks & Recreation
- Kristen Griffin, Spokane City/County Historic Preservation Office
- Kelly Cruz, PeTT
- Howard Ferguson, Washington Department of Fish & Wildlife
- Asher Ernst, City of Spokane Plan Commission
- Brea Franco, Spokane Tribe of Indians
- Dick Raymond, Inland Empire Rail Association
- Sam McKee, City of Spokane

Agency Coordination Meetings – April 13, April 18, 2012. Coordination meetings were held with the State Department of Fish and Wildlife (4/13), City/County Historic Preservation Office (4/13), and Spokane Tribe of Indians (4/18) to coordinate initial rehabilitation alternative concepts, and solicit input. Meeting notes are provided in Appendix A.

Public Meeting 2—April 19, 2012. Rehabilitation solution alternatives and recommendations were presented. Communication and outreach included the following:

- Direct mail postcards to residents
- Classified ads in Spokesman-Review and Cheney Free Press
- Community calendar listings distributed to 14 media outlets
- News releases sent by City of Spokane to distribution/e-mail list and posted on website and social media
- Public open house information sent to advisory group for distribution
- Information sent via e-mail to Jonathan Mallahan, Director of Neighborhood Services, for distribution to neighborhood councils
- Thirty-three phone calls to surrounding businesses

Thirty-five attendees browsed the open house, asked questions, and provided input. Comment cards were used to garner responses to specific questions. A summary of the responses is provided in the Public Meeting 2 Event Recap (Appendix A).

SRTC Air Quality Coordination Meeting – May 24, 2012. A meeting was held with SRTC to understand if specific air quality analyses and/or documentation is recommended or required at this time. Meeting notes are provided in Appendix A.

Planning, Community and Economic Development (PCED) Committee Meeting. The final study will be presented to the PCED Committee, and study findings and recommendations will be discussed.

The Spokesman Review published an article referencing the study on March 19, 2012. A copy of the article is provided in Appendix A.

Project coordination meetings were held during the process to enable regular communication between the City and consultant team, and make project decisions. Appendix B contains complete meeting notes for all project coordination meetings.

1.5 Study Documents

The Latah Bridge Rehabilitation Study is documented in a two-volume study report. *Volume 1, Baseline Conditions Summary*, February, 2012, and *Volume 2, Bridge Rehabilitation Alternatives and Recommendations,* July 2012. The *Baseline Conditions Summary* document presents the process and analyses to establish the project baseline conditions, under Task 1. This *Bridge Rehabilitation Alternatives and Recommendations* document summarizes the rehabilitation concept development process and analyses (Task2) and includes study recommendations and implementation strategies.