

## Design Decision Summary

Within this document, we compare the two connection options presented at the Open House Meeting on March 27, 2013, and conclude that expressed project design goals are best achieved by **an underpass pathway below the north end of the bridge.**

Going forward, we will produce a replacement bridge design that refines and provides the functions of the concept connection option presented at the Open House Meeting as **Question 3.**

## Design Goals

After considering feedback from direct questions and written comments from the March 27, 2013 Open House Meeting wherein we presented bicycle and pedestrian connection options from Graehl Park to the new Wendell Avenue Bridge, we conclude the following design goals should be incorporated into the project:

- A new bicycle and pedestrian connection is desired and, if built, will be used.
- There are concerns regarding unwanted social behavior that presently occur under the existing bridge's north end, and fears that creating an underpass pathway through those areas may cause undesirable or unsafe encounters. We are encouraged to consider designs that discourage congregation under the bridge, mitigate undesired encounters with inebriates, and to consider designs that will promote a safe environment for all users.
- We are encouraged to consider a wider variety of origins/destinations of users, to consider and design the facility to take advantage of existing mass transit stops within or near the project extents.
- We are encouraged to consider a bridge design that does not hinder boat traffic on the river during high water events.
- We are encouraged to consider long term maintenance costs and winter safety.
- We are encouraged to consider creating or matching an existing aesthetic theme of other bridges that cross the Chena River in the downtown area.
- If an underpass pathway is built, there is a high degree of tolerance toward flooding.
- We are encouraged to consider drainage on the bridge, and to provide a design that protects pedestrians on the bridge from water splashed by passing vehicles.

Other design goals stated by the Department include the following:

- Avoid permanent right-of-way acquisition from private property holders near the project, and provide a design that fits within the geometric constraints of the project area.
- Provide a convenient grade separated crossing for bicyclist and pedestrians to cross the Old Steese Highway and/or Wendell Avenue utilizing either new or existing infrastructure.
- Provide a bicycle and pedestrian connection between Graehl Park, north of the Chena River, and Griffin Park, south of the Chena River.
- Provide a replacement bridge with bicycle and pedestrian connections that have value, are desired, and will be used.

## **Bicycle and Pedestrian Connection Options**

In general, responses to the questions offered at the Open House Meeting were positive and indicated that both of the concept connection options are either “important” or “very important”. A bicycle-friendly connection directly to the east side of the bridge appeared to be just as important as an underpass pathway below the north end of the bridge. Since no clear favorite connection option was evident, we could not choose between them based on direct question comparison. Instead, we considered all other comments and decided which connection option best meets all of the concerns.

## **Unwanted Social Behavior**

Comments included concerns regarding unwanted social behavior that occurs under the existing bridge’s north end, and fears that creating an underpass pathway there may cause undesirable or unsafe encounters. We are encouraged to consider designs that:

- discourage congregation under the bridge,
- mitigate undesired encounters with inebriates, and
- provide a safe environment for all users.

A bicycle-friendly direct connection to the bridge, presented at the Open House Meeting as Question 2, does not address the issue of unwanted social behavior. The direct connection option would not discourage congregation under the bridge any more than do the existing stairway connections. Some land shaping and brush clearing could be employed to increase area visibility, but the potential to hide under the bridge would not be eliminated by this connection option.

A pathway below the north end of the bridge, presented at the Open House Meeting as Question 3, would increase visibility and traffic through the space. Design features that would help the space to be more open and less inviting for loitering (or hiding) include:

- 8-ft (or higher) vertical wall, cast-in-place beam-seat type abutments to decrease access to potential hiding spots between the bridge girders;
- 10-ft wide paved path with large, angular riprap on both sides of the pathway to provide an uncomfortable off-path walking, sitting or laying surface;
- installation of lighting high up on the vertical walls to eliminate dark, shadowy areas; and
- land shaping and brush clearing to increase area visibility from Graehl Park, Front Street, and from across the Chena River.

Safety concerns regarding the proposed underpass pathway below the bridge were discussed with the City of Fairbanks Police Department (FPD), and they believe that inebriates and transients want to hide, drink and/or sleep in places that are out of the public sight. FPD believes that from those populations’ perspective, the existing secluded space is far more comfortable and secure than being out in the open. FPD stated that design changes that open the space will very likely displace those populations and cause them to seek refuge elsewhere.

For these reasons, an underpass pathway is preferable toward addressing this design goal.

## **Alternate Travel Origins and Destinations**

We are encouraged to consider a wider variety of origins/destinations of users, to consider and design the facility to take advantage of existing mass transit stops within or near the project extents.

According to their website, the Fairbanks North Star Borough Metropolitan Area Commuter System (MACS) currently has three bus lines with stops that occur within or near the project area. The southbound Red Line has an untimed stop at “Old Steese @ Taco King” and at “Morris Thompson Cultural Center”. The southbound Brown Line has an untimed stop at “3<sup>rd</sup> St @ Old Steese” and at “Morris Thompson Cultural Center”. The northbound Blue Line has an untimed stop at “Wendell St @ Hall St” and at “Old Steese Hwy @ 2<sup>nd</sup> St”.

A bicycle-friendly direct connection to the bridge, presented at the Open House Meeting as Question 2, would offer a redundant route to connect Graehl Park to the northbound Blue Line (i.e., Forty-Mile Ave, 2<sup>nd</sup> St, Old Steese Hwy). Connections to the southbound Red Line or Brown Line either would be inconveniently long or would require travel across either the Old Steese Highway or Wendell Avenue. The only grade separated crossing from origins west of the Old Steese Highway and bridge would be the existing Chena Riverwalk Path, south of the river, and the proposed new connector path to Wendell Avenue at Clay Street (Ferry Way).

A pathway below the north end of the bridge, presented at the Open House Meeting as Question 3, would offer a grade separated crossing under the Old Steese Highway and connect (east) Front Street and Graehl Park with untimed stops on both the Red Line and the Brown Line. A connection currently exists between Graehl Park and the northbound Blue Line. Bicycle and pedestrian traffic from Minnie Street or other origins west of the Old Steese Highway would be able to travel to Graehl Park using the underpass pathway.

The pathway below the north end of the bridge would be the most flexible in meeting the needs of bicyclists and pedestrians with a wider variety of origins and destinations than simply between Graehl and Griffin Parks; it would provide more convenient access than would the direct connection to the east side of the bridge. The pathway would enhance and offer a second (non-redundant) grade separated route for destinations across the Old Steese Highway and Wendell Avenue from their origins.

## **River Navigability**

We are encouraged to consider a bridge design that does not hinder boat traffic on the river during high water events.

The bicycle-friendly direct connection to the bridge, presented at the Open House Meeting as Question 2, and the pathway below the north end of the bridge, presented at the Open House Meeting as Question 3, shared similar bridge and roadway elevations.

Neither connection option is appreciably different from the other with regard to river navigability during high water events.

## **Maintenance and Winter Safety**

We are encouraged to consider long term maintenance costs and winter safety.

There is no doubt that creation of a new connection or facility where one didn't exist before may increase maintenance costs. We also agree that outdoor stairs in winter months may be potentially unsafe if not maintained well; the same can be said of ramps, sidewalks, paths, and other similar facilities used by pedestrians in winter months.

The City of Fairbanks (COF) will be responsible for winter maintenance of the new connection option, and cost impacts regarding each design option presented at the Open House Meeting were discussed with them beforehand. COF indicated that the bulk of their maintenance costs associated with either of the connection options would be caused by snow removal from the stairs, due to laborious hand shoveling required; ramps, paths and sidewalks may be cleared easily and inexpensively using articulated machinery that the COF purchased specifically for snow removal from sidewalks.

A set of steep, concrete stairs currently exists on each side of the Old Steese Highway north of the existing bridge, and these stairs currently have a maintenance cost associated with their presence. Ramps, sidewalks, and paths - not stairs - will be the items that increase maintenance costs above current levels. The proposed new connection options will be available throughout the year, and the value of these facilities in non-winter months, when these facilities will see the greatest potential use, may outweigh conditions and maintenance costs in the winter months.

Neither connection option is appreciably different from the other with regard to long-term maintenance costs and winter safety.

### **Match Aesthetic Theme of Other Bridges**

We are encouraged to consider creating or matching an existing aesthetic theme of other bridges that cross the Chena River in the downtown area.

There are five bridges that currently cross the Chena River in the Fairbanks downtown core area, in order of age from oldest to newest: Wendell Avenue Bridge, Cushman Street Bridge, Steese Expressway Bridge, Centennial Bridge, and Barnette Street Bridge. The Barnette Street Bridge, Cushman Street Bridge, and the Steese Expressway Bridge all have paths below their north ends; the Centennial Bridge does not.

Early concepts for the replacement Wendell Avenue Bridge, which will accommodate both vehicles and pedestrians, conceive a bridge with similar design elements as the Barnette Street Bridge – including prestressed concrete girders and concrete bridge rail topped with a two-tube pedestrian rail.

### **Bridge Drainage**

We are encouraged to consider drainage on the bridge, and to provide a design that protects pedestrians on the bridge from water splashed by passing vehicles.

Neither connection option is appreciably different from the other with regard to bridge drainage and the ability to protect pedestrians from water splashed by passing vehicles.