Bonners Ferry Pedestrian and Bicycle Plan

Adopted: March 2020



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Background

In updating its transportation plan in 2018-2019 Bonners Ferry recognized that a complete plan must include detailed consideration of pedestrian and bicycle priorities, and concrete action plans to support walking and cycling. This Pedestrian and Bicycle Plan fills that role, with the goal of leading Bonners Ferry



to the creation of a safe, comprehensive, inviting and easy-to-use network that encourages routine walking and biking by residents and visitors of all ages, incomes, backgrounds, abilities and disabilities. The following executive summary highlights some of the most critical findings and recommendations for action.

The Transportation Plan adopted in March 2019 states that "users are interested in increasing connectivity and safety, while decreasing congestion throughout the City, but specifically on US-95." Among top identified transportation issues were expanding inter-neighborhood connections, addressing the safety of US-95 side street intersections, developing a greater sense of safety for bicyclists and pedestrians, and mitigating congestion. Quite striking about the public input gathered in the transportation planning process is how much emphasis there is on improving bicycle and pedestrian safety, creating a more complete and connected nonmotorized transportation network, and alleviating congestion on the US-95 corridor. Moreover it is recognized that these issues are intimately related: more opportunities to walk and bike can help discourage short driving trips, and these short trips are substantial contributors to congestion, with school arrival and dismissal times being a particular concern. Indeed, almost half of the online comments received pertained specifically to pedestrian and bicycle issues and improvements, suggesting an understanding in the community of the urgency of this work.

The community's focus on these issues suggests that residents have an intrinsic understanding of the attributes that will encourage more walking, bicycling and routine "active transportation." These features are a mix of land uses; a quality comprehensive network of facilities; functional and rewarding site designs; and safety and access for all users. There is growing evidence that these factors not only support public health through increased physical activity, but also economic vibrancy, environmental sustainability and quality of life. These four key characteristics of a thriving community are summarized below.

Elements of a more walkable and bicycle-friendly community.

- A. **Mixed land use patterns:** Compact development with different land uses and activities intermingled and close together, allowing for varied types of destinations within walking and cycling distance, while preserving open land and agricultural space.
- B. Active transportation facilities: A comprehensive and connected network of pedestrian and bicycle facilities, such as sidewalks, bicycle lanes and nonmotorized pathways, as well as frequent, affordable transit service appropriate to the community scale, from dial-a-ride to scheduled buses.
- C. **Functional site designs:** Destinations and routes are designed to reward, not punish, those who arrive on foot and by bike, such as buildings at the sidewalk, with parking on-street or behind, and elements such as street trees and landscaping; street furnishings such as benches, planters, and quality, plentiful bicycle parking; awnings, human scale lighting and way-finding signs; and safe, appealing transit stops with cover, benches, and schedule information.
- D. **Safety and access** for people of all ages, incomes, physical abilities and disabilities, including quality street crossings (e.g. highly visible markings, flashing beacons and signals where needed), fully ADA-compliant design, and appropriately applied state of the art traffic calming such as curb extensions, median islands, roundabouts and minicircles, and lane reductions and narrowing.

Executive Summary



This Pedestrian and Bicycle Plan (PBP) reviews the existing conditions for walking and cycling in the community, identifying both opportunities and challenges; it proposes a low-stress pedestrian and bicycle network, identifying key links and recommended improvements; it offers a series of policy and practice recommendations; and a proposed system of way-finding and directional signage. The appendices summarize the elements of low-stress bicycle and pedestrian facilities and best practices to increase safety and comfort for bicyclists and pedestrians. Four major themes and example action steps are summarized in this executive summary. **1.** Apply Complete Streets principles opportunistically, in all roadway and utility work, development and redevelopment activities.

2. Develop key links that make large functional improvements to the pedestrian and bicycle network.

- 3. Use simple low-cost network tools to improve existing facilities for all users.
- 4. Improve functionality and safety for all modes along and across Highway 95.

The full plan provides detailed recommendations beyond those summarized in the five pages below. There are three important points relevant to every recommendation.

- 1. Making opportunistic pedestrian and bicycle improvements during other work is one of the least expensive ways over time to create a network for all users.
- 2. Most pedestrian and bicycle improvements also benefit drivers and freight by improving safety, and eventually reducing congestion by providing for and encouraging people to use the active travel modes.
- 3. Many of the simple recommendations such as short links and on-street improvements are relatively inexpensive and thus the greatest barrier to executing these will not be the cost, but rather community and political will to carry them out.

It is critically important that the community come together to support elected officials and staff if they desire to see this plan put into action.

1. Apply Complete Streets principles opportunistically, in all roadway and utility work, development and redevelopment activities.

Section 2 of this plan describes Complete Streets (CS) principles: that every time a roadway is touched—new construction, repaving, or just routine maintenance and painting—consideration should be given to accommodating all users: pedestrians, bicyclists, transit riders (including school buses), and drivers of all ages, incomes, abilities and disabilities.

The plan recommends that the city formally adopt CS design guidance documents <u>Small Town and Rural Multimodal</u>



<u>Networks</u> (at right) and 2016 <u>Guidebook for Developing Bicycle and Pedestrian Performance</u> <u>Measures</u> and develop a checklist of how and when to apply that guidance. The purpose is to find opportune times such as when a roadway is already having work done when they can more easily and inexpensively provide pedestrian and bicycle improvements. Examples might include simple repainting of roadway markings, new construction along the roadway or rebuilding the roadway as those opportune times to complete the street. The goal should be to maximize the accommodation of pedestrians and bicyclists as efficiently as possible.

2. Develop key links that make large functional improvements to the pedestrian and bicycle network.

A central theme of public input for the plan was that residents want to be able to access destinations and services around Bonners Ferry without having to always drive, bike, or walk on Highway 95. This is particularly true of the South Hill neighborhood, where distances from residences to shopping, schools and services is not a real barrier, but a disconnected incomplete neighborhood street grid is an issue. Crossing Highway 95 is also a barrier; discussed specifically in theme #4.

A number of improved connections are identified and recommended for the comfort and viability of walk and bike trips. Below are the <u>highest priority</u> connections. The full listing can be found in Section 6 – Recommended Route Improvements, i.e. Projects – where they are listed as specific projects and described in more detail.

Short connections and links

 High School north side connection. Create public pedestrian connections linking Garden Lane and the sidewalk on Alderson Lane with the High School service drive. This can allow some students walking on the east side of Highway 95 to remain off of the highway, for example, while walking or biking to the High School.



- Ford to Alderson Lane link. Make the short connection from Ford Street to the sidewalks on Alderson Lane; this is an important connection particularly for students accessing the schools from the north, allowing them to avoid walking on Highway 95.
- Badger link path. Create a simple pathway from Badger Street and Walker Lane to McCall Street. This might pass behind Safeway, or right along the front and west side of the building, with the goal of providing students with a safe route connecting the McCall Street neighborhood and homes south of Safeway with the school campus.
- **Super 1 path.** A short pathway is recommended to connect Baumann Street to the Super 1 store. This allows pedestrians coming from the north to avoid walking out to Highway 95.

There are some <u>longer</u> **pathway segments** that greatly increase the marginal utility of walking, actually making the pedestrian route between two points shorter or more convenient than driving.

• Formalize the North Hill "under-bridge trail." Connect the Bingham/Chinook intersection with the old bridge segment by trail, then roughly follow the route of an existing informal user trail under the bridge (picture at left), connecting to the county park and ball fields east of Highway 95 along the river. Note: a crosswalk on the east leg of the Bingham and Chinook intersection improves neighborhood access to the trail. Though longer than many links in the plan, an existing user trail indicates there is already demand.



- Solomon to Augusta connector. Improve the informal user trail connecting the north end of Solomon Road to Augusta Street. This path allows students accessing the elementary school from the south to do so without walking on US-95, and connects to the sidewalk along Augusta Street (at right).
- Link Oak Street Neighborhood to South Hill. Another area for this type of trail development is from the Oak Hill neighborhood to the east side of the South Hill area.

Phased implementation

All of these links, but the longer existing informal trails especially, can be developed in a phased approach such as the following:

- **Phase 1.** Volunteers can cut brush and grade the existing trail (where there is a "user path") to improve access and minimize erosion. On the under-bridge trail volunteers might also be commissioned to clean up the area and paint the bridge abutments to make it more welcoming.
- **Phase 2.** The trail or pathway can be machine graded and topped with compressed crushed gravel to further minimize erosion, and to be potentially ADA accessible.
- **Phase 3.** When resources are available (e.g. money or donated materials), some of these could become asphalt paved paths. For example the under-bridge trails can and should be the beginning of a more developed north bank riverwalk trail system.

3. Use simple low-cost network tools to improve existing facilities for all users.

There are fairly simple ways the existing system of roadways, especially secondary, neighborhood and residential streets, can be improved for pedestrians and bicyclists, as well as drivers. These are relevant especially for the residential streets on South Hill and North Hill, where the ideal solution may be sidewalks, but in the short term there is not sufficient funding. These recommendations fall into two basic categories: defining some on-street space as shared or designated for pedestrians and bicyclists; and simple traffic calming on low-volume streets that keeps traffic slow enough for the roadway to be shared space that is safe for all users.



- Downtown network. The streets of the downtown grid have a good sidewalk and crosswalk network, and create an inviting pedestrian district. Roads in this area tend to have low enough traffic volumes and vehicle speeds that it is reasonable to mark them with shared-use arrows (photo at right) and bike route signs, as detailed in the plan recommendations.
- **Residential street network.** There are a number of locations where simple on-street treatments are recommended. These include, but are not limited to, the following approaches:
 - Marked bicycle lanes. These are generally striped five-foot wide lanes on both sides of the street, marked with bicycle symbols and accompanied by "Bike Lane" signs and are recommended on Arizona Street.



• Advisory shoulders. Advisory shoulders can be created on low-volume streets by marking fourto six-foot shoulders with dashed lines, and with occasional colored sections to highlight conflict areas. This indicates to vehicles they are to travel toward the center of the road, leaving the shoulders for pedestrians and bikes, except when passing a vehicle in the opposite direction.



• Shared bicycle and/or pedestrian lane on one side of the road. An alternative to the 10 feet needed for bike lanes on smaller streets is to create a marked shared path on one side of the road (as shown at left on Riverside Street). Such a path can be

five- to eight-feet wide, and should be marked with a line or buffering stripe (e.g. 12"

hatched striping). This approach is recommended for Kaniksu Street, and on Riverside Street out to the Kootenai National Wildlife Refuge (as shown in schematic rendering, at right).



Traffic calming: The plan enumerates an array of well-established **traffic calming techniques** that can be utilized to slow traffic on neighborhood streets. They can be applied on all streets and are recommended for streets likely to carry pedestrians and bicyclists. Applied in concert they can create what is called a **bicycle boulevard**; a shared, low to medium-use roadway with a combination of treatments designed to slow vehicle speeds and ease use by bicyclists and pedestrians. In addition a

variety of these elements can first be tried out with **temporary demonstrations** using low-cost materials. (For more detail see Appendix B.) **Examples** suggested for Bonners Ferry include:

 Traffic mini-circles (shown at right) will slow vehicles and allow them to proceed counter clockwise while yielding to the left, reducing four-way stop miscommunication ("Whose turn is it to go?"). Mini-circles can decrease total travel time even while reducing speed, as there is less start/stop delay.





• **Curb extensions** extend the curb line outward and reduce the width of a crossing (at left). Typically found at intersections, they slow vehicles with edge friction, increased pedestrian visibility and improved sight lines, reducing the distance time required for pedestrian crossing.

These techniques can benefit all roadway users.

- Pedestrians and bicyclists: Treatments provide more clearly defined places to walk and bike.
- **Drivers**: A designated path or shoulder tends to collect pedestrian and bicycle traffic in a more predictable and expected location for drivers.
- **Residents:** Treatments can narrow and better define the travel lanes, which can slow traffic and discourage cut-through traffic (e.g. cars trying to avoid congestion on Highway 95).

4. Improve functionality and safety for all modes along and across Highway 95.

Highway 95 is both a through route and a challenging divider for the Bonners Ferry throughout the city, and especially on the South Hill. Crossing improvements included in the ongoing

improvements of the Idaho Transportation Department upgrade can help it act more as an inviting travel corridor for all users, not just cars and trucks, and less of a barrier to local travel. Additionally,

pedestrian activated rectangular rapid flashing beacon (RRFB) are recommended for the majority of the crossings. (See Section 4, Page 23 for specifics.)

 High Visibility Intersection Crosswalks. A series of high visibility ladder-style crosswalks across US 95 are proposed on the South Hill at four locations. The side streets should also get high visibility painted crosswalks.



 High Visibility Midblock crosswalks. Midblock crossings with protective pedestrian median islands in the center turn lane are recommended near the High School and the pool. Both should utilize a Z-offset (photo above) so the pedestrian passing through the median is directed to look toward the oncoming traffic.

Consider Roundabouts at Alderson Lane/Highway 95 and Augusta/Highway 95 intersections.

These two intersections could both be well served by one lane roundabouts designed appropriately for the vehicles seen on Highway 95. They provide much needed connectivity in the network for all users, yet are difficult to navigate from the side streets without signals. Both intersections are ideal for a modern single lane roundabout and should be analyzed for this treatment. Well-designed

roundabouts provide many benefits, but especially relevant at these intersections are increased safety for all users and better traffic flow with reduced delay.

 Roundabouts are circular intersections with entry deflection to slow vehicles and a yield upon entering allowing a driver to proceed slowly in a counterclockwise direction around a central island. Well-



designed roundabouts maximize motorized and nonmotorized traffic flow, while increasing safety by up to 80% by reducing vehicle speed with design features such as entry deflection, yield to traffic on the left (rather than stop), and with reconfigured sidewalks, bikeway bypasses, highvisibility crosswalks and other traffic measures. (Details Page 33.) Roundabouts may require additional right-of-way.

Bonners Ferry Pedestrian and Bicycle Plan Project List

South Hill (West)

- SH 1. Build a pathway connecting from Augusta Street at Wilson Street to the north end of Roosevelt Street/Solomon Street on utility right-of-way.
- SH 2. Build a pathway connecting Bauman west of Solomon to the Super 1 parking lot.
- SH 3. Cody from Jackson to Buchanan; rebuild roadway to street section standards recommended in the transportation plan update with curb and sidewalk; or by widening to add an extruded curb pathway for pedestrians. Maintain sharrows for bike shared use.

Intersection Paint Demonstration

A traffic calming demonstration using paint can create safer conditions near the elementary school.



SH 4. Explore special treatment at the elementary school at the intersection of Augusta and Stephens, through paint, a raised table crosswalk, or other means to enhance safety.

South Hill (East)

- SH 5. Clear and grade Golden Street for foot and bike traffic.
- SH 6. Connect Ford Street to the sidewalk on the east side of Alderson at Highway 95 with paving or concrete for a roll-able surface.
- SH 7. Mark (paint) a crossing on Alderson Lane north of the intersection with Paradise Valley Lane and build a sidewalk or stripe a shoulder walkway on the west side of Alderson from the crossing to Garden Lane (see detail #7 page 22).
- SH 8. From the intersection of Alderson and Garden Lane connect the sidewalk/shoulder pathway to the school service drive using the routes shown on the map on page 20.
- SH 9. Pursue right-of-way acquisition and construct a walking, biking or shared use path connecting Tamarack to McCall Street, such as via Badger to Walker Lane to McCall Street.
- SH 10. Explore building roundabouts at the intersections of Alderson and Augusta with to alleviate delay while improving safety for all users and allowing highway access for drivers and safer crossings for bicyclists and pedestrians.

Typical treatments – Share the Road signage, directional signage, pavement markings, clean and repair existing sidewalks, add or rebuild curb ramps where needed and sign connections to highway crossings where needed.

Oak Street Neighborhood

- OS 1. On Arizona Street, realign centerline, extend bike lanes to Ash Street, add crosswalk markings and clean up sidewalk at Arizona, Plaza and Ash Streets.
- OS 2. Move curb line near retaining wall on Ash Street at Highway 95 to create space for a pathway on the east side of highway from Ash Street to Madison Street.
- OS 3. Pursue rights-of-way and build a pathway connecting from the Oak Street area to the South Hill from Alder or Hazel Streets to Golden/Helena.
- OS 4. Pursue rights-of-way and build a pathway connecting from the Oak Street area to the South Hill from Alder or Fir Streets to Washington.
- OS 5. Pursue rights-of-way and build a pathway connecting from the Oak Street area to the South Hill from Fir Street to El Paso.

Typical treatments – Share the Road signage, directional signage, pavement markings (including bike lanes), clean and repair existing sidewalks and add or rebuild curb ramps where needed.

Downtown

- DT 1. Stripe bike lanes on Arizona from Main to Plaza following realigned centerline.
- DT 2. Add curb ramp leading to library pathway from Arizona at the west side of the underpass.
- DT 3. Add or improve

Bike Lane Demonstration

Use chalk paint to create temporary bike lanes. Use cones to protect the workers or volunteers painting the bike lanes.



sidewalks as demand grows and development occurs.

- DT 4. Add amenities such as picnic tables, seating and short term bike parking at key locations.
- DT 5. Install more extensive wayfinding such as kiosks.

Typical treatments – Directional signage, pavement markings, clean and repair existing sidewalks, add amenities such as seating, trash receptacles and picnic tables, add short term bike parking, and add or rebuild curb ramps where needed.

North Hill

- NH 1. Improve Kaniksu with a shoulder pathway initially and sidewalks in the long-term.
- NH 2. Close vehicle access at Comanche and US 95, retaining bicycle and pedestrian access. Alternatively make Comanche one-way downhill from Benewah.
- NH 3. Improve crossing on Chinook at Bingham (see detail #9, page 22).
- NH 4. Build protected shoulder pathway along US 95 from Franklin Street to Old Hwy 95.
- NH 5. Improve access from bridge remnant and formalize pathway to County Park (see detail #9, page 22).
- NH 6. Connect from Highway 95 to Old Hwy 95 or Homestead Loop road.

Typical treatments – Share the Road signage, directional signage, pavement markings such as sidepaths, clean and repair existing sidewalks and add or rebuild curb ramps where needed.

Recreational Routes

RR 1. Develop a sidepath to the Kootenai Wildlife Refuge on Riverside Drive from the edge of town to the refuge using best practices such as a striped sidepath with a painted buffer where practical and increased separation such as vertical delineators on curves (see rendering).



RR 2. Develop a route east of the highway on Pine Island and 18A to Riverside Drive w

Pine Island and 18A to Riverside Drive with pavement markings and route signage. **Typical treatments** – These routes will be developed over time and treatments will vary by route and route type. Often they will be pavement markings and route signage, in some cases sidepaths. The two listed above would serve the most traffic today.

Section 1 – Introduction

Need

In updating its transportation plan in 2018-2019 Bonners Ferry has recognized that to be complete the plan must include detailed consideration of pedestrian and bicycle priorities, and concrete action plans to support walking and cycling throughout the community. This Pedestrian and Bicycle Plan fills that role, with the goal of leading Bonners Ferry to the creation of a safe, comprehensive, inviting, and easy-to-use network that encourages routine walking and biking by residents and visitors of all ages, incomes, backgrounds, abilities and disabilities.



Bonners Ferry Entrance sign

Bonners Ferry is a very livable and attractive place and wishes to improve options for more people to get around on foot and by bike and increase their outdoor activity, enjoying the beauty of the community while meeting daily needs. Active transportation can improve health as well. People are already walking and biking as evidenced by observing the community and discovering a number of informal trails. If walking and biking facilities are made easier to use the city is confident that people will use them. Visitors, and even locals, do not always know the safest easiest route to walk or bike to various destinations, the city can solve that with a network of routes that are easy and safe to use and that guide users with signage and wayfinding. The city has a long term concept of robust treatments such as curb, gutter and sidewalk in high use areas. At the same time there is a wish to establish safe, comfortable and convenient options for walking and biking today. This plan will meet both those needs by recommending actions both short term and long term.

Vision

Bonners Ferry has a safe, convenient, connected and visible walking and biking network to major destinations in town for people of all ages and abilities.

Goals

- 1. Increase healthy physical activity of Bonners Ferry residents with more comfortable and convenient walking and biking opportunities.
- 2. Improve, with pavement markings and signs, existing facilities on routes in all parts of Bonners Ferry to create a connected walking and biking network in the short term.
- 3. Show steady progress on more complex projects within the plan where needed toward a more robust network in the future.
- 4. Provide directional signage and other wayfinding tools for pedestrians and bicyclists to encourage convenient and safe use of the network.
- 5. Decrease injury and fatal bicycle and pedestrian crashes.
- 6. Encourage walking and biking with regular educational/outreach programs and events in partnership with local schools and community organizations.

Guiding Principles

This pedestrian and Bicycle Plan outlines a bicycle and pedestrian network to provide safe and convenient walking and biking routes for people ages 8 to 80. It responds to current walking and biking demand and encourages residents and visitors to bike and/or walk more. This plan has walking and biking routes in all parts of town that form a network with access to important destinations, connections and safe highway crossings. It recommends network directional signage within Bonners Ferry to guide people using the network and creates a foundation for more complete future wayfinding.

Community Priorities and Benefits

This plan acknowledges effects and makes recommendations to improve access to active transportation systems such as walking and biking. Active transportation systems encourage the users to engage in routine physical activity for travel, shown to be healthy when compared to using only motor vehicles. Active transportation systems benefit the users and also decrease overall health costs, and in turn increase the community's health. Walking and biking provides simpler opportunities to engage in social interaction than more impersonal automobile travel. A community that takes pride in its natural resources, scenic vistas and close-knit relationships can be strengthened when walking and biking become productive viable modes of travel. There is also potential to grow economic output by attracting recreational tourists interested in walking and biking.

A safe, easy-to-use, low stress walking and biking network provides opportunities to integrate physical activity into daily lives. This plan is designed to boost awareness and create safe facilities so Bonners Ferry residents of all ages and abilities can be more physically active while accessing school, shopping, recreation, worship and other daily needs. The design principles and recommendations in this plan can play a critical role in developing the ability and willingness for Bonners Ferry residents to engage in regular physical activity required for a healthy lifestyle.

The U.S. Centers for Disease Control and Prevention states that "moderate physical activity performed on most days of the week can substantially reduce the risk of dying from heart disease, the leading cause of death in the United States, and can reduce the risk of developing colon cancer, diabetes, and high blood pressure." This plan will offer opportunities to Bonner Ferry residents to get that moderate exercise as a routine part of the day.



Old Highway Bridge segment over rail track

Bonners Ferry is recent recipient of a High Five Community Transformation Grant from the Blue Cross Foundation, whose purpose is to encourage healthy eating, physical activity and the

establishment of safe and healthy environments for children and which aligns well with several of the primary goals of this pedestrian and bicycle plan.

The city will strive to provide full access to the network for residents of all abilities, for instance in areas where the plan recommends low speed shared use roadways, efforts will be made to provide safe access to those routes using curb ramps where needed. Providing improved ADA accessibility along Highway 95 is recommended as an element of new sidewalks completed during the highway reconstruction. The city should review its ADA transition plan in implementing this plan.

Public Engagement

The public was engaged in a variety of ways to inform this plan. Engagement began by integrating with the transportation plan activities including the initial community interviews and surveys and continuing with the public outreach events and advisory committee participation for that plan.

Idaho Smart Growth also created and facilitated a pedestrian and bicycle-focused advisory workgroup and invited decision makers to participate. The members of the advisory group represented a cross section of community members interested in and knowledgeable about walking and biking needs and current uses. That workgroup made time for education about strategies to create and comfortable, safe and easy to use system, called a low stress network. They assisted in drafting network routes and goals by participating in walk and bike audits, and numerous phone conferences to review information and conclusions. The work group was bolstered by a city council member who gathered comments from a youth group about walking and biking to ensure we had a perspective from younger community members.

The plan also includes a directional signage component. A second advisory group was formed to help with visioning for the graphics that might be used on the signs to help represent Bonners Ferry to the traveling public. That group met once in person and used email exchanges to develop a vision for what should be represented and to comment on draft sign concepts.

Decision makers were included when the planning team appeared at two meetings of the City Council, with invitations to Planning and Zoning Commission members to attend. Those meetings included educational presentations about the plan and about pedestrian and bicycle safety strategies and concepts, followed by discussion.

Partners

The City of Bonners Ferry approached this section of the Transportation Plan knowing that strong partnerships would lead to a better product. Idaho Smart Growth (ISG) has provided community assistance to over 20 Idaho communities developing pedestrian and bicycle action plans and wayfinding for networks and was engaged as the lead partner to develop a walking and biking network plan and directional sign schedule for integration into the roadway transportation planning effort. The High Five program within the Blue Cross of Idaho Foundation has awarded Bonners Ferry a Community Transformation grant and supported using some of that grant to complete this section of the Transportation Plan. Valuable support came from the Selkirk Association of Realtors sought and was awarded a National Association of Realtors grant to help the city complete this project. Finally big thanks are due to Mark Fenton who generously provided his national expertise to this project.

Section 2 – Complete Streets and Active Transportation

A Complete Streets (CS) policy states that every time a roadway is touched—new construction, repaving, or just routine maintenance and painting—consideration should be given to accommodating all users: pedestrians, bicyclists, transit riders (including school buses), and drivers of all ages, incomes, abilities and disabilities. The accommodation and design should be based not just on the volume and intended speed of the traffic, but also freight and transit use, adjoining land uses, particular safety concerns, and potential <u>best-case</u> pedestrian and bicycle traffic. This means, for example, that saying "nobody is walking there now" (such as along or across an inhospitable section of US-95) is not a sufficient reason to preclude top quality pedestrian facilities, especially if people <u>would</u> walk or cross there with safe and inviting infrastructure. The best approaches specifically require routine accommodation – the inclusion of CS design elements during other work, such as when roads are torn up for utility work, or when private entities are seeking development and construction permits and site plan review. Following are three concrete steps that will serve the community well in this regard:

Formally adopt Complete Streets design guidance. Two design and planning guides are outstanding references for engineering, infrastructure, and planning staff and consultants, and should be officially adopted by the city by reference. The Federal Highway Administration's Small Town and Rural Multi-Modal Networks design guide (FHWA, 2017) provides detailed design treatments, images, and practical examples for a broad range of conditions, based on established best practices. The Guidebook for Developing Bicycle and Pedestrian Performance Measures (FHWA 2016 at right) details measures of roadway performance beyond simply moving the maximum number of motor vehicles in the minimum time. It recommends considering impacts on economic activity and business access, safety for all users, mobility for at-risk residents, health and environmental outcomes, and others.



Develop a simple checklist for all roadway work. This must include even routine paving and painting programs, to assure the network is made more complete at the lowest marginal cost when work is happening anyway. Topics can include (but are not limited to) the following:

- Are current crosswalks to be repainted? Will new needed crosswalks be painted?
- Is existing sidewalk to be repaired, resurfaced? If no sidewalk, can/should one be included?
- Is the current shoulder to be resurfaced? Is a gravel shoulder to be paved?
- Is there enough existing width for a bike lane on each side of the road? For one shared lane or pedestrian way on one side of the road?
- Is road appropriate for an advisory shoulder or shoulders?

Apply the checklist process to all existing roadway work and new construction, as well as development and redevelopment applications and site review processes, always with the goal of efficiently maximizing the accommodation of pedestrians and bicyclists.

See <u>Appendix B</u> for additional treatments that can be considered on such a checklist, for example to calm traffic on a cut through street (e.g. curb extensions) or to replace a four-way stops and minimize neighborhood idling vehicles by installing a mini-circle. A fairly simple checklist is recommended, but examples of Complete Streets checklists are listed in the references.



Bonner Ferry citizens on a walk around assessing roadway conditions

Section 3 – Existing Conditions, Barriers and Opportunities

Bonners Ferry has a federal highway that bisects the town running north/south. Like many small towns in Idaho, the highway serves as the main artery for cars and trucks and at the same time creates barriers to walkers and bikers. Moreover, Bonners Ferry has natural terrain challenges, from steep flanking hills that limit development and are prone to slides, to the Kootenai River that runs between north and south portions of the city. These factors create physical divisions of the community and limit connections between various parts of town. This contributes to four distinct neighborhoods or districts: the South Hill district, Downtown district, Oak Street neighborhood and the Northside district. Each of these districts has unique challenges and conditions. The goals however remain the same in all districts as outlined on page 1.

South Hill District – This area has longstanding residential neighborhoods and many important destinations, including all public schools, some private schools, shopping, banking, a municipal pool, a senior center and several churches. The historic development patterns have been supplanted along the highway by new growth demands that have spurred heavy vehicle-centric commercial development and encroachments over the past 25 years.

Much of the district is built on a roadway grid that intersects the highway at a skewed angle. While the grid spans the highway, the highway also creates a barrier between the east side and west. However the grid provides a good backbone for a connected series of low stress routes on each side of the highway that



South Hill District-Fuschia,

together can establish a network offering access to all of the destinations identified in this part of the city. There are few marked and controlled highway crossings today, yet the frequent destinations on both sides of the highway create a need for safe and relatively frequent enhanced pedestrian and bike crossing locations.

There are different sub-areas within this district. The east side of the upper hill has the municipal swimming pool and park. Access to the swimming pool today is on a steep narrow roadway with no sidewalks, however a section of Golden Street that has been closed to vehicles provides an opportunity, if cleared and graded for bike and foot traffic, for safer access to the pool.

Further downhill are churches and the high school/middle school complex. The routes between these destinations and up to the pool are difficult to follow today as they jig and jog through the grid, mostly on roadway and shared with cars. Improvements at key connection points and pavement markings and signage can establish a low stress facility for pedestrians and bicyclists. The highway has a difficult intersection at Alderson that experiences delay by all users today.

The west side of the highway has the oldest residential areas near the top of the hill. This neighborhood has some robust detached sidewalks as well as informal trails that might one day be formally developed as recreational trails. The grid is more complete on this side of the highway and provides relatively easy-to-use routes from the top of the hill to the bottom, with a few notable exceptions. Traffic near the grade school at drop-off and pick-up times and vehicles accessing the banks and other destinations create sometimes chaotic and dangerous walking and biking conditions on roadways near these destinations. There are strategies recommended to overcome these safety concerns. There is a high-quality sidewalk south of the grade school to the highway and a crossing to the middle school, however there is no formal connection to the neighborhoods south without traveling along the highway. An informal trail provides the outline of an opportunity to provide that connection.

Much of the shopping in Bonners Ferry is located near the bottom of the hill including grocery stores and other retail. These are located on both sides of the highway and provide a need and opportunity for better crossing locations. The street grid was not completed this far south and connections to these destinations are mostly along the highway today. There are options to provide off highway connections that the plan suggests.

Most of the pedestrian and bicycle network can be established short-term as shared facilities on the local roadways with a few key improvements needed to bridge network gaps and provide lower stress options. Those gaps can be closed more easily for walkers and bikers than for cars; a few pedestrian/bike-only connections have been identified. Over time if traffic volumes, new development, and speeds require, the network can be improved with more complete multimodal streets. Building out more robust bike and pedestrian facilities will require working with private developers in supporting this plan. Additionally the plan identifies opportunities for recreational trails to be built within the neighborhoods of the South Hill over the long term.

Downtown – Downtown is home to many of the city and county's civic destinations such as City Hall, Boundary County public buildings, sheriff, public library, post office, county historical museum and the City's visitor center. Downtown also hosts many dining and retail businesses. The challenge is getting pedestrians and bicyclists safely to downtown; once in town they have good access to most destinations on the grid roadway system.



Downtown District-Red

There is limited access from the highway to downtown; a shared-use sidewalk along the west side of the highway has only two connections: at Kootenai Street on the south and at Riverside/Main Street on the north. Between those a highway pedestrian underpass directly connects downtown sidewalks to the Hotel/Event Center and Oak Street neighborhood. There is a second connection to Oak Street on the south edge of downtown where Arizona Street and the Burlington Northern Santa Fe (BNSF) railroad pass under the highway, with a sidewalk on the north side of Arizona Street. From downtown there is also a connection west to the Kootenai Wildlife Refuge on Riverside Street and work is underway to secure funding and create a safer bicycle/pedestrian facility on and along the road.

The original downtown is along Main Street and the streets immediately adjacent and features wide sidewalks that flank old historic buildings – a built form that provides a good framework for integrated bike and pedestrian facilities. Large windows and street furnishings frame a strong public realm to create a sense of place and comfort for those pedestrians and bicyclists. There is an opportunity to strengthen this with seating and bike racks to serve the users.

The rest of downtown, while it has a strong grid of streets, lacks the buildings along the wide sidewalks and other placemaking elements. There is opportunity to integrate these elements in future development and redevelopment to accommodate both bikes and pedestrians. This will require policy support to prioritize and conscious effort for cooperation on the part of the city and private developers. The plan recommends enhancements to the access points, designated bike routes, bike racks, one section of bike lane and directional signage to offer more comfortable use today. Policy recommendations are included to guide the development and redevelopment efforts.

Oak Street – This small historic area has a handful of plats dating to the late 1800's when Idaho was still a young state. Many pre-date the existence of Boundary County. The area is mostly small lots (25'x100') that have been developed as residences. Three platted blocks are located near the Kootenai River (lower Oak Street), while the remaining blocks traverse up the hillside that flanks the eastern city limits (upper Oak Street). In addition to residences, the Boundary County school administration building and a Hotel/Event Center are located in the lower Oak Street neighborhood; a community performance theater and senior housing are located in upper Oak Street. There are limited sidewalks, Arizona Street and Ash Street have sidewalks on one side and there are sections near the hotel. The sidewalk section in front of the senior housing on Ash was described by youth community as the "best sidewalk in town."



The BNSF rail corridor, paralleled on the south by Ash Street, separates the lower and upper neighborhoods. There is only one formal crossing of the rail line at Arizona Street and Ash.

The neighborhood has few facilities for pedestrians and bicyclists, yet a shared roadway can work most of the time with the exception of when the community performance theater

Oak Street neighborhood - Orange

is hosting an event, then Ash can get quite crowded and dangerous.

Access is challenging from this neighborhood to downtown and the south hill. Pedestrians coming from downtown can use the sidewalk on the Arizona Street underpass or navigate the pedestrianonly tunnel which ends at the hotel then travels through the hotel parking lot on disconnected sidewalks and walkways to the intersection of Plaza/Arizona. From there travelers can use Plaza to access the lower neighborhood or cross the rail line at Arizona to the upper area. Bicyclists must use the Arizona Street underpass which has no marked bike lanes. All travelers must cross the rail on Arizona to reach the upper part of the neighborhood yet Arizona has only an overgrown sidewalk on one side and no designated space for pedestrians or bicyclists on the roadway rail crossing.

Pedestrians and bicyclists attempting to get to the south hill have even fewer options. The sidewalk on the north side of Ash dead ends at a retaining wall just before Ash Street intersects the highway. If you could reach the highway there is no marked crossing to the west side and no formal walkway on the east side of the highway. There are informal trails from the upper neighborhood over the hill to reach the top of the south hill, those trails are unmarked, unlit and have no compacted surface. There is an opportunity to create a connection on the east side of the highway; it will require cooperation from ITD.

This plan recommends improvements to Arizona and the rail crossing to provide adequate and safe access for both bicyclists and pedestrians. Additionally, the plan makes recommendations for an east side pathway on the highway and/or formal connecting paths through the existing platted but undeveloped ground along the upper Oak Street to the South Hill district.

Northside District – The Northside

district is north of the Kootenai River to the city limits and much of it is developed on slopes. This district hosts the Community Hospital, many local medical professional offices and City/County Restorium. It has seen much of the residential development in Bonners Ferry in recent years. There is a county park in this area that hosts organized sports, such as baseball and soccer and outdoor community events. This area has one



of the few places in town where it's possible to get down to the river and its shore. It is near the city's wastewater treatment facility, which can be accessed today by a gravel road along the river.

Initially developed in the county and subsequently annexed into the city, many streets were not required to build to urban standards with curbs, sidewalks or other dedicated bike or pedestrian spaces and include private roadways and a lack of roadway connections. These residential streets have low traffic volumes and speeds and neighbors are used to accommodating pedestrians and bikes in shared travel lanes with vehicles. There is an opportunity to mark connected bike routes

within the neighborhood that offer lower stress travel in a connecting network, however all will have some steep grades due to the topography.

Chinook and Kaniksu Streets carry a higher traffic volume and serve the hospital and most residential connections. Chinook Street has two steep curves and a narrow travel way that leaves bicyclists and pedestrians feeling unsafe despite a sidewalk on one side of the street. Kaniksu has a narrow paved surface with little room for pedestrians and bicyclists to share. Both of these streets will need improvements, as recommended by the plan, to safely accommodate pedestrians and bicyclists.

Highway 95 has a high-speed five-lane design in this section. The medical facilities and residential development are on one side and the county park on the other. Access to neighborhoods west of the highway is via four uncontrolled intersections, with the intersection of Chinook having the highest use. The intersections of Comanche, Main/Latah and Ada with Highway 95 have dangerous conflicts for pedestrians and bicyclists as well as vehicles. A sidewalk on the shoulder on the west side of the highway leads up the hill to Ada. The highway has a wide shoulder with Jersey barriers at the pavement edge north of Ada. There is a informal trail beyond the Jersey barriers indicating pedestrian and bike use outside the paved width.

There is only one access point to the county park; an uncontrolled intersection with Highway 95 and District 2 Road. This narrow, steep road has an at-grade Union Pacific Railway crossing and creates safety concerns for bicyclist or pedestrians. There is an opportunity for a pedestrian and bicycle only connection to the county park from another location near the highway and Chinook. Remnants of the old highway bridge offer grade separated access over the UP rail connecting to an informal trail being used today to travel under the new bridge abutment to the county park.

There are prospects for improvements along the highway to create lower stress walking and riding adjacent to it and opportunities for a network of shared routes on the existing local roadway system in the short term. Longer term recommendations include amenities that would better serve recreational users such as picnic tables and possibly restrooms. Connections to the old highway could be made for recreational use, but will require partnership and cooperation with ITD. Complete streets improvements and future connections on Chinook, Kaniksu and any newly developed roadway connections will require additional outside funding and cooperation from developers as development proceeds.



South Hill from the west

Section 4 – Recommended Network

As noted earlier, this plan is intended to improve walking and bicycling options in Bonners Ferry. All of the options together build out the bike and pedestrian "Network." Overall the *network* is designed to direct residents and visitors around downtown and connect routes in all directions to the destinations most would seek. The *network* principles, as described to below, help to prioritize the use of existing infrastructure with minimal change to create a safe and comfortable system for the average user. More complex improvements may happen over time as demands and opportunities arise. The addition of directional signage offers users a better experience in knowing where they are going and how long it will take to get to various destinations. A quick summary of the routes within the *network* are:

- North/south routes in the South Hill district on either side of the highway with key highway crossings and connections that direct users to desired destinations including downtown;
- Downtown routes and connections in all directions;
- An Oak Street neighborhood route connects east to the residential areas off of Ash Street, south to the top of the south hill and west into downtown.
- A Northside district route connects the neighborhoods north of the river with the nearby recreational opportunities and south into downtown;
- Recreational and commuting routes connect bike riders in all directions; designed to take users from town to destinations within the region, such as the Kootenai National Wildlife Refuge.

The network and the routes within it are designed around destinations that have been identified for the directional signage and wayfinding system to ensure that it offers a useful transportation options to the places people most need to access. Routes are designed for comfortable use by all ages. Directional signs will direct users to destinations using key community landmarks and will indicate distances or the time for an average walker/biker to get there.

Network Principles

This plan prioritizes use of existing infrastructure with minimal change to create a safe and comfortable network for the average user in the short term. Longer term improvements are designed to enhance comfort and convenience. Network principles include:

- Safe and comfortable access from all neighborhoods to destinations all around town so more residents can choose to walk or bike.
- Minimal infrastructure change/investment in the short term.
- An alternative to using Highway 95 for people walking and biking.
- Most efficient and direct routes, off the highway where possible, that are safe and comfortable for users of all ages and abilities.
- Clear network directions using signs and pavement markings.
- More opportunities to walk and bike as a means to recreate.
- Identification of more complex improvements overtime.

The maps on pages 20-24 provide a basic overview of the network. It consists of routes and new pathways and the routes taken together form the network to create connections throughout the city. Many of the recommendations are designed to be achieved in the short term with a relatively minimal cost. This will allow the residents of Bonners Ferry to enjoy many of the benefits of the network more quickly. Exact design of improvements may change as designs are worked on.

As you look at the maps you will see "routes" identified with solid colored lines. These will take forms that have been tried and tested in other communities, for instance the network is anticipated to uses bike boulevards and low stress "on-road" routes to achieve the network principles (see Appendix A and B for descriptions.) With this in mind, most people walking or biking should feel safe and comfortable using the system. Network signage, sharrows and several areas with striped shoulder pathways will inform those using a route. These strategies also let drivers know that routes are part of a network and they should expect to share the road. New pathways are shown as dotted lines and are recommended as high priority only where they are needed to provide low stress facilities. Other pathways such as from Oak Street to the South Hill district should be explored to expand route choices and offer recreational options.

Where there are more complex projects recommended the plan maps identify these with numbers and short titles. These improvements are more fully described in the Recommended Route Improvements starting on Page 17. Major infrastructure change in the short term is only recommended where existing infrastructure is inadequate for safe and comfortable walking and biking due to higher traffic volumes or unsafe conditions, such as the sidewalk gap at Ford and Alderson, or a new sidewalk/in-road pathway on the south end of Alderson. More extensive infrastructure improvements, such as improvements on Cody Street, Chinook/Kanisku and where Highway 95/2 climbs up the north hill, are recommended with a recognition of the need to secure outside funding or development partners to complete them. These projects may take more time to achieve and will be higher cost. Except where noted they are designed to enhance the network over the longer term.

There are additional crossings recommended for the highway (See #1 through #6 on Page 14). ITD has reviewed these and agreed to construct them as they rebuild the highway. Details at each location may vary from those shown as design is completed. These are essential to complete the network for pedestrians and bicyclists. The crossings provide reasonable and attractive access to identified destinations at an acceptable level of service for pedestrians and bicyclists. The locations consider the inconvenience out of direction travel distances. Taken together these crossings will create safe access across Highway 95/2 to serve the network established in this plan at an acceptable level of service for pedestrians are also identified (page 13.) These are initial recommendations to achieve the safety goals, the designs may change as they are more fully developed.

Recommended Network Maps





Recommended Network Maps



Downtown Network and Network Connections

Downtown

The routes shown above are for through travel by bicyclists except the pedestrian only tunnel. These routes will be signed and will have sharrow pavement markings added. The downtown is very walkable. Pedestrians can access any destination using the existing sidewalks and crosswalks very safely, especially on the east side of downtown. Bicyclists will use the road system to access destinations that are not on the routes, just as they do today. Signed access to the fairgrounds will be via Bonner Street to 4th Street.

High Priority Local Crossings and other Local Improvements



Alderson Street and Paradise Valley Lane

Stripe crosswalk on north leg of Paradise Valley/Alderson intersection and build sidewalk on the west side of Alderson from the crosswalk to Garden Lane. Short term; stripe shoulder on west side of Alderson.



Arizona, Plaza and Ash Streets

Stripe bike lanes on both sides of Arizona/Plaza to Ash Street, realign center stripe to middle of pavement. Add crosswalk from SW corner to the NE corner of Arizona and Plaza. Remove all but middle three jersey barriers on Plaza, trim vegetation on sidewalk. Add curb ramp and crosswalk on west leg of Ash and Arizona.



Chinook and Highway 95/2

Stripe crosswalk east of Bingham across Chinook. Move existing curb cuts slightly west and extend curb ramps to align crosswalk and narrow turn radius onto Bingham.

Develop trail to old bridge segment and add amenities such as tables and pedestrian/bicycle and wayfinding.

High Priority Crossing Improvem





McCall Street/Bauman Street and Hwy 95/2

Stripe crosswalk on all four legs of this important intersection. Use pedestrian Activated RRFB to control traffic.





Stripe cross mid-block cr between the



Section 5 – Policy Recommendations and Plan Implementation

Policy Framework

This plan is a starting place for Bonners Ferry at this point in time. To continue to build and improve the pedestrian and bicycle network and the infrastructure that will serve it, it is recommended that the city adopt the following polices into their policy framework in the appropriate documents. The first ten are designed to ensure the implementation of this plan. The other policies will be necessary to ensure ongoing data collection, prioritization and budgeting and building partnerships.

Recommended Policies

- 1. Complete bicycling and walking network improvements in the Transportation Plan as funding becomes available.
- 2. Develop connections from the bicycling and walking network within the city limits that integrate with regional bikeways and trails as funds become available.
- 3. Support multiple safe walking and bicycling crossings of Highway 95.
- 4. Design new and rehabilitated streets with the standards developed in the Transportation Plan to address a variety of transportation needs including vehicle forecasts and bicycling and walking requirements for all ages and abilities.
- 5. Require new sidewalks, bikeways and walking paths during new development. Prioritize improvements that create lower stress connections in the network.
- 6. Develop design standards and development requirements, as well as incentive mechanisms, for the downtown area that requires and rewards a high-quality public realm.
- 7. Consider additional treatments such as listed in the appendix section of the pedestrian and bicycle network plan when future conditions present challenges to safety and low stress use of the pedestrian and bicycle network.
- 8. Update the plan as necessary to include additional or new data, streets, information etc. The plan should be a living document, and should be amended or adjusted as the community needs or designs change.
- 9. Implement the directional signage and wayfinding program in this plan and update it as needed.
- 10. With community partners, such as local organizations, health care providers and the school district, develop a comprehensive bicycling and walking safety program and events.
- 11. Routinely collect walking and bicycling volumes (counts), movements and highway crossing counts. Adjust the recommended plan improvements, if needed.
- 12. Measure trends in traffic volume, speed or collisions impacting bicycling and walking travel, and consider remedies where warranted such as signage, striping or other traffic calming measures.
- 13. Ensure the city's pavement management system and maintenance practices deliver safe and clean bikeways, sidewalks, crosswalks and other bicycling and walking infrastructure facilities.
- 14. Improve safety conditions for bicyclists and walkers through law enforcement efforts focused on drivers, bicyclists and walkers.
- 15. Consider, during each budget cycle, public improvement projects such as street trees, seating, bike racks, lighting and directional signs that create and maintain comfort and that encourage walking and bicycling.

- 16. Develop a citywide "end-of-trip" bicycle parking strategy to increase the number of secure, convenient and attractive bicycle parking/storage facilities such as in downtown and other important destinations.
- 17. Work with local businesses and employers to install secure bicycle parking as development and redevelopment opportunities present themselves.
- 18. Pursue grant funding, such as Safe Routes to School, Transportation Alternatives, Child Pedestrian Safety and Federal Lands Access Programs for bicycling and walking improvements.
- 19. Encourage amenities, connections, marketing, events and other strategies that promote bike tourism.
- 20. Review the city's ADA Accessibility Transition Plan that identifies ADA gaps and recommends a timetable and priorities for improvements.

Implementation/Feasibility

A proposed active transportation network is not useful if significant portions of it cannot be practically built. The plan lays out priorities and recommends implementation strategies that are realistic and affordable for Bonners Ferry in the short term. It also positions the city to pursue funding opportunities for larger projects which the city cannot fully address on its own. While more costly facilities may be built over time, implementing low cost solutions now, such as paint (striping and sharrows) and signage, is important to establish a "build it and people will use it" mindset. Given the low volume of vehicles on many of Bonners Ferry's local roadways these low cost solutions may serve for the foreseeable future to provide safe, comfortable and convenient walking and biking as long as the city is diligent in maintaining the paint and keeping them clean and keeping all of the surfaces in good repair.

As growth occurs, and if traffic volumes increase there may be a need for more robust improvements that create multimodal complete streets such as the addition of a sidewalk/sidepath and/or bike lanes to existing roadways where needed. Continual assessment of this plan over time will help to identify where existing shared-use facilities are no longer sufficient and should be upgraded. Reconstruction of existing roadways as they reach the end of their useful life should include a pedestrian and bicycle needs assessment. Robust walking and biking facilities should always be included in the construction of new roadways with new development – the city should have a default standard of a complete street roadway.

Feasibility of proposed on-street facilities was assessed by conducting walking and biking audits of the existing conditions and examining existing roadway cross sections. Existing road widths and rights of way provided preliminary indications of what type of improvements or modifications would be possible for adding walking and biking facilities today. Alternate facility types in various approved transportation publications were often considered (see resource section). Improvements requiring significant right-of-way purchases or additions of curb, gutter and drainage were considered less likely to be built in the short term and therefore less feasible or were scheduled for the long-term build-out unless no other solution could be found at that location.

Section 6 - Recommended Route Improvements, i.e. Projects

South Hill West (Yellow) – This route commences at the intersection of Madison and Highway 95 and traverses through side streets, west of Highway 95 to Pine Island Road. The route uses the sidewalk on the highway to connect gaps in the network. Walkers and bicyclists use the same shared on street route, except in places where sidewalk already exists. This route connects into Downtown via the sidewalk on the west side of the highway.

The route should be signed with "Share the Road" signs and include sharrows and other pavement markings. Directional signage, when installed, will provides distance and time to destinations and will guide users which direction to go and where to turn. There is a recommendation to stripe Buchanan with a pedestrian walkway on one side. The signs, pavement markings (sharrows and striping) and increased awareness can provide a connected route to reach all network destinations identified in this area of town in a short time with very little cost. Travel on the new sidewalk along the highway offers more accessible routes where accessibility needs cannot be met on shared roadways.

The route can be enhanced with recommended improvements: a pathway connection from Wilson to Roosevelt and a short pathway from Bauman to the Super 1 parking lot. The Bauman connection requires voluntary agreement. Absent that agreement a connection can be made using the sidewalk on the highway. More extensive recommendations include; rebuilding Cody from the highway north to Jackson to add a walkway or sidewalk for safer walking and biking. This improvement will require the city to pursue additional funding. The highway sidewalk can also be used to bridge gaps in the network until the pathway connections can be attained.

Typical treatments – Share the Road signage, directional signage, pavement markings, clean and repair existing sidewalks, add or rebuild curb ramps where needed and sign connections to highway crossings where needed.

Projects – South Hill (West)

- SH 1. Build a pathway connecting from Augusta Street at Wilson Street to the north end of Roosevelt Street/Solomon Street on utility right-of-way.
- SH 2. Build a pathway connecting Bauman west of Solomon to the Super 1 parking lot.
- SH 3. Cody from Jackson to Buchanan; rebuild roadway to street section standards recommended in the transportation plan update with curb and sidewalk; or by widening to add an extruded curb pathway for pedestrians. Maintain sharrows for bike shared use.
- SH 4. Explore special treatment at the elementary school at the intersection of Augusta and Stephens, through paint, a raised table crosswalk, or other means to enhance safety.

South Hill East (Pink) – The route runs from the top of the south hill on the north to Labrosse Hill Street on the southeast of the highway. It uses a combination of local streets to create a north/south off-highway route for bicyclists and pedestrians east of Highway 95. This route connects with downtown by crossing the highway at the new midblock crossing near the top of the hill and then via the pathway on the west side of the highway.

The route should be signed with Share the Road signs and include sharrows and other pavement markings. Directional signage, when installed, will provide distance and time to destinations and will guide users which direction to go and where to turn. There are three recommendations that are

needed in the short term to create a fully connected route: 1) grade and open Golden Street to ped/bike, 2) connect Ford to Alderson and, 3) stripe a crossing and walkway on south Alderson.

Once it reaches the school grounds it is recommended that the route travel through on the service drives and local roads using striping, sharrows and directional signage to connect from Alderson and Garden to Badger and Walker. There are several separate options near the Safeway grocery store for a safe connection to McCall Street by constructing a new pathway through this section. The route can use the sidewalk on the highway until a pathway can be agreed upon and financed. The signs, pavement markings (sharrows and striping) and increased awareness can provide a connected route to reach the network destinations identified in this area of town in the short term with very little cost. With the exception of the new pathway to McCall the other projects noted can also be done relatively quickly for minimal cost.

Typical treatments – Share the Road signage, directional signage, pavement markings, clean and repair existing sidewalks, add or rebuild curb ramps where needed and sign connections to highway crossings where needed.

Projects – South Hill (East)

- SH 5. Clear and grade Golden Street for foot and bike traffic.
- SH 6. Connect Ford Street to the sidewalk on the east side of Alderson at Highway 95 with paving or concrete for a roll-able surface.
- SH 7. Mark (paint) a crossing on Alderson Lane north of the intersection with Paradise Valley Lane and build a sidewalk or stripe a shoulder walkway on the west side of Alderson from the crossing to Garden Lane (see detail #7 page 22).
- SH 8. From the intersection of Alderson and Garden Lane connect the sidewalk/shoulder pathway to the school service drive using the routes shown on the map on page 20.
- SH 9. Pursue right-of-way acquisition and construct a walking, biking or shared use path connecting Tamarack to McCall Street, such as via Badger to Walker Lane to McCall Street.
- SH 10. Explore building roundabouts at the intersections of Alderson and Augusta with Highway 95 to alleviate delay while improving safety for all users and allowing highway access for drivers and safer crossings for bicyclists and pedestrians.

Oak Street (Orange) – This route travels from downtown on Arizona Street under the highway, across the RR tracks and east on Ash Street and Oak Street. A second leg travels from the pedestrian tunnel through the Hotel/Events Center parking lot to the school district administration building and the lower neighborhood.

The route should be signed with Share the Road signs and include sharrows and other pavement markings. Directional signage, when installed, will provide distance and time to destinations and will guide users which direction to go and where to turn. This will require cooperation from the Hotel/Event Center to find a path across the parking lot and cooperation from the railroad on suggested improvements at the rail crossing on Arizona. There is a recommendation to realign the centerline and add bike lanes to Arizona and to clear vegetation and make visibility improvements on a short section of sidewalk on Arizona.

The highest priority extensive improvement is a direct pedestrian/bike route to the south hill on the east side of the highway and south side of Ash Street from Madison Street to Arizona Street. ITD

cooperation will be needed to move a section of curb near the retaining wall along the highway and surfacing the pathway behind the curb up the hill. If the Ash street intersection with Highway 95 is ever improved with a crossing bike lanes could be striped on Ash from the Highway to Arizona Street. Additionally, pathways should be pursued now and over time by formalizing informal trails over the hill where the municipal swimming pool, park, schools and more can be accessed. Suggested routes in priority order are from Alder/Hazel Streets to Golden/Helena Streets, at the end of Alder or Fir Streets to Golden/Helena Streets, and connecting Fir Street to El Paso. ADA accessibility from this neighborhood could be explored in a review of the transition plan.

Typical treatments – Share the Road signage, directional signage, pavement markings (including bike lanes), clean and repair existing sidewalks and add or rebuild curb ramps where needed.

Projects – Oak Street Neighborhood

- OS 1. On Arizona Street, realign centerline, extend bike lanes, add crosswalk markings and clean up sidewalk at Arizona, Plaza and Ash Streets.
- OS 2. Move curb line near retaining wall on Ash Street at Highway 95 to create space for a pathway on the east side of highway from Ash Street to Madison Street.
- OS 3. Pursue rights-of-way and build a pathway connecting from the Oak Street area to the South Hill from Alder or Hazel to Golden/Helena.
- OS 4. Pursue rights-of-way and build a pathway connecting from the Oak Street area to the South Hill from Alder or Fir Streets to Washington.
- OS 5. Pursue rights-of-way and build a pathway connecting from the Oak Street area to the South Hill from Fir Street to El Paso.

Downtown (Red) – The various network routes from all districts connect in downtown; via the sidewalk on the highway at Kootenai, at the underpass on Arizona, from the sidewalk on the bridge at Riverside and Main and through the tunnel at the Visitors Center. Downtown should be the hub of the all directional signage and any additional wayfinding, kiosks and branding signs. The marked bicycle route is on Arizona to Main to Bonner across the railroad tracks then connecting to the fairgrounds or to Riverside.

The route is one of the few in town with separate bicycle and pedestrian facilities for much of its length. Bicyclists should be directed on road with sharrows and Share the Road signs while pedestrians use the sidewalks. Directional signage, when installed, should guide bicyclists providing distance and time to destinations and will guide users which direction to go and where to turn. Pedestrians can be served with wayfinding tools such as kiosks that can include maps and more complete information about destinations in town and can otherwise find their way around downtown without guidance augmented by the directional signs.

The plan recommends bike lanes on Arizona from Main to Ash Street. There is sufficient street width for bike lanes and higher traffic volumes warrant the treatment. A curb ramp is recommended to allow bicyclists access to the pathway through the library grounds and on to the Visitors Center. Amenities such as picnic tables at the library, seating on the downtown sidewalks and bike racks for short term bike parking would enhance downtown.

More extensive improvements should be pursued over time as development and redevelopment in downtown occurs. This should include wide sidewalks and a robust pedestrian realm along street fronting buildings as well curb, gutter and roadways that welcome bicyclists. These longer term

improvements will require strong policy direction from the city and cooperation with the development community.

Typical treatments – Directional signage, pavement markings, clean and repair existing sidewalks, add amenities such as seating, trash receptacles and picnic tables, add short term bike parking, and add or rebuild curb ramps where needed.

Projects – Downtown

- DT 1. Stripe bike lanes on Arizona from Main to Plaza following reconfigured centerline.
- DT 2. Add curb ramp leading to library pathway from Arizona Street at underpass.
- DT 3. Add or improve sidewalks as demand grows and development occurs.
- DT 4. Add amenities such as picnic tables, seating and short term bike parking at key locations.
- DT 5. Install more extensive wayfinding such as kiosks.

Northside (Blue) – This route connects on local roads within the northside neighborhoods from the edge of town on Kaniksu to the highway at Chinook. Walkers and bicyclists share the route except on Chinook, where pedestrians stay on the sidewalk on Chinook to Comanche and bicyclists are directed to Comanche via Bingham. This recommended bike route is not fully accessible or low stress due to the steep incline, but is the safest connection for bicyclists to Kaniksu. The route south of Kaniksu is also on shared local roadways and includes a potential river shore access near the wastewater treatment plant.

To create safer conditions the plan recommends enhancing the crossing of Chinook at Bingham. At Chinook and Bingham the route connects through the park and old bridge abutment over the railroad to the informal pathways leading to the county park and ball fields. The plan recommends formalizing this trail. The improved crossing also provides a connection to the shoulder sidewalk on Highway 95 leading up the hill and connecting to recreational and commuting routes traveling to Three Mile Corner. To improve safety, the plan recommends closing vehicle access to Comanche from Highway 95 while maintaining pedestrian and bicycle access. The plan recognizes this is a minor inconvenience to drivers. Vehicles turning uphill from the Highway create a potentially deadly conflict for pedestrians and bicyclists. An alternative is to make it one way downhill.

The route should be signed with Share the Road signs and include sharrows and other pavement markings. Directional signage, when installed, will provide distance and time to destinations and will guide users which direction to go and where to turn. Pedestrians and bicyclists should have separate directional signage where they have separate routes.

The route can be enhanced by adding amenities such as trash receptacle and more picnic tables at the park north and south of Chinook at Bingham. This park is also an excellent site for more general wayfinding. More extensive recommended improvements include; improving the pathway to the county park, and working with ITD to move the Jersey barriers or widen the outside of the shoulder to create safe walking and bicycling space from Ada Street to Old Highway 95 along the highway shoulder. These projects will require cooperation with the county and with ITD.

Two additional recommended projects are reconstruct Chinook to improve sightlines and widen the sidewalk, and improve Kaniksu with the addition of a designated pedestrian space – either a sidewalk or shoulder pathway. These two projects will require additional outside funding and/or cooperation with new development.

Other enhancements that could be considered in the long term include additional amenities for recreational users such as improved parking with access to Old Highway 95, an overlook on Old Highway 95 and amenities at the river shore access area such as tables, restrooms and parking.

Typical treatments – Share the Road signage, directional signage, pavement markings such as sidepaths, clean and repair existing sidewalks and add or rebuild curb ramps where needed.

Projects – North Side

- NH 1. Improve Kaniksu with a shoulder pathway initially and sidewalks in the long-term.
- NH 2. Close vehicle access at Comanche and US 95, retaining bicycle and pedestrian access. Alternatively make Comanche one-way downhill from Benewah.
- NH 3. Improve crossing on Chinook at Bingham (see detail #9, page 22).
- NH 4. Build protected shoulder pathway along US 95 from Franklin Street to Old Hwy 95.
- NH 5. Improve access from bridge remnant and formalize pathway to County Park (see detail #9, page 22).

Northside Commute (Purple) – The route connects from the network in the Northside neighborhood up the north hill to Three Mile Corner. While this route is named a commuter route and will be used by commuters it also reinforces the recreational connection to the Old Highway with a low stress connection to the Three Mile Corner area. Improvements may be achieved in the short to mid-term with cooperation from ITD and/or the county if existing right-of-way is sufficient. If additional right-of way is required this may be a long term project.

Typical treatments – Directional signage, keep shoulder clean and free of debris.

Projects – North Hill

NH 6. Connect from Highway 95 to Old Hwy 95 or Homestead Loop road.

Recreational Routes (Green) – Potential recreational routes discovered during the assessment for this plan are indicated on the maps as dotted green where there are informal trails today and solid green where users (especially bicyclists) are already using existing pathways or county roadways. The recommendation in the long term is to improve existing pathways, build new pathways, and pursue connections to the recreational routes shown as staff time and funding is identified. The highest priority of these is a connection to the wildlife refuge for pedestrians and bicyclists. This connection can be accomplished by building a sidepath along the Riverside Drive. The routes should be added to the directional signage in the wayfinding system as they are developed including marking recreational routes on county and state roadways with directional signs where permission is granted to do so.

Typical treatments – These routes will be developed over time and treatments will vary by route and route type. Often they will be pavement markings and route signage, in some cases sidepaths. The two listed below would serve the most traffic today.

- RR 1. Develop a sidepath to the Kootenai Wildlife Refuge on Riverside Drive from the edge of town to the refuge using best practices such as a striped sidepath with a painted buffer where practical and increased separation such as vertical delineators on curves (see rendering page 6).
- RR 2. Develop a route west of the highway on Pine Island and Mirror Lake (18A) to Riverside Drive with pavement markings and route signage.

Section 6 – Wayfinding and Directional Signage

Bonners Ferry – As Bonners Ferry considered a focused pedestrian and bicycle plan the desire for signage to guide people to their destinations became paramount. One strategy to clearly encourage people to try walking and biking is to inform them of how to get where they are going and how long it will take to get there. The directional signage portion of this plan is designed to do just that.

Another aspect of this kind of signing is what images to use. Some locales use simple institutional walking and biking signs, and they work. Others design a special sign that identifies not just where you are going and how long it takes to get there, but also has a distinctive image to tell you where you are – in this case in Bonners Ferry. These signs can begin to build an identity for a community and can be easier for the user to distinguish. Bonners Ferry had a desire to begin building its identity through these signs. An image has been developed to be used on the directional signs, and to become part of a larger system of directions and identity signage that when complete will make up a wayfinding system for Bonners Ferry.

Prior to developing the directional signage schedule for Bonners Ferry the pedestrian and bicycle advisory group worked with the consultants to classify a list of destinations for inclusion on the signs based on their relative importance to users throughout the area. The sign schedule is an implementation action for this plan and that schedule (or list of signs) will become a working document for the city's public works department. More important for this plan is the list of destinations that will be included; they are listed at the end of this section.

A second advisory group was named and worked with the city and consultants on a vision and images to use on the wayfinding system to help brand Bonners Ferry. The images are below.





Directional Signage and Wayfinding

A pedestrian and bicycle wayfinding system consists of comprehensive signing and/or pavement markings to guide

pedestrians and bicyclists to their destinations along preferred low stress routes. Signs are typically placed at decision points along routes – such as at the intersection of two or more network connections and at other key locations leading to and along pedestrian and bicycle routes. The sign themselves are called directional signs and a full wayfinding system consists directional signage, gateway signs, kiosks, maps, and highway/roadway signs all using a consistent branding image.

Wayfinding signs can direct users to a number of different types of destinations such as commercial centers, schools, civic/community destinations, local or regional parks and trails, hospitals and onstreet bikeways. There are numerous benefits to having a wayfinding system. It can familiarize users with the pedestrian/bicycle network, identify low stress routes to destinations and overcome a "barrier to use" for infrequent walkers or bicyclists. Signage that includes both mileage and travel time to destinations may help minimize the tendency to overestimate the amount of time it takes to travel by foot or bicycle. These sign systems visually indicate to motorists that they are driving along a pedestrian/bicycle route and should use caution. The system passively markets the pedestrian/bicycle network by providing unique and consistent imagery throughout the jurisdiction.

National guidance for bicycle wayfinding signage is found in Chapter 9 of the Manual on Uniform Traffic Control Devices. There is no uniform guidance yet for pedestrian wayfinding; many jurisdictions follow the same pattern as the guidance for bicyclists and also include maps at key locations.

Types of Signs

There are four general types of wayfinding signs:



1. Decision Signs

Purpose: Mark the junction of two or more network connections. Inform users of the designated route to access key destinations.

Information: Destinations and arrows, distances and travel times are optional but recommended.Placement: Near side of intersections in advance of a junction with another network route.Place along a route to indicate a nearby destination.

2. Turn Signs

Purpose: Indicate where a pedestrian route or bikeway turns from one street onto another street. These can be more effective when used with pavement markings.

Information: Include arrows or destinations and arrows if destinations have changed.

Placement: Near side of intersections where routes turn (e.g., where the street ceases to be a pedestrian or bicycle route or does not go through). Pavement markings can also indicate the need to turn to the user.

3. Confirmation Signs

Purpose: Indicate to pedestrians and bicyclists that they are on a designated network route with an up arrow. These signs make motorists aware of the pedestrian and bicycle route.

Information: Signs can include destinations and distance/time. Do not include individual arrows.
Placement: Every ¼ to ½ mile on off-street facilities and every 2 to 3 blocks along bicycle facilities, unless another type of sign is used (e.g., don't place within 150 ft. of a turn or decision sign). Should be placed soon after turns to confirm destination(s). Pavement markings can also act as confirmation that a bicyclist is on a preferred route.

4. Destination Signs

Purpose: Indicate to pedestrians and bicyclists that they have arrived at a destination.Information: Include destinations which then drops off decision signs. Do not include arrows.Placement: Near side of intersection closest to destination.

Pavement Markings, such as bike lanes, sharrows and pedestrian walkways can be installed to help reinforce routes and directional signage and to provide pedestrian or bicyclist positioning and route branding benefits. Pavement markings may be more visible than signs to users of the route and are especially useful where signs are difficult to see (due to vegetation or parked cars). They can also help bicyclists navigate difficult turns.

Destinations – Bonners Ferry

Directional Signs – While there are more destinations in Bonners Ferry than are listed here these are the ones that were prioritized in this process to appear on the pedestrian/bicycle directional signs within the wayfinding system.

Districts	Recreation/Parks	
Downtown	Kootenai Wildlife Refuge	Medical
South Hill	River Access	Hospital ER
Oak Street	USFS District office	Panhandle Health District
Northside	Veterans Memorial Park	Kaniksu Health Clinic
Civic/Schools Visitor Center Library	Fairgrounds Memorial Park Northside River Park Rivers Park/Ball fields	Connections Hwy. Crossing Ped Tunnel under 95
High School Middle School Elementary School	Services Shopping & Services Three Mile Corner	Roadways Highway 95 Highway 2

sted here these are

Kiosks/Additional Destinations – When the wayfinding system is expanded these are the kiosk locations and additional destinations that could be included in them. The lists below are not exhaustive and were completed at only a high level. They form the beginning of where wayfinding kiosks might be located and the additional destinations this process identified that might be listed on them. Kiosk locations with an asterisk are highest priority in this high level review. The city should also consider partnerships with for instance the county, hospital, forest service and tribe as funding partners and to place kiosks once they are designed.

Possible Kiosk Locations

- Visitors Center * Library * USFS District office * Augusta/Hwy 95 Swimming pool Northside River Park* Fairgrounds Hotel/Event Center Hospital
- Other Destinations for Kiosks City Hall County Courthouse Sheriff's Office Museum Post Office Senior Center Kootenai Tribal HQ

Kootenai Hotel/Event Center Hospital ER Panhandle Health District Kaniksu Health Clinic Fairgrounds Restrooms Riverside Boat Launch Deep Creek Boat Launch Cow Creek Road

Wayfinding Sign Family

Bonners Ferry may develop a full wayfinding system in the long term. The basic list to consider for a family of signs in a complete wayfinding system includes:

- Primary Gateway (typically a monument sign)
- District Gateway (monument or pole sign)
- Vehicular directional above 40 MPH (roadway pole sign)
- Vehicular directional above 40 MPH (roadway pole sign)
- Banners (sidewalk pole sign, or on decorative streetlights)
- Parking (roadway/sidewalk pole sign)
- Vehicular Destination arrival (roadway pole or monument sign)
- Pedestrian/Bicycle destination arrival (pole sign, location varies)
- Pedestrian/Bicycle directional (pole sign, location varies)
- Bike Route (roadway pole sign)
- Pedestrian Kiosk (sidewalk sign, typically with map)
- Destination Recreational (roadway or pathway pole sign)





Section 7 – Appendices



Visitor Center and new welcome sign



Old Highway 95 pathway



New highway 95 sidewalk

Appendix A: Low Stress Bike and Pedestrian Network

What is a Low Stress Bike and Pedestrian Network?

The best opportunity to attract new pedestrians and bicyclists is to provide low stress facilities that are comfortable to use for as many people as possible. Low stress means just that; when using these facilities people are comfortable and feel safe; where there are conflict points there are clear directions for how to navigate and where needed there are safety features, such as signalized crossings.

The other important aspect of low stress is recognizing that different users have a different perception of and ability to deal with the stress present. A true low stress pedestrian network will feel safe and comfortable for users of all ages and abilities. In practice this means that the goal is to serve the most vulnerable users well. Within the bike network facilities are designed for the "Interested but Concerned," defined as the "curious about bicycling and want to lead more active lives but, are afraid and uncomfortable sharing roads with vehicles" (see Figure 2 below.) This group includes people from all ages as well and strategies include making it more comfortable to share the road when it's safe to do so and providing separate facilities when it is not.

The low stress **pedestrian network** recommended for Bonners Ferry is a combination of on-and offstreet facilities. It includes sidewalks, pathways and on-street shared space and in some instances pedestrian lanes on low-volume low-speed roadways. It has connections to destinations in all parts of town. Over time, if needed, more significant infrastructure may be added to ensure the network is easy and convenient to use if traffic volumes or use increase and as new development occurs.

The **bike network** in this plan was developed to use existing facilities, mostly low-volume and lowspeed roadways that are already being used by bicyclists. Recommended minimum improvements, such as striping and signage, are prioritized to make them safer and more connected. The network employs on-street bike routes and a few off-street trails connecting bicyclists to key destinations like schools, parks and retail and may ultimately offer routes connecting to recreational uses.

Connections, both between various pedestrian and bicycle facilities and to important destinations, are vital components of an active transportation network. Disjointed and inconsistent facilities interrupted by dead-ends and high stress crossings make it difficult for pedestrians and cyclists to find comfortable routes in Bonners Ferry today, reducing the likelihood people will choose to walk or bike. The team worked to make sure that no proposed facilities led to dead-ends while providing low stress connections to destinations commonly accessed by walking and biking, such as schools, parks, retail and jobs. Enhancing connectivity between the in-town network and recreational trails was also considered.

Completing easily implemented low-cost solutions in the short term for both pedestrians and bicyclists offers the residents of Bonners Ferry the opportunity for a connected network to be mapped and used today while the city is planning for and funding more robust improvements that will make the network even safer and more useful in the future.

Pedestrian and Bicycle Space Needs

People require space while walking or bicycling. The space needed is determined by the person's age, size and shape as well as physical ability. People require infrastructure designed to provide safety from conflicts with vehicles and offer comfort with such facilities as buffers, shade, seating and shelter.

Pedestrian space requirements include buffer space above them and to the side to feel comfortable. Depending on the pedestrian they generally need shoulder width space plus room to swing arms and usually prefer to walk two abreast. Adults can be over 6' tall and again should have room to reach if needed. Eight feet vertical clearance should be the minimum for objects, signs or landscaping. Five feet is regarded as the minimum width for a walking facility. Pedestrians travel at varying speeds depending on age and ability. Younger pedestrians often have poor depth perception, while teenagers often take undue risks based on a sense of invulnerability. Older pedestrians can have slowing reflexes, a slower pace and diminished hearing and vision. Old and young pedestrians are vulnerable to displacements that create trip hazards. Disabled persons have unique requirements regarding width, slope and displacements. A four-foot clear area is the minimum needed for wheelchair passage. ADA requirements can be found at: <u>https://www.access-board.gov/</u>. Meeting these varying needs comfortably and safely means designing for the least able to the extent possible.

Aids in design for very young and older pedestrians and pedestrians with disabilities include:

- Reduced crossing distances using bulb-outs or curb extensions
- Curb ramps with tactile warnings
- Timing signals for lower than average walking speed
- Refuge areas in roadway crossings
- Traffic calming strategies
- Smooth unobstructed travel ways
- Easy to reach activation buttons
- Handrails, shelter, shade
- Audible warnings and messages, easy to read signage



Figure 1

Bicyclists typically travel between 12-15 mph. This varies greatly, older riders or children could ride slower than 10 mph and confident riders 25 mph. Riders generally need the width of the handlebars plus one foot on either side, a dimension that can increase with carriers, trailers and unique bicycles. Bicyclists have the same demands for vertical clearance, eight feet, as a pedestrian. System elements such as safe, stable and usable bike racks, space free of debris and obstruction, and driver awareness are often overlooked needs for cyclists.

Aids in design for cyclists include:

- Clearly delineated routes (i.e. maps, signage, roadway/pathway markings)
- Provide highest level of protection needed based on vehicle speed expected
- Slow vehicle speeds near conflict points (i.e. tighter curb radii, traffic calming)
- Reduce conflict points at intersections (i.e. green paint, Dutch turns)
- Increased awareness and visibility of bicyclist (i.e. signage, raised tables,)
- Adequate end-of-trip parking.



Bicyclist Type- There are a wide variety of bicyclist types. The four types described here were first identified in 2006 by Roger Geller for the city of Portland and have held up well to illustrate the skill and needs of bicyclists.

Strong and Fearless—People who will ride regardless of roadway conditions. Experienced bicyclists who are generally undeterred by stressful roadways.

Enthused and Confident—Like cycling with supporting infrastructure. Comfortable sharing the roadway with cars, but prefer bike facilities. **Interested but Concerned**—Curious about bicycling and want to lead more active lives. Would like to ride more, but, are afraid and uncomfortable sharing roads with cars.

No Way, No How—Currently not interested in bicycling at all, for reasons of topography, inability, or a complete lack of interest.

Appendix B: Best Practice Improvements/Actions for Pedestrian and Bicycle Safety and Comfort

Expanding and improving the pedestrian and bicycle infrastructure means adding elements that may be new to a particular community. This Best Practice Compendium, although not exhaustive, details an array of well-established techniques from traffic calming to crossing treatments that can be used to slow traffic, improve comfort and safety and create awareness of pedestrians and bicyclists. In particular these may be applied on streets that are too narrow for any designated pedestrian or bicycle space, but which are likely to carry pedestrians and bicyclists. Many of these tools are part of a system of "calming" or slowing traffic in places where there are expected to be higher numbers of pedestrians and bicyclists or where you would like to encourage them to go. Used together they can create low-stress routes also referred to as bicycle boulevards, greenways and bikeways.

Following are more detailed descriptions of the various types of improvements and actions that may be used to create facilities that are comfortable for users of all abilities. The simpler improvements are typically easier and less expensive ways to create safety and ensure that walking and bicycling are viable modes of travel. Other improvements listed here may be considered over the long term as use grows and funds become available. It's often helpful to test new designs through temporary

demonstrations where you can measure what works or not; examples are included below.



Temporary Demonstration Projects

Test ideas, gather community feedback and collect before and after evidence on new facilities by conducting demonstrations.

Traffic Calming

The more general techniques listed in this section are used to reduce traffic speeds and create safer conditions for pedestrians and bicyclists. They can also discourage cut-through vehicle traffic making the street more livable for adjacent residents. Traffic calming is intended to prompt drivers to not travel over the speed limit through designs that make speeding uncomfortable for the driver. This improves street safety and livability for all users.



Likely pedestrian deaths based on speed of vehicles

Edge friction is a combination of vertical elements such as on-street parking, bulb-outs, street trees, shrubs and site furnishings, which narrow the perceived street width, and have been shown to reduce motor vehicle speeds. Some are described in more detail below.

Narrow lanes can reduce motor vehicle speed. Paint is a simple, low cost and easy way to narrow travel lanes and can be used to stripe shoulders (see paved shoulder facilities).



Guidance on traffic lane widths show they can be as narrow as nine feet in appropriate locations.

Curb extensions extend the curb outward to reduce the width of a crossing (below left). They slow vehicles with edge friction, narrow the travel lane and improve sight lines. This makes pedestrians more noticeable by moving them closer to the travel lane. It shortens the crossing distance decreasing

pedestrian risk. And it can reduce vehicle delay due to shortened time required for pedestrian crossing.



A traffic circle or mini-circle can be used at intersections on low volume, local roads. Without realigning the roadway, adding a small island and vertical element in the center of the intersection (right) causes traffic



to slow to maneuver around it, increases driver attentiveness and improves safety. Circles slow vehicles but allow them to proceed after yielding to any vehicle on their left. This reduces the "Whose turn is it to go?" confusion that often occurs at a four-way stops vehicle-to-vehicle and vehicle-to-bicyclists. Circles can decrease the total time it takes to travel a roadway even though it reduces the peak speed due to fewer start/stop delays at intersections.



Intersection Traffic Calming

Demonstration

You can create a mini-circle as

demonstration using hay bales

part of a traffic calming





Intersection painting with large murals across full intersections are not just about traffic calming but building a sense of community. Painting can be done **as a demonstration** or permanently. The colorful street art gets drivers' attention and alerts them to the landscape around them. Especially near schools, parks and in residential neighborhoods they can effectively slow traffic.

Curb Extension Demonstration

Build a temporary curb extension as part of a pop-up traffic calming demonstration using straw wattles to create the extended curb area and cones to make them visible.



Textured median island is a very simple traffic calming technique in the center of the street, particularly as a treatment entering a neighborhood or district. This can slow traffic and divide the crossing task for pedestrians by providing an informal mid-street crossing refuge (only on low-speed lowvolume streets). This textured surface (at left), is well suited to streets which are low volume or too narrow for a raised island; the roughened texture itself tends to slow drivers somewhat.

A **roundabout** is a circular intersection with entry deflection and yield control upon entering the circle that allows a driver to proceed at controlled speeds in a counterclockwise direction around a central island. Well-designed roundabouts maximize motorized and nonmotorized traffic flow and movement while reducing vehicle speed through design features such as entry deflection, yield to traffic on the left (rather than stop), reconfigured sidewalks, bikeway bypasses, high-visibility crosswalks and other traffic measures. Roundabouts may require additional right-of-way. **Research has established the following roundabout benefits:**

• Dramatic reductions in severe motor vehicle collisions, injuries, and fatalities (roughly 70%-80%).

- Reductions in pedestrian and bicycle crashes and injuries.
- Typically reduced vehicle delays at peak traffic volumes, and much smoother motor vehicle flows at off-peak hours. (This benefit is particularly relevant at Alderson/US-95)
- Lower long-term maintenance costs than comparable signal light infrastructure (no hardware, lights, electricity), yet initial installation costs that are comparable to signal lights.
- Continued normal and safe operation even during power outages.
 - * Roundabouts can be difficult or dangerous for pedestrians with disabilities and require careful attention to detail.



Pedestrian infrastructure

Pedestrian lanes are space designated on the roadway with striping and pavement markings for exclusive use of pedestrians. The lane may be on one or both sides of the roadway and can fill gaps between important destinations in a community. They may be appropriate on roads with low to moderate speeds and volumes and mu improved over time with more permanent facilities as demand dictates.

Sidewalks provide dedicated space for pedestrians along a roadway and are physically separated from the roadway by a curb or unpaved buffer space. They should be of a solid material that is smooth and accessible to all abilities and users, i.e. wheelchairs and strollers.

Pedestrian lighting should uniformly light the pedestrian way along the route at pedestrian height and illuminate the pedestrian at crosswalks while reducing glare to motorists.









Raised pedestrian crosswalks (left) or speed-tables where a crosswalk or entire intersection is raised such as this one in downtown Bonners Ferry (right). These make

pedestrians more visible to approaching motorists, raising the pedestrian to driver eye level. They improve



accessibility by allowing pedestrians to cross a road at nearly a constant grade without the need for a curb ramp. They slow motorists and advance yield pavement markings, and crosswalk markings improve the visibility of the crossing. Speed tables are generally used on local streets or entrances such as at schools or in hig- activity locations such as downtowns.



Bicycle facilities

Bike lanes designate exclusive roadway space for bicyclists with striping, pavement markings and optional signs. A bike lane is located directly adjacent to motor vehicle travel lanes in the same direction as motor vehicle traffic. If adjacent to curbside parking allow enough width to avoid car doors opening. Simple bike lanes are appropriate on streets with low to moderate vehicle volumes and speed. (See examples above right.)





Bike Lane Demonstration

Use chalk paint to create temporary bike lanes. Use cones to protect the workers or volunteers painting the bike lanes.





A **buffered bike lane** is a bike lane that in addition to the bike lane characteristics listed above is further separated from motor vehicle traffic with a painted buffer 1-3 feet wide (see demonstration project above).

A **separated or protected bike lane** is a bike lane that in addition to the bike lane characteristics listed above is physically separated from motor vehicle traffic with a physical buffer (such as a curb) and/or a permanent

vertical element. (See example at left.)

Sharrows The use of "sharrows" can heighten driver awareness, encourage bicyclists and cue bicyclists where to ride by aligning outside the door area of on-street parking in the preferred path for bikes. Shared lane arrows provide wayfinding for bicyclists and announce to drivers to expect bicyclists.



A bicycle boulevard is a low-stress connected route designed to prioritize bicyclists. They operate within a roadway shared with motor vehicle traffic and are designated with street signs, directional signage and pavement markings. These are appropriate on low-volume low-speed local roads; through vehicle traffic is slowed. Speed and volume management may be required through traffic calming and other techniques to create low-stress conditions throughout the corridor. Connections may be needed between streets or sections and should be well marked and designed for low stress. Benefits of bicycle boulevards include safety and access for bicyclists and pedestrians by slowing traffic speeds and encouraging through traffic to use another route.

Bicycle parking and storage

A location for **short-term bike parking** should be visible from and close to the entrance it serves—50' or less is a good benchmark. Weather-protected parking makes bicycle transportation more viable for daily and year-round use. Area lighting is important for any location likely to see use after dark.

Effective **bike parking for short-term users** depends on two main factors: 1) proximity to the destination and 2) ease of use. Short-term parking is designed to meet the needs of people visiting businesses, institutions and others—typically lasting up to two hours. Short-term users may be infrequent visitors to a location, so the parking installation needs to be readily visible and self-explanatory.

Bike rack styles should be designed for ease of use.

- Rack use is intuitive and is placed parallel or diagonally to the road
- Accommodates a variety of bicycles and attachments
- Is placed so that bikes do not impede clear area on sidewalk
- Allows locking of frame and at least one wheel with a U-lock
- Supports bike upright with 2 points of contact without putting stress on wheels
- Provides security and longevity features appropriate for the intended location

Bike corrals can be used where there is limited sidewalk space and strong bicycle activity. On-street



bike corrals can be located in the street area adjacent to the curb and can sometimes make use of on-street areas that are unsuitable for auto parking. When replacing a single auto parking space, a corral can generally fit 8 to 12 bicycles.

Long-term bike parking should be secure and have weather protection and can serve employees, residents and public transit users when at home or at a routine destination. Bicycles can safely be left unmonitored for a period of several hours or longer. They can be a room within a residential building or workplace, a secure enclosure within a parking garage or a cluster of bike lockers at a transit center or other indoor facility.

For more information see Association of Pedestrian and Bicyclists Professionals Guidelines: https://cdn.ymaws.com/www.apbp.org/resource/resmgr/Bicycle_Parking/EssentialsofBikeParking_FINA.pdf







A **yield roadway** serves pedestrians, bicyclists and two-way motor vehicle traffic in the same slow-speed travel area without lane markings in the roadway (right). The narrow width of yield



roadways require motor vehicle traffic to yield to oncoming vehicles in order to pass when other uses are present such as pedestrians, bicyclists or parked cars. Appropriate on low-volume and low-speed roadways with little through traffic. Share the Road signage can raise awareness of all users.



Shared facilities

Paved shoulder facilities striped on the edge of roadways can serve as a functional space for bicyclists and pedestrians to travel in the absence of other facilities with more separation. Another alternative for smaller streets is to create a marked shared path on one side of the road. On roads with moderate to high volumes and speeds with truck traffic they can serve longer distance or regional connections, but they fail to provide a low-stress experience in this condition.

A **shoulder sidepath** is a two-day shared-use path located on the roadway shoulder where there is no ability to obtain right-of-way to have a separated facility. Shoulder sidepaths are generally an extension of existing pavement and can offer a lower stress experience for users by using paint or other strategies to increase visibility such as a painted buffer, use of color at higher stress area and vertical delineators to



provide physical separation between the travel lane and the marked pedestrian/bicycle lane. Such a path can be five to eight feet wide, with a marked line or buffering stripe (e.g. 12-inch striping).

Advisory lanes or advisory shoulders create usable shoulders on low-volume roadways otherwise too narrow to accommodate a bike lane or shared path. The lane is suggested by marking four to six foot shoulders with dashed lines and colored sections where needed to highlight conflict areas. This cues drivers they are to travel toward the center of the road, leaving the shoulders for pedestrians and bikes, except when passing a vehicle in the opposite direction. Advisory shoulders can offer solutions for constrained conditions on roads with low to moderate vehicle volumes and speeds while still are under assessment (see below). Note: Advisory shoulders are a new treatment type in the United States. In order to install advisory shoulders, an approved Request to Experiment is required as detailed in Section 1A.10 of the MUTCD. FHWA is also accepting requests for experimentation with a similar treatment called "dashed bicycle lanes."







Separated facilities

A **sidepath** is a walking and biking two-way shared-use path located parallel to a roadway with some separation from the road using a barrier or unpaved buffer space. Sidepaths should be of smooth material accessible to all abilities and can offer a low-stress experience for users of all ages and abilities near heavy traffic while maintaining rural and small town community character.





Trails or shared use paths provide for two-way travel on routes separate from the road network and may function as a network alternative to a roadway connection for bicyclists, pedestrians, skaters, wheelchair users, joggers and other users. These should be a minimum of 10' wide. A 12' wide facility will provide a better low-stress experience for a variety of users for transportation and recreation. They are generally made of smooth material accessible to all abilities, but may be compacted gravel or a rock-fine surface.



Enhanced crosswalk markings are typically wide stripes marking a crosswalk that are perpendicular to the crossing direction to increase visibility of the crossing for drivers and better guide pedestrians.



Curb ramps are required for ADA compliance at intersections, crossings and other locations where wheelchairs need access. They provide access for wheelchair users, strollers and other wheels

otherwise excluded from the sidewalk because of the barrier created by the curb. Design appropriately so they do not confuse those with vision impairments who rely on the curb to find the transition between the sidewalk and the street. Dual ramps perpendicular to and aligned at the crossings are safer than one diagonal ramp at the middle of the curb radius and are recommended. For design strategies to enhance the benefits of curb ramps while minimizing the drawbacks see:



https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/sidewalk2/sidewalks207.cfm

Refuge islands are islands in the roadway to provide pedestrians and bicyclists a safer place to wait if they are unable to complete their crossing in one movement (see right). When used at intersections they should be designed with a small "nose" to protect a pedestrian who is stopped midcrossing.



Midblock crossings can provide safe frequent crossings for pedestrians and bicyclists on roadways



with high-speed or high-volume traffic. They may be located midblock to avoid vehicle turning movements or to provide crossings in areas where infrequent intersections create substantial out-of-direction pedestrian or bike travel. Midblock crossings should be paired with traffic-control devices such as RRFBs, lighted flashing signs and refuge islands.

Pedestrian Hybrid Beacons (PHBs) and Rectangular Rapid Flashing Beacons (RRFBs) are signals activated by pedestrians and bicyclists to increase crossing safety by warning and controlling traffic at higher volume locations with marked crosswalks and no traffic signals. Typical locations have high pedestrian demand and/or connect to important destinations such as schools, parks and retail. They should be paired with additional improvements such as curb extensions, enhanced crosswalk marking, lighting, median refuge islands and corresponding signage.



Other Actions

Street trees, shelter, other furnishings - The inclusion of human scale placemaking and comfort making amenities announce to drivers to expect pedestrians and to people on foot and that the street/place is safe and



comfortable. They provide visual detail and interest. These conveniences include: street trees which provide shade and some protection

from the elements; street furnishings such as trash receptacles; seating especially near gathering areas, food, transit stops and on long routes used by children and older adults; bicycle parking; and public art which can provide function and beauty. All can transform downtowns and other active locations into walkable/bikeable destinations. Street trees are

important on all routes used by pedestrians

Safe Routes to School (SRTS) programs use education, engineering and enforcement strategies that help make routes safer for children to walk and bike to school, as well as encouragement strategies to attract more children to walk and bike. Through SRTS, cities, school districts, schools, families and students work together to encourage more walking and biking to school, helping increased school performance, better health and



more physical activity for students.

High-visibility signage – These yellow green fluorescent signs offer superior visibility, especially when approached from an angle. They are recommended near schools.

Other techniques consist of operational measures such as police enforcement and speed displays.



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Appendix C: Resources

Organizations

The *National Center for Safe Routes to School*; lots of practical information and downloadable resources: www.saferoutesinfo.org

The *Safe Routes Partnership*; coalition of organizations and experts providing great safe routes implementation support to schools & communities: <u>www.saferoutespartnership.org</u>

Complete Streets: National coalition working for streets that work for pedestrians, bicyclists, transits riders, and drivers of all ages, incomes, and abilities: <u>http://www.completestreets.org</u>

Idaho Smart Growth; Statewide Idaho non-profit providing Idaho expertise in transportation and land use including Safe Routes to School: <u>www.idahosmartgrowth.org</u>

Design Guidance

Urban Street Design Guide, and *Urban Bikeway Design Guide*, by the National Association of City Transportation Officials (NACTO).<u>https://nacto.org/publication/urban-street-design-guide/</u> and https://nacto.org/publication/urban-bikeway-design-guide/ (this guide must be purchased)

Small Town and Rural Multi-Modal Networks, FHWA 2017. Many relevant images, information, and practical case examples of low cost traffic calming, bicycle, & pedestrian facilities for small towns. <u>https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/</u>

Guidebook for Developing Bicycle and Pedestrian Performance Measures, FHWA 2016; with detailed guidance on efficiency, safety, economic, health, equity, environmental, and quality of life measures of roadway and corridor performance.

https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/performance_measures_guide book/pm_guidebook.pdf

Traffic Calming ePrimer – Module 3, Federal Highway Administration, Office of Safety: <u>https://safety.fhwa.dot.gov/speedmgt/ePrimer_modules/module3pt2.cfm</u>

Traffic Calming 101, Project for Public Spaces <u>https://www.pps.org/article/livememtraffic</u>

Traffic Calming Guide for Neighborhood Streets, Virginia Department of Transportation, September 2018 <u>http://virginiadot.org/programs/resources/Traffic-Calming-Guide-For-Neighborhood-Streets.pdf</u>

Costs

Costs for Pedestrian & Bicycle Infrastructure Improvements, Pedestrian & Bicycle Information Center (PBIC), 2013. Average estimates of costs for typical implementation tools & approaches. http://www.pedbikeinfo.org/cms/downloads/Countermeasure_Costs_Summary_Oct2013.pdf

Walk [Your City] assists with creating low cost way-finding signs for pedestrian and bike routes: www.walkyourcity.org

Demonstration Project Guidance

Slow Your Street: A How-to Guide for Pop-Up Traffic Calming. Detailed, practical information on implementing low-cost short- and long-term demonstration projects. <u>https://trailnet.org</u>

The Tactical Urbanist's Guide to Materials & Design, by the Streets Plan Collaborative. Detailed materials and implementation recommendations on demonstration traffic calming projects. Downloadable for free. <u>http://tacticalurbanismguide.com</u>

Complete Streets Checklists

Seattle Dept. of Transportation's Complete Streets checklist. More detailed than required in Bonners Ferry, but gives a very good example of simple questions and design that make it very easy to use. https://www.smartgrowthamerica.org/app/legacy/documents/cs/impl/wa-seattle-checklist.pdf

Live Well Sioux Falls (SD) has developed a Complete Streets checklist: http://livewellsiouxfalls.org/images/uploads/main/Sioux_Falls_Checklist_Final.pdf