



Colton-Uniontown Trail Vision Framework

DRAFT

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Colton-Uniontown Trail Association (CUTA)

- » Ashley Alred, Colton
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Contents

Introduction.....	4
Public Engagement	6
Summary of Survey Responses	6
Ongoing Engagement Strategy	8
Anticipated Trail Benefits.....	9
Purpose	10
Design Challenges & Strategies.....	10
Designing the Trail for Safety	11
Encouraging Responsible Use	18
Other Design Standards	19
Evaluation of Route Options.....	21
Route Options	21
West Side of US-195.....	23
East Side of US-195	25
Abandoned Railroad Right-of-Way	26
Summary	26
Purpose	27
Management & Maintenance.....	27
Guiding Principles	28
Precedent Examples.....	28
Approximate Maintenance Costs.....	29
Management and Administrative Considerations	29
Construction Techniques to Reduce Maintenance Burden	30
Management Responsibilities, Roles, & Stewardship.....	31
Operational Maintenance & Standards	31
Maintenance Tasks, Frequency, Timing, & Costs.....	33
Management & Maintenance Resources.....	34
Example Management & Maintenance Plans	34
Appendices	35
Appendix A: Planning & Design Resources	36
Appendix B: Colton-Uniontown Trail Inspection Checklist	37

Introduction

Why Build a Trail?

The Colton-Uniontown Trail is a proposed multi-use trail between the neighboring towns of Colton and Uniontown in southeastern Washington state (see context map on the next page). These two towns are separated by only two miles and have a long history of sharing public resources. The trail would provide many benefits for local residents, including:

- » Affordable, convenient recreational opportunities for a diversity of users
- » A safe path for children to bike or walk to school
- » A physical connection between the residents of the two towns other than by car
- » More opportunities for people to meet their neighbors and have informal social interactions
- » Encouragement for young and old to exercise on a safe and enjoyable route
- » A local attraction for those visiting or considering a move into the area
- » Increased economic vitality and growth by connecting several regional destinations, including the Artisans at the Dahmen Barn, Colton School, the Wawawai Canyon Winery, and the Gone West RV Park

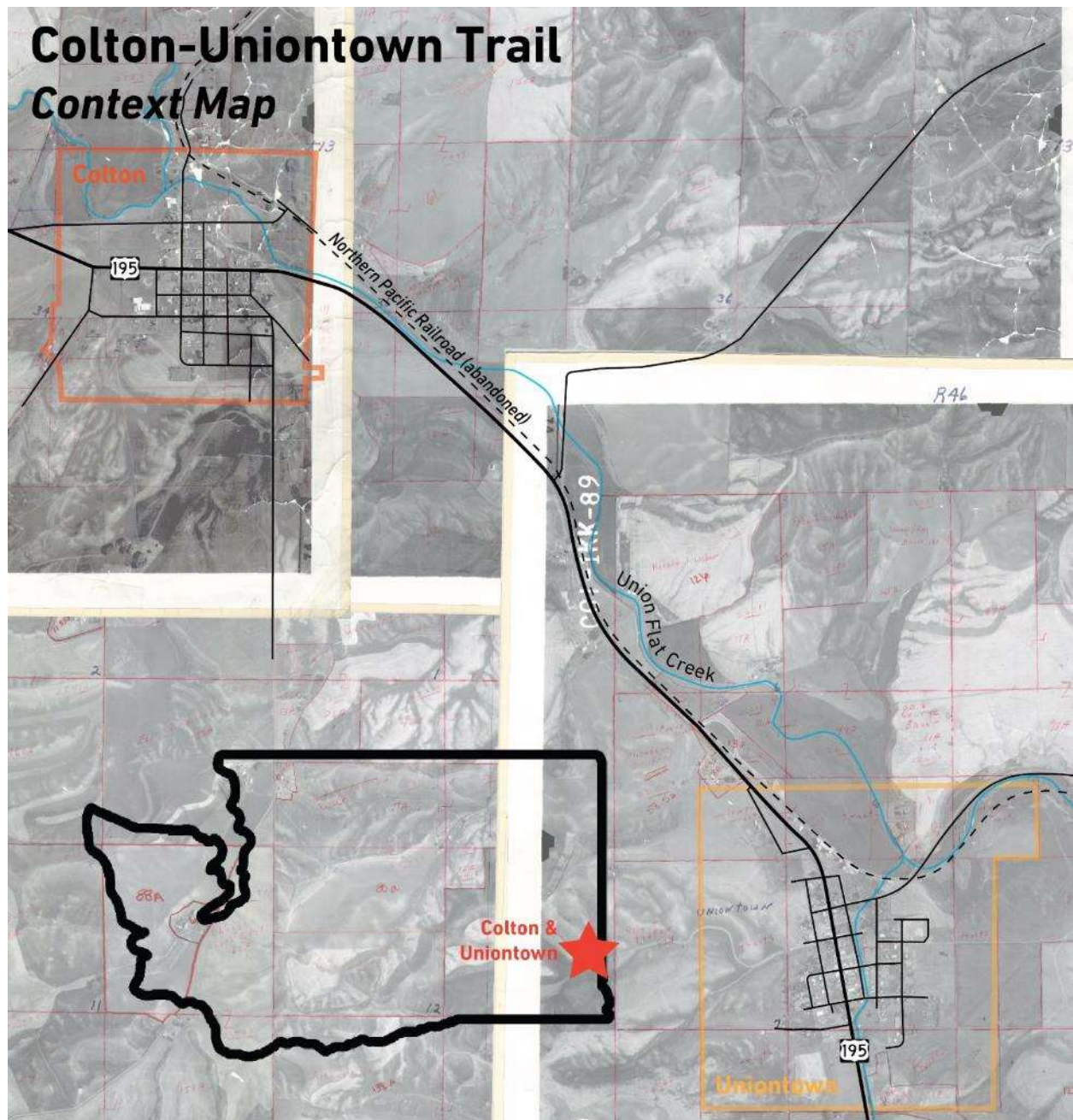
The trail is envisioned as a community resource for all residents and visitors. Potential trail users include:

- » High school students from Uniontown bicycling or skateboarding to school in Colton
- » Families walking together on Sundays after church or heading to local libraries
- » Guests at the Gone West RV Park riding their bikes to see the beauty of the Palouse farmland
- » Artisans at the Dahmen Barn hosting outdoor painting events
- » Colton residents taking their dog for an early morning walk

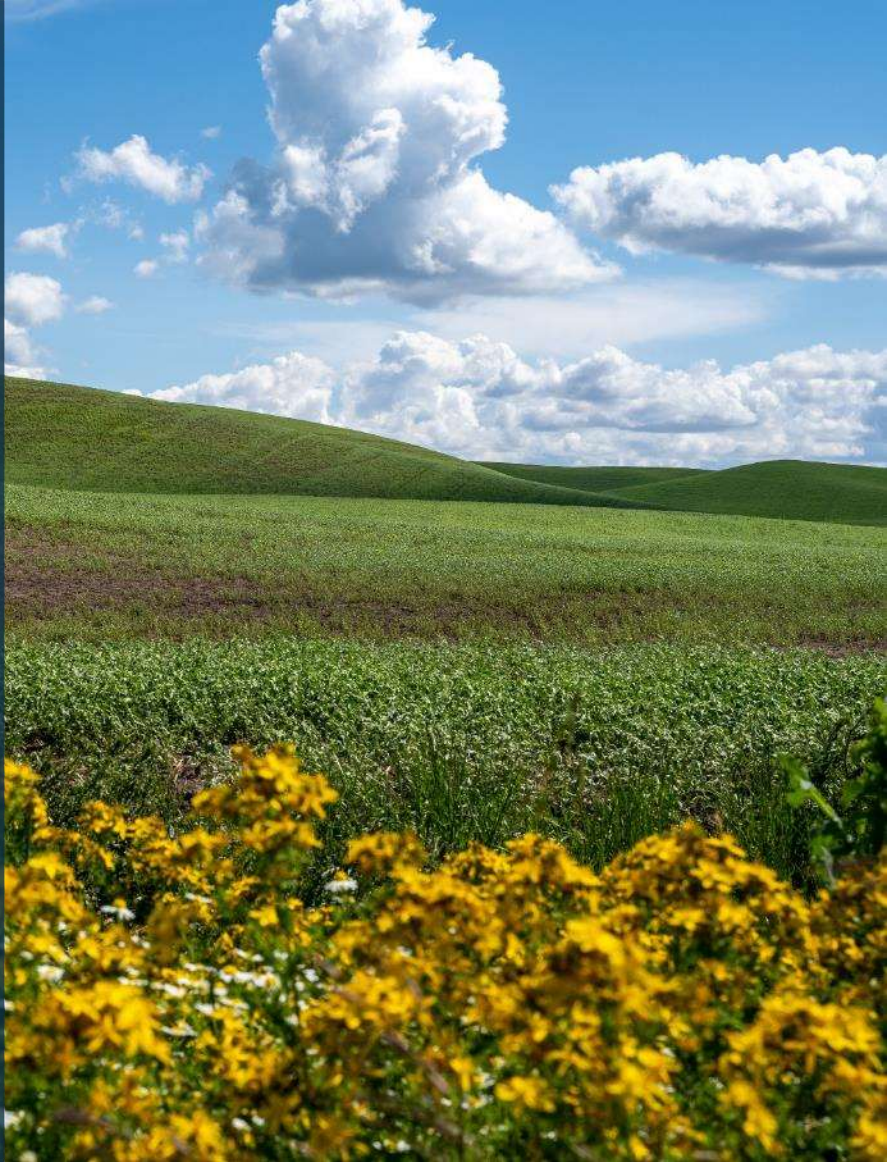
What is the Vision Framework?

This Vision Framework lays out the community vision for the Colton-Uniontown Trail, including potential challenges and proposed strategies to overcome them. It organizes the public and stakeholder engagement, research, and planning work that has been done to evaluate the challenges and opportunities associated with the realization of the Colton-Uniontown Trail. The Vision Framework is designed to inform the future conversations, planning processes, and design efforts required to make the vision a reality. It is organized into five sections:

- » The **Public Engagement** section summarizes the outreach that has been done to date and the key takeaways regarding peoples' desires and concerns with respect to the trail. It outlines key stakeholders and summarizes the proposed approach to future stakeholder engagement. Finally, it presents some research on the potential benefits that the trail could provide to local communities.
- » The **Design Challenges & Strategies** section summarizes design challenges related to the Colton-Uniontown Trail and proposes strategies to address those challenges.
- » The **Evaluation of Route Options** section discusses the advantages and challenges associated with three potential trail alignments for the Colton-Uniontown Trail.
- » The **Management & Maintenance** section describes the management and maintenance tasks that will be required to ensure that the Colton-Uniontown Trail continues to provide a safe and sustainable community asset for future generations. It draws on the experience of other trail managers in the region to provide approximate maintenance costs, construction techniques to reduce the maintenance burden, and standards for each task.
- » The **Appendix** includes additional resources on trail planning and design as well as a sample trail inspection checklist to guide ongoing trail maintenance.



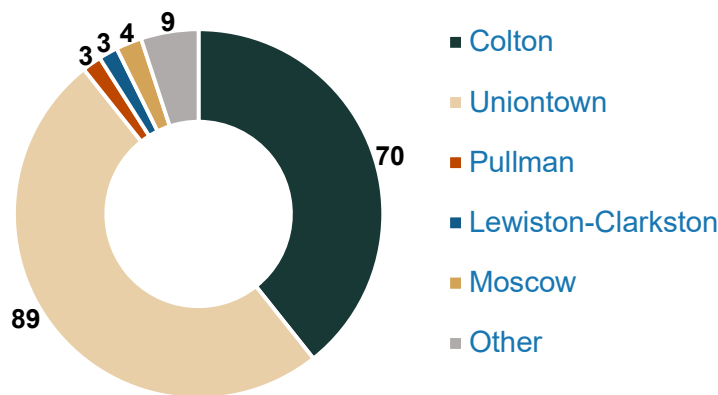
Public Engagement



Summary of Survey Responses

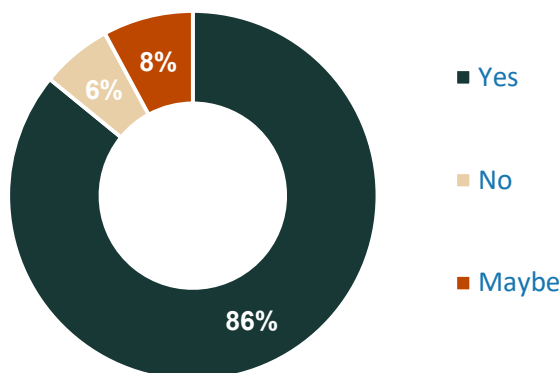
In August and September of 2021, the Colton-Uniontown Trail Association (CUTA) conducted a survey of local residents to determine the level of support for the trail and preferences around trail design, amenities, and regulations. The survey was advertised via three different Colton and/or Uniontown Community Facebook pages and the monthly Uniontown newsletter that was distributed with the water/sewer bills. Notices were also posted at both the Colton and Uniontown Post Offices. Of the 178 respondents, 39 percent were from Colton and 50 percent were from Uniontown. These 89 respondents comprise over 10% of the entire population of Colton and Uniontown. The remaining 11 percent were primarily from Pullman, Lewiston-Clarkston, Moscow, and other towns in the region.

Where do you live?



86 percent of survey respondents were in support of the trail, 8 percent would maybe support, and only 6 percent were opposed.

Do you support of the Colton-Uniontown Trail?



The most commonly desired trail activities were walking (84 percent) and biking (77 percent). 72 percent of respondents envision themselves using the trail once a week or more. The most commonly desired trail amenities were garbage cans, pet waste bag dispensers and water dishes, and benches. 83 percent of respondents preferred a paved trail surface, with 20 percent of them also desiring a parallel dirt track for runners and horses. 37 percent of respondents believed that equestrians should not be allowed on the trail.

When asked about concerns about the development of the trail, the most common response was around encroachment onto private property. Another common concern was mitigating conflicts between users, particularly conflicts involving horses and the manure they produce. Some respondents also expressed concern about maintenance and how it would be funded.

The feedback collected through the survey and other conversations is reflected in CUTA's approach to planning and design for the Colton-Uniontown trail, and informs the other elements included in this Vision Framework. These include a public engagement strategy designed to understand and address the concerns of adjacent landowners and other key stakeholders, an inventory of design challenges and proposed solutions, and a management and maintenance plan that emphasizes safety and fiscal responsibility.

Ongoing Engagement Strategy

While there is widespread local support for the Colton-Uniontown Trail there are also significant concerns among adjacent landowners about the potential impacts to their property and farming operations, as well as more general concerns about the costs of the trail and ongoing maintenance, particularly in light of recent sewer rate increases. Engagement with adjacent property owners, and the community more broadly, is critical to address their concerns and build a shared sense of understanding to inform trail planning, design, and management decisions. At the same time, CUTA will need to engage with local and county agencies and elected officials who will need to be partners in obtaining funding and conducting ongoing maintenance and management for the trail.

The success of the Colton-Uniontown Trail requires ongoing engagement with local governments, organizations, and businesses. **Key partners** include:

- » Whitman County
- » Town of Colton
- » Town of Uniontown
- » Uniontown Community Development Association
- » Washington State Department of Transportation (WSDOT)

Other potential partners include:

- » Palouse Conservation District
- » Washington Bikes
- » WSU Cycling Club
- » Colton High School
- » Guardian Angel-St. Boniface School
- » Artisans at the Dahmen Barn
- » Gone West RV Park
- » American Legion
- » Churches, libraries, and other organizations

Engagement for the Trail will focus on listening, learning, and building relationships. The goals of future engagement are to understand the interests and concerns of various stakeholders, identify common goals and work toward solutions to mitigate potential issues and maximize the trail's benefits.

Anticipated Trail Benefits

The benefits of trails in terms of recreation, health, transportation, and economic development are well documented. This section briefly summarizes some of the key findings relevant to the Colton-Uniontown Trail:

- » **Health.** Trails are associated with an increase in physical activity, both in terms of the number of people walking and bicycling and the frequency with which they exercise.^{1,2} This increase in physical activity also results in reduced healthcare costs and worker absenteeism.^{3,4} Creating safe places to exercise is of particular importance in rural Whitman County, where low-income residents living outside of Pullman report disproportionate rates of poor health.⁵ The Colton-Uniontown Trail could also be used by local walking, running, and cycling groups, such as high school teams.
- » **Community.** Trails build community by providing “social infrastructure”—public spaces that facilitate interactions between people and cultivate a sense of civic pride. The Colton-Uniontown Trail would also bring the two towns together by making it easier for people to travel between them, including people who are unable to or choose not to drive.
- » **Economic Development.** Businesses near shared use trails typically experience an increase in customers and overall spending, which also results in an increase in local sales tax revenue.^{6,7} Travel Oregon’s Outdoor Recreation Economic Impact Study found bicycling to be the most economically valuable form of outdoor recreation in the state, contributing \$1.5 billion to the Oregon economy in 2019.⁸
- » **Tourism.** Bicycle tourism has been a successful economic development strategy for many rural areas. A 2013 study found that cyclists touring in Montana spent on average \$75.75 per person per day and stayed eight nights or more in the state on average.⁹ The Colton-Uniontown Trail could also provide a venue for organized walking, running, and cycling groups, which could further boost tourism and economic development.
- » **Transportation mode shift.** Shifting trips away from motor vehicles reduces greenhouse gas emissions and the rate of crashes while also improving physical and mental health outcomes. Roughly a third of trips

¹ Wang, G., C. Macera, B. Scudder-Soucie, T. Schmid, M. Pratt, and D. Buchner. (2004). Cost effectiveness of a bicycle/pedestrian trail development in health promotion. *Preventive Medicine* 38(2): 237-242.

² Brownson, R., R. Housemann, D. Brown, J. Jackson-Thompson, A. King, B. Malone, and J. Sallis. (2000). Promoting Physical Activity in Rural Communities: Walking Trail Access, Use, and Effects. *American Journal of Preventive Medicine* 18(3): 235-242.

³ Intertwine Alliance Partners. (January 2011). [Physical Activity and the Intertwine: A Public Health Method of Reducing Obesity and Healthcare Costs](#).

⁴ BBC Research and Consulting. (June 2014). [Community and Economic Benefits of Bicycling in Michigan](#).

⁵ Katherine Bittinger. (2015). [Whitman County Community Needs Assessment](#).

⁶ Campos, Inc. (2008). [The Greater Allegheny Passage Economic Impact Study](#).

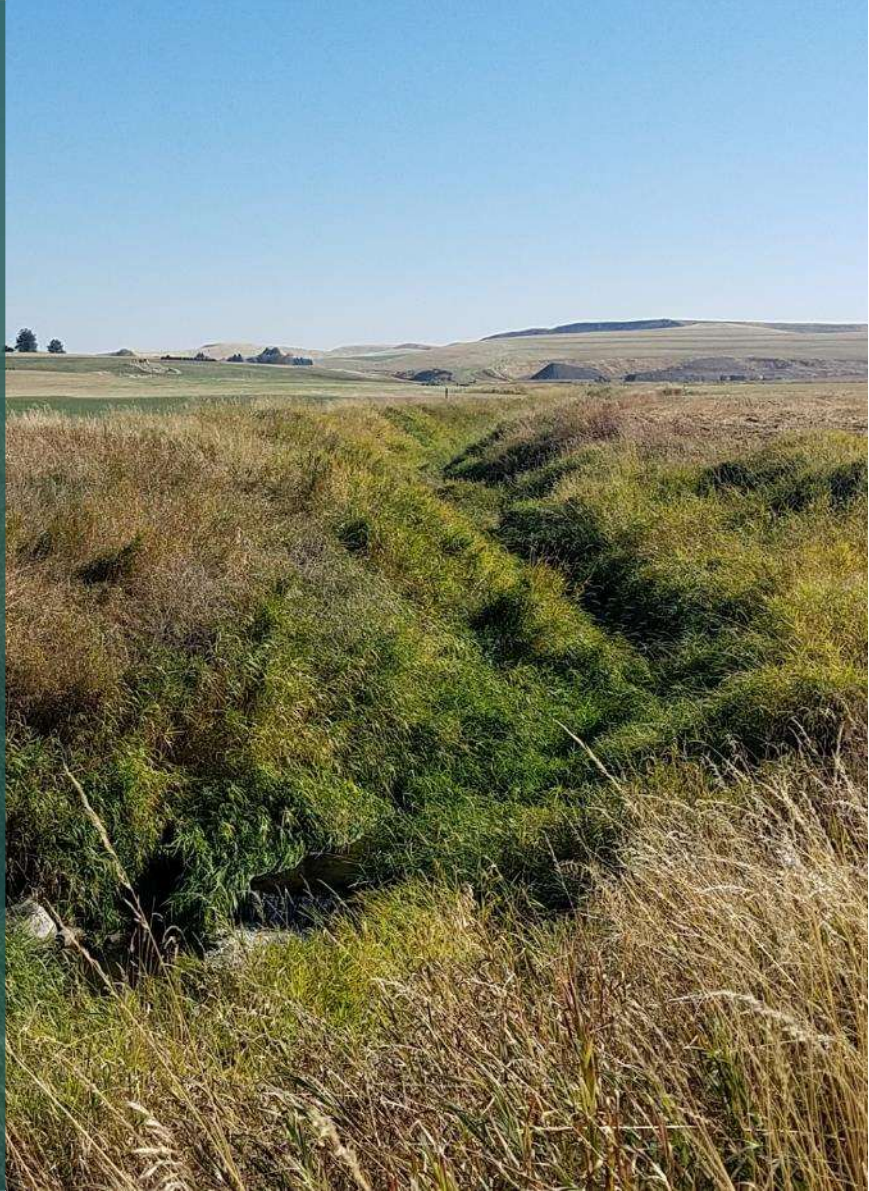
⁷ Reed, Julian. (2015). [Greenville Health System Swamp Rabbit Trail Impact Study](#).

⁸ Travel Oregon. (2021). [Oregon Outdoor Recreation Economic Impact Study](#).

⁹ Nickerson, Norma P. et. al. (2013). [Analysis of Touring Cyclists: Impacts, Needs and Opportunities for Montana](#). Institute for Tourism and Recreation Research, University of Montana.

along the US-195 corridor between Colton & Uniontown are four miles or less, making them good potential candidates for bicycling if there were a safe facility for riding.¹⁰

Design Challenges & Strategies



¹⁰ This estimate is based on travel data from [Replica](#).

Purpose

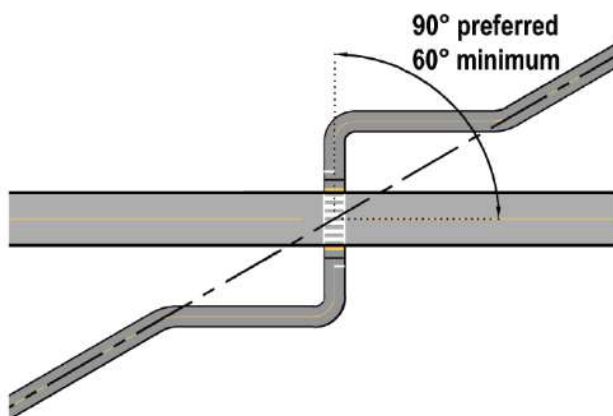
This section summarizes general design challenges related to the Colton-Uniontown Trail and proposes strategies to address those challenges. It also lays out some of the applicable standards and guidelines that would apply to the trail.

Designing the Trail for Safety

Prevent Conflicts at Road Crossings

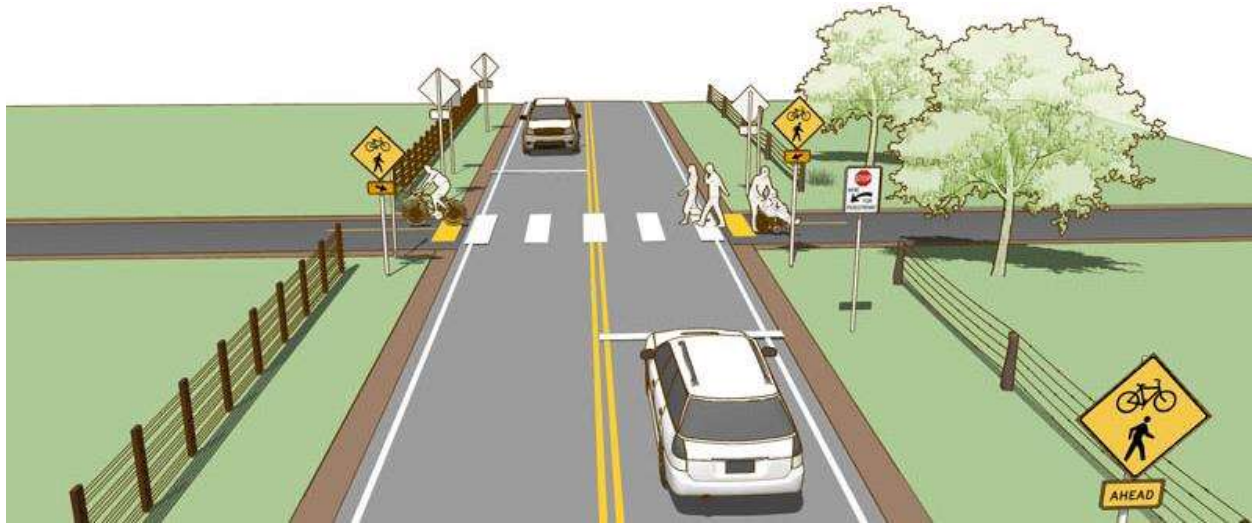
- » **Right of Way and Intersection Controls.** Intersections should clearly define who has the right of way and provide sight distance for all users. The Manual on Uniform Traffic Control Devices (MUTCD) states “the application of engineering judgment should be used to establish intersection control” by evaluating the following factors: volume (vehicular, bicycle, pedestrian), approach speeds, sight distance, crash experience, number and angle of approaches into the intersection, transportation network hierarchy, presence of vulnerable users, and the presence of traffic signals within the area. Application of intersection controls (YIELD signs, STOP signs, or traffic signals) should follow the principle of providing the least amount of restriction that is effective. This is a particularly important consideration for bicyclists who expend additional energy stopping and starting. Because bicyclists generally have the benefit of a wider field of vision while operating at slower speeds compared to motorists, uncontrolled and yield control approaches may be preferable to stop control where adequate intersection sight distance is provided and crossing opportunities are frequent. Crossing opportunities are created when motorists yield to crossing bicyclists or when there are sufficient gaps in traffic.
- » **Intersection Geometry.** The geometry of the intersection and crossing should be optimized to be as close to 90 degrees as practicable to minimize the exposure of crossing users and maximize sight lines (see Figure 1). The intersection and approaches should be on relatively flat grades, and should be visible to users of both facilities.

Figure 1: Shared Use Path Crossing Realignment



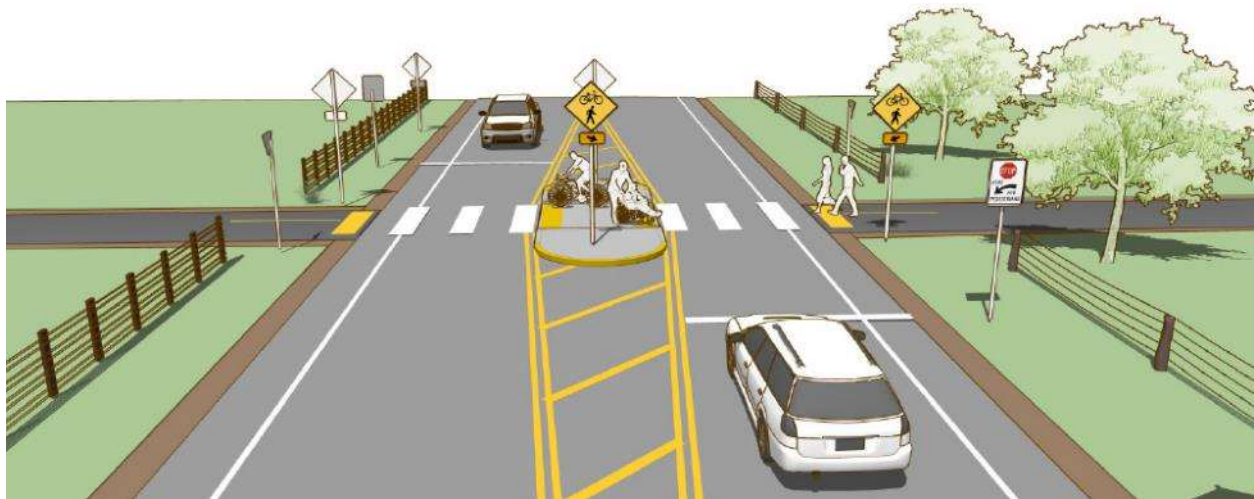
- » **Markings and Signage.** Road crossings should include high visibility marked crosswalks, accompanied by signage, to increase driver awareness of potential trail users and clearly delineate yielding responsibilities. Approaching road crossings, signage should alert trail users about crossing vehicular traffic. See the MUTCD for standard signage and pavement markings. Figure 2 provides an example of crosswalk markings and sign crossing treatments used where shared use path users stop or yield to traffic on the intersecting roadway.

*Figure 2: Marked Crosswalk and Signage Where Shared Use Path Stops or Yields to Intersecting Roadway (i.e. US-195)
(Source: FHWA Small Town and Rural Multimodal Networks Guide)*



- » **Driveways and Farm Access Roads.** Where the trail crosses driveways and small farm access roads, additional markings and signage may not be required. If a stop sign is present, consider moving it behind the trail crossing.
- » **Slow Speeds Approaching Crossings.** If the trail crosses US-195, it may be appropriate to take measures to reduce traffic speeds along the highway approaching these crossings. Narrowing lane widths can contribute to lower vehicle operating speeds. To reduce trail users' approach speeds, chicanes (i.e., horizontal curvature) may be incorporated at approaches to intersections where users must stop or yield, or where sight distance is limited. Care should be taken to end chicanes far enough in advance of the intersection to allow the user to dedicate their attention to navigating the curves in the shared use path first, followed by the approaching intersection (rather than both at the same time). The use of z-gates, bollards, or other physical obstructions within the trail to slow bicyclists or to force bicyclists to dismount is not appropriate approaching intersections. These treatments present a crash hazard for bicyclists and can create situations where bicyclists are forced to queue into intersections increasing their exposure to collisions with motorists while other users navigate through the obstructed area.
- » **Refuge Islands.** If the final trail alignment includes highway crossings on US-195, median refuge islands should be considered (Figure 3). Refuge islands are a proven safety countermeasure associated with significantly lower pedestrian crash rates at multilane crossings, particularly on roadways with higher traffic volumes and/or speeds. Refuge islands reduce crossing exposure and allow a trail user to perform a two-stage crossing of the highway. The cut through of the raised refuge island(s) should be 10 ft wide to match the trail width. The minimum length of the storage area, measured in the direction of pedestrian/bike travel, must be at least 6 ft.

Figure 3: Raised Refuge Median (Source: FHWA Small Town and Rural Multimodal Networks Guide)



- » **Flashing Beacons.** Based on the speed limit (up to 60 mph) and annual average daily traffic on US-195 (5,612 AADT in 2022), Rectangular Rapid Flashing Beacons (RRFBs) may also be appropriate where the trail crosses the highway. These are user-actuated beacons that supplement warning signs at uncontrolled crossings. Research has shown that RRFBs can achieve motorist yielding rates between 80 and 100 percent both during the day and during periods of darkness. When used at locations where both pedestrians and bicyclists are crossing, a W11-15 sign should be used (see Figure 4).

Figure 4: Rectangular Rapid Flashing Beacons at a Trail Crossing



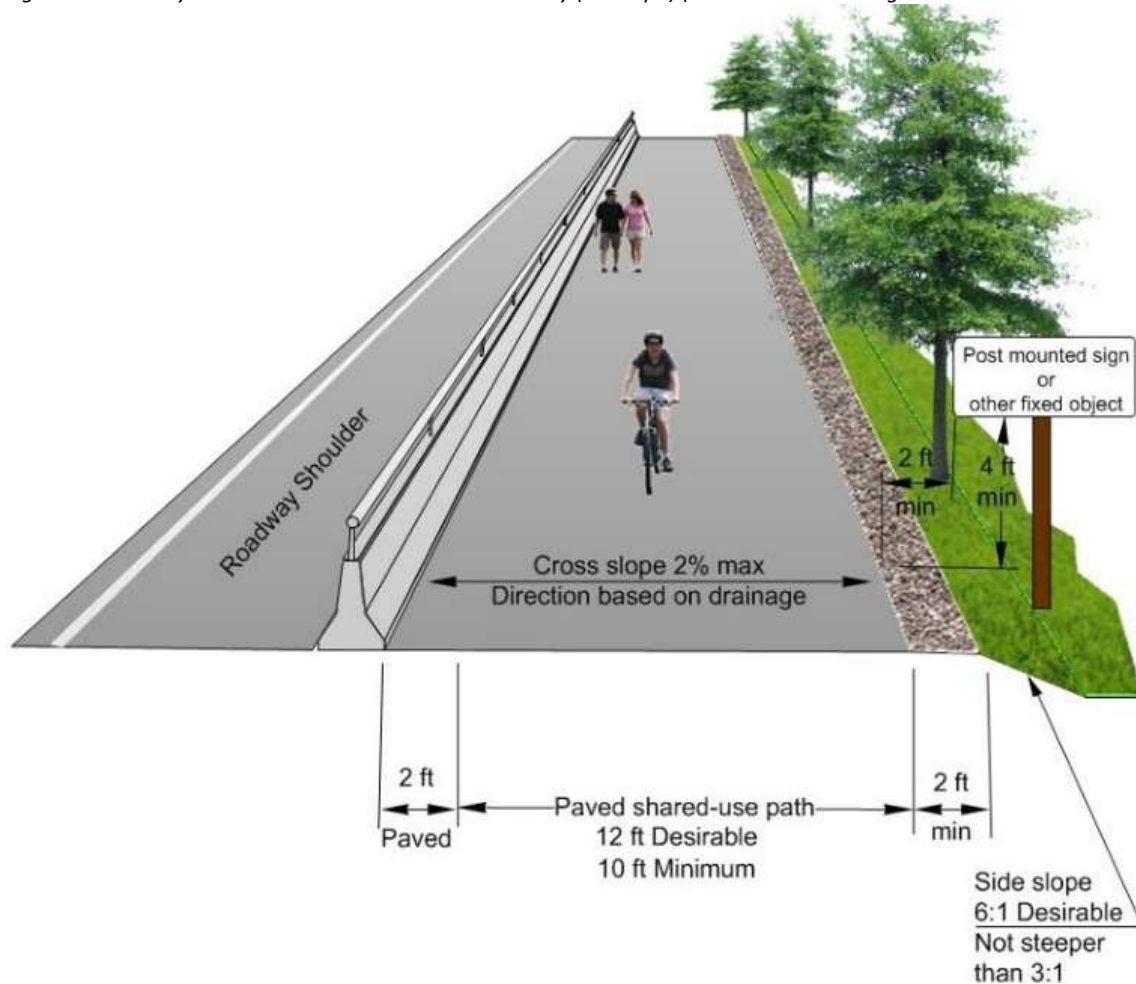
Protect Trail Users from Highway Traffic in Locations Where Trail Runs Adjacent to US-195

- » **Roadway Buffer.** For roadways with speeds greater than 35 mph, WSDOT requires a separation greater than 5 ft between the roadway and the trail (see Figure 5). If separation greater than 5 feet cannot be obtained, provide barrier separation in accordance with Figure 6.

Figure 5: Two-Way Shared-Use Path Adjacent to Roadway (> 35mph) (Source: WSDOT Design Manual Exhibit 1515-5)



Figure 6: Two-Way Shared-Use Path Attached to Roadway (> 35mph) (Source: WSDOT Design Manual Exhibit 1515-6)



Negotiate Steep Grade and Cross-Slope Approaching Colton

- » **Fencing.** Where the path is adjacent to a steep downward slope, and the adjacent shoulder is less than 5 ft in width, a physical barrier, such as fencing or a pedestrian rail, should be included to mitigate potential crash risks. Barriers, railings or fences adjacent to bikeways should be a minimum of 42 in. high where bicyclists are operating in close proximity. Where a bicyclist's handlebar may come into contact with a railing, a smooth, wide rub-rail may be installed at a height of between 36 in. and 44 in. to reduce the likelihood that a bicyclist's handlebar will be caught by the railing. However, on a shared use path with a running grade of 5 percent or greater pedestrian accessibility guidelines may require that a handrail be installed at or near this same height. In these cases, designer judgement should be used to ensure that any rub-rail that is installed does not interfere with the use of the accessible handrail. This applies to the following slope conditions:
 - Slopes 1V:3H or steeper, with a drop of 6 ft or greater, or adjacent to a parallel body of water or other substantial obstacles
 - Slopes 1V:2H or steeper, with a drop of 4 ft or greater
 - Slopes 1V:1H or steeper, with a drop of 1 ft. or greater

Figure 7: Trail adjacent to a downward slope with fencing (Kirkland, WA)



Negotiate Proximity to Union Flat Creek Approaching Colton

- » **Trail Alignment.** The proximity of Union Flat Creek to the US-195 right of way approaching Colton means that any additional construction along the east side of highway would probably impact the stream, either by crossing it or running alongside. This would trigger additional analysis and permitting, most likely including a [Hydraulic Project Approval \(HPA\)](#) from the Washington Department of Fish and Wildlife. The additional costs and delays associated with this alignment could increase costs and require additional time for design and permitting.
- » **Roadway Alignment.** If the east side of US-195 is found to be the ideal alignment, another option would be to install the trail within the existing paved area and shift the vehicle lanes to the west, temporarily reducing the shoulder width on the west side.

Mitigate Conflicts Between Different Types of Users

- » **Width.** The path should maintain a minimum paved width of at least 10 ft, which allows for a person traveling single file to comfortably pass another person approaching from the opposite direction. It may also provide a separate adjacent soft-surface trail for runners and equestrian users (see below). Due to rural context, the trail is not anticipated to experience user volumes that would necessitate the separation of pedestrians and bicyclists. The AASHTO Guide for the Development of Bicycle Facilities does not recommend wider path widths or separation of users until peak hour volumes exceed 150 trail users.
- » **Equestrians.** If horses are allowed on the trail, a separate 6 ft wide soft-surface (i.e., gravel) bridle path may be provided, ideally divided by a buffer of at least 6 ft. Equestrians requires a tread that is at least 2 ft wide and a vertical clearance of at least 12 ft (no tree branches or other obstructions within 12 ft above the trail surface). For additional guidance, see the [U.S. Forest Service/FHWA Equestrian Design Guidebook for Trails, Trailheads, and Campgrounds](#). Where used, a separate, unpaved bridle path can often serve a dual purpose, as many joggers also prefer unpaved surfaces.

- » **Signage.** Consider including signage to promote safe and courteous behavior. Also consider speed limit signage for trail descent to promote safe speeds for bicyclists.
- » **Markings.** Center and edge lines are optional on shared use paths.

Prevent Icy Patches

- » **Grade.** The trail should maintain a minimum recommended pavement longitudinal grade of 0.5 percent and cross slope of 1 percent (the maximum cross slope on a paved shared-use path should be 2%). Sloping in one direction instead of crowning is preferred and simplifies drainage and surface construction. Ideally, stormwater runoff should be directed to adjacent vegetated areas or into “green infrastructure” features where slopes and soils allow the water to mimic natural environmental conditions and infiltrate back into the ground.
- » **Drainage.** Drainage patterns should be analyzed with mitigations provided where necessary on bike facilities to prevent water ponding, ice formation, and the collection of debris. At low points, cross pipes or culverts may be needed to convey water under the trail in order to prevent flooding.

Encouraging Responsible Use

Prevent Trespassing onto Private Property

- » **Understanding the Issue.** Collecting data on trail related infractions from Whitman County and Latah County sheriff's offices will inform a greater understanding of this issue. If trespassing has occurred, ask where it happened and what mitigations steps were taken. Anecdotal observations from trail managers and adjacent property owners indicates that trespassing is rare and has not been a significant issue along existing trails in the region. This is consistent with a review of all police reports related to the Chipman Trail through 2016.¹¹ National research has also found that trails have no measurable effect on crime or public safety, and have an overwhelmingly positive influence on the quality of life for trail neighbors as well as the larger community.^{12,13}
- » **Signage.** In order to discourage trail users from trespassing onto private property, the trail could include clear PRIVATE PROPERTY NO TRESPASSING signage at regular intervals.
- » **Fencing.** If trespassing does become a problem in particular areas, fencing may be considered.

Prevent Use by ATVs and Other Unauthorized Vehicles

- » **Understanding the Issue.** Collecting data on trail related infractions from Whitman County and Latah County sheriff's offices will inform a greater understanding of this issue, but is anticipated to confirm anecdotal observations from trail managers indicating that unauthorized use has not been a significant issue along existing trails in the region. This is consistent with a review of all police reports related to the Chipman Trail through 2016.¹⁴
- » **Signage.** Signage should be included at major trailheads and intersections that make it clear what users are allowed on the trail.
- » **Bollards.** Due to their potential to cause injury for trail users, bollards should not be used unless there is a documented history of unauthorized intrusion and other interventions, such as signage, have not been successful at mitigating the issue.

¹¹ Chipman Trail Crime Report. (Sept. 16, 2016). Whitman County Sheriff's Office.

¹² Webel, Suzanne. (2000). [Trail Effects on Neighborhoods: Home Value, Safety, Quality of Life](#). *American Trails*.

¹³ Greer, Donald (2000). [Omaha Recreational Trails: Their Effect on Property Values and Public Safety](#). *University of Nebraska at Omaha*.

¹⁴ Chipman Trail Crime Report. (Sept. 16, 2016). Whitman County Sheriff's Office.

Other Design Standards

Surface Considerations

- » **Paved Versus Unpaved.** All-weather pavement is generally preferred over crushed aggregate, sand, clay, or stabilized earth. Since unpaved surfaces provide less traction, they decrease braking ability for bicyclists which can cause bicyclists to lose control more easily. On unpaved surfaces, bicyclists and other wheeled users must use a greater effort to travel at a given speed when compared to a paved surface. Some path users, such as skaters, are unable to use unpaved paths. In areas that experience frequent or even occasional flooding or drainage problems, or in areas of moderate or steep terrain, unpaved surfaces will often erode and require substantial maintenance. Unpaved pathways should be constructed of materials that are firm and stable (e.g., resist deformation by indentation, are not permanently affected by weather, resist normal wear from the expected use). Possible surfaces for unpaved paths include crushed stone, stabilized earth, and limestone screenings. Another potential approach would be to use a phased approach to pave the trail, starting with a smaller section and then completing the length of the trail as more funding becomes available. The table below summarizes some of the pros and cons of each:

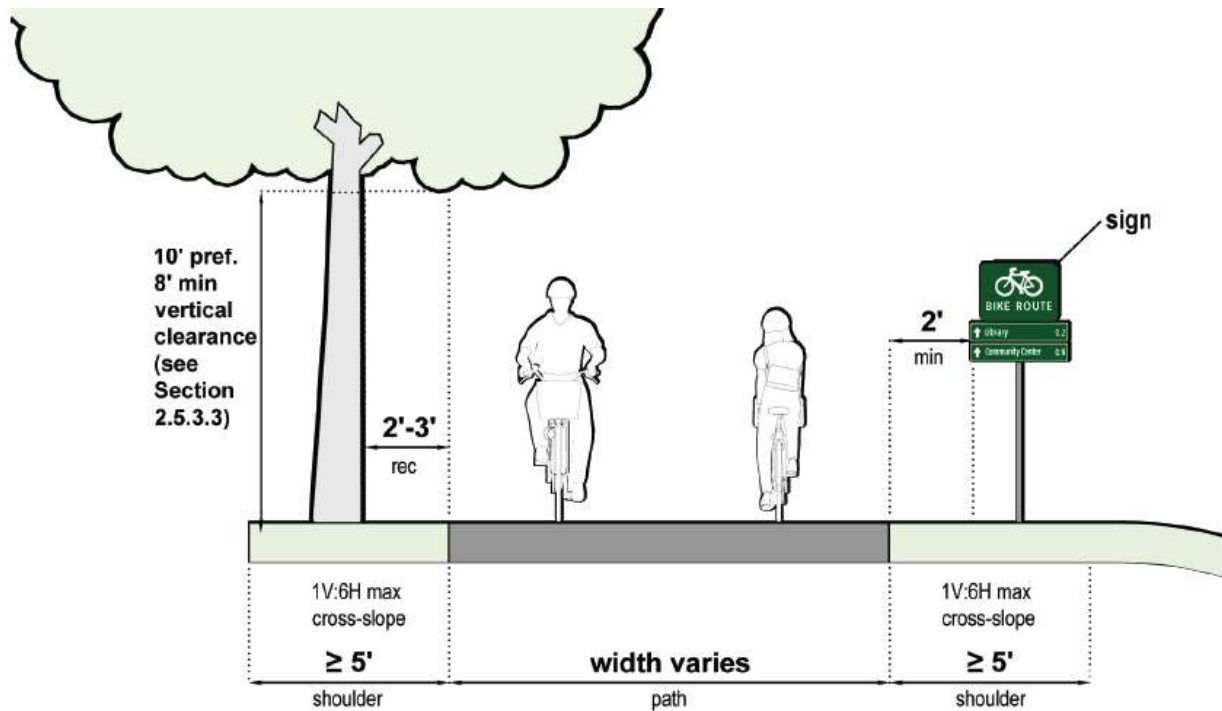
	Paved (i.e., asphalt)	Unpaved (i.e., crushed aggregate)
+	<ul style="list-style-type: none">• Provides a longer service life with lower required maintenance• Better for people using mobility devices	<ul style="list-style-type: none">• Cheaper to purchase and install
-	<ul style="list-style-type: none">• More expensive to install	<ul style="list-style-type: none">• More problems with runoff and drainage• Can't be used by skateboarders or roller skaters

- » **Subsurface.** Designing and selecting pavement sections should include a soils investigation to determine the load-carrying capabilities of the soil and the need for any special treatments. A soils investigation should also be conducted to determine whether subsurface drainage may be applicable. In colder climates, the effects of freeze-thaw cycles should be anticipated. Geotextiles and other similar materials should be considered where subsurface conditions warrant them, such as in locations with swelling clay subgrade.

Clearances and Shoulders

- » **Clearances and Shoulders.** Shared use paths should not have any fixed objects located within the clear width of the path because fixed objects present crash hazards to all users and limit the operational space. A graded shoulder with a maximum cross-slope of 1V:6H should be provided on both sides of all shared use paths. The shoulder is recommended to be a width of 5 ft. In constrained conditions—such as locations where the trail needs to squeeze past an obstacle such as a utility pole—shoulders may be reduced for short distances to a practical minimum of 2 ft width. The shoulder should be maintained and recoverable in all weather conditions (see Figure 7 and the previous Figure 6) and be clear of all lateral obstructions such as trees, bushes, large rocks, bridge piers, abutments, and poles. Constrained conditions may also require all trail users to share the same surface, dropping the separated soft-surface trail for equestrians and joggers.

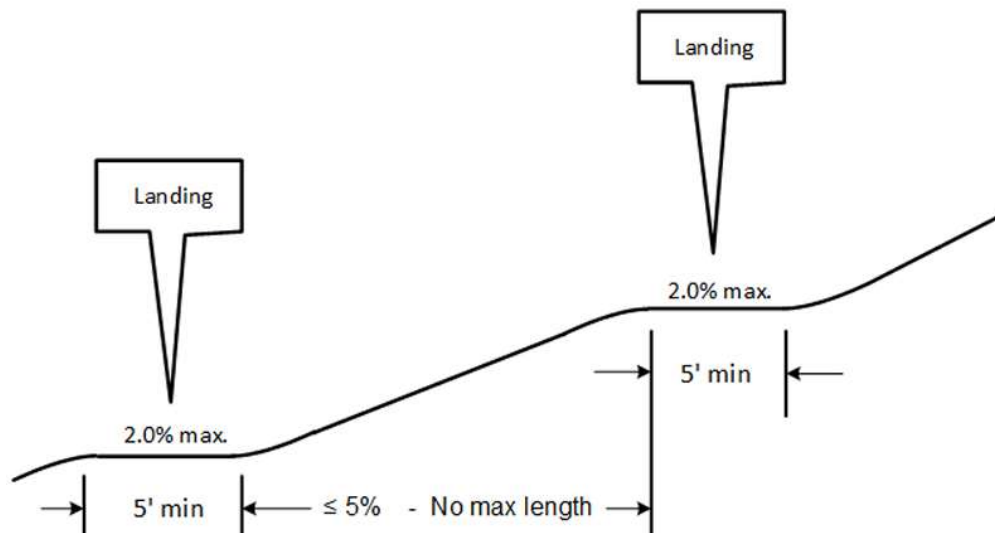
Figure 8: Shoulders and Shy Distance on Shared Use Paths



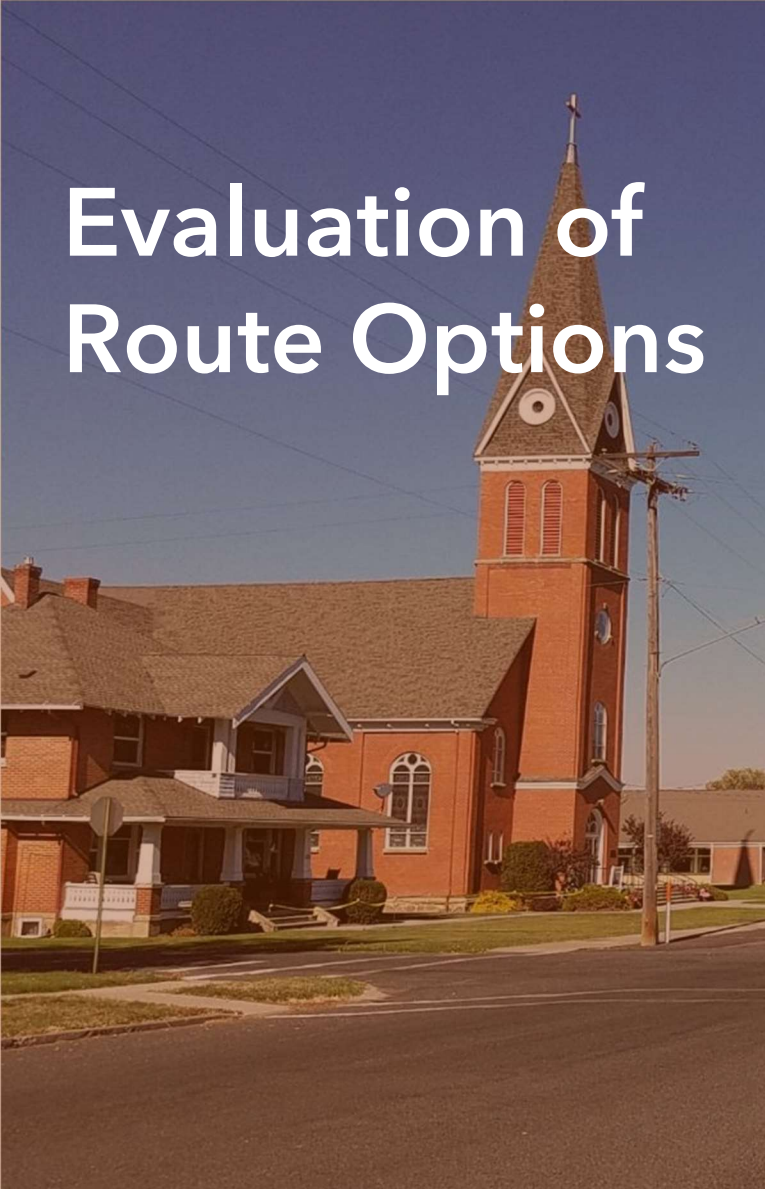
Running Slopes and Landings

- » **Running Slopes.** Grades should be designed less than or equal to 5% to accommodate all user types, including pedestrians with disabilities. When the path is within the highway right of way, its running slope can match the general grade established for the adjacent roadway (WSDOT Design Manual 1515.02(3)(a)).
- » **Landings.** Landings are desirable to provide users a level place to periodically rest on extended grades, particularly those steeper than 5%, or when waiting to cross a roadway. They should be at least 5 ft long and should not exceed maximum running slopes and cross slopes of 2%.

Figure 9: Shared Use Path Landing Profile (Source: WSDOT Design Manual Exhibit 1515-9)



Evaluation of Route Options

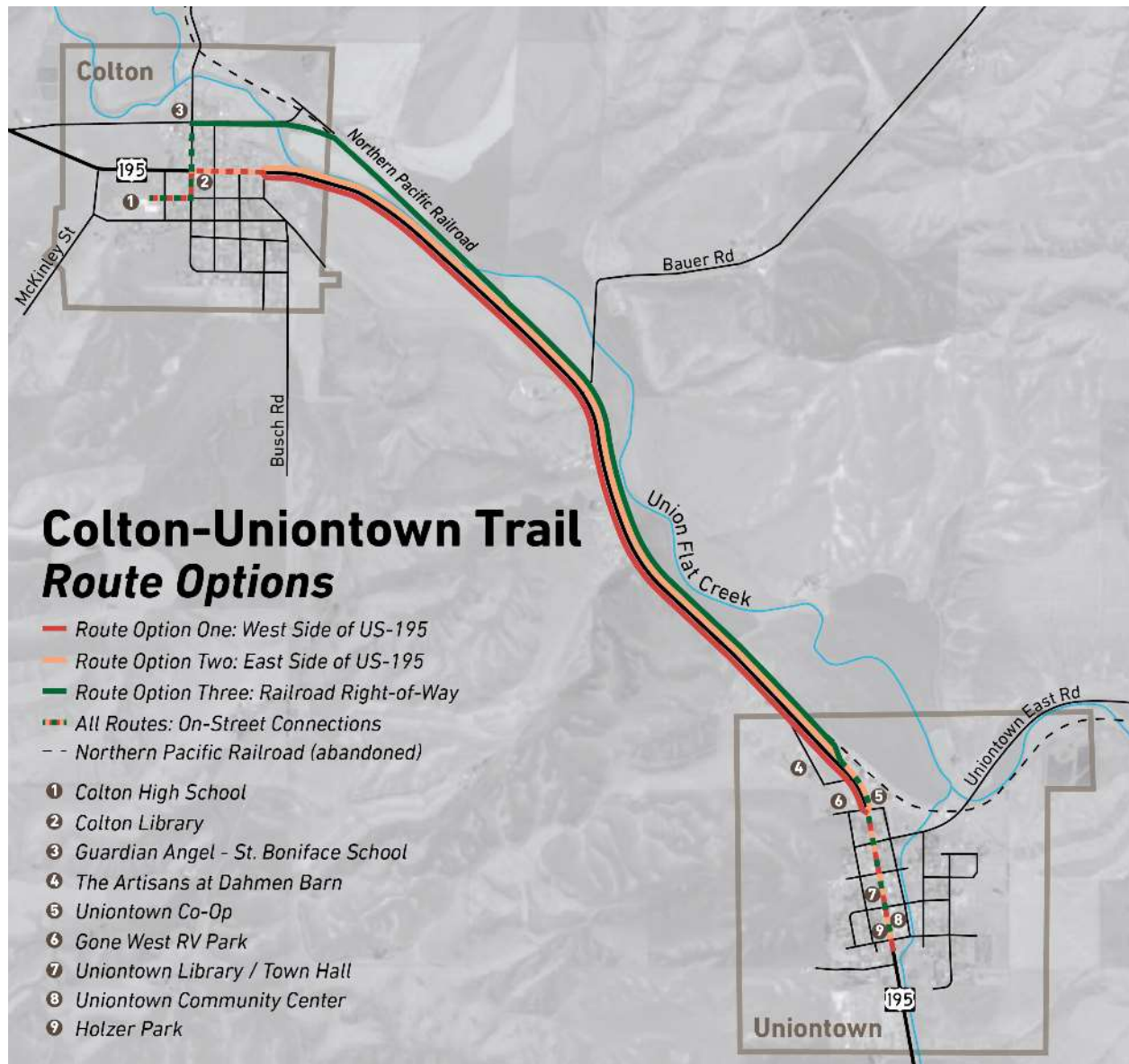


Steptoe Street in Colton, with Saint Gall Catholic Church

Route Options

This section describes the advantages and challenges of each of the three potential trail alignments for the Colton-Uniontown Trail (see Map 1 below).

Map 1: Colton-Uniontown Trail Route Options



West Side of US-195

- » **Grading.** There are four locations along the west side of US-195 with grading challenges (see Figure 10). In particular, there is a steep drop-off on the west side of US-195 approaching Colton (see Figure 10). These locations could increase the cut and fill needed for a trail on those sections and may require retaining walls. They could also necessitate additional right-of-way acquisition. These locations may also require temporarily dropping the separated path for equestrians and joggers.

Figure 10: Steep slope along the west side of US-195 shortly after leaving Uniontown



Figure 11: Steep slope along the west side of US-195 approaching Colton



- » **Telephone poles.** The utility poles and guy wires located along the west side of US-195 could potentially conflict with the proposed trail alignment, which may introduce additional costs and coordination needs.
- » **Colton High School.** Having the trail on the west side would enable an easier connection to Colton High School (see Figure 12), which would be a logical start/end point for the trail, without needing to cross US-195. Existing crosswalks in downtown Colton would make it relatively safe and easy to make the connection regardless of the trail alignment.

Figure 12: Colton School from US-195



- » **More homes and driveways.** The west side of US-195 has approximately eight driveways/homes between Colton and Uniontown, compared to four on the east side. The higher number of driveways represents a challenge both in mitigating safety conflicts with trail users and turning vehicles and mitigating potential conflicts with adjacent landowners. The houses are also closer to the road, with the potential for greater privacy concerns.
- » **The Artisans at Dahmen Barn and Gone West RV Park.** Having the trail on the west side would better serve both the Dahmen Barn and the Gone West RV Park. In both cases, visitors are anticipated to include trail users.
- » **Connection to existing sidewalk.** Approaching Uniontown, the trail would connect directly to the existing, recently built sidewalk (see Figure 13).

Figure 13: End of existing sidewalk from Uniontown, next to the Dahmen Barn



East Side of US-195

- » **Union Flat Creek.** Approaching Colton, the Union Flat Creek runs very close to US-195 (see Figure 14), leaving little room for a trail. Any additional construction along the east side of highway would probably impact the stream, which would trigger additional analysis and permitting, most likely including a [Hydraulic Project Approval \(HPA\)](#) from the Washington Department of Fish and Wildlife. Another option here is to cross the stream at roughly the same location where the railroad bridge used to be located and follow the Creek to Depot Road. This would also require addition permitting and the cost of a bridge.

Figure 14: Union Flat Creek along US-195, looking north approaching Colton



- » **Guardian Angel—St Boniface School.** Depot Road leads directly to the Guardian Angel-St Boniface Catholic school at the intersection with Steptoe St in Colton. An east side alignment could connect this school to the trail.
- » **Extension to the north.** Having the trail on the east side would set the trail up for a future extension north to Johnson and Pullman, and potentially east to Genesee, ID, without needing to cross US-195.
- » **Safety.** Assuming higher volumes of morning traffic, the east side faces a somewhat higher risk of vehicles leaving the roadway during winter months due to ice, presenting a potential risk to trail users. This risk could be addressed by including adequate buffers and/or barriers in locations with known issues.
- » **Grading.** The east side of US-195 generally has lesser grading challenges compared to west side but does have a regular downhill slope. If the trail stays at the toe of this slope, which may require some land acquisition, this alignment could accommodate a trail with a comfortable separation from the highway.

Abandoned Railroad Right-of-Way

- » **History and context.** The abandoned Burlington Northern Santa Fe (BNSF) railroad connected grain silos between Pullman, WA and Genesee, ID. It was officially abandoned by the railroad in 1984 due to the reduced costs of using trucks to haul grain to the Port in Lewiston, ID. The right of way was consistently 100 ft wide with the railroad tracks in the center. The old rail bed is still visible along much of its original extents, though some sections have been excavated and/or converted into active farmland. The end point of the RR in Pullman has been converted into a trail, and the Palouse Active Transportation Plan (still in draft form) includes the section from Pullman to Chambers, known as the Spillman Farm to Chambers Trail, as an existing trail under private maintenance.¹⁵ Chambers is three miles northwest of Johnson.
- » **Acquisition.** Most of the railroad right-of-way was acquired by adjacent landowners through quick deed claims during the late 80s and early 90s, though the railroad often maintained mineral rights. Funding for land acquisition can be difficult to obtain through traditional grant sources and the time required for potential land acquisition could add years to the trail implementation timeline.
- » **User experience.** The 100 ft wide railroad right-of-way would allow for a larger buffer between the roadway and the trail, potentially improving the trail user experience by reducing road noise.

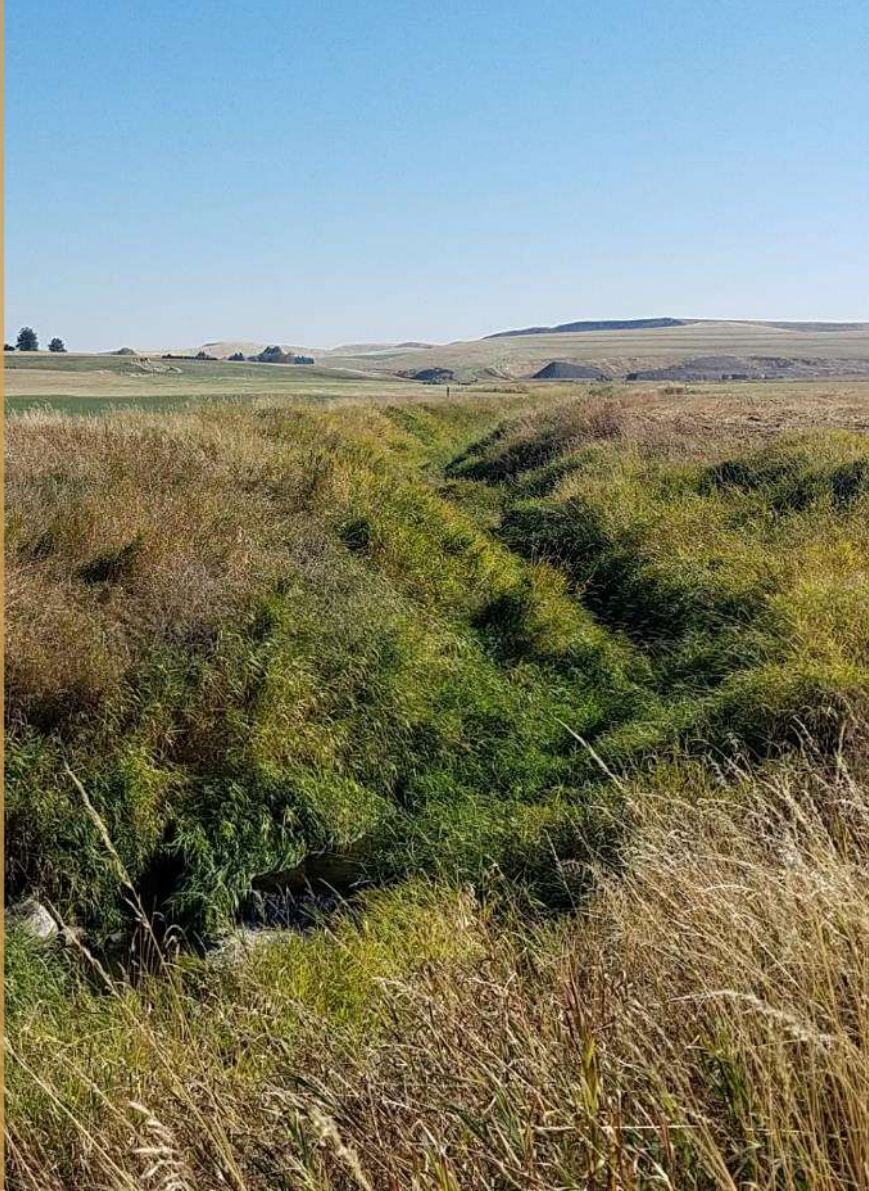
Summary

The table below summarizes the advantages and challenge of each alignment.

	West Side	East Side / Railroad ROW
+	Trail on the same side as: <ul style="list-style-type: none"> • Colton High School • The Artisans at Dahmen Barn • Gone West RV Park Connection to existing sidewalk approaching Uniontown	Trail on the right side for a potential extension to the north and east and a connection to the Guardian Angel-St Boniface Catholic school Fewer homes and driveways, located further from the road Lesser grading challenges
-	Grading approaching Colton and along other sections of US-195 More homes and driveways	Union Flat Creek approaching Colton (may be less of an issue with railroad ROW, though a bridge may be required)

¹⁵ Palouse RTPO. (2021). Palouse Active Transportation Plan, Interim Draft Report.

Management & Maintenance



Purpose

Proper management and maintenance are essential to the long-term success of the Colton-Uniontown Trail, making people feel welcome and mitigating potential issues before they arise. This section was developed in consultation with local trail managers and experts to provide a plan for management and maintenance protocols to ensure that the Colton-Uniontown Trail continues to provide a safe and sustainable community asset for into the future. It includes approximate maintenance costs, construction techniques to reduce the maintenance burden, and standards for each task.

Guiding Principles

The management and maintenance of the Colton-Uniontown Trail are based on the following guiding principles:

- » Protect life, property, and the environment
- » Maintain a quality active transportation connection and outdoor recreation experience for all
- » Coordinate on-going management with public works personnel and emergency responders
- » Maintain a responsive public feedback system
- » Coordinate and collaborate with adjacent property owners to mitigate any potential conflicts

Precedent Examples

This Plan is informed by lessons learned from other similar multi-use trails in the region, including:

- » **The Bill Chipman Palouse Trail**
 - Location: 7 miles between Pullman, WA and Moscow, ID
 - Surface: 10 ft wide asphalt paved trail
 - Amenities: Benches, interpretive signage, 2 accessible port-a-potty restrooms, bike racks, trash receptacles, emergency call boxes
 - Year constructed: 1998
 - Maintenance: Whitman County Parks Department
 - Maintenance Funding: Interlocal agreement between Whitman County, City of Pullman, City of Moscow, Washington State University, and University of Idaho
 - Annual maintenance budget: \$50,000 (includes staff compensation and contingency for bridge repair, flood cleanup, etc.)
 - Friends Group: [Pullman Civic Trust](#)
- » **The Latah Trail**
 - Location: 12 miles between Moscow, ID and Troy, ID plus 4 miles of graveled trail in Bear Creek Canyon
 - Surface: 10 ft wide asphalt paved trail
 - Amenities: Picnic Areas, parking, restrooms
 - Maintenance: Latah County Parks with help from volunteers organized by the Latah Trail Foundation
 - Maintenance Funding: Interlocal agreement between Latah County (\$5,000/year), City of Moscow (\$5,000/year), and City of Troy (\$1,500-2,500/year)
 - Annual maintenance budget: \$12,000 (includes staff compensation and contingency for bridge repair, flood cleanup, etc.; covers patching but not resurfacing)
 - Friends Group: [Latah Trail Foundation](#)

» **The Palouse to Cascades Trail**

- Location: 289 miles between Cedar Falls, WA and the Idaho border
- Surface: 10 ft wide crushed stone trail
- Amenities: Restrooms, primitive campgrounds
- Maintenance: Washington State Parks
- Friends Group: [Palouse to Cascades State Park Trail Coalition](#)

Approximate Maintenance Costs

Costs for trail maintenance vary widely by agency. In its 2015 report [Maintenance Practices and Costs of Rail-Trails](#), the Rails to Trails Conservancy estimated that trail maintenance costs \$1,000 to \$2,000 per mile per year. However, a report for the [U.S. Forest Service by Trails Unlimited](#) estimates maintenance costs at \$2,500 to \$6,000 per mile per year. These figures do not include any extensive or exceptional repairs and the lower figures are assumed to include only the basic maintenance tasks needed to keep the trail usable. The Latah Trail maintenance budget is approximately \$1,000 per mile per year and the Chipman Trail maintenance budget, which includes more amenities as well as more extensive repairs and rehabilitation, is approximately \$7,000 per mile per year. Based on the rural context and minimal proposed amenities, partially thanks to the presence of existing public restrooms in Colton and Uniontown, the Colton-Uniontown Trail could expect a maintenance budget closer to that of the Latah Trail.

Management and Administrative Considerations

The successful operation and maintenance of a trail requires a well-coordinated administrative structure, adequate staffing, and dedicated funding to address management needs, including:

- » **Liability and public safety** to reduce risk of harm to users. This may include etiquette signage that establishes expectations for people using the trail and can include disclaimers of liability.
- » **ADA compliance** ensures that trails are accessible to and usable by the whole community. This includes the need to resolve trail obstructions in a timely manner.
- » **Community support and partnerships** can support the coordination required for maintaining a safe and enjoyable trails system. These partnerships include local citizen support organizations, non-profit organizations, local jurisdictions, and contractors.
- » **Adequate funding** for planning, designing, and constructing trails is important to secure so that maintenance costs are minimized later. This includes yearly cost estimates for ongoing tasks, such as management, personnel and staff costs, and equipment.
- » **Record keeping** is key to clear information regarding past, present, and future actions.
- » **Public relations** can encourage trail use and provide leverage for increased resources and staff capacity.
- » **Volunteer coordination** can leverage labor for light maintenance, including litter pick up and vegetation control. Coordinating volunteers can also create a public sense of ownership and pride in the trail system, which can lead to greater support and use over time. Also consider partnering with local businesses or organizations to “adopt” trail sections.
- » **Education, art, and interpretation** can encourage trail use and create a venue to raise awareness about local culture, history, environmental features, and wildlife.

Construction Techniques to Reduce Maintenance Burden

The best way to maintain a multi-use trail is to start by building it to last. Trail damage can frequently be avoided or mitigated by using proper construction techniques that consider the underlying soils, seasonal conditions impacting soils, plantings, and design. Important design and construction considerations also include:

- » **Subgrade.** The type of soil underlying a trail is one of the main determinants of whether it will fail before the end of its projected lifespan. Providing an adequate subgrade below paths may deter many of these failures by providing stability and good drainage, helping the path be more resistant to seasonal changes. Subgrade design and preparation should be carefully considered and based on local soil conditions and policies.
- » **Pavement thickness.** If only very light duty equipment will use the shared-use path, asphalt thicknesses can be as shallow as three inches if laid on top of an adequate aggregate depth of four inches. Eight-inch-thick asphalt may be needed if laying without a base and anticipating up to medium duty truck use. Where farm equipment may be crossing or driving on the trail, thicker pavement may be necessary.
- » **Drainage.** Proper drainage is important for maintenance purposes and to provide a safe and comfortable experience for users. It is important to provide a slight cross slope on paths to ensure proper drainage and prevent pooling of water, especially in climates where ice can form. Accessibility requirements prescribe a maximum cross slope of two percent. This provides adequate drainage but does not adversely impact access for people with disabilities. Culverts should also be adequately sized to manage water volumes associated with extreme rainfall events.
- » **Width.** Paths should be at least 10 feet wide, with a preferred width of 12 feet, to support truck wheels at the edges (see Figure 5 on p. 14). It should include two-foot gravel shoulders on either side and possibly and adjacent soft surface trail for joggers and equestrians. Larger maintenance vehicles can cause significant edge damage if wheels ride at the edges. Narrow trails with high use tend to widen on their own, causing negative impacts to the surrounding vegetation and soils.
- » **Plantings.** Any plantings will be selected for hardiness and drought resistance. New plantings will require temporary irrigation to become established.¹⁶ If trees are included, they will be species unlikely to cause pavement heaving due to root growth (i.e. no cottonwoods or poplars). Welcome adjacent farmers to plant close to the trail, reducing the need for vegetation management.
- » **Signage.** Use metal rather than wooden sign posts. Wooden posts last about 7 years compared to metal posts which can last for decades. Signs should include contact info for trail users to report maintenance needs or concerns.

¹⁶ The Palouse Conservation District may be a resource to support plantings.

Management Responsibilities, Roles, & Stewardship

Management Responsibilities

Maintenance for other trails in the region is primarily covered by County and State Parks Departments, with some funding from local jurisdictions and universities and additional help from volunteers. The Colton-Uniontown Trail could follow a similar model, with maintenance responsibilities and funding contributions outlined in an interlocal agreement similar to the model used for the Bill Chipman Palouse Trail.

Partnerships

The proposed Colton-Uniontown trail alignment runs parallel to Union Flat Creek. This presents a possible opportunity to partner with the [Palouse Conservation District](#), whose staff could potentially assist with vegetation management in the interest of plant selection and establishment, erosion control, habitat restoration, stormwater management, and noxious weed control.

Other potential maintenance partners include the Washington State Department of Transportation (WSDOT), Whitman County Parks and Recreation, Colton and GASB schools, local 4H clubs, a local or regional youth conservation corps (modeled off of the [NW Youth Corps](#) or [WA Conservation Corps](#)), and local businesses.

Volunteers

The Colton-Uniontown Trail Association (CUTA) or another local organization could coordinate volunteers to assist with periodic maintenance tasks such as litter removal. Some maintenance could also be covered through an Adopt-a-Trail program. Such programs have been successful in recruiting and training volunteers to assist in the general care and maintenance of trails. Volunteers should sign a liability release form and should generally not engage in high-risk maintenance activities. Involving volunteers may require a volunteer agreement with the County and/or Colton and Uniontown.¹⁷

Operational Maintenance & Standards

Trail Inspection & Record Keeping

Seasonal inspections should include documentation of issues, including photographs (see Appendix B: Colton-Uniontown Trail Inspection Checklist¹⁸). Whenever feasible, issues should be addressed as part of inspection. This requires personnel to plan ahead and carry equipment with them such as paint, saws, rakes, herbicide, graffiti removal supplies, and trash bags.

¹⁷ Agreements are often put in place to protect the trail managers from liability and/or extend workers compensation to volunteers. The agreements may have negative side effects such as adding complexity to volunteering by requiring extra training, reporting, and coordination with staff about volunteer workdays.

¹⁸ Inspection Checklist adapted from the [Minnesota LRRB Recreational Trails Paved Trail Inspection Template](#), 2019.

Trash, Sweeping, and Debris Removal

This includes the processes required to ensure that the trail is clear from potential obstructions. It also includes emptying the trails proposed one to two trash cans located at trail access points.¹⁹

Mowing & Vegetation Management

Vegetative growth encroaching on the path narrows the effective width of the path and can damage the pavement over time. Where adjacent terrain is relatively flat, work with adjacent farmers to plant hay or other crops along the trail; where grades are steeper, spray weeds with herbicide twice a year in spring and mid-summer. Mowing should include at least 3 feet on either side of the trail.

Trail Surface Repair

Trail surface repair depends on the type of surface used. Trail surfaces should be maintained to have a uniform surface, clear of cracks, potholes, and depressions that could be hazardous to users. Proper monitoring and maintenance can extend a trail's life. For example, with asphalt, sealing cracks and filling potholes prevents water infiltration into the subbase, which can cause further degradation. Cracks should be filled promptly to prevent them from allowing water to intrude and saturate the gravel base course. If roots cause heaving in the trail surface, the asphalt can be ground down to create a level trail surface.

Pavement preservation treatments used on roadways can be successfully adapted for use on trails. For example, chip sealing can be used on trails with the following modifications:²⁰

- » Reduce the size of the chip (1/8" minus) to yield a smoother surface
- » Schedule the application during later part of the summer when the trail has maximum strength
- » Limit the weight of construction equipment

The main issues with crushed aggregate trail surfaces arise from erosion and drainage. Crusher aggregate trails are susceptible to washouts, particularly if the trail become saturated such as during spring snowmelt.

Sign and Path Markers

All signs, traffic, and pavement markings should be reviewed for degradation and relevance. Damaged signs should be replaced.

Drainage Maintenance

Maintaining drainage features can help minimize path erosion and negative environmental impacts. Periodic investments in the maintenance of trail drainage systems, swales, and culverts can prevent catastrophic damage to the trail when heavy rainfall and flooding events occur. This work is primarily carried out manually with the use of rakes and shovels but may also include power washing and other forms of silt removal.

Winter Maintenance

The trail will not be plowed in the winter, allowing for winter uses such as cross-country skiing.

¹⁹ If routine emptying garbage cans is beyond the capacity of maintenance resources, the trail could also employ a carry in-carry out policy.

²⁰ Minnesota Local Road Research Board. (2009). [Preventative Maintenance for Recreational Trails](#).

Maintenance Tasks, Frequency, Timing, & Costs

The table below outlines the desired scope and frequency for each maintenance task, the responsible party, time of year, and approximate cost. The frequency, scope, and responsible party are flexible and may be adjusted to reflect the capacity of trail managers.

Maintenance Task	Description	Frequency	Seasons			
			SPRING	SUMMER	FALL	WINTER
Trash & Debris Removal	Pick up trash and sweep up debris along the trail	Monthly	x	x	x	x
Mowing	Mow and edge grass	Monthly	x	x		
Quarterly Inspection	Perform detailed inspection of all trail assets using the Inspection Checklist and take corrective action (i.e. painting over graffiti)	Quarterly (4x per year)	x	x	x	x
Weed Control	Where adjacent terrain is relatively flat, work with adjacent farmers to plant hay or other crops along the trail; Where grades are steeper, pull or spray weeds encroaching on the trail	Twice a year	x		x	
Drainage & Erosion	Stabilize eroded areas and clear swales and culverts after heavy rainfall events	As needed at least once a year	x	x	x	x
Signage	Replace and repair signage as needed	Annually			x	
Amenities	Repair/repaint benches, trash cans, and other trail amenities	Annually		x		
Revegetation	Replant vegetation that has died or become damaged over the course of the year	Annually	x			
Asphalt Maintenance	Patch and crack seal asphalt trail surface (also consider seal coating)	Every 2 years	x			
Pavement Markings	Restripe pavement markings (at crosswalks / road crossings)	Every 2 years		x		
Structure Maintenance	Make repairs to bridges, fences, and other structures	As needed			x	
Asphalt Resurfacing	Resurface asphalt trail surface	Every 20 years	x	x		

Management & Maintenance Resources

- » Federal Highway Administration (FHWA). (2013). [A Guide for Maintaining Pedestrian Facilities for Enhanced Safety](#). (update forthcoming)
- » Luecke, Kevin, & M. Loughran. (2019). [Shared Use Path Opinion of Probable Unit Costs](#), Indiana State Bicycle & Trails Report.
- » Marion, Jeffrey. (2022). [Trail Design & Maintenance](#).
- » Minnesota Local Road Research Board. (2019). [Sample Paved Trail Inspections Checklist](#) and [Sample Paved Trail Maintenance Schedule](#).
- » Rails-to-Trails Conservancy. (2015). [Maintenance Practices and Costs of Rail-Trails](#)sv.
- » Rails-to-Trails Conservancy. (2021). [Trail Maintenance Budget Worksheet](#).

Example Management & Maintenance Plans

- » City of Great Falls, Montana and Montana State Parks. (2014). [Rivers Edge Trail Maintenance Plan](#).
- » Maricopa County Parks and Recreation Department. (2018). [Trails Management Manual](#).

Appendices



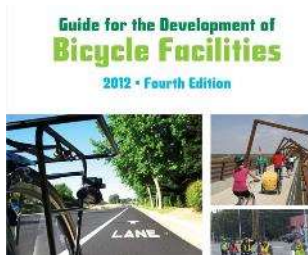
Appendix A: Planning & Design Resources



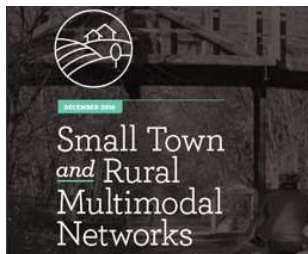
Oregon Trails Coalition. (2021). [Ready Set, Plan!? An Introductory Guide to Trail Planning and Development](#).



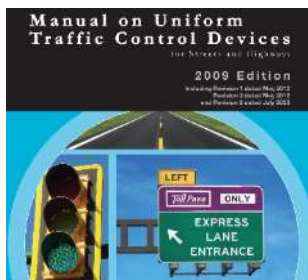
American Trails. [Trail Planning and Design Hub](#).



AASHTO Task Force on Geometric Design. (2012). [AASHTO Guide for the Development of Bicycle Facilities](#). American Association of State Highway and Transportation Officials, Washington, DC. (update forthcoming)



Federal Highway Administration (FHWA). (2016). [Small Town and Rural Multimodal Networks](#).



Federal Highway Administration (FHWA). (2009). [Manual on Uniform Traffic Control Devices for Streets and Highways](#).



Washington State Department of Transportation (WSDOT). (2022). [Design Manual, Chapter 1515: Shared Use Paths](#).

Appendix B: Colton-Uniontown Trail Inspection Checklist*

Inspection Date:

Follow-up performed by:

Inspector Name:

Follow-up date:

Inspection Item	Y/N	Inspection Comment/Location	Maintenance Complete (X)	Follow Up Comments	Photos Taken (Y/N)
Pavement Condition / Markings					
a. Are there cracks, surface pitting, potholes, heaves, trail edge failures or other deficiencies in the trail surface condition?					
b. Are pavement markings fading or chipping?					
Sight Lines					
a. Does vegetation within the trail corridor need to be cleared to maintain sightlines from/to trail?					
Erosion Evidence / Damage					
a. Is there any erosion damage to the trail or shoulders?					
Drainage Structures / Culverts					
a. Are any culverts clogged with debris?					
b. Is there any erosion near culverts?					
Ditch Clearing					
a. Is there debris in the ditches? (trash, branches, sediment, etc.)					
b. Is there standing water in the ditches?					
c. Do ditches need mowing?					
Bridges (if necessary; non-structural inspection)					
a. Is there any graffiti that needs to be cleaned?					
b. Are the railings bent, broken or in disrepair?					
c. Is the decking in disrepair? (nail heads sticking up, cracks, etc.)					
d. Is the paint or surface treatment chipping or cracking?					
e. Is there any spalling?					
f. Is there any visual sign of damage to the substructure?					

Inspection Item	Y/N	Inspection Comment/Location	Maintenance Complete (X)	Follow Up Comments	Photos Taken (Y/N)
Trail Amenities					
a. Are any bike racks, trash receptacles, kiosks, picnic tables or benches broken or in disrepair?					
b. Is there any sign of vandalism?					
Pet Stations					
a. Do the pet station bags need to be re-filled?					
Signage					
a. Are any trail signs blocked by vegetation for other obstructions?					
b. Is there any physical damage to trail signs?					
c. Are connecting bolts and anchorages intact?					
Sediment / Debris on Trail					
a. Is there any sediment on the trail?					
b. Is there any debris on the trail (storm, trash, etc.)					

* Inspection Checklist adapted from the [Minnesota LRRB Recreational Trails Paved Trail Inspection Template](#), 2019.