Chelan-Douglas

PATHWAYS MASTER PLAN



March 2026

"So exciting! What a massive enhancement for this region, I cannot wait to use these pathways. Not only does this involve better infrastructure, but a safer, reliable, and engaging way to transport around our towns, connecting our people and economies. I'm thrilled to see these plans."

—Community Member

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Project Introduction

The Chelan-Douglas Pathways Master Plan provides recommendations for four pathway corridors throughout the region to better connect communities with safe walking and biking routes.

The Chelan-Douglas pathway corridors will offer unique, safe connections between communities in Chelan and Douglas Counties. **The project builds on the success of the existing Apple Capital Loop Trail**, a 10-mile trail along the Columbia River that connects communities in the region to urban areas and parks and has shown how impactful regional trail connections are for the Chelan and Douglas County communities.

Throughout the master plan, information specific to these four pathway corridors can be found by looking for its corresponding color:

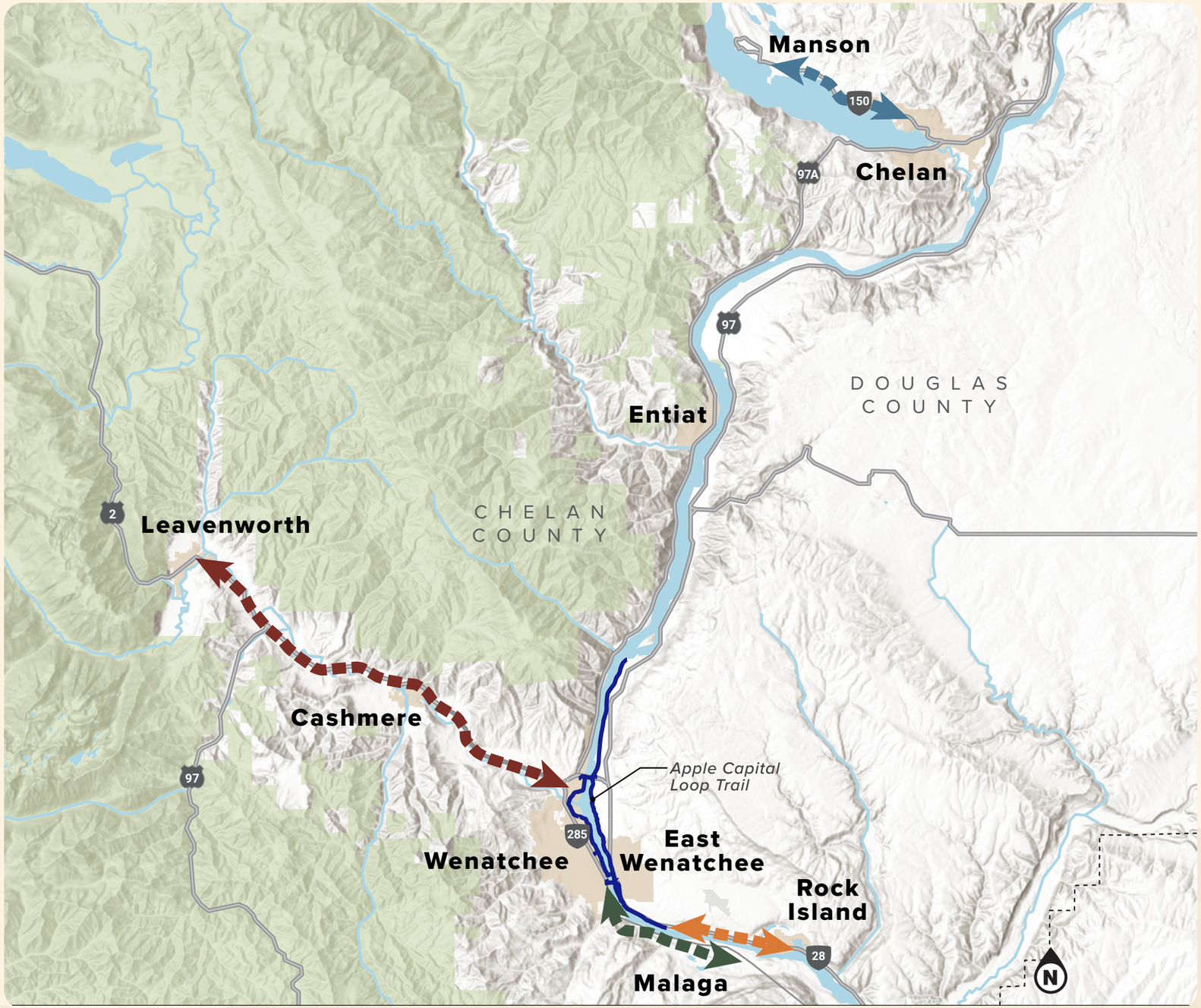
Chelan to Manson

Leavenworth to Cashmere to Wenatchee

Malaga to Wenatchee

Rock Island to East Wenatchee

This project was led by the Chelan-Douglas Transportation Council (CDTC), the lead agency for regional transportation planning in the Chelan-Douglas region. The CDTC works to enhance the region's livability and prosperity through advancing transportation needs.



Pathway Corridors

The recommended pathway route for the **Chelan to Manson corridor** will connect the Big Horn Way trail system in Chelan to downtown Manson with a 6.4-mile paved multiuse pathway. Much of the pathway will travel along Lake Chelan, following the south side of State Route (SR) 150 and will create connections to public parks, bus stops, and open spaces between the two communities.

A key feature of this pathway is a boardwalk element over the waters of Lake Chelan to navigate the steep terrain near Rocky Point, which will create opportunities for new vistas, recreational opportunities, and safe travel for people walking and biking between Chelan and Manson.

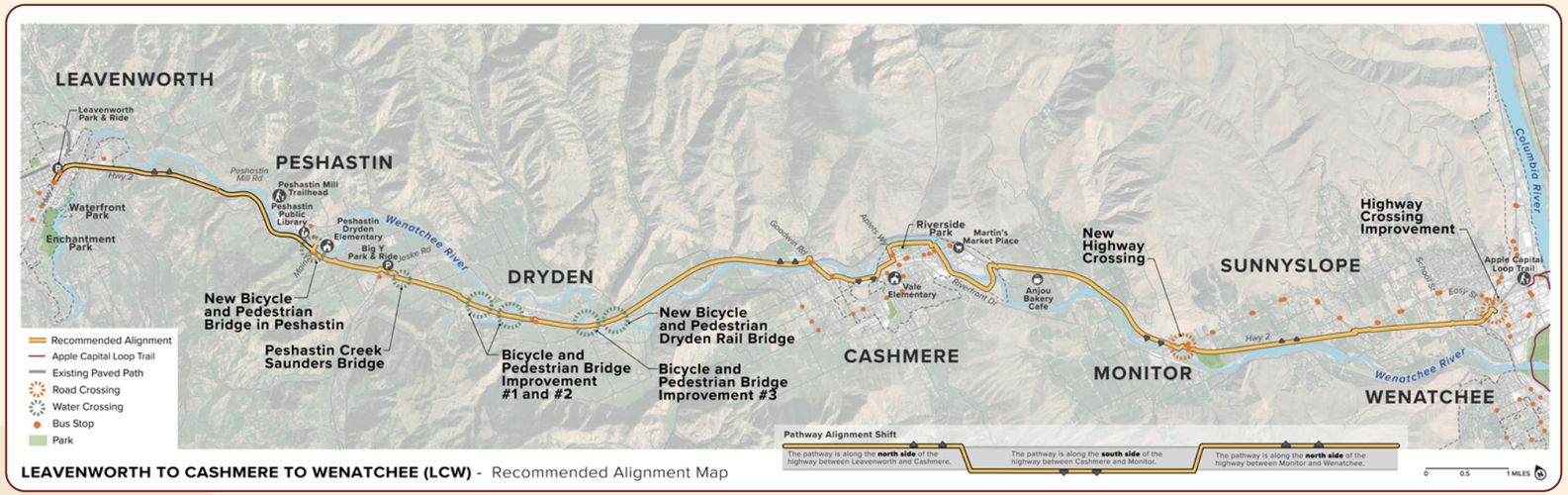
Chelan to Manson Recommended Pathway Route



The 19.5-mile recommended pathway route for the **Leavenworth to Cashmere to Wenatchee corridor** will connect to downtown Leavenworth and travel adjacent to Highway 2 with connections into Peshastin, Cashmere, and Monitor before connecting to the existing Apple Capital Loop Trail in Wenatchee.

The pathway will connect to schools and other important destinations along the route including a spur to connect students and families to the schools on Chumstick Highway and a proposed bike and pedestrian bridge to connect to Peshastin Dryden Elementary School. There are several proposed bridges that will allow the pathway to cross the Wenatchee River and safely travel over existing railroads.

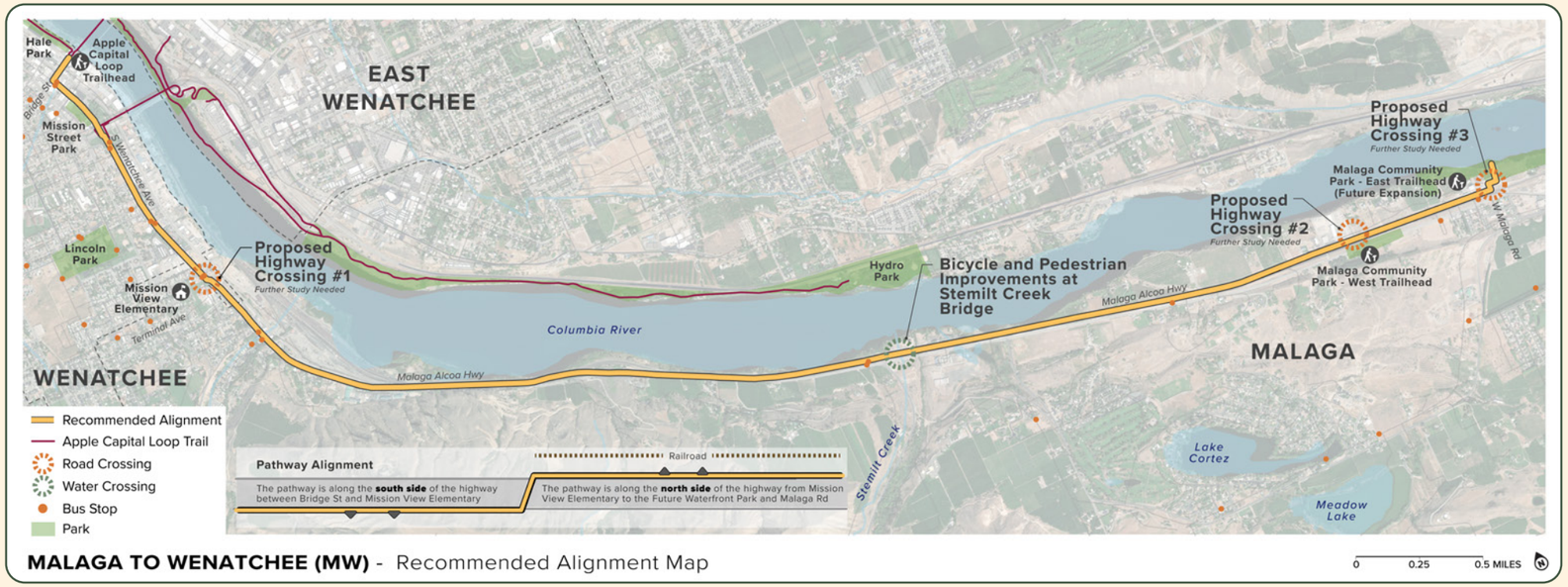
Leavenworth to Cashmere to Wenatchee Recommended Pathway Route



LEAVENWORTH TO CASHMERE TO WENATCHEE (LCW) - Recommended Alignment Map

The recommended route between **Malaga and Wenatchee** starts at the Apple Capital Loop Trail near Bridge Street in Wenatchee and travels along SR 28 to connect users to the proposed Waterfront Park in Malaga. The proposed 6.5-mile paved multiuse path includes a proposed bicycle and pedestrian bridge to safely connect pathway users from the Apple Capital Loop Trail over the railroad to Bridge Street in Wenatchee.

Malaga and Wenatchee Recommended Pathway Route



MALAGA TO WENATCHEE (MW) - Recommended Alignment Map

The recommended pathway route from **Rock Island to East Wenatchee** will extend the Apple Capital Loop Trail from where it currently ends at Hydro Park with a 5.5-mile multiuse paved trail to the lakes around the northern perimeter of Rock Island. The pathway largely follows SR 28 and creates opportunities to connect existing area residents with Hydro Park through a proposed safe highway crossing. The project team recommends creating connections with the future trail network in Rock Island, helping to further strengthen the regional trail network.

The project team conducted a preliminary review of the Wenatchee–Entiat–Chelan corridor to assess pathway potential. This early analysis did not include public input. Findings showed that available right-of-way (ROW) between Highway 97A and the railroad is too limited to place a pathway on the west side of the Columbia River without encroaching on Cascade and Columbia River Railroad (C&CR) property. C&CR did not participate in discussions despite repeated outreach. Although the rail line operates at low speed and low volume, conditions suitable for a Rail-with-Trail approach, progress would require C&CR cooperation in the future.

The project team did identify feasible pathway opportunities on the east side of the Columbia River along Highway 97 from Lincoln Rock Park to Chelan and Chelan Falls, primarily within Douglas County. For more information, see Chapter 3: Recommended Pathway Corridors, Wenatchee to Entiat to Chelan Corridor, page 25.

Rock Island to East Wenatchee Recommended Pathway Route



ROCK ISLAND TO EAST WENATCHEE (RIEW) - Recommended Alignment

Guiding Principles

The project team developed recommendations for the Chelan-Douglas Pathways project based on the following guiding principles established by the CDTC Governing Board:

New pathways will be planned on alignments with **separation or physical barrier from public roadways and highways** to the maximum extent feasible and practical.

New pathways will be planned for **use by people of all ages and abilities,** to the maximum extent feasible and practical. Steep grades should be avoided where reasonable alternatives exist.

New pathways will **connect to the Apple Capital Loop Trail to form a complete regional pathways network** that connects all Wenatchee Valley communities (*with the exception of the Chelan to Manson pathway*).

New pathways will **include accommodation for public access and connections** to adjacent residences and community, educational, employment, recreational, and other destinations with pathway spurs and/or safe accommodation of pedestrians and cyclists along public roadways.

New pathways will be planned to **incorporate wayfinding information, and educational and interpretive features** highlighting the history and culture of the region, its agricultural economy, and the natural environment of the Wenatchee, Columbia River, and Lake Chelan valleys.

The Pathways Master Plan process will **engage residents and stakeholders** to identify feasible and achievable alignments for each pathway that take into account the diverse local context of communities, with respect for private property rights and use.

The Pathways Master Plan process will include **recommendations for public agency roles, responsibilities, and funding sources** for pathway construction and long-term operations and maintenance.

Pathways Project Background and Vision

The Wenatchee urban area and surrounding rural areas of Chelan and Douglas Counties are at the geographic center of Washington state. The population of the two counties is roughly 125,000 with an economy largely rooted in the tree-fruit and health care industries, tourism, and government. The region has a reputation for uncrowded cities and convenient access to public lands, mountains, rivers, and other outdoor recreation amenities that generate steady growth in the tourism industry. The region is also experiencing population growth with many new residents being drawn to the area by access to outdoors, coupled with low relative cost of living compared to larger metropolitan areas in Washington state.

The Wenatchee area constructed the “Apple Capital Loop Trail” (Loop Trail) in 1994. The Loop Trail is approximately 10 miles long and traverses both the east and west banks of the Columbia River, crossing to the north on the Odabashian Bridge and to the south on the Wenatchee Reclamation Bridge and George Sellar Bridge. A 2-mile spur follows the Columbia River southeast to Kirby Billingsly Park in Douglas County. In 2015, an additional 6.5-mile extension to the north was constructed in Douglas County, named the Rocky Reach Trail. This extension created a connection between the Wenatchee urban area and Lincoln Rock State Park.

Today, the Apple Capital Loop Trail is the backbone of the Wenatchee Valley urban area bikeway network and is a well-used asset for transportation, economic development, recreation, community health and wellness, and quality of life. The CDTC intends to extend the benefits of the Loop Trail to the growing communities outside the Wenatchee Valley to serve the entire region with a system of comfortable, safe, and equitable nonmotorized Chelan-Douglas Pathways. This master plan provides a blueprint for implementing this vision.



The Apple Capital Loop Trail.

Common Questions and Concerns About the Project

Questions and Concerns About Overall Planning, Design, and Implementation

Who will pay to build these pathways?

The plan identifies a **diverse mix of funding sources** to ensure financial sustainability for both construction and long-term operations:

- **State and Federal Grants**
  - Programs such as Transportation Alternatives (TA), Surface Transportation Block Grant (STBG), Active Transportation Infrastructure Investment Program (ATIIP), and Safe Routes to School.
  - Competitive grants for resilience (PROTECT), carbon reduction, and recreational trails.
- **Local Partnerships**
  - Collaboration with cities, counties, and Link Transit for integrated mobility solutions.
  - Potential cost-sharing agreements with utility districts and parks departments.
- **Nonprofit and Philanthropic Support**
  - Engagement with organizations like Chelan-Douglas Land Trust, Complete the Loop Coalition, and regional foundations.
  - Opportunities for in-kind contributions and volunteer support for maintenance.
- **Nontraditional Financing**
  - Value capture mechanisms such as Special Assessment Districts (SADs), Tax Increment Financing (TIF), and Transportation Utility Fees (TUF).
  - Public-Private Partnerships (P3s) for design-build-maintain contracts.
  - Green financing options (e.g., green bonds) for environmentally focused segments.

Will the project require acquisition of private property?

The recommended alignments were chosen to minimize property acquisition. Most routes use existing ROW or public easements, which is why they are often adjacent to the highway. Where acquisition is unavoidable, the project will work closely with property owners to ensure fair and transparent processes.

Will the pathways follow irrigation canals?

No. The plan is committed to avoiding irrigation canal routes to protect agricultural operations and water infrastructure. If a property owner is interested in coordinating with the project, they are encouraged to contact the project team to discuss options.

When will the pathways be built?

The implementation strategy for the Chelan-Douglas Pathways Master Plan is designed to balance feasibility, cost, and community priorities. Development will likely occur in three tiers based on the following phasing framework, each reflecting the complexity and readiness of individual segments:

Phasing Framework

Tier 1: Immediate Feasibility

- Near-term implementation for segments with minimal physical, environmental, or regulatory constraints.
- These sections often leverage existing ROWs and infrastructure, reducing permitting and design complexity.
- High likelihood of near-term funding through grants and local partnerships.
- Examples: Connections to existing trail networks (e.g., Apple Capital Loop Trail) and segments adjacent to public roads with available ROW.

Tier 2: Moderate Feasibility

- Mid-term implementation for segments requiring additional design, interagency coordination, or moderate permitting.
- May involve minor grading, property easements, or environmental mitigation.
- Funding will likely combine state/federal grants with local contributions and nonprofit support.

Tier 3: Long-Term Feasibility

- Long-term implementation for high-cost, complex segments such as boardwalks, major bridges, or areas with significant land acquisition needs.
- Requires extensive planning, permitting, and stakeholder engagement.
- Often dependent on future development or infrastructure improvements.

How will the design create a safe and comfortable pathway next to highways?

Safety and comfort for pathway users are top priorities. Each corridor includes segments near highways because these alignments scored highest for feasibility and connectivity. Safety is a top priority:

- **Physical barriers** (guardrails, fencing) and **vegetative buffers** will separate the pathway from traffic.
- In some locations, the path will be **offset at a lower elevation** than the roadway for added protection.
- Crossing points will include **signalized intersections, flashing beacons, or grade-separated bridges/tunnels** where needed.

Will the pathways impact emergency response and access?

The pathways are planned and designed to preserve and where possible enhance emergency access. This includes maintaining clear corridors for fire, medical, and law-enforcement vehicles and ensuring that any new infrastructure, such as bridges, boardwalks, undercrossings, or roadway crossings, meets applicable emergency clearance and load requirements.

During the planning process, the project team worked directly with WSDOT and local emergency responders to understand access needs, staging requirements, and emergency response protocols within each corridor. This coordination guided the project team so that the recommended designs do not compromise emergency operations and in some cases may improve traffic flow and emergency response.

As the pathways move from planning into final design and construction, ongoing collaboration with local fire districts, EMS, law enforcement, WSDOT, and public works agencies will be essential. Each segment will undergo updated engineering review to ensure that roadway modifications, pathway widths, and crossing treatments maintain emergency access. This includes continued evaluation of lane narrowing, traffic calming, and right-of-way constraints to confirm they do not hinder emergency response.

In constrained areas, maintaining emergency access may require adjusting pathway width to 10 feet, shifting the roadway, or incorporating barriers,

depending on the corridor context and safety standards in effect at the time of design. These decisions will be made case-by-case with direct input from the agencies responsible for emergency response.

Who will maintain the pathways?

A multiagency operations, management, and maintenance framework is proposed. See page 75 of the Pathways Master Plan. Tasks include routine sweeping, vegetation trimming, trash removal, and seasonal maintenance.

I want the pathway to extend to a connection in my community! Is that possible?

This project does not specifically propose new pathways beyond those recommended within each corridor, but communities are encouraged to pursue future connections. The goal of the project is to build a regional trail network that can expand over time.

Will the pathways include amenities like lighting, bike parking, seating, and rest areas?

Yes! The Pathways Master Plan prioritizes comfort, safety, and convenience by incorporating a range of amenities throughout the corridors. These include:

- Lighting at access points, crossings, and high-use areas to improve visibility and security.
- Bicycle racks at trailheads and near key destinations to encourage biking.
- Rest areas with benches and picnic tables placed at scenic viewpoints and trailheads, often co-located with shade structures and hydration stations.
- Essential amenities such as bathrooms, drinking fountains, trash and recycling receptacles, and shade structures at major access points.

The plan also includes operations and maintenance strategies to ensure these features remain in good condition, creating a safe and enjoyable experience for all users.

What kind of plantings will be used along the pathways?

The pathways will feature a thoughtfully designed palette of native plants chosen to:

- Thrive in the regional climate with minimal irrigation.
- Support local wildlife and provide beneficial habitat.
- Prevent the introduction of invasive species.

Native trees will offer shade and cooling benefits, improving comfort for users, while shrubs and groundcover will enhance aesthetics, stabilize soils, and reduce erosion. This approach creates a resilient, low-maintenance landscape that blends seamlessly with the natural environment.

How will the pathway design promote the need for shade along the corridor?

The pathway design prioritizes shade through continuous planting zones with native trees, which can reduce surface temperatures and improve comfort and safety for users. In addition, shade structures, seating areas, and hydration stations will be strategically placed at trailheads and high-use locations along the route. These features not only provide relief from heat but also create inviting rest areas that enhance the overall user experience.



Corridor-Specific Questions and Concerns

Chelan to Manson

Why is the pathway along SR 150 instead of the back roads?

SR 150 was selected because it offers the best balance of connectivity, safety, and feasibility. It directly links Chelan and Manson while providing access to parks, transit stops, and community destinations. The project team thoroughly evaluated back-road alternatives; however, those routes presented significant challenges, including steep grades, indirect travel, and extensive private property acquisition—making them less practical and more costly to implement.

How will the boardwalk near Rocky Point affect private properties and the natural landscape?

The boardwalk is intentionally designed to preserve scenic vistas and minimize environmental and property impacts. By elevating the pathway on piers over the water, the design avoids steep terrain and reduces the need for land disturbance along the shoreline. This approach maintains unobstructed views of Lake Chelan for both pathway users and adjacent property owners, while ensuring safe passage in a challenging section of the corridor. The structure will be engineered to blend with the natural setting and include features that respect privacy and protect the surrounding landscape.

Leavenworth to Cashmere to Wenatchee

Will the pathway interfere with orchards?

The project team carefully designed the recommended alignment to avoid orchards wherever feasible. In locations where proximity is unavoidable, the plan incorporates buffer zones, vegetative screening, and traffic calming measures to minimize potential conflicts and protect agricultural operations. These strategies were developed in collaboration with growers and community stakeholders to ensure the pathway supports both recreation and the region's agricultural economy.

How will narrow bridges and rail crossings be addressed?

The plan includes new pedestrian and bicycle bridges and widened crossings at key locations to ensure safe and comfortable passage. The project team determined strategic locations for improvements designed to eliminate pinch points, enhance user safety, and maintain connectivity along the corridor.

Malaga to Wenatchee

How will the pathway navigate steep terrain and the rock cut?

The design incorporates bench-style pathways and some regrading to maintain accessibility and safety in challenging areas. Where slopes or rock formations create pinch points, the alignment will use engineered benches cut into the hillside and, where necessary, structural solutions such as retaining walls or elevated sections. These approaches minimize environmental disturbance while ensuring the pathway remains comfortable and compliant with accessibility standards.

Will there be safe crossings along the highway?

Yes. The plan includes signalized crossings at key intersections and traffic calming measures such as speed reductions and enhanced signage to prioritize pedestrian and cyclist safety. These improvements are focused on high-activity areas, including near Mission View Elementary School and the new Community Waterfront Park, ensuring safe and convenient access for students, families, and community members. Additionally, the project team recommends additional study to determine if there should be another crossing near the Malaga Market.

Rock Island to East Wenatchee

Why route along SR 28 instead of Rock Island Road?

The SR 28 alignment was chosen because it scored significantly higher for connectivity, safety, and long-term feasibility. It provides direct access to regional destinations, transit connections, and the Apple Capital Loop Trail, while minimizing conflicts with residential areas. In contrast, Rock Island Road presented challenges such as limited ROW, steep terrain, and safety concerns for crossings, making it less practical and more costly to implement.

How will safe crossings be provided near Hydro Park and Nile Avenue?

To ensure safe and convenient crossing of SR 28, the plan includes grade-separated crossing options—either a pedestrian/bicycle bridge or a tunnel—at the west end of the pathway. This solution will connect the neighborhood north of the highway to Hydro Park and allow residents living south of the highway to safely access the nearby Link Transit bus stop by Nile Avenue while eliminating conflicts with high-speed traffic on SR 28. The design will prioritize visibility, accessibility, and user comfort, creating a safe link between the Apple Capital Loop Trail and the surrounding communities.



Executive Summary

Executive Summary

The Chelan-Douglas Pathways Master Plan details the work the project team undertook to determine the pathway routes in each corridor, as well as providing recommendations for design, construction, funding, maintenance and operations of the pathways. This plan is organized into five chapters that outline the work that informed the recommended corridors, the recommendations, and a path forward for implementing the plan.



Chapter 1

Alignment Analysis Summary

Chapter 1 focuses on the alignment analysis that shaped the pathway planning process. It includes a comprehensive review of past and current planning efforts, alongside an evaluation of environmental, social, and cultural conditions within the corridor. Field assessments provided critical, on-the-ground insights that informed the alignment strategy.

This stage of work revealed several key themes that directly influenced the alignment recommendations:

- **Community Priorities:** Strong regional support for safe, accessible transportation options, as documented in previous planning efforts, reinforced the need for inclusive alignment choices.
- **Connectivity:** Opportunities to link with existing and planned infrastructure—such as trail networks, parks, recreation areas, and public transit—were central to alignment decisions.
- **Physical Constraints:** The presence of steep terrain and crossing challenges (e.g., bodies of water, railroads, highways) required careful consideration to ensure feasible and safe routing.

The culmination of this analysis was the development of an alignment evaluation framework, introduced at the end of the chapter. This framework guided the comparison of potential routes and helped identify the most viable and impactful pathway alignments.

Chapter 2

Public Engagement

Chapter 2 provides an overview of public engagement efforts throughout the project including outreach statistics and key themes that emerged from the community input. The project team assembled Community Advisory Committees specific to each pathway corridor, and a Technical Advisory Committee with representatives from throughout the region. Additionally, the project team gathered feedback online via a survey and online public input map.

Some key takeaways from engagement were:

- Over half of people who took the survey indicated they would use the pathway weekly.
- Community members have a strong desire for safer pedestrian pathways in high-traffic areas and near schools, bridges, and intersections.
- Interest in protected pathways parallel to major highways to provide safer passage throughout the region for people walking and biking.
- Concerns about locating trails too close to orchards due to possible negative impacts on the agricultural industry and conflicts with pathway users.



Chapter 3

Recommended Pathway Routes

Chapter 3 details the four recommended pathway routes and includes illustrative images showing how the finished pathway might look.

1. **The Chelan to Manson pathway route** will connect Chelan to Manson along the northern shoreline of Lake Chelan, beginning just east of the city of Chelan and terminating in Manson. The path is proposed along the south side of State Route (SR) 150.
2. **The Leavenworth to Cashmere to Wenatchee pathway route** is routed along Highway 2 near the Wenatchee River. This pathway corridor connects to the Apple Capital Loop Trail in Wenatchee and crosses through Monitor, Cashmere, Dryden, and Peshastin before terminating in downtown Leavenworth.
3. **The Malaga to Wenatchee pathway route** is characterized by commercial and industrial uses at the west end in Wenatchee, which transitions to rural residential and agriculture toward Malaga. The planned Waterfront Park in Malaga and a new bridge, which will cross over the railroad tracks at Bridge Street and connect to the Loop Trail in South Wenatchee, are the two major destinations and logical end points on this corridor.
4. **The Rock Island to East Wenatchee pathway route** primarily follows along the northern side of SR 28 and extends the existing Apple Capital Loop Trail to the city of Rock Island. At the eastern end of the corridor, the route circumnavigates Rock Island around Hideaway Lake and Blue Heron Lake.
5. The chapter also provides information on a fifth corridor the project team analyzed from **Wenatchee to Entiat to Chelan Corridor**, and why there are no recommendations for a pathway route in that corridor at this time.

This chapter includes information on the estimated costs and recommended phasing of construction for each pathway corridor. The project team recommends the pathway implementation of each pathway be considered based on the following framework:

Tier 1 – Immediate Feasibility

- **Near-term implementation**
- Minimal physical, environmental, or regulatory constraints
- Existing access and infrastructure support construction
- High likelihood of near-term funding or stakeholder support

Tier 2 – Moderate Feasibility

- **Mid-term implementation**
- Some constraints (e.g., permitting, grading, land ownership)
- May require additional design, coordination, or funding
- Feasible with moderate effort and planning

Tier 3 – Long-Term Feasibility

- **Long-term implementation**
- High cost and land acquisition
- Requires extensive planning, permitting, or interagency coordination

Chapter 4

Pathway Benefits

Chapter 4 outlines the potential benefits of implementing each of the four recommended pathway corridors including increased connectivity within the regional transit network and estimated benefits from increased opportunities for active trips and possible financial benefits to the region from the following categories:

- **Transportation:** Estimates that some travel now occurring by car will in the future be by bicycle or walking, allowing for household savings on vehicle wear-and-tear and savings to society from reduced traffic levels.
- **Community Development:** Number of people living within a walkable or bikeable distance—estimated at 0.5 and 3 miles, respectively—as the crow flies, of the pathway alternative.
- **Emissions:** Monetary value of reductions in pollutants that impact air quality such as CO2, NOx, SO2, and PM2.5.
- **Public Health:** Monetized health benefits of increased physical activity and reduced mortality from that increased physical activity.
- **Economic Activity and Tourism Spending:** Monetary value of tourism drawn to the area due to the pathway, based on comparative estimates of non-local visitor spending on goods, services, and lodging.



Chapter 5

Implementation Strategies

Chapter 5 provides recommended implementation strategies to ensure the long-term success of each pathway project, including operations, maintenance, governance, and funding strategies as well as estimated costs for ongoing operations and maintenance. The operations and maintenance sections include descriptions of anticipated tasks, inspections, and considerations for public access and working with private property owners. The chapter includes suggested agency partnerships and an overview of governance frameworks to ensure effective long-term stewardship of the pathway corridors.

This chapter also includes design guidelines for the pathways, including wayfinding, amenities, environmental considerations, roadway crossings, and materials. The design guidance is rooted in state and national best practices for the design of pathways, including guidance from The American Association of State Highway and Transportation Officials (AASHTO), the Federal Highway Administration (FHWA), and the National Association of City Transportation Officials (NACTO).

Appendices

The master plan provides a high-level overview of the most important elements of each chapter, more detailed information of the planning process can be found in the appendices, which are posted on the project website. The appendices and their relationships to each chapter within the plan are as follows:

Chapter 1: Alignment Analysis Summary

- Appendix A: Plan Review
- Appendix B: Field Assessment Summary
- Appendix C: Social Review
- Appendix D: Natural Resources Report
- Appendix E: Cultural Resources Report
- Appendix F: Alignment Alternatives Evaluation

Chapter 2: Public Engagement

- Appendix G: Public Engagement Process and Findings
- Appendix H: Recommended Pathway Routes Public Engagement Summary Report

Chapter 3: Recommended Pathway Corridors

- Appendix I: 10% Design of Chelan to Manson Pathway
- Appendix J: 10% Design of Leavenworth to Cashmere to Wenatchee Pathway
- Appendix K: 10% Design of Malaga to Wenatchee
- Appendix L: 10% Design of Rock Island to East Wenatchee

Chapter 4: Pathway Benefits

- Appendix M: Pathway Benefits Analysis

Chapter 5: Implementation Strategies

- Appendix N: O&M Case Studies

01

Alignment Analysis Summary

Alignment Analysis Summary

Plan Review

To build upon the substantial planning work already completed in the region, the project team undertook a thorough review of previous transportation and recreational studies focused on pathway corridors, alongside available GIS data. These materials were integrated into corridor maps that not only supported field assessments but also served as valuable tools for facilitating informed discussions among the project team and advisory committees.
To learn more, see Appendix A: Plan Review.

Some key takeaways include:

- **Regional Vision Exists:** Both Chelan and Douglas Counties have long-term plans for active transportation, but current pathway networks are fragmented and lack connectivity between urban and rural areas. There are abundant opportunities for the project to connect to key pathway projects in the region including Lake Chelan Northshore Pathway, Apple Capital Loop Trail extensions, and East Wenatchee–Rock Island linkages.
- **Economy & Quality of Life:** Pathways are seen as essential for recreation, health, and economic development, especially in scenic and tourist-heavy areas.
- **Barriers to Connectivity:** Geography, land ownership, highways, and rail lines limit safe and direct pathway connections.
- **Public Support:** Strong community interest in safe, accessible, and family-friendly infrastructure was expressed across multiple engagement efforts.
- **Need for Collaboration:** Successful implementation depends on partnerships among local governments, transit agencies, land trusts, and private stakeholders.

Field Assessment

In May of 2024, the consultant team conducted an initial field review across each corridor to verify existing conditions and assess all potential pathway alignments. Strategic follow-up site visits addressed any additional questions that arose throughout the planning process.

The field analysis focused on:

- Identifying opportunities and constraints in each corridor
- Verifying conditions from desktop analysis
- Determining feasibility of solutions for pathway alignment challenges
- Measuring constrained areas to evaluate options for engineering and design

The team explored potential pathway routes by driving, walking, and observing key segments. The following notes summarize opportunities and constraints identified during the review, some of these opportunities for pathways were eliminated after further analysis.

For more information see Appendix B: Field Assessment Summary.



Field Assessment Key Takeaways

Chelan to Manson Corridor – Considerations

Infrastructure & Roadway Constraints

- **Downtown Manson:** Reconfiguring roads would displace parking; using Pedoi and Harris as shared routes was rejected due to summer congestion.
- **Highway Corridor:** Must accommodate freight traffic and presents safety concerns due to narrow widths, steep slopes, and speeding—especially near Rocky Point.
- **Steep Terrain:** Routes behind Rocky Point were deemed too steep and indirect, with significant private property conflicts.

Land Ownership & Cultural Constraints

- **Private & Tribal Lands:** Pathway alignments near Manson were limited by the need to avoid private property and navigate tribal land restrictions.
- **Lakefront Properties:** Boardwalk design near the cabana area is complicated by fragmented lakefront ownership.

Safety & Emergency Planning

- **Evacuation Routes:** Dependable emergency and evacuation access along SR 150 is mandatory, the pathway design, implementation and operations will need to be evaluated to ensure they do not reduce roadway capacity or hinder emergency response. Ongoing coordination with emergency response agencies is essential.

Design Opportunities

- **Boardwalk Concept:** A pathway built on its own structure along the lakeshore could enhance tourism appeal, though it presents engineering and property challenges.
- **Bighorn Area:** Potential to integrate with existing and future trails in the Bighorn development to improve connectivity near the Community Center.









Leavenworth to Cashmere to Wenatchee Corridor – Considerations

Feasibility & Infrastructure

- **Narrow Roadways and Bridges:** Several roads and adjacent public right-of-way (ROW) (e.g., North Road, Saunders Road, Sleepy Hollow Road) are too narrow or constrained by private property, limiting trail potential. Additionally, several bridges along Highway 2 are too narrow to safely accommodate pedestrians and cyclists.
- **Steep Terrain:** Some county roads (e.g., Stine Hill Road) present steep grades that challenge accessibility.
- **Shared Use Potential:** A few existing roads (e.g., Front Street, Old Monitor Road) operate as low-speed or low-volume routes, offering potential for shared use on the existing roadway.

Rail & Industrial Barriers

- **Active Railway:** The rail corridor carries high-speed cargo and the owner, BNSF, is not open to collaboration for pathway development.
- **Industrial Operations:** Industrial and rail operations in Peshastin pose safety and access challenges, cutting off opportunities to safely connect the pathway with the existing Peshastin Mill Trail.

Land Ownership & Agricultural Impacts

- **Agricultural Concerns:** Agricultural fruit growers are concerned about:
  - Loss of income from land acquisition (estimated $30,000–$50,000 per 100 feet of orchard).
  - Disruption to pesticide spraying schedules, liability risk, and food safety compliance.
  - Long-term economic impacts to agricultural operations and industry partners.

Community & Connectivity

- **Community Desired Routes:**
  - Chumstick Highway is an additional community-supported pathway corridor despite width limitations.
  - Goodwin Avenue and North Dryden Road may offer alternate routes to improve connectivity.
  - Riverside Park in Cashmere already has a trail, and County lands west of the park may support future expansion.

Environmental & Scenic Considerations

- **Scenic Corridors:** Hillside alignments could offer a more natural experience but face property access challenges.
- **Wastewater Treatment Plant Bridge:** A new pedestrian/bike bridge near the wastewater treatment plant could improve access and utility integration.

Policy & Planning Notes

- **Existing Congestion:** Tourism in Leavenworth strains local roads with seasonal traffic congestion and needs to be considered when determining pathway alignment to avoid further exacerbating the situation.
- **Industrial Operations:** Pathway feasibility may be limited by potential conflict with fruit industry freight access and local rail lines.
- **Irrigation Canals:** Canals are not viable pathway routes unless irrigation districts initiate the option. During initial meetings with fruit growers, Chelan-Douglas Transportation Council (CDTC) established a commitment to not recommend conversion of any active canals for pathway development.





Malaga to Wenatchee Corridor – Considerations

Infrastructure & Roadway Challenges

- **Bridge & On-Ramp Crossings:** Improvements needed at Snohomish Street/Wenatchee Avenue and Stemilt Creek Bridge to ensure safe pedestrian and bike access.
- **Pinch Points:** Narrow roadway near rock cuts south of Terminal Road limits pathway space; alternative alignment along the rail corridor may be more feasible.
- **Old Malaga Road:** Deemed impractical due to steep terrain and indirect routing.

Pathway Alignment Opportunities

- **Bench Paths:** Potential for bench-style path on Malaga Highway near Snohomish and Terminal Roads.
- **Cycle Track:** Possible reconfiguration of Wenatchee Avenue north of Terminal Road to consolidate bike lanes on the west side.
- **Rail with Pathway:** Aligning the pathway adjacent to the rail line could reduce traffic stress and fit well between the highway and rail corridor.

Safety & Connectivity Enhancements

- **New Signal at Terminal Road:** Would improve safety for school access and path users crossing the highway.
- **Malaga City Park Access:** A safe crossing (or tunnel) is needed to reach the park; speed reduction for approaching drivers is recommended.

Land Ownership & Environmental Considerations

- **Private Property Conflicts:** Especially west of Stemilt Creek and near the Columbia River south bank.
- **Tribal & Cultural Sensitivity:** Native American artifacts have been discovered near the proposed alignment. Environmental Science Associates (ESA) confirmed the recommended alignment does not interfere with these cultural sites.
- **Riverfront Access:** Pathway near the Columbia River is limited by rail crossings, but some property owners may support a riverside path.

Destination & Development Potential

- **Future Waterfront Park:** Identified as a key destination for the pathway.
- **Microsoft Partnership:** Potential for public-private collaboration to support pathway development.
- **Malaga Road Extension:** Possible future bike lane or pathway extension, though currently outside project scope.









Rock Island to East Wenatchee Corridor - Considerations

Pathway Connectivity & Loop Potential

- **Apple Capital Loop Trail:** Opportunity to connect with the existing regional trail network at Hydro Park.
- **Loop Pathway Concept:** Paths along State Route (SR) 28 and Rock Island Road could form a scenic loop, especially near the Columbia River.

Highway Crossings & Safety

- **Priority Crossing Locations identified by the Community Advisory Committee:**
  - **Nile Road:** Connects to a bus stop; crossing options include flashing beacons, bridge, or tunnel.
  - **Rock Island Road:** Could eliminate need for highway crossing if pathway is routed north of the highway.
  - **Rock Island Drive (near BJ's Market):** Community supports a roundabout at Highway 2 intersection, though a recent planning effort failed.
- **General Need:** Safe highway crossings are essential; multiple crossing types are under consideration.

Right-of-Way & Alignment Opportunities

- **SR 28 ROW:** Wide enough to support a separated pathway near the highway.
- **North of SR 28:** ROW could support a pathway extension, potentially avoiding highway crossings.
- **Chelan County PUD Lands:** Adjacent to Rock Island Pond and Hideaway Lake—potential pathway corridor.

Topography & Engineering Challenges

- **Steep Terrain:** Present on both sides of SR 28 and near Aspen Shores HOA, complicating pathway construction.
- **Boardwalk Structure:** May be needed along Rock Island Road near Blue Heron Lake for safe passage.

Community & Land Use Considerations

- **Neighborhood Routing:** Community Advisory Committee members noted challenges with routing through established residential areas.
- **Park & Ride near BJ's:** Could be upgraded to serve as a trailhead.
- **Desire Lines:** Pathway could follow informal paths east of neighborhoods to reach the Columbia River.







Wenatchee to Entiat to Chelan Corridor – Considerations

The Wenatchee to Entiat to Chelan corridor is considered a preliminary study corridor. It does not have a Community Advisory Committee, and there has been no public engagement related to this corridor.

Pathway Connectivity & Network Integration

- **Apple Capital Loop Trail:** Opportunity to extend regional connectivity northward.
- **Rail with Pathway Concept:** Potential alignment alongside the rail corridor, including through Entiat and toward Chelan Falls.

Highway & Crossing Challenges

- **Highway 97A:** Limited shoulder width may require widening to accommodate path users.
- **Highway Crossings:** Needed to connect pathway into Entiat and improve access to Entiat City Park.
- **Tunnel near Maplecreek:** Presents a safety concern for pathway route.

Topography & Terrain Constraints

- **Steep Climb:** Approximately 500 feet of elevation gain between Chelan Falls and Chelan.
- **Gorge Road:** Unpaved, narrow, and winding—unsuitable for safe pathway development.
- **Rail Tunnel:** Located west of Chelan Falls, may limit pathway alignment options.

Roadway Conditions & Use

- **SR 150:** Wide shoulders support bicycle use, but heavy freight traffic during harvest season poses safety and comfort challenges.

Planning & Engagement Status

- **Preliminary Study Area:** No Community Advisory Committee or public engagement has occurred yet, so all concepts are exploratory.

Social Review

The Social Review examined how transportation decisions can disproportionately affect certain demographic groups, often limiting access to opportunities, safe environments, and affordable living. These impacts are not evenly distributed, with greater burdens often falling on:

- Black, Indigenous, and People of Color (BIPOC)
- Older adults
- Low-income individuals
- People without a high school diploma
- Households without access to a motor vehicle
- People overburdened by housing costs

To address these disparities, the project team conducted a detailed analysis of social and demographic factors along proposed pathway corridors. These findings were used to shape alignment evaluation criteria and inform final recommendations, ensuring that the benefits of pathway development are available to as many people as possible across the region. **The full findings are available in the Social Review Report in Appendix C.**

The analysis was guided by five key **societal factors**, each supported by large-scale, publicly available datasets:

1. **Engagement** – Inclusion of historically marginalized groups in decision-making.
2. **Opportunity and Accessibility** – Transportation's role in connecting people to life-improving opportunities.
3. **Health and Safety** – How the built environment supports health and reduces traffic-related harm.
4. **Affordability** – The impact of housing and transportation costs on displacement and quality of life.
5. **Socioeconomics and Resiliency** – Community ability to withstand disruptions, especially among vulnerable populations.

Chelan to Manson Pathway Corridor

- Manson's median income ($55,283) is lower than the city of Chelan and Chelan County (over $70,000).
- Hispanic/Latino populations exceed 30% in both Chelan city and Manson, compared to 13.5% statewide.
- High vehicle access; fewer than 10% of households lack a vehicle.
- 41% of trip takers near the corridor are below the median income—the highest among all corridors.

Leavenworth to Cashmere to Wenatchee Corridor

- Wenatchee has a higher proportion of people of color (40%) and Hispanic/Latino residents (33.7%) than Leavenworth and Cashmere.
- Leavenworth leads in walking commuters, surpassing county and state averages.
- Wenatchee census blocks show higher rates of vehicle inaccessibility.
- 34% of nearby trip takers are below the median income.

Malaga to Wenatchee Corridor

- Malaga has a higher median income ($95,746) than Wenatchee ($66,143), Chelan County, and the state.
- Wenatchee has a higher poverty rate (11.8%) compared to Malaga (3.7%).
- In Malaga, fewer than 10% of households are low-income or lack vehicle access; in Wenatchee, this ranges up to 40%.
- 59% of trip takers near the corridor are below the median income; 23% of trips are for school or work.

Rock Island to East Wenatchee Corridor

- East Wenatchee's median income ($78,312) is higher than Rock Island's ($53,359).
- Educational attainment is higher in East Wenatchee (19%) with bachelor's degree or higher than Rock Island (8%).
- Most census blocks have 20%+ people of color; southwestern East Wenatchee shows higher vehicle inaccessibility.
- 24% of trips are for school or work; only 20% of trip takers are below the median income—the lowest among corridors.

Wenatchee to Entiat to Chelan Corridor

- Wenatchee has the largest population, highest diversity, and lowest median income among the three cities.
- Chelan city stands out with 11% walking commuters—well above the state average.
- Northeastern corridor areas show higher rates of low-income households and vehicle inaccessibility.
- 35% of trip takers near the corridor are below the median income.

Environmental Review

This report, prepared by Environmental Science Associates (ESA) for Alta Planning + Design and the CDTC, evaluates natural resources along five proposed pathway corridors in Chelan and Douglas counties. It identifies existing environmental conditions, regulatory considerations, and potential impacts related to pathway development.

The project team worked with ESA to evaluate natural resources along five proposed pathway corridors in Chelan and Douglas Counties to identify existing environmental conditions, regulatory considerations, and potential impacts related to pathway development. **The full findings are available in the Natural Resources Report in Appendix D.**

Methods

ESA used publicly available datasets and conducted a field survey (July 2024) to identify:

- Wetlands and streams
- Threatened and endangered species
- Habitat types (e.g., shrub steppe, riparian zones)
- Fish and wildlife conservation areas

Key data sources included US Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA), Washington Department of Fish and Wildlife (WDFW), Northwest Indian Fisheries Commission (NWIFC), Natural Resource Conservation Service (NRCS), US Geological Survey (USGS).

The pathway corridors include both undeveloped and developed landscapes and traverse waterways such as the Wenatchee, Entiat, and Columbia Rivers and lakes such as Lake Chelan, Hideaway Lake, and Blue Heron Lake. The primary habitat types in most corridors are shrub steppe, riparian, and wetland.

Key Findings by Corridor

- **Chelan to Manson:** Mostly developed; fragmented shrub steppe habitat and a few wetlands identified. No fish-bearing streams.
- **Leavenworth to Cashmere to Wenatchee:** Contains wetlands, irrigation ditches, and stream crossings. Shrub steppe and duck nesting habitats observed.
- **Malaga to Wenatchee:** Includes wetlands, fish-bearing streams, and osprey nests. Shrub steppe habitat concentrated near Malaga.
- **Rock Island to East Wenatchee:** Lakes support waterfowl and other species. Shrub steppe and riparian habitats present, though access was limited.
- **Wenatchee to Entiat to Chelan:** Rich in shrub steppe, cliff/bluff habitats, and wildlife (e.g., golden eagle, mule deer). Several wetlands and fish-bearing streams.

Sensitive Species

Species potentially present include:

- **Fish:** Bull trout, Chinook salmon, Steelhead (all federally threatened)
- **Birds:** Yellow-billed cuckoo, Mt. Rainier white-tailed ptarmigan
- **Mammals:** Canada lynx, gray wolf, North American wolverine
- **Plants:** Showy stickseed, Ute ladies'-tresses, Wenatchee Mountains checkermallow

Critical habitat for fish species exists in the Columbia and Wenatchee Rivers and some tributaries.

Regulatory Considerations

Pathway development may require coordination with:

- **Federal agencies:** US Army Corps of Engineers (Clean Water Act Section 404), USFWS, NMFS
- **State agencies:** Washington Department of Ecology (Section 401), WDFW (Hydraulic Project Approval)
- **Local jurisdictions:** Each city and county has its own critical areas ordinances and buffer requirements (ranging from 40 to 300 feet).

Mitigation may be required for unavoidable impacts, including buffer restoration or use of mitigation banks.

Recommendations

- Conduct site-specific studies (e.g., wetland and stream delineations).
- Coordinate with local planning officials.
- Develop strategies to avoid, minimize, or mitigate impacts on critical areas.

Shrub Steppe Habitat

Shrub steppe habitat is found in areas with rolling hills or plains. The habitat is defined as having an overstory of sagebrush (*Artemisia spp.*) and other woody shrubs. Cryptobiotic crusts made up of microscopic fragile organisms form on the ground under the shrubby understory, locking in moisture and helping to prevent erosion. Shrub steppe habitat supports a variety of species adapted to arid landscapes such as mule deer (*Odocoileus hemionus*), northern rattlesnakes *(Crotalus horridus*), and burrowing owls (*Athene cunicularia*), though there are numerous other species (WDFW 2024a).



Cultural Review

This report, prepared by ESA for Alta Planning + Design and the CDTC, provides a preliminary assessment of cultural resources along the five proposed multiuse pathway corridors in Chelan and Douglas counties, Washington. The goal is to inform planning and design decisions while ensuring compliance with cultural resource regulations.

Each corridor was evaluated using a 200-foot buffer around potential route options, based on data from the Washington Information System for Architectural and Archaeological Records Data (WISAARD).

Types of Cultural Resources Reviewed

Resources were categorized by their eligibility for listing in the National Register of Historic Places (NRHP).

- Archaeological Sites (precontact, historic, multicomponent)
- Cemeteries
- Traditional Cultural Properties (TCPs)
- Historic Resources (buildings, structures, districts, etc.)

The full findings are available in the Cultural Resources Report in Appendix E.

Design and Regulatory Considerations

- No corridor crosses Tribal reservation land, but all are in areas historically used by Indigenous peoples.
- Cultural resources are protected under state and federal laws, including RCW 27.53, RCW 27.44, and the National Historic Preservation Act (NHPA).
- Future federal or state funding may trigger compliance with Section 106 of NHPA or Governor's Executive Order 21-02, requiring consultation with the Washington Department of Archaeology and Historic Preservation (DAHP) and Tribes.
- All corridors are in areas classified as Very High Risk for encountering precontact-era archaeological resources though the recommended pathway alignments do not appear to fall within areas of concern.

Recommendations

- Conduct additional desktop review beyond the 200-foot buffer based on construction methods.
- Perform field surveys for preferred route options to identify undocumented cultural resources.
- Prepare for potential mitigation strategies, including data recovery, interpretive materials, or design adjustments, in consultation with DAHP and Tribes.



Pathway Alignment Evaluation

The project team used categories rooted in the guiding principles of the project to develop criteria and metrics for scoring potential alignments for each pathway corridor. This analysis was used to differentiate and compare the pathway alignments in each pathway corridor for the master plan, screen alignments from consideration based on their quantitative and qualitative merits, and support the selection of a preferred alternative. The criteria used in the evaluation analysis include readily measurable transportation data along with input and feedback from the project team, Technical Advisory Committee, Community Advisory Committees, and public at large. **The full evaluation and scoring framework is available in Appendix F**.

Evaluation Framework and Scoring

The evaluation criteria framework is organized as follows:

- **Categories:** Based on the project guiding principles, five overarching categories were identified for the evaluation criteria: User Experience, Accessibility, Connectivity, Feasibility, and Cost. Each category is weighted based on importance to project goals. Weights varied by corridor, based on the guidance from the Community Advisory Committee specific to each pathway corridor.
- **Criteria:** Each category has multiple criteria. In some categories, artificial breaks were required for evaluation purposes. For instance, an alignment with less than 5 feet of distance from the roadway is scored less than an alignment with 5 to 20 feet of distance from the roadway.
- **Metrics:** The data measured and used to develop a score for each criteria. For example, the pinch points criteria measured the length of each segment where the pathway would need to be less than 12 feet.

Evaluation Goals

The project team evaluated possible corridor pathways by considering how well the potential routes met five goals rooted in the project's guiding principles:

User Experience:

- Does the route provide a safe, comfortable, and enjoyable experience for the users?
- Does the route give access to natural resources like parks and waterbodies?
- What are the real or perceived safety impacts in the route?

Accessibility:

- Is the route accessible for users of all ages and abilities?
- Does the route improve access to underserved communities like low-income households and those without access to vehicles?

Connectivity:

- Does the route provide connections to transit and improve access to community destinations?
- Does the route provide alternative transportation options to more residents?

Feasibility:

- Does the route require easement or property acquisition?
- Does the route run within or close to an orchard?

Cost:

- Does the route require private property acquisition or is it fully within public ROW?
- Does the route need structures and improvements that might increase implementation cost?
- Does the route provide the shortest possible connection between places, thereby potentially decreasing operating and maintenance costs?
- What are the potential permitting needs for the route?



Table 1: *Goals, Categories, and Criteria*

Goals	Categories	Criteria
Determined from Guiding Principles	*Each goal has one or more categories through which it is evaluated*	*Describes the method of measurement, typically involves splitting the categories into ranges or typologies*
User Experience	Adjacent Land Use	Primary land use adjacent to the corridor (Agricultural, industrial, residential, scenic, cultural, or historic)
	Distance between Roadway & Path	As the crow flies distance between the nearest road segment and the path (Distance between path and roadway in feet)
	Number of Roadway Crossings	Number of roadway crossings required to complete the path alignment
	Traffic Volumes	Traffic volume (Low, medium, or high volume)
Accessibility	Trail Slope	Running slope of path Percent of gradient (1 % to 8 % slope or greater)
	Pinch Point(s)	Minimum trail width
	Equity Priority Areas	Proximity to Equity Priority assigned through Equity Analysis (Low to high equity priority areas)
Connectivity	Access/ Connections to Greater Path System	Type of connection (Connects to desire paths, local trail, regional system)
	Transit Connections	Number of connections to transit
	Number of Residents with Access to Path	Residential population
	Proximity to Destinations	Number of destinations connected through an alignment
Feasibility	Requires Easement or Property Acquisition	Type of Acquisition/ Easement (ROW easement, land exchange, trust land transfer, project partner ownership, private land acquisition)
	Environmental - Wetlands/Waterways	Type of impact/ Action required (Mitigation, protection, water quality)
	Permitting/ Coordination Requirements	Permit Types (Permits from state or national entities, railroad permitting, historic districts, basic land use permitting, environmental permitting)
	Proximity to Orchard(s)	Distance Between Path and Orchard (0' - 49', 50' - 99' Buffer, >= 100' Buffer)
Cost (includes Operations and Maintenance)	ROWs	Private vs public ROW
	Alignment Length	Length of alignment
	New Structure (trestle/bridge)	New structures needed in the alignment
	Improvements to Existing Structure	Structural improvements needed in the alignment
	Grading / Retaining Wall	Earthwork, grading, retaining wall needed in alignment


30
MPH




FedEx
Freight

02

Public Engagement



Public Engagement Methods

The project team launched an extensive Project Awareness Campaign at the start of the project to build project awareness and gather feedback to inform pathway route selection. Through in-person engagement, printed materials, and project and community partner communications channels, the project team was able to reach a wide range of community members in Chelan and Douglas counties. The project team built on this work throughout the project, using the website, email list, and connections from earlier in the project to deliver project updates and solicit feedback about draft plans for each corridor. **To learn more, see Appendix G: Public Engagement Summary Report and Appendix H: Recommended Routes Public Review Summary.**

The project team engaged the public through a variety of methods:

20 Technical Advisory Committee members
attended 4 meetings throughout the planning process

38,000+
people reached via social media in English and Spanish

4 Community Advisory Committees
specific to each pathway corridor

The Project Outreach Team attended 12 community events
(e.g., farmers markets, school events) to distribute project flyers

9,548
unique website visitors

12,884 postcards
sent to underrepresented zip codes

1,897 participated
in the survey and public input map

24 decals placed
in high foot-and-bike traffic areas

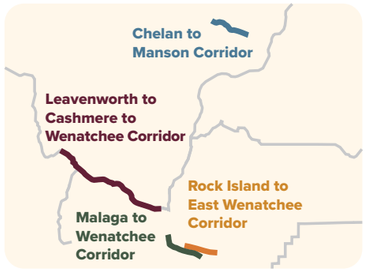
1,530 community members
signed up to receive project updates

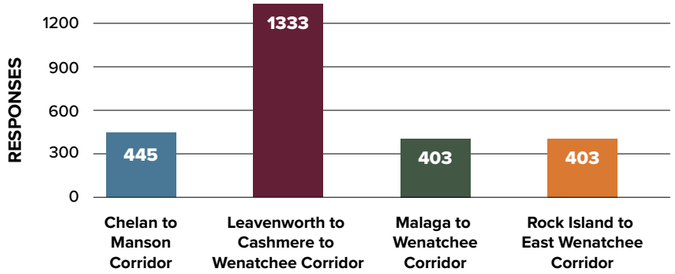


What We Heard Round 1: Survey and Public Input Map

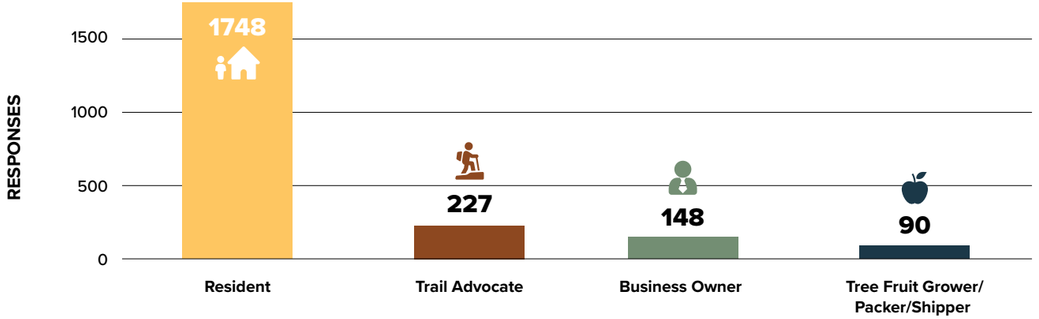
Early in the planning process during the summer of 2024, the project team used a survey and public input map to learn about how community members might use a pathway system, where they would like to travel, possible connections, and what concerns they may have about the project.

Which corridor(s) do you want to provide feedback on?

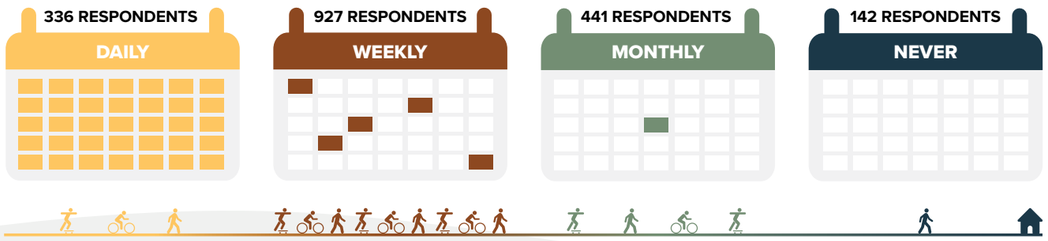




In the Chelan-Douglas Region, I am a...



How often do you anticipate you would use a path in the corridor(s) you selected?



*Each person represents approximately 100 trail users.

What are the main reasons you would use a walking or biking path in the corridor(s) you selected?

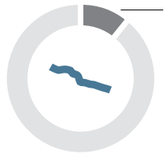


RESPONSES



24% respondents in both corridors indicated they would use the path to commute to and from work or school

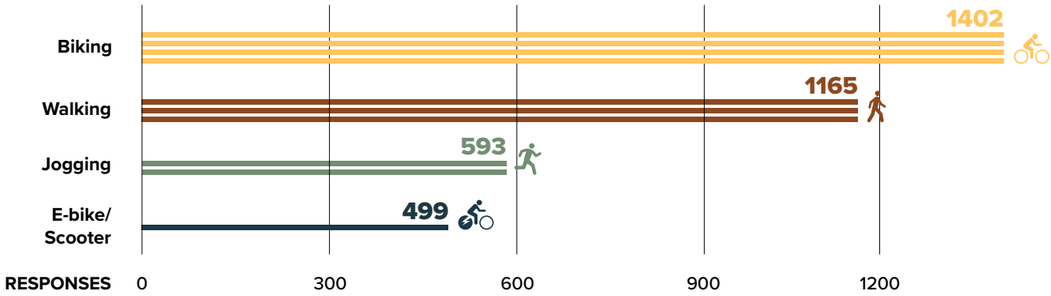
Malaga to Wenatchee Corridor + Leavenworth to Cashmere to Wenatchee Corridor



11% indicated they would not use a path in this corridor

Chelan to Manson Corridor

What mode of transportation would you use on a path in the corridor(s) you selected?



What is your zip code?



COMMUNITY	LIVE/WORK
Wenatchee	224
Leavenworth	172
Cashmere	111
East Wenatchee	103
Chelan	76
Peshastin	54
Manson	44
Malaga	35
Rock Island	11
Dryden	10
Monitor	7

*Locations and volumes of responses indicated with circles on map above.

Key Themes from Survey and Public Input Map:

The project team's outreach through the survey, public input map, and community events and meetings highlighted key themes early in the project that informed the pathways and the alignment recommendations for the plan.

Safety for Pedestrians: Respondents emphasized the need for safer pedestrian pathways, especially near high-traffic areas such as bridges, schools, and busy intersections.

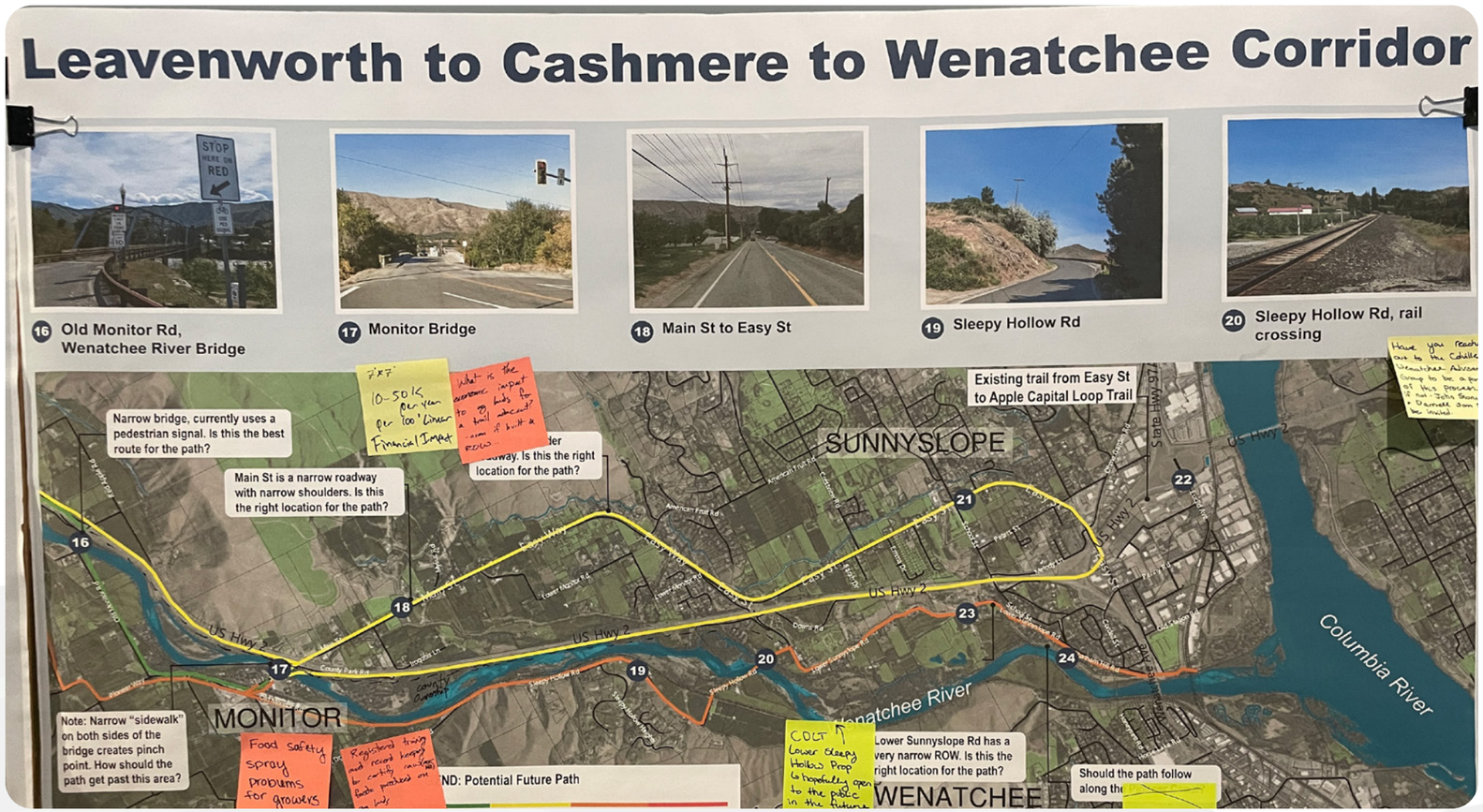
Bicycle Infrastructure: There were numerous requests for protected bike lanes, paths parallel to major highways, and routes that avoid high-traffic areas. A common theme was the desire for off-highway alternatives to reduce exposure to dangerous roadways, using back roads or underutilized corridors where possible.

Agricultural Concerns: Many respondents expressed concerns about trails passing too close to orchards, citing issues like spray drift liability and potential impacts on farming operations. There was strong support for avoiding these areas to protect agricultural practices and prevent conflicts.

Preference for Natural Settings: Respondents frequently mentioned avoiding trails along highways and high-traffic roads. Some prefer routes away from developed areas to preserve a quieter, more natural environment.

Private Property Impacts: Concerns were raised about trail alignments shown on private property.

Other Issues: Additional concerns included environmental impacts, feasibility challenges, narrow bridges, traffic safety, and cost.





What We Heard Round 2: Review of Recommended Routes

Before finalizing the master plan, the project team shared the draft route recommendations for public review on the project website in the fall of 2025. Most responses were positive, and the key findings reflected what the project team had heard throughout the planning process.

Opportunities

Safety Improvements

Community members are excited about new and improved opportunities to safely walk and bike both in their own communities and in nearby areas. Respondents highlighted how the proposed alignments address current challenges they have when walking or biking in the area, or address safety concerns that prevent them from walking and biking. People were especially excited about elements of the project that reduce the need for highway crossings, especially when traveling to nearby amenities like parks or trails.

Community Connections

The pathways aim to improve regional connectivity, and this was a big highlight in community member response to the recommended alignments. In particular, community members are excited about the connections with the Apple Capital Loop Trail and neighboring communities like Cashmere and Rock Island that currently feel inaccessible when walking or biking due to safety concerns.

Pathway Amenities

Community members expressed a desire for pathway amenities such as shade, native plants, trash cans, and bathrooms. A positive path user experience is one of the goals of the project and the design and operations and maintenance sections of this master plan include recommendations for amenities to facilitate this along the pathway and at trailheads. The plan also outlines of the amenities will be maintained over time.

Community Growth

Some community members highlighted how the recommended pathways will support the long-term needs of the community including providing more travel options for commuters as more businesses open in the region and the quality of life benefits that can encourage residents to stay in the area long term.

Concerns

Emergency Access

One of the top concerns expressed by community members was ensuring that pathways do not create barriers for emergency vehicle access, especially on SR 150 between Chelan and Manson. Following this round of public feedback, the project team reconvened with the Washington State Department of Transportation (WSDOT) and this time included members of local emergency response agencies to review the alignment recommendations. The project team updated the recommended alignment in the most constrained sections of roadway to allow for a reduced 10-foot pathway to allow for more room for emergency access and staging along the highway. The plan for this section also includes adjusting roadway curve radii during pathway construction, which is expected to improve traffic flow and positively impact emergency response times.

Looking ahead, the project team recommends a coordinated planning and design process to involve city leaders, public works, emergency personnel, and WSDOT to ensure any improvements along SR 150 address the future needs of the community, including further studies before narrowing any existing lanes. This collaboration should focus on improving evacuation routes and emergency access, creating safer routes for pedestrians and bicyclists, implementing traffic calming measures, and reducing congestion through the highway corridor.

Highway Proximity

All four pathway alignments have segments that run parallel to high-speed roads and highways. The project team evaluated possible alternative routes on country roads, but due to factors such as steep terrain, ROW width, property ownership, and potential agricultural impacts, the highway-adjacent alignments scored the highest and are generally the most feasible. Additionally, traveling along highways was the best way to create direct connections between communities.

Cost

As the communities plan for this project, a diverse and well-considered funding strategy must be in place. The funding section of the master plan outlines possible strategies that include state and federal grants, local partnerships, nonprofit support and nontraditional sources. Many of the community members who mentioned cost specifically mentioned concerns about tax increases to fund the project, which is not the primary financing source recommended by this plan for capital or long-term maintenance costs. Additionally, the project team created recommendations for phasing the project that prioritize the more feasible and affordable sections of the pathway first. Phasing the project will allow for the communities to plan for and spread the cost of construction out over time and use multiple sources of funding.

Private Property Impacts

Some community members expressed concerns about potential private property impacts and acquisitions related to the recommended alignments. These alignments were deliberately designed to minimize property acquisition, relying primarily on existing ROWs and public easements—often adjacent to the highway.

In cases where acquisition is unavoidable, the project team will work closely with property owners to ensure a fair, transparent, and collaborative process. Because project development is planned over a 20+ year timeline, there will be ample opportunity for coordination, mitigation, and thoughtful planning with affected property owners.

Many of the concerns regarding implications to private property were focused on the private cabanas along Lake Chelan. The project team met with local residents to clarify that eminent domain will not be used. In this area, the project team recommends the pathway route along the south side of the highway while shifting the road alignment north. This design minimizes impacts to adjacent properties, improves traffic flow, and creates safer crossings and pathways for walking and biking along the corridor.

One of the guiding principles of the project is to create a separated pathway with physical barriers from highways to ensure user safety and comfort. Wherever possible, the route maximizes distance from the roadway and incorporates buffers and protective barriers. In certain sections the pathway is offset from the highway and positioned at a lower elevation to increase separation. Across the entire corridor, the design includes planted buffers of native vegetation along with barriers or guardrails to protect users and enhance the overall experience.

Chelan To Manson

Top Opportunities:

- Safety Improvements
- Recreation and Scenic Beauty
- Alignment Alternatives:
  - Around the Lookout
  - Boyd Road

Top Concerns:

- Emergency Vehicle Access
- Highway Congestion on SR 150
- Cost
- Need for Pathway
- Private Property Impacts near Cabanas

> *I would love to see a Manson to Chelan pathway. I want to commute between the two towns on bicycle but don't at this time because it doesn't seem safe.*

> *I love all of it for recreation, safety, car pollution decrease, congestion decrease. Whether you're like me, a retired member of this community who wants to use my car less and get out more on my e-bike, or you're a younger member of the community using a bike to get to work or school, this is really valuable development!! Every moment we are out of our cars, we are appreciating this beautiful place we live and must protect.*

Leavenworth to Cashmere to Wenatchee

Top Opportunities:

- Safety Improvements
- Regional Connection
- Quality of Life
- Pathway Design and Amenities
- Plain Connection via Chumstick Highway

Top Concerns:

- Highway Proximity
- Easy Street Crossing
- Agricultural Impacts



> *A pathway like this is essential not just for our current residents, but for the future of our beautiful valley. With e-bikes and family cycling becoming more popular, now is the perfect time to make it happen. It offers both short- and long-term benefits. In the short term, it connects the community and provides safe, effective, non-motorized transportation between Leavenworth, Peshastin, Dryden, Cashmere, and Wenatchee. In the long term, it can reduce traffic, cut emissions, boost public health, create business opportunities along the route, and strengthen connections between the towns and cities it links.*

> *Of all the proposed projects, this is the one I'm most excited about. The ride to Leavenworth currently has some treacherous portions along the highway. This plan would ensure safe passage for runners and cyclists and would be a marvelous addition/extension of the current trail.*

> *This would be a fantastic addition to our community with many benefits. For example, it would provide a safe way for kids in the Cascade School District who live in Peshastin or Dryden to get to middle school and high school in Leavenworth. Adults in those communities could bike/walk to the grocery stores in Leavenworth. Not only would it be a great tourist attraction, it would help spread the Leavenworth tourists to Peshastin, Dryden and Cashmere.*



Malaga to Wenatchee

Top Opportunities:

- Safety Improvements
- Regional Connection
- Supporting Community Growth

Top Concerns:

- Highway Proximity
- Undesirable Path Use

> *I'm a 30+ year resident of 3Lakes and worked 40 years at the hospital. I loved to cycle to work but it became much too dangerous to even contemplate about 15 years ago. Though retired recently, I am wholeheartedly for this pathway!! What a wonderful way to connect the new industries out this way and for residents to have a safe space to commute and recreate. Thank you!!!*

> *As someone who has spent hundreds of hours on a bicycle riding the highway between Wenatchee and Malaga I can say that these improvements would be an incredible benefit to the community. The Stemilt Creek bridge is so dangerous on a bike that I watch for traffic and often stop a hundred or so yards away from the bridge to wait to cross until there are no vehicles around. Adding a lane for bikes and pedestrians - even if just to that section would benefit cyclists, pedestrians, and motorists.*

Rock Island to East Wenatchee

Top Opportunities:

- Hydro Park Connection
- Regional Connection
- Safety Improvements

Top Concerns:

- Highway Proximity
- Shade Along Pathway

> *I love this proposed connection. This would make a huge difference in the safety and practicality of travelling between Rock Island and Wenatchee on bike or on foot. The proposed route and infrastructure improvements look awesome and as someone who has travelled that portion of highway between the east and west portions of Rock Island road I would very much appreciate these improvements. This route is part of a very popular cycling route that has been largely abandoned in recent years because of growing concerns about the safety of cycling on the highway. It would be awesome to have a viable, safe route that would restore that access.*

> *I'm really glad to see a pedestrian crossing near Nile Ave!! It is so needed!! We live just across Hydro Park and find it ridiculous that we have to drive to get to this park when we could easily walk, if there was a safe path for us. I think the tunnel crossing options sounds the best and it looks the most accessible. I have a small child so using stairs isn't an easy task for us.*







03

Recommended Pathway Routes

Recommendation Development

The project team developed recommendations for four pathway corridors after extensive analysis and input from the public through outreach, surveys, an interactive web map, and convening Community Advisory Committees for each corridor section. Using the information gathered during the project planning process, the team analyzed potential routes using categories and criteria rooted in the project goals.

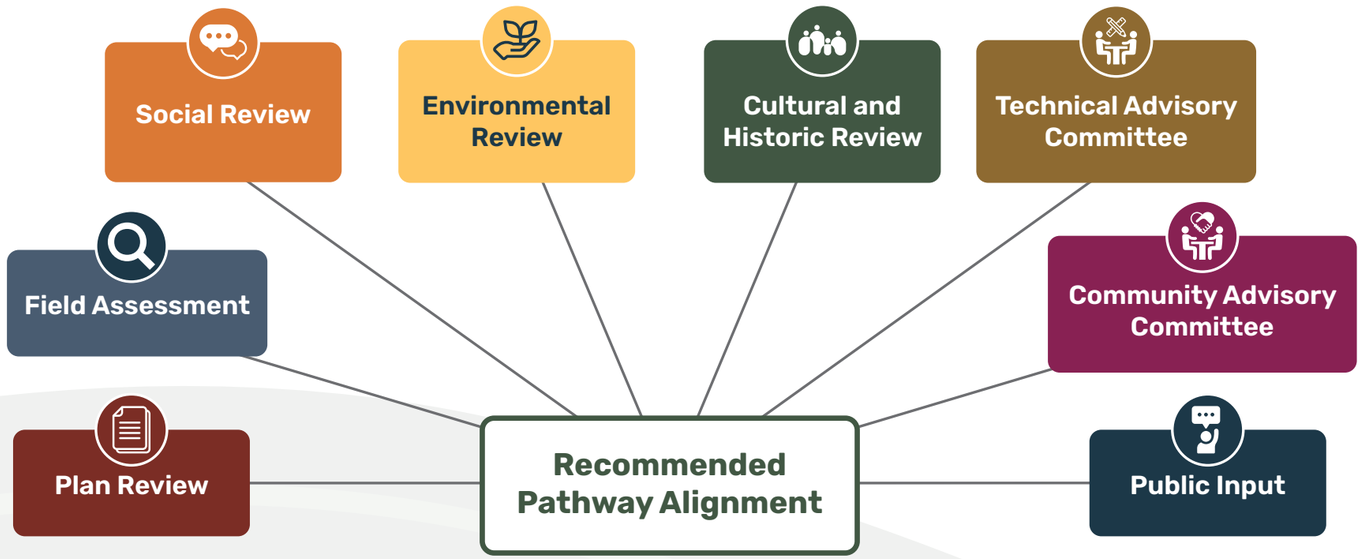
The four recommended pathway routes will strengthen connectivity in the existing and planned regional trail network in Chelan and Douglas Counties while providing safe, enjoyable pathways for people walking and biking in the region. The project team created recommendations for the following corridors:

Chelan to Manson

Malaga to Wenatchee

Leavenworth to Cashmere to Wenatchee

Rock Island to East Wenatchee



Pathway Definition

This master plan generally defines pathways as 12-foot-wide paved paths with 2-foot-wide gravel shoulders on each side when possible.
A separated pathway would be set apart from a roadway by a buffering distance of at least 3 feet (with or without a barrier). Other types of pathways may also be used to fit conditions. These include widened shoulder (adjacent roadway), rail with pathway (adjacent rail line), or cycle track (in-roadway) pathways. In some places, where no feasible alternative could be identified, the pathway will use short on-street sections without full separation from motor vehicle traffic.



Cost Estimates and Implementation

The project team strategically determined segments within each pathway corridor and determined corresponding construction cost estimates and used a three-tier feasibility approach to recommend implementation over time to complete the pathways.

Cost estimates for the pathway segments are based on the feasibility or pre-design level of information presented here-in. These are considered Association for the Advancement of Cost Engineering Class 4 estimates in accordance with WSDOT's Cost Estimate Manual for Projects and are accurate only as can be assumed at this level of project detail.

The feasibility tiers for each pathway consider costs, challenges, and barriers to pathway construction such as availability of land for the pathway alignment, coordination of construction with multiple roadway authorities and partners, and complexity of pathway elements such as boardwalks and bridges.

Pathway Implementation Feasibility Tiers

TIER 1 ★

Immediate Feasibility

Near-term implementation

- Minimal physical, environmental, or regulatory constraints
- Existing access and infrastructure support construction
- High likelihood of near-term funding or stakeholder support

TIER 2 ★★

Moderate Feasibility

Mid-term implementation

- Some constraints (e.g., permitting, grading, land ownership)
- May require additional design, coordination, or funding
- Feasible with moderate effort and planning

TIER 3 ★★★

Long-Term Feasibility

Long-term implementation

- High cost and land acquisition
- Requires extensive planning, permitting, or interagency coordination
- May depend on future development or infrastructure improvements



Chelan to Manson Corridor

Recommended Pathway Alignment

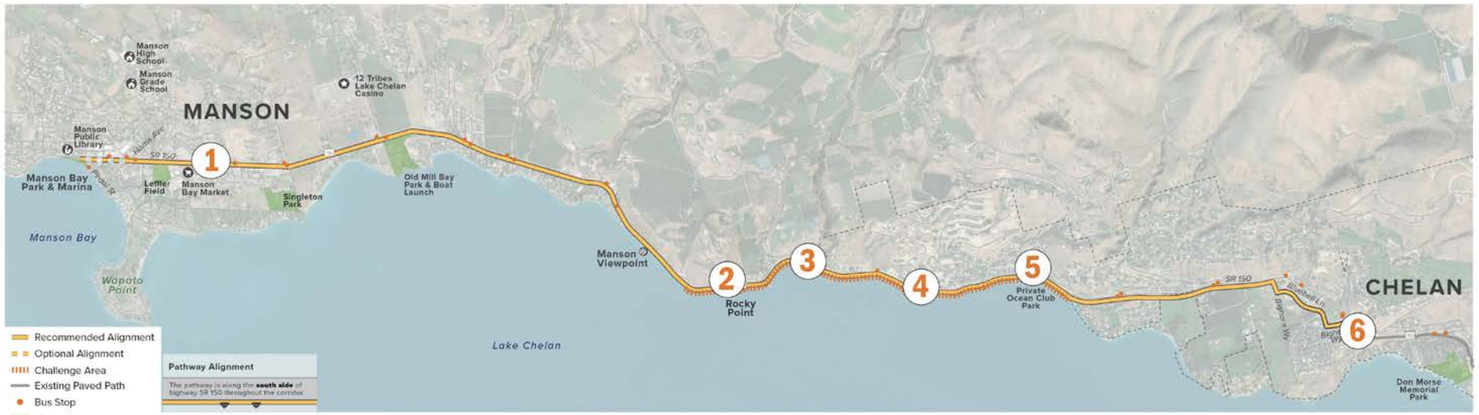
The recommended pathway alignment for the Chelan to Manson corridor will connect the city of Chelan's existing trail system starting where the trail currently ends at Big Horn Way and continuing along a 6.4-mile multiuse paved pathway all the way to downtown Manson. Designed for both bicyclists and pedestrians, the pathway will offer a safe, accessible, and scenic route along the south side of SR 150 that provides connections to the public parks, bus stops, and open spaces along the way.

To enhance the user experience, the path will showcase panoramic views of Lake Chelan and incorporate a boardwalk over the water on piers to gracefully navigate the steep terrain and narrow highway near Rocky Point. This elevated structure enables minimal disruption to the natural landscape while maintaining accessibility.

The project team carefully evaluated multiple options and selected a route that maximizes community benefit as a way to safely move around the north shore without a vehicle and for recreational value, while minimizing impacts to nearby residents and properties along the corridor to the greatest extent possible.

Chelan To Manson Pathway Corridor

VIEW KEY MAP



1. **NEAR MANSON BAY MARKET**
2. **ROCKY POINT**
3. **PURTTEMAN GULCH**
4. **THE CABANAS**
5. **SAFE HIGHWAY CROSSING / TRANSIT CONNECTION NEAR PRIVATE MARINA**
6. **NEAR BIGHORN WAY IN CHELAN CONNECTION TO EXISTING PATHWAY**

1) Pathway Along SR 150 near the Manson Bay Market

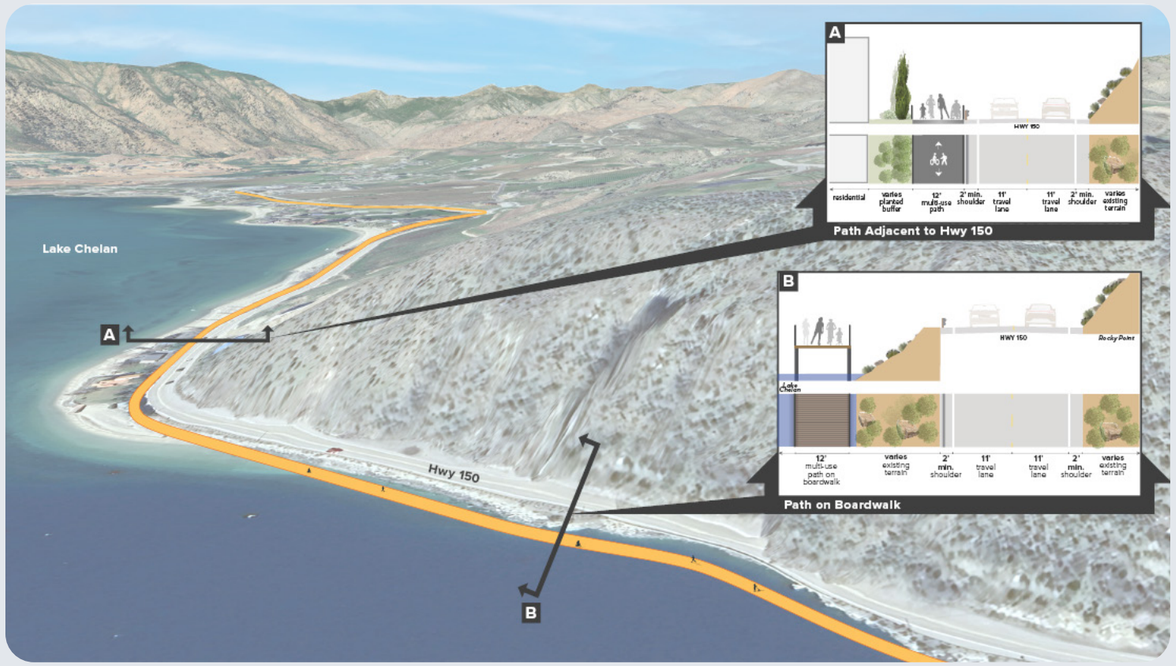
A multiuse paved pathway will be adjacent to the south side of SR 150. The path should be offset from the highway wherever possible to improve the path user's experience; however, there are unavoidable pinch points where the path will be separated from the roadway only by a standard highway barrier as illustrated in this view.

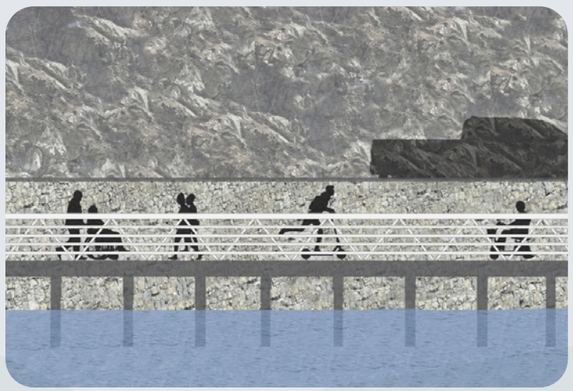


2) Pathway near Rocky Point

To provide a safe passage near Rocky Point, the pathway will be built out over Lake Chelan as a boardwalk on piers, to minimize environmental impacts and allow path users to access the beautiful views.

These illustrative images depict the boardwalk on piers over Lake Chelan near Rocky Point, showcasing the views and elevation above water level.

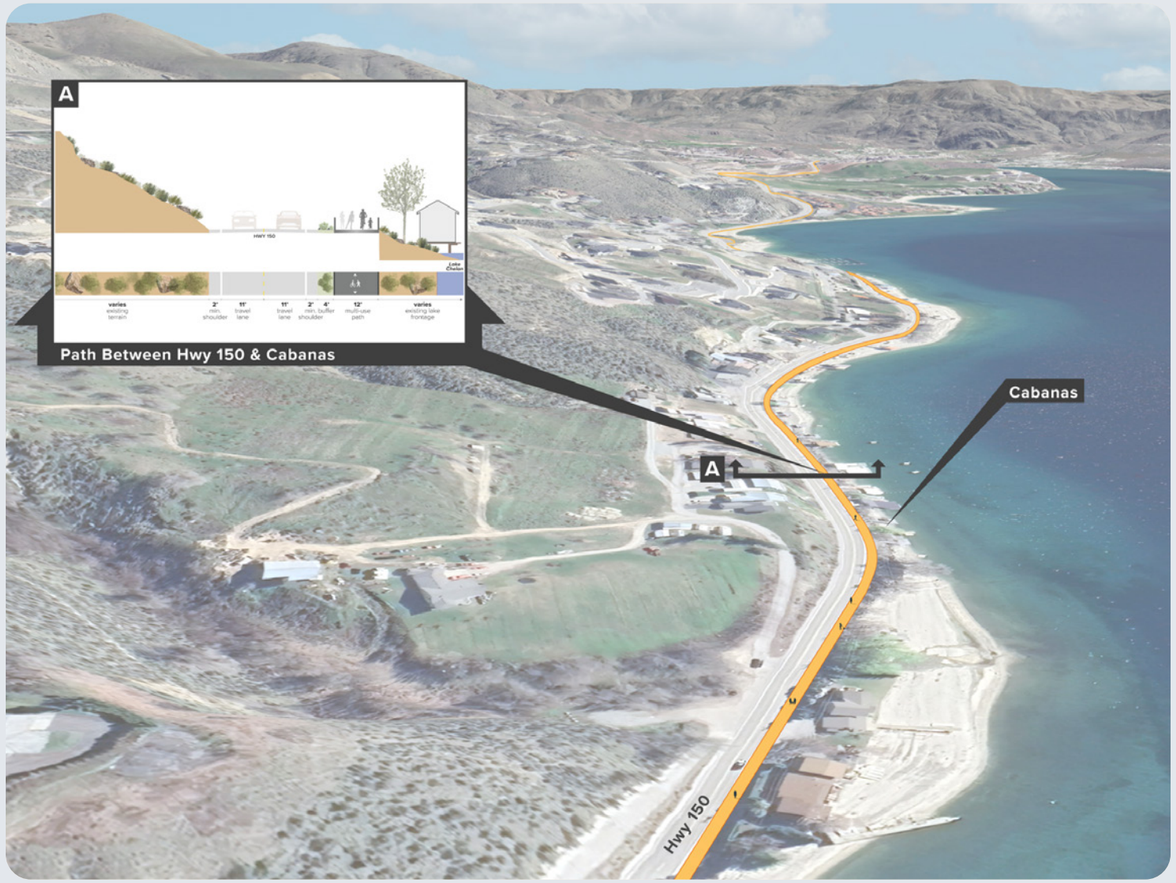


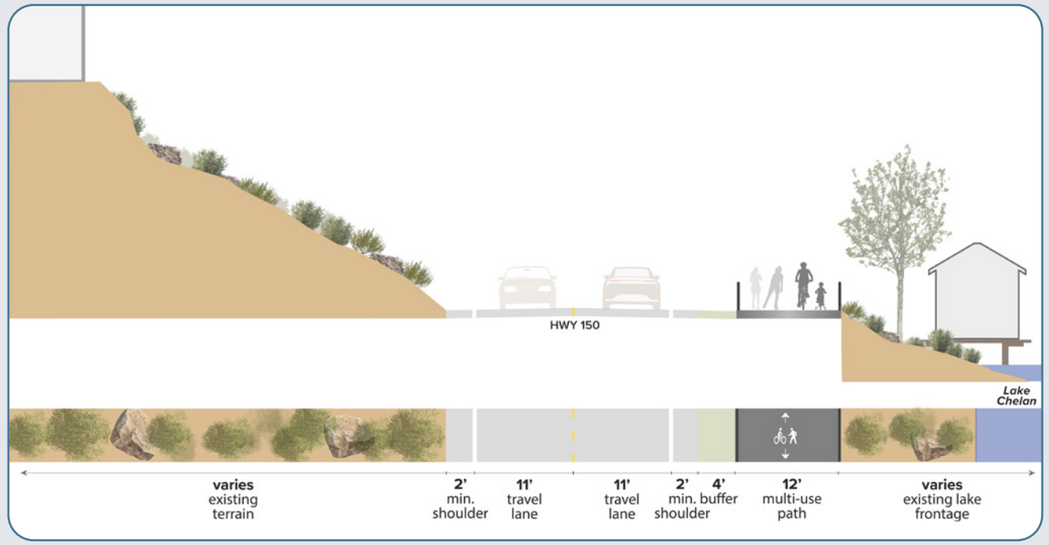




3) Pathway near the Cabanas

The pathway will continue along the south side of SR 150 by the private cabanas owned by residents whose property is divided by the highway. The project team recommends narrowing the travel lanes and designing and engineering the highway to promote traffic calming. The pathway alignment shifts the travel lanes slightly north, adjusting curves to minimize impacts to the adjacent property owners to the greatest extent possible. In the most constrained areas of the roadway, the pathway will narrow to 10 feet to allow for sufficient roadway and shoulder access for emergency response vehicles. The project team recommends further study and continued collaboration with emergency response agencies before adopting a final design that would narrow the roadway.







4) Safe Highway Crossing and Connections to Link Transit

The design intentionally creates opportunities for safe highway crossings to connect path users with the pathway and Link Transit bus stops along the route.



5) Connection to Existing Path System in Chelan near Bighorn Way

This view shows the pathway alignment and how it will connect to the existing pedestrian and bike network in the city of Chelan near Bighorn Way.



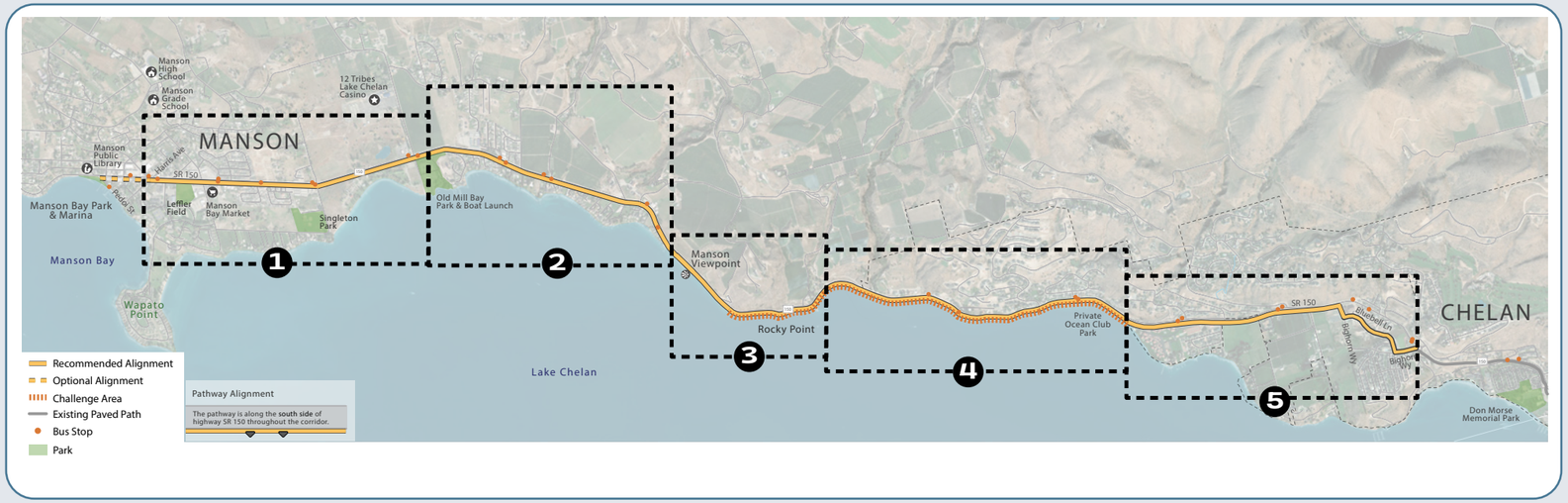
Cost Estimate and Implementation

Table 2: *Cost Estimate by Pathway Segment in 2025 Dollars*

Section	Extents	Cost	Length (Miles)	Cost per Mile (Millions)
1	Manson to Old Mill Bay Park	$3,300,000	1.80	1.83
2	Old Mill Bay Park to Manson Viewpoint	$2,900,000	0.97	3.00
3	Rocky Point	$50,500,000	1.02	49.38
4	Chelan (West)	$22,500,000	1.29	17.47
5	Chelan (East) to Bighorn Way	$5,100,000	1.34	3.82
	FULL PATHWAY	**$84,300,000**	**6.42**	**13.13**

Table 3: *Infrastructure Included in Cost Estimate*

Wall (LF)	Wall (SF)	Bridge (LF)	Boardwalk (LF)
3,158	16,832	0	2,130





Pathway Implementation Feasibility

The project team recommends implementing the 6.5-mile Chelan to Manson pathway corridor in phases based on three feasibility tiers: Immediate (Tier 1), Moderate (Tier 2), and Long-Term (Tier 3).

Based on this tiered implementation approach, the project team recommends prioritizing construction of the Tier 1 pathway segments. Initial efforts should focus on two key sections: one extending through the community of Manson to Old Mill Bay Park, and another connecting east Chelan to Bighorn Way. In the near term, the team also recommends advancing the segment between Old Mill Bay Park and Manson Viewpoint. The final phase of implementation would complete the corridor by linking the remaining segments between Manson Viewpoint past Rocky Point and to the west end of Chelan.

As further planning, design, implementation, operations and maintenance of the pathways develop there should be continued collaboration with local communities and agencies.



Leavenworth to Cashmere to Wenatchee Corridor

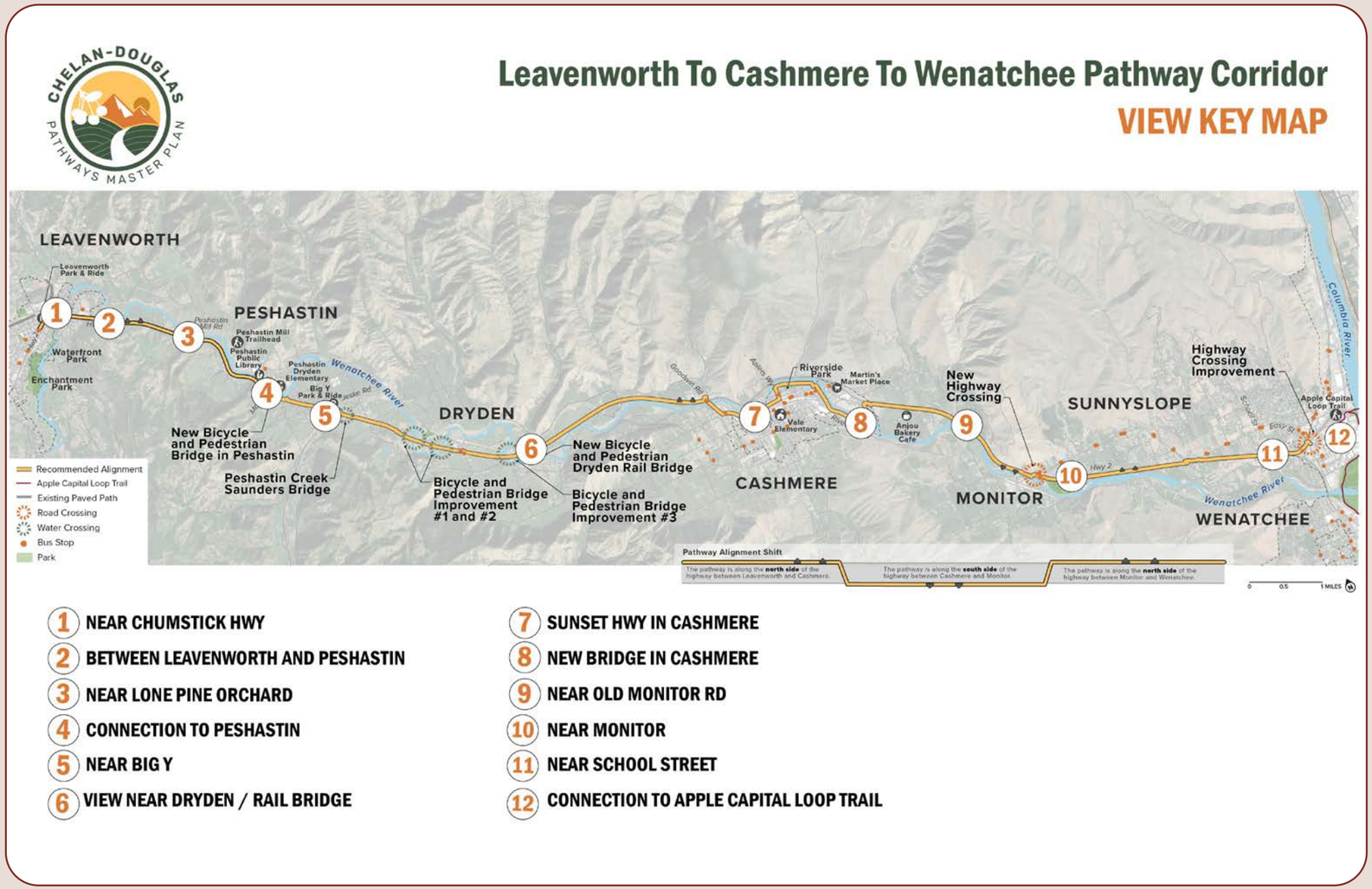
Recommended Pathway Alignment

The recommended pathway alignment for the Leavenworth to Cashmere to Wenatchee corridor will connect near Front Street in downtown Leavenworth and continue along the north side of Highway 2. There will be a spur that connects path users to the schools on Chumstick. The pathway will create a safe and continuous path with an additional connection to the Peshastin Dryden Elementary School with a proposed new bicycle and pedestrian bridge just east of the Main Street Bridge entrance into Peshastin.

The recommended alignment continues along the north side of Highway 2 to connect with the Big Y Park and Ride. The next segment of the pathway continues to Dryden, with two Highway 2 bridge improvements to accommodate path users over the Wenatchee River. An expansive new bridge will need to be built to connect the pathway cross over the railroad bridge where it spans Highway 2 east of Dryden. The pathway will connect to Cashmere via the Goodwin Bridge, where it will travel the Sunset Highway on a separated bath between the highway and the railroad before using neighborhood streets and bike lanes to join the existing Riverside Park path. A proposed new pedestrian bridge would span the Wenatchee River from River Street to Old Monitor Road, where the path would continue to Wenatchee along Highway 2. Once in Wenatchee, the pathway will connect to the Apple Capital Loop Trail near Easy Street.

Connection to Downtown Leavenworth

The project team analyzed how to best connect the pathway to Front Street in downtown Leavenworth and determined a tunnel would not be an appropriate design solution due to the extreme slope requirements to pass below the highway (and utilities). The length of the tunnel itself would likely be perceived as unsafe by path users. The project team recommends further study to connect the pathway at grade, potentially at Sherbourne Street and Ninth Street.



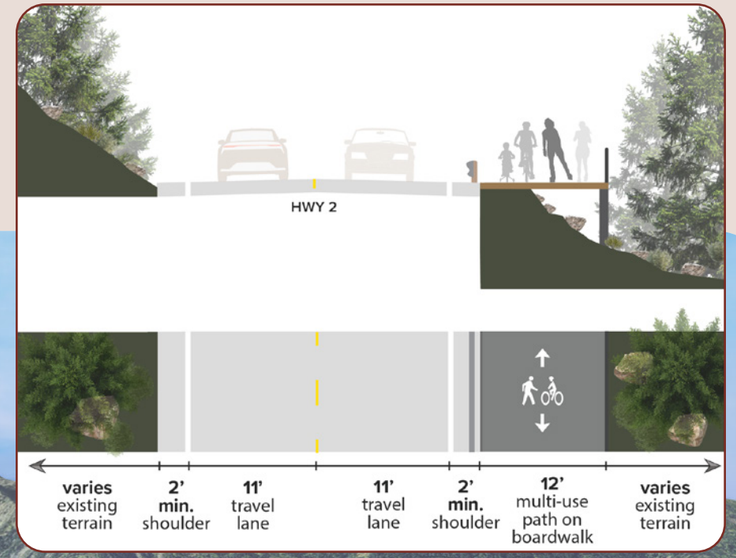
1) Pathway Connection at Chumstick Highway

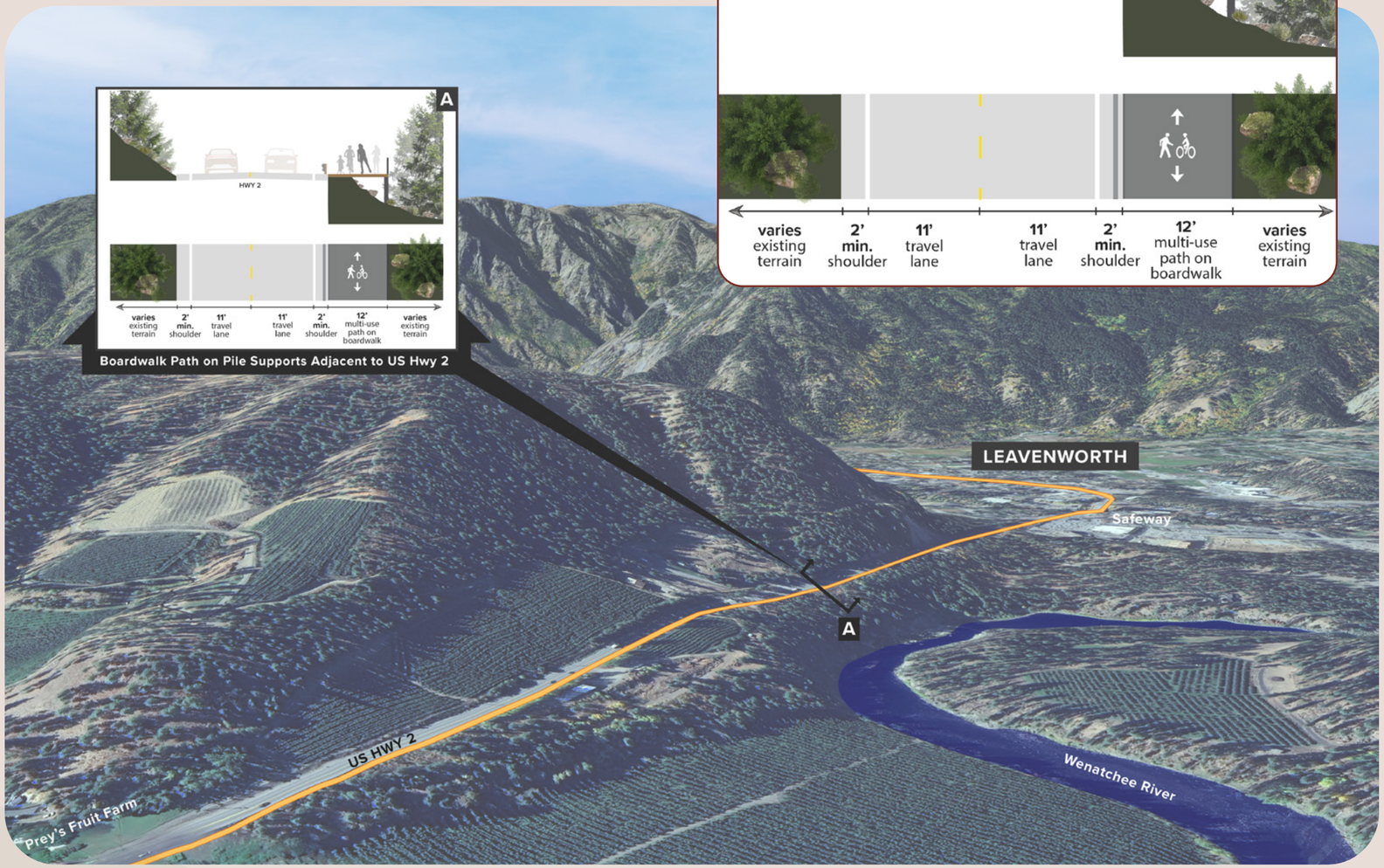
The recommended alignment includes a spur to safely connect students and families walking and biking to the schools along Chumstick Highway.



2) Pathway Between Leavenworth and Peshastin

To navigate the steep slopes between Highway 2 and the Wenatchee River, the project team considered the feasibility of building portions of the pathway on piers to create a safe and accessible pathway with minimal environmental impacts through this section of the corridor.





3) Pathway near Lone Pine Orchard Road

The pathway is adjacent to the highway, and at times there is limited space, as shown in the image below. The project team deliberately worked to avoid and minimize impacts to orchards and their operations by having the pathway alignment as close to the highway as possible without compromising the safety of path users.



4) Pathway Connection to Peshastin

The pathway continues along Highway 2, and a new bicycle and pedestrian bridge next to the existing bridge is proposed to connect near the school grounds in Peshastin. The pathway configuration also allows for Link Transit to consider relocating the bus stop to the highway to improve the efficiency of Route 22 between Wenatchee and Leavenworth.





5) Pathway Connection to the Big Y Park and Ride

The pathway continues along Highway 2 and ultimately connects path users to the Big Y Park and Ride and Link Transit bus stop as a means of creating a more complete network for residents and visitors to navigate the region by walking, biking, or taking transit.



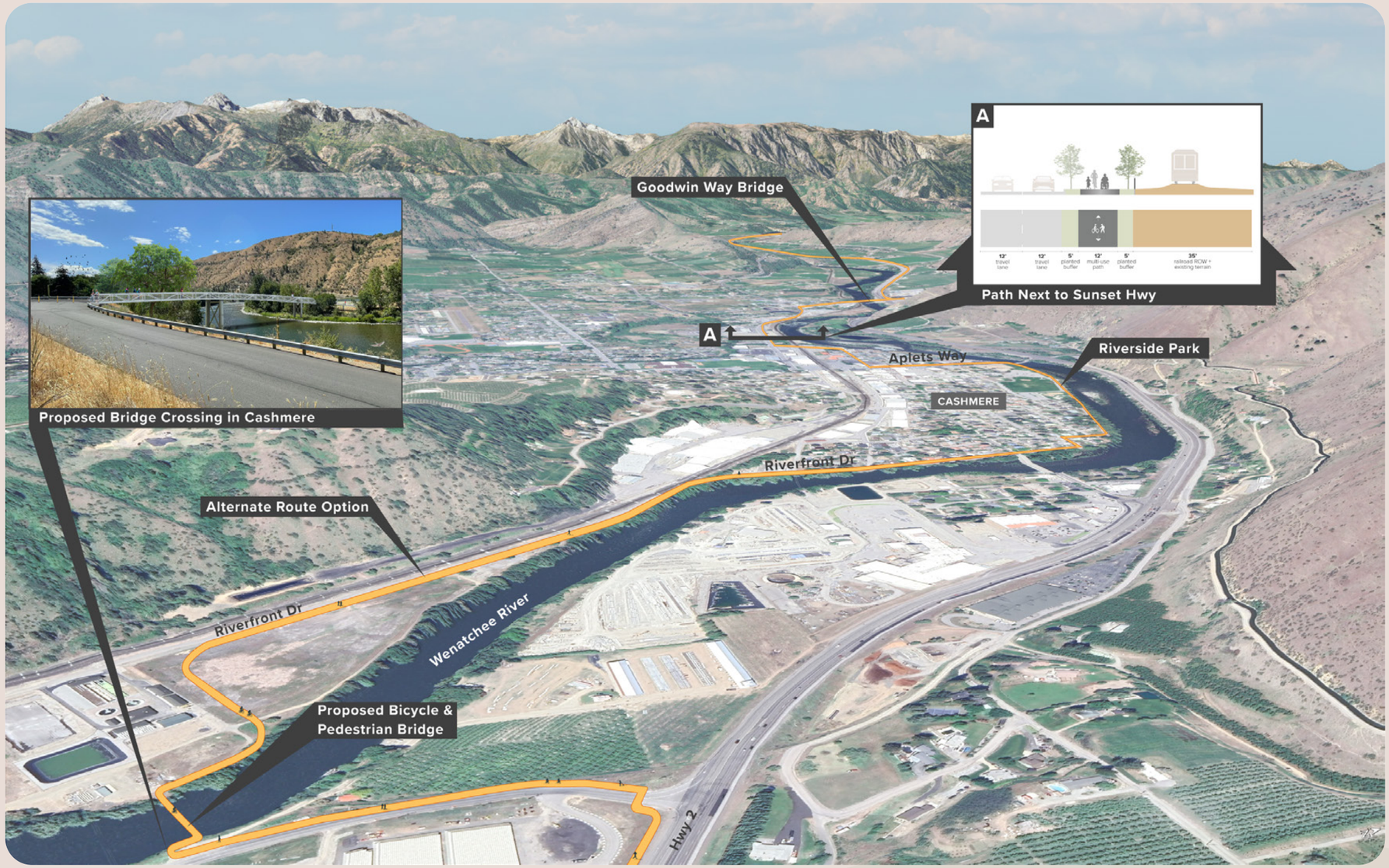
6) Pathway Connection over the Dryden Rail Bridge

The BNSF Railway bridge over the highway near Dryden creates a major pinch point to navigate along the corridor. The bridge will provide exceptional views of the Wenatchee River Valley.



7) Pathway at Sunset Highway in Cashmere

The pathway connects into Cashmere via the Goodwin Bridge. At Sunset Highway, the pathway is a separated 12-foot-wide multiuse path adjacent to the road and the rail line. The pathway then follows along River Street as an on-street neighborhood greenway—where pedestrians use the sidewalk and bicyclists share the road—with traffic calming measures, including speed humps, sharrows, and slower speed limits, to create a safe route. Between River Street and the existing Riverside Park path, path users must use the sidewalks and bike lanes along Aplets Way for a few blocks. The pathway then continues along the existing waterfront path and connects to Riverfront Drive for the remainder of the passage on quiet streets through Cashmere.



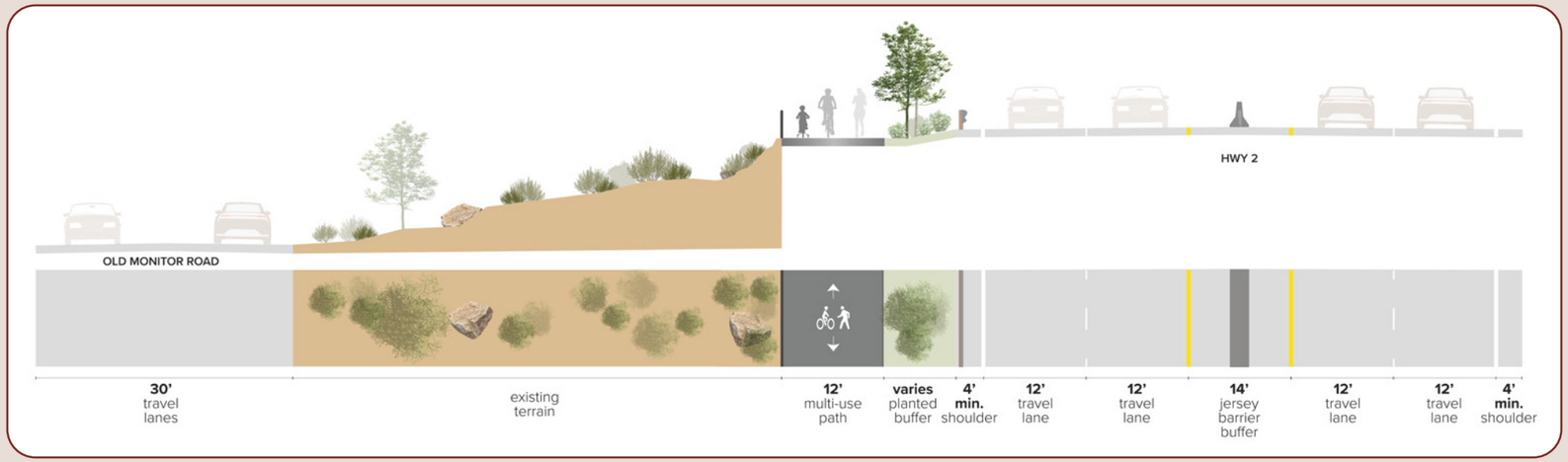
8) Proposed Bike and Pedestrian Bridge in Cashmere

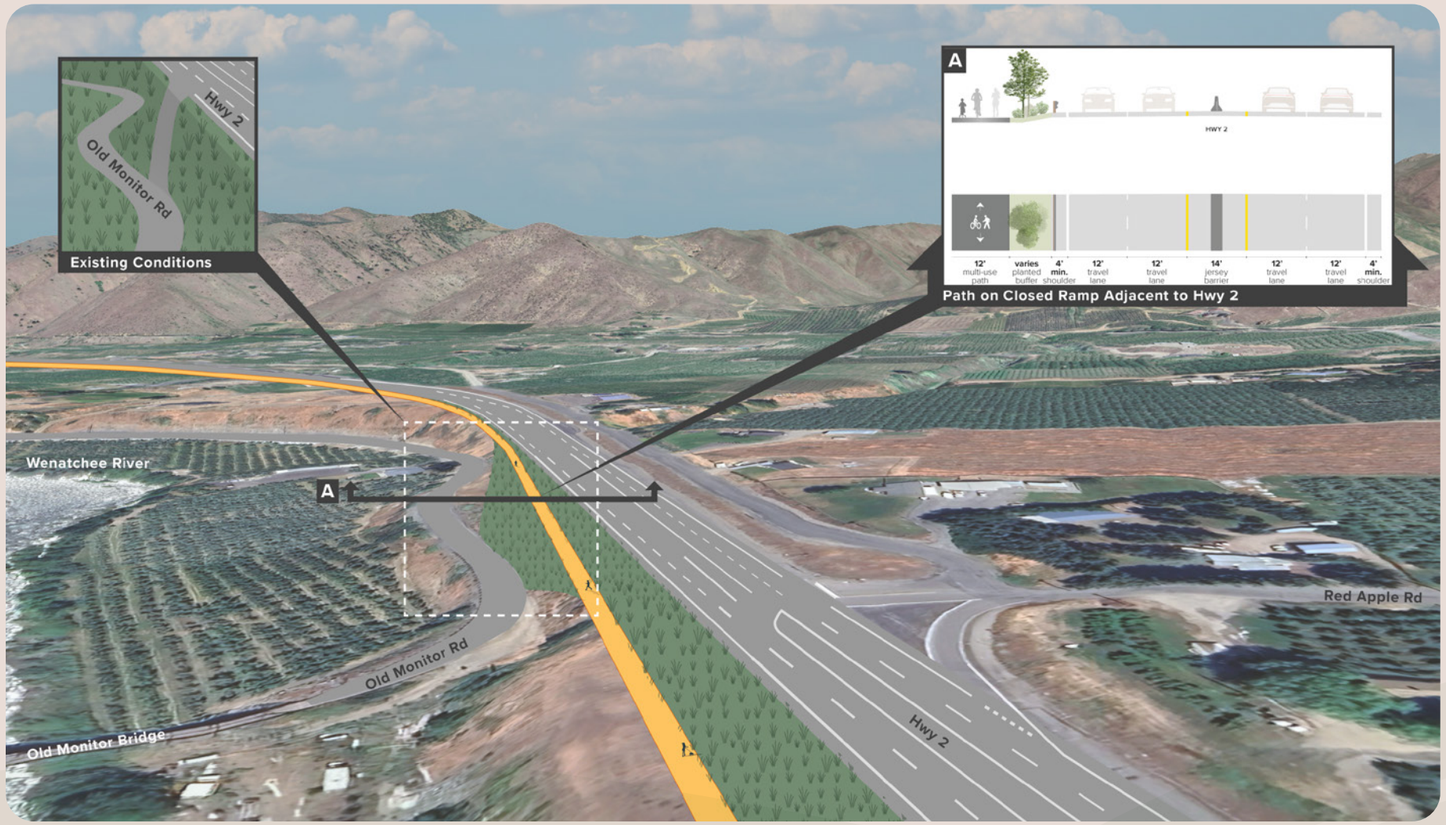
A proposed bike and pedestrian bridge would connect path users from the end of Riverfront Drive across the Wenatchee River and continue the pathway along Highway 2. This illustration shows the new bridge from Old Monitor Road, looking south across the Wenatchee River toward River Street.



9) Pathway near Old Monitor Road

The recommended alignment may require closing the existing highway exit near Old Monitor Road. This off-ramp has very low traffic volume, and vehicles would instead exit Highway 2 at Old Monitor Road.







10) Pathway near Main Street in Monitor

The pathway is offset from the highway near Main Street in Monitor and creates another connection with the Link Transit bus stop along the corridor.



Lower Sunnyslope Road Crossing

The project team evaluated the safest and most practical way for the pathway to cross the intersection of Lower Sunnyslope Road and Highway 2. This area presents several challenges, including steep terrain, high-speed traffic exiting the highway, and limited sight distances. Multiple design options were explored to ensure the crossing would be safe for people walking and biking, meet applicable safety standards, and remain feasible from an engineering standpoint.



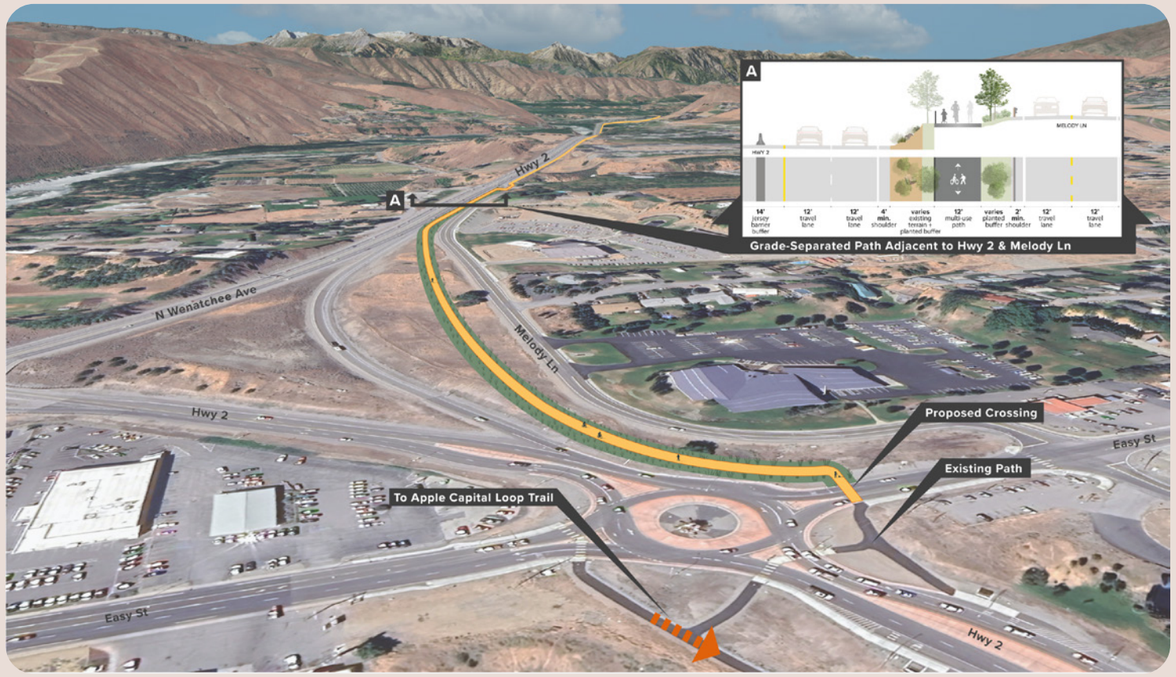
11) Pathway near School Street on Highway 2

The pathway is offset from the highway near School Street with both a guardrail and vegetative buffer. The pathway is grade separated (lower than the highway) to work with the contours of the landscape while creating a more pleasant experience for path users.



12) Pathway Connection to Apple Capital Loop Trail in Wenatchee

The pathway will link up with the Apple Capital Loop Trail at Melody Lane in Wenatchee, providing connections to the larger regional trail network.



Cost Estimate and Implementation

Table 4: *Cost Estimate by Pathway Segment in 2025 Dollars*

Section	Extents	Cost	Length (Miles)	Cost per Mile (Millions)
1	Leavenworth to Peshastin (Hwy)	$45,200,000	3.75	12.06
2	Peshastin to Big Y	$2,600,000	0.78	3.31
3	Big Y to Cashmere	$53,500,000	6.48	8.25
4	Cashmere to Wenatchee	$24,500,000	7.44	3.29
	FULL PATHWAY	**$125,800,000**	**18.45**	**6.82**

Table 5: *Infrastructure Included in Cost Estimate*

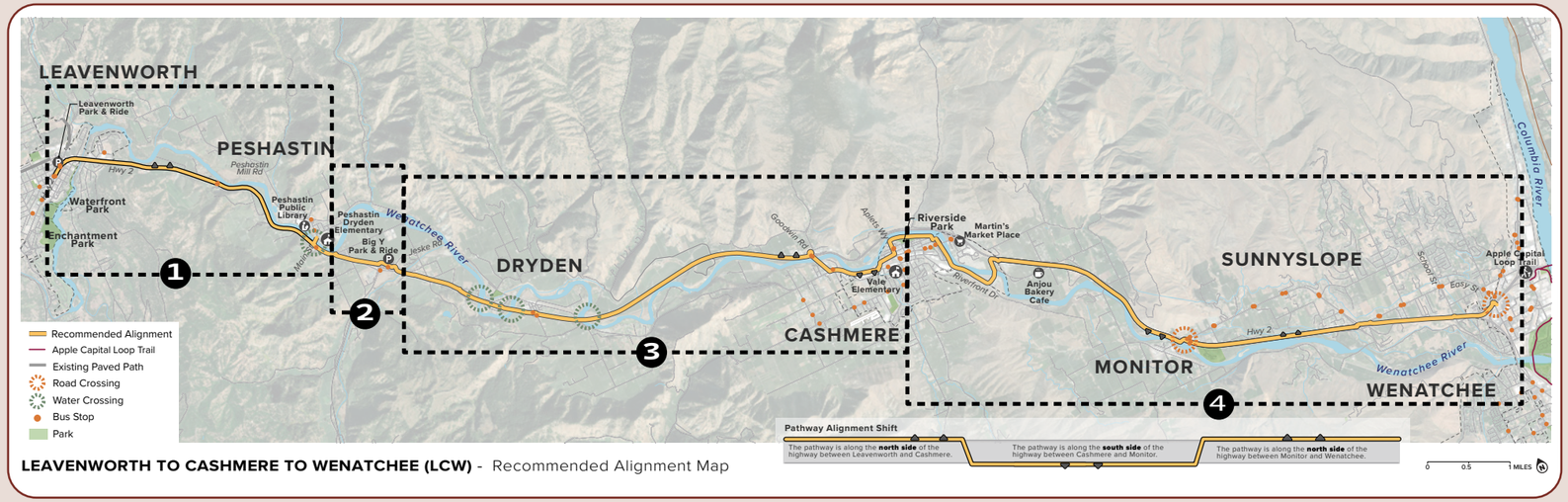
Wall (LF)	Wall (SF)	Bridge (LF)	Boardwalk (LF)
14,050	105,377	2,600	3,370

Pathway Implementation Feasibility

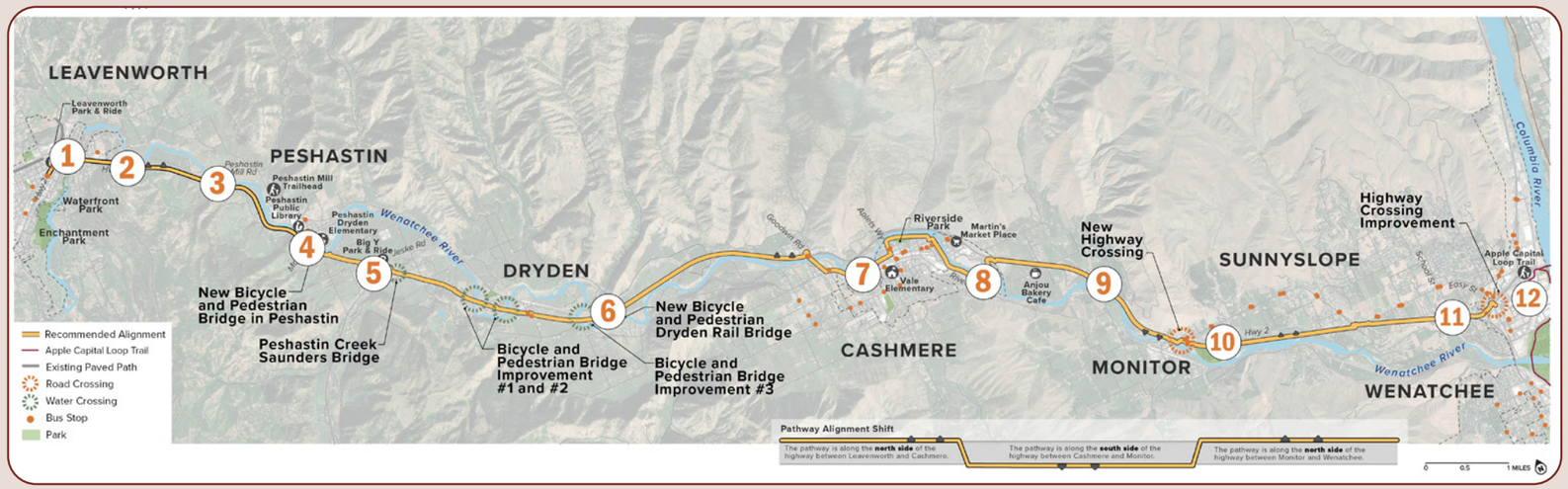
The project team recommends implementing the 18.4-mile Leavenworth to Cashmere to Wenatchee pathway corridor in phases based on three feasibility tiers: Immediate (Tier 1), Moderate (Tier 2), and Long-Term (Tier 3).

Using a tiered implementation strategy, the project team recommends beginning construction of the Tier 1 pathway segments as soon as possible. Initial efforts should focus on two priority sections: one connecting Leavenworth to Peshastin, and another linking Cashmere to Wenatchee. In the near term, the team also recommends constructing the shorter segment between Peshastin and Big Y to strengthen regional connectivity. The final phase of implementation would complete the corridor by connecting Big Y to Cashmere.

As further planning, design, implementation, operations and maintenance of the pathways develop there should be continued collaboration with local communities and agencies.



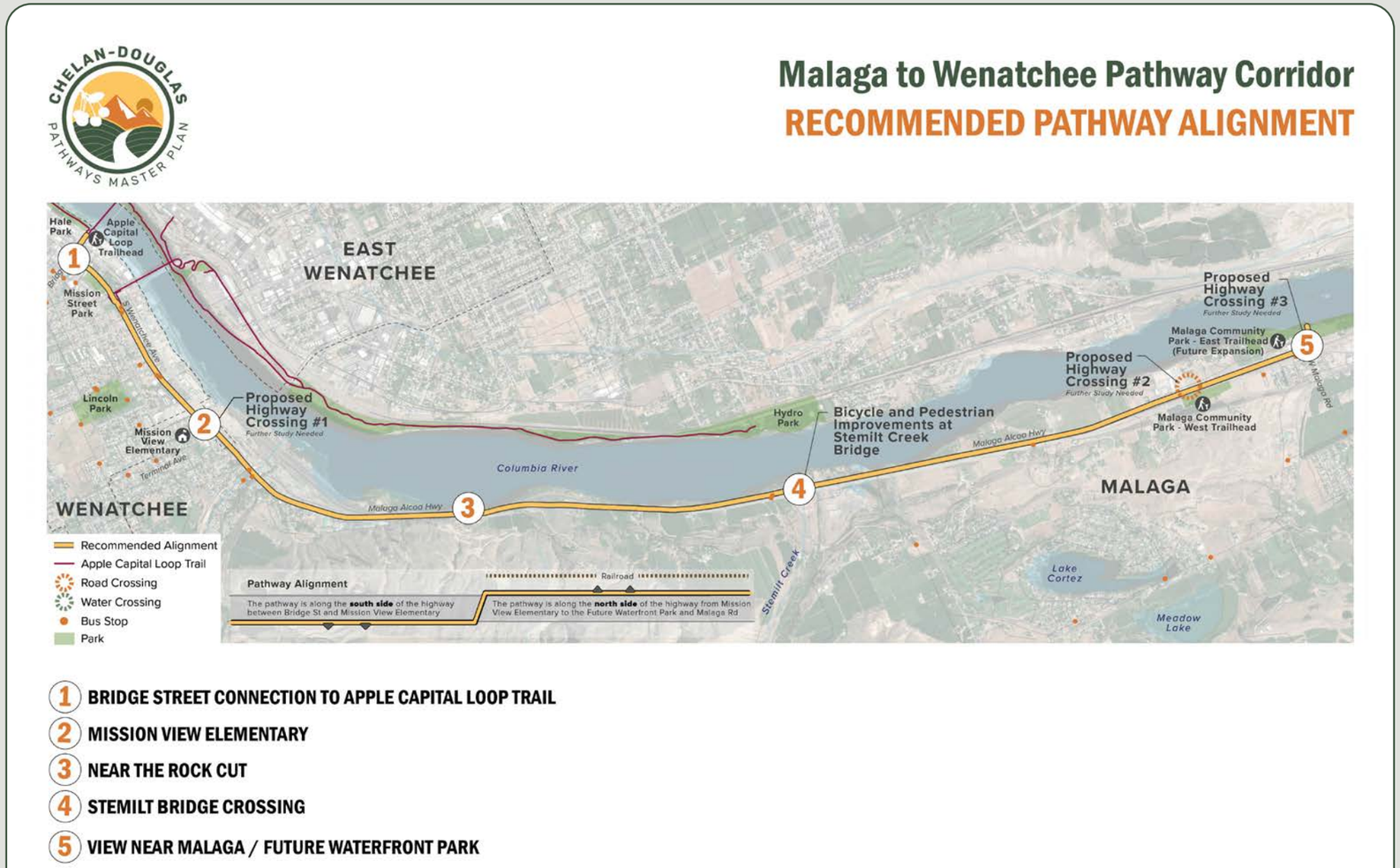
LEAVENWORTH TO CASHMERE TO WENATCHEE (LCW) - Recommended Alignment Map



Malaga to Wenatchee Corridor Recommended Pathway Alignment

Recommended Pathway Alignment

The recommended pathway alignment will connect the Capital Loop Trail at Bridge Street in Wenatchee to the future Malaga Community Waterfront Park at the waterfront in Malaga with a 6.5-mile multiuse paved pathway. The pathway will provide bicyclists and pedestrians with a safe and accessible route from the trail bridge over the BNSF railroad at Bridge Street along the west side of S. Wenatchee Avenue to Terminal Avenue near Mission View Elementary School. At the school, the pathway will cross over to the east side of S. Wenatchee Avenue and continue along the side of the Malaga-Alcoa Highway to the future Malaga Community Waterfront Park.



1) Pathway Connection to the Apple Capital Loop Trail at Bridge Street

A multiuse paved pathway will be adjacent to S. Wenatchee Avenue on the west side. This design will maximize the space to allow both bicyclists and pedestrians to safely travel between Bridge Street and the Apple Capitol Loop Trail to the Mission View Elementary School.



2) Pathway Connection to Mission View Elementary School

A. A multiuse paved pathway will replace the sidewalk along the west side of S. Wenatchee Avenue for a few blocks. This design will maximize the space to allow both bicyclists and pedestrians to safely travel between Bridge Street and the Apple Capitol Loop Trail to the Mission View Elementary School.

B. The pathway will cross to the east side of S. Wenatchee Avenue at Terminal Avenue near Mission View Elementary School. This new section of the pathway will be more separated from the roadway with plantings on both sides of the path to improve the path user's experience.



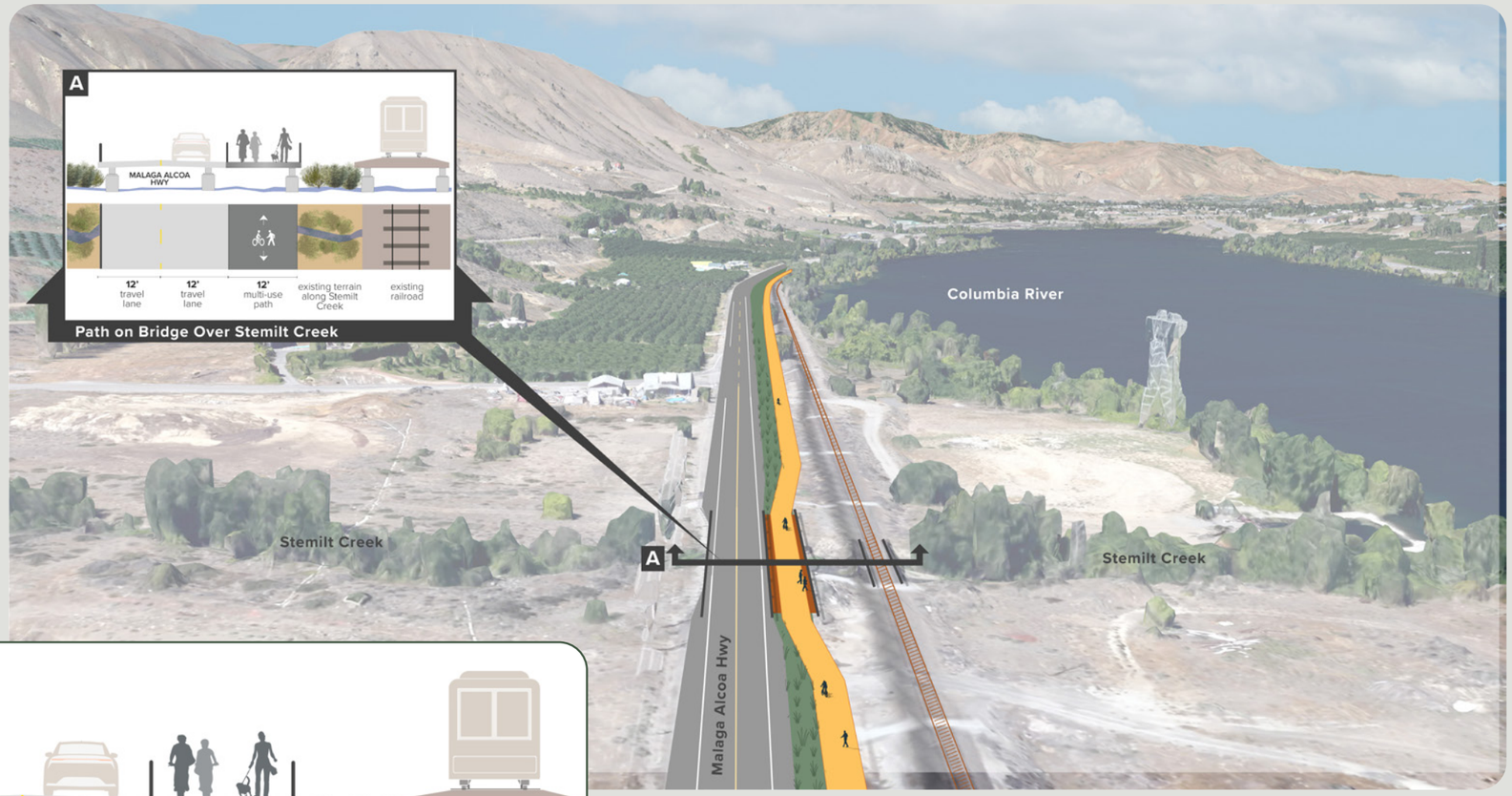
3) Pathway Traversing the Rock Cut

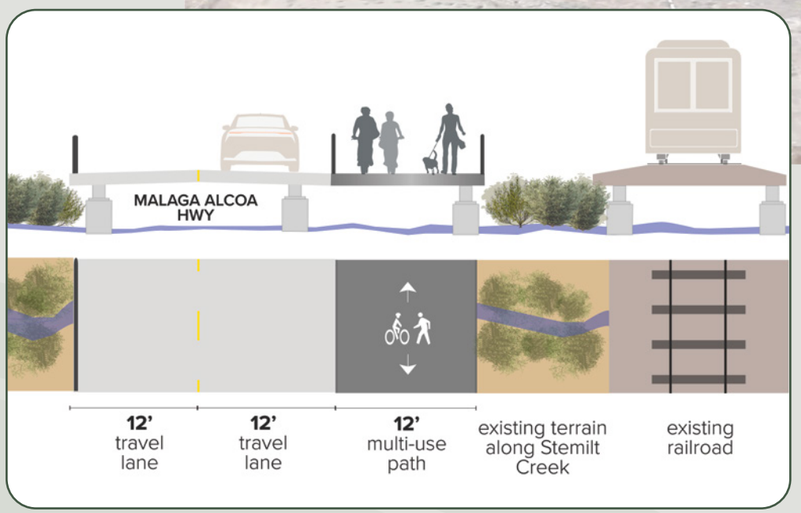
View near the rock cut illustrates how the path will traverse the tightest portions of the pathway corridor.



4) Pathway Crossing over Stemilt Creek

The new Stemilt Creek Bridge will include widening of the highway bridge to provide a barrier-separated pathway away from vehicular traffic over Stemilt Creek. The pathway is included in the currently planned bridge improvement project.





5) Pathway Connecting to Malaga and the Future Community Waterfront Park

A safe highway crossing at W. Malaga Road intersection will allow ease of access for bicyclists and pedestrians between Malaga and the future Malaga Community Waterfront Park. Reducing roadway speed limits near crossings will also be considered to improve safety.

Potential new crossing near Malaga Market: the project team proposes further study to determine if another safe crossing should be implemented to allow path users to cross the highway near the Malaga Market and the existing Malaga Park on the south side of the highway.

Pathway Connections to Link Transit

The project team recognizes the opportunity to improve connectivity within the region by maximizing opportunities to connect people walking and biking with the Link Transit network. This plan encourages the path alignments to converge near Link bus stops whenever possible to provide opportunities to expand safe access to transit for more people.

In the illustrative image at the right, the bus stop has been relocated to better serve people walking and biking in the Malaga community. This pathway design intentionally connects path users with safer access to the future Malaga Community Waterfront Park, Malaga Road, and nearby Link Transit bus stops.





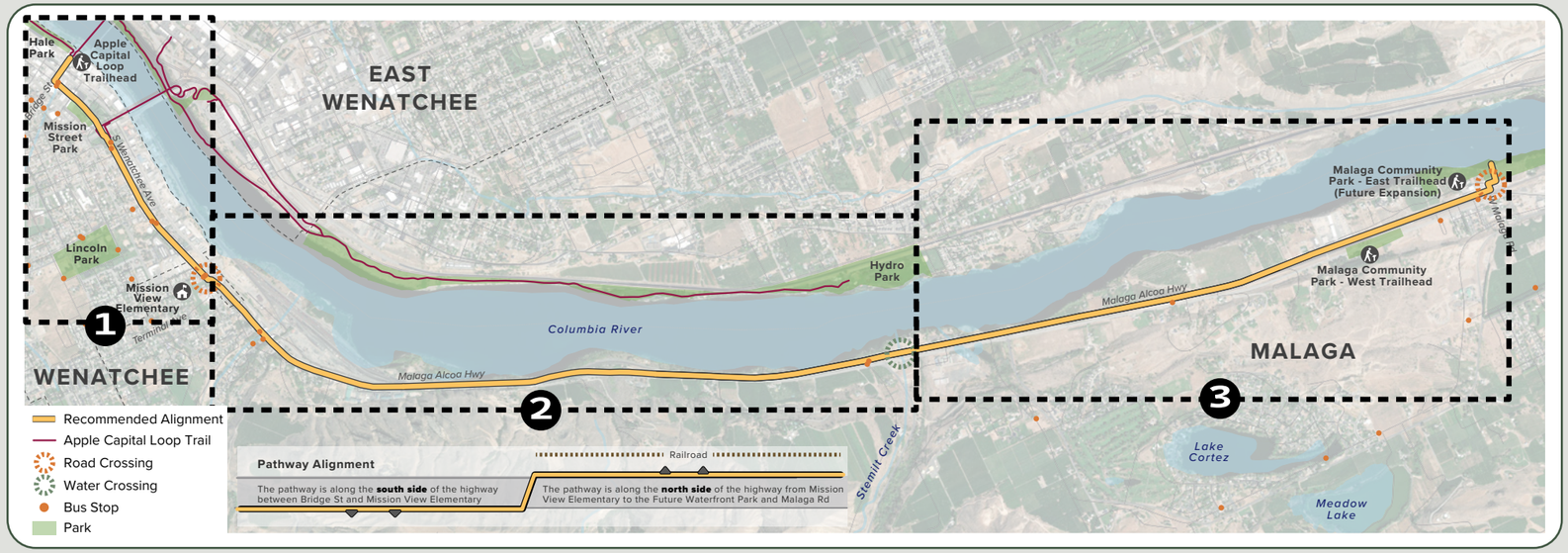
Cost Estimate and Implementation

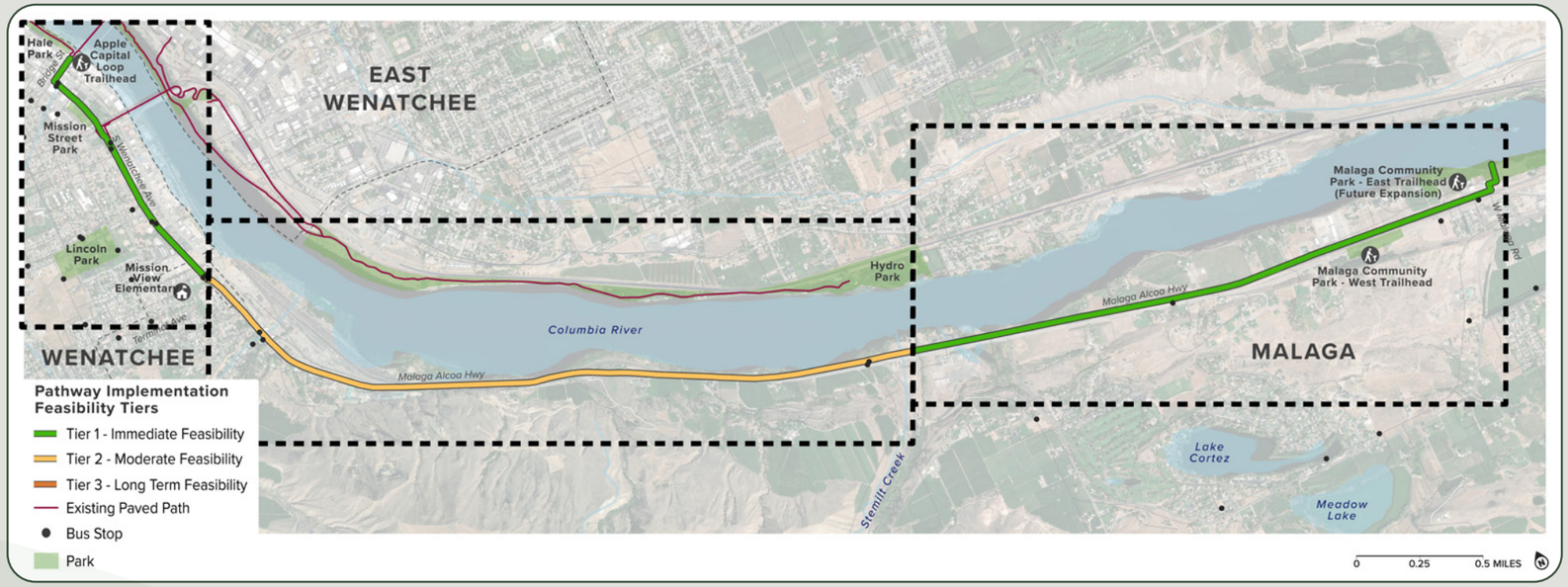
Table 6: *Cost Estimate by Pathway Segment in 2025 Dollars*

Section	Extents	Cost	Length (Miles)	Cost per Mile (Millions)
1	Apple Capital Trailhead to Mission View	$1,700,000	0.91	1.88
2	Mission View to Stemilt Creek	$7,100,000	2.93	2.43
3	Stemilt Creek to Malaga	$5,150,000	2.36	2.18
	FULL PATHWAY	**$13,950,000**	**6.20**	**2.25**

Table 7: *Infrastructure Included in Cost Estimate*

Wall (LF)	Wall (SF)	Bridge (LF)	Boardwalk (LF)
1,150	23,000	80	0





Pathway Implementation Feasibility

The project team recommends implementing the 6.2-mile Malaga to Wenatchee pathway corridor in phases based on three feasibility tiers: Immediate (Tier 1), Moderate (Tier 2), and Long-Term (Tier 3).

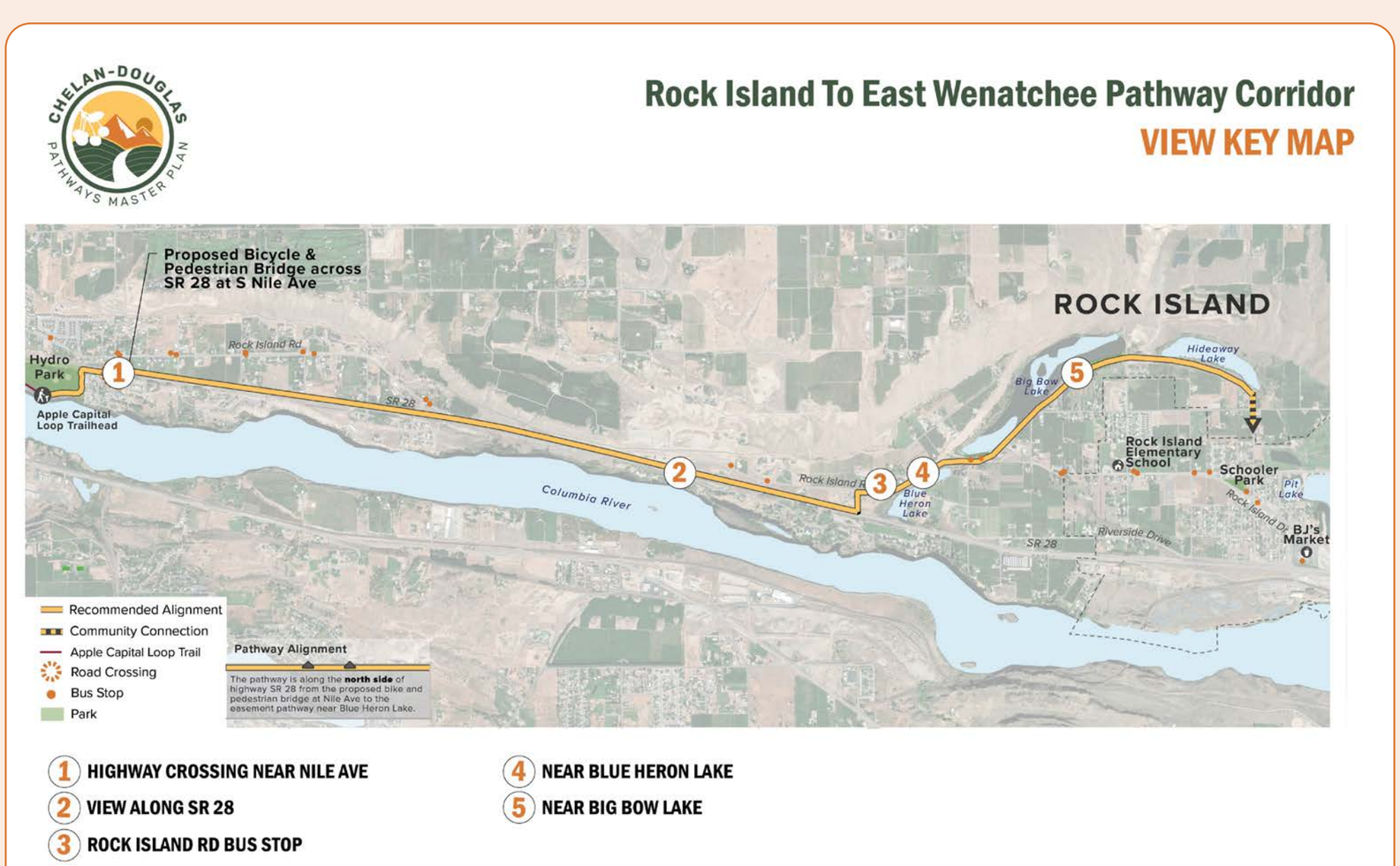
Using the tiered approach, the project team recommends building the Tier 1 segments of the pathway as soon as possible, starting with connecting the Apple Capital Loop Trail at Bridge Street to Mission View Elementary School and connecting Malaga's planned Community Waterfront Park to Stemilt Creek Bridge. The final phase of implementation would connect the two path segments between Stemilt Creek Bridge and Mission View Elementary School.

As further planning, design, implementation, operations and maintenance of the pathways develop there should be continued collaboration with local communities and agencies.

Rock Island to East Wenatchee Corridor Recommended Pathway Alignment

Recommended Pathway Alignment Map

The recommended pathway alignment will extend the Apple Capital Loop Trail from where it currently ends at Hydro Park with a proposed bike and pedestrian crossing of the highway to the north side of State Route (SR) 28. The pathway will connect path and park users as well as residents near the park with the Link Transit bus stop on Rock Island Road at Nile Avenue and then continue adjacent to the north side of the highway as a separated multiuse path. Just west of Blue Heron Lake the pathway will follow an easement that leads to Rock Island Road; then continue along the south side of the road to the Link Transit bus stops near Riverside Drive where the trail crosses to the north and then follows Big Bow and Hideaway Lakes around the northern perimeter of Rock Island. The project team encourages the community to connect the pathway with their surrounding pathway network to the east.



1) Safe Highway Crossing Options Nile Avenue

The recommended alignment includes a new highway crossing near Hydro Park that will allow path users to safely cross from the neighborhood on the north side of the highway to the park, connecting directly with the Apple Capital Loop Trail. Additionally, this crossing provides a safe and accessible route for people living south of the highway to get to the Link Transit bus stop on Nile Avenue. The project team has conducted engineering feasibility studies and determined a bridge or a tunnel would be an effective design solution to provide safe passage.

This plan view illustrates the bridge feasibility study and resulting pathway alignment recommendation.



Tunnel Option



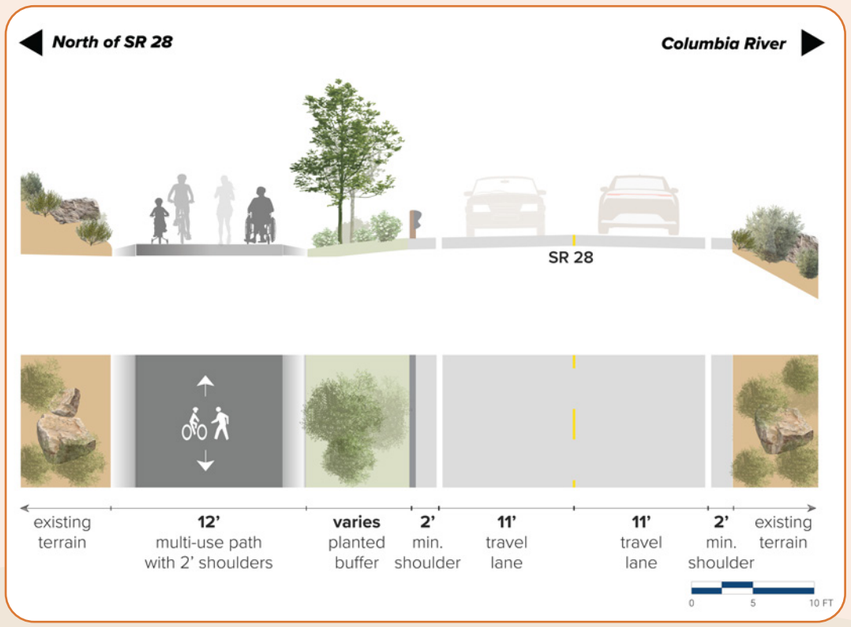
Bridge Option



2) Pathway Adjacent to North Side of SR 28

The images below depict how the path would be set back from the highway as much as possible with a vegetative buffer to allow for a more pleasant path user experience, including trees where possible to provide shade opportunities along the sunny corridor





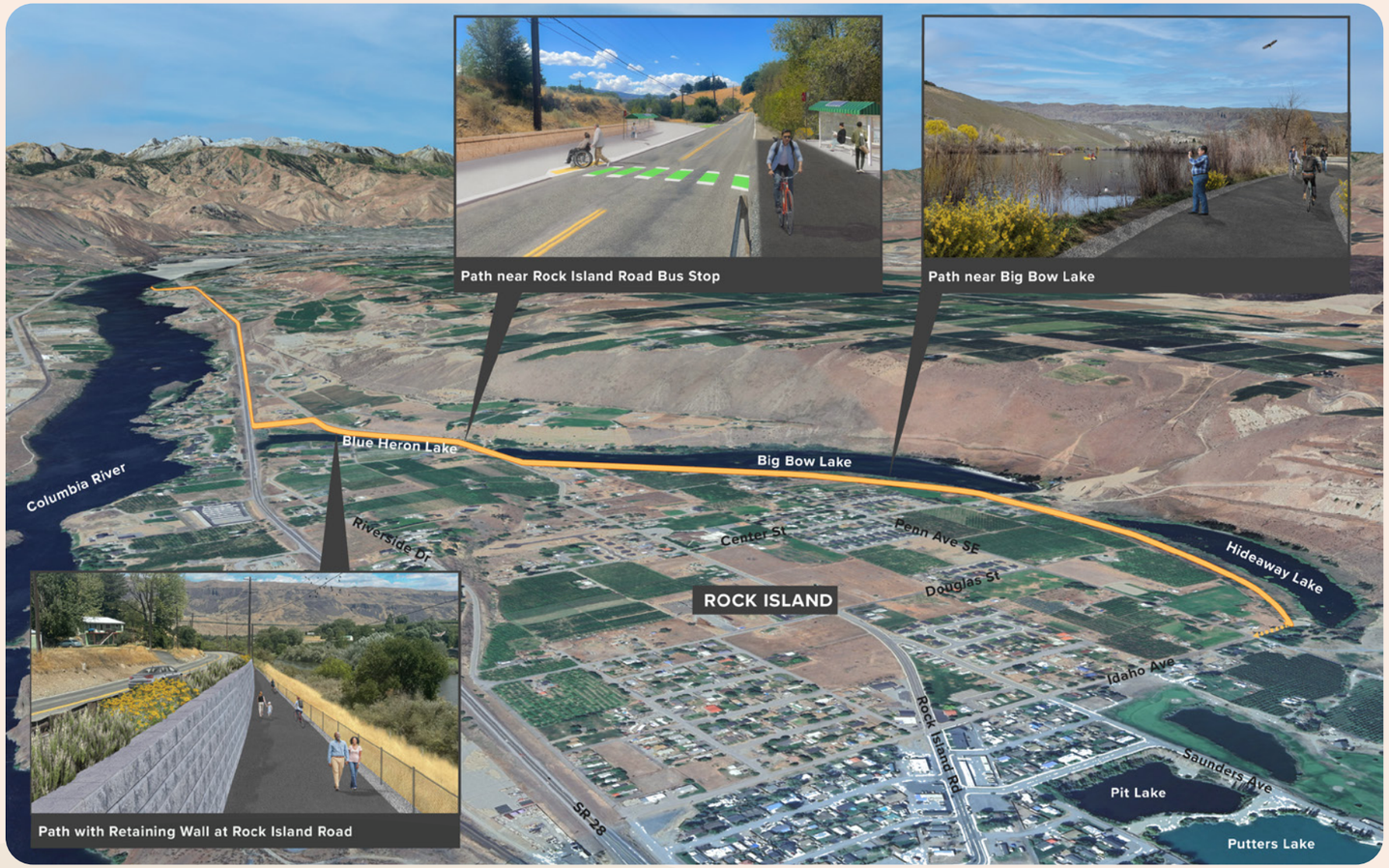
3) Pathway Connection to Rock Island Road Bus Stop

This illustrative image of a pathway connection to a bus stop on Rock Island Road demonstrates how the pathway will connect path users to Link Transit bus stops to provide a complete transportation network for people who walk, bike, and use transit in the region.



4) Pathway Connection to Rock Island near Blue Heron Lake

The view below demonstrates how the pathway will connect path users to the community of Rock Island with a safe and accessible route that maximizes views of the surrounding natural beauty. Near Blue Heron Lake, the pathway will be benched into the hillside south of the road.



5) Pathway near Big Bow Lake

The pathway will connect path users to the lakes surrounding Rock Island; this is something the community advocated for throughout the planning process.



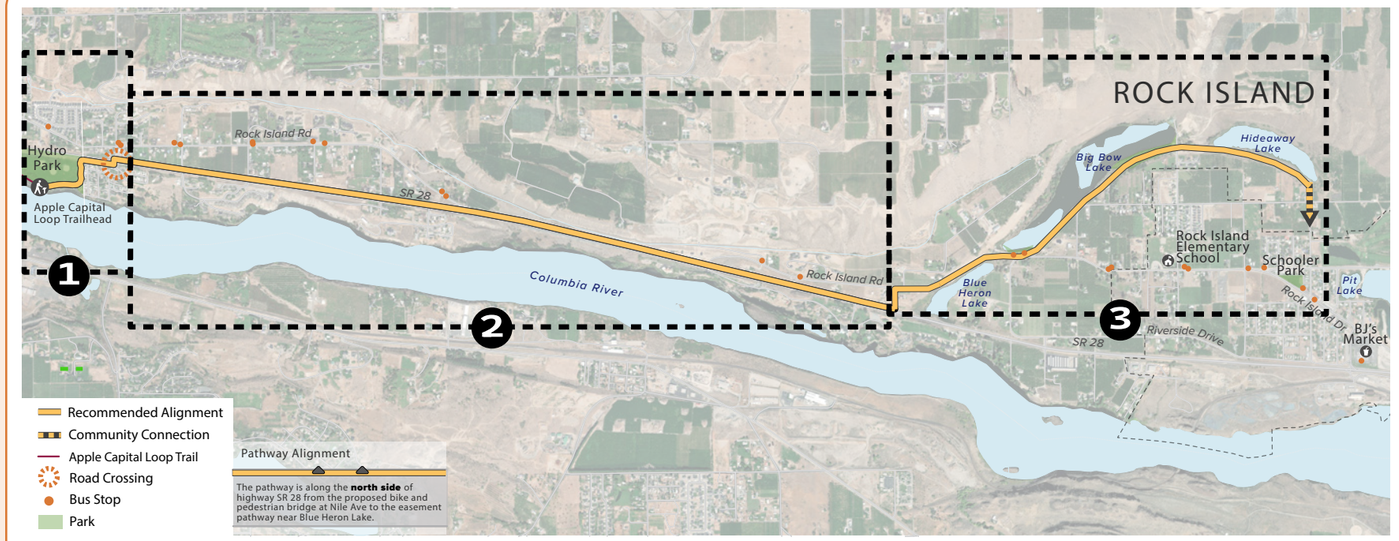
Cost Estimate and Implementation

Table 8: *Cost Estimate by Pathway Segment in 2025 Dollars*

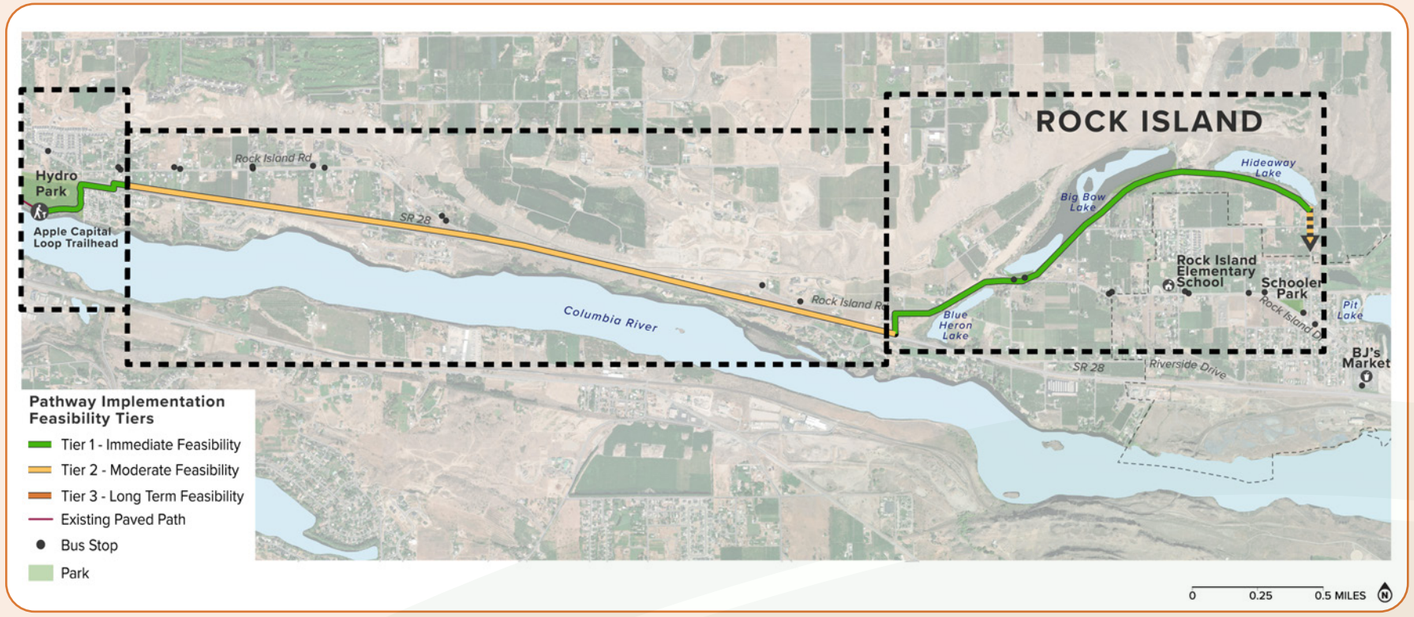
Section	Extents	Cost	Length (Miles)	Cost per Mile (Millions)
1	Rock Island (Hydro Park / Nile Bridge)	$14,100,000	0.70	20.14
2	Rock Island (North Island Section)	$5,900,000	2.91	2.01
3	Rock Island (Easement / Lakes)	$5,600,000	1.85	3.03
	FULL PATHWAY	**$25,600,000**	**5.46**	**4.69**

Table 9: *Infrastructure Included in Cost Estimate*

Wall (LF)	Wall (SF)	Bridge (LF)	Boardwalk (LF)
2,650	61,550	125	0



ROCK ISLAND TO EAST WENATCHEE (RIEW) - Recommended Alignment



Pathway Implementation Feasibility

The project team recommends implementing the 5.5-mile Rock Island to East Wenatchee pathway corridor in phases based on three feasibility tiers: Immediate (Tier 1), Moderate (Tier 2), and Long-Term (Tier 3).

Based on this tiered implementation approach, the project team recommends initiating construction of Tier 1 designated pathway segments as soon as possible. Priority should be given to two key sections: one extending from Hydro Park and including the highway crossing to Nile Road, and another running along the lakes on the north side of Rock Island. In the near term, the team also recommends advancing the segment that connects the two communities—from the highway crossing to the easement near Blue Heron Lake.

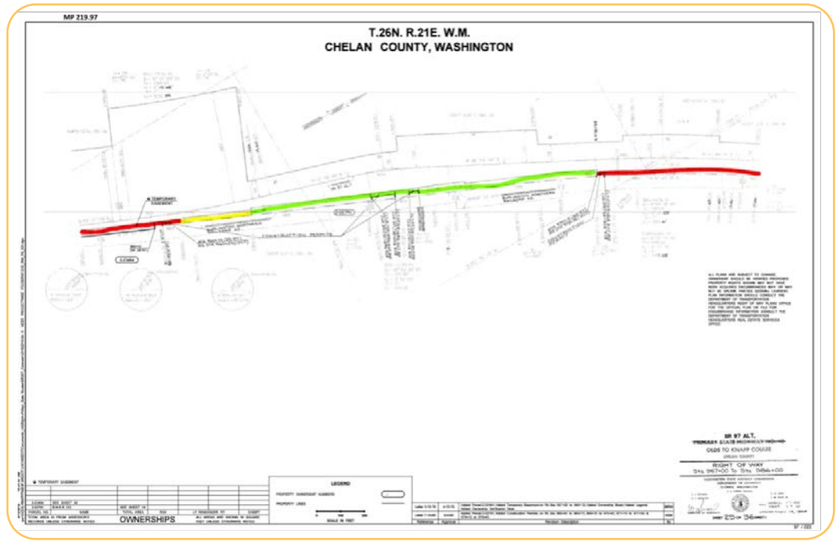
As further planning, design, implementation, operations and maintenance of the pathways develop there should be continued collaboration with local communities and agencies.



Wenatchee to Entiat to Chelan Corridor

No Recommended Pathway Alignment Currently for Wenatchee to Entiat to Chelan Corridor

The project team studied this railroad corridor, to determine if a pathway could potentially connect Wenatchee to Entiat to Chelan on the west side of the Columbia River. It was was initially considered and analyzed using the same framework as the other corridors. However, there were challenges associated with right-of-way (ROW) and property acquisition for all proposed alignments. The project team recommends further study and potentially locating a pathway corridor to the east of the Columbia River.





Wenatchee to Entiat to Chelan: Key Takeaways

Ownership & Operations

- The rail line from Wenatchee to Rocky Reach is owned by BNSF, with Cascade and Columbia River Railroad (C&CR) operating under agreement.
- Beyond Rocky Reach, the line is operated—and likely owned—by C&CR, though some outdated maps still show BNSF ownership. Ownership verification is needed.

Rail Activity & Level of Service

- The corridor sees very low rail traffic: only two trains per week (one round trip), confirmed via the Federal Rail Authority Database.
- Due to low volume, the line was not assigned a Level of Service (LOS) in the 2020 State Rail Plan.
  - For comparison: Wenatchee to Leavenworth line had LOS C in 2016, with 16 freight and two passenger trains per day.

Railroad Policies

- C&CR is part of Genesee & Wyoming, a short line freight operator. It does not publish policies regarding parallel facilities within its ROW.
- BNSF, a Class I railroad, has a strict policy prohibiting parallel facilities within its ROW.

Analysis:

The project team analyzed over 100 pages of ROW documents to determine ROW width available along Highway 97A, Highway 2, and Highway 97 using the following general assumptions:

- 12-foot path - and at pinch points assumed a 10-foot path.
- 12-foot minimum vehicle lane for Highway 2 and Highway 97 when looking at the highway ROW.
- 9.5-foot minimum clearance distance from rail centerline on curve, otherwise 8.5-foot from rail centerline.
- **Red = not enough ROW available.**
  - For railroad ROW, anything at or around 19 feet was categorized as not enough ROW available (red), most of the red stretches were on curves.
- **Yellow = ROW available but it would be very tight,** around 20 to 22 feet of available space as a maybe (yellow)
- **Green = ample space for a pathway.**

Findings:

- Highway 97A has sufficient space in some areas, but not for any consistent length without encroaching on railroad ROW.
- Both Highway 97 and Highway 10 have sufficient ROW for a path.





04

Pathway Benefits



Pathway Benefits Analysis

The project team conducted an analysis of the benefits to society that would occur if a series of pathways were built in Chelan and Douglas Counties as part of implementing the master plan. Pathways and trails preserve natural and cultural resources, improve mobility and safety, promote health and well-being, foster tourism, and enhance the quality of life for residents and visitors alike. For the purposes of this plan, the benefits highlight both the quantitative and qualitative returns that future implementation of the entire nearly 40-mile pathway corridor can generate within the region.

The economic analysis estimated the number of bicycle and pedestrian trips that might take place on each of the recommended pathway alignments and assessed the potential benefits that might accrue annually and over a 20-year period after the pathway was constructed. The benefits the communities along the pathway corridors may receive were calculated using the following categories and assumptions:

- **Transportation:** Estimates that some travel now occurring by car will in the future be by bicycle or walking, allowing for household savings on vehicle wear-and-tear and savings to society from reduced traffic levels.
- **Community Development:** Number of people living within a walkable or bikeable distance—estimated at 0.5 and 3 miles, respectively—as the crow flies, of the pathway alternative.
- **Emissions:** Monetary value of reductions in pollutants that impact air quality such as CO2, NOx, SO2, and PM2.5.
- **Public Health:** Monetized health benefits of increased physical activity and reduced mortality from that increased physical activity.
- **Economic Activity and Tourism Spending:** Monetary value of tourism drawn to the area due to the pathway, based on comparative estimates of non-local visitor spending on goods, services, and lodging.

The annual expected benefits by pathway corridor and benefit type are summarized in Table 10. More information on the methods and background of each analysis is included in the full **Pathway Benefits Analysis in Appendix J.**

Study Limitations

The primary purpose of the analysis is to enable a more informed policy discussion on the benefits of investing in the proposed pathway alignments in Chelan and Douglas counties. The team would note that the estimated demand in this study is likely conservative, as it is based on the context of existing short trips surrounding each pathway alignment (and not fully accounting for people traveling to the area to recreate). For some recreational areas, the project team expects a larger estimate of use for social or recreational trips as connections to the pathway are further developed. Even with extensive primary and secondary research incorporated into the impact analysis model, it is impossible to accurately predict the exact impacts of various factors. Accordingly, all estimated benefit values are rounded and should be considered order of magnitude estimates, rather than exact amounts.

Connections to Link Transit

The Chelan-Douglas Pathways project team recognizes this project provides an opportunity to improve connectivity and affordable transportation options within the region by maximizing opportunities to connect people walking and biking with the Link Transit network. This plan encourages the path alignments to converge near Link Transit bus stops whenever possible to provide opportunities to complete the first and last mile of travel.

Table 10: *Benefits Expected Each Year by Pathway Corridor, by Benefit Type*

Pathway Alignment	Transportation (2023)	Community Development (Active Trips)	Emissions (2023)	Public Health (2023)	Tourism (2023)	Total Annual Benefits (2023)
Chelan to Manson	$22,100	167,000	$5,100	$723,000	$4,098,000	**$4,848,200**
Malaga to Wenatchee	$70,700	298,300	$16,100	$1,282,000	$829,000	**$2,197,800**
Leavenworth to Cashmere	$7,800	125,300	$1,800	$537,000	$4,649,000	**$5,195,600**
Cashmere to Wenatchee	$42,100	327,600	$9,600	$1,417,000	$4,251,000	**$5,719,700**
Rock Island to East Wenatchee	$3,300	22,200	$800	$95,000	$3,000	**$102,100**
Total Annual Benefits	**$146,000**	**940,400**	**$33,400**	**$4,054,000**	**$13,830,000**	**$18,063,400**

05

Implementation Strategies



Funding Sources and Financing Strategies

The Chelan-Douglas Pathways system will require a clear implementation plan to enable successful development, as well as effective oversight and continued success of the pathways after they are developed. The implementation plan will outline the next steps for CDTC and its partners to advance the development of the pathway system.

Each pathway corridor will require a funding strategy that considers funding needs at every stage—not just for new trails and facilities but also for ongoing maintenance and service. The table on the following pages provides an overview of funding sources and financing strategies through grants, nonprofits and partnerships, and nontraditional sources.

While picking the right mix of funding strategies is important, it is equally important to establish how funding will be collected and distributed through a clear operations and maintenance plan, and well defined roles for all agencies involved.



Nonprofit or Private Partnerships

Name	Basic Description	Responsible Party	Eligibility	Typical Deadlines	Funding Caps	Match Requirement	Link/Resources
In-kind donations	In-kind donations are non-monetary and offered for free or at less than the usual charge. These can include goods or services.	Private or nonprofit entities	n/a	n/a	Do not typically have caps	n/a	
Philanthropy	Local and national foundations and nonprofits provide funding and/or support to get funding for active transportation projects. The funding may not need repayment but have conditions on funding use and reporting requirements. Generally, an established nonprofit group acting on behalf of the project must exist.	Private	Eligibility can vary	Can vary	Can vary	There may be no match requirement. When there is a requirement, it can vary by organization	Funding Guide: Pedestrian and Bicycle Improvements Bicycle and Pedestrian Program (FHWA)
Philanthropy - Polaris TRAILS GRANTS Program	The program "funds available to organizations in the United States and Canada to promote safe and responsible riding, support trail preservation and help protect the environment and natural resources that are a part of the off-road trail systems." The program allows funds to be used for a variety of activities that improve or maintain trail access including for development, maintenance, and education.	Polaris	All organizations must be 501(c)(3), 501(c)(7) government or non-profit organizations.	Applications for Spring grants must be in by March 1st, with Fall grants needing to be submitted by September 1st. The Trails Grants committee reviews and communicates to recipients during noted month.	Organizations can apply for either monetary or products for up to $10,000 annually, with the ability to apply for two grants per year.	n/a	Polaris Trails Grant Program
Philanthropy - Nike Community Impact Fund Program	The program supports nonprofits and schools in the Metropolitan Portland region, the Northern Willamette Valley and in southwest Washington to advance healthier, supportive and more inclusive communities.	Nike, Inc	Applications are accepted from organizations that are a 501(c)(3) public charity; an IRC 7871 Federally Recognized Indian Tribe; or a government entity.	Timeline for 2026: Application process opens: January Application process closes: February Grant payments disbursed: May	$5,000 to $25,000	n/a	Nike Community Impact Fund

Grants

Name	Basic Description	Responsible Party	Eligibility	Typical Deadlines	Funding Caps	Match Requirement	Link/Resources
Washington State Transportation Improvement Board (TIB) - Small City Arterial Program (SCAP)	SCAP supports projects that preserve, rehabilitate, or reconstruct TIB classified arterials consistent with local needs. Projects are rated for physical condition, economic vitality, safety, sustainability, and constructability. The program funds multimodal features consistent with local needs. Funds are also available for local match on federally funded highway projects.	Washington State Transportation Improvement Board	Eligible for incorporated cities and towns with a population less than 5,000.	Funding applications are available during each year's call for projects from June to August.		Required match for this program is based on assessed value as follows: • 10% match for cities over $500 million • 5% match for cities over $100 million • No match is requested for valuations under $100 million Additional points for over match in project scoring	TIB Classified Arterials
TIB - Small City Active Transportation Program (ATP)	The ATP provides funding to improve pedestrian and cyclist safety, enhanced pedestrian and cyclist mobility and connectivity, or improve the condition of existing facilities. ATP Funding is distributed regionally and three regions are used: East, Puget Sound and West. Program funds projects in one of the following bands: safety, mobility, or physical condition. This is combined with scoring for nature of the project, constructability, and sustainability.	Washington State Transportation Improvement Board	The intent of the project must be transportation and not recreation.	Funding applications are available during each year's call for projects from June to August.		Required match for this program is based on assessed value as follows: • 10% match for cities over $500 million • 5% match for cities over $100 million • No match is requested for valuations under $100 million Additional points for over match in project scoring	2023 TIB Funding Workshop: Small City Programs Overview of TIB Grant Programs
TIB - Relight Washington Program (LED)	The program helps lower city's street light costs by helping cities convert to more energy efficient LED streetlights.	Washington State Transportation Improvement Board	Eligible cities include all small towns (population less than 5,000) and urban cities with a total assessed value of less than $2 billion. Contact your Region Engineer to confirm eligibility.	Open throughout the year		No match requirement	Overview of TIB Grant Programs
TIB - Urban Arterial Program (UAP)	The Urban Arterial Program funds projects in one of the following bands: Safety, Commercial Growth and Development, Mobility, and Physical Condition	Washington State Transportation Improvement Board	Eligible agencies are counties with urban unincorporated areas and cities with a population of 5,000 or greater Eligible projects must be on a federally classified route (principal, minor, collector) Projects must be consistent with state, regional and local transportation plans	Funding applications are available during each year's call for projects from June to August.			Overview of TIB Grant Programs

Name	Basic Description	Responsible Party	Eligibility	Typical Deadlines	Funding Caps	Match Requirement	Link/Resources
TIB - Urban Active Transportation Program (ATP)	The Active Transportation Program provides funding to improve pedestrian and cyclist safety, enhanced pedestrian and cyclist mobility and connectivity, or improve the condition of existing facilities.	Washington State Transportation Improvement Board	Eligible agencies are counties with urban unincorporated areas and cities with a population of 5,000 or greater. Eligible projects must be on a federally classified route (principal, minor, collector) Projects must be consistent with state, regional and local transportation plans.	Funding applications are available during each year's call for projects from June to August.		The local match requirement is determined by the city's valuation, or in the case of counties, by its road levy valuation (Minimum local match ranges from 10 to 20 percent)	Overview of TIB Grant Programs
Washington Wildlife Recreation Program (WWRP)	WWRP provides matching funds to create new parks, protect wildlife habitat and preserve working lands. The WWRP Trails category provides grants to acquire, develop, or renovate nonmotorized public recreation pedestrian or bicycle trails that provide connections to neighborhoods, communities, or regional trails. 11 other categories of potential funding options (e.g., riparian protection, farmland preservation) are also available within WWRP.	Administered by the Washington State Recreation and Conservation Office (RCO)	Local agencies; special purpose districts such as port, park and recreation; state agencies; tribal governments are eligible to apply but may vary by funding category.	The WWRP is funded every two years as part of the state's Capital Construction Budget		Match requirements vary depending on the funding option within WWRP	Washington Wildlife and Recreation Program
Surface Transportation Block Grant (STBG)	STBG is a flexible highway funding program and provides the most financial support to local agencies. WSDOT allocates STBG funds to Metropolitan Planning Organizations and County Lead Agencies for prioritizing and selecting projects that align with their regional priorities involving all entities eligible to participate in a public process.	Metropolitan Planning Organizations (MPOs) or County Lead Agencies	All public agencies and MPOs that are responsible for eligible transportation facilities. Eligible projects include highway/bridge construction/repair; transit capital projects; bicycle, and pedestrian and recreational trails. Prior to project authorization/obligation, the project will need to be included in the State Transportation Improvement Program (STIP), the Regional Transportation Improvement Program (RTIP) and locally adopted transportation improvement program.	STBG funding is allocated by WSDOT to lead agencies based on the Federal Fiscal Year (FFY)		The federal participation rate for STBG funding is 86.5%.	Surface Transportation Block Grant (WSDOT)

Name	Basic Description	Responsible Party	Eligibility	Typical Deadlines	Funding Caps	Match Requirement	Link/Resources
Sandy Williams Connecting Communities Program (SWCCP)	The program was established to improve active transportation connectivity for people walking, biking, and rolling along and across current and former state highways. SWCCP funds can be leveraged as local match funding for federal funds. An estimated $25 million is available for projects statewide for the 2025-2027 biennium.		Communities that fall within the "Very High" and "High" equity need categories are the primary focus of the program (based on WSDOT analysis)	For 2024: October 3, 2024: Grant Program opens. October 31, 2024: Project interest forms are due. November 2024: WSDOT identifies selected grantees. December 2024: Legislative report identifying projects to support is due.	Awards range from approximately $200,000 to $2,000,000.	No match requirement	Sandy Williams Connecting Communities Program (Storymap) Sandy Williams Connecting Communities Program (WSDOT)
Active Transportation Infrastructure Investment Program (ATIIP)	ATIIP is a new competitive grant program created by the Bipartisan Infrastructure Law to construct projects to provide safe and connected active transportation facilities in active transportation networks or active transportation spines. ATIIP will award two types of grants: Planning and Design grants and Construction grants.	US Department of Transportation (USDOT) Federal Highway Administration (FHWA)	Eligible entities include a local or regional governmental organization, including a metropolitan planning organization or regional planning organization or council; a multicounty special district; a state; a multistate group of governments; or an Indian tribe.	In 2024, the NOFO was in May and the deadline in July.	Planning and Design grants: $100,000 - $2,000,000 Construction grant: For qualifying disadvantaged communities: $7,500,000–$15,000,000. For others: $7,500,000–$12,000,000.	In general, federal share shall not exceed 80 percent of the total project cost. In some communities with high poverty rates, the federal share may be higher going up to 100 percent.	Active Transportation Infrastructure Investment Program (ATIIP) Active Transportation Infrastructure Investment Program (ATIIP) (FHWA)
National Scenic Byways Program	The National Scenic Byways Program funds improvements such as byway facilities, safety improvements, and interpretive information along roads in the United States that merit recognition at the national level for their outstanding scenic, historic, cultural, natural, recreational, or archeological qualities. National Scenic Byways Program funds may be used for improvements, including bicycle and pedestrian facilities, on the byway or a facility providing direct, immediate access from the byway to a related recreational area.	USDOT	Eligible applicants include states and federally recognized Tribes in areas with highways designated as National Scenic Byways, All-American Roads, America's Byways®, state scenic byways, or Indian Tribe scenic byways.	In 2024, the NOFO was posted in September and closed in December	There is no minimum or maximum award size	In general, federal share shall not exceed 80 percent of the total eligible project costs. If the project is along a public road that provides access to or within Federal or Indian land, a Federal Land Management Agency may use funds authorized for use by the agency as the non-Federal share.	National Scenic Byways Program (USDOT)

Name	Basic Description	Responsible Party	Eligibility	Typical Deadlines	Funding Caps	Match Requirement	Link/Resources
Nationally Significant Federal Lands and Tribal Projects (NSFLTP) Program	NSFLTP Program funds program provides funding for the construction, reconstruction, and rehabilitation of nationally significant projects within, adjacent to, or accessing federal and Tribal lands. This program provides an opportunity to address significant challenges across the nation for transportation facilities that serve federal and Tribal lands. Bike/Ped projects are eligible to apply.	USDOT	Entities eligible to receive funds under the Federal Lands Access Program, the Federal Lands Transportation Program, the Tribal Transportation Program, and the Federal Lands Planning Program may apply for funding under the NSFLTP Program. A state, county, or unit of local government may apply for funding under the NSFLTP Program only if sponsored by an eligible Federal Land Management Agency or federally recognized Tribe.	In 2024, the NOFO was posted in July and closed in October		100% for a project on a tribal transportation facility; and Up to 90% for a project not on a tribal transportation facility.	Nationally Significant Federal Lands and Tribal Projects Program
Transportation Alternatives (TA) Program	Alternatives Program provides funding for programs and projects defined as transportation alternatives, including on- and off-road pedestrian and bicycle facilities, historic preservation, community improvement activities and environmental remediation; recreational trail program projects; and safe routes to school projects. WSDOT distributes an allocation to Regional Transportation Planning Organizations (RTPO).	"RTPO. Each RTPO has their own application requirements and selection criteria based on regional priorities"	Public agencies, including cities and towns, counties, transit agencies, tribes, ports, school districts, etc., and nonprofit entities		No minimum or maximum project awards.	13.5% match requirement	Transportation Alternatives (WSDOT) Transportation Alternatives (US DOT)
Better Utilizing Investments to Leverage Development (BUILD) grant program	The eligibility requirements of RAISE allow project sponsors at the state and local levels to obtain funding for multimodal, multijurisdictional projects that are more difficult to support through traditional USDOT programs. Several projects that support the needs of bicyclists and pedestrians were distributed in previous cycles.	USDOT	BUILD can provide funding directly to public entities, including municipalities, counties, port authorities, tribal governments, MPOs, or others. Jurisdictions may submit a joint application and must identify a lead applicant as the primary point of contact and identify the primary recipient of the award.	2024-2025: Deadline: January, 2025	Capped at $25 million Minimum Request Rural Areas: $1 million Urban Areas: $5 million	Cost Share Requirement: Rural Areas, Area of consistent property, Historically Disadvantaged Community: Up to 100% federal funding Urban Areas: Up to 80% federal funding	Better Utilizing Investment to Leverage Development (BUILD) Grant Program FY 2025 Notice of Funding Opportunity
Reconnecting Communities Pilot (RCP) Grant Program	RCP provides funding to support planning, capital construction, and technical assistance to restore community connectivity equitably and safely. Planning grants: study of removing, retrofitting, or mitigating an existing facility to restore community connectivity; public engagement; and other transportation planning activities. Capital Construction Grants: remove, retrofit, mitigate, or to replace an existing eligible facility with a new facility that reconnects communities	USDOT	Planning Grants: Eligible applicants include states, units of local government, federally recognized Tribal governments, metropolitan planning organizations, and nonprofit organizations. Capital Construction Grants: Facility owners must serve as eligible recipients of these grants, likely a state or local government agency with jurisdiction. Other entities may partner with facility owners.	In 2024, applications were due in September		Cost Share Requirement: Community Planning Grants: 80% RCP funds and 20% local match Capital Construction Grants: 50% RCP funds and 50% local match.	Reconnecting Communities Pilot (RCP) Grant Program Reconnecting Communities Pilot Program

Name	Basic Description	Responsible Party	Eligibility	Typical Deadlines	Funding Caps	Match Requirement	Link/Resources
Rural Surface Transportation Grant (RSTG)	RSTG program aims to improve and expand surface transportation infrastructure in rural areas.	USDOT	Eligible applicants include states, regional transportation planning organizations, and local and tribal governments or a multijurisdictional group of entities above. Funds can be used for planning and development as well as construction, including ROW acquisition.	In 2024, closing date was in May.		Will vary by project size designations (Mega, Infra and Rural)	The Rural Surface Transportation Grant Program (US DOT) Rural Surface Transportation Grant Program (Grants.gov) Rural Surface Transportation Grant (Rails to Trails)
Recreational Trails Program (RTP)	RTP is dedicated to the construction, restoration and maintenance of nonmotorized and motorized recreational trails (paved and unpaved) and trail-related facilities as well as educational projects. FHWA allocates funding to states and each state administers its own program.	Washington State Recreation and Conservation Office	Local governments, federal agencies, nonprofits, special purpose districts, state agencies and Tribes	In 2024, applications were due in October	$150,000	20 percent	Recreational Trails Program (FHWA) Recreational Trails Program (RCO)
State Community Development Block Grant (CDBG)– General Purpose Program	Provides grants to select rural cities/towns and counties to finance public infrastructure. Eligible projects must benefit low-and moderate-income persons and for the planning, acquisition, design, and construction of public infrastructure. The Washington State CDBG Program is funded by the US Department of Housing and Urban Development.	Washington State Department of Commerce	See the list of local governments served by the state CDBG program here.		$2,000,000 for construction and acquisition projects $500,000 for local housing rehabilitation and assistance programs $250,000 for local microenterprise assistance programs Investment limit is $50,000 per household	States may use $100,000 plus up to 50% of costs it incurs for program administration, up to a maximum of three percent of its CDBG allocation. Amounts expended on administration in excess of $100,000 must be matched.	CDBG: General Purpose Grants (wa.gov)
Land and Water Conservation Fund (LWCF)	The LWCF provides grants to preserve and develop outdoor recreation resources, including parks, trails, and wildlife lands buy property for trails and/or develop public recreation trails. Trails funded in LWCF should provide adequate separation from roadways.	Washington State Recreation and Conservation Office	Local agencies; special purpose districts such as port, park and recreation, conservation; state. Administrative costs are not eligible.	Application open: February 11, 2026 Application Due: April 30, 2026	$200,000 to $2 million	50 percent	Land and Water Conservation Fund
Promoting Resilient Operation for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Discretionary Grants	PROTECT program provides funding to help make surface transportation more resilient to climate change and natural disasters. PROTECT funds eligible activities include: Planning Activities, Resilience Improvements, Community Resilience and Evacuation Route activities, and At-Risk Coastal Infrastructure activities.	WSDOT	Eligible applicants include states (or a political subdivision of a state), metropolitan planning organizations (MPOs), local governments, special purpose districts or public authorities with a transportation function, Tribal governments, and federal land management agencies (FLMAs), when applying jointly with states. Different eligibilities apply for at-risk coastal infrastructure grants.				PROTECT Program Promoting Resilient Operations for Transformative, Efficient, and Cost-saving Transportation Program (PROTECT)

Name	Basic Description	Responsible Party	Eligibility	Typical Deadlines	Funding Caps	Match Requirement	Link/Resources
Consolidated Grant Program	Consolidated grants provide funds for public transportation improvements within and between rural communities; tribal transportation; transportation services between cities; purchases of new buses and equipment; and public transportation services to seniors and people with disabilities. To be eligible, applicants must participate -and have their project need identified -in a regionally developed Coordinated Public Transportation - Human Services Transportation Plan.	WSDOT	State, regional and local agencies, Indian tribes, and federal land management agency are eligible to apply. Multistate or multijurisdictional group of eligible entities can apply.	As of February 11th, 2025 the current (FYs 24-26) PROTECT grant solicitation has been closed until further notice.	Planning Grants: minimum award amount is $100,000. but there is no maximum award cap. Resilience Improvement Grants and Community Resilience and Evacuation Route Grants: minimum award amount is $500,000. but there is no maximum award cap.	Varies by grant type and/or applicant	Consolidated Grants (WSDOT)
First Mile/Last Mile Connections grants	This program supports projects that help people connect with fixed-route public transportation services, including buses, ferries, rail, water taxis, tribal transit and rideshares. WSDOT partners with the Transportation Demand Management Technical Committee to administer the First Mile/ Last Mile Connections Grant.	WSDOT	Public agencies in Washington				First Mile/Last Mile Connections grants | WSDOT (wa.gov)
Regional Mobility Grant Program	The Regional Mobility Grant Program supports local efforts to improve connectivity between counties and regional population centers and reduce transportation delay. This program includes four eligible project types: vehicle and equipment purchases, capital construction, operations, and transportation demand management. Programs that encourage a mode shift to high-efficiency modes (e.g., transit, walking, biking) and First- and last-mile connections programs (e.g., public transit rideshare expansion) will be relevant.	WSDOT	Cities, counties, ports, public transit agencies, regional transit authorities, regional transportation planning organizations, and MPOs in Washington state are eligible to apply.	In 2024, grant applications were open in April and closed in June		Applicants must provide matching funds of at least 20 percent of the total project cost as direct contributions. Any funding source except for other competitive state public transportation grants can be used as matching funds.	Regional Mobility | WSDOT (wa.gov)
Carbon Reduction Program (CRP)	The Infrastructure Investment & Jobs Act (IIJA)/ Bipartisan Infrastructure Law established the CRP to provide funds for projects designed to reduce transportation emissions from on-road highway sources. construction, Planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation are eligible.	Washington State Department of Transportation (WSDOT) allocated to local MPO for project selection	WSDOT allocates CRP funds to MPOs for prioritizing and selecting projects that align with their regional priorities			The federal participation rate is 86.5 percent	Carbon Reduction Plan

Name	Basic Description	Responsible Party	Eligibility	Typical Deadlines	Funding Caps	Match Requirement	Link/Resources
Washington Federal Lands Access Program (FLAP)	The Federal Lands Access Program helps improve access to federal lands. The program aims to improve transportation facilities that provide access to, are adjacent to, or are located within federal lands. The Access Program supplements state and local resources for public roads, transit systems, and other transportation facilities, with an emphasis on high-use recreation sites and economic generators.	USDOT FHWA - Western Federal Lands	State, county, town, township, tribal, municipal, or local governments that own or maintain a transportation facility are eligible to apply.	The next Request for Proposals for the Washington Federal Lands Access Program is scheduled for January of 2027.		Federal funds shall be used for up to 100 percent of the total eligible cost of a project carried out under the FLAP	Federal Lands Access Program (FLAP)
Pedestrian and Bicycle Program	The purpose of the Pedestrian and Bicycle Program is to eliminate pedestrian and bicyclist fatal and serious injury traffic crashes and to increase low stress bike/ped facilities and mode share of people walking and biking. Eligible program funds are made available only through reimbursement – up-front funding is not available.	WSDOT	All public agencies in Washington, including tribal governments (lead agency must be the owner/operator of the transportation facilities where improvements are focused).	In 2024, closing date was in May.	No minimum or maximum request limits.	Match is not required.	Pedestrian and Bicycle Program Pedestrian & Bicycle program call for projects
Safe Routes to School	The purpose of the Safe Routes to School Program is to improve safety and mobility for children by enabling and encouraging them to walk and bicycle to school. Funding from this program is for projects within 2 miles of primary, middle and high schools (K-12). Funded by both federal and state funds.	WSDOT	All public agencies in Washington, including tribal governments (lead agency should be the owner/operator of the transportation facilities where improvements are focused), and nonprofit entities responsible for the administration of transportation safety education and encouragement programs	In 2024, applications were due to June	No minimum or maximum request limits.	Match is not required.	Safe Routes to School Program

Nontraditional Sources

Name	Basic Description	Responsible Party	Eligibility	Link/Resources	Case Study
Special Assessment District (SADs) - type of value capture	In SADs, property owners whose properties will benefit from infrastructure improvements must pay a fee. Assessment charges are typically annual fees based on the expected reductions in travel time and costs resulting from the improvement. SADs are considered a true value capture method if the contributing property owners directly benefit from the infrastructure improvements through enhanced access to the asset, such as a bike path, and/or through increased revenues.	Local Agency	n/a		The Midtown Improvement District (MID) in Atlanta has contributed millions of dollars to bicycle and pedestrian infrastructure projects. Established in the spring of 2000, the MID is a self-taxing district created by Midtown commercial property owners to augment public resources and catalyze economic growth in Midtown. More than $100M has been raised to date through MID contributions leveraging public and private grants. https://www.midtownatl.com/midtown-alliance/about/midtown-improvement-district
Tax Increment Financing (TIF) - type of value capture	TIF is a value capture revenue tool that uses taxes on future gains in real estate values to pay for new infrastructure improvements. As established by Chapter 39.114 RCW, a local government may propose to designate a TIF area and use the associated tax allocation revenues to pay for public improvement costs.	Local Agency	TIF is allowed in Washington	FHWA - Center for Innovative Finance Support - Value Capture - Tax Increment Financing (dot.gov) Tax Increment Financing	
Transportation Utility Fee (TUF) - a type of value capture	TUFs are a financing mechanism that treats the transportation system like a utility in which residents and businesses pay fees based on their use of the transportation system rather than taxes based on the value of property they occupy. TUFs are not subject to voter approval and are based on the number of trips generated by different land uses. Utility fee rates may be based on number of parking spaces, square footage, or gross floor area. This approach links the costs of maintaining transportation infrastructure with the benefits derived from mobility and access to a transportation system. Funded activities typically include the repair, maintenance, and preservation of: roads, traffic signals, curbs, sidewalks, and bikeways. TUFs have also been used to fund transportation projects that address pedestrian safety and compliance with the Americans with Disabilities Act.	Local Agency	n/a	Transportation Utility Fees	In Hillsboro, Oregon, a TUF helps fund sidewalk, bike lane, and enhanced crossing projects. Residents, businesses, nonprofit organizations, schools, and government agencies pay a monthly fee, which varies based on business type and square footage
Value Capture	When transportation infrastructure projects increase land value, communities can capture a portion of that value through a variety of innovative funding mechanisms. FHWA defines value capture as “a set of techniques that generally take advantage of increases in property values, economic activity, and growth linked to infrastructure investments to help fund current or future improvements.” In addition to a few detailed value capture options listed, impact fees and development agreements can be considered.	Local Agency	n/a	Venture Capture Resources	
Green Financing	Green financing includes a range of mechanisms for funding including green bonds, green insurance, and energy efficiency mortgages	Other	Eligibility can vary	Active Transporation Funding and Finance (ATFF) Toolkit - Resources - Bicycle and Pedestrian Program - Environment - FHWA (dot.gov)	In Rhode Island, voters approved Green Economy Bonds in 2016 and 2018, which have dedicated millions of dollars to bicycle paths throughout the state (Belmore, 2017).

Name	Basic Description	Responsible Party	Eligibility	Link/Resources	Case Study
Public-Private Partnerships (P3)	In public-private partnerships, private entities provide some of the services that are typically the responsibility of the public sector. For surface transportation projects, P3s can involve paying a private entity to design, build, maintain, or operate a facility. The private sector partner may receive compensation through availability payments over the life of the contract or through fares or tolls paid by facility users.	Other	n/a	FHWA Public-Private Partnerships	Colorado DOT (CDOT) entered into a P3 for a highway expansion featuring a 12-foot, multipurpose bikeway. CDOT and the High-Performance Transportation Enterprise (a government-owned business within CDOT) partnered with Plenary Roads Denver, a consortium of firms that delivers highway improvements. The first phase of the project was a design-build contract. The second phase was a P3, contracting Plenary Roads Denver to finance, design, build, operate and maintain the Phase 2 construction work. This project received national recognition for the partnership.
User Fees	User fees are generated from various sources such as parking permits, parking citations, or as a charge to private entities utilizing the facilities. These funds could be used for bikeways and walkways.	Other	Eligibility can vary		
Grant Anticipation Revenue Vehicles (GARVEEs)	Under the National Highway System Designation Act of 1995, state and local governments can use federal funds to pay the principal or interest of debt financing instruments. GARVEEs can be any debt financing instrument, such as bonds, notes, certificates, mortgages, or leases GARVEEs are best suited for larger-scale projects ranging from tens of millions to hundreds of millions of dollars, so they may not always be relevant for standalone bicycle and pedestrian projects. GARVEEs have helped finance large-scale multimodal projects that include bike lanes.	Other (with expected future federal funding)	Eligibility can vary	ATFF Toolkit - Resources - Bicycle and Pedestrian Program - Environment - FHWA	For example, $165 million GARVEE bonds helped finance the Lake Barkley Bridge in Canton, Kentucky. This bridge has a 10-foot wide, protected multiuse path that connects Canton to the Lakes National Recreation Area.




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Operations, Management, and Maintenance

Operations, management, and maintenance (OMM) planning includes the overall management and operations of the pathway corridors as well as routine and remedial maintenance. The multijurisdictional landscape of the Chelan-Douglas Pathways system will require frameworks that support multiagency collaboration between different entities including cities, counties, state and federal agencies, landowners, Link Transit, and local nonprofits. As such, the OMM may look different for different pathway corridors.

This section aims to:

- Identify the tasks needed for maintaining the pathway at desired quality levels.
- Establish goals and expectations for OMM of the pathway system and individual pathway corridors.
- Identify and outline potential pathways governance (OMM) framework models appropriate for the multijurisdictional landscape of the pathway system that can be developed and agreed upon by partner agencies.
- Outline design guidelines that reflect the best industry practices to be considered in future design development.
- Identify OMM costs and consider avenues of funding opportunities to support operations, management and maintenance.

The information included in this section is presented as a starting point and is subject to discussion and negotiation by partner agencies. As detailed designs are developed and project recommendations are formalized among the partner jurisdictions, the details presented in this document are expected to change and will need to be updated.

OMM Goals

The following goals are suggested for the OMM of the pathway system. The goals should be reviewed and updated in consultation with partner agencies as the project proceeds through the detailed design stages.

Maintain a Safe and Enjoyable User Experience

Create a pathway corridor that is safe for people of all ages and abilities to walk, bike, and roll for recreation and transportation purposes. The pathways should feel fun, easy to use, and welcoming for everyone.

Develop and Manage Pathways Collaboratively

Develop and detail governance frameworks suitable for the multijurisdictional landscape of the pathway system. The frameworks should enable collective decision-making, coordination of regulations and activities, and distinguish roles and responsibilities among its members.

Establish Standardized Procedures and Guidelines

Develop standardized maintenance and operational procedures, and design guidelines so that various jurisdictional partners can maintain a consistent and safe environment for pathway users. This includes standard protocols for pathway system operations as well as coordinated procedures and responses for sporadic needs like emergencies, homelessness response, and pathway closures.

Efficiently Manage Resources and Expenses

Determine and manage resources including funds, tools, and personnel required for operations and maintenance of the pathways. This will support efficient resource allocation, reduce expenses, provide guidelines to jurisdictional partners about their annual contributions, and offer guidance for future decision-making.

Operations

Baseline Operations Tasks

Baseline operations tasks include pathway system management and coordination, provided by agency staff. Enhanced operational tasks may include resources required for implementing programming for educational or cultural events. This section identifies baseline pathway operations tasks, and as the pathway corridor designs are developed and reviewed, the tasks should be assigned to a local agency with jurisdictional authority or to a pathway system-wide partnership.

Public Access and Use

The corridors are intended as all ages and abilities facilities that will be safe and comfortable for a variety of users including walkers, runners, wheelchair users, casual and new and experienced cyclists, and people traveling on scooters and e-bikes, using the pathway for utilitarian and recreational purposes.

Micromobility devices like e-scooters and e-bikes have become more popular in recent years and can offer an efficient commute mode for path users. These travel modes can, however, create conflicts because of their relatively higher speeds compared with other pathway modes. But the conflicts between different modes should not be construed as incompatibility. Appropriate messaging, and soft design interventions in high conflict areas should be included to address issues like speed limits and parking to make the pathways safe and comfortable for all modes. Some uses, like motorcycles and all-terrain vehicles (ATVs), will not be permitted in the corridors. Table 11 outlines various pathway access and use considerations.

Table 11: *Public Pathway Access and Use Assumptions*

Pathway Use	Allowed	Conditional	Prohibited	Mitigation/Considerations
Walking	✓			N/A
Bikes	✓			Soft design elements like paving material at trailheads and in areas of high foot traffic to encourage users to reduce speeds.
Wheelchairs	✓			N/A
E-bikes		✓		Speed limits – Informative and/or regulatory sign. Appropriate parking spaces. Class 1 and 2 e-bikes are allowed in all facilities. Class 3 e-bikes are prohibited.
E-scooters		✓		Speed limits – Informative and/or regulatory sign. Appropriate parking spaces.
Other personal mobility devices like in-line skates, one-wheels, and hover boards that do not exceed 20 mph exclusively using motor power	✓			N/A
Motorcycles and E-motorcycles			✗	Prohibitory traffic sign
ATVs			✗	Prohibitory traffic sign
Private golf carts or equivalent			✗	Prohibitory traffic sign

Hours of Operation and Pathway Closure Protocols

Pathway corridors that serve as regional transportation facilities are typically open 24 hours per day. The agency partners should determine the operation hours for each pathway corridor based on their needs and safety and operational considerations.

The pathway corridors will need to be closed to the public during certain conditions, including maintenance, agricultural activities, flooding, extreme weather events, unforeseen public safety issues and emergencies, or special events, among others. Pathway system-wide protocols should be developed to ensure that pathway closures are reliably communicated to the public and detours are provided as appropriate. Segments that may experience a higher frequency of closures should have dedicated detour routes to enable staff to easily implement the closure protocols and provide alternate routes for path users.

User Rules and Regulations

The agency partners will need to decide if user rules and regulations can vary by jurisdiction, or if they will be uniform across the pathway system. It will be useful for all jurisdictions to establish some standardized rules and regulations and communicate changes using appropriate signs to make it easier for users to understand and abide by pathway expectations. Signs should be posted at access points to alert users of operational hours, allowed uses, rules, and safety regulations. The signs also include a phone number to contact for more information or in case of emergencies. Including posted signs along the pathway and at access points can help clarify existing rules and provide or reinforce needed information for all pathway users.

Public Safety and Security

The OMM plan should include coordinated safety and security protocols, potentially in a safety plan or within the OMM, to help provide a safe pathway system for the users as well as protect responsible agencies from liabilities. The safety plan development should begin early in the process so that potential hazardous conditions can be identified, planned for, and mitigated to acceptable levels. While local agencies may choose to develop a detailed plan for the sections under their jurisdiction, the local plans and protocols should be coordinated with pathway partners for compatibility. In addition to agencies, additional support for safety may come from other groups or nonprofits that work with specific populations, such as unhoused persons, people experiencing substance abuse issues, etc.

A safety plan for OMM may include the following:

- Safety and security coordination procedures:
  - Coordination protocols with local law enforcement and emergency responders to discuss pathway design considerations and the safety plan.
  - Security and patrols.
- Risk management and liability.
- User-type conflict resolution/reduction.
- Community involvement policies and opportunities.
- Environmental protection, including messaging and signs.
- Emergency access and response:
  - Emergency service providers will have several access points to provide emergency responses. For every mile marker, a physical address should be created in the 911 response system and the shortest route should be mapped to emergency service provider locations.
  - The standards and protocols for emergency access and response should be considered and refined along with the pathway design development and implementation.
- Emergency procedures:
  - A corridor-wide emergency response strategy and procedures will be developed in consultation with the pathway partners and other private or nonprofit entities as needed. Maintenance workers and employees should be provided with a flow chart and regular trainings on response procedures.
  - Meeting with fire and emergency responders to understand access and emergency response on pathway corridors.
- Evaluate safety plan after implementation to understand challenges and successes, and propose improvements.

Homeless Encampments

The pathway system will require strategies to respond to the needs of all users, including people experiencing homelessness who may live temporarily in the pathway corridor. While pathway corridors are not intended to provide temporary housing, it is important to consider strategies for engaging with homeless populations and providing critical services and amenities. Homeless services and response strategies in the OMM plan could include:

- **Overview of Partners and Operational Structure:** Addressing encampments along the pathway corridors will require coordination with the network of agencies and organizations already providing outreach and services for people experiencing homelessness.
- **Outreach Strategies:** A pathway-specific homeless outreach strategy may involve engaging existing teams that conduct homeless outreach services.
- **Emergency Response and Safety:** Special emergency protocols may need to be taken to reach people experiencing homelessness along the pathway in case of flooding, hazards, or crime. This would require coordination with several existing agencies, including the police/sheriff and fire departments. Non-police patrols may be best suited to serve as security liaisons to both pathway users and people experiencing homelessness.
- **Maintenance and Encampment Engagement Protocols:** In addition to standard pathway maintenance, specific protocols for encampment engagement and maintenance should be developed. Standard maintenance crews may require additional education to provide maintenance services around encampments. An additional approach may be to hire people experiencing homelessness to assist in pathway maintenance.

Maintenance

Facility maintenance standards will be determined as part of a future comprehensive OMM plan for the pathways and will identify the frequency of required maintenance tasks that should be reviewed and updated periodically to reflect changes in use, safety issues, and other factors and so that they are working for all partners involved.

Maintenance Tasks

This section identifies baseline pathway system maintenance tasks clustered into routine, remedial, or inspection tasks. In addition to baseline tasks, there are enhanced maintenance tasks that may not be required for the basic function of the pathway corridors but can contribute to the overall user experience. These include additional maintenance for artworks, enhanced landscape and irrigation, and architectural railing and fencing repair. The extent and need for enhanced maintenance can be determined in later phases of the project when more information on the design is available and the OMM plan is refined.

Routine Maintenance

Routine maintenance refers to day-to-day tasks like litter pick-up, trash, and debris removal, weed and dust control, pathway sweeping, vegetation trimming, graffiti removal, damage repair, and other regularly scheduled activities. Some routine maintenance may be conducted on a seasonal basis, such as snow removal.

Remedial Maintenance

Remedial maintenance refers to preserving the quality and longevity of the pathways through repairing, replacing, or restoring major components that have been destroyed, damaged, or significantly deteriorated from normal use and age. Some items (“minor repairs”) may occur on a 5- to 10-year cycle, such as repainting, restriping, repaving, or replacing signage. Major reconstruction items will occur over a longer period or after an event such as a flood or fire. Examples of major reconstruction include regrading and paving a pathway surface or replacing amenities such as water stations, and other site elements.

Inspections

Inspections are important for monitoring the maintenance needs of the pathways. Routine inspections such as monitoring pathway surface conditions, signs, and lighting can be carried out by maintenance staff. Other inspections such as bridge inspections must be conducted by certified professionals.

Private Property Interface

The recommended pathway corridor alignments are adjacent to several private properties, and OMM planning should include coordination and communication protocols with the property owners for effective maintenance and to encourage community ownership of the pathway system.

Open Communication: Two-way communication between private landowners and pathway system operators is essential. There should be established processes to raise concerns as well as protocols for the pathway system operators to address them. The property owners should also be updated of any implementation, upgrades, or policy changes related to the pathways.

Potential Partnerships: If there is interest among property owners, the partner agencies should identify opportunities for property owners to be folded into the governance structure (see more in the Governance Approaches section) and enter into agreements as needed. The governance structure should establish roles and responsibilities for property owners in OMM tasks.

Opt-In Option for Graffiti Control and Fencing: Property owners should have the option to opt into agreements with the pathway system operators on property edge maintenance. When property boundary walls or fences along the pathways are tampered with, the pathway maintenance team will have the authority to repaint or fix them as needed, thereby lessening the burden on the adjacent property owners.



Stakeholders and Partners

Many groups and agencies will be involved in the development of the pathway system due to the variety of land uses, property ownership, and jurisdictional agencies involved. The following agencies are identified due to their potential role in developing, maintaining, and operating segments or all of a pathway corridor.

Agency Partners

Chelan to Manson Corridor

- Chelan County
- Chelan County Public Utilities District
- City of Chelan
- Colville Tribes
- Link Transit
- Washington State Department of Transportation
- Manson Parks and Recreation District

Leavenworth to Cashmere to Wenatchee Corridor

- Chelan County
- Chelan County Public Utilities District
- City of Leavenworth
- City of Cashmere
- City of Wenatchee
- Link Transit
- Washington State Department of Transportation
- Washington State Parks – Eastern Region office

Rock Island to East Wenatchee Corridor

- Douglas County
- Chelan County Public Utilities District
- City of Rock Island
- Eastmont Metro Parks District
- Link Transit
- Washington State Department of Transportation

Malaga to Wenatchee Corridor

- Chelan County
- Chelan County Public Utilities District
- City of Wenatchee
- Link Transit

Other Public Entities

The following agencies may be involved in, or affected by, the OMM plan. They are not expected to be directly responsible for the pathway system:

- Utility Districts
- Regional and Local Fire Departments
- Local Police/Sheriff Departments
- Apple Capital Loop Trail Management Team

Potential Private/Nonprofit Entities

The following groups may have an interest or role in ongoing programming and engagement:

- Chelan-Douglas Land Trust
- Complete the Loop Coalition
- Lake Chelan Trails Alliance
- Washington Trails Association
- Chumstick Wildfire Stewardship Coalition
- Washington Bikes
- Wenatchee River Institute
- Cascadia Conservation District
- Irrigation and Reclamation Districts

Pathways Governance Frameworks

There are different governance frameworks in practice in the United States for operating, managing, and maintaining pathway systems, including cooperative arrangements or commissions, new entities such as joint powers authorities or special districts with intergovernmental agreements, or new hybrid models based on local context, resource capacity, and community needs. The governance framework will define the powers, obligations, and decision-making process for pathway implementation and the day-to-day operations and maintenance tasks.

In considering the appropriate governance framework for the pathway system, partner agencies should consider the following criteria:

- Does the framework create consistent operations, management, and user experience throughout the pathway system?
- Does the framework provide a consistent funding source for day-to-day operations as well as expansion, capital improvements, and replacement/repairs?
- Does the framework support economic development for local businesses and strengthen relationships with community organizations?
- How does the framework help in improving the real and perceived safety along the pathway corridors?
- How easy is it to implement the framework? Does it require a public vote?
- Can the framework improve capacity and ease of applying for federal and state grants?

Establishing a governance framework for the pathways should occur concurrently with any additional pathway planning, concept development, and design. This includes ongoing coordinating with partner agencies to determine the appropriate governance structure, roles, and responsibilities.

Creating a lasting, sustainable governance plan for OMM is crucial for the long-term sustainability and success of the pathway system. It will require first identifying partner agencies and selecting a management structure including clear roles, responsibilities, and funding strategies. The governance structure also requires agreed-upon legal frameworks and documentation processes for participating agencies. Once the governance structure is established, staff can be appointed and hired and partnerships with nonprofits or other entities can proceed.

Governance Approaches

This section describes potential governance structures, with supporting Washington statutes and case studies from around the country, that can be considered for the Chelan-Douglas Pathways. The structures could be employed as they are but could also be combined or modified to meet the unique needs of each pathway corridor. The solution for any corridor may involve one or several of these approaches.

Interlocal Agreement

A formal, legally binding interlocal agreement (ILA) between local governments under the Interlocal Cooperation Act (RCW 39.34) allows involved agencies to work together and coordinate among the member agencies in the development, management, and maintenance of the pathway system and corridors. The arrangement could include nonprofit organizations as partners for fundraising and programming support. The act allows for the creation of nonprofit corporations for the purpose of supporting facility development or operations. ILAs can reduce operational and maintenance costs by allowing partners to purchase materials and fund staff as a unit rather than separate entities, which may cause inefficiencies. An ILA can take different forms:

- **Cooperative with Lead Agency:** One agency would typically serve as the lead agency and administer the agreement with the other partner agencies. The specific role of a lead agency is unique to each agreement but lead agencies may be responsible for ensuring cohesive maintenance, branding, and user experience on the pathway system across corridors and jurisdictions.
- **Cooperative without Lead Agency:** Here, the partner agencies would be responsible for safety response and routine and remedial maintenance. But other stakeholders can provide additional support in property owner interface (landowners) and fundraising and programming (nonprofit).
- **Intergovernmental Partnership:** The Intergovernmental Partnership is a hybrid arrangement model, created by ILA, where a corridor-wide partnership or entity will be created to be responsible for some of the operational and maintenance functions like long-term capital planning and establishing pathway system-wide signage and pathway closure standards. A joint savings account, funded through annual partner contributions, can be used for shared responsibilities including staffing and major maintenance tasks. Local agencies can have individual responsibilities and may work with other public or private entities within their jurisdictions through separate agreements, and a new, standalone agency is formed.

Proposed Process: An agency's governing body approves the agreement by resolution or ordinance, and agencies should either file a signed ILA with the county auditor or post it on their website or other electronically retrievable public source.

Examples:

- Ballinger Park Improvements, ILA between city of Mountlake Terrace and the city of Edmonds, WA.
- Spokane River Centennial State Park Trail, Washington. The 2014 update created a Centennial Trail Maintenance-Joint Board Fund and the Coordinating Council to oversee the fund.

Park and Recreation Special District

A park and recreation special district, authorized through RCW 36.69.010, is intended as a nonprofit public service entity to provide recreational facilities for the residents of the geographical areas included within their boundaries. This district may include any unincorporated area, and any city or town when the governing body approves inclusion by resolution. A joint park and recreation district may be formed including two or more contiguous counties (RCW 36.69.420), with the powers and duties of a park and recreation district. They are governed by a board of five elected commissioners.

Proposed Process: The district is formed through a ballot measure and requires approval by a simple majority.

Example: East County Park and Recreation District, Snohomish County, WA; Eastmont Metro Parks District.

Park and Recreation Service Area

A park and recreation service areas is quasi-municipal corporation and independent taxing authority and taxing district possessing the usual powers of a corporation for public purposes (RCW 36.68.400). The service areas can finance, acquire, construct, improve, maintain, or operate recreational facilities. The boundaries of a service area may extend beyond the specific facilities they support. If within the unincorporated county, the service area is governed by a county legislative authority, acting ex officio and independently. If a city or town is included or if in a multicounty area, it is governed by an interlocal cooperation agreement.

Proposed Process: The district is formed through a ballot measure and requires approval by a simple majority.

Example: Upper Valley Park and Recreation Service Area, Chelan County, WA.

Nonprofit Organization

Nonprofit entities have developed, managed, and maintained pathways for preservation of natural resources, improving public health, or for other missions and values. However, the involvement of nonprofits in pathway operations and maintenance can be different depending on the governance structure. In most cases, the public agencies will retain authority over the ownership of the pathway. The authority over some or all policies for operations and maintenance may be retained by the public agencies or assigned to the nonprofits. Nonprofits and volunteer groups often collaborate with agencies on day-to-day maintenance, special events, education programs, and fundraising. The extent of nonprofit involvement will depend on the nature of any pathway segment, and the strengths of the partners involved.

Proposed Process: Nonprofits must be registered in the Washington State Office of the Secretary of State, Corporations and Charities Division.

Example: Yakima Greenway, Washington.

Transportation Agency

This is an exploratory idea to propose the possibility that the pathway system could be developed and managed by the regional public transit agency, Link Transit. The Roaring Fork Transportation Authority (RFTA) in Colorado, which manages the 42 miles of continuous multiuse Rio Grande trail, is an example of this type of governance structure. In 2001, RFTA was formed as an opportunity to explore both transportation and recreation solutions to Highway 82 congestion and trail connectivity challenges in the Roaring Fork Valley. The creation of RFTA allowed a dedicated funding source for both transit and trails. RFTA now manages and maintains the trail corridor, in conjunction with Pitkin County Open Space and the City of Aspen, in their respective jurisdictions.

Future explorations of this governance framework will need to examine the extent to which public transit benefit authorities in Washington can manage pathway systems and if the Link Transit Board would want to expand the agency's mission to encompass pathways.

Example: Roaring Fork Transportation Authority, Colorado.



Rio Grande Trail. Source: RFTA

Design Guidelines

The Chelan-Douglas Pathways Design Guidelines outline standards for the design and implementation of paved pathways. The purpose of this section is to promote a consistent approach to pathway corridor design throughout the Chelan-Douglas Pathway system. These guidelines are intended to be adopted and used by the CDTC when building new pathway corridors and improving existing ones, as well as advising on projects connected to the pathway corridors and system.

Guidance Basis

The standards outlined in this section were developed based on state and national best practices for the design of pathways, including guidance from The American Association of State Highway and Transportation Officials (AASHTO), the Federal Highway Administration (FHWA), and the National Association of City Transportation Officials (NACTO). Specific guidance in this document references:

- AASHTO's *Guide for the Development of Bicycle Facilities* (2024) - any reference to "AASHTO" within this document.
- FHWA guides, including:
  - *Manual on Uniform Traffic Control Devices* (2023 edition), State of Washington Supplement
  - *Small Town and Rural Multimodal Networks* guide (2016)
  - *Improving Visibility at Trail Crossings* guide (2021)
  - Shared Use Path Level of Service Calculator (2006)
  - *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations* (2018)
  - NACTO's *Urban Bikeway Design Guide* (2014)
  - NACTO's *Don't Give Up at the Intersection* guide (2019)
  - WSDOT Design Manual Chapter 1515

Pathway Design Elements

This section outlines recommendations and best practices for designing the pathway corridors along each alignment. Context-specific criteria for different pathway conditions including elements such as path width, path configuration, surface treatments, slopes and grades, and edge conditions are included. Being intentional about pathway design can lead to a more positive user experience, minimal impact on the surrounding environment, and fewer maintenance issues over time.

Pathway Widths

Typical Pathway Cross Section

The baseline standard for pathway dimensions should follow guidance as outlined in **Chapter 6 of AASHTO's *Guide for the Development of Bicycle Facilities***. Pathway design should use the typical width unless urban context or anticipated pathway use necessitates a different approach.

Design Criteria

- 10-foot minimum, 12-foot preferred paved pathway; not to exceed 2% cross slope.
- 2- to 3-foot graded (typically unpaved) shoulder, not to exceed 1V:6H cross slope; 5 feet if adjacent downward slope exceeds 1V:3H; physical barrier may be needed.
- Post-mounted signs or other traffic control devices must be placed outside graded shoulder.

Pathway Noise Reduction

Some sections of the pathway travel alongside highways and high-speed roads. In order to reduce noise and improve user experience, the pathway should use interesting landscaping to obscure the roadway. According to WSDOT's noise reduction guidelines, plants rustling in the wind can help mask traffic noise. Additionally the elevation of the pathway in relation to the roadway can impact the level of traffic noise. Pathways that are below the roadway, especially those that are low enough to block the view of the roadway, will have reduced noise for path users compared to pathways level with or above the road.

Pathway Surface Materials

Path surface treatments may vary in texture or tone depending on the location of the path and for delineation of pedestrian and bicycle zones, tactile indications for mixing zones and other path transitions, and edge conditions. In many cases, standard Manual on Uniform Traffic Control Devices (MUTCD)-compliant street striping and pavement markings for roadways can be applied to indicate shoulders and centerlines, delineate zones for different users, and indicate other traffic controls such as yield or stop lines. Path surfaces must meet or exceed Americans with Disabilities Act (ADA) requirements for firmness, stability, and slip resistance.



Pathway user traveling on the Larry Scott Trail adjacent to SR 20 in Port Townsend, WA. Source: Alta Planning + Design

Typical surface treatments include:

Concrete: Higher up-front installation cost but will last the longest of all surface treatment options (35+ years), require less maintenance over time, and, as a light-colored material, provide cooling benefits. Concrete may be permeable or impermeable. Cracks can be difficult to repair.

Asphalt: Lower installation cost and maintenance, smoother service, typically lasts 20 years, but does buckle over time, is impermeable, and increases surface temperatures due to its darker color.

Cool Paving: A thin layer of light-colored material applied as a coating to asphalt may be used to reduce surface temperatures of the material; cool paving requires reapplication every 5 years.

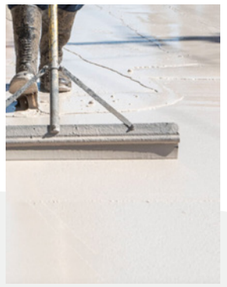
Concrete



Asphalt



Cool Paving



Pavement Markings

Pathway Pavement Symbols

In addition to striping, pathway pavement markings may be used to mark travel lanes for faster and slower moving pathway users. These may be useful in locations where space is constrained and users may conflict with one another, such as bridge crossings or narrow underpasses. A bicycle symbol should be used for lanes intended for faster moving pathway users, and a pedestrian symbol should be used for lanes intended for slower moving pathway users.



Pathway pavement markings on the Hawthorne Bridge in Portland, OR, help organize pathway users in their lane.

Additionally, where the installation of stop or yield signage is not feasible, word or symbol pavement markings may be used in lieu of signage. “Stop” should be communicated with a stop line and/or the word “STOP.” “Yield” should be communicated with a yield line and/or the word “YIELD.”

All pathway pavement symbols should be made from thermoplastic or paint. Local preferences may vary depending on available equipment, climate, and maintenance schedules. Thermoplastic symbols are more durable and require heating equipment to apply. If paint is used, paint specifications should follow that which is used on local roadways.

Identity Markings

Chelan-Douglas Pathway-specific identity markings can instill a sense of place for pathway users and using them in combination with mile marking can provide an extra benefit for emergency situations.

Pavement Striping

Pavement striping and markings are ground treatments that can be used to help delineate pathways and directions of travel, to alert bicyclists and pedestrians of potential conflict zones, and to warn vehicles of crossing pathway users. Striping and markings are informed by local and Washington MUTCD standards. Maintenance is a large consideration, as pavement markings will wear and fade over time.

Pathway striping may be used to delineate lanes of travel and pathway obstructions and should be 4 inches wide. Striping patterns used on pathways can include:

- **Dashed yellow lines** to separate directions of travel where sight lines allow safe passing
- **Solid yellow lines** to separate directions of travel and indicate no passing due to limited sight lines or upcoming conflict point (street crossing, pathway junction, tunnel, bridge, etc.)
- **Solid yellow lines** to inform pathway users of obstructions within the pathway
- **Solid white lines** to inform pathway users of obstructions on the edge of the pathway
- **Solid white lines** to separate users traveling in the same directions

Sight Distances

Appropriate sight distances provide an unrestricted view of upcoming potential conflict points (such as intersections or pathway crossings) for users to slow and come to a stop based on the speed of travel and distance to nearby crossings, mixing zones, or other path transitions. They are typically calculated according to the fastest design vehicles (e.g., electric bicycles), and consider grades and curves.

Stopping Sight Distance

The distance needed to bring a pathway user to a complete stop is a function of the user’s perception and braking reaction time, their initial speed, friction between the wheels and the pavement, the braking ability of the mobility device, and the grade of the pathway. Because of the difference in user capabilities and their mobility device, stopping sight distances will vary for different people, but AASHTO recommends that multiuse pathways provide a minimum sight distance of 150 feet.

Slopes and Grades

Typically, pathways that serve all ages and abilities strive for a maximum grade of 5% or less to meet ADA guidelines. A cross slope of 1.5% is preferred for drainage and accessibility but may go up to 2% in constrained conditions. In areas where steep grades cannot be avoided, the use of switchback ramps and landing areas may be necessary to ensure an accessible climb, as well as help to prevent excessive downhill speeds on the pathways.

Edge Conditions and Barriers

The pathways traverse a range of sensitive areas, including private developments, that may desire physical separation between pathway users and private properties, as well as environmentally or culturally sensitive areas. Edge conditions comprise the range of treatments used to transition from the pathway to space adjacent to the path and can be used to enhance the safety and security of pathway users and surrounding communities.



Edge conditions include shoulder buffers, screening, barriers, railings, and other visual or tactile cues to indicate the path of travel. These treatments keep users from venturing off the path, protect users from hazards, delineate the path of travel where users are separated by direction, mode or speed, and enhance the comfort and attractiveness of the pathway.

Shoulders should be a minimum of 2 feet wide (3 feet preferred) and can be constructed of the same material as the path, an unpaved surface, or another durable surface. Shoulders should be sloped at 2% to 5% away to reduce ponding and minimize debris on the path. Three feet minimum is required where signage or other furnishings will be installed.

A shoulder of at least 1 foot should be provided between the path and any fencing or barrier to accommodate shy distance. Where the shoulder serves as a pedestrian path, a maximum cross slope of 2% is required to remain compliant with ADA regulations. Fences and railings can be used to provide separation between the path and adjacent waterways.

Environmental Considerations

The pathway corridor traverses a mix of natural areas, sweeping along waterways and through wooded areas. Because of this, it is important to consider the environmental impacts of the pathway design on the ecosystems that make up the corridor. Pathway implementation may require planting some of the areas adjacent to the pathway (for stormwater management, slope stability, property barriers, fire suppression, visual buffers, aesthetics, etc.), and long-term maintenance should account for managing the plants in the transition zone between the pathway and surrounding natural areas.

Green Infrastructure

Green infrastructure such as trees, plantings, and bioswales can be used throughout the pathway system to provide shade, absorb heat and stormwater runoff, and improve user comfort. Trees and green infrastructure can also be used to provide a sense of safety and security along the pathways. Trees can provide clear boundaries along the path, and trees with high branches can allow for strong sight lines along the corridor. Smaller scale plantings can enhance sight lines and visibility, helping to create a sense of safety through open, visible surroundings. Finally, well-maintained vegetation creates a sense that the space is cared for and used and has been shown to lower crime and vandalism.





Trees

Trees are a critical element of the pathway user experience and contribute to the ecological functioning of the pathway corridor. Trees provide surface cooling benefits of up to 45 degrees Fahrenheit, and when they reach maturity, trees planted near the path can provide shade for users. Native tree species are well adapted to the environment surrounding the pathways will require less irrigation and provide a healthy habitat for local fauna.

The spatial relationship between tree plantings and pathways should be carefully considered. Roots of trees that are planted too close to the path will cause the pavement to heave, disrupting the user experience and posing safety, accessibility, and maintenance issues. The root structure of a tree is an important consideration when selecting species and its location in relation to the path. If a tree is to be irrigated, the emitters should be placed on the far side of planting, so as not to draw roots toward the pathway. Tree litter should also be considered in species selection. For example, fallen leaves, pinecones, nuts, and fruits may pose a hazard to pathway users and create maintenance obligations.



Shrubs and Understory Planting

In addition to trees, shrubs and understory groundcover plantings can enhance the visual appeal of the pathways and provide environmental benefits. Understory plantings provide habitat and protect the soil from erosion. Additionally, plantings may discourage users from traveling outside the designated pathway area. Pathway adjacent plantings are most successful using a palette of native plants that can tolerate periods of drought and inundation.

Plant Selection

Since the pathway travels through extensive open space and natural areas, planting selections should align with the native plants in the local landscape. Options like mowed turf can be expensive and challenging to maintain, and introducing non-native species of plants along the pathway can poison wildlife, choke out native species, and damage other aspects of the pathway environment. Once planted, they are difficult to get rid of, and they may not hold the soil as strongly as native species, leading to increased erosion. Native plants tend to grow more easily and need fewer, if any, pesticides or fertilizers to be successful and can provide additional habitat for the local ecosystem.



Continuous Planting Areas

Maintaining continuous planting areas provides multiple benefits, including increased available soil volume, moisture holding capacity, a larger soil surface area for gas exchange, and the ability to capture and store more stormwater. These continuous areas may also provide more space for larger trees that can provide tree canopy shade and cover. Expanding planting areas can also serve as a natural buffer, reduce hard scape, and create cooler conditions.



Flow-Through Planters, Bioswales, and Rain Gardens

In more urban environments, bioswales and rain gardens are designed to both infiltrate and clean stormwater runoff and are typically constructed between the curb or roadway edge and the path. Flow-through planters treat and clean stormwater before returning it to the municipal storm drain system. They do not infiltrate any stormwater as they are hard-sided and hard-bottomed. Flow-through planters are useful in areas where stormwater infiltration is not possible due to soil conditions or urban areas where soil saturation could impact roadway infrastructure or building foundations.

All three of these design features can serve as a buffer between the pathway and adjacent uses and can also play an important role in helping to manage flooding issues and encouraging groundwater recharge.



Roadway Crossing Treatments

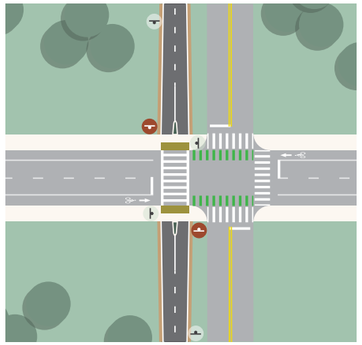
The pathway corridors intersect with roads and other access points at multiple locations. As the pathway approaches these areas, design tools such as mixing zones, signage, and changes in pavement materials and lighting can warn pathway users to slow down and expect a crossing. Consistent pathway geometry, materiality, and signage at these locations can further enhance the overall pathway identity.

General Design Principles

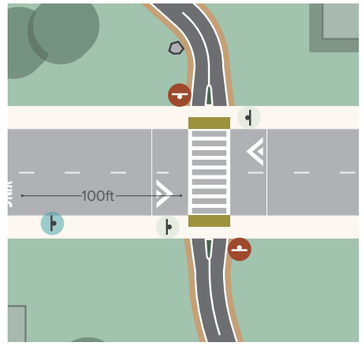
The intention for this section is to provide a standardized approach for minimizing and mitigating potential conflict points between pathway users and vehicles or other pathway users. Guiding principles include:

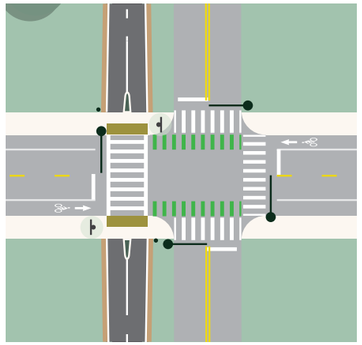
- Make pathway users highly visible at crossing locations and maintain unobstructed sightlines
- Slow and warn both vehicles and pathway users in advance of crossing locations
- Develop a clear hierarchy and delineation of modes at crossing locations
- Create predictable and simple user movements
- Minimize crossing distances across roadways
- Cross roadways at established intersections, where feasible
- Create intuitive designs and minimize the need to clutter crossings with signs
- Establish recognizable crossing designs and features across the entire corridor

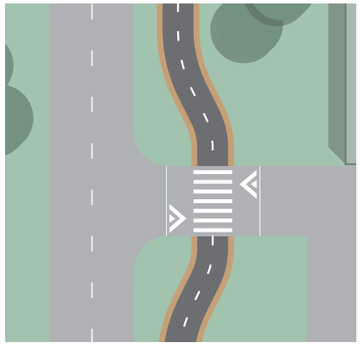
Road Crossing Types



Yakima Greenway Design Guidelines







Road Crossings Alongside Highways

Where the pathway crosses a roadway adjacent to a highway intersection, the pathway crossing should align with the crosswalk on one leg of the intersection. Where possible, traffic control devices should prioritize the safety of pathway users in the intersection. Where the pathway connects to other bicycle or pedestrian infrastructure, intersection improvements can enhance safety and visibility of people walking and biking.

Midblock Crossings

A midblock crossing of a pathway should be far enough from the nearest intersection (approximately 250 feet) so that motor vehicle turning movements do not impact the crossing; only through movements by motorists are allowed over the crossing. All midblock pathway crossings should be perpendicular to the roadway. All signage, pavement markings, and traffic control devices should conform to standards set forth in MUTCD guidance. A flared approach to the crosswalk with a directional diverter can slow and alert pathway users before crossing and discourage vehicles from accessing the pathway. Low plantings at these locations can reinforce pathway identity.

Signalized Crossing

Intersections of pathways and roadways, often signalized, can pose challenges to pathway users, including long crossing distances or indirect routes. Passive detection and placement of pathway accessible push buttons to call the WALK phase should be considered. For long crossing distances, pedestrian refuge islands should be considered where medians are present. Pathways can also include signals at midblock crossing locations. Sometimes, pathway crossings are rerouted to the nearest signalized intersection.

Driveways

There are several treatments that may be applicable where the pathway crosses driveways. Driveway crossings typically occur where the pathway alignment is parallel to a road with driveway access. Driveways with higher volumes may be candidates for offset crossings or traffic calming treatments such as raised crosswalks. At residential driveways, indication should be provided that a pathway is present, such as striping on the pathway and signage.

Overcrossing

The treatment necessary for the pathway when it crosses over a highway is dependent on the volume of the roadway crossing over the highway. Bollard-protected pathways, using a buffer stripe, plastic bollards, and rumble strip as separation could be used where there is a need for higher level of separation from the vehicular traffic. On higher volume roadways, a raised bi-directional side path could be used. If the pathways need to traverse a highway where there is no roadway bridge present, a standalone bridge could be built.

Railway crossing: If a pathway traverses railroad tracks at grade, signs warning pathway users, safety messages, and a smooth surface over the tracks should be applied. Ideally, pathways will cross the tracks at no less than a 60-degree angle to avoid catching bike tires. If the railway is high volume or high speed, a grade separation should be considered.

Pathway Bridge

Grade-separated crossings such as bridges are sometimes needed to cross barriers such as rivers, drainage washes and channels, or busy streets, railroads, and highways. The dimensions and design of bridges should maintain the same level of service, safety, and high-quality user experience as the pathways they serve.

Regulatory Signage

Regulatory signage provides directives to pathway users. Current guidelines for pathway signing and striping exist in the MUTCD standards. These standards provide a baseline set of tools that include regulatory signs, warning signs, street signs, and striping and markings. While all these tools help users safely navigate a pathway system, the regulatory signs are the only tools that are legally enforceable.

Regulatory Signs



Stop Sign (MUTCD R1-1)

Used to forcibly bring users to a halt, before proceeding. Typically used at intersections and points of high-speed conflicts.



Yield Sign (MUTCD R1-2)

Ask users to adhere to traffic conditions, stop if necessary, and join the roadway when safe to do so.



No Motor Vehicles (MUTCD R5-3)

Inform drivers that vehicles are restricted from turning into or driving down the pathway.

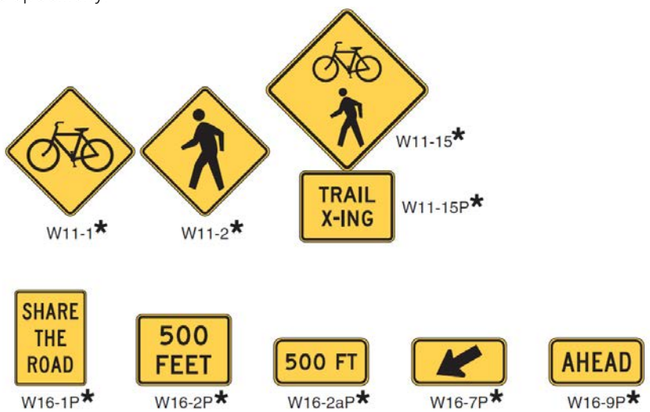


Warning Signs

Warning signs inform roadway users about changes in the pathway ahead.

Mode Warning Signs (MUTCD W11/W16 Series)

The W11-Series is concerned with alerting vehicles of upcoming pathway crossing locations, with signage that indicates what user types are using the pathway and how far ahead the crossing is. This can be amended with the W2 series to provide specificity.



Pathway Terrain Warning Signs

The MUTCD includes other helpful warning signs to alert pathway users to changes in the pathway width and terrain and allow users to adjust their speed of travel for safety.



W5-4a

Pathway Juncture Signs (MUTCD W1/W2 Series)

The most prominent signage on pathways, the W1 and W2-series of signage, indicates upcoming directional changes in pathway conditions.



Street Signs

Street Name Signs (MUTCD D5-3)

Where the pathway meets a roadway, a street sign may be included for wayfinding and clarity. While the D5-3 sign provides a generic standard, the local jurisdiction street name signage standard should be observed.



Private Road Signs

Where the pathway crosses a private road, it should be signed as such to discourage public access. While there is no MUTCD standard, a simple sign should be used.





Rules for bikers and walkers to follow on San Diego Mission Bay trail.
Source: American Trails.

Etiquette Signage

Etiquette signs are informal signs intended to promote courtesy and educate pathway users on how to perform passing and other maneuvers safely. Potential signs may include Pass on Left, Slow Down, Yield to Pedestrians, and Use Voice or Bell to Pass. Etiquette signage may be located at trailheads, crossings, and in response to areas with known issues or conflicts. In general, use of etiquette signs should be limited to strategic placement, to avoid over-signing the pathway and cluttering fundamental wayfinding and regulatory signage. This signage should be designed to match other pathway wayfinding and interpretive signage to reflect a recognizable, cohesive identity.

Access Points

Access points to the pathways serve as both transition points from the path to the street network, but also provide space for path amenities such as shade, seating, and bicycle parking. As the typical first point of interaction with the pathway, it is important to provide the necessary elements and clear branding at each access point type to make for a welcoming initial experience on the pathways.



Types of Access Points

Gateway/Major Trailhead

A gateway or major trailhead provides a primary pathway entrance, often with a major gateway feature. These accesses are commonly located within a larger park, downtown area, or are outside of town areas and associated with a parking lot for pathway users. Gateways often feature pathway information and a map of the pathway system for users to review before setting off on the path. They also tend to be visually pleasing places that feature pathway branding, public art, and other unique features.

The following amenities should be considered at a gateway:

- Pathway system branding features and network map
- Bike parking
- Seating
- Water station
- Shade/covered structure



Alta Planning + Design

Parking Lot

Parking lots provide pathway access to those who reach the pathways by motor vehicle and should be applied at high-use pathway access points. Parking lots should include between 8-20 standard stalls (depending on user volume), accessible stalls, and accommodations for maintenance and emergency vehicles. If located at a major pathway access location, a parking lot can be shared with other local destinations like a park or library.

The following amenities should be considered at a pathway parking lot:

- Pathway system branding features and network map
- Restrooms /hydration station
- Bike parking
- Seating
- Bike repair stations

Connection

A pathway connection is located where there is heavy pedestrian activity around the pathway, such as a neighborhood connection at the end of a dead-end road or a connection from a busy urban park. Connections typically do not have associated parking. At a pathway connection, wayfinding can be included to guide pathway users in the desired direction.

The following amenities should be considered at a connection:

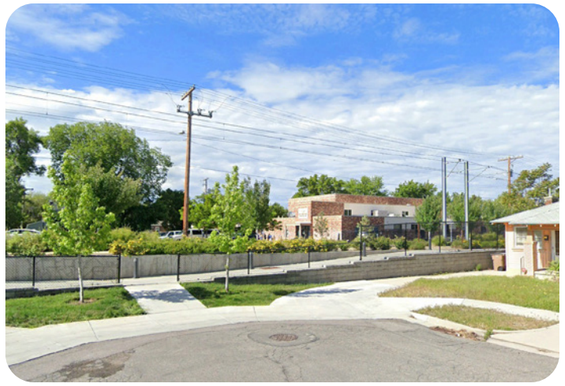
- Pathway system branding features
- Wayfinding

Natural Surface Trailhead

A trailhead for a natural surface pathway provides access from a paved pathway to an off-road pathway for hiking or mountain biking. These trailheads often include a sign with the pathway's name and might include a natural surface pathway route map if there is a clear, interconnected pathway network in the area.



Google Earth



Google Earth



Alta Planning + Design

Access Control

Having a sense of personal safety and security is important for pathway users. This generally means being on a pathway that has open visibility, avoids concealed or isolated areas, and may include lighting and/or security cameras. The surrounding land use context should determine the appropriateness of these treatments.

Typically, pathway users tend to stay on the pathway except in emergency situations. However, in selecting locations, access control may be important to design into pathway. Typical design tools may include the following:

Setbacks: Sufficient horizontal distance between the pathway and edge of the public ROW. There is no set offset distance, and this should be assessed on a location-by-location basis.

Fencing: Secure fencing along the pathway that is visually pleasing. The design of fencing may vary based on context (rural vs urban) and jurisdiction.

Vegetation and Trees: Use of screening landscape buffers and trees is one of the most effective ways to keep users on the pathway.

Landforms: Strategic placement of drainage ditches and/or berms along the pathway.

Wayfinding and Signage

Wayfinding systems can enhance the value of the pathway by helping users understand their location and proximity to destinations and other desirable bicycling/walking routes. While each wayfinding system is unique, the American Association of State Highway Transportation Officials (AASHTO) identifies guiding principles for effective wayfinding.

Wayfinding helps individuals

- Easily and successfully find their way to their destination
- Understand where they are with respect to other key locations
- Orient themselves in an appropriate direction with little misunderstanding or stress
- Discover new places and services
- Notify emergency services of their location if assistance is needed

Wayfinding Sign Family

Wayfinding can take several forms depending on the location and spatial context The following section summarizes different wayfinding elements that can be placed along the pathway corridors and their role in guiding travelers and where these elements may be placed along the network.

Decision Signs

Decision signs mark and are placed prior to the junction of two or more bikeways, serving to inform those traveling by bicycle of the bike route and about upcoming destinations. These signs include destinations that can be paired with distances in time and/ or mileage, and arrows. A pace of 10 miles per hour or 6 minutes per mile is the typical pace used for bicyclists, which is lower than typical bicycle design speed to best reflect and encourage the riding speed of the casual rider and to consider traffic signals and other delays.

Decision signs should be limited to no more than three lines of destinations. The order of destinations included on the sign depends on their location relative to the route. A straight-ahead location should always be placed in the top slot, followed by the destination to the left and then the right, even if destinations to the right or left are closer.

If two destinations occur in the same direction, the closer destination should be listed first followed by the farther destination. Arrows should be placed for glance recognition, meaning straight and left arrows are located to the left of the destination name, while right arrows are placed to the right of the destination name.

Characteristics of decision signs

- Mark the junction of two or more bikeways
- Inform users of designated routes to access key destinations
- Provide direction and distance to destinations
- May include travel times to destinations

Placement criteria for decision signs

Placed prior to decision-making points or intersections with routes having bicycle facilities. Sufficient distance prior to the intersection should be provided to allow for safe recognition and response to information provided. Care should be taken so that the turn or options the sign refers to are obvious. Decision signs should not be placed near side or access paths that could be confused with the primary route.



MUTCD Guidelines for decision signs

The MUTCD also recommends the arrangement and amount of text, or legend, on each section of each sign:

- Guide signs should be limited to no more than three lines of destinations, which include place names, route numbers, street names, and cardinal directions.
- A straight-ahead location should always be placed in the top slot followed by the destination to the left and then the right. If two destinations occur in the same direction, the closer destination should be listed first followed by the farther destination.
- Straight and left arrows are to be located to the left of the destination name, while an arrow indicating a destination to the right shall be placed to the right of the destination name. The approved arrow style must be used.
- 19 characters (including spaces) in title case should be considered a maximum length for a single destination title. 10-14 characters (including spaces) in title case should be considered an ideal maximum length for a single destination title.
- In situations where two destinations of equal significance and distance may be properly designated and the two destinations cannot appear on the same sign, the two names may be alternated on successive signs.

Confirmation Signs



Confirmation signs identify designated bike routes. This builds confidence that the user is on the correct path or route. In addition, these signs increase awareness of bicyclists by informing motorists of their presence. Confirmation signs are an integral component of any pathway or bike system and should be used when the pathway crosses roads, changes direction, or has intermediate access points along the pathway route.

Characteristics of Confirmation Signs

- Placed after access points along a pathway or on-street bikeway, as well as after decision or turn signs.
- Spaced periodically along a route or pathway to maintain a consistent level of confidence that users are still traveling along the same route.
- Do not indicate a change in direction.
- May have informational or branding content such as the name of the route.
- May include up to one directional destination (e.g., downtown).

Placement Criteria for Confirmation Signs

- After decision signs and decision points.
- Locations where a designated route is not linear as well as after complex. intersections (e.g., intersections with more than four approaches, roundabouts, or indirect routing).
- Approximately every 1 to 2 miles on off-street facilities, unless another type of bicycle-specific sign (such as a turn, decision, mile marker, or other bicycle regulatory sign) or pavement marking is present within the 1- to 2-mile interval.
- Within 50 to 100 feet immediately following turns to confirm designated bicycle route.
- Signs should have a 2-foot minimum lateral offset from edge of path or curb to edge of sign to prevent clipping from traffic.
- Mounting height should be a minimum of 7 feet from the bottom of the sign to finished grade for on-street signs and a minimum of 5 feet for signs along off-street facilities.
- If the signed route is approaching a turn, turn signs or decision signs should be used instead of confirmation signs.

Turn Signs



Turn signs indicate where a bikeway turns from one street onto another street, and only one route option is available. Turn signs are at key points of navigation for bikeway users. Turn signs direct the cyclist where to turn to remain on the designated route, allowing the cyclist to dedicate most of his or her attention to riding safely and responsibly. In some cases, turn signs can be substituted with pavement markings or medallions, especially if the route is located on an off-street pathway or if the turn is preceded by a decision sign.

Characteristics of Turn Signs

- Clear direction for bicyclists and pedestrians to turn when a route transitions from one roadway or pathway to another.
- May be a combination of a confirmation sign (MUTCD D11-1) and directional arrow (MUTCD M6-1) or a standalone decision plaque (MUTCD D1-1, D1-1b).
- May include travel distance to destination (MUTCD D1-1a, D1-1c).

Placement Criteria for Turn Signs

- The turn sign should be located in the block immediately preceding the turn.
- When a bikeway turns, a turn sign will be located at 50 to 100 feet (on-street) or 25 to 50 feet (off-street) in advance of the turn, or near side of the intersection).
- Left turns for bicyclists require special consideration. The turn sign should be located within various distances before the intersection based on the number of lanes the bicyclist must merge across in order to make a legal left turn. The following distances should be used to allow adequate notification of left turns:
  - Zero lane merge: 50 feet.
  - One lane merge: 100 feet.
  - Two lane merge: 200 feet.
- Signs should have a 2-foot minimum lateral offset from edge of path or curb to edge of sign to prevent clipping from traffic.
- Mounting height should be a minimum of 7 feet from the bottom of the sign to finished grade for on-street signs and a minimum of 5 feet for signs along off-street facilities
- In locations where there are two or more bike routes, a decision sign, rather than two turn signs, should be used.

Accessibility standards

As wayfinding systems often relate to accessible routes or pedestrian circulation, it is important to consider technical guidance from the Americans with Disabilities Act (ADA) to implement wayfinding signs and other elements that do not impede travel or create unsafe situations for pedestrians, bicyclists, and/or those with disabilities. The Architectural and Transportation Barriers Compliance Board and the AASHTO Guide for the Development of Bicycle Facilities also provide guidance for safe and accessible design for the built environment. Best practices for accessible design are incorporated in all of the following placement considerations.

Primary Pathway Identity Sign

Pathway identity signs serve as the initial welcome and identification of primary pathway access points for users of the trail. Includes the system brand mark, pathway name, and local jurisdiction identity/logo.

Placement Criteria for Pathway Identity Sign

Signs should be located at trailheads or pathway access points. Care should be taken to maintain site triangles so as to not obstruct site lines between roadways and entries at trailhead locations. Should be visible from adjacent bicycle facilities.

Information Kiosk

A clearing house of information for pathway users at a more detailed level than other elements. Includes space for orientation map graphics indicating the off-street route, on-street connections, major geographic features, and area destinations. Space shall be available for network rules and responsibilities, as well as emergency and pathway manager contact information and jurisdiction logo.

Placement Criteria for Information Kiosk

Located at trailheads and major pathway system access points. Should be set back from the edge of the path travel way to provide areas to dwell and consider the information. Not locating the signs within the first 3 feet of a pathway edge removes a potential physical obstacle from the bicycle travel way, as well as providing a clear circulation area per accessibility guidelines.

Pavement Markings

Directional pavement markings indicate confirmation of bicyclist presence on a designated route and where bicyclists should turn. Especially in urban settings, pavement markings can often be more visible and can help supplement or reinforce signage. They can often be utilized to communicate direction, route name, community branding, mile markers, and street crossings. Common materials used for pavement markings include preformed thermoplastic, paint, stamped concrete, or embedded metal. Pavement markings can be used on both on-street and off-street facilities to help guide bicyclists along the pathway corridors. There are locations along the Chelan-Douglas Pathways system where users must navigate between the off-street pathway onto on-street facilities to continue along the network. It will be particularly important to have pavement markings at these locations to help guide users. Since these locations may not be fully under the jurisdiction of the CDTC, the council may have to coordinate with the roadway authority to coordinate placement and installation.

On-Street Markings

The following images show different types of pavement markings that have been used for wayfinding purposes. While the shared line marking is currently the only FHWA approved pavement marking shown, cities have experimented with the other options.

Off-Street Markings

Some pavement markings, including off-street shared use path markings can give an identity to the route and include directional and trip information, including distances or times. While such markings are not included as traffic control devices within the MUTCD, numerous agencies around the nation.





Mile Markers

Mile markers aid pathway users with measuring distance travelled. They further provide pathway managers and emergency response personnel points of reference to identify field issues such as maintenance needs or locations of emergency events. System brand mark, path name, and distance information in miles may be included as well as jurisdiction identification.

Placement Criteria for Mile Markers

Mile markers should be placed every ¼ to ½ mile along a pathway network. Point zero should begin at the termini of a pathway. Mile numbering should be reset at zero as a pathway crosses a jurisdictional boundary. Although it is ideal to place mile markers on the right-hand side of the path facing bicycle traffic, they may also be installed on one side of a pathway, on a single post back-to-back.

Wayfinding Placement

Consistent and appropriate placement of wayfinding elements helps to provide a legible wayfinding system while ensuring the signage elements do not create undue safety hazards. The Guide for the Development of Bicycle Facilities by AASHTO provides information on the physical infrastructure needed to support bicycling facilities. Most of this guidance applies to roadways, as well as off-street, shared use paths. The AASHTO Guide largely defers to Part 9 of the FHWA's MUTCD for basic guidelines related to the design of wayfinding systems. The following points provide a high-level summary of AASHTO sign placement guidelines:

- Wayfinding may be used to provide connectivity between two or more major facilities, such as a street with bike lanes and/or sidewalks and a shared use path.
- Wayfinding may be used to provide guidance and continuity in a gap between existing sections of a facility, such as a bike lane or shared use path.
- Road/path name signs should be placed at all path-roadway crossings to help users track their locations.
- Reference location signs (mile markers) assist path users in estimating their progress, provide a means for identifying the location of emergency incidents, and are beneficial during maintenance activities.
- On a shared use path, obstacles, including signs, shall be placed no closer than 24 inches from the near edge of the travel way and no more than 6 feet away. For pole-mounted signs, the lowest edge of the sign shall be 4 feet above the existing ground plane.

Wayfinding Placement Guidance

Vertical Clearance

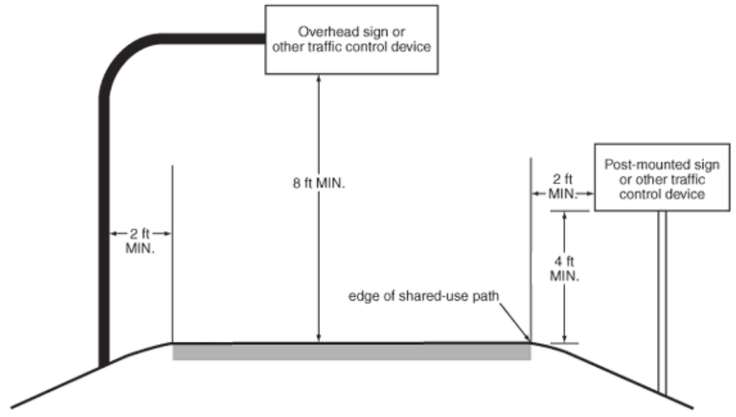
On-Street: Vertical clearance shall be a minimum of 84 inches when adjacent to a sidewalk or on-street environment.

Off-Street: Vertical clearance shall be 96 inches high maximum (when overhanging the path), or 48 inches minimum from the grade of the path to the bottom of the sign and 24 inches from the edge of the path tread to the edge of the sign when the sign is mounted adjacent to the pathway.

Post-mounted objects

Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches, the lowest edge of such sign or obstruction shall be 27 inches minimum or 80 inches maximum above the finished floor or ground.

Figure 2: *Examples of MUTCD/AASHTO standards for sign placement on shared use paths*



Graphics Reproduced from MUTCD

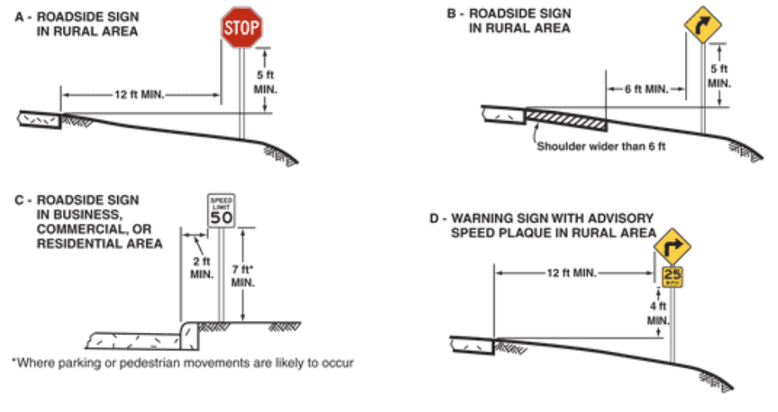
Protruding objects

Objects with leading edges more than 27 inches and not more than 80 inches above the finished floor or ground shall protrude 4 inches maximum horizontally into the circulation path.

Required clear width

Protruding objects may not, in any case, reduce the clear width required for accessible routes. Generally, this requirement is met by maintaining 4 feet minimum clear width for people maneuvering mobility devices. This requirement applies to sidewalks and other pedestrian circulation paths.

Figure 3: *Examples of MUTCD standards for sign placement on on-street facilities*



Graphics Reproduced from MUTCD

Standards for off-street placement

MUTCD provides different standards for on-street and off-street signs. In general, off-street signage can be smaller in dimension than those use on on-street facilities. Refer to table 9B-1 of the MUTCD for required dimensions for each sign type. The image above in Figure 2 demonstrates how these standards can be applied to a hypothetical bicycle network on off-street facilities:

Standards for on-street placement

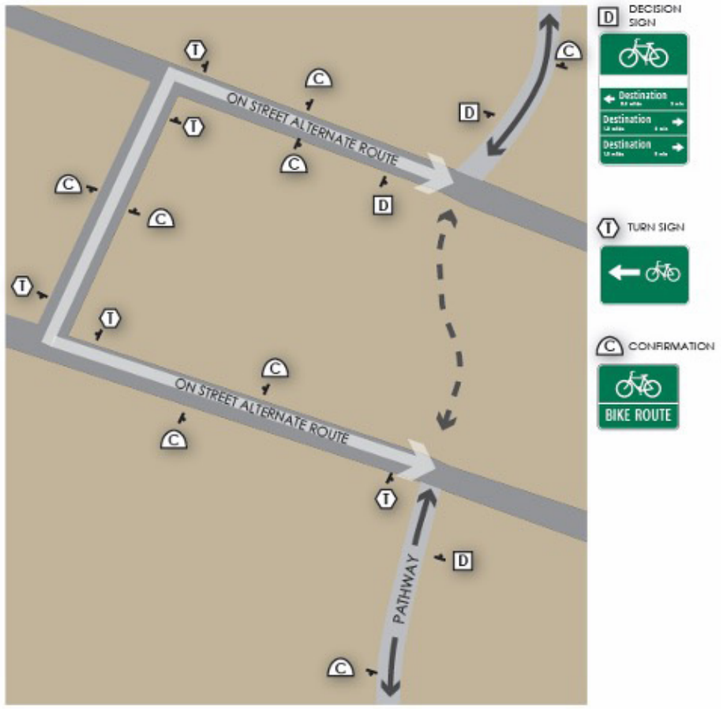
Per MUTCD standards, on-street signs that will be seen by both motorists and bicyclists shall conform to uniform standards for on-street signage. The minimum height for signs on the side of the road in rural areas shall be minimum 5 feet and in business, commercial, or residential areas shall be 7 feet. Refer to part 2 of the MUTCD for additional guidelines about signage and part 9 for more specific guidelines on bicycle signage. The images above in Figure 3 demonstrate the placement required for on-street signage for the Bicycle Wayfinding network. The CDTC will need to coordinate placement and installation of any on-street facilities with the local roadway authority.

Context-Specific Placement Guidance

The following scenarios often create challenges for typical wayfinding signage:

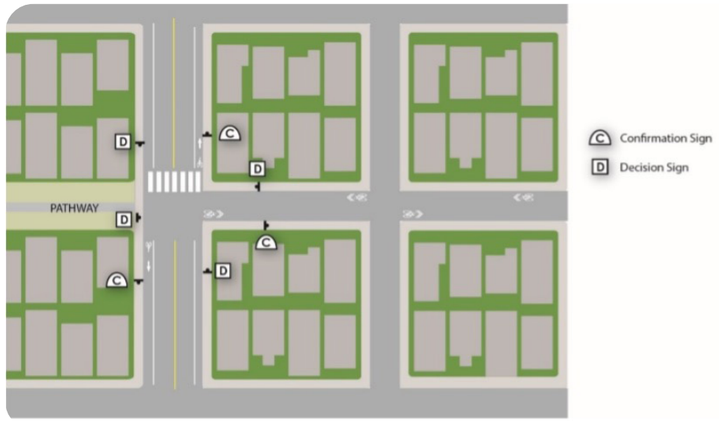
- On-street / Off-street Transition
- Pathway Crossings
- Navigation from Bikeway to Destination

The following exhibits show wayfinding information only, regulatory signage must follow MUTCD guidance, as outlined earlier in this section.



Gap in Path Network

There may be sections of the pathway corridor system with gaps in the network, where pathway users will need to use other transportation facilities to make connections. The typical pattern for wayfinding signs includes a decision sign prior to the intersection of route options, followed by an optional confirmation sign. Turn signs should be placed to reinforce the route in locations where only one route option exists, as well as at complicated intersections where additional guidance is necessary. Cyclists and pedestrians should be directed along on-street routes only when sufficient infrastructure is in place to provide for a safe travel experience as based on engineering judgement.





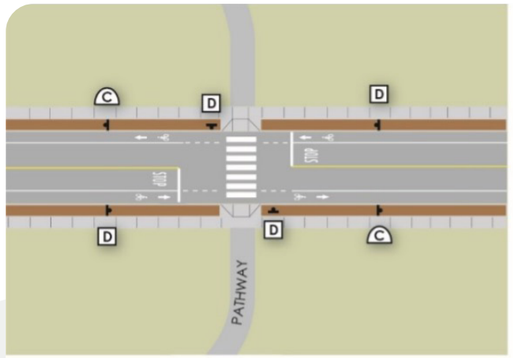
A wayfinding medallion for the Empire State Trail confirms users they are on the trail while they are riding in on-street bike facilities. Source: Bike Adirondacks

On-street/ Off-street Transition at Path Access Point

At times, the recommended alignments will route pathway users from separated pathways to on-street bike and pedestrian facilities. Where transitions are made between on-street and off-street facilities, decision signs shall be placed on the approach to the facility transition. Once on-street, confirmation signs should be placed after the pathway transition point to indicate a continuation of a designated bike route. On bike boulevards, regularly placed shared lane markings or wayfinding medallions (branded markings or emblems added to the pathway) minimize the need for additional confirmation signs along the on-street bicycle facility. On bike lanes, the bicycle lane symbol and fog line also serve as route affirmation.

Path-Roadway Intersection

Pathway users should be directed to cross roadways only where infrastructure improvements provide a safe environment. If the cross street has bicycle facilities such as bike lanes, a bicycle boulevard, or cycle track, a decision sign should be placed prior to the intersection to inform cyclists of their route options. If a cyclist-oriented stop sign is present, it should not be obscured by the wayfinding sign. Decision or stop signs may be topped with street name sign blades to enhance the user's awareness of their location. The name of the street may also be integrated into the decision sign. As an option, confirmation signs may be placed at pathway entries to assure cyclists that they are on their intended bicycle facility and traveling in the correct direction.



Path Amenities

Path amenities refer to path features outside the paved way. Pathway amenities should be designed using a smart climate approach. For example, maximizing shade and native plantings and creating multifunctional landscapes such as green infrastructure is important for creating resilient pathways. Cooling amenities such as shade structures, hydration stations, and seating features can create a cooler, more comfortable environment for pathway users.

At access points, these strategies can be used to form community gathering spaces. Pathway amenities can also create the opportunity to showcase local history and culture through public art and interpretative signage. Local artists and cultural advisors can be hired to contribute to the design of amenities along the pathways to celebrate and honor the local history, landscape, and culture.

Benches

Benches provide the opportunity to take breaks and rest while traversing the pathways. They should be placed periodically along the pathway and should be placed at least 3 feet from the pathway edge to allow those sitting to stretch their legs. Benches should also be provided at all pathway access points. While no standard exists for a typical frequency of bench placement along a pathway, elements like number of pathway users in the area, length of a pathway segment, and type of views a bench would provide should be considered.

To provide an optimal rest experience, benches should be co-located with trees or shade structures wherever possible.





Shade Structures

Shade structures can be included along the pathway alignment and at access points to provide respite from sun. Shade structures can include free-standing canopies, building awnings, or green roofs, and can even serve as a form of public art.



Picnic Tables

Picnic tables can be placed along the pathway in areas where pathway users tend to gather, and at scenic lookout points. They can also be a great addition to a trailhead, park space, or fishing area adjacent to the pathway. To provide an optimal user experience, picnic benches should be co-located with trees or shade structures and trash/recycling receptacles.



Restrooms

Restrooms should be included at various points along the pathway, but especially at major trailheads and in areas with high volumes of pathway users, including around parks and fishing areas. Vault toilets are a more affordable option with very little maintenance and minimal to no water use. In areas with more use, restrooms with running water may be preferred.

Trash and Recycling

Trash and recycling receptacles should be placed at pathway entry points, alongside the pathway in strategic locations based on volume of pathway users, and near high-traffic uses along the pathway system (picnic areas, parks, etc.). While requiring dedicated maintenance, they will help prevent the spread of refuse throughout the pathway corridor and onto surrounding areas.

Receptacles made of high-quality, durable materials, such as steel and composite, should be used due to their resistance to climate, vandalism, and wear overtime. The appearance should match other amenities along the pathway. Trash receptacles for solid dog waste should also be considered at various points along the pathway, and pick-up bags could also be provided to encourage dog walkers to pick up their dog waste.



Hydration Stations

Hydration stations should be spaced at regular intervals that correspond with key gateways and landmarks. Installing stations with multiple heights will help accommodate a range of user ages and physical abilities, as well as pets. Steel hydration stations that are resistant to vandalism are suited for urban environments and bring down maintenance costs. Specifications include powder-coated exterior, heavy-gauge construction with tamper-resistant hardware, and vandal resistant bubbler hood guard. Types of hydration stations include standard, bottle-filling, or combination.



Lighting

Lighting can be an effective tool for increasing pathway user comfort, improving pathway security, and reducing the likelihood of unwanted behavior. Properly lit pathways should be easy to observe, eliminate potential hazards at intersections or access points, attract use, and enhance other environmental design techniques. Pedestrian-scale lighting, characterized by shorter light poles (around 15-feet high), lower levels of illumination (except at crossings), and close spacing (to avoid dark zones between lights) is preferred to tall highway-style lights. Additionally, overhead lighting is preferred to low bollard-style lighting. Bollard lighting does not project sufficient light at eye level and distorts the available light due to the up-lighting effect. This makes it difficult for users to recognize facial features and reduces perception of safety. Lighting should be included at all pathway access points, along the pathway alignment (especially in more densely populated areas of the pathway system that may be used by commuters in the early mornings and evenings), and through underpasses and at all roadway crossings.



Bicycle Parking

Bicycle racks provide opportunities for pathway users to travel from place to place and to engage in other activities along the pathway without worrying about bicycle theft. Bicycle racks should be co-located with shade elements whenever possible along the pathway to provide a place for pathway users to rest. They should also be provided near points of interest, workplaces, and bus stops to encourage a mode shift from driving to bicycling. A standard U-shaped rack will fit most bikes and is easiest to use for most locks.

OMM Costs

Considering that there are fewer revenue sources for operations and maintenance compared to capital construction for new facilities, Table 4 provides an overview of the potential costs for various operations and maintenance tasks. As projects progress through final design stages and other review processes, all the tasks identified should be reviewed, as some tasks may not apply to the project and new tasks may be identified in the future.

The Funding and Management Opportunities Report, prepared by TREAD, a nonprofit focused on outdoor recreation in Central Washington, for Chelan and Douglas Counties, identifies a growing gap between the demand for outdoor recreation in Chelan and Douglas Counties and the capacity to maintain and operate existing resources. Despite the economic benefits of recreation, current funding levels are insufficient to support ongoing operations and maintenance, especially for high-use areas and unsanctioned sites. Interviews with land managers revealed critical needs in staffing, emergency maintenance reserves, and infrastructure upkeep.

To address these challenges, the report outlines a range of funding mechanisms—including property and excise taxes, user fees, impact fees, and philanthropic models—to sustainably support recreation infrastructure. It also recommends forming new partnerships, expanding special purpose districts, and establishing a county-level recreation department to manage resources more effectively. The goal is to ensure long-term stewardship through diversified, reliable funding sources aligned with actual maintenance needs.

Across the region, pathway maintenance costs vary depending on location-specific factors such as landscape conditions, infrastructure, and user volume. Based on a comprehensive breakdown of routine and remedial tasks, **the average annual cost to operate and maintain a trail or pathway is approximately $3,200 per mile.** This figure provides a useful benchmark for budgeting and planning, though actual costs may fluctuate depending on pathway design and environmental context. This estimate includes routine tasks like restroom cleaning, mowing, litter removal, pavement sweeping, and inspections. This estimate does not include remedial tasks such as graffiti removal, lighting and fencing repairs, drainage upkeep, and pavement maintenance.



Route Maintenance

Task	Description	Expected Frequency	Task Owner	Estimated Cost/Unit (Annually)	Assumptions	Considerations
Trash disposal	Removal of trash from receptacles at access areas	Weekly	Local jurisdictions (Through a local service provider)		Assume one trash receptable at each access point. Four access points were assumed.	Problems with non-user trash. Some agencies do not have trash containers at access points for this reason.
Restroom maintenance	Cleaning of restrooms, trash disposal, portable restroom maintenance	Weekly	Local jurisdictions (Parks Department)	$12,400	Assume 8 hours per week at $25/hr plus $2,000 for supplies and repairs as needed.	Restrooms are not part of the initial construction phase.
General inspections	Check for fallen branches, vegetation quality and clearance, graffiti, pavement surface, and signage condition	Weekly	Local jurisdictions (Volunteers or Parks Department)	$600	Assume walking inspections will take two hours at $25/hr.	
Litter pick-up	Pathway-side litter pick-up Access area litter pick-up	Monthly	Local jurisdictions (Volunteers or Parks Department)	$900	Assume three hours at $25/hr.	Encourage continued user “carry-in, carry-out” policy.
Mowing	Where applicable (identified after design completion)	Quarterly	Parks Department	$5,000–$12,500	Wide range, 100–250 hours annually for similar length pathways with similar ROW and landscape conditions. Assume $50/hr.	Flail type mower best – less debris on pathway.
Pavement sweeping	Sweeping and cleaning to remove dirt and debris	Quarterly	Parks Department	$400	Assume two hours of sweeping at $50/hr.	Local agencies may have sweeping equipment for their routine maintenance.
Snow removal (weather dependent)	Plowing/snow removal	TBD	Parks Department			
Pruning/vegetation management	Prune woody vegetation 4 feet back from sides of pathway – 14-foot vertical clearance – remove invasive vines	Annually	Volunteers or Parks Department	$2,250–$3,000	15–20 hours/mi from report, so 90–120 hours annually. Some work may be done by volunteer groups. Assume $25/hr.	Vegetation Management Program may reduce this task long term.
Removal of trees/limbs	Evaluation/ removal of unhealthy or dead trees and limbs	Annually	Parks Department	$2,000–$3,000	Assume 40–60 hours at $50/hr.	Fallen trees may remain as access control and to minimize disturbance.
Culvert cleanout	Keep culverts clear of debris	Annually	Parks Department	$1,000–$2,000	Done by maintenance or contractor. About 20 existing culverts along the pathway. Assume 20–40 hours annually at $50/hr.	
Drainage structures	Clean inlets, keep swales clear of debris	Annually	Parks Department	$1,000–$2,000	Assume 20–40 hours annually at $50/hr.	Complete rehabilitation during construction would dramatically reduce necessity for this type of maintenance after storms.

Task	Description	Expected Frequency	Task Owner	Estimated Cost/Unit (Annually)	Assumptions	Considerations
Pathway pavement markings repair/replace	Maintain pathway centerline and bike symbols if present	Bi-Annually	Road Crew	$500	10 hours annually at $50/hr plus materials cost.	Pavement markings on the pathway are TBD but likely at intersections.
Wetlands/floodplains mitigation sites	Remove debris or other sedimentation					

Remedial Maintenance

Task	Description	Expected Frequency	Task Owner	Estimated Cost/Unit (Annually)	Assumptions	Considerations
Graffiti removal	Repaint bridges/abutments/culverts as required Cleaning of private property walls adjacent to the pathway.	As required	Volunteers, Parks Department or Road Crew		$1,000–$3,000 40–60 hours/annually, work may be done by volunteer groups, but assume $25/hr.	
Railing and fencing repair	Repair railings and fencings as needed	As required	Parks Department		$1,000 Assume 20 hours/annually at $50/hr.	
Basic site furnishings repair/replacement	Repaint, repair, or replace site furnishings, like benches, as necessary	As required	Parks Department		This includes benches, water fountains, dog waste bag dispensers, etc.	
Safety lighting repair	Inspect and replace bulbs and light fixtures when required	As required	Road Crew		Done by contractor/utility provider. Unclear if pathway will be illuminated. Replacement solar luminaire is $2,000-3,500. Assume one replacement annually.	
Signage repair/replacement	Maintain directional and informational signs	As required	Road Crew		Assume 2–3 replacements annually.	
Gates/bollards at roadways	Maintain gates and bollards, repair damage from vehicles	As required	Road Crew		Assume $2,000/replacement	
Roadway crossing signal and striping repair/replacement	Replace crossing signal bulbs and striping	As required	Road Crew		Assume annual refresh of crosswalk striping and bulb replacement every 2 years. Others will be as needed.	
Pavement sealing and pothole repair	Repair surface damage from vehicles, erosion, etc.	As required	Road Crew		Crack sealing every 2–3 years, approximately $2,000/occurrence.	

Task	Description	Expected Frequency	Task Owner	Estimated Cost/Unit (Annually)	Assumptions	Considerations
Large debris removal	Large debris and trash due to dumping	As required	Parks Department		$1,000 Removal by maintenance/contractor as needed. Approx. 20 hours at $50/hr.	
Asphalt overlay?						
Chip-seal?						
Pathway replacement/ resurfacing	Resurface paved areas					
Pedestrian crossing beacons and striping – repair/ replacement	Inspect/replace pedestrian crossing beacons, equipment, and striping					

Inspections

Task	Description	Expected Frequency	Task Owner	Estimated Cost/Unit (Annually)	Assumptions	Considerations
Boardwalk maintenance and inspection	Inspection and maintenance of boardwalk to ensure structural integrity and safety					
Structure/bridge inspection	Inspection and maintenance of bridge to ensure structural integrity and safety	Bi-Annually	Engineering Department		Cost to inspect. Assume 8 hours.	Bridges associated with public roads are already on a regular inspection schedule.
Water quality inspection	Inspection to ensure water quality standards	Annually	Parks Department		Cost to inspect. Assume 8 hours.	
Irrigation inspections	Inspect and replace irrigation lines and sprinklers	Annually	Parks Department	$100–$200	Assume annual two-hour inspection and two hours of work at $50–$100/hr.	Final landscape design will identify irrigation needs.
Culvert inspection	Inspection to ensure structural integrity	Annually	Parks Department		Cost to inspect. Assume 8 hours.	
Roadway crossing signal and striping inspection	Inspect crossing signals and striping to ensure safety	Annually	Engineering Department	$400	Assume 4-hour annual inspection at $100/hr.	

Reserve Funds for Operations & Maintenance (O&M)

According to *the* Opportunities for Funding and Management of Outdoor Recreation Resources in Chelan and Douglas Counties, *prepared by TREAD for Chelan-Douglas Land Trust in 2024,* unanticipated pathway maintenance needs—such as emergency repairs or infrastructure replacements—represent a significant funding gap. These costs, often under $50,000 per incident, are essential to keeping pathway systems safe and accessible. Without dedicated contingency funding, agencies may be forced to temporarily close pathways, face safety risks, or incur higher long-term repair costs. Establishing a flexible, locally controlled funding source would help address these urgent needs and improve overall pathway system resilience.

Apple Capital Loop Trail – Chelan PUD Insights

Chelan PUD does not currently calculate O&M costs on a per-mile basis due to the high variability in trail conditions. Factors influencing cost include:

- Irrigation needs and exposure to tree roots, which increase maintenance complexity.
- Presence of pavement markings, which require regular upkeep.
- Surface treatments like crack sealing, chip sealing, and seal coating, which vary by location and frequency.

Asphalt Maintenance Cost

Cost estimates for a 12-foot-wide pathway:

- 3-inch thick pavement: ~$45 per foot ➔ $237,600 per mile
- Chip sealing: ~$25 per foot ➔ $132,000 per mile
- Crack sealing: ~$2 per foot ➔ $10,560 per mile

These costs reflect capital improvements and resurfacing, not annual maintenance, but they are important for long-term asset management.



Typical Maintenance Activities

Maintenance typically includes:

- Sweeping and debris removal
- Crack sealing and patching
- Vegetation control (mowing, trimming)
- Drainage maintenance
- Signage and pavement marking upkeep
- Occasional resurfacing every 3 to 8 years

Additional tasks such as graffiti removal, snow removal, and pathway edging are performed as needed to extend the pathway's lifespan.

Budgeting and Staffing

- Chelan PUD does not maintain a reserve budget for unforeseen repairs.
- Maintenance budgets are allocated by location, not specifically for the pathway.
- Dedicated staff maintain sections of the Apple Capital Loop Trail, particularly from the Pybus Market area north to the Horan Natural Area.
- Recent infrastructure additions, such as separated lanes for cyclists and pedestrians, are expected to increase future maintenance costs due to restriping needs.





Chelan to Manson Corridor: Annual Pathway O&M Considerations

	City of Chelan	Chelan County	City of Manson
Length of pathway	7,080’	18,624’	1,263’
Paved Shared Use	7,080’	17,474’	1,263’
Boardwalk on Piers		1,150’	



Leavenworth to Cashmere to Wenatchee Corridor: Annual Pathway O&M Considerations

	City of Leavenworth	Chelan County: Leavenworth to Cashmere	City of Cashmere	Chelan County: Cashmere to Wenatchee	City of Wenatchee
Length of pathway	4,951’	51,193’	15,512’	32,505’	2,324’
Paved Shared Use	4,951’	45,471’	15,212’	32,505’	2,324’
Boardwalk on Piers	0	3,100’	0	0	0
Bike/Ped Bridge	0	2,622’	300’	0	0

Malaga to Wenatchee Corridor: Annual Pathway O&M Considerations

	Malaga	Chelan County: Wenatchee and Malaga	City of Wenatchee
Length of pathway	684’	27,238’	6,669’
Paved Shared Use	684’	27,178’	6,669’

Rock Island to East Wenatchee Corridor: Annual Pathway O&M Considerations

	Chelan County PUD	Douglas County: East Wenatchee to Rock Island	City of Wenatchee
Length of pathway	7,981’	21,200’	N/A
Paved Shared Use	7,981’	21,100’	N/A
Boardwalk on Piers	0	0	N/A
Bike/Ped Bridge	0	100’	N/A

Annual Trailhead O&M Cost Assumptions*

Category	Total Cost
Personnel	$9,626
Consumable Materials/Supplies	$500
Durable Equipment costs	$4,000
Restroom Maintenance	$1,300
Gravel Parking Lot Maintenance	$3,572
Asphalt Apron Maintenance	$1,002
10 Year Replacement/Major Maintenance costs	$4,000
Average annual O&M cost for medium amenity TH	$24,000

**According to the Opportunities for Funding and Management of Outdoor Recreation Resources in Chelan and Douglas Counties prepared by TREAD for Chelan-Douglas Land Trust in 2024.*



Chelan-Douglas

PATHWAYS MASTER PLAN

Appendix A: Plan Review Approach



MEMORANDUM

To: Jeff Wilkens, Chelan Douglas Transportation Council

From: Jill Roszel, Alta Planning + Design

Date: May 25, 2024

Re: Chelan Douglas Transportation Council (CDTC) Pathways Masterplan Trails Existing Conditions and Plan Review

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Introduction

The Chelan-Douglas Transportation Council (CDTC) is leading a planning effort to assess existing conditions, opportunities, and constraints for active transportation across four key project corridors in the region. As part of this effort, Alta has been tasked with reviewing and synthesizing relevant existing plans, studies, and policy documents to develop a comprehensive understanding of the current state of the active transportation network and future planning context within Chelan and Douglas counties.

This memorandum provides a corridor-level overview of the following elements:

- Geographic and demographic context for the CDTC region
- Description of existing trails, bikeways, and non-motorized infrastructure within the project corridors
- Planned improvements and proposed facilities as identified in existing plans
- Local and regional goals, policies, or strategies related to active transportation
- Identified gaps and constraints in achieving a connected multimodal network

This review synthesizes findings from multiple local and regional plans to form a foundation for ongoing planning and stakeholder engagement. The results will inform future conversations with agency staff, community stakeholders, and regional partners to gather input on key needs, network gaps, and priorities for improved connectivity and access. This information will also support project development and prioritization within CDTC corridors.

A full list of reviewed plans and documents is included in the **Appendix**.

Regional Characteristics

The Chelan-Douglas Transportation Council (CDTC) region spans a diverse area in North Central Washington, encompassing urban centers like Wenatchee, East Wenatchee, and Chelan, as well as rural and natural landscapes along the Columbia River, in the foothills of the Cascades, and through surrounding agricultural valleys. Geography varies significantly across the region, from high desert plateaus to riverfront corridors, all of which influence opportunities for active transportation.

Existing Network

Across the CDTC region, existing trails, pathways, and bicycle/pedestrian facilities are primarily concentrated in urbanized areas, parks, and along waterfronts or former rail corridors. Much of the existing infrastructure supports recreational use, with some facilities serving utilitarian travel, especially along the 10-mile Apple Capital Trail Loop within and between Wenatchee and East Wenatchee. Due to the area's rural setting and small towns, there are generally limited on-street bicycle facilities in the CDTC region, and especially in the area's towns themselves. Inventoried facilities include:

- Leavenworth: Roughly 2.5 miles of bike lanes and a little more than 1 mile of shared use pathways.
- Chelan: Just under 0.5 mile of bike lanes and roughly 1 mile of shared-use pathways.
- Cashmere: 1 mile of bike lanes and shared use paths combined.

Within the Wenatchee Valley Urban Area as a whole, there are roughly 40 existing miles of on-street bikeways and 22 miles of shared use paths, with an additional 13 miles of recommendations to be built as highlighted by the most recent CDTC Bicycle Plan (2022).

In addition to current infrastructure, local and regional plans identify numerous proposed bicycle and pedestrian corridors across the CDTC area. These include both on-street improvements and off-street pathways, including rail-to-trail opportunities that would fill key network gaps.

Given this project's emphasis on assessing and enhancing regional connectivity within the CDTC project corridors, the review places particular focus on bicycle facilities, many of which also serve pedestrian users. Facility types and their designations, as used throughout the region, are summarized in Table 1 below.

Table 1: Bicycle and Pedestrian Facility Types

Facility Type	Definition	Specifications
Bike Lanes	A section of the roadway that has been designed by striping, signing, and/or pavement markings for the preferential, or exclusive, use by bicyclists	Bike lanes are typically 5-6' in width (4' min).
Bike Routes	Shared facilities that are posted with street signage and sometimes marked with pavement markings.	These routes may accommodate cyclists in the existing lanes or along adjacent paved shoulder
Bike Paths	Off-street facilities that are physically separated from motorized vehicular traffic by an open space or a barrier. These are often shared with other user types.	Bike paths are typically 12' in width (10' min).

As part of the Chelan-Douglas Pathways planning process, over 1,800* community members participated in a regional survey and public input map. The survey's feedback highlights a strong public interest in expanding and improving active transportation options. Common themes included:

- A desire for more safe and accessible walking and biking routes, especially those connecting neighborhoods to schools, commercial areas, and recreational sites.

- Concerns about traffic safety, particularly where pedestrians and cyclists share space with high-speed or high-volume vehicle traffic.
- Requests for connections between communities, particularly along the four key corridors identified by CDTC.
- The need for year-round, family-friendly, and multi-use facilities that support recreation, commuting, and equitable access.

**This total does not always equal the sum of all counties, as some comments were outside the project area.*

The following sections provide a county-by-county overview of Chelan and Douglas counties, including geographic and demographic characteristics, an overview of the existing active transportation network, planned or proposed facilities, relevant goals and policies, and identified gaps and needs.

Chelan County

Geographic and Demographic Characteristics

Chelan County encompasses a diverse landscape of urban, rural, and recreational areas. Primary population centers include the cities of Wenatchee, the main population hub, as well as Chelan, Manson, and Entiat, which are located near major natural features with recreational uses. This includes Lake Chelan, the Columbia River, and the Cascade foothills. Chelan county's diverse topography, ranging from steep slopes and river valleys to lakeside corridors, offers both scenic opportunities and challenges for planning multimodal connectivity. Chelan County is also the 3rd largest county in Washington State based on area, representing a diverse landscape with spread out urban areas across a very large expanse of terrain.

The broader region supports a strong tourism-based economy, with seasonal fluctuations in population driven by recreation, hospitality, and vacation-home development, particularly along the shores of Lake Chelan, with a higher level of residential development extending on the north shores at the southern end of Lake Chelan, connecting Chelan to Manson. Further west, the city of Leavenworth serves as a major tourism hub, and while heavy snow limits the demand for trails in the popular winter months, there remains heavy tourist demand throughout the rest of the year. These dynamics increase the need for high-quality, accessible active transportation infrastructure that serves both residents and visitors year-round. This is further important in connecting surrounding towns more safely for those walking and rolling.

Chelan County has the higher median household income of the two counties at $83,119, although it is still below the Washington state average (See Table 2). The employment rate is similar to the rest of Washington State at 58.9%. At the same time, the county has a lower percentage of those with bachelor's degrees, at 31.1% compared to 41% of the state more broadly, but higher than Douglas County. The median age of residents in Chelan County is slightly higher than the state average, and about a fifth (20.8%) of the population is 65 or older (compared with 17.3% statewide).

Existing Active Transportation Network

Chelan County's existing formal active transportation infrastructure is limited in its extent and fragmented, with the majority of facilities concentrated in and around the population centers of Wenatchee, Chelan, Manson, and Entiat. The Chelan County Multimodal Pathways Plan (2021) provides an inventory of existing trails, sidewalks, and shared-use paths, noting that most facilities are primarily designed for recreational rather than everyday use. While cycling is a popular recreational activity in the tourism-oriented areas near Lake Chelan, cyclists primarily need to use either the travel lanes or shoulders on roads shared with motor vehicles, often at high speeds.

Chelan and Manson currently have some existing limited local trails and sidewalk infrastructure, offering basic support for non-motorized travel within the communities. However, the current network lacks the continuity and coverage needed to support broader multimodal access or regional connectivity. In Entiat, trail and pedestrian infrastructure are even more constrained. The community faces challenges related to connectivity and multimodal transportation, with few facilities available to support safe and efficient non-vehicular movement.

While the Apple Capital Loop Trail in nearby Douglas County offers a strong example of regional trail infrastructure, its benefits do not fully extend into Chelan County's urban communities outside of Wenatchee. The lack of direct connection to this loop provides an opportunity for the future for enhanced regional integration.

Planned or Proposed Facilities

Chelan County has developed a countywide vision aimed at creating new trail connections that support multimodal transportation, recreation, and tourism. This vision emphasizes the development of a comprehensive, connected trail network that serves both residents and visitors, improving access between urban centers, rural communities, and key destinations.

Opportunities to advance this vision have been identified through recent planning efforts, including the Lake Chelan Northshore Pathway and the Loop Trail Integration Plan. These initiatives highlight strategic corridors that address current infrastructure gaps while expanding the reach of existing assets.

The Chelan County Multimodal Pathways Plan published in 2021 establishes the framework for long-term implementation of these ideas. It outlines proposed facilities designed to connect key nodes throughout the county via both on-street and off-street alignments. Priority projects include the Northshore Pathway, which offers multiple alignment options for a continuous trail along the northern shore of Lake Chelan; and the Loop Trail Integration Plan (2023), which proposes potential cross-county linkages westward from the Apple Capital Loop Trail.

Collectively, these proposed facilities are intended to fill critical connectivity gaps in the active transportation network, provide safe and accessible infrastructure for non-motorized users of all ages and abilities, and support broader goals related to recreation, tourism, and sustainable transportation.

Goals, Policies, Strategies

Chelan County's planning efforts, including the 2021 Multimodal Pathways Plan and related municipal transportation and land use strategies, demonstrate a unified and forward-looking vision for improving the county's active transportation network. The plans emphasize commitment to multimodal access, equity, and tourism-driven economic development as core priorities for long-term infrastructure investment and community wellbeing.

This vision focuses on equitable access to trails, sidewalks, and multimodal facilities, ensuring that residents of all ages, abilities, and income levels can safely and conveniently access transportation options and outdoor recreation opportunities. Equity considerations for future efforts extend to both geographic considerations reaching underserved areas and rural communities, and diverse user needs. By visioning the expansion of infrastructure across the county, these plans aim to reduce transportation barriers and support a more inclusive, connected community. Public health and quality of life are also key drivers behind the county's trail and pathway planning. These benefits align with broader public health goals and enhance the livability of Chelan County communities.

In addition, the reviewed plans highlight the significant potential of trail development to support tourism and economic development. Chelan County's scenic landscapes and outdoor recreation assets are a major draw for visitors, and the expansion of interconnected recreational trail systems offers opportunities to further strengthen the local tourism economy.

To implement these goals, Chelan County recognizes the importance of strategic partnerships across the county. Collaboration with organizations such as the Chelan-Douglas Land Trust, Link Transit, and across the county's towns is critical for planning efforts. These partnerships enable coordination across jurisdictions, leverage expertise, and support community engagement efforts. The plans also indicate a desire for further exploring potential state and federal funding sources, to supplement local investment and accelerate project timelines.

Additionally, the County encourages public-private collaboration, recognizing the role that private landowners, developers, and businesses can play in supporting trail development and long-term maintenance. Further integration with broader transportation planning efforts, such as road improvements, transit service planning, and land use decision-making ensures that the multimodal network grows in a cohesive and sustainable manner.

Gaps and Needs

Despite strong community interest and a regional vision, the development of a cohesive active transportation network in Chelan County continues to face a few key challenges. One of the primary issues is the disconnected nature of existing trail segments, particularly between major residential communities such as Chelan, Manson, and Entiat. While some local infrastructure exists, these segments are limited in length or fail to connect to nearby destinations, creating gaps in the network that limit overall functionality for a broader range of users.

Another significant concern is the lack of safe crossings along major transportation corridors, including state highways like the State Routes connecting towns to one another in Chelan County (such as SR 150, and SR 97). In many areas, pedestrians and cyclists must navigate high-speed roadways without adequate crosswalks, signage, or separation from vehicle traffic. These conditions pose safety risks and represent a major barrier to travelling between towns and recreational areas without a vehicle and with limited transit offerings.

Topographic constraints further complicate trail development. Steep slopes, narrow lakeside rights-of-way, and environmentally sensitive areas can make it difficult to plan feasible alignments for future trail efforts. In addition, land ownership and access issues present some obstacles. In areas where land is fragmented or development is already established, negotiating access can pose some challenges or increased timelines.

Addressing these barriers will require ongoing coordination across jurisdictions, including county agencies, municipal governments, community organizations, and state partners. Strategic planning, public engagement, and targeted funding will be essential to prioritize high-impact projects and implement infrastructure that improves safety, closes network gaps, and enhances long-term sustainability across the county.

Douglas County

Geographic and Demographic Characteristics

Douglas County, located on the east shores of the Columbia River, presents a unique blend of urban and rural contexts that shape its transportation needs. The county includes several distinct population centers, most notably East Wenatchee, Rock Island, and Bridgeport, which are connected by a network of state highways and rural roads, alongside a developing system of active transportation infrastructure.

A defining characteristic of Douglas County is the contrast between the urbanized East Wenatchee area and the more sparsely populated, agricultural regions that make up much of the surrounding landscape. While East Wenatchee functions as part of the growing Apple Capital urban area, with increasing demand for active transportation connectivity, the rural portions of the county are shaped by an agricultural economy, dispersed development patterns, and limited transportation options for non-motorized users.

The county's topography further influences infrastructure development. Douglas County features a mix of riverfront bluffs, rolling plateaus, and steep terrain near the Columbia River, which can create barriers to connectivity and complicate the siting of trails.

At the same time, Douglas County is experiencing population growth and increased commuter traffic, particularly between East Wenatchee and employment centers across the Columbia River into Chelan County (including the city of Wenatchee, the largest population center in Chelan County). This trend underscores the need to invest in connected multimodal transportation systems that serve both local travel and regional needs.

The East Wenatchee area plays a critical role in regional connectivity. As a hub within the Apple Capital urban area, it supports inter-county travel demand, especially for active transportation routes that link to Wenatchee and other destinations across the Columbia River. Coordinated planning between Chelan and Douglas counties will be essential to meeting shared goals related to mobility, access, and long-term regional growth.

Douglas County has the lower median household income of the two counties at $80,374 and is below the Washington state average (See Table 2). The employment rate is similar to the rest of Washington State at 61.7%, which is slightly higher than Chelan County. At the same time, the county has a lower percentage of those with bachelor's degrees, at 21.9% compared to 41% of the state population more broadly. The median age of residents is on par with the state average and has nearly the same portion of older adults with 18% of the population age 65 or older (compared with 17.3% statewide).

Existing Active Transportation Network

Douglas County is home to several key active transportation facilities, most of which are concentrated in and around East Wenatchee, the county's primary urban center. This area contains the bulk of the county's existing pedestrian and bicycle infrastructure, offering relatively robust multimodal options compared to the more rural parts of the county.

The most prominent asset is the Apple Capital Loop Trail, a popular regional 10-mile multi-use path that runs along both sides of the Columbia River. On the Douglas County side, the 5 miles of trail provides scenic, safe, and well-maintained infrastructure for walking, biking, and rolling. It connects to the City of Wenatchee via dedicated pedestrian bridges, serving both recreational users as well as regional commuters.

In addition to the Apple Capital Loop Trail, East Wenatchee contains a growing network of sidewalks and shared-use paths, particularly within urban neighborhoods and near commercial corridors. These facilities provide access to parks, schools, and transit stops, although in many cases the connections remain fragmented or incomplete, limiting their effectiveness as a comprehensive system. Outside of the metro core, active transportation infrastructure is much more limited. Where infrastructure does exist, it is typically recreational, such as riverfront paths or park trails, rather than designed for daily transportation needs.

To address these disparities, the Loop Trail Integration Plan (2023) identifies several opportunities to expand and enhance the county's active transportation network. This includes proposals to extend multimodal access to underserved areas, improve connectivity between communities, and build upon the existing Loop Trail as a backbone for future trail development.

Planned or Proposed Facilities

Recent planning initiatives, such as the SR 28 Corridor Study, the Loop Trail Integration Plan, and the Chelan-Douglas Regional Bicycle Plan, provide a roadmap for future investments that aim to enhance safety, access, and active transportation options throughout the county. One key proposal involves extending the Apple Capital Loop Trail from East Wenatchee toward Rock Island, building on the existing trail's popularity and its role as a regional spine for non-motorized travel. The plan also envisions extending the trail northward, improving access to northern East Wenatchee neighborhoods and enhancing inter-county connections across the Columbia River.

Improving cross-river connectivity also remains a major focus. Enhancements to bridge infrastructure, including pedestrian and bicycle upgrades, as well as better trailhead access, are essential for supporting safe and seamless travel between Chelan and Douglas counties. These improvements are particularly important given the growing commuter demand between East Wenatchee and the employment hub of Wenatchee.

Additional strategies include the development of east-west corridors to better connect neighborhoods, schools, parks, and downtown areas within East Wenatchee and nearby communities. These corridors would fill key gaps in the local network and promote more direct, accessible routes for everyday travel. The CDTC Regional Bicycle Plan (2022) further supports this vision by identifying a series of local trails and on-street bikeways across East Wenatchee, Rock Island, and unincorporated Douglas County. These proposed facilities would provide both recreational and commuter value, while helping to create a more complete, connected bicycle network throughout the region.

Collectively, these proposals advance broader county and regional goals related to transportation safety, mobility equity, and trail integration. They also reflect a strong commitment to coordinated planning between Douglas and Chelan counties, ensuring that future investments in active transportation contribute to a unified, sustainable, and accessible regional system.

Goals, Policies, Strategies

Planning efforts throughout Douglas County, guided by both local initiatives and regional frameworks such as the Chelan-Douglas Regional Bicycle Plan, emphasize the importance of developing a safe, accessible, and connected active transportation network. These plans reflect strong community support for expanding non-motorized options, particularly among youth, older adults, and underserved populations who may lack access to reliable vehicle transportation.

A central focus of these efforts is improving safety and equity, ensuring that trails, sidewalks, and bikeways are designed to be inclusive and user-friendly for people of all ages and abilities. Enhancing riverfront access and closing network gaps are also key objectives, as these areas offer high value for recreation, transportation, and scenic connectivity.

The plans outline several core goals that guide current and future investments:

- Expanding equitable access to trails and multimodal infrastructure across urban and rural areas;
- Reducing reliance on motor vehicles, particularly for short-distance trips within and between communities;
- Promoting public health and well-being by encouraging active lifestyles and outdoor recreation;
- Improving regional mobility through collaboration between Douglas County, Chelan County, WSDOT, and other local partners.

A key priority is the connection of currently isolated trail segments into a more continuous and navigable network. Filling these infrastructure gaps will improve usability and support broader efforts to create a truly regional system. Securing grant funding remains essential to bringing these projects to fruition, especially in areas where demand is growing but existing infrastructure is limited.

Gaps and Needs

While Douglas County has made progress in planning and early implementation of its active transportation network, challenges remain, particularly in extending safe and connected infrastructure beyond the East Wenatchee urban core. These obstacles limit the functionality of the system, especially for rural residents and those traveling between communities and across into Chelan County.

One of the most pressing issues is the lack of connectivity in rural areas. Outside of East Wenatchee, communities such as Rock Island and others remain largely disconnected from the emerging trail network. Existing facilities leave gaps that make active transportation impractical for both recreation and daily travel.

Major transportation corridors, such as SR 28 and SR 285 pose additional barriers. These high-speed roadways lack dedicated bike and pedestrian infrastructure, making crossings hazardous and limiting access between neighborhoods, commercial centers, and regional destinations. In some locations, the absence of safe crossings forces pedestrians and cyclists to make long, indirect detours or avoid these routes altogether.

Beyond road design, physical and structural barriers, including steep terrain, rail lines, and limited rights-of-way further constrain the development of direct, low-stress routes for non-motorized users. These challenges are especially pronounced near the Columbia River, where topography can restrict feasible alignments for trails and sidewalks. In rural areas, additional constraints include dispersed development patterns, and long distances between destinations make it difficult to deliver active transportation projects, even where need and interest might be high.

To address these issues, future efforts must focus on improving trail access and connectivity both within communities like East Wenatchee and Rock Island, and between communities across the broader region. Strategic investments in crossings, linkages, and network extensions will be essential for achieving long-term transportation, recreation, and equity goals. Continued regional coordination will be critical for overcoming these challenges and delivering a more connected, multimodal Douglas County.

Tribal Lands

Chelan and Douglas counties are located within the traditional territories of several Indigenous peoples. The Confederated Tribes of the Colville Reservation (CTCR), reservation borders Chelan County in Okanogan and Ferry County, and is the primary tribal government in the area, though not directly located within either county. Tribal properties in Chelan and Douglas counties are recognized in regional planning and coordination efforts, especially in areas affecting transportation, environmental stewardship, and cultural preservation.

According to recent U.S. Census data in Table 2, in Chelan County, roughly 1% of residents identify as American Indian or Alaska Native, while in Douglas County, the figure is smaller at 0.05%. Continued engagement with tribal governments, including the Confederated Tribes of the Colville Reservation and other Indigenous stakeholders, will support more inclusive and effective regional planning outcomes.

Table 2: Demographic Characteristics of Chelan and Douglas Counties

	Washington State	Chelan	Douglas
Population*	7,705,281	79,074	42,938
Racial/ Ethnic Composition			
- American Indian	2%	1%	0.05%
- Asian	9%	1%	0.09%
- Black	4%	0.4%	0.03%
- Hispanic	14%	28%	34%
- Pacific Islander	1%	0.1%	0.01%
- Other	7%	17%	18%
- Two or More Races	11%	11%	14%
- White	67%	70%	65%
Median Household Income**	$99,389	$83,119	$80,374
Employment Rate**	60.9%	58.9%	61.7%
Population in Poverty	9.9%	9.6%	7.9%
Percent with a Bachelor's Degree or Higher	41%	31.1%	21.9%
Median Age**	38.7	40.8	38.4
Percent 65 and Older	17.3%	20.8%	18%
Percent Disabled	13.8%	13.5%	17%
Land Area	66,455 sq mi	2,921.2 sq mi	1,819 sq mi

Sources: **2020 US Decennial Census; **American Community Survey 1-year Estimates (2023)*

Key Takeaways

The following themes emerged through the plan review process:

1. **A Regional Vision Exists, but Networks Remain Fragmented:**
Chelan and Douglas Counties have both undertaken planning efforts to define long-range visions for active transportation and trail development. However, the existing infrastructure remains fragmented, with limited continuity between urban centers and surrounding rural areas. This fragmentation limits the usability of the network for everyday transportation, recreation, and tourism.

2. **Tourism and Quality of Life Are Key Drivers of Demand**
The region's scenic natural features, including riverfronts, foothills, and lakes, coupled with a robust tourism economy, make active transportation a critical asset for local economic development. Both counties view trail development not only for local connectivity but also to enhance visitor experience, support outdoor recreation, and contribute to the area's overall quality of life. Plans link trails to health, economic, and livability outcomes, for both residents and visitors.

3. **Geographic and Infrastructure Barriers Limit Connectivity**
Topography, land ownership patterns, major highways (such as SR 28), and rail corridors present barriers to a connected system. In both counties, physical constraints limit the feasibility of direct trail connections between communities, and many areas need better safety features such as crossings and sidewalks. Addressing these constraints will require interjurisdictional collaboration, and long-term investment.

4. **Strong Public Support**
Community engagement was conducted as part of multiple plans, which included online surveys, public meetings, and stakeholder workshops. Across both counties, residents expressed strong interest in the development of safe, well-connected active transportation infrastructure. Key themes from public engagement included the need for safe and family-friendly facilities, connections to schools and other key services, and infrastructure designed for users of all abilities.

5. **Priority Corridors Are Well-Defined Across Plans**
Several corridors and concepts are consistently identified across multiple planning documents as high priority for regional connectivity. These include:
- The Lake Chelan Northshore Pathway, a key east-west connection along the lake;
- The Apple Capital Loop Trail and potential extensions into Douglas County;
- Linkages between East Wenatchee and Rock Island, as highlighted in the Loop Trail Integration Plan;

These repeated priorities provide a solid foundation for future efforts.

6. **Partnerships and Regional Coordination Will Be Essential**
CDTC plays a central coordinating role across local jurisdictions, but successful implementation will also require collaboration with other entities including (but not limited to) the Cities of Chelan, East Wenatchee, Rock Island, Entiat, and Manson, as well as regional partners like WSDOT, Link Transit, and the Chelan-Douglas Land Trust. Plans emphasize the importance of leveraging public-private partnerships where fit, interagency coordination, and shared funding mechanisms to achieve shared long-term network goals.

APPENDIX: List of Plans and Documents Reviewed

I. Regional and Countywide Plans

Plan Title	Year	Author / Agency	Geographic Focus	Overview
CDTC Regional Bicycle Plan	2022	CDTC	Chelan & Douglas Counties	Chelan-Douglas regional bicycle network vision and policy framework.
Chelan County Multimodal Pathways Plan	2021	Chelan County	Chelan County	Countywide assessment of existing and proposed non-motorized infrastructure.
Our Valley, Our Future Action Plan	2022	Our Valley, Our Future	Wenatchee Valley Region	Strategic vision with transportation-related goals, emphasizing equity, health, and connectivity.

II. City-Scale or Subarea Plans

Plan Title	Year	Author / Agency	Geographic Focus	Overview
North Wenatchee Transportation Master Plan	2011	Wenatchee Valley Transportation Council	Wenatchee (North)	Older, foundational plan with multimodal recommendations for North Wenatchee.
South Wenatchee Bicycle Connectivity Study	2022	Chelan Douglas Transportation Council	South Wenatchee	Identifies infrastructure gaps and proposes targeted improvements in underserved areas.
Malaga Waterfront Park Plan	2022	Chelan County, Chelan PUD	Malaga (Chelan County)	Concept for waterfront access, parking amenities, and potential trail connectivity in Malaga.
Loop Trail Integration Plan	2023	City of Rock Island	Rock Island / Loop Trail Area (Douglas County)	Explores extending the Apple Capital Loop Trail, improving east-west connectivity.

III. Corridor and Project/Site-Specific Studies

Plan Title	Year	Author / Agency	Geographic Focus	Overview
Lake Chelan Northshore Pathway (Draft)	2021	City of Chelan	Lake Chelan (North Shore)	Draft concept for a long-distance trail; focused on feasibility and alignment.
SR 28 Corridor Study	2022	CDTC (Perteet)	East Wenatchee to Rock Island	Examines multimodal improvements along the SR 28 corridor, including active transportation.
WRD Bridge Preliminary Engineering Design	2007	Link Transit	Wenatchee–Rock Island	Early engineering analysis of a bridge over the Columbia River.
WRD Bridge Over the Columbia River	2008	Link Transit	Wenatchee–Rock Island	Follow-up feasibility study focused on connectivity and cost estimation.

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Appendix B: Field Assessment Summary



MEMORANDUM

To: Jeff Wilkens, Chelan-Douglas Transportation Council

From: Brandon Blankenagel, KPFF and Jill Roszel, Alta

Date: January 6, 2025

Re: Chelan-Douglas Pathways Master Plan Existing Conditions Assessment Summary Memo

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Existing Conditions Assessment

Existing Conditions Assessment Process

The Chelan-Douglas regional pathways planning effort required an in-depth review of existing conditions. This review included an assimilation of existing planning documentation (both draft and final approved documents), as well as a field review of the site corridors. The team also sought input on the existing conditions from agency representatives and community advisory committees to truth the team's findings from the documentation and field reviews.

The following sections outline the leading assumptions that guided the existing conditions review, the desktop analysis, the field analysis, input gathered from the Project Leadership Team, and input gathered from Community Advisory Committees. The outcome of this effort is an understanding of the opportunities and constraints within which the pathways master plan effort will continue to develop.

Leading Assumptions

A few assumptions were made at the beginning of the existing conditions analysis. These set the basis for how the team valued existing planning documents and set the stage for consideration of possible paths for each corridor.

Trail Typologies

Trails were generally defined in these documents as 12-foot-wide paved paths with 2-foot-wide gravel shoulders on each side. A separated trail would be set apart from a roadway by a buffering distance of at least 3 feet (with or without a barrier). Other types of pathways may also be used to fit conditions. These include widened shoulder (adjacent roadway), rail with trail (adjacent rail line), or cycle track (in-roadway) pathways.

Assumption 1: Prior plans are actionable. Trail planning documents for each of the study corridors were used as the starting point for this study's feasibility analysis. The first lines drawn on maps for this study were those from past studies.

Assumption 2: Concepts to remain reasonably affordable. Construction costs will be a critical consideration for trail features. Feasible alternatives are to fall within the constraints of available grant funding (considering local, state, and federal options).

Assumption 3: The corridors are independent of one another. This team will review each corridor independently and will not give undue attention to any one corridor over the others.

Assumption 4: Trail segments must interconnect. A planned trail corridor will only be considered complete if all the independent segments that make it up are interconnected.

Assumption 5: Short-term and long-term solutions are anticipated. The timing of implementation of public works facilities can be driven by several factors. This study is likely to discover trail alternatives that may be implemented in the short-term, but do not achieve the ultimate desired outcomes for a multi-use pathway. The team anticipates that there will also be alternatives which will require more time to implement but will be desirable to achieve greater outcomes. In such cases, staged implementation approaches will be recommended.

Assumption 6: Alignments are not yet determined. They study of alternatives is facilitated by drawing lines on maps. The study of existing conditions includes alignment alternatives that were determined through prior studies and includes new alternatives as ideas are generated through discussion. No alignments are determined final until they have been vetted through the full project study.

Desktop Analysis

The desktop analysis consisted of a review of past trail corridor transportation and recreational planning studies and available geographical information system (GIS) data. Study outcomes and GIS data were combined into corridor maps that would serve to guide field review efforts and prompt discussion in community and stakeholder meetings for this study. It is worth noting that not all studies reviewed have been formally adopted by their respective communities. However, the informational background provided by the studies is relevant to this effort.

The following studies were reviewed and incorporated. Notes from these documents are included in Appendix A.

- Lake Chelan Northshore Pathway – City of Chelan 2021 (DRAFT)
- Chelan County Multimodal Pathways Plan – Chelan County (SCJ Alliance) 2021
- Wenatchee Reclamation District (WRD) Bridge Preliminary Engineering Design – Link Transit (RH2) 2007
- Wenatchee Reclamation District (WRD) Bridge Over the Columbia River – Link Transit (Nicholls Engineering) 2008
- South Wenatchee Bicycle Connectivity Study – Chelan-Douglas Transportation Council 2022
- Our Valley, Our Future Action Plan – Our Valley Our Future 2022
- North Wenatchee Transportation Master Plan – Wenatchee Valley Transportation Council 2011
- Malaga Waterfront Park Plan – 2022
- Loop Trail Integration Plan – City of Rock Island (SCJ Alliance) 2023
- SR 28 Corridor Study – CDTC (Perteet) 2022
- Chelan-Douglas Transportation Council Regional Bicycle Plan – CDTC 2022

Field Analysis

A field review was conducted for each corridor to verify the existing conditions and allow the consultant team to immersively experience conditions where potential alignments have been planned. The field review was conducted May 14th through May 16th, 2024. Follow-up field visits have also been conducted as opportunity was availed through timing of Community Advisory Committee or Project Leadership Team meetings.

The purpose of field analysis was three-fold:

1. Confirm routing assumptions and findings of the desktop analysis
2. Brainstorm potential solutions for challenging trail alignment pinch points or gaps
3. Measure physically constrained areas to better determine feasibility of optional alignments

The consultant team drove, walked, or looked at roadways, paths, and lands, respectively, that have been previously envisioned as potential trail alignments. Some areas exhibited conditions that create a "pinch point" where roadway or bridge widths were narrow enough that rearranging of lanes to fit a trail and widening of the road/bridge would be very challenging. Our approach in these conditions was to determine if an alternative pathway was possible, and if so, would it be functional.

The following notes of opportunities and constraints are the outcome of the field analysis for each corridor:

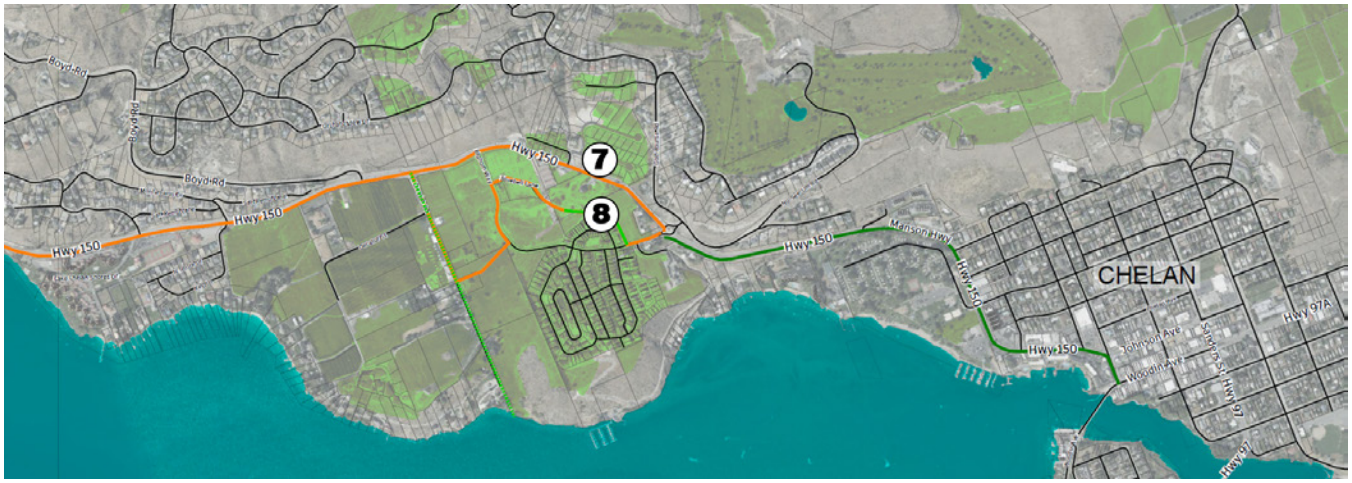
Chelan to Manson Corridor – Opportunities and Constraints



1. Downtown Manson - roadway reconfiguration would displace parking
    a. Potential solution is to use Pedoi and Harris as Sharrow roadways
2. Divert path away from Hwy 150 along Hyacinth Rd to connect with Singleton Park going into town. This segment passes through private property.
3. Tribal land each side of Hwy 150 from Madeline to Mill Rd
    a. Potential use of pathway paralleling Hwy 150 on south side as shared-use roadway



4. Roadway narrows significantly east of Winesap Ave due to topography, notably at Rocky Point
    a. -> *Potential solution*: Use boardwalk pathway cantilevered over lake shore.
5. A boardwalk pathway would create a tourism draw.
6. Boardwalk design will be challenging near the cabana area, where lakefront properties are divided by the highway.



7. Steep slope along corridor from existing path to west
8. Trail routing might capitalize on existing and future pathways in Bighorn area development

Additional Information: Chelan to Manson Corridor

- A business bypass route from Manson to Chelan (near Walmart) has been considered.
    - This is not funded in the foreseeable future
    - Would potentially reduce traffic levels on Hwy 150

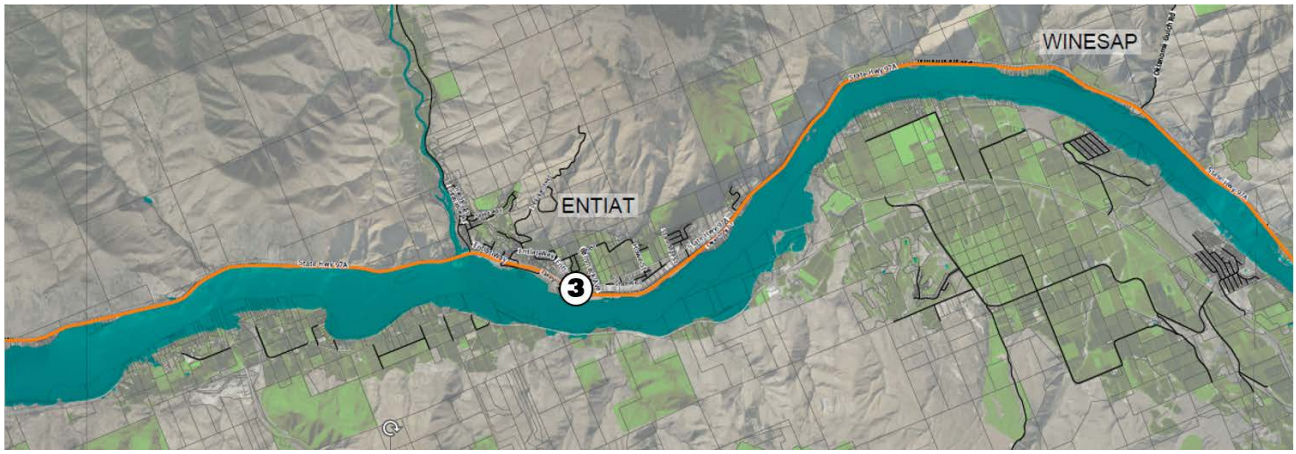
- A route exiting/entering Manson could be connected via Quetilquasoon and Hyacinth
    - Partial implementation of a trail would be better than no trail in Manson
- Additional destination points in Manson include Wapato Point, the Old Swim Hole, the ferry to Stehekin, and lake access.
- A route offset from the Lake using Swartout, Winesap, Highpoint, or Boyd roads would be prohibitively steep and lengthy.
- Pedoi and Harris as pedestrian and bicycle route is limited by parking and traffic in the summer, but congestion and slow speeds potentially set the stage for it being a trail route. There is already a lot of pedestrian activity.
- Tribal land each side of Hwy 150 from Madeline to Mill Rd
    - A casino closer to the lake is planned.
- Impacts to private property and associated cost concerns should be considered.

Chelan to Entiat to Wenatchee Corridor – Opportunities and Constraints

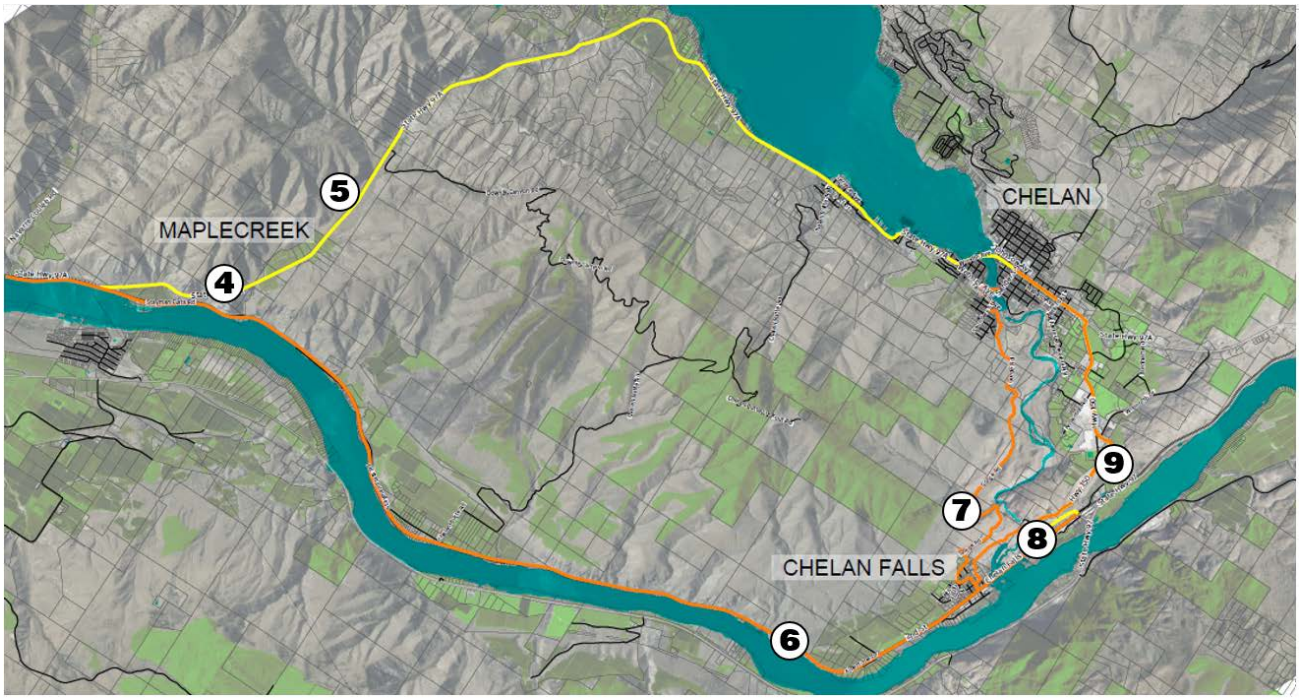
The Chelan to Wenatchee corridor is considered a preliminary study corridor. It does not have a Community Advisory Committee and there has been no public engagement related to this corridor.



1. Connection to the Apple Capital Loop Trail.
2. Potential for Rail with Trail.

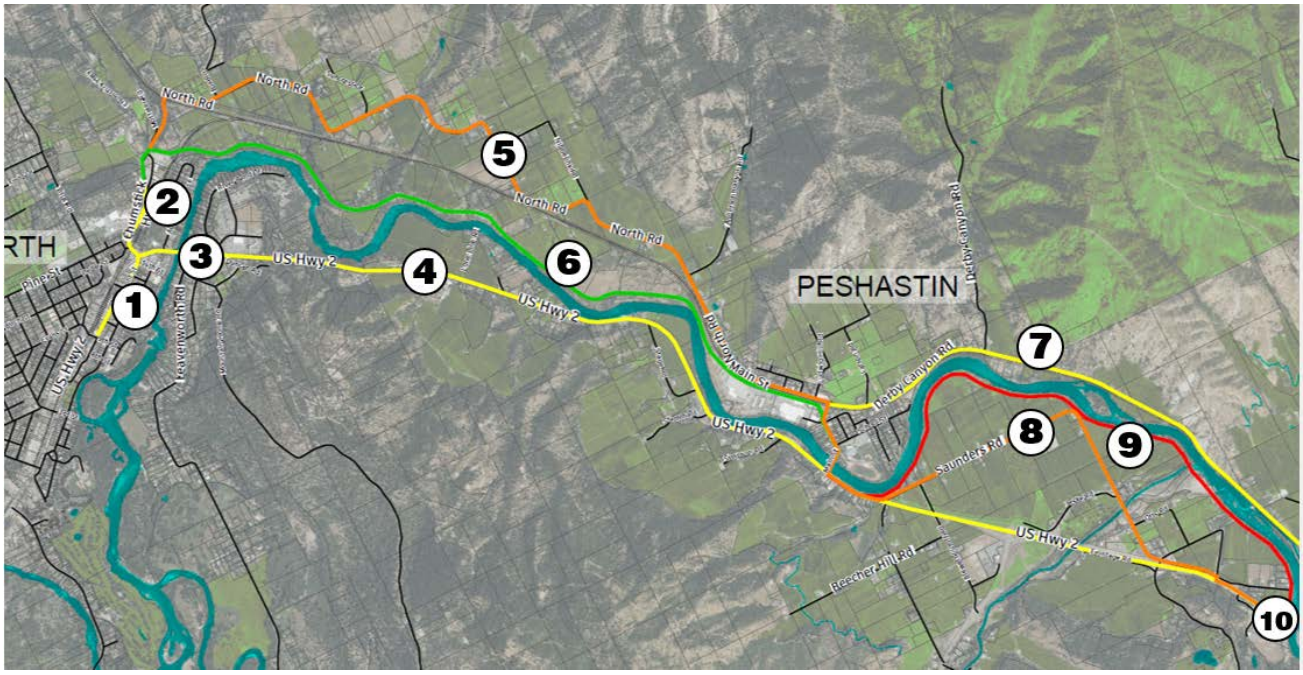


3. Connections into Entiat using a rail with trail concept would require highway crossing that would also benefit Entiat City Park.

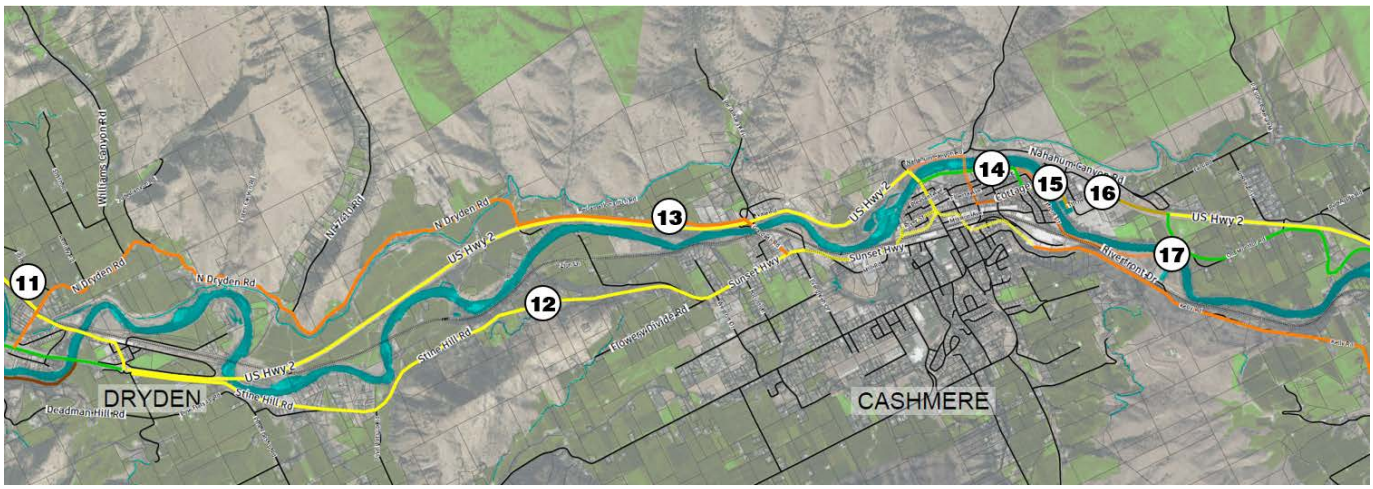


4. The tunnel near Maplecreek poses safety challenge.
5. Hwy 97A has limited shoulder width but might be widened.
6. The rail line goes through a tunnel west of Chelan Falls.
7. Gorge Road is unpaved, narrow, and curvy.
8. Vertical climb of approximately 500 feet between Chelan Falls and Chelan.
9. Hwy 150 has wide shoulders, which would facilitate bicycle traffic, but has significant freight traffic during harvest.

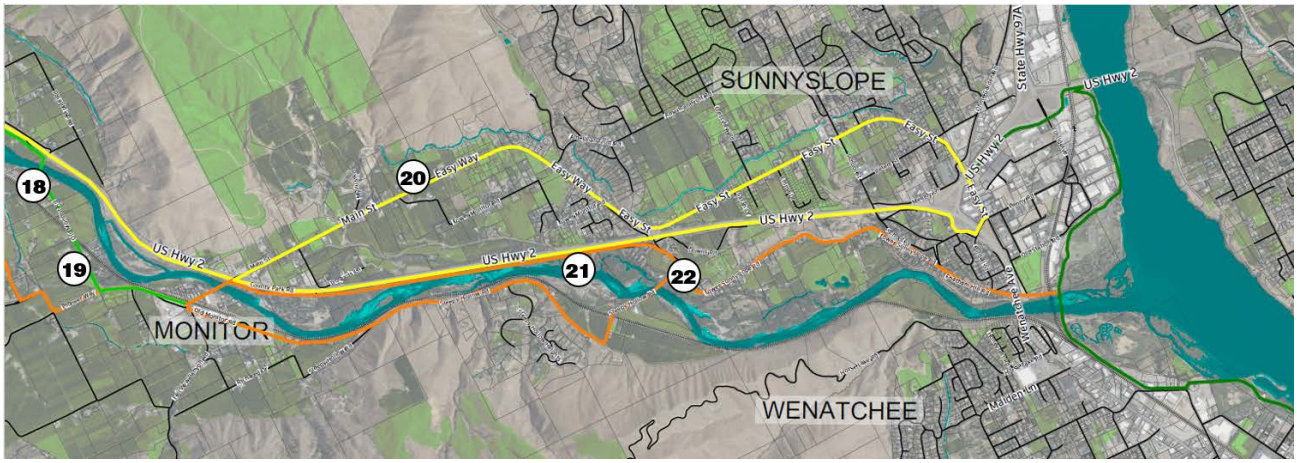
Leavenworth to Cashmere to Wenatchee Corridor – Opportunities and Constraints



1. Front Street in Leavenworth (operates as a low-speed, shared roadway).
2. Chumstick Highway is somewhat limited in width
3. Hwy 2 bridge center lane could be repurposed to serve active transportation
4. Hwy 2 has wide ROW (used for the highway and its drainage).
5. North Road is narrow and limited by private property. It carries a great deal of truck traffic. (CAC member noted up to 200 trucks per day during harvest.) Poses a dangerous condition for trail use.
6. Peshastin Mill Trail terminates mid-way to Leavenworth due to private property.
7. Rail is high-speed cargo. Consider Rail with Trail from Peshastin to Dryden.
8. Saunders Road (Peshastin to Dryden) is narrow and limited by private property.
9. Shoreline (Peshastin to Dryden) near Saunders Rd is all privately owned.
10. Bridges (approaching Dryden from Peshastin) on Hwy 2 are narrow and may not accommodate a path.



11. Rail with trail between Dryden and Peshastin could avoid the narrow Hwy 2 bridges west of Dryden.
12. Stine Hill Rd is narrow and has a vertical climb of 300 ft.
13. Goodwin Ave as an alternate route across Hwy 2, with a potential connection to Dryden via North Dryden Rd.
    a. Requires crossing private property west of Sunburst Lane terminal point.
14. Riverside Park in Cashmere has an existing trail along riverbank.
15. Cottage Ave Bridge may have room to accommodate path.
16. Trail connector extends onto east-bound Hwy 2 shoulder from Titchenal Way.
17. A new bridge potential for pedestrian and bike access and utilities across river in vicinity of wastewater treatment plant.



18. Monitor Bridge crossing to Hwy 2 is narrow and limiting for cyclists and pedestrians.
19. Old Monitor Rd is low volume roadway with narrow bridge crossing the river to connect to Monitor.
20. Main Avenue and Easy Way are straight roads but are largely adjacent to agricultural land.
21. County lands west of the County Park could allow for a separated path along the river to Monitor.
22. Sleepy Hollow Road and Sunnyslope Road are low volume, but very narrow with blind corners.

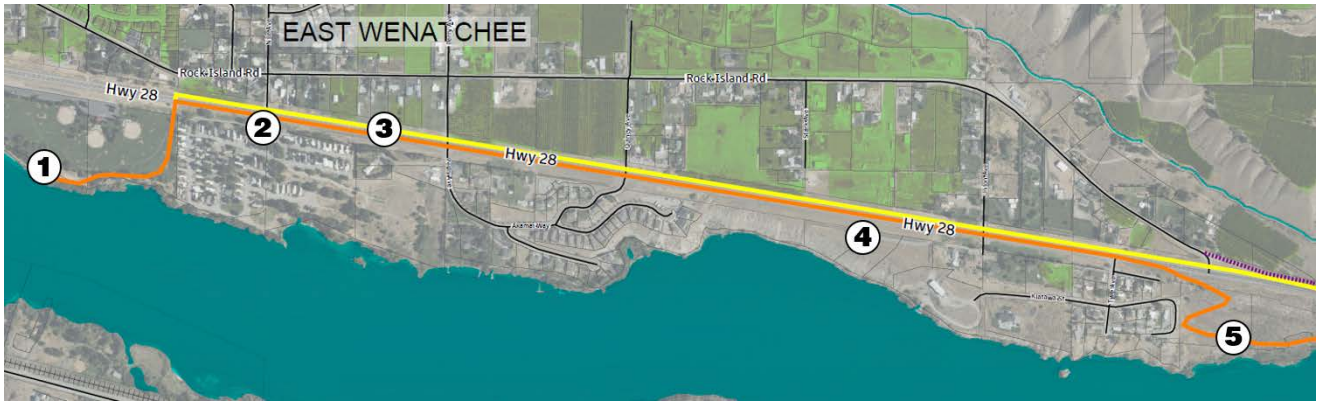
Additional Information: Leavenworth to Cashmere to Wenatchee Corridor

- An alignment in the hillside might offer a better more natural experience opportunity for trail users.
  - Still a lot of private property to navigate.
- Farmers along the corridor are frustrated with the impacts of tourism on their properties.
  - Many roadways were originally designed for farming access only
  - The tourism draw to Leavenworth often pushes traffic backups onto these roads, limiting capacity for industry.
- Acquisition of farmland is a permanent impact that will affect annual income of farmers. An economic impact study should be accomplished to determine a proper course of action. (Note: CAC Member's quick estimate of impact suggests $30K to $50K loss per 100 ft of trail taking a line of fruit trees. This is a loss shared by farmer and the industry partners that take that fruit to market.)
- Trail usage along orchard land has an impact on agricultural practices such as spraying of pesticides.
  - Schedule of spraying is determined by weather conditions and is quite variable.

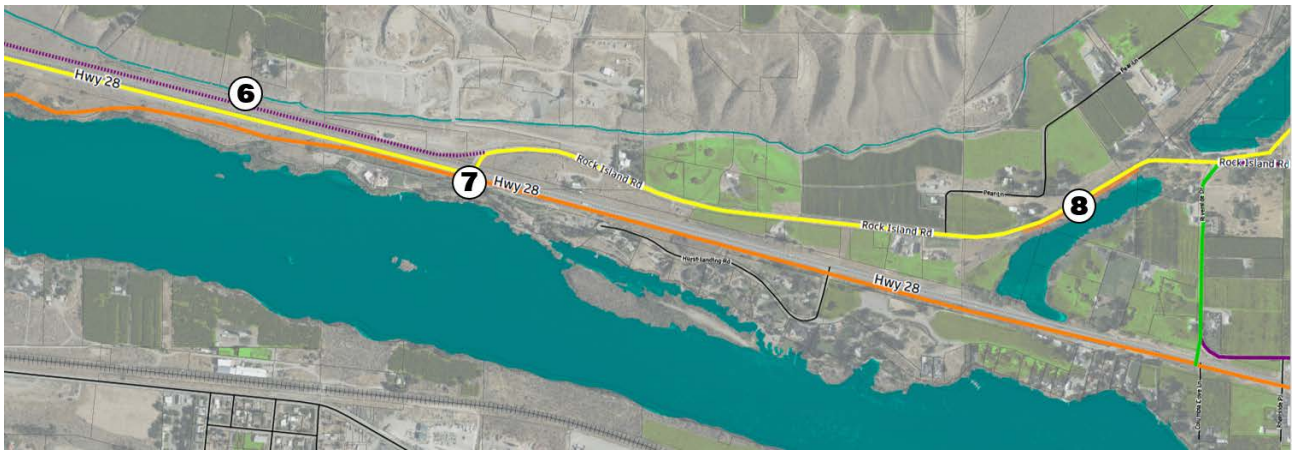
- Spraying near the roadway requires farmer staff-up to flag and protect drivers. A trail would increase the challenge.

- Food safety requirements require record of interaction between people and food products in the field. Trail proximity could be a major challenge to these requirements.
- Canals are not potential paths unless the irrigation districts bring that option to the table.

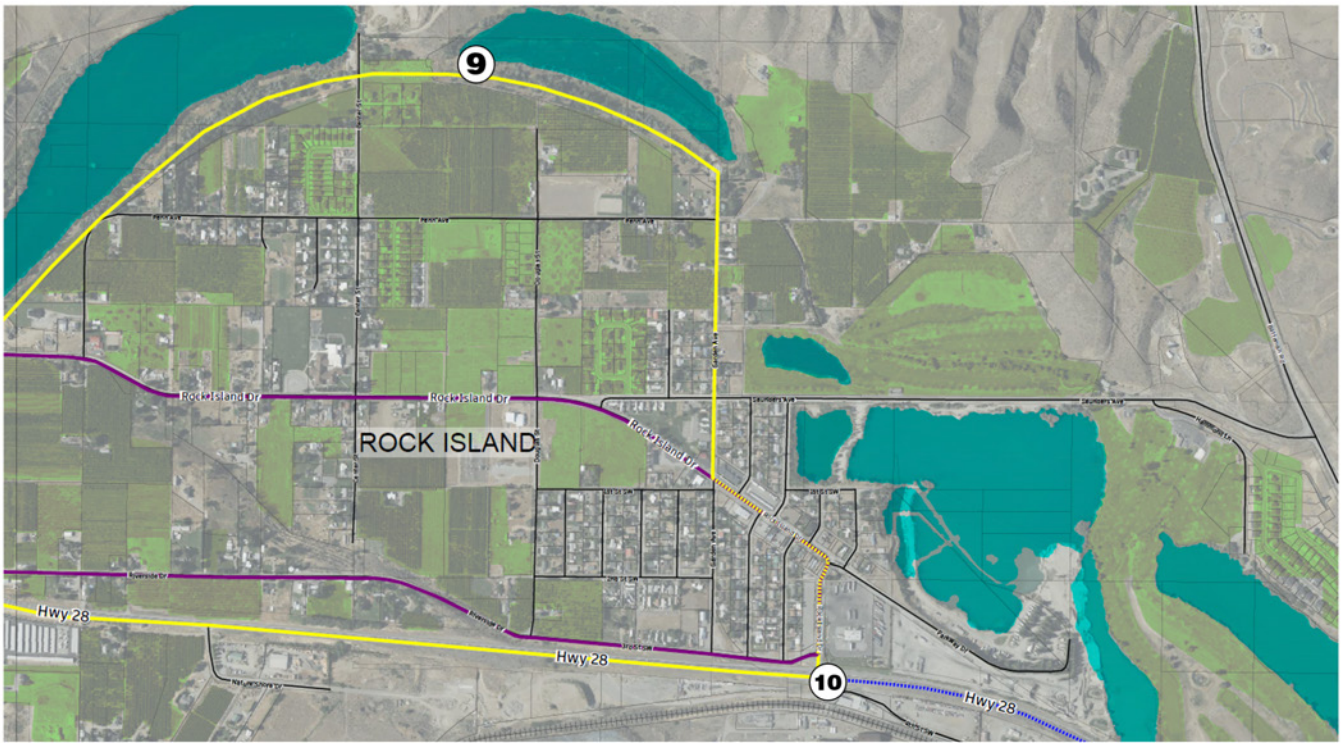
Rock Island to East Wenatchee Corridor – Opportunities and Constraints



1. Connection to the existing Apple Capital Loop Trail.
2. Highway crossing priority location: Nile Road intersection (connects to bus stop).
    a. What type of crossing makes the most sense? Flashing beacons? Bridge? Tunnel?
3. Hwy 28 ROW is wide enough to build a separated trail near the highway.
4. Steep topography will be challenging on either side of the highway for building a trail.
5. Path could connect to the Columbia River by following desire lines east of the neighborhood.



6. Potential to use ROW north of Highway for path extension of Rock Island Road could instead be a trail
    a. This alignment option could allow for the elimination of a trail crossing at highway (Rock Island Rd intersection).
7. Highway crossing priority location: Rock Island Road intersection.
    a. Paths on both Hwy 28 and on Rock Island Road could create a loop option.
8. Boardwalk structure may be needed to safely pass on Rock Island Road adjacent to Blue Heron Lake.

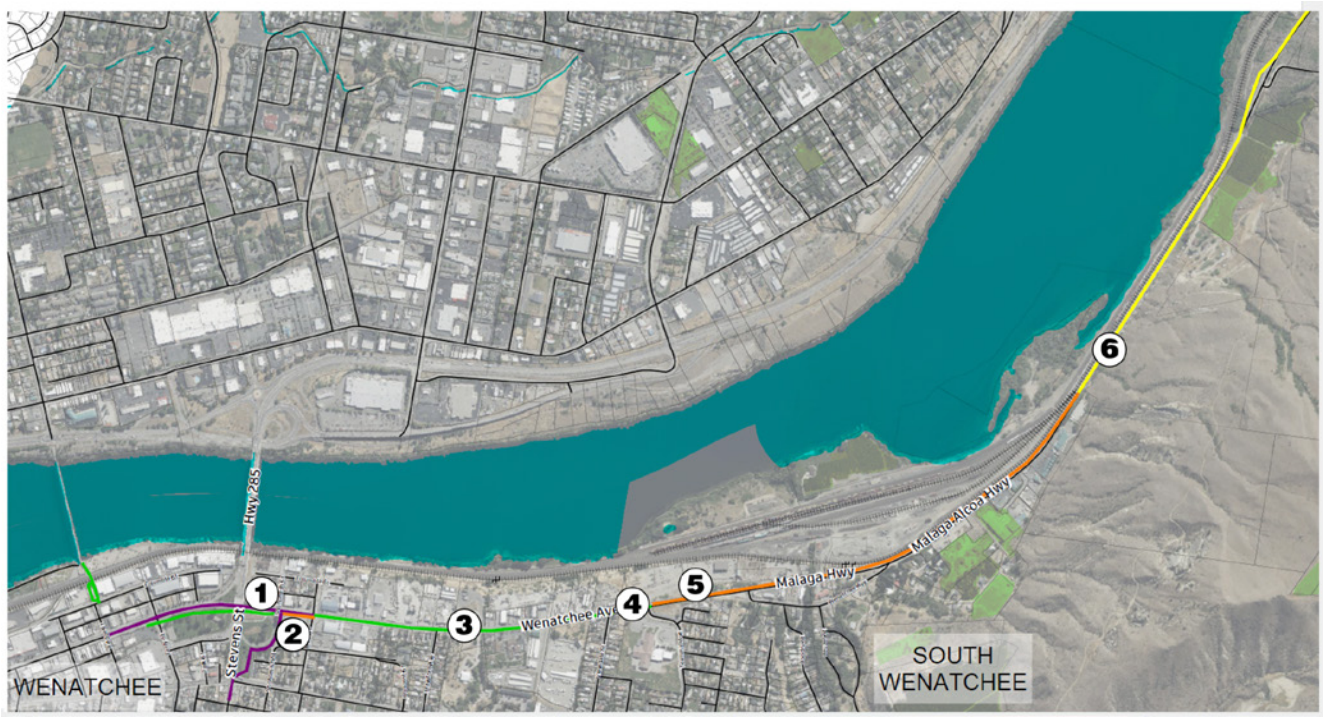


9. Land owned by Chelan Douglas PUD adjacent Rock Island Pond and Hideaway Lake could be used as trail ROW.
10. Highway crossing priority location: Rock Island Dr (near BJs Market) intersection.
    a. Roundabout near BJ's would be supported by the community, but a planning effort just failed to pass.

Additional Information: Rock Island to East Wenatchee Corridor

- Safe highway crossing is needed. What approach makes most sense? Tunnel? Bridge? Roundabout?
- Loop trail along the water in Rock Island was discussed by Community Advisory Committee members with Hwy 28 trail as one leg of the loop
- Hwy 28 ROW is wide enough to build a separated trail near the highway
- Park and ride close to BJ's could be upgraded with a trailhead
- Steep conditions at both ends of Aspen Shores HOA
- Community Advisory Committee members discussed challenges and barriers to routing through established neighborhoods

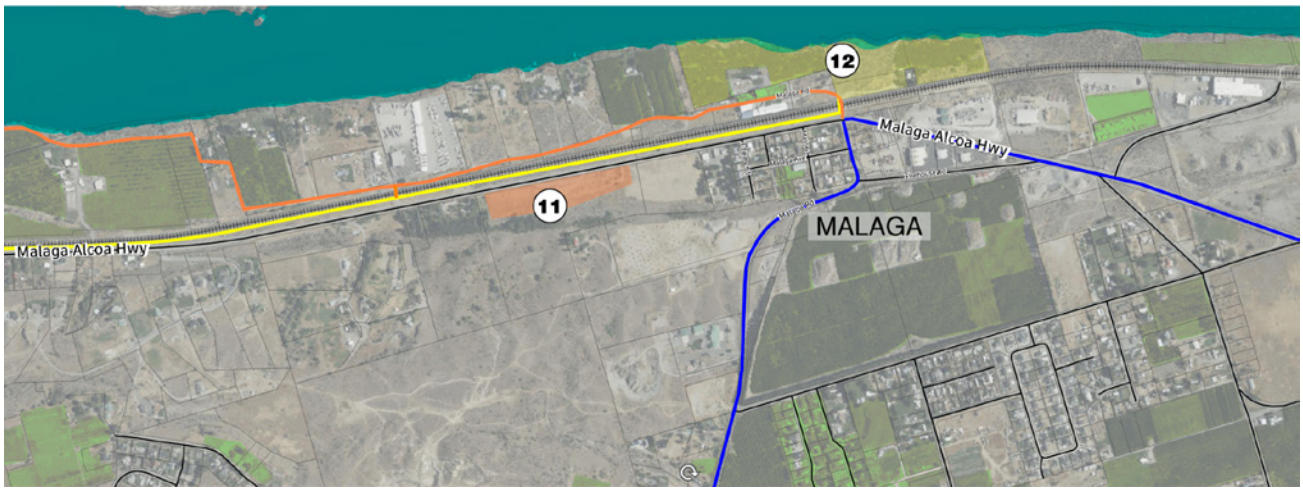
Malaga to Wenatchee Corridor – Opportunities and Constraints



1. Improve crossing for path connection across the bridge on-ramp at Snohomish St and Wenatchee Avenue.
2. “Bench” path into the west side of the road between Marr St and Snohomish St.
3. Cycle track could be configured into Wenatchee Avenue north of Terminal Rd by consolidating bike lanes to the west side of the roadway.
4. A new traffic signal at Terminal Road would allow path users to safely cross highway and create a safer route for students to access school.
5. “Bench” path into east side of Malaga Hwy south of Terminal Road.
6. Road adjacent to rock cut (south side) is a pinch point for trail. Consider north side trail alignment adjacent rail line. Rail with trail condition would allow for the trail to fit well between Malaga Alcoa Hwy and the rail line.



7. Trail could follow closer to the rail line to reduce traffic stress in the vicinity of Hedges Road.
8. Bridge over Stemilt Creek is narrow. New bridge for ped/bike path would be required.
9. Rail crossings limit the ability to run a trail adjacent the Columbia River south bank.
10. Property owners north of the railroad (near Malaga Rd) may allow option for path nearer to the Columbia River south bank.



11. If path is on the north side of the Malaga Alcoa Hwy it will require a highway crossing to reach Malaga City Park.
    a. Need to reduce speed of drivers approaching Malaga City Park to allow for safer crossing.
12. Future Waterfront Park is a destination for path to Malaga.

Additional Information: Malaga to Wenatchee Corridor

- Riverfront pathway, when possible, to create an aesthetically pleasing user experience.
- Safe pathway connections to new school (on Saturday Ave)
- Potential private property conflicts west of Stemilt Creek
- Potential for a public/private partnership with Microsoft?
- Potential for use of a tunnel to cross highway at existing Malaga City Park – suggestion from the Community Advisory Committee members.
- Avoid Old Malaga Rd for the pathway – impractical, steep, and out of the way
- Native American artifacts have been discovered near alignment
- Potential trail extension (or bike lanes) along Malaga Rd (out of project scope).

Technical Advisory Committee (TAC) Input

Initial findings of the desktop analysis and field assessment review were presented to the TAC in May of 2024 and again in at the second TAC meeting in August 2024. The TAC members provided feedback regarding existing conditions and opportunities and constraints.

Community Advisory Committee (CAC) Input

The first Community Advisory Committee (CAC) meetings were held in June of 2024 and the second were in August 2024. The CAC groups were assembled by corridor to help guide the Consultant team with local knowledge of existing conditions and potential opportunities. The first CAC meetings were important to confirm the desktop and field analyses findings. An important outcome of the CAC meetings was the discovery of non-physical opportunities and constraints – conditions that apply to corridors due to business practices, patterns of travel, seasonal impacts, etc.

Appendix C: Social Review



Draft

CHELAN-DOUGLAS REGIONAL PATHWAYS MASTER PLAN

Social Review Report

Prepared for:
Chelan-Douglas Transportation Council

Prepared by
Alta Planning + Design

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Acronyms and Other Abbreviations

Abbreviation	Definition
ACS	American Community Survey
CCD	Census County Division
CDP	Census Designated Place
TNC	Transportation Network Company

1. INTRODUCTION

Studies from across the country routinely find that certain demographic groups typically face greater barriers than others in getting to places they need to go. Past and ongoing transportation decisions impact individual and community access to opportunities and clean environment, safety, choice of residence, and cost of living. Often, the burdens and benefits of transportation decisions are not equitably distributed. The demographic groups more often burdened by these decisions include people who identify as Black, Indigenous, and People of Color; older adults; people with low incomes; people without a high school diploma; people without access to a motor vehicle; and people over-burdened by housing costs.[1,2,3]

A careful examination of social and demographic factors along the pathways is needed so that the Chelan Douglas pathways plan addresses the challenges faced by underserved communities and advances transportation options that are equitably distributed. The social review presented in this memo can inform the next phases of project outreach, including specific strategies for connecting with underserved groups so that their perspectives and experiences can be incorporated into the planning process. Furthermore, this social review will be incorporated into the alignment evaluation criteria that will determine the final project recommendations.

[1] Botchwey, N., Dannenberg, A. L., & Frumkin, H. (2022). *Making healthy places: designing and building for well-being, equity, and sustainability*. Island Press.

[2] International City/County Management Association. (2003). Active living for older adults: Management strategies for healthy and livable communities. *Washington, DC: ICMA. Retrieved April 21*, 2012.

[3] McKenzie, B. (2014). *Modes less traveled: Bicycling and walking to work in the United States, 2008-2012* (No. ACS-25). Washington, DC: US Department of Commerce, Economics and Statistics Administration, US Census Bureau.

2. KEY TAKEAWAYS

Chelan to Manson Pathway Corridor

- Manson CDP has median household income of $55,283. In comparison, Chelan city, and Chelan county have a median household income of over $70,000. Chelan city and Manson CDP have higher Hispanic/Latino population of over 30% compared to the 13.5% statewide (see **Table 2** and **see Table 7**).
- Most households in the along the Chelan to Manson Pathway corridor have high vehicle access with less than 10% of households noty having access to a vehicle (see **Figure 2**).
- Among the trip takers who took trips that originated within 1 mile of the corridor, the Chelan to Manson Pathway Corridor had the highest proportion (41%) of trip takers below the median household income compared to all the other pathway corridors in this study (see **Figure 4**).

Wenatchee to Entiat to Chelan Pathway Corridor

- Among the three cities in the corridor, Wenatchee has relatively higher population, a higher proportion of people of color, and lower median household income. In general, while people walking, biking, or taking transit to work in the three cities was 3% or less, Chelan city had 11% of population who commuted to work by walking**.** This is higher than Wenatchee and Entiat, and Washington state which have 3% or less population who commute to work by walking (see **Table 3** and **see Table 7**)**.**
- The census block groups along the northeastern portions of the pathway corridor have higher proportion of low-income population and households without access to a vehicle (see **Figure 5**)**.**
- About 35% of trip takers who took trips originating within 1 mile of the corridor were below median household income (see **Figure 7**)**.**

Leavenworth to Cashmere to Wenatchee Pathway Corridor

- About 40% of the population in Wenatchee are people of color with 33.7% identifying as Hispanic/Latino, a relatively higher proportion than Leavenworth and Cashmere. In comparison, Washington state has 35% people of color with 13.5% identifying as Hispanic/Latino. Leavenworth had the highest share of people who commuted to work by walking in comparison to the cities in all the pathway corridors in this study. This was also higher than the proportion of people walking to work in Chelan county and Washington state (4% or less) (see **Table 4** and **see Table 7)**.
- Census block groups in Wenatchee have relatively higher percentages of people of color, and households without access to a vehicle, compared to other areas in the pathway corridor. (see **Figure 8)**.
- 34% of trip takers in the corridor who took trips that originated within 1 mile of the corridor were below median income (see **Figure 10)**.

Malaga to Wenatchee Pathway Corridor

- Compared to Malaga CCD, Wenatchee has a higher population, and higher percentage of people of color. Malaga CCD has a higher median household income of $95,746 compared to $66,143 in Wenatchee. Malaga CCD's median household income is also higher than that of Chelan county

and that of Washington state. 11.8% of population in Wenatchee are in poverty, higher proportion compared to 3.7% in Malaga CCD (see **Table 5** and **see Table 7**).

- All census block groups in Malaga CCD have less than 10% of population below low-income and households with access to a vehicle. Wenatchee has several census block groups with 10% or more population below low-income and households with access to vehicle, with some census block groups being as high as 30%-40% (see **Figure 11**).
- Among the trip takers in the corridor who took trips originating within 1 mile of the corridor, 59% were below median household income and 23% of trips were for school/work (see **Figure 13**). The analysis was restricted to areas to the south of the Columbia River.

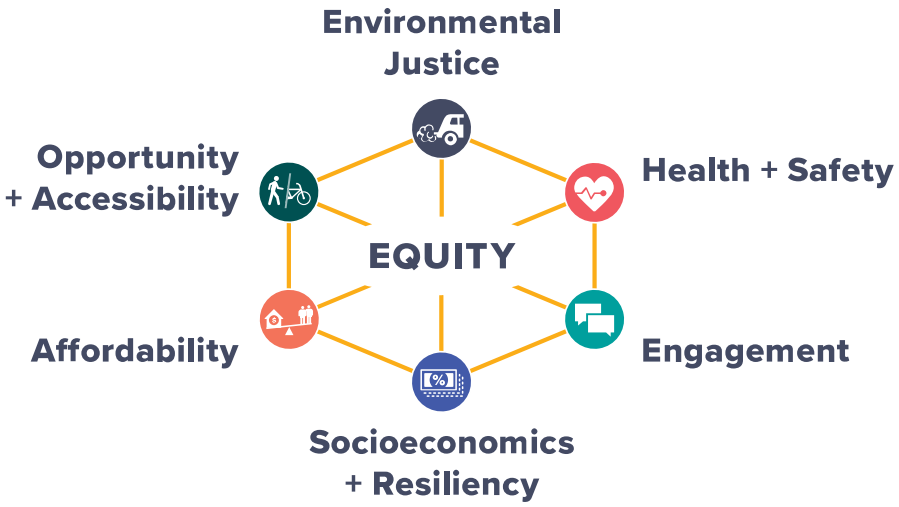
Rock Island to East Wenatchee Pathway Corridor

- East Wenatchee has a median household income of $78,312, higher than $53,359 in Rock Island. 19% of population in East Wenatchee have bachelor's degree or higher, higher than 8% in Rock Island but lower than the statewide percentages of 38.0% (see **Table 6** and **see Table 7)**.
- Most census block groups in and around the corridor have 20% or higher percentages of people of color. Southwestern portions in East Wenatchee have a slightly higher proportion of people without access to a vehicle, compared to other census block groups in the corridor (see **Figure 14)**.
- Among the trips that originated within one mile of the corridor, 24% were made for the purpose of work or school. The corridor had the lowest proportion of trip-takers, about 20%, below median household income (see **Figure 16)**. The analysis was restricted to areas to the north of the Columbia River.

3. SOCIAL REVIEW USING DATA

There is not a one-size-fits-all approach in social review since disadvantaged populations and their transportation-related concerns vary significantly between communities. The datasets used in the social review stem from six overarching dimensions of equity, and are all large-scale, publicly available, and spatially attributable data. These six dimensions of equity are shown in **Figure 1** and defined below.

FIGURE 1: DIMENSIONS OF EQUITY: WHICH FACETS OF EQUITY ARE IMPORTANT TO A PARTICULAR COMMUNITY IS HIGHLY CONTEXTUAL.



1. **Engagement**: The inclusion of those who have been historically excluded and marginalized from power and decision-making processes. (Engagement is essential to equitable planning processes, and while this analysis does not operationalize any datasets related to engagement specifically, one of the primary uses for the analysis of the other five dimensions is to inform engagement priorities.)[4]

2. **Opportunity and Accessibility**: Opportunities for people to improve their quality of life, and the role of transportation in enabling the connections to those opportunities.

3. **Environmental Justice**: The fair treatment of all communities with regards to pollution and other environmental burdens that often result from proximity to industry, the transportation system, or other pollution sources. These impacts often disproportionately harm historically marginalized

[4] Engagement is difficult to capture well in a large, publicly available spatial database due to its localized, historical, and contextual nature. There are no actionable databases that we know of that indicate the degree of political enfranchisement of different communities at the national scale. We acknowledge that this is a major component of any project and recommend that it be described separately, and in addition to, the other five dimensions of equity. While our proposed index does not account for this dimension of equity directly, it is correlated with the other factors considered. In addition, we encourage projects to integrate equitable engagement into their analysis to the greatest extent possible.

populations.

4. **Health and Safety**: The extent to which the built environment contributes to positive health outcomes, and the ability of the transportation system to eliminate traffic deaths while allowing for human error (known as a safe system approach).

5. **Affordability**: The extent to which housing and transportation costs contribute to the risk of involuntary displacement or support a high quality of life.

6. **Socioeconomics and Resiliency**: The ability to withstand and prepare for a major unforeseen disruption or natural disaster, especially among socially vulnerable populations. Socially vulnerable populations are especially at risk during public health emergencies or economic crises because of factors like socioeconomic status, household composition, minority status, or housing type and transportation options.

4. METHODS

4.1 Corridor Demographics and Commuting

To analyze the demographic characteristics in the project area, various datasets from the US Census Bureau on racial and ethnic composition, income, education, and age are compared between the different cities in each of the pathway corridors. In some areas, Census Designated Place (CDP) and Census County Division (CCD) data are used. A detailed list of the measures considered is shown in **Table 1.**

TABLE 1: CENSUS DATA USED IN ANALYZING DEMOGRAPHICS AND COMMUTING CHARACTERISTICS OF COMMUNITIES. SOURCE: 2018-2022 US CENSUS BUREAU AMERICAN COMMUNITY SURVEY 5-YEAR ESTIMATES

Measure	Census Table	Field/Location
Population	P1. Total Population*	Total*
Percentage people of color	B03002. Hispanic or Latino Origin by Race	Not Hispanic or Latino, population of one race, American Indian and Alaska Native alone
Hispanic/Latino		Not Hispanic or Latino, population of one race, Asian alone plus
White alone (Not Hispanic or Latino)		Not Hispanic or Latino, population of one race, Black or African American alone
Asian alone (Not Hispanic or Latino)		Hispanic or Latino
American Indian and Alaska Native alone (Not Hispanic or Latino)		Not Hispanic or Latino, population of one race, Native Hawaiian and other Pacific Islander alone
Two or more races (Not Hispanic or Latino)		Not Hispanic or Latino, Population of one race, White alone
Median household income	S1903. Median income in the past 12 months (in 2022 inflation-adjusted dollars)	Households, median income (dollars)
Employment rate	DP03. Selected economic characteristics	Population 16 years and over, in labor force – percentage
Percentage Population in poverty	C17002. Poverty status in the past 12 months	Population for whom poverty status is determined, percentage below poverty level
Percentage with a bachelor's degree or higher	B15003. Educational attainment for the population 25 years and over	Bachelor's degree (and all categories that come above it)
Median age (in years)	S0101. Age and sex	Median age (years) – estimate
Percentage 65 and older		Selected age categories, 65 years and older (and all ages above that)
Percentage with a disability	S1810. Disability characteristics	Total civilian noninstitutionalized population, percentage with a disability – estimate
Percentage taking public transit to work	S0801. Commuting Characteristics by Sex	Workers 16 and over, public transportation (excluding taxicab) – estimate
Percentage walking to work		Workers 16 and over, Walked – estimate
Percentage biking to work		Workers 16 and over, Bicycle – estimate

Census Explorer Website: Census Bureau Data

* Population measure is from Decennial Census data

4.2 Mapping Demographic Data

The project team also mapped the percentage of low-income populations, people of color, and households without access to a vehicle for the project area using census block group data[5]. This provides a visual tool to compare different sections of the corridor and inform how the proposed trail alignments may or may not benefit disadvantaged groups who already face barriers in transportation.

4.3 Trip Counts

The project team mapped trip counts from Replica Places, a data analytics firm that produces datasets that model real-world travel behavior by aggregating cellphone data.[i] Trip destination studies were set in Replica to understand trips that start within 1 mile of the trail alternatives for each corridor. Among these trips, those made by private vehicle or taxi/transportation network company (TNC) that are less than 5 miles were analyzed to assess potential for active transportation mode shift. Additionally, the analysis summarized trip takers below the median household income, trips made by people who are unemployed, and all work or school trips. Generally, the count differences in the number of trips and trip takers correspond to the length of the corridor/study area.

Note: This analysis uses trips that start within 1 mile of the trail alternatives and then filtering to those trips by private vehicle or taxi and are five miles or less. Since three-to-five-mile trips are considered to have potential to shift towards walking or biking, these parameters were set.

[5] U.S. Census Bureau. (2024). 2018-2022 American Community Survey Data. Available at: data.census.gov

- **People of Color data:** Data from Census Table B03002. Hispanic or Latino Origin by Race
- **Low Income Data**: Data from Census Table C17002. Ratio of Income to Poverty Level in the Past 12 Months
- **Vehicle Availability data:** Data from Census Table B25044. Tenure by Vehicles Available

5. RESULTS

This section summarizes key demographic measures, and trip counts for each pathway corridor.

5.1 Chelan to Manson Pathway Corridor

In the Chelan to Manson pathway corridor, Chelan has a higher population and a slightly higher proportion of people of color compared to Manson CDP. The median household income in Manson CDP is $55,283. This is lower than Chelan ($75,099), Chelan county (79,074), and Washington state ($90,325). Manson CDP has a relatively higher median age of 55 years than Chelan (40 years), Chelan county (40 years) and Washington state (38 years). In terms of commuting to work, 11.5% of people walked to work in Chelan. In comparison, 0% of people in Manson, 4% in Chelan county and 3.2% in Washington state commuted to work by walking. Public transit and biking were not used in both Chelan and Manson to commute to work.

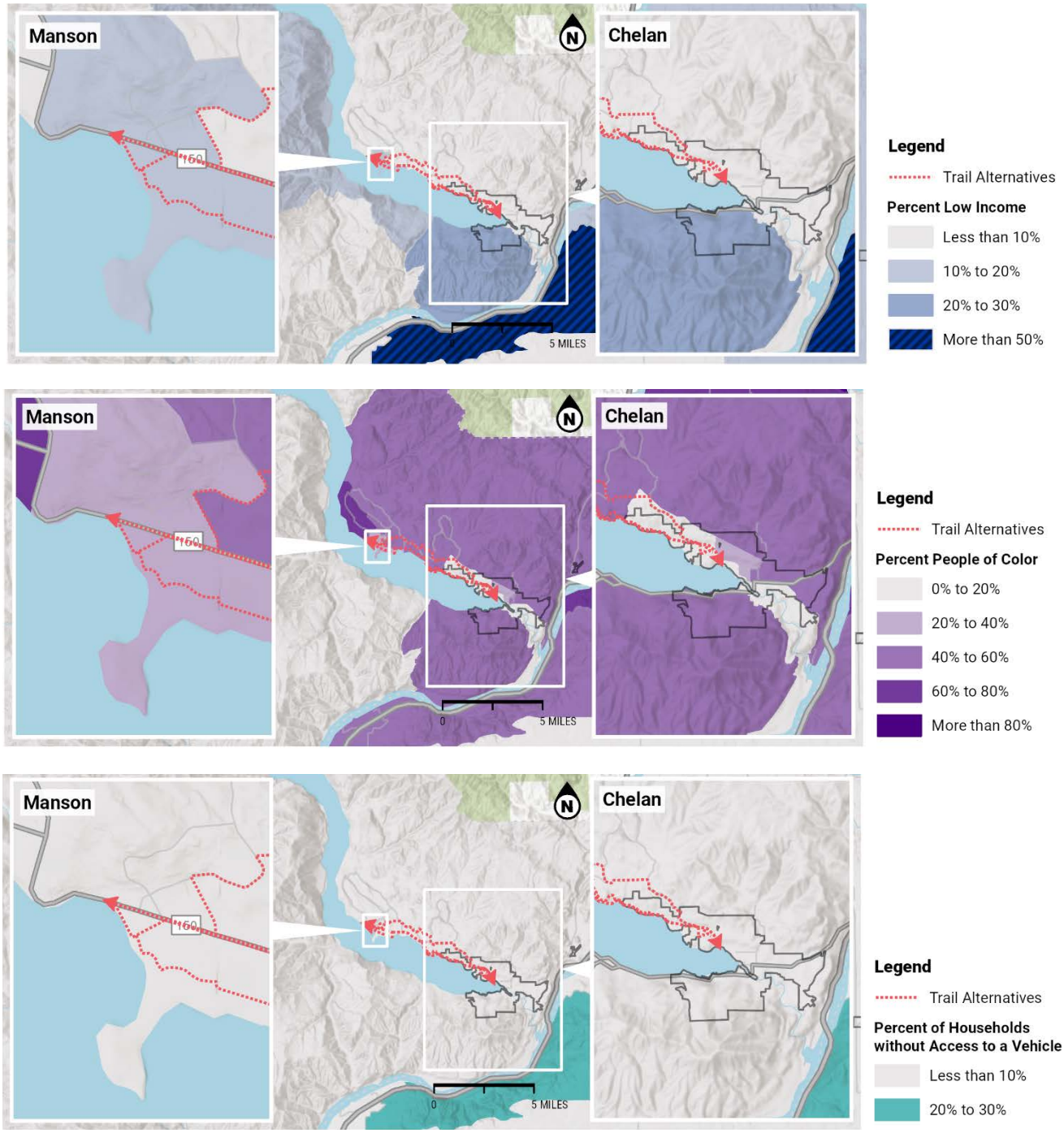
TABLE 2: DEMOGRAPHICS AND COMMUTING CHARACTERISTICS OF THE CITIES IN THE CHELAN TO MANSON PATHWAY CORRIDOR, ACCORDING TO 2018-2022 US CENSUS BUREAU ACS 5-YEAR ESTIMATES

		Chelan	Manson CDP*
Population	Total population	4,222	1,523
Racial/ Ethnic Composition	Percentage people of color	34.7%	32.6%
	Hispanic or Latino	31.7%	30.8%
	White alone (not Hispanic or Latino)	65.3%	67.4%
	Asian alone (not Hispanic or Latino)	1.4%	0%
	American Indian and Alaska Native alone (not Hispanic or Latino)	0.4%	0%
	Two or more races (not Hispanic or Latino)	1.1%	1.1%
Income and Employment	Median household income	$75,099	$55,283
	Employment rate	59.6%	46.8%
	Percentage population in poverty	9.0%	10.9%
Education	Percentage with a bachelor's degree or higher	27.3%	28.0%
Age and Ability	Median age (in years)	39.8	54.8
	Percentage 65 and older	30.1%	30.7%
	Percentage with a disability	16.1%	26.1%
Commute Mode to work	Percentage taking public transit	0%	0%
	Percentage walking	11.5%	0%
	Percentage biking	0%	0%

* CDP is used since Manson is a "Census Designated Place" in American Community Survey Data.

In the Chelan to Manson pathway corridor, there is a slightly higher percentage (20% to 30%) of low-income populations in the southern portions of Chelan. In most census block groups along this pathway corridor, there are about 40% or more percentages of people of color. Less than 10% of households are without access to a vehicle throughout this corridor (see **Figure 2**).

Figure 2: Percentage of low income, people of color, and households without access to a vehicle along the Chelan to Manson pathway corridor. Inset showing city of Chelan and Manson CDP. (ACS 2018-2022 Census Data at the block group level)



5.1.1 Trip Counts

Along the Chelan to Manson pathway corridor, Replica Places estimates there were 6,229 trip takers and 13,348 trips originating within 1 mile of the corridor, based on the travel model for a typical Thursday in fall 2023. These trips do not include commercial (freight) trips or trips greater than 5 miles (see **Figure 3**). Trips taken by private automobiles or taxi/TNC that were 5 miles or less are included. Among the trip takers, 41% were below median income, 2% were unemployed, and 20% were traveling to work or school (see **Figure 4**).

Figure 3: All trips and trip takers originating within 1 mile of the Chelan to Manson pathway corridor.

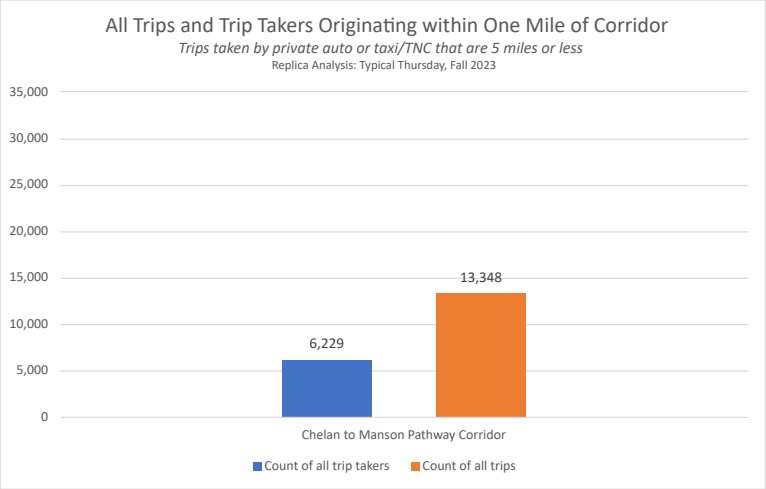
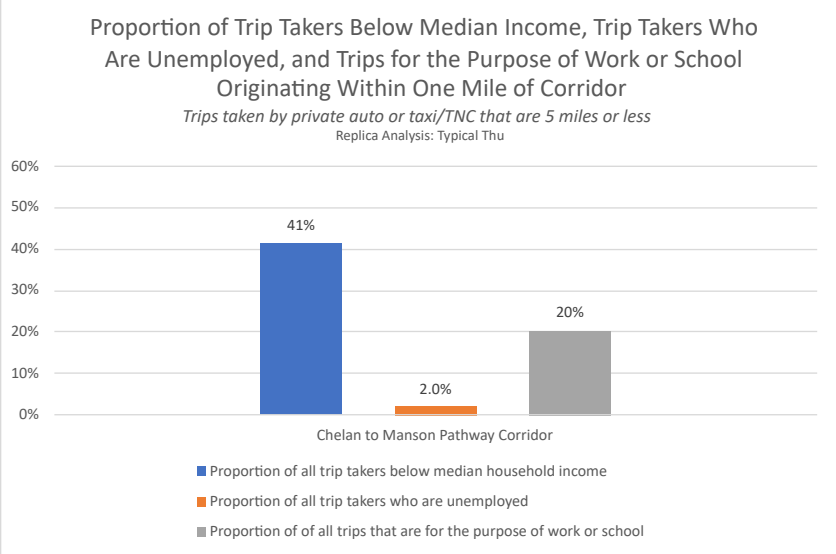


Figure 4: Trip takers below median income, trip takers who are unemployed, and trips for the purpose of school or work in the Chelan to Manson pathway corridor.



5.2 Wenatchee to Entiat to Chelan Pathway Corridor

Among the three cities in the Wenatchee to Entiat to Chelan pathway corridor, Wenatchee has the highest population with 35,508 people, and 40.2% of the population identify as people of color. In the cities of Wenatchee and Chelan, over 30% of the population identify as Hispanic or Latino. This is higher than Chelan county (28.6%) and Washington state (13.5%).

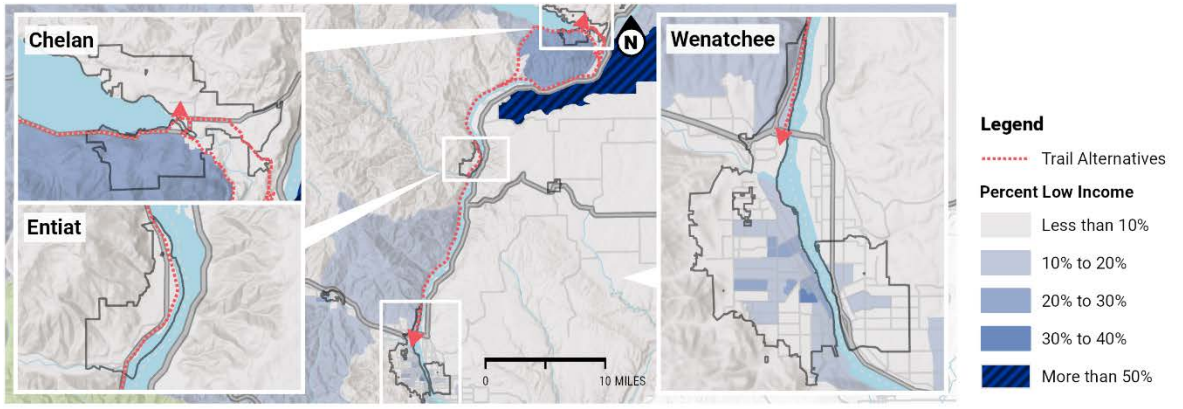
Wenatchee has a lower median household income of $66,143, lower than the cities of Entiat and Chelan that have a median income of over $75,000. In Chelan city, 11.5% of the population walked to work, which is much higher than Entiat and Wenatchee, Chelan county and Washington state where 3% or less people commute to work by walking. See **Table 3** for a detailed description of the demographics and commuting characteristics of the cities in the corridor and **Table 7** for regional demographics.

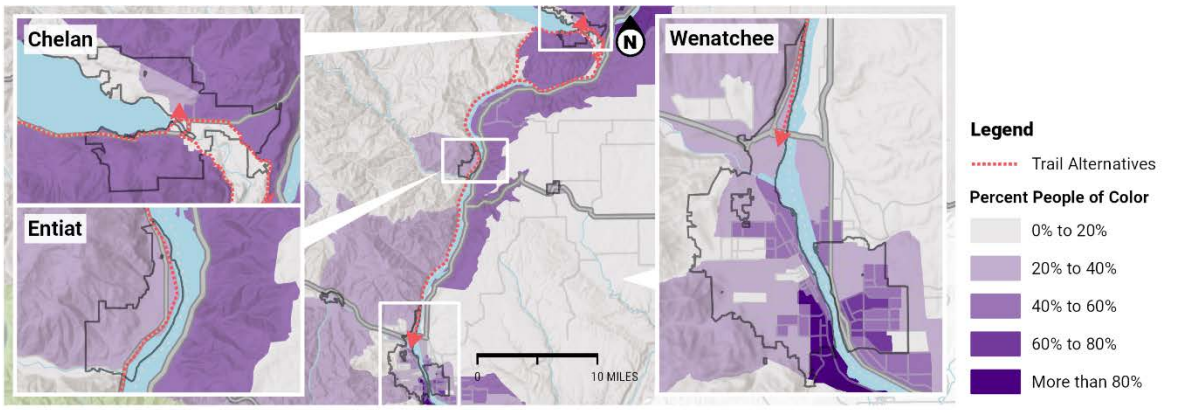
TABLE 3: DEMOGRAPHICS AND COMMUTING CHARACTERISTICS OF THE CITIES IN WENATCHEE TO ENTIAT TO CHELAN PATHWAY CORRIDOR, ACCORDING TO 2018-2022 US CENSUS BUREAU ACS 5-YEAR ESTIMATES

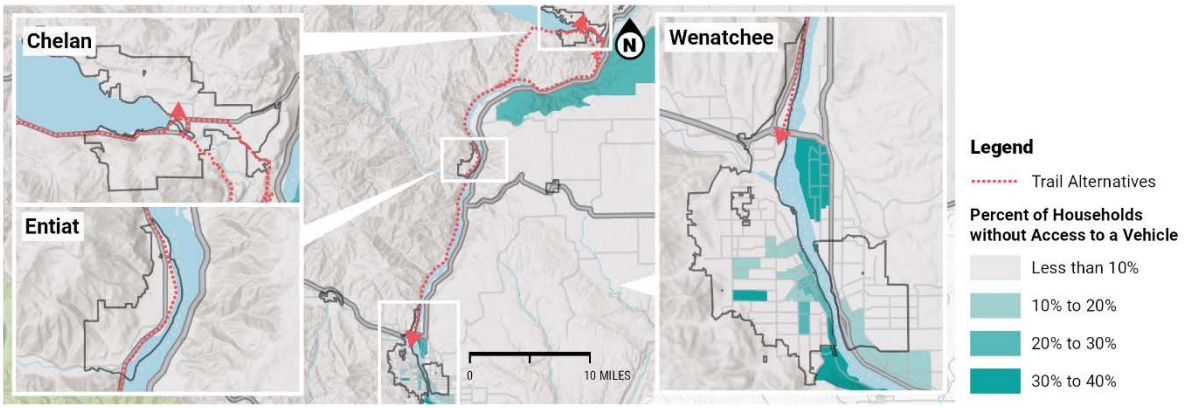
		Wenatchee	Entiat	Chelan
Population	Total population	35,508	1,326	4,222
Racial/ Ethnic Composition	Percentage people of color	40.2%	33.5%	34.7%
	Hispanic or Latino	33.7%	23.3%	31.7%
	White alone (not Hispanic or Latino)	59.8%	66.5%	65.3%
	Asian alone (not Hispanic or Latino)	0.8%	1.4%	1.4%
	American Indian and Alaska Native alone (not Hispanic or Latino)	0.7%	0.3%	0.4%
	Two or more races (not Hispanic or Latino)	3.8%	8.1%	1.1%
Income and Employment	Median household income	$66,143	$75,978	$75,099
	Employment rate	59.6%	64.4%	61.6%
	Percentage population in poverty	11.8%	3.9%	9.0%
Education	Percentage with a bachelor's degree or higher	28.8%	14.1%	27.3%
Age and Ability	Median age (in years)	36.4	42.3	39.8
	Percentage 65 and older	25.7%	29.9%	30.1%
	Percentage with a disability	18.3%	22.8%	16.1%
Commute Mode to Work	Percentage taking public transit	0.9%	3.2%	0%
	Percentage walking	3.2%	1.2%	11.5%
	Percentage biking	0.5%	0%	0%

Along the Wenatchee to Entiat to Chelan pathway corridor, the census block groups near Chelan have the higher percentanges of low-income households. Compared to the rest of the corridor, census block groups in Wenatchee and the surrounding areas have higher proportions of low-income populations, people of color, and households without access to a vehicle (see **Figure 5**).

Figure 5: Percentage of low income, people of color, and households without access to a vehicle along Wenatchee to Entiat to Chelan pathway corridor. Inset showing cities of Chelan, Wenatchee, and Entiat. (ACS 2018-2022 Census Data at the block group level)







5.2.1 Trip Counts

Along the Wenatchee to Entiat to Chelan pathway corridor, Replica Places estimates there were 10,418 trip takers and 19, 114 trips originating within 1 mile of the corridor, based on the travel model for a typical Thursday in fall 2023 (see **Figure 6**). These trips do not include commercial (freight) trips or trips greater than 5 miles. Trips taken by private automobiles or taxi/TNC that were 5 miles or less are included.

Among the trip takers, 35% were below median income, 2% were unemployed, and 18% were traveling to work or school (see **Figure 7**). However, it is important to note the estimates also include trips that originating withing 1 mile on the east side of the corridor which is across the river. Therefore, the estimates of trips and trip takers may be higher.

Figure 6: All trips and trip takers originating within 1 mile of the Wenatchee to Entiat to Chelan pathway corridor.

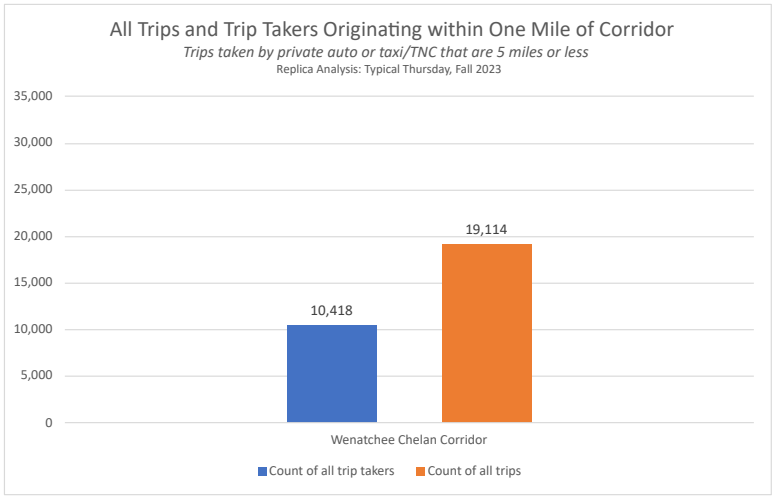
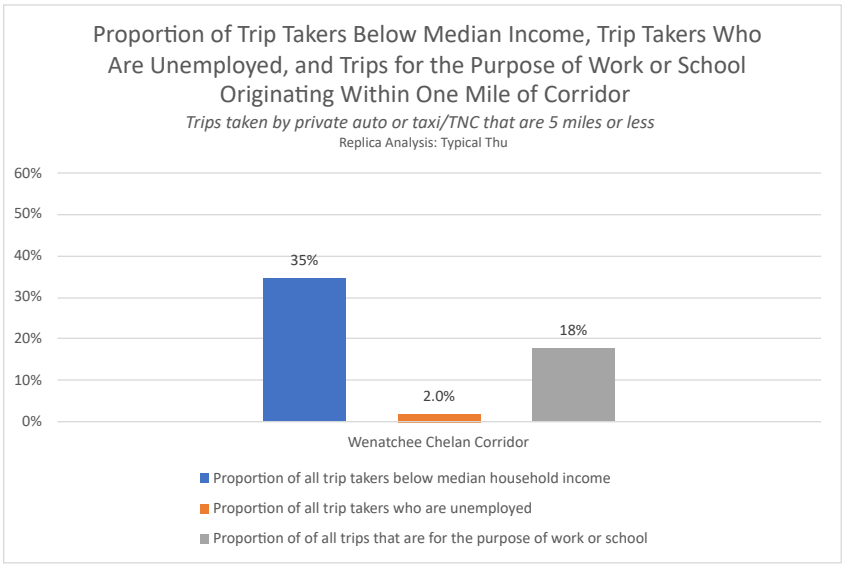


Figure 7: Trip takers below median income, trip takers who are unemployed, and trips for the purpose of school or work in Wenatchee to Entiat to Chelan pathway corridor.



5.3 Leavenworth to Cashmere to Wenatchee Pathway Corridor

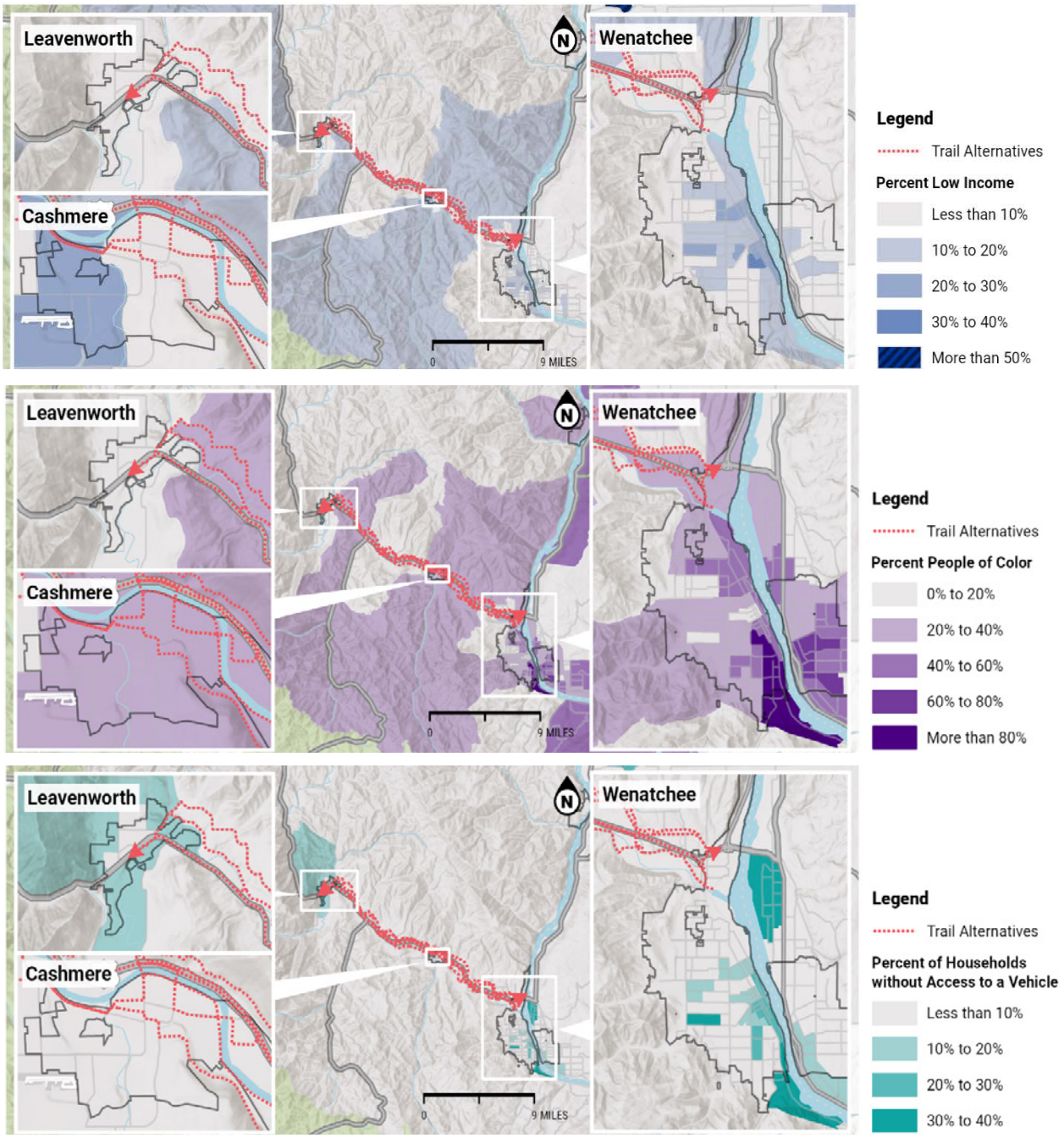
Among the three cities in the Leavenworth to Cashmere to Wenatchee pathway corridor, Wenatchee has the highest population with 35,508 people, higher proportion of people of color (40.2%) and those who identify as Hispanic or Latino (13.5%). In comparison, Washington state has 35% people of color with 13.5% identifying as Hispanic or Latino. Over a quarter of the population in all three cities are 65 and older with Leavenworth having the highest percentage of 33.9%. This proportion of 65 or older population is higher than that of Washington state (22.2%). In Leavenworth, 17.9% of people walked to work, higher than Cashmere (7.4%) and Wenatchee (3.2%), Chelan county (4%) and state of Washington (3.2%). See **Table 4** for a detailed description of the demographics and commuting characteristics of the cities in the corridor and **Table 7** for regional demographics.

TABLE 4: DEMOGRAPHICS AND COMMUTING CHARACTERISTICS OF THE CITIES IN THE LEAVENWORTH TO CASHMERE TO WENATCHEE PATHWAY CORRIDOR, ACCORDING TO 2018-2022 US CENSUS BUREAU ACS 5-YEAR ESTIMATES

		Leavenworth	Cashmere	Wenatchee
Population	Total population	2,263	3,248	35,508
Racial/ Ethnic Composition	Percentage people of color	11.5%	26.6%	40.2%
	Hispanic or Latino	6.9%	22.2%	33.7%
	White alone (not Hispanic or Latino)	88.5%	73.4%	59.8%
	Asian alone (not Hispanic or Latino)	1.2%	0.4%	0.8%
	American Indian and Alaska Native alone (not Hispanic or Latino)	0.1%	0.6%	0.7%
	Two or more races (not Hispanic or Latino)	2.9%	3.4%	3.8%
Income and Employment	Median household income	$66,042	$60,597	$66,143
	Employment rate	61.1%	56.8%	59.6%
	Percentage population in poverty	6.1%	11.0%	11.8%
Education	Percentage with a bachelor's degree or higher	46.5%	23.8%	28.8%
Age and Ability	Median age (in years)	40.9	43.8	36.4
	Percentage 65 and older	25.3%	33.9%	25.7%
	Percentage with a disability	15.6%	26.8%	18.3%
Commute Mode to Work	Percentage taking public transit	0.8%	3.7%	0.9%
	Percentage walking	17.9%	7.4%	3.2%
	Percentage biking	1.9%	0.5%	0.5%

In the Leavenworth to Cashmere to Wenatchee pathway corridor, the census block groups to the southeast of Leavenworth and in the western parts of Cashmere have relatively higher concentrations of low-income populations and people of color. About 10% to 20% of households in and around Leavenworth do not have access to a vehicle. Some census block groups within the Wenatchee that will be served by the proposed corridor have higher percentages of low-income populations, and people of color (see **Figure 8**).

Figure 8: Percentage of low income, people of color, and households without access to a vehicle along Leavenworth to Cashmere to Wenatchee pathway corridor. Inset showing cities of Leavenworth, Cashmere, and Wenatchee (ACS 2018-2022 Census Data at the block group level)



5.3.1 Trip Counts

Along the Leavenworth to Cashmere to Wenatchee pathway corridor, Replica Places estimates there were 16,424 trip takers and 31, 572 trips originating within 1 mile of the corridor, based on the travel model for a typical Thursday in fall 2023 (see **Figure 9**). These trips do not include commercial (freight) trips or trips greater than 5 miles. Trips taken by private automobiles or taxi/TNC that were 5 miles or less are included. Among the trip takers, 34% were below median income, 2% were unemployed, and 19% were traveling for work or school (see **Figure 10**).

Figure 9: All trips and trip takers originating within 1 mile of the Leavenworth to Cashmere to Wenatchee pathway corridor.

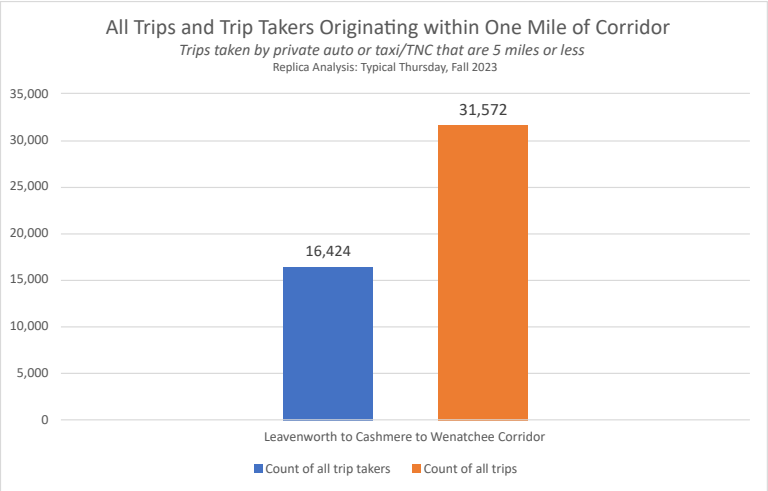
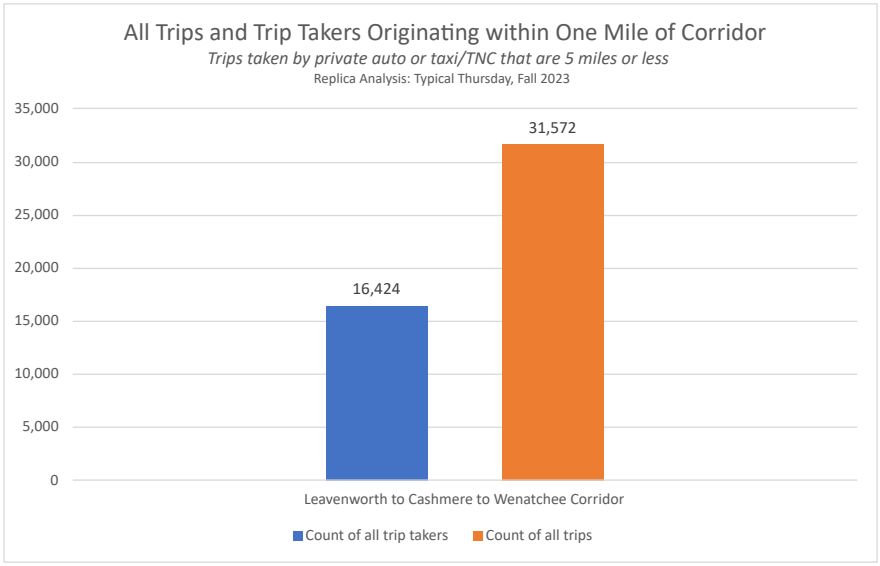


Figure 10: Trip takers below median income, trip takers who are unemployed, and trips for the purpose of school or work in Leavenworth to Cashmere to Wenatchee pathway corridor



5.4 Malaga to Wenatchee Pathway Corridor

In the Malaga to Wenatchee pathway corridor, Wenatchee has a higher population and percentage of people of color. The median household income in Malaga CCD is over $95,746, higher than $66,143 in Wenatchee. Malaga CCD's median household income is also higher than that of Chelan county ($79,422) and that of Washington state ($90,325). The poverty rate is higher in Wenatchee with over 12% of people living in poverty compared to 3.7% in Malaga CCD.

About 24% of the population in Malaga are aged 65 or older, which is higher than 17.6% of the population in Wenatchee city and 22.2% in Washington state. Only a small percentage of the population in Wenatchee and Malaga, about 3% or less, commuted to work by walking, biking, or public transit. See **Table 5** for a detailed description of the demographics and commuting characteristics of the cities in the corridor and **Table 7** for regional demographics.

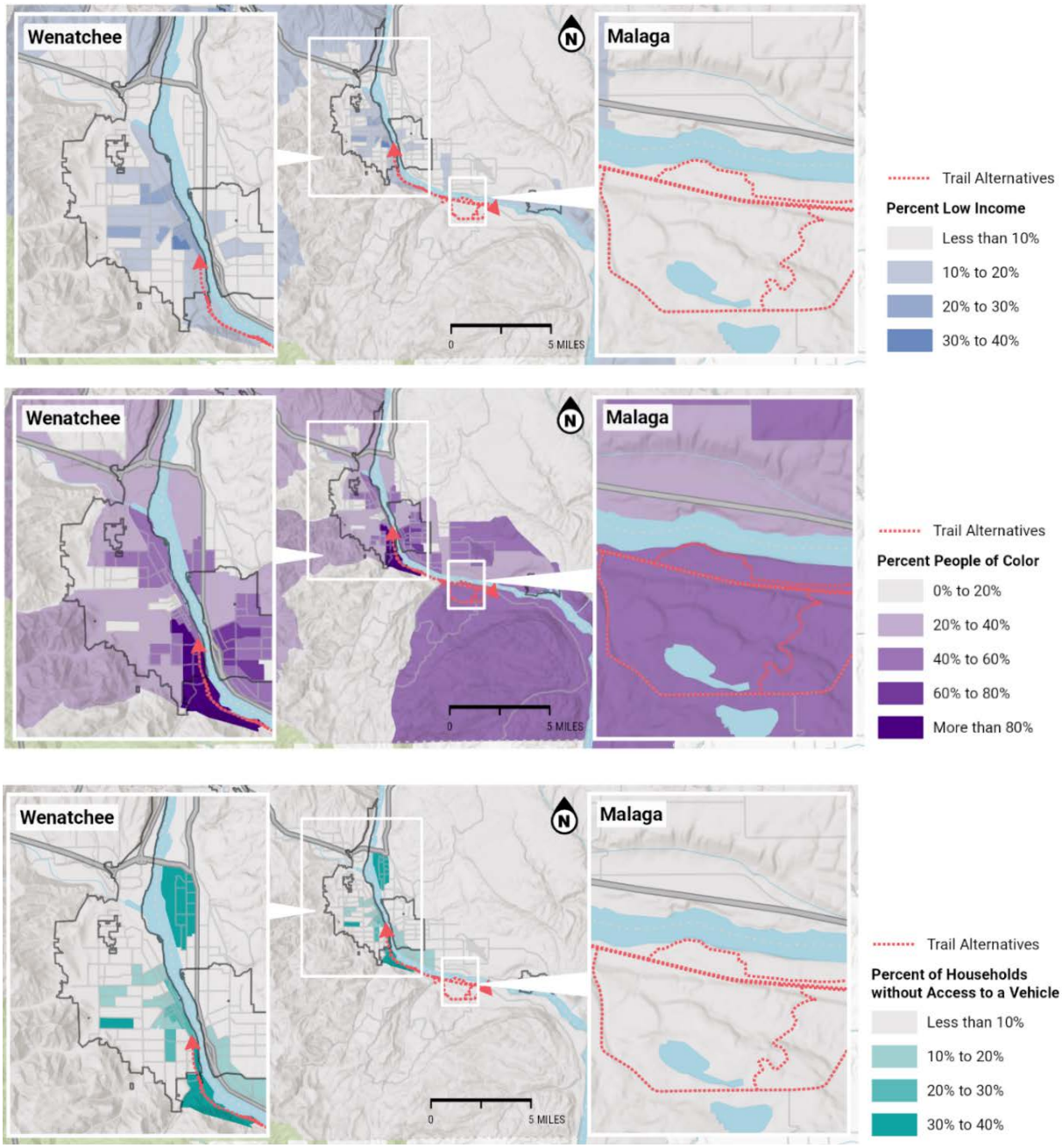
TABLE 5: DEMOGRAPHICS AND COMMUTING CHARACTERISTICS OF THE CITIES IN THE MALAGA TO WENATCHEE PATHWAY CORRIDOR, ACCORDING TO 2018-2022 US CENSUS BUREAU ACS 5-YEAR ESTIMATES

		Wenatchee	Malaga CCD*
Population	Total population	35,508	4,531
Racial/ Ethnic Composition	Percentage people of color	40.2%	31.6%
	Hispanic or Latino	33.7%	28.5%
	White alone (not Hispanic or Latino)	59.8%	68.4%
	Asian alone (not Hispanic or Latino)	0.8%	0%
	American Indian and Alaska Native alone (not Hispanic or Latino)	0.7%	0.5%
	Two or more races (not Hispanic or Latino)	3.8%	1.9%
Income and Employment	Median household income	$66,143	$95,746
	Employment rate	59.6%	62.4%
	Percentage population in poverty	11.8%	3.7%
Education	Percentage with a bachelor's degree or higher	28.8%	30.0%
Age and Ability	Median Age (in years)	36.4	37.4
	Percentage 65 and older	17.6%	24.1%
	Percentage with a disability	18.3%	17.1%
Commute Mode to Work	Percentage taking public transit	0.9%	0%
	Percentage walking	3.2%	1.6%
	Percentage biking	0.5%	0%

* CCD is used since Malaga is not designated as a "Place" in American Community Survey Data.

Along the Malaga to Wenatchee pathway corridor, census block groups on the eastern portions in Wenatchee have higher proportions of low-income populations, people of color, and households without access to a vehicle. In particular, the southeastern portions of Wenatchee have the more than 80% percentages of people of color. Less than 10% of households in Malaga are low income and do not have access to a vehicle. In the census block groups in and around Malaga, 40% to 60% of the population are people of color (see **Figure 11**).

Figure 11: Percentage of low income, people of color, and households without access to a vehicle along Malaga to Wenatchee pathway corridor. Inset showing Malaga and cities of Wenatchee and East Wenatchee (ACS 2018-2022 Census Data at the block group level)



5.4.1 Trip Counts

Along the Malaga to Wenatchee pathway corridor, Replica Places estimates there were 13,227 trip takers and 21,663 trips that originated within 1 mile of the corridor, based on the travel model for a typical Thursday in fall 2023 (see Figure 12). Only areas to the south of the Columbia River are considered in the analysis. These trips do not include commercial (freight) trips or trips greater than 5 miles. Trips taken by private automobiles or taxi/TNC that were 5 miles or less are included. Among the trip takers, 59% were below median income, 2.1% were unemployed, and 23% were traveling to work or school (see Figure 13).

Figure 12: All trips and trip takers originating within 1 mile of the Malaga to Wenatchee pathway corridor.

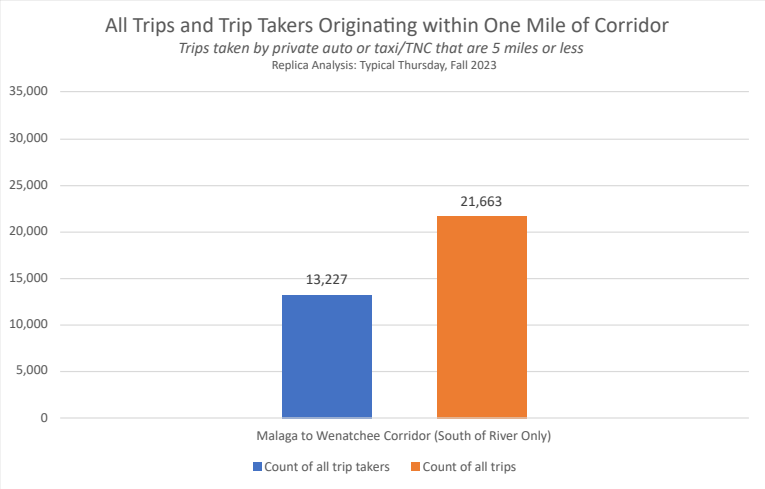
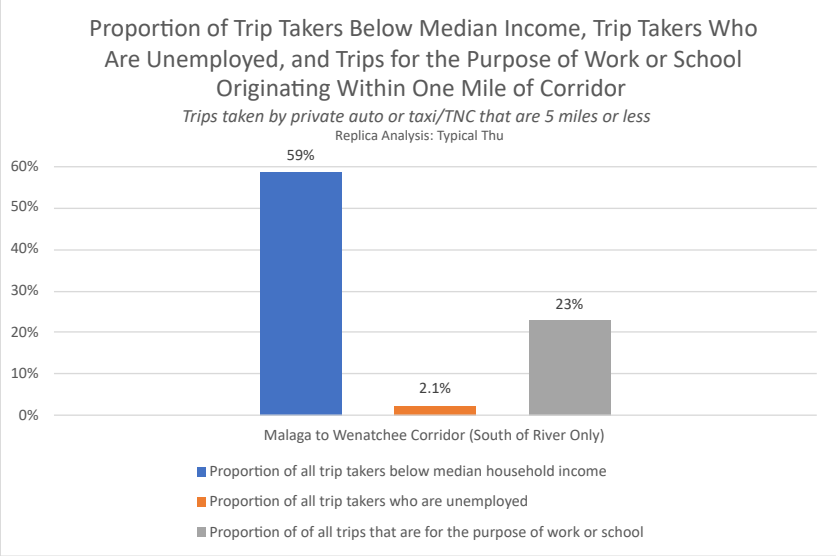


Figure 13: Trip takers below median income, trip takers who are unemployed, and trips for the purpose of school or work in Malaga to Wenatchee pathway corridor.



5.5 Rock Island to East Wenatchee Pathway Corridor

Among the two cities in the Rock Island to East Wenatchee pathway corridor, East Wenatchee has higher population with 14,158 people. Rock Island has a relatively higher proportion of people of color (59.4%) and those who identify as Hispanic/Latino (57.4%). The median household income in Rock Island is $53,359, which is lower than East Wenatchee ($78,312). 19% of population in East Wenatchee have bachelor's degree or higher, higher than Rock Island (8%) but lower than the statewide percentages (38.0%). Over a quarter of the population in Rock Island have a disability, which is higher than that of Douglas county and the state of Washington.

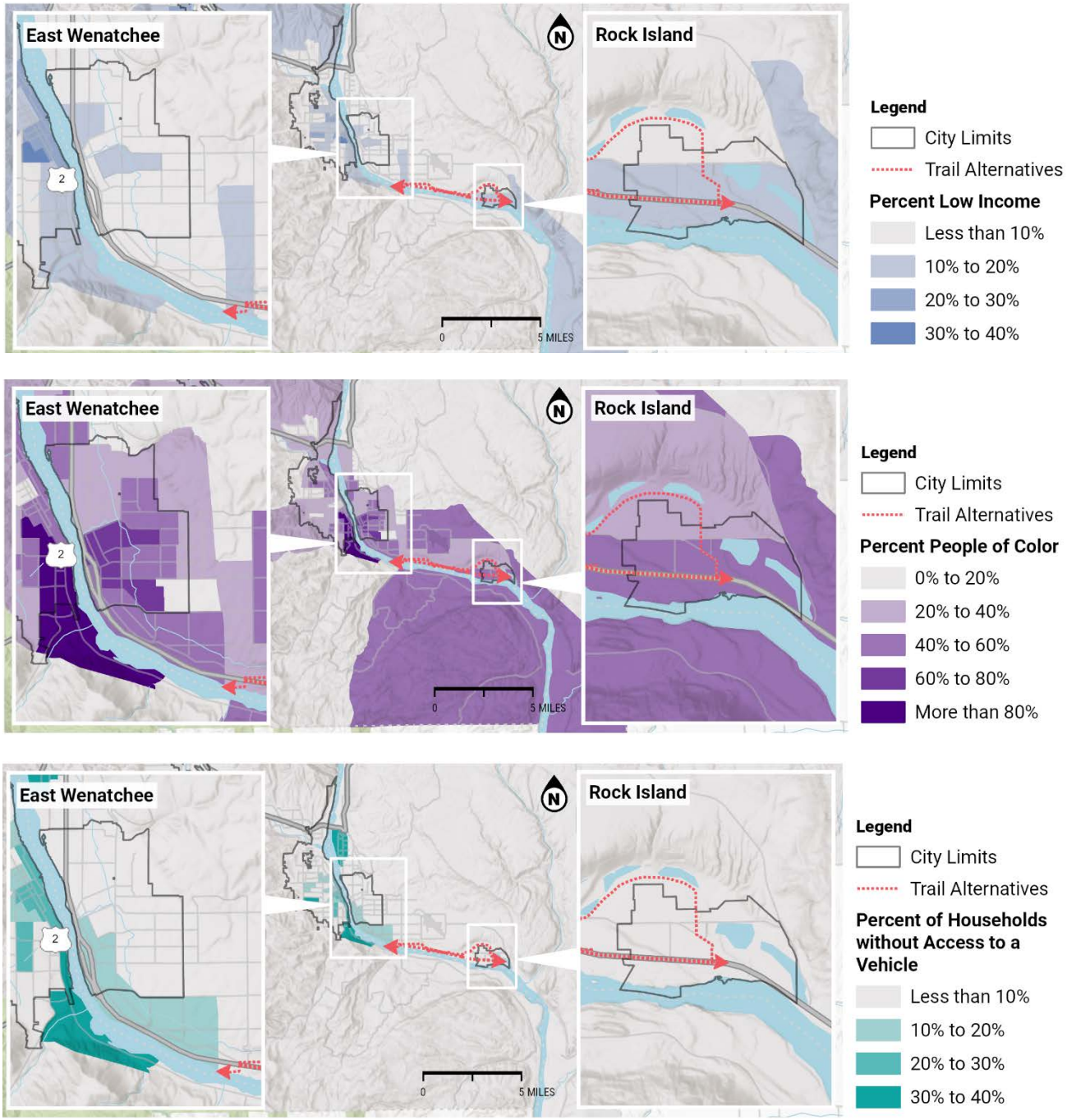
In terms of commuting to work, a relatively higher percentage in East Wenatchee took public transit, whereas a slightly higher proportion of people walked in Rock Island. See **Table 6** for a detailed description of the demographics of the cities in the corridor and **Table 7** for regional demographics.

TABLE 6: DEMOGRAPHICS AND COMMUTING CHARACTERISTICS OF THE CITIES IN THE ROCK ISLAND TO EAST WENATCHEE PATHWAY CORRIDOR, ACCORDING TO 2018-2022 US CENSUS BUREAU ACS 5-YEAR ESTIMATES

		East Wenatchee	Rock Island
Population	Total population	14,158	1,279
Racial/ Ethnic Composition	Percentage people of color	42.1%	59.4%
	Hispanic or Latino	34.6%	57.4%
	White alone (not Hispanic or Latino)	57.9%	40.6%
	Asian alone (not Hispanic or Latino)	1%	0%
	American Indian and Alaska Native alone (not Hispanic or Latino)	0%	0.2%
	Two or more races (not Hispanic or Latino)	5.5%	0.2%
Income and Employment	Median household income	$78,312	$53,359
	Employment rate	64.7%	50.4%
	Percentage population in poverty	6.9%	6.0%
Education	Percentage with a bachelor's degree or higher	18.8%	8.1%
Age and Ability	Median age (in years)	35.3	33.9
	Percentage 65 and older	15.0%	11.6%
	Percentage with a disability	21.4%	27.3%
Commute Mode to Work	Percentage taking public transit	1.7%	0%
	Percentage walking	0.7%	4.4%
	Percentage biking	0.5%	0%

In the Rock Island to East Wenatchee pathway corridor, some census block groups in the central portions of East Wenatchee have slightly higher proportions of people of color. In general, most census block groups in and around the corridor have 20% or higher percentages of people of color. Also, southwestern portions in East Wenatchee have a slightly higher proportion (10% to 20%) of people without access to a vehicle (see **Figure 14**).

Figure 14: Percentage of low income, people of color, and households without access to a vehicle along Rock Island to East Wenatchee pathway corridor. Inset showing cities of East Wenatchee, and Rock Island (ACS 2018-2022 Census Data at the block group level)



5.5.1 Trip Counts

Along the Rock Island to East Wenatchee pathway corridor, Replica Places estimates there were 2,431 trip takers and 3,519 trips originating within 1 mile of the corridor, based on their travel model for a typical Thursday in fall 2023. Only areas to the north of the Columbia River are considered in the analysis. These trips do not include commercial (freight) trips or trips greater than 5 miles (see **Figure 15**). Trips taken by private automobiles or taxi/TNC that were 5 miles or less are included. Among the trip takers, 20% were below median income, 2.3% were unemployed, and 24% were traveling to work or school (see **Figure 16)**.

Figure 15: All trips and trip takers originating within 1 mile of the Rock Island to East Wenatchee pathway corridor.

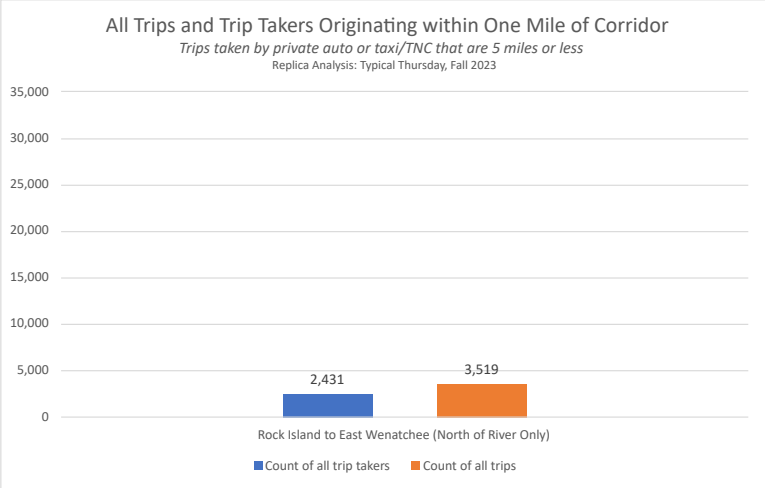
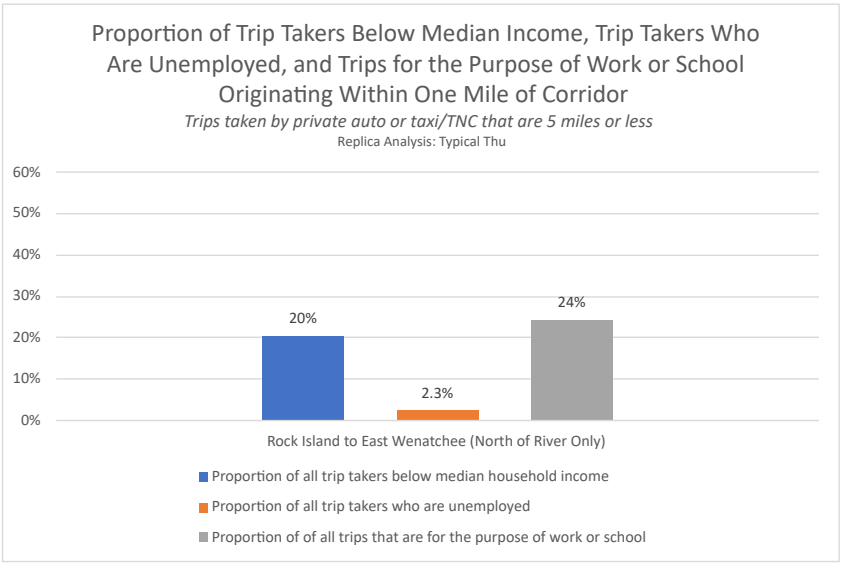


Figure 16: Trip takers below median income, trip takers who are unemployed, and trips for the purpose of school or work in Rock Island to East Wenatchee pathway corridor.



5.6 Regional Demographics and Commuting

Regional demographics and commuting characteristics help compare city level data at the corridor level with that of the larger region and state level data. Here, the demographics and commuting characteristics of Chelan and Douglas counties and Washington state are used to compare with the corridor level analysis.

TABLE 7: DEMOGRAPHICS OF THE CHELAN AND DOUGLAS COUNTIES AND WASHINGTON STATE, ACCORDING TO 2018-2022 US CENSUS BUREAU ACS 5-YEAR ESTIMATES

		Chelan county	Douglas county	Washington state
Population	Total population	79,074	42,938	7,705,281
Racial/ Ethnic Composition	Percentage people of color	33.6%	38.8%	34.5%
	Hispanic or Latino	28.6%	33.3%	13.5%
	White alone (not Hispanic or Latino)	66.4%	61.2%	65.5%
	Asian alone (not Hispanic or Latino)	0.8%	0.7%	9.1%
	American Indian and Alaska Native alone (not Hispanic or Latino)	0.6%	0.6%	0.9%
	Two or more races (not Hispanic or Latino)	2.7%	3.2%	6.1%
Income and Employment	Median household income	$71,876	$79,422	$90,325
	Employment rate	61.6%	64.1%	64.6%
Education	Percentage with a bachelor's degree or higher	29.5%	21.7%	38.0%
Age and Ability	Median age (in years)	40.1	37.8	38.0
	Percentage 65 and older	28%	25.2%	22.2%
	Percentage with a disability	17.9%	18.5%	13.0%
Commute Mode to work	Percentage using public transit	0.7%	1.0%	4.6%
	Percentage walking	4.0%	1.7%	3.2%
	Percentage biking	0.4%	0.6%	0.7%

6. NOTES

[1] Replica Places is a seasonal, high-fidelity simulation that accurately represents the population and its travel patterns across the country. Trends estimates are based on a composite of data sources, including, but not limited to road traffic, mobile location, and financial transaction data. Replica uses these to run a full activity-based model that produces disaggregate travel behaviors for the entire synthetic population for a typical weekday and weekend day each week. For spending, advanced modeling and statistical weighting methods are applied to generate a representative weekly total estimate of consumer spending activity. Together, these provide vital indicators for tracking, understanding, and comparing patterns of mobility and economic recovery across geographic regions in a high level of detail. Replica only ever handles data that has been de-identified and only presents data in modeled aggregates.

Appendix D: Natural Resources Report



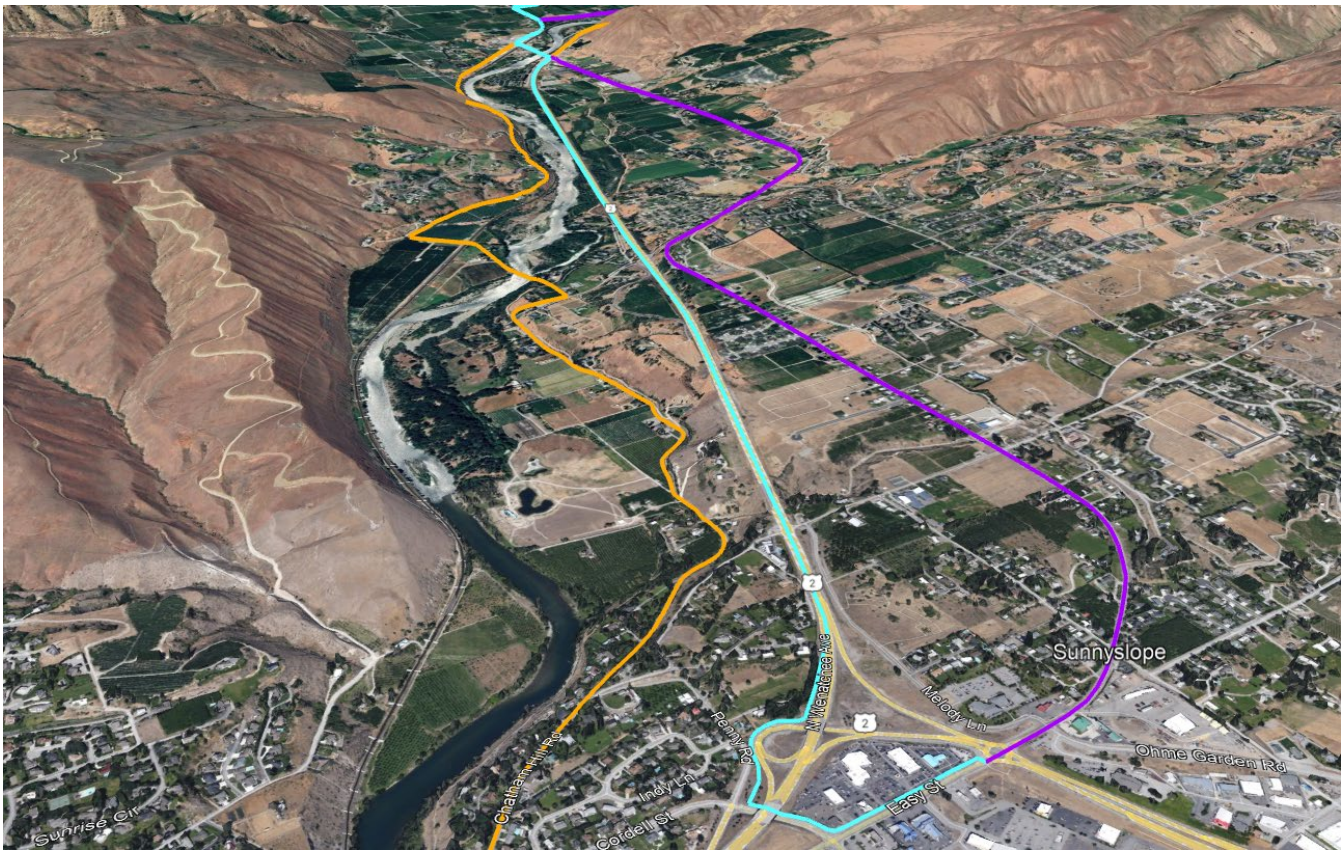
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CHELAN-DOUGLAS REGIONAL PATHWAYS MASTER PLAN

Natural Resources Existing Conditions Report

Prepared for
Alta Planning + Design

October 2024



Draft

CHELAN-DOUGLAS REGIONAL PATHWAYS MASTER PLAN

Natural Resources Existing Conditions Report

Submitted to:
Alta Planning + Design

Prepared for:
Chelan-Douglas Transportation Council

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Chelan-Douglas Regional Pathways Master Plan

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Acronyms and Other Abbreviations

Abbreviation	Definition
CAC	Community Advisory Committee
Corps	U.S. Army Corps of Engineers
Council	Chelan-Douglas Transportation Council
DPS	distinct population segment
Ecology	Washington State Department of Ecology
ESA	Environmental Science Associates
ESU	evolutionary significant unit
HPA	Hydraulic Project Approval
NHD	National Hydrography Dataset
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
NWIFC	Northwest Indian Fisheries Commission
PHS	Priority Habitats and Species
RCW	Revised Code of Washington
SR	State Route
SWIFD	Statewide Washington Integrated Fish Distribution
TAC	Technical Advisory Committee
UGA	Urban Growth Area
US 2	United States Highway 2
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WSDOT	Washington State Department of Transportation

1. INTRODUCTION

Environmental Science Associates (ESA) was retained by Alta Planning + Design (Alta), on behalf of the Chelan-Douglas Transportation Council (Council), to conduct a preliminary alternatives assessment for the Chelan-Douglas Regional Pathways Master Plan Project (project). The project includes the construction of a new multi-purpose trail for pedestrian and bicycle use.

This project is being designed with a Technical Advisory Committee (TAC) whose participants have been established by the Council. The TAC is providing feedback and guidance to the Council on the approach, methods, initial findings, and recommendations of the planning process. The TAC consists of staff representatives from Chelan County, Washington State Department of Transportation (WSDOT), Link Transit, and the cities relevant to each pathway corridor of the trail, as described below.

In addition, a Community Advisory Committee (CAC) has been established for each pathway corridor. The Council intends for the CAC to be a public venue to allow for review and feedback from interested residents regarding review of the existing conditions reports; public engagement results; pathway corridors and route options; branding, wayfinding, and pathway benefits; the environmental, social, and cultural review; and phasing recommendations.

The purpose of this document is to:

- Describe existing natural resources along the pathway corridors.
- Evaluate the regulatory implications of trail planning, with respect to sensitive environmental and riparian buffer requirements in the study area.

1.1 Project Location

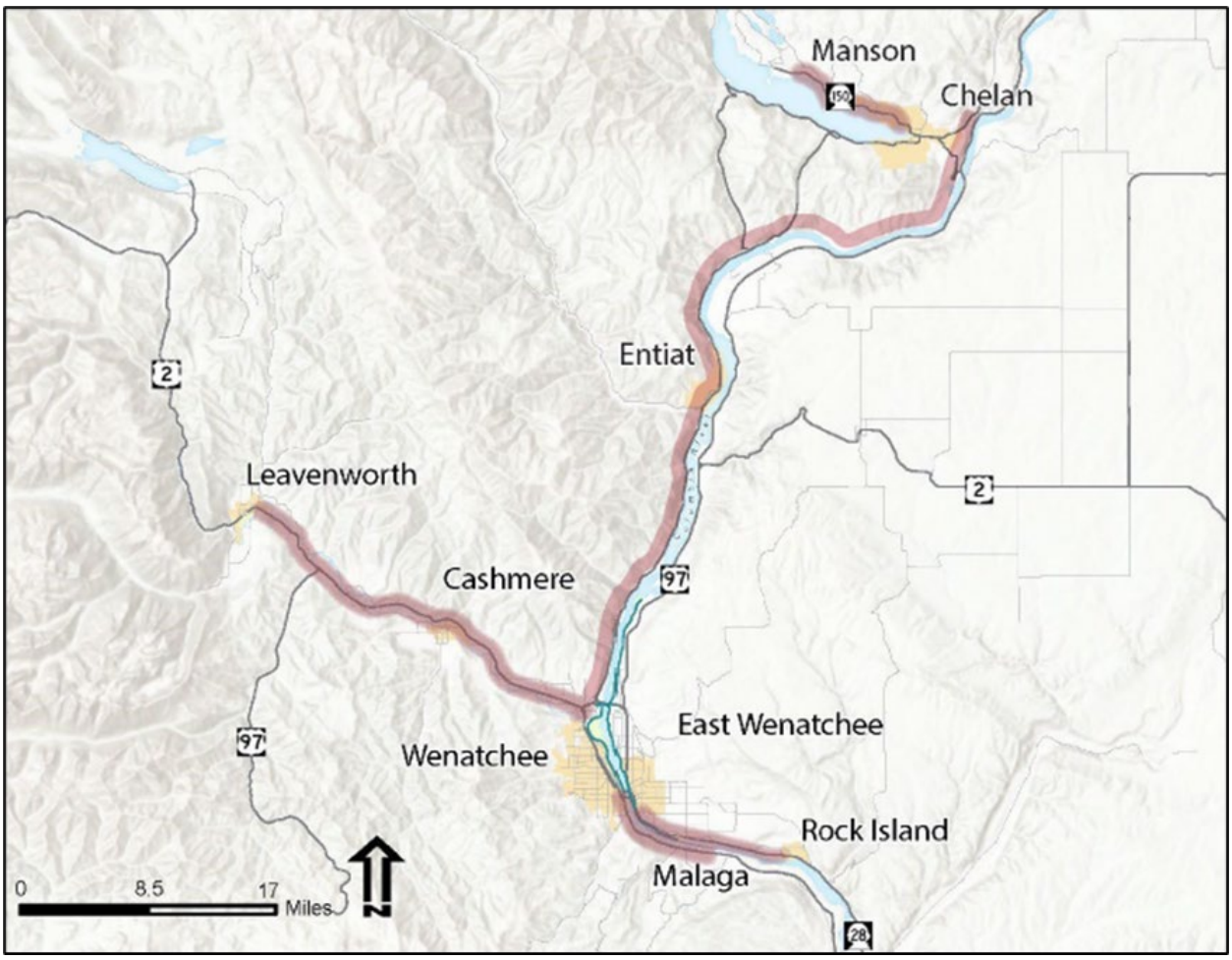
The project is within portions of Chelan and Douglas counties, Washington. Portions follow the shoreline of the Columbia River, Wenatchee River, Entiat River, and Lake Chelan. The project is divided into five pathway corridors (**Figure 1**). Within each pathway corridor, various potential route options are being explored. The five pathway corridors are:

- **The Chelan to Mason pathway corridor** is routed along the northeastern shoreline of Lake Chelan, beginning just east of the City of Chelan and terminating in Manson. The trail is primarily proposed along State Route (SR) 150.
- **The Wenatchee to Entiat to Chelan pathway corridor** is primarily routed along the western portion of the Columbia River, beginning in Wenatchee running north along SR 97A through Entiat until it reaches Chelan. From Chelan, the trail will continue south toward Chelan Falls adjacent to SR 150 or Gorge Road. From Chelan Falls, the trail continues west along the Columbia River until it reaches SR 97A.
- **The Leavenworth to Cashmere to Wenatchee pathway corridor** has several route options, including areas along United States Highway (US) 2 or other roadways located near the Wenatchee River. This pathway corridor crosses through Monitor, Cashmere, and Peshastin before terminating in Leavenworth.

- **The Malaga to Wenatchee pathway corridor** is routed on the southern side of the Columbia River along the Malaga Alcoa Highway.
- **The Rock Island to East Wenatchee pathway corridor** is primarily routed along the northern side of the Columbia River adjacent to SR 28. A route option at the eastern end of the corridor circumnavigates Rock Island around Hideaway Lake and Blue Heron Lake.

The project spans the following eight jurisdictions:

- Chelan County
- Douglas County
- City of Cashmere
- City of Chelan
- City of Entiat
- City of Leavenworth
- City of Rock Island
- City of Wenatchee



Prepared by Alta Planning + Design 2024

Figure 1.
Overview Map of Pathway Corridors

The individual pathway corridors are represented in **Figures 1-5** in **Appendix A**.

2. METHODS

ESA reviewed and compiled information from the following readily available datasets for natural resources such as wetlands, streams, threatened and endangered species, and habitat within the vicinity of the pathway corridors. This included examining areas within 300 feet of the pathway corridors.

- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (USFWS 2024a).
- USFWS Information for Planning and Consultation (IPaC) species and habitat database (USFWS 2024b).
- National Oceanic Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) Critical Habitat Mapper (NOAA 2024).
- Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2024).
- Washington Department of Fish and Wildlife (WDFW) Priority Habitats and Species (PHS) mapping (WDFW 2024a).
- Northwest Indian Fisheries Commission (NWIFC) Statewide Washington Integrated Fish Distribution (SWIFD) dataset (NWIFC 2024).
- United States Geological Survey (USGS) National Hydrography Dataset (NHD) (USGS 2023).

The resources examined are regulated by local, state, and federal agencies, and some trail construction and management activities may require coordination with and approval by these governing entities. This report includes the examination of wetlands, streams, threatened and endangered species, general habitat conditions and fish and wildlife habitat conservation areas, This report does not include the examination of frequently flooded areas, geologic hazards, or critical aquifer recharge areas.

After review and compilation of information from the above resources, ESA biologists conducted a windshield field survey from July 15 to 17, 2024 to confirm the presence of natural resources. The field survey involved examining each mapped resource and marking it as present or not and taking various notes on the pathway corridors. Resources that were not mapped by the above databases were also recorded during the field survey.

3. EXISTING CONDITIONS FINDINGS

This section summarizes key natural resources for each pathway corridor.

3.1 Chelan to Manson Pathway Corridor

The majority of the Chelan to Manson pathway corridor is adjacent to Lake Chelan. The USFWS NWI maps a few wetlands and streams as potentially occurring within or adjacent to the pathway corridor (USFWS 2024a). WDFW PHS also maps several polygons of shrubsteppe habitat adjacent to the pathway corridor. Shrubsteppe habitat is found in areas with rolling hills or plains. The habitat is defined as having an overstory of sagebrush (*Artemisia spp*.) and other woody shrubs. Crytobiotoc crusts made up of microscopic fragile organisms form on the ground under the shrubby understory, locking in moisture and helping to prevent erosion. Shrubsteppe habitat supports a variety of species adapted to arid landscapes such as mule deer (*Odocoileus hemionus*), northern rattlesnakes (*Crotalus horridus*) and burrowing owls (*Athene cunicularia*), though there are numerous other species (WDFW 2024b). The WDFW PHS does not map any other species or habitats within this pathway corridor.

The majority of this pathway corridor is heavily developed and is currently in residential land uses, limiting the amount of potential habitat areas. During the field survey, several potential wetlands, including one not mapped by NWI located near E Wapato Way and S Madeline Road, were identified. No fish-bearing stream crossings were identified; however, the pathway corridor crosses three potential non-fish bearing streams. Fragmented shrubsteppe habitat is interspersed along the pathway corridor in less-developed areas.

Mapped and field-verified features for the Chelan to Mason pathway corridor are shown on **Figure 2, Appendix A**.

3.2 Wenatchee to Entiat to Chelan Pathway Corridor

A large portion of the Wenatchee to Entiat to Chelan pathway corridor is adjacent to and west of the Columbia River, with another smaller section of the northern portion located along the southwest shoreline of Lake Chelan. The NWI, NWIFC, and NHD map several wetlands and streams as occurring throughout the pathway corridor. WDFW PHS maps shrubsteppe habitat as occurring throughout large sections of the pathway corridor. In addition to shrubsteppe habitat, WDFW PHS also maps cliff/steep bluff habitat; waterfowl concentrations; and habitat for golden eagle (*Aquila chrysaetos*), big horn sheep (*Ovis canadensis*), and mule deer (*Odocoileus hemionus*) as occurring within and adjacent to the pathway corridor. The golden eagle is currently a candidate species for listing within Washington State (WDFW 2024c).

This pathway corridor weaves through undeveloped, urban, and agricultural areas. During the field survey, multiple potential stream crossings were identified, several of which may be fish bearing and are named streams. Two potential wetland areas were also identified, one not mapped by NWI. The potential non-mapped NWI wetland is located adjacent to SR 150 near Willmorth Drive. Large areas of continuous

shrubsteppe habitat were identified directly adjacent to the pathway corridor, particularly along areas adjacent to SR 97A as well as areas along Gorge Road.

A portion of the pathway corridor along the Columbia River between Chelan Falls and Stayman was inaccessible during the field survey due to private property and limited roadway access, so natural resources in these areas could not be examined directly; however, based on aerial imagery and WDFW PHS mapping, shrubsteppe habitat is likely present throughout the area.

Mapped and field-verified features for the Wenatchee to Entiat to Chelan pathway corridor are shown on **Figure 3, Appendix A**.

3.3 Leavenworth to Cashmere to Wenatchee Pathway Corridor

The Leavenworth to Cashmere to Wenatchee pathway corridor contains several route options, which are all located along or near the Wenatchee River. The pathway corridor and its route options include numerous stream crossings, and the NWIFC and NHD map several irrigation ditches. The NWI also maps several wetlands as occurring within the pathway corridor. The WDFW PHS maps several areas of shrubsteppe habitat, cavity-nesting duck habitat, and historic and current mule deer habitat.

The Leavenworth to Cashmere to Wenatchee pathway corridor and route options weave through undeveloped, urban, industrial, and agricultural areas. During the field survey, several streams (fish and non-fish bearing), irrigation ditches, and potential wetlands were identified adjacent to and within the pathway corridor. Several areas not mapped by NWI were identified as potentially containing wetlands; these include areas along US 2 near Leavenworth and an area adjacent to North Star Road.

Shrubsteppe habitat is concentrated within eight areas along the pathway corridor. Other areas of this pathway corridor also contain shrubsteppe habitat, but it was more fragmented from urban development. Two osprey (*Pandion haliaetus*) nests were also observed near Wenatchee within the pathway corridor.

The route option from Peshastin to Leavenworth along the Wenatchee River was not accessible during the field survey due to the surrounding landscape characteristics, but several potential drainages or streams are mapped as potentially occurring in this area. The WDFW PHS also maps shrubsteppe habitat as potentially occurring in this portion of the route option. Although the area was not accessible, based on the surrounding areas and aerial imagery, it is assumed that no shrubsteppe habitat is present in this area.

Mapped and field-verified features for the Leavenworth to Cashmere to Wenatchee pathway corridor are shown on **Figure 4, Appendix A**.

3.4 Malaga to Wenatchee Pathway Corridor

The Malaga to Wenatchee pathway corridor is primarily adjacent to the southern side of the Columbia River. The NWI maps three potential wetlands along this pathway corridor, and the NWIFC and NHD map several potential stream crossings. In addition to shrubsteppe habitat mapped near Malaga, the

WDFW PHS also maps waterfowl concentrations, wood duck habitat, cavity-nesting birds, and historic mule deer habitat as occurring within portions of this pathway corridor.

Four potential wetlands were observed during the field survey, three of which are mapped by the NWI. The presence of three stream crossings, two of which are likely fish bearing, was also confirmed. Two osprey nests were also observed on established nesting platforms. The Columbia River likely provides ample foraging opportunities for the species. Shrubsteppe habitat is concentrated near Malaga, and the remainder of the pathway corridor is more developed and contains mostly fragmented shrubsteppe habitat.

Mapped and field-verified features for the Malaga to Wenatchee pathway corridor are shown on **Figure 5, Appendix A**.

3.5 Rock Island to East Wenatchee Pathway Corridor

The Rock Island to East Wenatchee pathway corridor is located adjacent to several lakes including Hideaway Lake and Blue Heron Lake. The lakes are mapped by both the WDFW PHS and NWI; the WDFW PHS reports them as being utilized by a variety of species including waterfowl, nongame birds, muskrats, and raptors. There are two mapped non-fish bearing stream crossings. The portion of the pathway corridor from Rock Island to East Wenatchee is adjacent to the northern side of the Columbia River and contains sections of mapped shrubsteppe habitat.

During the field survey, access to the lakes on Rock Island was limited due to private property and lack of an established path or roadway. However, the portions of the lakes that were observed near Blue Heron Lake had vegetated edges containing willow (*Salix* spp.) and other riparian species. Rock Island contains urban and agricultural development, but does contain some small, fragmented areas of shrubsteppe habitat. As this pathway corridor continues toward East Wenatchee, shrubsteppe habitat is more abundant in the undeveloped areas along SR 28. This area along SR 28 also contains riparian habitat adjacent to the Columbia River. No streams were observed within the mapped areas during the field survey, however the streams may be culverted or piped at these locations.

Mapped and field-verified features for the Rock Island to East Wenatchee pathway corridor are shown on **Figure 6**.

3.6 Rare, Threatened, and Endangered Wildlife, Plants and Fish and Aquatic Species

Because of the presence of wetlands, waterways, associated vegetated corridors, and natural areas within and adjacent to portions of the pathway corridors, these areas provide habitat for a multitude of resident and migratory birds, mammals, fish, amphibians, reptiles, and insects. Several wildlife, fish and plant species in the Wenatchee River Valley, Columbia River Valley, and Lake Chelan area are in decline due to a variety of threats such as urbanization, road construction, livestock graving, mining, pollution, invasive species, and disease. Species classified as sensitive, species of concern, or listed as threatened mapped as occurring within the vicinity of the pathway corridors by the USFWS IPaC and NOAA

National NMFS ESA Critical Habitat Mapper are identified in **Table 1**. **Appendix B** contains the USFWS IPaC report.

TABLE 1. THREATENED AND ENDANGERED SPECIES POTENTIALLY OCCURRING WITHIN THE PATHWAY CORRIDORS

Common Name (Scientific Name)	Federal Status	State Status	Required Habitat and Potential of Occurrence	Implications and Considerations for the Pathway Corridor
Invertebrates				
Monarch Butterfly (*Danaus plexippus*)	Candidate	Candidate	Patches of milkweed and nectar resources during breeding. In Washington, they typically occur near wetlands and riparian habitats in weedy fields.	Limited regulatory requirements; candidate species are protected under the Endangered Species Act.
Fish				
Bull Trout (*Salvelinus confluentus*)	Threatened	Candidate	Cold, clear streams with deep pools, riffles, and suitable spawning gravels.	Section 7 review required if project is federally funded or permitted.
Chinook Salmon (Lower Columbia River ESU) (*Oncorhynchus tshawytscha* pop. 1*)*	Threatened	No listing	Cold, clear streams with deep pools, riffles, and suitable spawning gravels.	Section 7 review required if project is federally funded or permitted.
Steelhead (Lower Columbia River DPS) (*Oncorhynchus mykiss* pop. 14)	Threatened	Threatened	Cold, clear streams with deep pools, riffles, and suitable spawning gravels.	Section 7 review required if project is federally funded or permitted.
Birds				
Mt. Rainier White-tailed Ptarmigan (*Lagopus leucura rainierensis*)	Threatened	No listing	Alpine tundra that is forb rich with occasional shrubs.	Due to habitat requirements, these species are not expected to be impacted by the project. However, the project would require compliance with the Migratory Bird Treaty Act (MBTA) and Section 7 if federally funded or permitted.
Yellow-billed Cuckoo (*Coccyzus americanus*)	Threatened	Endangered	Large blocks of riparian habitat, particularly woodlands containing cottonwoods and willows.	
Mammals				
Canda Lynx (*Lynx canadensis*)	Threatened	Endangered	Areas of subalpine forests where snow accumulates in the late fall, winter, and early spring.	Due to habitat requirements, these species are not expected to be impacted by the project. Section 7 review required if project is federally funded or permitted.
Gray Wolf (*Canis lupus*)	Endangered	Endangered	Remote areas that are relatively unpopulated with few roads or livestock. The landscape can vary from forested areas to rolling hills to open spaces.	
North American Wolverine (*Gulo gulo luscus*)	Threatened	Candidate	Alpine and subalpine forest habitats.	
Plants				
Showy Stickseed (*Hackelia venusta*)	Endangered		Steep sandy slopes in the Cascade Mountain Range near Leavenworth.	Section 7 review required if project is federally funded or permitted.
Ute Ladies'-tresses (*Spiranthes diluvialis*)	Threatened		Moist environments including alkaline wetlands, moist meadows, floodplains, flooded river terraces, subirrigated or spring-fed	

Common Name (Scientific Name)	Federal Status	State Status	Required Habitat and Potential of Occurrence	Implications and Considerations for the Pathway Corridor
			abandoned stream channels and valleys, lakeshores, irrigation canals, berms, levees, or irrigated meadow.	
Wenatchee Mountains Checkermallow (*Sidalcea oregana*)	Endangered		Wetlands and moist meadows of the Wenatchee Mountains of central Washington.	

SOUCE: USFWS 2024b, NOAA 2024, and WDFW 2024c

NOTES: DPS – distinct population segment; ESU – evolutionarily significant unit

No critical habitat for any of the above species was identified as occurring within the pathway corridors. However, critical habitat for the above-listed fish species is present within the Wenatchee and Columbia rivers. Steelhead critical habitat is also mapped in several of the tributaries to the rivers.

In addition to the state and federal species listed above, the following salmonids and other fish species are also known to occur with waters that cross and are adjacent to the pathway corridors (NWIFC 2024). These species are not currently listed by state or federal agencies.

- Coho (*Oncorhynchus kisutch*)
- Sockeye (*O. nerka*)
- Kokanee, a sub species of sockeye salmon
- Rainbow trout (*O. mykiss*)
- Eastern brook trout (*Salvelinus fontinalis*)
- Largemouth bass (*Micropterus salmoides*)
- Mountain whitefish (*Prosopium williamsoni*)
- Walleye (*Sander vitreus*)
- Westslope cutthroat trout (*Oncorhynchu sclarkii lewisi*)

4. REGULATORY CONSIDERATIONS

Wetlands and streams are regulated at the federal, state, and local levels. Agencies with jurisdiction include the U.S. Army Corps of Engineers (Corps), Washington State Department of Ecology (Ecology), and local jurisdictions. Local jurisdictions within the pathway corridors include the Cities of Chelan, Entiat, Wenatchee, Rock Island, Cashmere, and Leavenworth and Douglas and Chelan counties. The USFWS and NMFS regulate federally endangered and threatened species and critical habitat. WDFW regulates work within streams and habitat areas for state endangered, threatened, or sensitive species. Tribes work with the USFWS, NMFS, and WDFW to ensure the preservation of listed species. Regulatory implications associated with development in wetlands, streams, and other critical areas include, but are not limited to, those described in this section. All applicable permits are required to be obtained prior to developing or otherwise altering streams, wetlands, or other critical areas.

4.1 Federal Regulations

The Corps regulates discharges of dredged or fill materials into "waters of the United States," including wetlands and streams, under Section 404 of the Clean Water Act. The purpose of the Clean Water Act is to "restore and maintain the chemical, physical, and biological integrity of the Nation's waters." A Section 404 permit may be required if a proposed project involves filling wetlands or altering streambeds or other waters of the United States.

Since its inception, the definition of "waters of the United States" has been a litigious issue. Most recently, the Supreme Court, ruling in Sackett v. Environmental Protection Agency, sharply limited the scope of the federal protection for the nation's waters under the Clean Water Act. As a result of this decision, the Environmental Protection Agency and Corps issued a final rule that amends the "Revised Definition of 'Waters of the United States'" to conform key aspects of the regulatory text to the U.S. Supreme Court's decision (88 Federal Register 61964–61969, September 8, 2023).

Under the "Revised Definition of 'Waters of the United States;' Conforming" rule, the term "waters of the United States" is defined as follows (33 Code of Federal Regulations 328.3[a]):

(1) Waters which are:

(i) Currently used, or were used in the past, or may be susceptible to use in interstate or foreign commerce, including all waters which are subject to the ebb and flow of the tide;

(ii) The territorial seas; or

(iii) Interstate waters;

(2) Impoundments of waters otherwise defined as waters of the United States under this definition, other than impoundments of waters identified under paragraph (a)(5) of this section; To meet this category, you must be able to demonstrate that the current impoundment would have met the criteria of a water of the U.S. at the time of impoundment. Meaning that prior to the impoundment the feature would have met a(1), a(3), a(4) or a(5). This usually requires using historic aerial photos/maps or historic topo maps.

(3) Tributaries of waters identified in paragraph (a)(1) or (2) of this section that are relatively permanent, standing or continuously flowing bodies of water;

(4) Wetlands adjacent to the following waters:

(i) Waters identified in paragraph (a)(1) of this section; or

(ii) Relatively permanent, standing or continuously flowing bodies of water identified in paragraph (a)(2) or (a)(3) of this section and with a continuous surface connection to those waters;

(5) Intrastate lakes and ponds not identified in paragraphs (a)(1) through (4) of this section that are relatively permanent, standing or continuously flowing bodies of water with a continuous surface connection to the waters identified in paragraph (a)(1) or (a)(3) of this section.

Under the Sackett ruling, the required continuous surface connection in Number 4(ii) above must be sufficiently substantial so as to "make it difficult to determine where the 'water' ends and the 'wetland' begins."

The Corps has established two types of permit programs under Section 404: nationwide and individual. Nationwide permits are issued when a proposed activity will have minimal adverse impacts on wetlands or streams. All other projects are evaluated under the individual permitting process. The Corps determines which permitting process is used for a proposed project. The Corps requires that wetland or stream impacts be avoided or minimized to the extent practicable, and mitigation is likely required for unavoidable wetland or stream impacts.

A Section 404 permit or federal funding for the project would trigger a Section 7 Consultation under the Endangered Species Act. A Section 7 Consultation requires federal agencies to consult with the USFWS and NMFS to ensure the funded, authorized, or permitted project would not jeopardize the existence of any threatened or endangered species or critical habitat.

The MBTA prohibits the incidental (intentionally or unintentionally) "take" (pursue, hunt, capture, or kill) of protected bird species including adults, chicks, and viable eggs (86 FR 54642, pg. 54642-54656); however, these protections only extend to native species. The project would be required to comply with the MBTA, particularly during nesting season.

4.2 State Regulations

The state certification process under Section 401 of the federal Clean Water Act is usually triggered through a Section 404 permit application. Section 401 directs each state to certify that proposed in-water activities will not adversely affect water quality or violate state aquatic protection laws. In Washington State, Ecology is responsible for administering the state certification program. Ecology may issue approval, approval with conditions, denial, or a request for delay due to lack of information. Any conditions attached to the Section 401 certification become part of the Section 404 permit. However, Ecology may also conduct the state certification process outside of a Section 404 permit application for wetlands that are not considered Waters of the United States under the Sackett decision. Under the state's Water Pollution Control Act (Revised Code of Washington [RCW] 90.48), Ecology has jurisdiction to control and prevent pollution in waters of the state. According to RCW 90.48.020, Waters of the state

include “lakes, rivers, ponds, streams, inland waters, underground waters, salt waters and all other surface waters and watercourses within the jurisdiction of the state of Washington.”

WDFW regulates stream work through a Hydraulic Project Approval (HPA). If work associated with the project crosses a stream or is located within a stream, an HPA and coordination with WDFW would likely be required.

4.3 Local Regulations

The project’s pathway corridors cross through several local jurisdictions including the Cities of Chelan, Entiat, Wenatchee, Rock Island, Cashmere, and Leavenworth and Douglas and Chelan counties. Each jurisdiction regulates the following critical areas:

- Wetlands
- Frequently Flooded Area
- Geologic Hazard Areas
- Fish and Wildlife Habitat Conservation Areas
- Critical Aquifer Recharge Areas

In addition, the City of Cashmere regulates Landslide Hazard Areas and Erosion Hazard Areas. The scope of this report only includes the examination of wetlands and Fish and Wildlife Habitat Conservation Areas, which include streams/riparian areas.

Table 2 identifies each jurisdiction’s critical areas ordinance and the trigger for a critical areas review.

A critical area review by a local jurisdiction is typically triggered if work is occurring within or adjacent to the critical area (**Table 2**). It is generally prohibited for any activity involving filling or grading to occur within wetlands, streams, or their buffers to limit adverse impacts of development. Wetlands within the local jurisdictions are classified into categories (Category I to Category IV) by the Washington State Wetland Rating System for Eastern Washington (Hruby 2014). The Wetland Rating system categorizes wetlands based on their sensitivity to disturbance, significance, rarity, functions, and if they can be replaced. Once a wetland has been categorized, the local jurisdiction will assign it a buffer. Wetland buffer widths within the pathway corridors vary, but generally range from 40 feet for Category IV wetlands to 250 feet for more sensitive Category I wetlands.

Each jurisdiction designates different natural resources as Fish and Wildlife Habitat Conservation Areas; these definitions are included in **Appendix C**.

TABLE 2. LOCAL JURISDICTION CRITICAL AREAS ORDINANCE

Pathway Corridor	Jurisdictions	Code Section	Trigger for Critical Area Review
Chelan to Manson	City of Chelan	Chapter 14.10 Critical Areas	Development/alterations within 250 feet.
	Chelan County	Chapter 11.77 Critical Areas Chapter 11.78 Fish and Wildlife Habitat Chapter 11.80 Wetlands	Development/alterations likely to be within or adjacent to a critical area whose buffer may overlap with proposed action.
Wenatchee to Entiat to Chelan	Entiat	Chapter 17.10 Critical Areas	Development/alteration within, adjacent to, or likely to affect a critical area.
Leavenworth to Cashmere to Wenatchee	Cashmere	Chapter 18.10 Critical Areas Code	Identification and characterization of all critical areas on or adjacent to the proposed project area. For areas off site of the project site, estimate conditions within 300 feet of the project boundaries.
Malaga to Wenatchee	Wenatchee	Chapter 12.08 Critical Areas	Identification of the ecological functions associated with and in the vicinity of the subject property and adjacent properties within 200 feet or the extent of the adjoining critical area.
Rock Island to East Wenatchee	Rock Island	Title 18.04 Critical Areas Protection	Identify critical areas on or near the site.
	Douglas County	Ch. 19.18 Resource Lands/ Critical Areas- General provisions	Identify critical areas within 100 feet of the proposed project.
	Leavenworth	Chapter 16.08 Critical Areas	Development/alterations within, adjacent, or likely to affect critical areas

Some of the local jurisdictions regulate streams and other waterbodies as Fish and Wildlife Habitat Conservation Areas within local ordinances, and their buffers are based on the state's water typing system (WAC 222-16-030). The water typing is a classification system that identifies whether streams or other waterbodies are used by fish and whether or not they experience perennial flow. There are four general water type classifications:

- Type S, designated as "shorelines of the state" as defined in RCW 90.58.030.
- Type F, fish-bearing stream that can be seasonal or perennial.
- Type Np, non-fish bearing stream with perennial flow.
- Type N, non-fish stream with seasonal flow.

Waters within and adjacent to the project pathway corridors range from Type S waters (such as the Columbia River, Wenatchee River, and Lake Chelan) to Type F streams (like Chumstick Creek and Swakane Creek), and to smaller unnamed Np and N waters. Buffer widths within the pathway corridors vary between jurisdiction for streams and others water, and range from 50 to 300 feet.

Each jurisdiction specifies mitigation measures for impacts on critical areas. Applicants are first required to demonstrate that all reasonable efforts have been made to avoid and minimize impacts on critical areas. When alteration to a critical area is proposed, the applicant must follow the mitigation sequencing process

to first avoid and minimize impacts before proposing compensatory mitigation. Each jurisdiction provides a list of activities allowed with critical areas or their buffers. All the local jurisdictions provide exemptions for trails or other passive recreational activities with critical areas or their buffer. However, it is unclear if the Chelan-Douglas Trail project would qualify for these exemptions as several of them include provisions such as the trail shall not be paved or exceed 4 feet in width.

If impacts on critical areas or their buffers are unavoidable, compensatory mitigation ratios are established by each jurisdiction. Examples of compensatory mitigation include enhancement of degraded buffers by planting native species, removing structures and impervious surfaces within buffers, and other measures to achieve equivalent or greater buffer functions. If on-site mitigation is not feasible, the local jurisdiction may approve use of a mitigation bank as a form of compensatory mitigation for impacts on wetlands or streams. Ecology's Wetland Mitigation Banking website (https://ecology.wa.gov/water-shorelines/wetlands/mitigation/wetland-mitigation-banking) provides a list of potential mitigation banks throughout the state.

5. RECOMMENDED NEXT STEPS

Once the pathway corridors have been confirmed and conceptual design is underway, site specific studies on critical areas would be required including stream and wetland delineations in impacts areas. Coordination with local planning officials is also recommended to discuss potential effects on critical areas and measures for avoiding, minimizing and/or mitigating to off-set any unavoidable impacts.

6. LITERATURE CITED

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Appendix A
Figures



Figure 2
Chelan to Manson

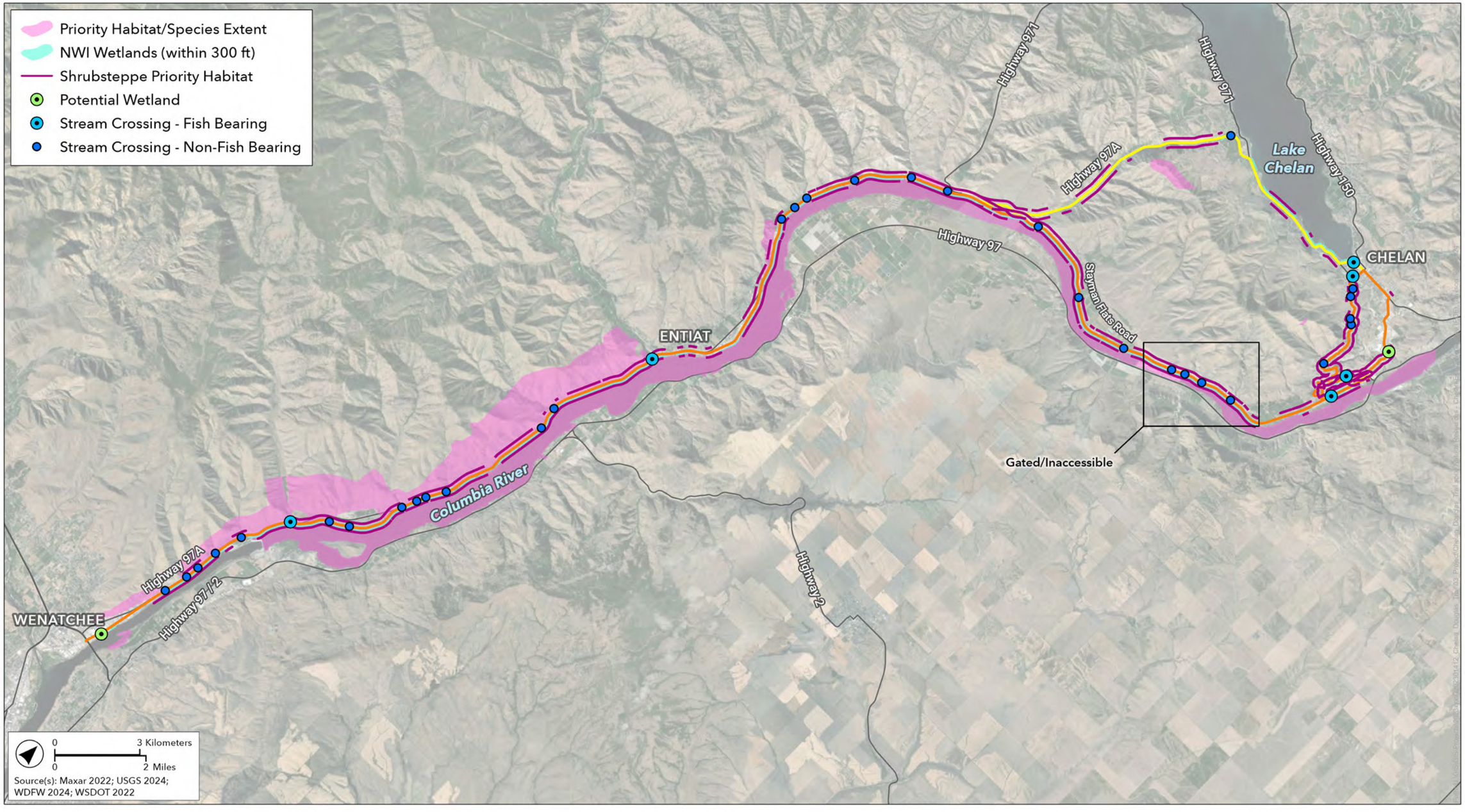


Figure 3
Wenatchee to Entiat to Chelan

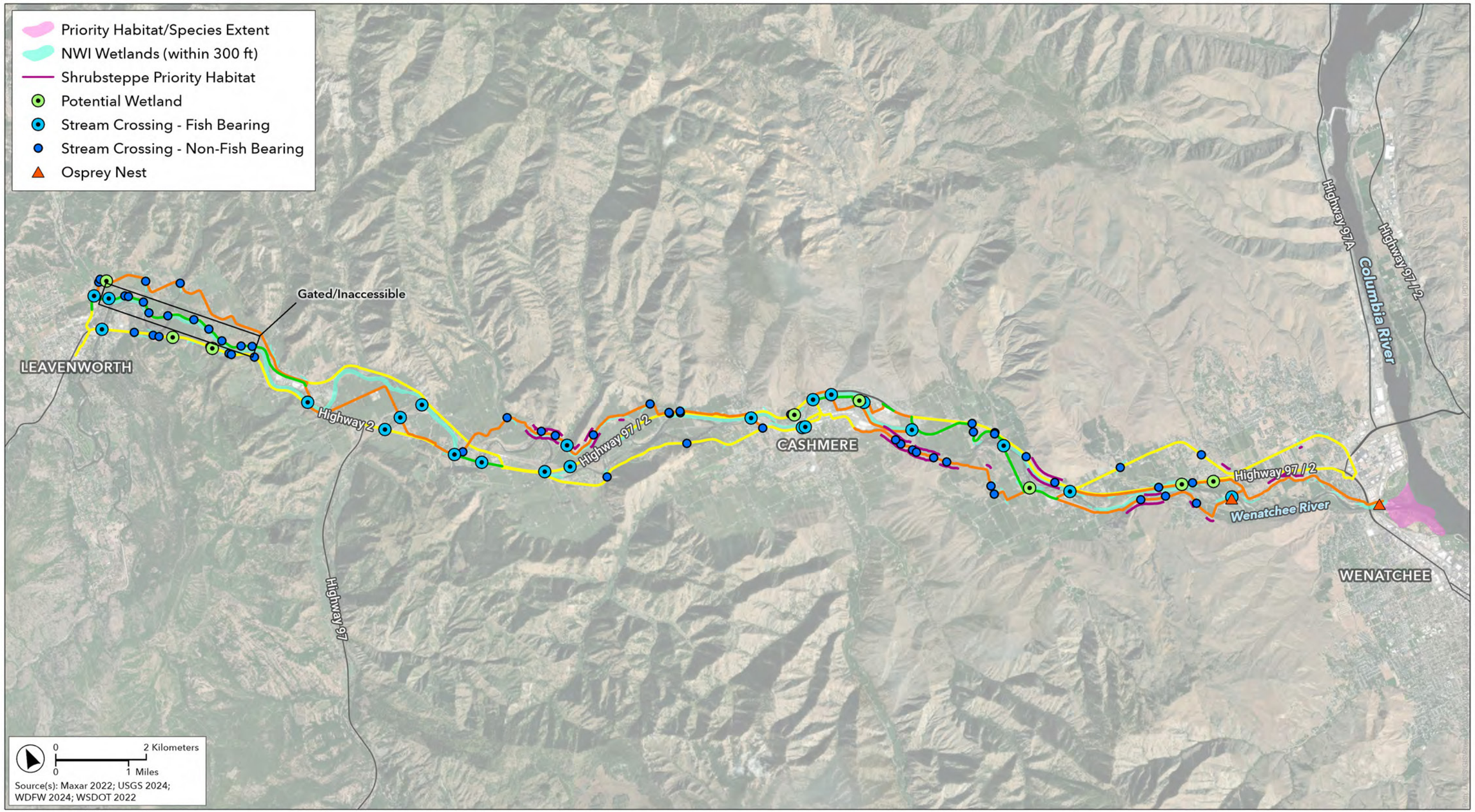


Figure 4
Leavenworth to Cashmere to Wenatchee

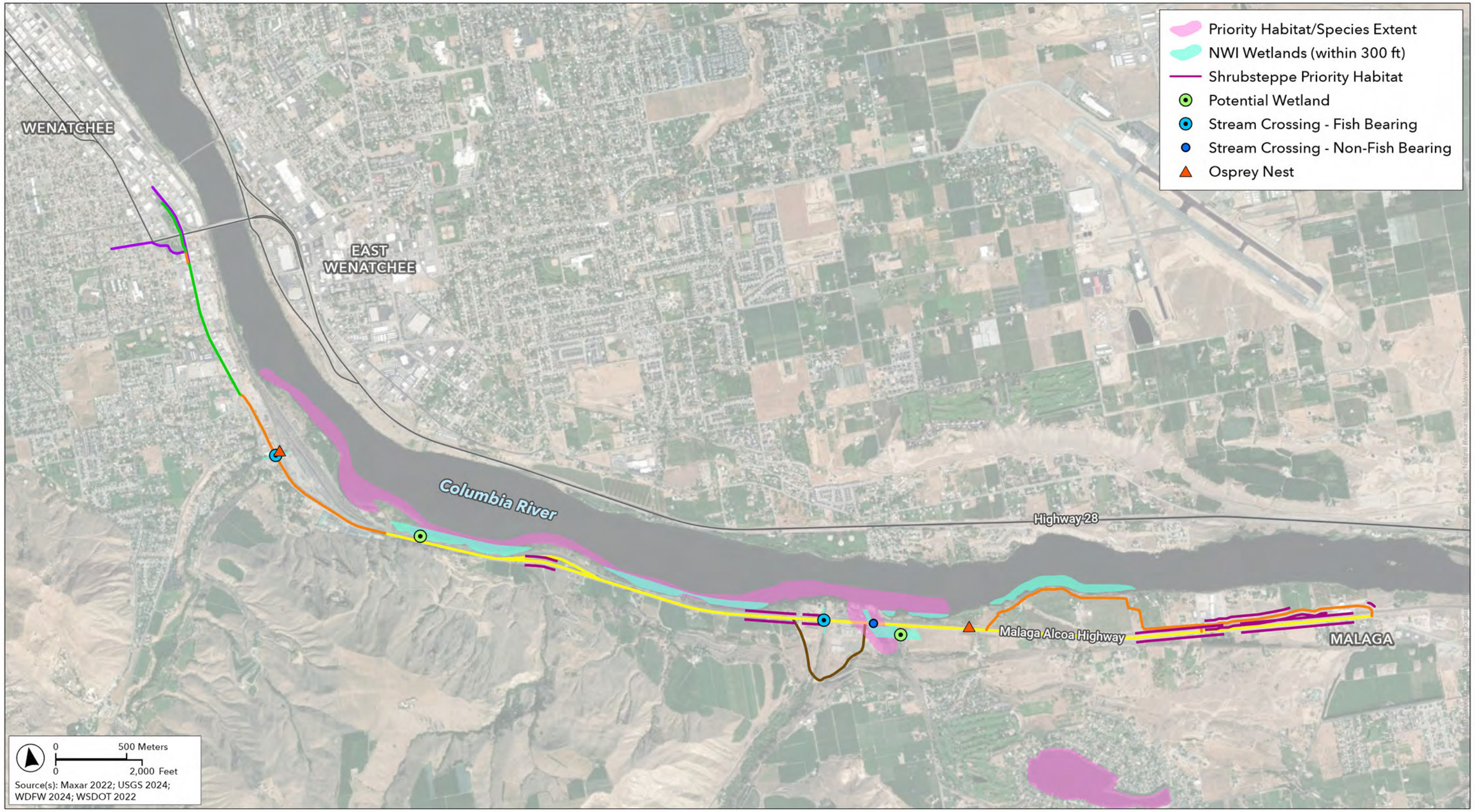


Figure 5
Malaga to Wenatchee

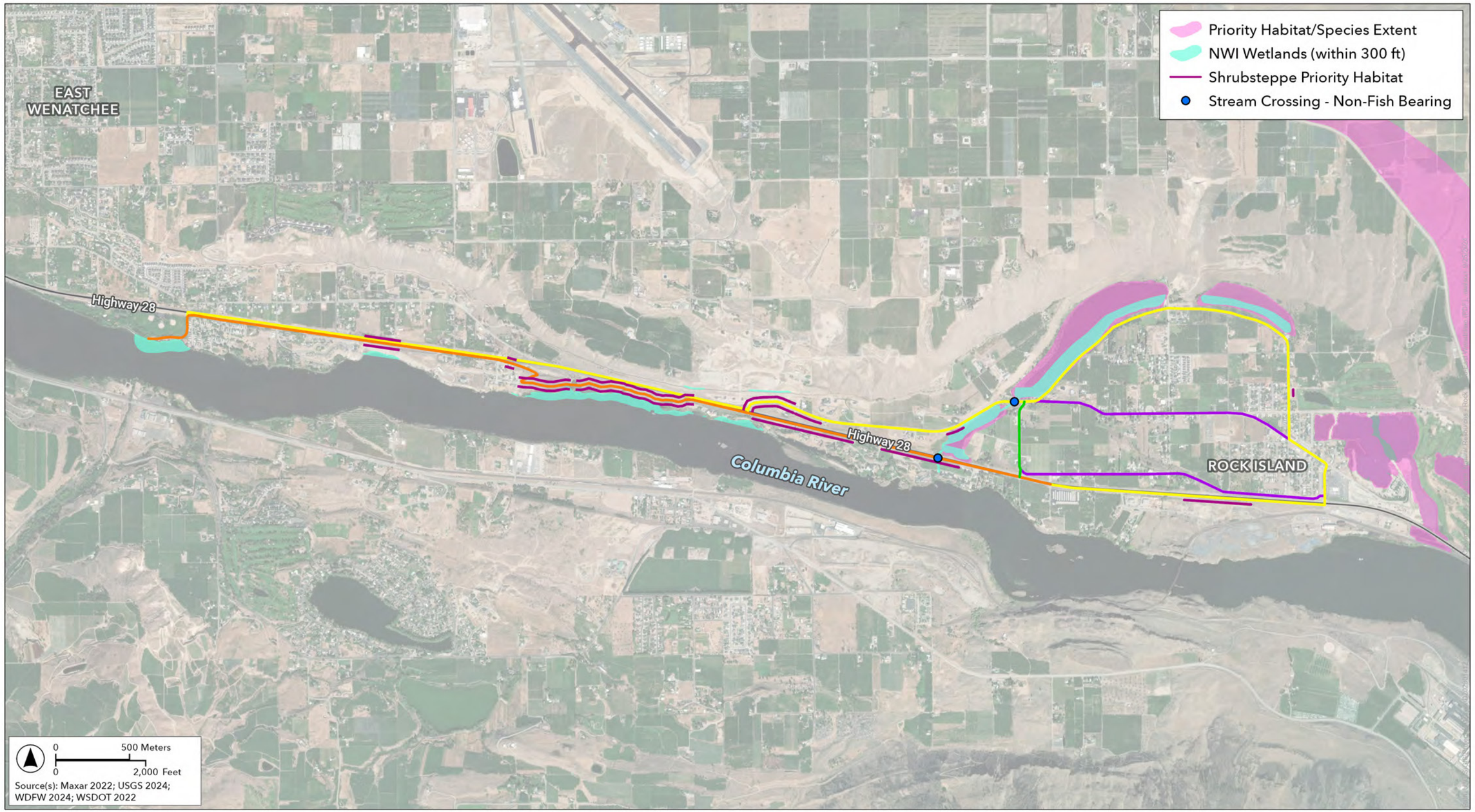


Figure 6
Rock Island to East Wenatchee

Appendix B
IPaC Species Report

IPaC **U.S. Fish & Wildlife Service**

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

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Location

Chelan and Douglas counties, Washington



Local office

Washington Fish And Wildlife Office

(360) 753-9440
(360) 753-9405

510 Desmond Drive Se, Suite 102
Lacey, WA 98503-1263

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Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

---

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).

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2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS
Canada Lynx Lynx canadensis There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3652	Threatened
Gray Wolf Canis lupus There is **final** critical habitat for this species. https://ecos.fws.gov/ecp/species/4488	Endangered
North American Wolverine Gulo gulo luscus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5123	Threatened

Birds

NAME	STATUS
Mt. Rainier White-tailed Ptarmigan Lagopus leucura rainierensis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9234	Threatened
Yellow-billed Cuckoo Coccyzus americanus There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/3911	Threatened

Fishes

NAME	STATUS

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NAME	STATUS
Bull Trout Salvelinus confluentus There is **final** critical habitat for this species. Your location overlaps the critical habitat. https://ecos.fws.gov/ecp/species/8212	Threatened

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	Candidate

Flowering Plants

NAME	STATUS
Showy Stickseed Hackelia venusta Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/5210	Endangered
Ute Ladies'-tresses Spiranthes diluvialis Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/2159	Threatened
Wenatchee Mountains Checkermallow Sidalcea oregana var. calva Wherever found There is **final** critical habitat for this species. Your location does not overlap the critical habitat. https://ecos.fws.gov/ecp/species/7222	Endangered

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

This location overlaps the critical habitat for the following species:

NAME	TYPE

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Bull Trout Salvelinus confluentus Final
https://ecos.fws.gov/ecp/species/8212#crithab

Bald & Golden Eagles

There are no documented cases of eagles being present at this location. However, if you believe eagles may be using your site, please reach out to the local Fish and Wildlife Service office.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Bald and Golden Eagle information is not available at this time

What does IPaC use to generate the potential presence of bald and golden eagles in my specified location?

The potential for eagle presence is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply). To see a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs of bald and golden eagles in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

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The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur. Please contact your local Fish and Wildlife Service Field Office if you have questions.

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Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Eagle Management https://www.fws.gov/program/eagle-management
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf
- Supplemental Information for Migratory Birds and Eagles in IPaC https://www.fws.gov/media/supplemental-information-migratory-birds-and-bald-and-golden-eagles-may-occur-project-action

Migratory bird information is not available at this time

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the list of migratory birds that potentially occur in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the Rapid Avian Information Locator (RAIL) Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets.

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering or migrating in my area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may query your location using the RAIL Tool and look at the range maps provided for birds in your area at the bottom of the profiles provided for each bird in your results. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

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1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or

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minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Facilities

National Wildlife Refuge lands

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

There are no refuge lands at this location.

Fish hatcheries

There are no fish hatcheries at this location.

Wetlands in the National Wetlands Inventory (NWI)

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Wetland information is not available at this time

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

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The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus, detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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Appendix C

Fish and Wildlife Conservation Areas

TABLE C-1
FISH AND WILDLIFE CONSERVATION AREAS

Pathway Corridor	Jurisdiction	Definition
Chelan to Manson	**City of Chelan** (CMC 14.10.050.C)	a. All priority habitat and species areas shown on the Washington Department of Fish and Wildlife's (WDFW) priority habitats and species maps, as amended; b. All areas shown as wildlife habitat on the city's generalized critical areas map; and c. All riparian and wildlife corridors shown on the city's open space map.
	Chelan County (CCC11.78)	(A) Areas where federal or state endangered, threatened, and sensitive species have a primary association; (B) Habitats and species of local importance, as determined locally. Currently, the county has determined that mule deer and elk winter range and migration corridors are habitats of local importance; (C) Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat. This does not include ponds deliberately designed and created from dry sites, such as canals, stormwater detention facilities, wastewater treatment facilities, farm ponds, temporary construction ponds, and landscape amenities, unless such artificial ponds were intentionally created for mitigation; (D) Waters of the state, as identified in subsection (2) of this section; (E) Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity; and (F) State natural area preserves, natural resource conservation areas, and state wildlife areas.
Wenatchee to Entiat to Chelan	**Entiat** (EMC 17.10.310)	(1) Areas where endangered, threatened, and sensitive species have a primary association. (2) Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat. (3) Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity. (4) Areas associated with anadromous fish species. (5) Waters of the state. (6) Known critical fish and wildlife habitat conservation areas in the city of Entiat include the Columbia River (Lake Entiat) and the Entiat River. (7) Habitats and species of local importance, as determined locally. (8) State natural area preserves, natural resource conservation areas, and state wildlife areas.
Malaga to Wenatchee	**Wenatchee** (WMC 12.08180)	(a) Areas in which endangered, threatened, and sensitive species have a primary association; (b) Habitats and species of local importance, as determined locally; (c) Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat; (d) Waters of the state; (e) Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity; (f) State natural area preserves, natural resource conservation areas and state wildlife areas; (g) Riparian areas; (h) Intermittent and perennial streams; and (i) Priority habitats and species as identified by the Washington State Department of Fish and Wildlife Priority Habitats and Species Program.

Pathway Corridor	Jurisdiction	Definition
Rock Island to East Wenatchee	**Rock Island** (RMC 18.04.020.B)	1. Areas with which endangered, threatened, and sensitive species have primary association; 2. Habitats and species of local importance; 3. Naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish and wildlife habitat; 4. Waters of the state; 5. State natural area preserves and natural resource conservation areas.
	Douglas County (DCC 19.18C.020)	1. Areas in which endangered, threatened, and sensitive species have a primary association; 2. Habitats and species of local importance; 3. Naturally occurring ponds under twenty acres and their submerged aquatic beds that provide fish or wildlife habitat; 4. Waters of the state; 5. Lakes, ponds, streams, and rivers planted with game fish by a governmental or tribal entity; or 6. State natural area preserves and natural resource conservation areas.
Leavenworth to Cashmere to Wenatchee	**Cashmere** (CMC18.10C)	…means those areas identified as being of critical importance to maintenance of fish, wildlife and plant species, including: areas with which endangered, threatened and sensitive species have a primary association; habitats and species of local importance; naturally occurring ponds under 20 acres and their submerged aquatic beds that provide fish or wildlife habitat; lakes, ponds, streams and rivers planted with game fish by a governmental or a tribal entity; state natural area preserves and natural resource conservation areas.
	Leavenworth (LMC 16.08.410)	A. Areas with which state or federally designated endangered, threatened, and sensitive species have a primary association: classified as fish and wildlife habitat conservation areas of state or federal importance. B. Habitats and species identified in reference to lists, categories, and definitions promulgated by the Washington Department of Fish and Wildlife as identified in WAC 232-12-011 or 232-12-014; in the priority habitats and species (PHS) program of the Department of Fish and Wildlife; or by rules and regulations adopted by the U.S. Fish and Wildlife Service, National Marine Fisheries Service, or other agency with authority for such designations. C. Areas associated with anadromous fish species: classified as fish and wildlife habitat conservation areas of state or federal importance. D. Waters of the state, including naturally occurring ponds under 20 acres: classified as fish and wildlife habitat conservation areas of local importance. E. State natural area preserves and natural resource conservation areas: classified as fish and wildlife habitat conservation areas of local importance. F. Areas formally designated by the city as areas of rare plant species, high quality ecosystems, or land useful or essential for preserving connections between habitat blocks and open spaces: classified as fish and wildlife habitat conservation areas of local importance. G. All such areas within the city and its UGA, regardless of any formal identification, are hereby designated as critical fish and wildlife habitat conservation areas.

Appendix E: Cultural Resources Report



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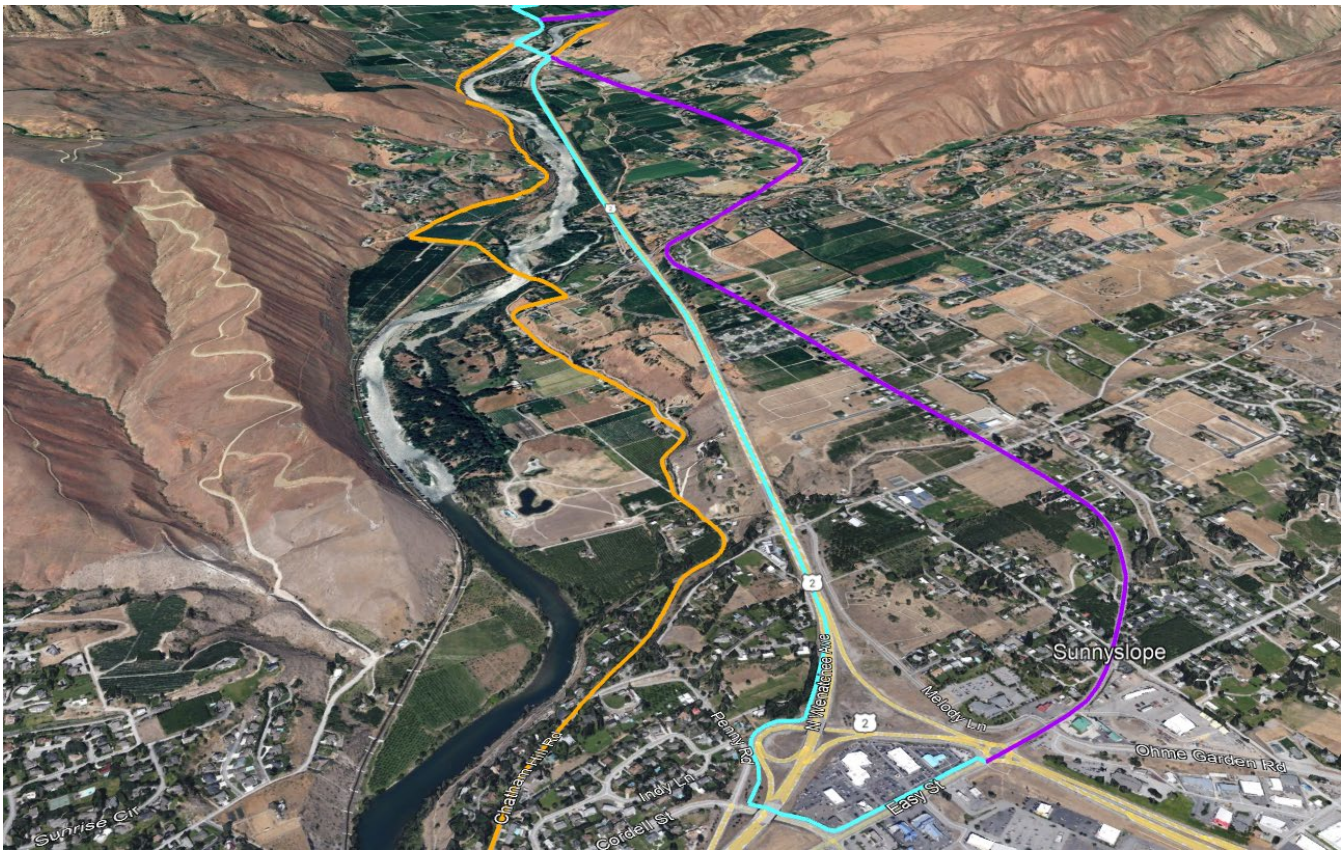
CHELAN–DOUGLAS REGIONAL PATHWAYS MASTER PLAN

Cultural Resources Existing Conditions Assessment

Prepared for
Chelan-Douglas Transportation Council

October 2024

ESA



Draft

CHELAN–DOUGLAS REGIONAL PATHWAYS MASTER PLAN

Cultural Resources Existing Conditions Assessment

Submitted to:
Alta Planning + Design

Prepared for:
Chelan-Douglas Transportation Council

Prepared by
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This report is exempt from public distribution and disclosure

(RCW 42.56.300)

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A. Maps of Historic Properties within Pathway Corridors

Acronyms and Other Abbreviations

Abbreviation	Definition
APE	Area of Potential Effects
CAC	Community Advisory Committee
Council	Chelan-Douglas Transportation Council
DAHP	Washington State Department of Historic Preservation
ESA	Environmental Science Associates
GEO 21-02	Governor's Executive Order 21-02
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
RCW	Revised Code of Washington
TAC	Technical Advisory Committee
TCPs	Traditional Cultural Properties
WHBR	Washington Historic Barn Register
WHR	Washington Heritage Register
WISAARD	Washington Information System for Architectural and Archaeological Records Data
WSDOT	Washington State Department of Transportation

1. INTRODUCTION

Environmental Science Associates (ESA) was retained by Alta Planning + Design (Alta), on behalf of the Chelan-Douglas Transportation Council (Council), to conduct a preliminary alternatives assessment for the Chelan-Douglas Regional Pathways Master Plan Project (project). The project includes the construction of a new multi-purpose trail for pedestrian and bicycle use.

This project is being designed with a Technical Advisory Committee (TAC) whose participants have been established by the Council. The TAC is providing feedback and guidance to the Council on the approach, methods, initial findings, and recommendations of the planning process. The TAC consists of staff representatives from Chelan County, Douglas County, Washington State Department of Transportation (WSDOT), Link Transit, and the cities relevant to each pathway corridor of the trail, as described below.

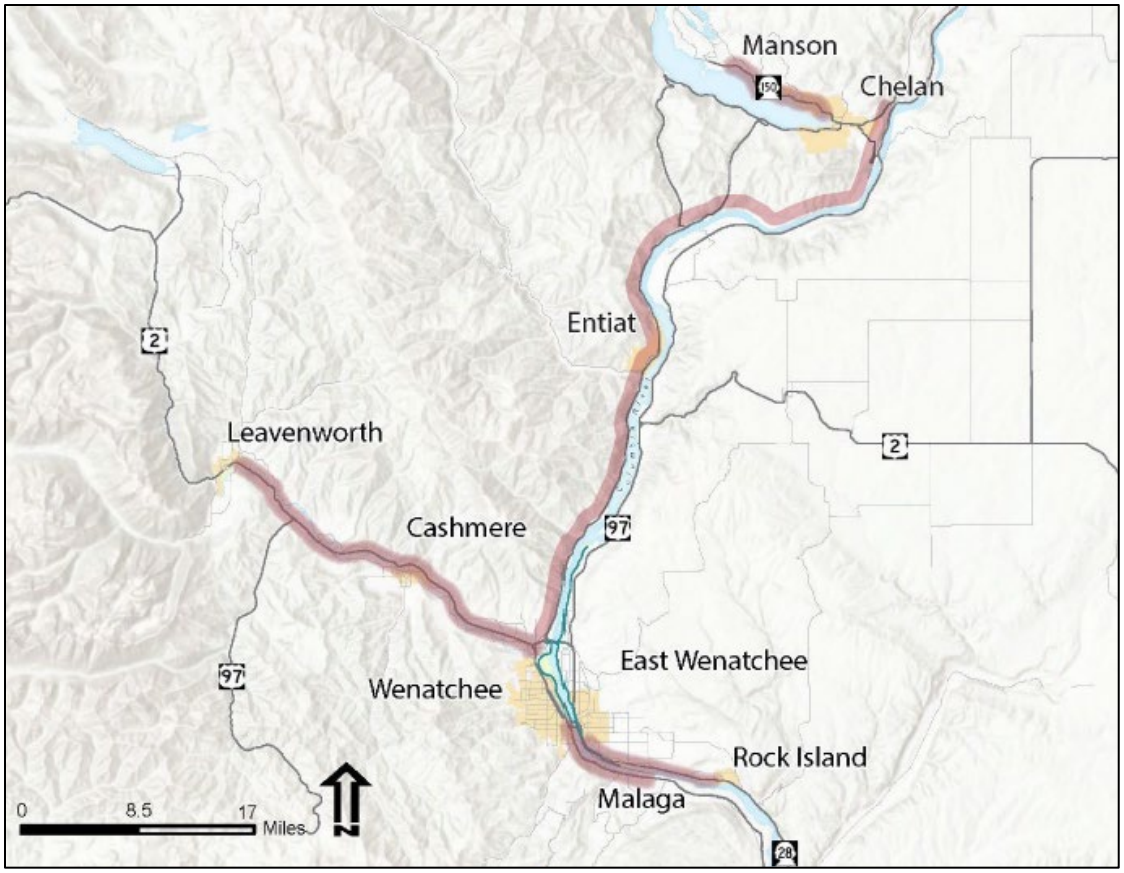
In addition, a Community Advisory Committee (CAC) has been established for each pathway corridor, for a total of five CACs. The Council intends for the CAC to be a public venue to allow for review and feedback from interested residents regarding review of the existing conditions reports; public engagement results; pathway corridors; preferred route options, branding, wayfinding, and pathway benefits; the environmental, social, and cultural review; and phasing recommendations.

This document focuses on cultural resources. The National Park Service defines *cultural resources* as "physical evidence or place of past human activity: site, object, landscape, structure; or a site, structure, landscape, object or natural feature of significance to a group of people traditionally associated with it" (National Park Service 2024).

1.1 Project Location

The project is within portions of Chelan and Douglas counties, Washington. Portions follow the shoreline of the Columbia River, Wenatchee River, Entiat River, and Lake Chelan. The project is divided into five pathway corridors (**Figure 1)**. Within each pathway corridor, various potential route options are being explored. The five pathway corridors are:

- Rock Island to East Wenatchee Pathway Corridor
- Malaga to Wenatchee Pathway Corridor
- Leavenworth to Cashmere to Wenatchee Pathway Corridor
- Chelan to Manson Pathway Corridor
- Wenatchee to Entiat to Chelan Pathway Corridor



Prepared by Alta Planning + Design 2024

Figure 1.
Overview Map of Pathway Corridors

The project spans the following eight jurisdictions:

- Chelan County
- Douglas County
- City of Cashmere
- City of Chelan
- City of Entiat
- City of Leavenworth
- City of Rock Island
- City of Wenatchee

1.2 Proposed Project

The project involves the construction of a new multi-use trail for pedestrians and cyclists, which could be up to 16 feet wide in some locations. At this early stage of the project, additional details have not currently been identified.

1.3 Regulatory Environment

The project does not currently have a federal or state nexus. The preliminary findings of this Cultural Resources Existing Conditions Assessment will assist the Council in the conceptual planning effort for comparing potential pathway corridors and route options. Additional cultural resources review is anticipated for this project. Laws that apply to archaeological projects conducted within the State of Washington include: Archaeological Sites and Resources (Revised Code of Washington [RCW] 27.53), Indian Graves and Records (RCW 27.44), Human Remains (RCW 68.50), and Abandoned and Historic Cemeteries and Historic Graves (RCW 68.60).

1.4 Types of Cultural Resources

In addition to the types of cultural resources (detailed below), archaeological and historic resources can also have an associated eligibility. Resources that have been *determined eligible* have been formally evaluated by federal/state staff in consultation with the State Historic Preservation Officer who have determined that the resource meets the criteria for listing in the National Register of Historic Places (NRHP; see below). As a result, these resources have protected status. Similarly, resources that have been *determined not eligible* have been determined to not meet the criteria for listing, and do not have protected status. Additionally, there are many resources that have been recorded but have not received a determination of eligibility.

1.4.1 Evaluation Criteria

For a property to qualify for the National Register it must meet at least one of the NRHP criteria for evaluation by being associated with an important historic context and retaining historic integrity of those features necessary to convey its significance. Criteria for listing in the NRHP are as follows (National Park Service 1990):

> *The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and:*
>
> *A. That are associated with events that have made a significant contribution to the broad patterns of our history; or*
>
> *B. That are associated with the lives of significant persons in or past; or*
>
> *C. That embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or*
>
> *D. That have yielded or may be likely to yield information important in history or prehistory.*

Ordinarily cemeteries, birthplaces, graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register. However, such properties will qualify if they are integral parts of districts that do meet the criteria or if they fall within the following categories:

a) A religious property deriving primary significance from architectural or artistic distinction or historical importance; or

b) A building or structure removed from its original location but which is primarily significant for architectural value, or which is the surviving structure most importantly associated with a historic person or event; or

c) A birthplace or grave of a historical figure of outstanding importance if there is no appropriate site or building associated with his or her productive life; or

d) A cemetery that derives its primary importance from graves of persons of transcendent importance, from age, from distinctive design features, or from association with historic events; or

e) A reconstructed building when accurately executed in a suitable environment and presented in a dignified manner as part of a restoration master plan, and when no other building or structure with the same association has survived; or

f) A property primarily commemorative in intent if design, age, tradition, or symbolic value has invested it with its own exceptional significance; or

g) A property achieving significance within the past 50 years if it is of exceptional importance.

1.4.2 Archaeological Sites

Archaeological resources are the physical evidence of past human activity. Archaeological sites can date to both the precontact-era and historic-era, and some span both periods (known as multicomponent sites). Archaeological sites are protected by state and federal laws.

Archaeological districts consist of multiple archaeological sites with a shared association. Districts can vary in size and can have specific managements plans that guide the treatment of archaeological resources within the district. While no archaeological districts were identified for the project, additional survey work in areas where there is a density of recorded archaeological sites may result in the identification of archaeological districts.

1.4.3 Cemeteries

Cemeteries consist of officially established historic-era locations, precontact-era cemeteries, and individual burials that are sometimes also associated with archaeological sites. It is not uncommon for human remains to be inadvertently discovered during various types of ground disturbance work like residential and commercial development, establishment of and improvements to roadways and railroads, and during riverbank modification. Burials are sometimes encountered below modern roads, and it is common for there to be unmarked graves outside of the modern boundaries of historic-era cemeteries. Cemeteries are protected by state and federal laws.

1.4.4 Traditional Cultural Properties

Places with traditional religious and cultural importance or significance (also referred to as Traditional Cultural Properties, TCPs, by the National Park Service), are also a type of cultural resource. It is "a place or resource that is significant to a living community because of its association with cultural beliefs, customs, or practices that are rooted in the community's history and that are important in maintaining the community's cultural identity" (Parker and King 1992). TCPs can vary in type, size, and characteristics. Examples of TCPs are places of religious significance, important events in history, or cemeteries, and are often associated with Indigenous communities, but not always (Parker and King 1992). TCPs can be documented by associated communities and agencies and shared with the Washington State Department of Historic Preservation (DAHP) but may not be formally recorded or made available to the consultant. While TCPs are often associated with Tribes, significant places identified by other communities can also be TCPs.

1.4.5 Historic Resources

A *historic resource* is a building, site, structure, object, or district that is 50 years old or older. Fifty years is the age threshold to be considered eligible for listing in the NRHP. The term does not convey significance, only that the resource has reached a particular age. Although many historic resources are buildings, the term also includes other types of resources, such as bridges, railroad tracks, canals, boats, fountains, dams, and parks. To be listed in the NRHP, historic resources must meet the age requirement, retain their integrity, and meet at least one of the four criteria for listing (National Park Service 1990). Historic resources may also be referred to as built environment resources.

Resources that have been *determined eligible for inclusion in the NRHP* are those that have formally been evaluated by staff at a federal and/or state agency in consultation with the State Historic Preservation Office (DAHP in Washington) and have been determined by evaluators that the resource meets one or more criteria for listing in the NRHP. Only federal or state staff can make an eligibility determination; others (such as consultants) can provide recommendations regarding eligibility, but these are not binding. A *historic property* is a historic resource that is listed in or has been determined eligible for listing in the NRHP. Resources that have been determined eligible and those that have been listed are treated with the same considerations.

The 50-year age threshold means that new resources become potentially eligible every year. Additionally, resources that are documented may not receive a determination of eligibility. Subsequent work analyzing the pathway corridors will likely identify other resources that will or have reached the age threshold at the time of project construction. It may also identify unevaluated resources that appear to be eligible for listing in the NRHP.

2. PRELIMINARY ASSESSMENT

2.1 Methodology

This preliminary assessment summarizes the results of review of the Washington Information System for Architectural and Archaeological Records Data (WISAARD) database maintained by DAHP, which was conducted from July 22–25, 2024. ESA applied a 200-foot study area buffer of the centerline for each of the route options under consideration within the five pathway corridors.

ESA reviewed WISAARD to identify the presence of any recorded archaeological sites, historic resources and properties, cemeteries, and TCPs that DAHP has released for viewing by consultants. Preliminary findings for each pathway corridor (Section 2.3) include details on the types and counts of cultural resources within each corridor. The specific locations of certain types of cultural resources, including archaeological sites and TCPs, are exempt from public disclosure under state law (RCW 42.56.300). Therefore, the specific locations and identification of these resources are not provided in this assessment.

This assessment does not include a review of previously conducted cultural resources assessments, county and municipal historical registers, archival records (e.g., historical maps, aerial imagery, landowner records and census data, and published histories), ethnographic studies, geological maps, soils surveys, and other environmental reports. The assessment also does not include any on-site work, such as surface survey or subsurface testing. Any future cultural resources survey work that occurs as a part of this project may identify additional cultural resources that will need to be incorporated into all subsequent project review processes (including, but not limited to, mitigation). The types and counts of all cultural resources discussed in this assessment have been identified strictly through a desktop analysis, with data current to the time of review.

Consultation with Affected Tribes has not yet occurred and could result in the identification of additional cultural resources that are not currently recorded but that are known to Tribes, or general areas of concern regarding potential impacts to cultural resources.

Some adjustments have been made to the route options within the pathway corridors since ESA pulled and analyzed the data from WISAARD. These adjustments included some revisions to route options and shifting start/end route points; however, the changes are relatively minimal. ESA has noted where these adjustments have occurred to indicate the opportunity for potential data gaps (see Section 2.3, *Corridor-Specific Preliminary Findings*).

2.2 Project-Wide Design Considerations

None of the pathway corridors are located within the boundaries of Tribal reservation lands. However, lands within and surrounding the pathway corridors have been utilized by Indigenous peoples since time immemorial. The pathway corridors are located along waterways including the Columbia and Wenatchee rivers as well as Lake Chelan, which were important transportation routes in the precontact and historic eras.

Cultural resources are protected under state and federal regulations and laws, and in some cases, also under county and municipal codes. Impacts to cultural resources should be avoided. Impacts to archaeological sites, cemeteries, or TCPs are often irreversible and would require mitigation. Impacts to NRHP-listed or determined eligible historic properties would also likely require mitigation.

Mitigation measures are resource-specific and determined by consulting parties such as the Affected Tribe(s), project proponent, lead agency, and DAHP. Some examples of mitigation measures are data recovery, development of interpretative materials, National Register Nominations, and material reuse/salvage, among other types.

In some locations in the study area, multiple resource types are present that may require more complex design considerations to avoid potential impacts. As route options are refined, additional review of these locations, beyond desktop analysis, is expected. These anticipated complexities are each due to unique factors, including the presence of certain types of resources, their relationship to each other, and their location(s).

2.2.1 Archaeological Sites

All pathway corridors are located in areas classified as Very High Risk for encountering precontact-era archaeological resources by DAHP's Statewide Predictive Model (DAHP 2010, 2024a). The Statewide Predictive Model is a tool used by archaeologists and planners to evaluate potential archaeological risks on a broad scale. The model was developed to statistically evaluate multiple environmental factors (e.g., elevation, slope percent, aspect, distance to water, soils, and landforms) in order to predict where archaeological resources might be found (Kauhi 2013). It is not a substitute for conducting site-specific surface and subsurface investigations.

Archaeological sites are typically identified through cultural resources surveys. None of the pathway corridors have been fully surveyed to date, and therefore it is possible that additional archaeological sites may be present but have yet to be identified and recorded. In addition, the boundaries of recorded sites are not always precisely known, especially for those recorded in the mid to late 20th century using standards that differ from today, of which many are present within the pathway corridors. It is possible that some of the recorded sites extend beyond current mapped boundaries into areas that were simply inaccessible when identified, such as beneath roadways or onto private property, which may be within the pathway corridors.

2.3 Corridor-Specific Preliminary Findings

For the purposes of this assessment, the following sections use "cultural resources" to refer to archaeological sites and districts, cemeteries, and TCPs, while "built environment" refers to historic resources.

Each table in the following sections identifies the number of recorded resources within each pathway corridor. Cultural and built environment resources that have been determined not eligible for listing in the NRHP have not been included in the total counts, as they are not expected to need mitigation during later stages of the project. Counts for built environment resources were determined for each of the route options under consideration within every pathway corridor. The counts from each route option were then

added together and the totals presented for each corridor. As a result of overlapping route options within a pathway corridor, there may be duplicate counts of built environment resources within the overall totals.

For pathway corridors with NRHP-listed or determined eligible historic resources within 200 feet, maps are provided showing the locations of those resources in **Appendix A**. Recorded archaeological sites, cemeteries, and TCPs are not included in these maps, in order to avoid publicly disclosing specific locations of these cultural resources in compliance with RCW 42.56.300.

WISAARD data does not differentiate between historic resources that have been listed in the NRHP, those listed in the Washington Heritage Register (WHR), or those in the Washington Historic Barn Register (WHBR). Historic resources listed in the NRHP are automatically included in the WHR, but WHR-listed resources are not always included in the NRHP. Listing in the WHR is honorary and does not carry any regulatory requirements. The WHBR "commemorates barns as historically significant resources representing the agricultural, economic and cultural development of the State of Washington;" like the WHR, listing is honorary (DAHP 2024b). As such, the counts of register-listed preliminary findings in the sections below may include some resources not currently listed in the NRHP.

2.3.1 Rock Island to East Wenatchee Pathway Corridor

This pathway corridor passes through the following jurisdictions: City of Rock Island and Douglas County. Recorded resources within 200 feet of route options within this corridor are summarized in **Table 1**. Changes to the route options since the time of the records search are explained in the table notes.

TABLE 1. SUMMARY OF CULTURAL RESOURCES WITHIN THE ROCK ISLAND TO EAST WENATCHEE PATHWAY CORRIDOR

Cultural Resource Type	Register Listed or Determined Eligible for Listing in NRHP	Unevaluated for listing in NRHP	Total
Precontact Archaeological Sites	0	1	**1**
Historic Archaeological Sites	0	1	**1**
Multicomponent Archaeological Sites	0	0	**0**
Cemeteries	0	0	**0**
Traditional Cultural Properties	0	0	**0**
Built Environment Resources	1	27	**28**
Total	**1**	**29**	**30**

SOURCE: DAHP 2024a

NOTES: Additions to the route options within this pathway corridor since the time of the records search are as follows: (1) State Route 28/Rock Island Road (0.80 mile); (2) Rock Island Avenue (1.1 mile); and (3) Riverside Drive and 3rd Street SW (1.2 mile). These sections will require assessment for future studies.

Two archaeological sites and 28 built environment resources are recorded within this pathway corridor (Table 1). Of the two recorded archaeological sites, one is a precontact-era site and the other is a historic-era site. There are no recorded cultural resources that have been listed or determined eligible for listing in the NRHP within this pathway corridor. One built environment resource that has been determined eligible for listing in the NRHP overlaps several route options within this corridor. There are no recorded cemeteries or TCPs within this corridor.

2.3.2 Malaga to Wenatchee Pathway Corridor

This pathway corridor passes through the following jurisdictions: City of Wenatchee and Chelan County. Recorded resources within 200 feet of route options within this corridor are summarized in **Table 2**. Changes to the route options since the time of the records search are explained in the table notes.

TABLE 2. SUMMARY OF CULTURAL RESOURCES WITHIN THE MALAGA TO WENATCHEE PATHWAY CORRIDOR

Cultural Resource Type	Register Listed or Determined Eligible for Listing in NRHP	Unevaluated for listing in NRHP	Total
Precontact Archaeological Sites	2	0	**2**
Historic Archaeological Sites	0	0	**0**
Multicomponent Archaeological Sites	0	0	**0**
Cemeteries	0	1	**1**
Traditional Cultural Properties	0	0	**0**
Built Environment Resources	1	100	**101**
Total	**3**	**101**	**104**

SOURCE: DAHP 2024a

NOTES: Additions to the route options within this pathway corridor since the time of the records search are as follows: (1) South Wenatchee Avenue (0.3 mile); (2) BNSF railroad tracks north of the Malaga Alcoa Highway (0.5 mile); and (3) Stemilt Creek Road and Old West Malaga Road to Mill Pond Road (0.7 mile). These sections will require assessment for future studies.

Two archaeological sites, one cemetery, and 101 built environment resources are recorded within this pathway corridor (Table 2). The two recorded archaeological sites are both precontact-era sites that have been determined eligible for listing in the NRHP. The cemetery is a precontact-era burial associated with one of the recorded archaeological sites. One of the built environment resources within this corridor has been determined eligible for listing in the NRHP. There are no recorded TCPs within this corridor.

2.3.3 Leavenworth to Cashmere to Wenatchee Corridor

This corridor passes through the following jurisdictions: City of Wenatchee, City of Cashmere, City of Leavenworth, and Chelan County. Recorded resources within 200 feet of route options within this corridor are summarized in Table 3. Changes to the route options since the time of the records search are explained in the table notes. Note that the built environment resources below (listed or determined eligible) may include duplicate resources between route options.

Seven archaeological sites, two cemeteries, two TCPs, and 568 built environment resources are recorded within this pathway corridor (Table 3). Of the seven recorded archaeological sites, one is a precontact-era site, four are historic-era sites, and two are multicomponent sites. The two cemeteries are both historic-era cemeteries. One of the multicomponent archaeological sites is listed in the NRHP. Thirty of the built environment resources within this pathway corridor are listed in a register or have been determined eligible for listing in the NRHP, including a historic district within the central portion of the corridor.

TABLE 3. SUMMARY OF CULTURAL RESOURCES WITHIN THE LEAVENWORTH TO CASHMERE TO WENATCHEE PATHWAY CORRIDOR

Cultural Resource Type	Register Listed or Determined Eligible for Listing in NRHP	Unevaluated for listing in NRHP	Total
Precontact Archaeological Sites	0	1	**1**
Historic Archaeological Sites	0	4	**4**
Multicomponent Archaeological Sites	1	1	**2**
Cemeteries	0	2	**2**
Traditional Cultural Properties	0	2	**2**
Built Environment Resources	30	538	**568**
Total	**31**	**548**	**579**

SOURCE: DAHP 2024a

NOTES: Additions to the route options within this pathway corridor since the time of records search are as follows: (1) Front Street (0.4 mile); (2) BNSF railroad tracks/Main Street from Peshastin to Dryden (3.25 mile); (3) West bank of Wenatchee River just northwest of Dryden (0.7 mile); (4) River Street (0.25 mile); (5) North Douglas Street (0.15 mile); (6) Old Monitor Road (0.2 mile); and (7) Love Lane and Lower Sunnyslope Road (0.5 mile). These sections will require assessment for future studies.

2.3.4 Chelan to Manson Pathway Corridor

This pathway corridor passes through the following jurisdictions: City of Chelan and Chelan County. Recorded resources within 200 feet of route options within this corridor are summarized in **Table 4**. Changes to the route options since the time of the records search are explained in the table notes.

TABLE 4. SUMMARY OF CULTURAL RESOURCES WITHIN THE CHELAN TO MANSON PATHWAY CORRIDOR

Cultural Resource Type	Register Listed or Determined Eligible for Listing in NRHP	Unevaluated for listing in NRHP	Total
Precontact Archaeological Sites	0	1	**1**
Historic Archaeological Sites	0	4	**4**
Multicomponent Archaeological Sites	0	1	**1**
Cemeteries	0	0	**0**
Traditional Cultural Properties	0	0	**0**
Built Environment Resources	1	86	**87**
Total	**1**	**92**	**93**

SOURCE: DAHP 2024a

NOTES: Modifications to the route options within this pathway corridor since the time of records search are as follows: (1) A 0.4-mile shift from South Quetilquasoon Road to Wapato Point Parkway. This section will require assessment for future studies.

Six archaeological sites and 87 built environment resources are recorded within this pathway corridor (Table 4). Of the six recorded archaeological sites, one is a precontact-era site, four are historic-era sites, and one is a multicomponent site; none of these have been listed or determined eligible for listing in the NRHP. There are no recorded cemeteries or TCPs within this corridor. One of the built environment resources within this corridor has been determined eligible for listing in the NRHP.

2.3.5 Wenatchee to Entiat to Chelan Corridor

This pathway corridor passes through the following jurisdictions: City of Chelan, City of Entiat, and Chelan County. Recorded resources within 200 feet of route options within this corridor are summarized in **Table 5**. No changes were made to the route options within the corridor since the time of the records search. Note that the built environment resources below (listed or determined eligible) may include duplicate resources between route options.

TABLE 5. SUMMARY OF CULTURAL RESOURCES WITHIN THE WENATCHEE TO ENTIAT TO CHELAN PATHWAY CORRIDOR

Cultural Resource Type	Register Listed or Determined Eligible for Listing in NRHP	Unevaluated for listing in NRHP	Total
Precontact Archaeological Sites	2	16	**18**
Historic Archaeological Sites	0	19	**19**
Multicomponent Archaeological Sites	0	3	**3**
Cemeteries	0	3	**3**
Traditional Cultural Properties	0	1	**1**
Built Environment Resources	6	184	**190**
Total	**8**	**226**	**234**

SOURCE: DAHP 2024a

Forty archaeological sites, three cemeteries, one TCP, and 190 built environment resources are recorded within this pathway corridor (Table 5). Of the 40 archaeological sites, 18 are precontact-era sites, 19 are historic-era sites, and three are multicomponent sites. Two of the precontact-era sites have been determined eligible for listing in the NRHP. The three cemeteries are precontact-era burials associated with recorded archaeological sites. Six of the built environment resources within this corridor are listed in a register or have been determined eligible for listing in the NRHP.

3. EXPECTATIONS AND RECOMMENDATIONS

After the route options for the pathway corridors are narrowed down, ESA recommends additional desktop review that examines the setting beyond the currently applied 200-foot buffer. The buffer for additional review should be based on proposed construction methods to account for potential impacts, such as permanent aboveground signalization, illumination, roadway widening, staging areas, and any potential temporary traffic detour routes during construction. This additional desktop review would also help the TAC identify route options that may require more cultural resources efforts.

Eventually, a cultural resources survey that includes a field assessment to identify cultural and historic resources should be conducted for the preferred routes. This survey would be completed to the requirements of regulations for cultural resources review that will apply to the project at that time.

ESA expects that the project will receive federal funding or need a federal permit as design continues. Funding from a federal agency (such as the Federal Highway Administration) or the need for a federal permit for work along certain areas (such as a Clean Water Act Section 404 permit from the U.S. Army Corps of Engineers) would require that the project comply with the National Historic Preservation Act (NHPA, commonly referred to as "Section 106"). Section 106 requires that the lead federal agency consider the effects of the undertaking upon historic properties within the project's Area of Potential Effects (APE). Federal code implementing Section 106, found at 36 Code of Federal Regulations (CFR) 800, includes a requirement that an effort be made to identify historic properties.

If there is no federal nexus, the project could be subject to compliance with Washington State Governor's Executive Order 21-02 (GEO 21-02). GEO 21-02 requires that agencies consult, or delegate consultation to non-state recipients of state capital funds, with DAHP and Affected Tribes on the potential impacts of projects on cultural resources (archaeological sites, historic structures, buildings, objects, and tribal sacred places). GEO 21-02 applies to projects with state-funded construction or acquisition projects that are not subject to review under the NHPA, including grant or pass-through funding that culminates in construction or land acquisitions. The Executive Order requires that the state agency provide documentation of that consultation to DAHP, if requested.

Under GEO 21-02, if DAHP or the Affected Tribes notify an agency that an archaeological or historic archaeological site, historic resource, or traditional/sacred place study is needed prior to the project proceeding, the state agency must consult with DAHP and the Affected Tribes on necessary studies. If DAHP or the Affected Tribes identify a resource that may be impacted by either direct or indirect effects from the project, the Agency would consult with DAHP and the Affected Tribes on avoidance strategies or methods to minimize impacts to the identified resource. For historic resources, the Agency would develop mitigation strategies in consultation with DAHP and, if requested, the Affected Tribes. Development of mitigation strategies for all other resources may only be conducted with DAHP and the Affected Tribes if the Agency provides notification that the impacts cannot be avoided. Mitigation strategies for these resources would be identified through consultation with DAHP and the Affected Tribes.

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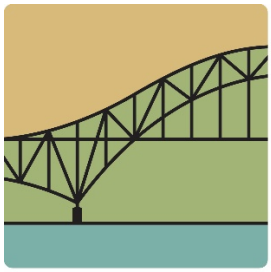
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Appendix F: Alignment Alternatives Evaluation



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Chelan-Douglas
TRANSPORTATION COUNCIL
CDTC

Alignment Alternatives: Evaluation Criteria, Process, Methods, and Results

March 2025

alta

Overview

Introduction and Purpose

This memo describes the criteria and evaluation methodology that were developed to differentiate and compare the different pathway alignments in each pathway corridor for the Chelan-Douglas Pathways Plan. The evaluation is used to screen alignments from consideration based on their quantitative and qualitative merits and support the selection of a preferred alternative. The criteria used in the evaluation include readily measurable transportation data along with input and feedback from the project team, Technical Advisory Committee (TAC), Community Advisory Committee (CAC), and public at large. The evaluation process is essential for communicating to stakeholders and the public the factors weighed by the project team in the identification of a preferred alignment in each corridor.

Pathway Corridors

The project includes five distinct pathway corridors: Chelan to Manson (CM), Leavenworth to Cashmere to Wenatchee (LCW), Rock Island to East Wenatchee (RE), Malaga to Wenatchee (MW), and Chelan to Entiat to Wenatchee (RR). Each pathway corridor is made up of multiple segments (ranging between 4 and 11) based on strategic sections that were assigned within each corridor. Within each segment, there are one or more alignments, and each is assigned a letter (A for the northernmost, descending alphabetical order going south). Each alignment name includes the corridor abbreviation followed by the segment number and the alignment letter. For example, the northernmost alignment in Segment 10 of the Malaga to Wenatchee Corridor is named MW: 10A. **Figure 1** shows the six alignments in Segment 10 of the Malaga to Wenatchee Corridor.

Figure 1: Aerial view of part of the Malaga to Wenatchee Corridor



Evaluation Process

The alignment alternatives evaluation process began with the development of an initial set of evaluation goals and criteria that aligned with project guiding principles adopted by the Chelan-Douglas Transportation Council Governing Board (CDTC). (See Appendix A.) The evaluation criteria were presented to the TAC and CACs, and each committee was asked to rate the importance of each criterion for the purpose of developing criteria weighting factors, as not all

considerations should be weighed equally in an evaluation The criteria weights were incorporated into the evaluation calculations so that the final scores were sensitive to local interests and needs specific to each corridor. Additionally, input from community members in the public survey was used to evaluate alignments and identify desired destinations, access points, and areas to avoid. The score and relative rank of each alignment option within the corridor segments were mapped and presented to the project team, project leadership team, TAC, and other local leaders for review and discussion. At the end of the process, a recommended corridor alignment was identified.

Analysis Assumptions

Assumption 1: The corridors are independent of one another. The team will review each corridor independently and will not give undue attention to any one corridor over the others.

Assumption 2: Evaluation scores are a snapshot in time. Data inputs like population demographics, destinations, and land uses are based on the available recent data but can change over time.

Assumption 3: Segments in an alignment will be evaluated in comparison to one another. The alignment score is relative to other alignments in that segment and are not comparable to alignments in another segment even if located in the same corridor.

Assumption 4: Qualitative data will supplement the final segment scores in decision-making. This includes the potential challenges with future property acquisition based on parcel ownership information.

Assumption 5: Criteria that remain the same across all segments and corridors will not be considered. For example, there are no fatal environmental resource impacts found in any corridor; therefore, those criteria were removed from the analysis.

Alignment with Project Guiding Principles

CDTC adopted seven guiding principles (GP) to describe the type of pathway facilities to be identified for a preferred alignment, the priorities for use and user access, and commitments that CDTC will follow in development of the Pathways Master Plan. The guiding principles provide the framework for the development of the evaluation criteria. The evaluation goals and criteria align with the GP as described below:

GP #1 New pathways will be planned on alignments with separation or physical barrier from public roadways and highways, to the maximum extent feasible and practical.

- This GP requires a consideration of real and perceived bicyclist and pedestrian safety, and separation or potential interaction with vehicle traffic

GP #2 New pathways will be planned for use by people of all ages and abilities, to the maximum extent feasible and practical. Steep grades should be avoided where reasonable alternatives exist.

- This GP requires a consideration of the trail's running slope, and narrow trail locations or segments that are potential obstacles for some or all users.

GP #3 New pathways will connect to the Apple Capital Loop Trail to form a complete regional pathways network that connects all Wenatchee Valley communities (*with the exception of the Chelan to Manson pathway*).

- While connectivity is important, and the primary purpose of the pathway will be to provide a connection between local communities and where possible to the Apple Capitol Loop Trail, it was determined there are not enough existing local pathways to merit a "trail network connectivity" criterion.

GP #4 New pathways will include accommodation for public access and connections to adjacent residences and community, educational, employment, recreational, and other destinations with pathway spurs and/or safe accommodation of pedestrians and cyclists along public roadways.

- This GP requires a consideration of connectivity to transit and local destinations like schools and libraries as well provide more residents with access to a pathway.

GP #5 New pathways will be planned to incorporate wayfinding information, and educational and interpretive features highlighting the history and culture of the region, its agricultural economy, and the natural environment of the Wenatchee, Columbia River, and Lake Chelan valleys.

- This GP requires consideration of local destinations that can be accessed through the pathways and highlighted using wayfinding and interpretive features.

GP #6 The Pathways Master Plan process will engage citizens and stakeholders to identify feasible and achievable alignments for each pathway that take into account the diverse local context of communities, with respect for private property rights and use.

- This GP requires consideration of the needs of different users including residents, agency staff, property owners, decision makers, and the general public. The input from the public survey helped identify local destinations, and TAC and CAC scores were used in allocating weights to the criteria.

GP #7 The Pathways Master Plan process will include recommendations for public agency roles, responsibilities, and funding sources for pathway construction and long-term operations and maintenance.

- This GP requires consideration of maintenance and operations of the pathways, construction costs including the need for new structures and permitting requirements.

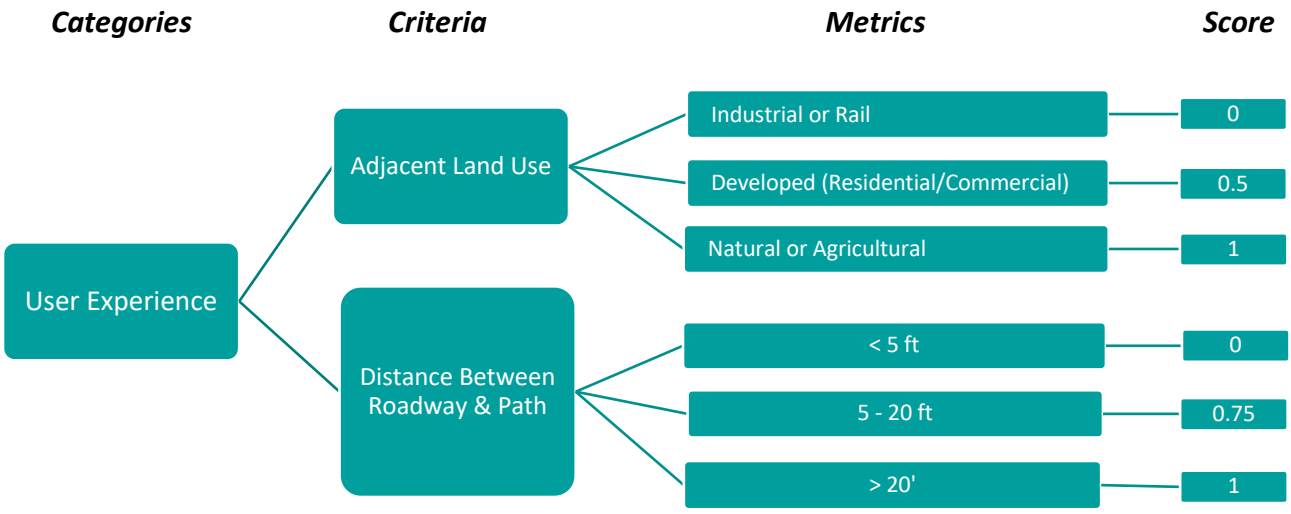
Evaluation Framework and Scoring

The evaluation criteria framework is organized as follows:

- **Categories:** Five overarching categories were identified for the evaluation criteria based on the project guiding principles discussed in the previous section: User Experience, Accessibility, Connectivity, Feasibility, and Cost.
- **Criteria:** Each category has multiple criteria. In some categories, artificial breaks were required for evaluation purposes. For instance, an alignment with less than 5 feet of distance from the roadway is scored less than an alignment with 5 to 20 feet of distance from the roadway.

- **Metrics:** The data measured and used to develop a score for each criteria. For example, the pinch points criteria measured the length of each segment where the pathway would need to be less than 12'.
- **Score/Results:**
    - *Criteria scoring:* The project team identified evaluation methodology for each criterion on a case-by-case basis depending on data availability and distribution and whether the outputs achieve intended goals. Criteria scores were converted on a scale of 0-1 in multiple ways to prevent bias and distortion in the evaluation.
        - *Preference for a criteria metric:* Metrics in the criteria were scored between 0 and 1 based on whether they are preferred in the pathway or not. For the Adjacent Land Use criteria, industrial or rail is not a preferred land use and is given the lowest score of 0, residential/commercial land uses are given a score of 0.5, and natural or agricultural land uses are given the highest score of 1.
        - *Min-max normalization:* In this method, values are transformed between 0 and 1 with the minimum value becoming 0 and the maximum value transformed to 1. For the Number of Roadway Crossings Criteria, alignments with the lowest number of crossings per mile (preferred) got the highest score of 1 and the alignment with the highest number of crossings per mile got the lowest score of 0.
        - *Ratios:* Ratios and inverse ratios were used to transform values between 0 and 1. For the Transit Connections category, ratios are used for normalization where an alignment with the highest number of transit connections got a score of 1 and other alignments were a ratio relative to the alignment with maximum transit connections.
    - *Category score:* The score of each category is the sum of all criteria within a category.
    - *Alignment score:* An alignment score is the sum of all individual category scores.

Figure 2: An example of the framework organization



Goals

As noted in the previous section, the goals for the evaluation criteria were developed based on the guiding principles. At a broad level, the goals help identify categories and criteria and answer the following questions:

- **User Experience:** Does the alignment provide a safe, comfortable, and enjoyable experience for the users? Does the alignment give access to natural resources like parks and waterbodies? What are the real or perceived safety impacts in the alignment?
- **Accessibility:** Is an alignment accessible for users of all ages and abilities? Does the alignment improve access to underserved communities like low-income households and those without access to vehicles?
- **Connectivity:** Does the alignment provide connections to transit and improve access to community destinations? Does an alignment provide alternative transportation options to more residents?
- **Feasibility:** Does an alignment require easement or property acquisition? Does an alignment run within or close to an orchard?
- **Cost:** Does an alignment require private property acquisition or is it fully within public right-of-way (ROW)? Does an alignment need structures and improvements that might increase implementation cost? Does an alignment provide the shortest possible connection between places, thereby potentially decreasing operating and maintenance costs? What are the potential permitting needs for an alignment?

Criteria and Metrics

This section shows the 19 different criteria, and the metrics and methodology used to evaluate them.

User Experience

Adjacent Land Use

Adjacent Land Use	*Ratio of a length of alignment with a land use character adjacent to the corridor to length of the segment.*	
	Industrial or rail	0
	Developed (residential/commercial)	0.5
	Natural or agricultural	1

Distance Between Roadway and Path

Distance Between Roadway and Path	*As the crow flies' distance between the nearest road segment and the trail.*	
	< 5 feet	0
	5 to 20 feet	0.75
	>20 feet (and for no roadways)	1

Number of Roadway Crossings

Number of Roadway Crossings	*Number of road crossings per mile (major crossings = 1 and minor crossings = 0.5). Normalized using min-max normalization method. For segments with only one alignment, 0 crossings = 1 and > 0 crossings = 0.*

Traffic Volumes on Adjacent Street

Traffic Volumes on Adjacent Street	*Percent of segment with the traffic volume on adjacent street.*	
	Low Volume	1
	Medium Volume	0.5
	High Volume - Highway	0

Traffic Speed on Adjacent Street

Traffic Speed on Adjacent Street	*Percent of segment with the traffic speed on adjacent street.*	
	Low Speed <= 25 mph	1
	Medium Speed 26 to 45 mph	0.5
	High Speed >= 46 mph	0

Accessibility

Trail Slope

Trail Slope	*Trail gradients (running slope) for any continuous 30-foot section per mile. Normalized using min-max normalization method.*	
	< 1:12 (or 8%) – Steeper	0
	1:12 to 1:25 (or 5% to 8%)	0.5
	> 1:25 (or 5%) – Flatter	1

Pinch Point

Pinch Point	*Minimum trail width.*	
	Yes	0
	No	1

Equity Priority Areas

Equity Priority Areas	*Proximity to equity priority assigned through equity analysis.*

Connectivity

Transit Connections

Transit Connections	*Ratio of the number of transit connections in an alignment to maximum number of transit connections through any alignment in that segment.*

Number of Residents with Access to Path

Number of Residents with Access to Path	*Ratio of the residents with access in an alignment to maximum number of residents with access through any alignment in that segment.*

Proximity to Destinations

Proximity to Destinations	*Ratio of the number of destinations connected through an alignment to maximum number of destinations connected through any alignment in that segment.*

Feasibility

Requires Easement or Property Acquisition

Requires Easement or Property Acquisition	*Type of acquisition/easement.*	
	Private property impacts	0
	No private property impacts	1

Proximity to Orchard

Proximity to Orchard	*Percent of segment in or not in proximity to an orchard.*	
	Yes	0
	No [>100-foot buffer – not adjacent to an orchard]	1

Cost

Right-of-Way

Right-of-Way	*Who owns ROW? 1 = all public ROW* *0 = part/all has private ROW.*	
	Full/part of the segment has private ROW	0
	Full segment in public ROW	1

Alignment Length

Alignment Length	*Normalized using min-max normalization. Shortest alignment gets a score of 1 and longest gets a score of 0. Segments with only one alignment get a score of 0.*

New Structure (Trestle/Bridge)

New Structure (Trestle/Bridge)	*Alignments with no/shortest new structures get a score of 1 and vice versa. Normalized using min-max normalization.*

Improvements to Existing Structure (Trestle/Bridge)

Improvements to Existing Structure (Trestle/Bridge)	*Alignments with no/shortest new structures get a score of 1 and vice versa. Normalized using min-max normalization.*

Grading/Retaining Wall

Grading/Retaining Wall	*Length of segment requiring retaining wall. Normalized using min-max normalization.*

Permitting/Coordination Requirements

Permitting/ Coordination Requirements	*Total potential permits required—all weighted equally. Inverse ratio of the permits required in that alignment to the permits required in any alignment in that segment. Alignments with lowest number of permits get a score of 1 and vice versa. For alignments with only one segment, 0 permits = 1.*

Community Input and Weighting

Each category was assigned a weight based on how important those issues were for the project goals. The TAC and CACs helped to prioritize each of the criterion. The TAC weight was consistent across all corridors while the CACs were different from one another. In addition to criterion weights, input from the project leadership team was also used to assign weights to the overarching goals. These weights were consolidated to create a criterion weighting score that varied across all the pathway corridors.

Qualitative Inputs

In addition to the data-driven approach discussed in previous sections, other information that impact the implementation of the project will be included during decision-making processes. This includes considering the potential ease or challenge of acquiring a parcel needed for the pathway based on the parcel ownership information.

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Results

A multi-step process was then used to identify a recommended preferred alignment for each pathway corridor. The process is detailed below using the Malaga to Wenatchee Pathway Corridor.

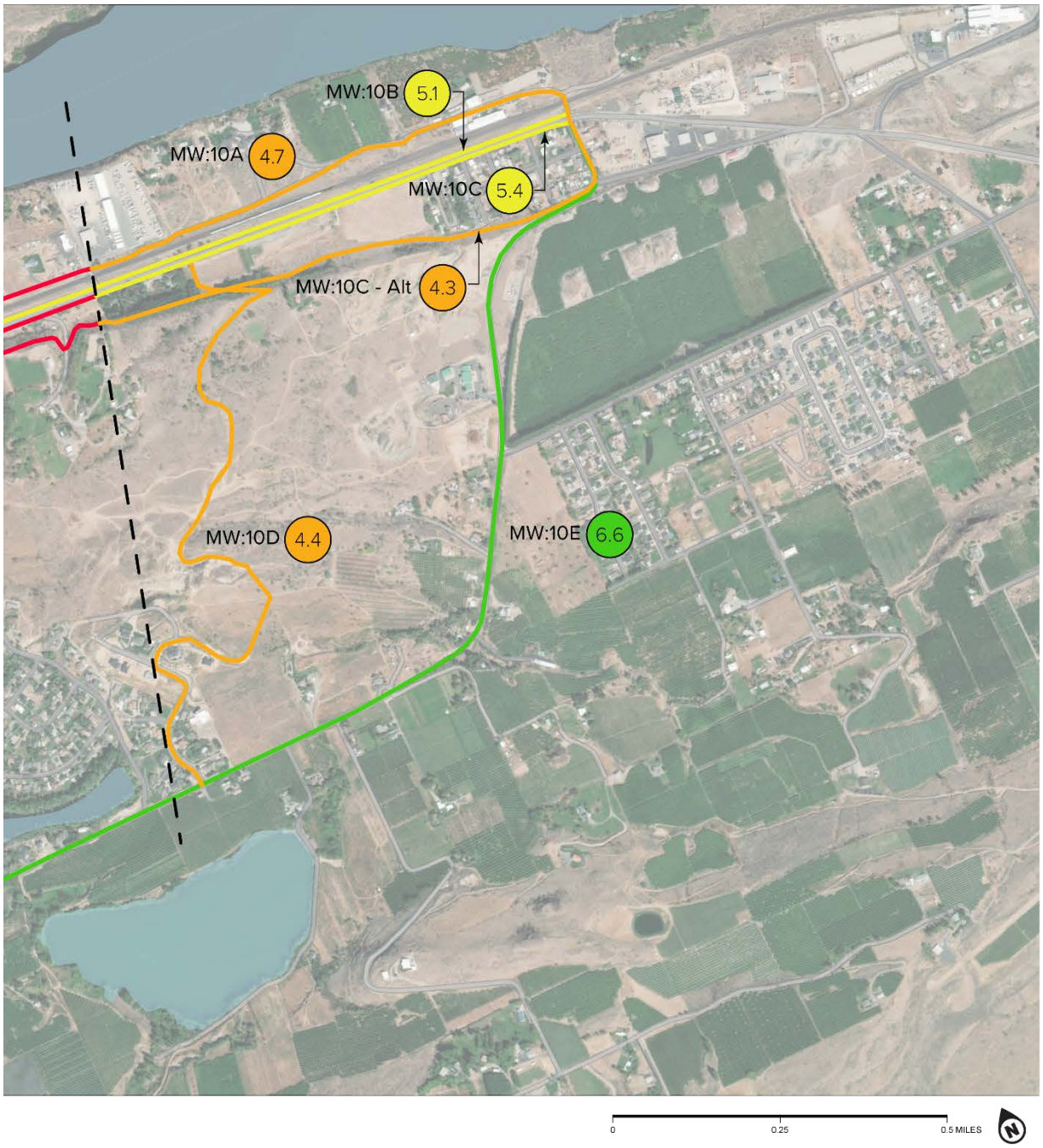
Step 1: Evaluating and Scaling Alignment Scores

The evaluation scoring process described in the previous section resulted in a score for each alignment. See Overall Score column in **Table 1** for the scores of alignments in Segment 10 of the Malaga to Wenatchee Pathway Corridor. This score was then scaled using a factor of 10 that provided a more representative difference between the alignments so that they can be compared and evaluated. The Scaled Overall Scores were color coded from red (low score) to green (high score). The scores were then added to the alignment maps as shown in **Figure 3**.

Table 1: Scores for alignments in segment 10 of the Malaga to Wenatchee Pathway Corridor

Segment ID	**Segment Alignment**	**Overall Score**	**Overall Score –** (Overall Score*10)
MW-10	MW-10A	0.45	4.5
	MW-10B	0.51	5.1
	MW-10C	0.54	5.4
	MW-10C-Alt	0.45	4.5
	MW-10D	0.44	4.4
	MW-10E	0.66	6.6

Figure 3: Mapped alignments with scores for segment 10 of the Malaga to Wenatchee Pathway Corridor



Step 2: Normalizing Scores

The evaluation resulted in scores for each alignment that were normalized so that the highest preferred alignment or alignments in a segment had a score of 1. This helped to adjust the range and compare data that were distributed differently across different alignments. See Normalized Scores column in **Table 2** for the normalized scores for alignments in Segment 10 of the Malaga to Wenatchee Pathway Corridor.

Step 3: Assessing and Filtering Alignments

The project team assessed if each proposed alignment met the project goals, particularly as it relates to regional level connections and ROW limitations. Some alignments, while improving connections to some communities, did not meet the regional connectivity goals or were deemed relatively less feasible due to smaller ROW or steep slopes. For example, in Segment 10 of the Malaga to Wenatchee Pathway Corridor, alignments 10 D and 10 E were filtered out (see greyed cells in Table 2). However, some of these alignments are still potential routes that other planning processes can consider and implement. Updated normalized scores were created for the remaining alignments. Alignments with the top 10% of scores were highlighted in green as shown in **Table 2**.

Table 2: Final normalized scores after filtering alignments

Segment ID	**Segment Alignment**	**Normalized Scores** (Alignment Score/Highest Alignment Score in That Segment)	**Updated Normalized Scores** (Alignment Score/Highest Alignment Score in That Segment)
MW-10	MW-10A	0.68	0.83
	MW-10B	0.79	0.95
	MW-10C	0.82	1.00
	MW-10C-Alt	0.69	0.83
	MW-10D	0.67	*
	MW-10E	1.00	*

*Filtered out from future evaluation

Green colored cells: Highest alignment score(s) in that segment

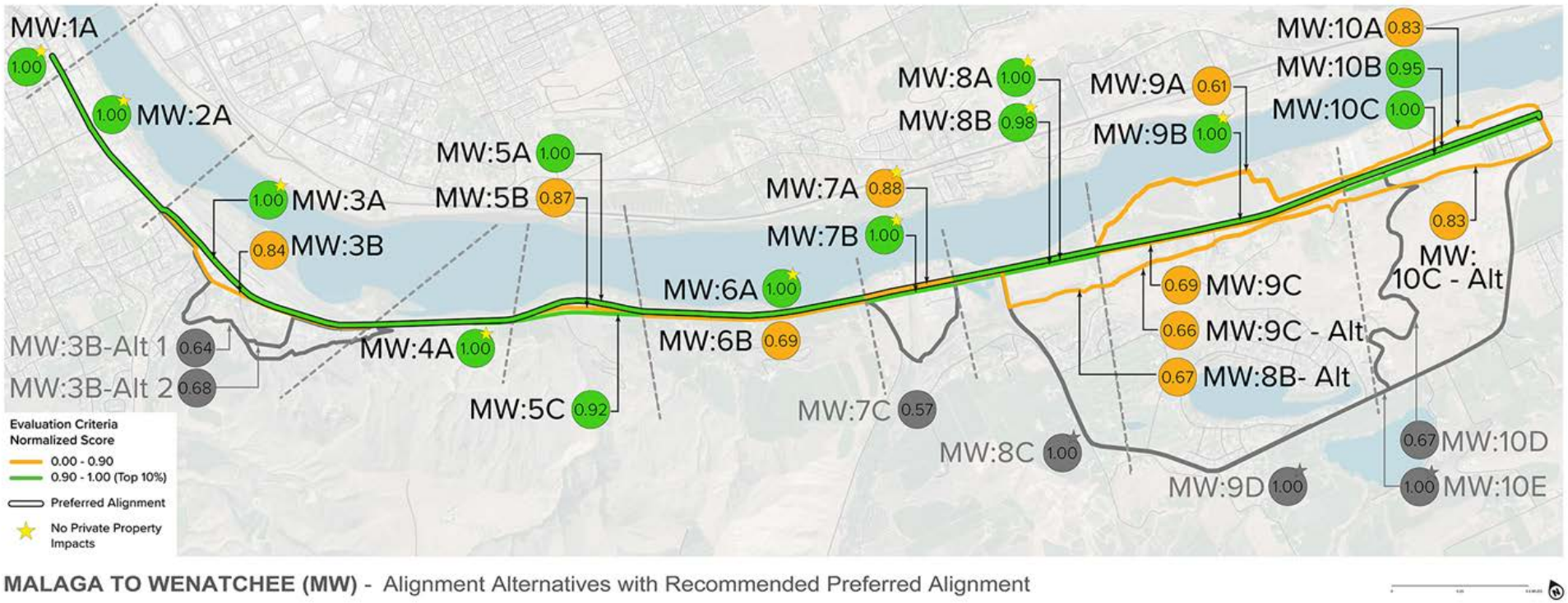
Step 4: Recommended Preferred Alignment

The alignment scores were mapped, and the alignments were color-coded based on the scores. Alignments with no private property impacts were marked with a star to give information to partners and decision makers about feasibility. Based on this information, a corridor-level preferred alignment was identified that was continuous and connected alignments with the highest possible scores. The preferred alignment for each of the corridors is highlighted in green and outlined in black as shown in the **Preferred Alignments** section below.

Preferred Alignments

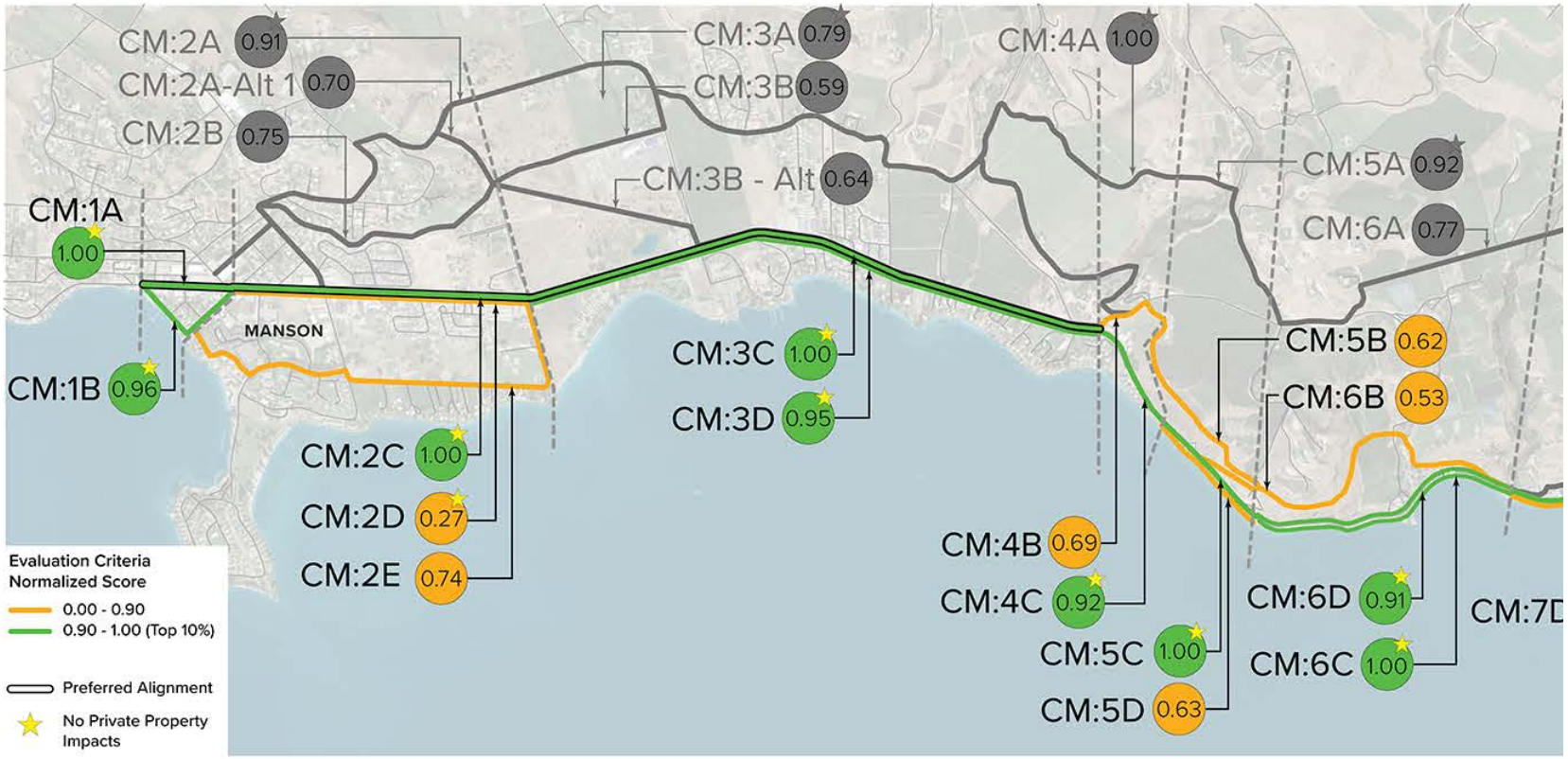
Malaga to Wenatchee Corridor (MW)

Figure 4: Alignment alternatives with the recommended preferred alignment for Malaga to Wenatchee Pathway Corridor



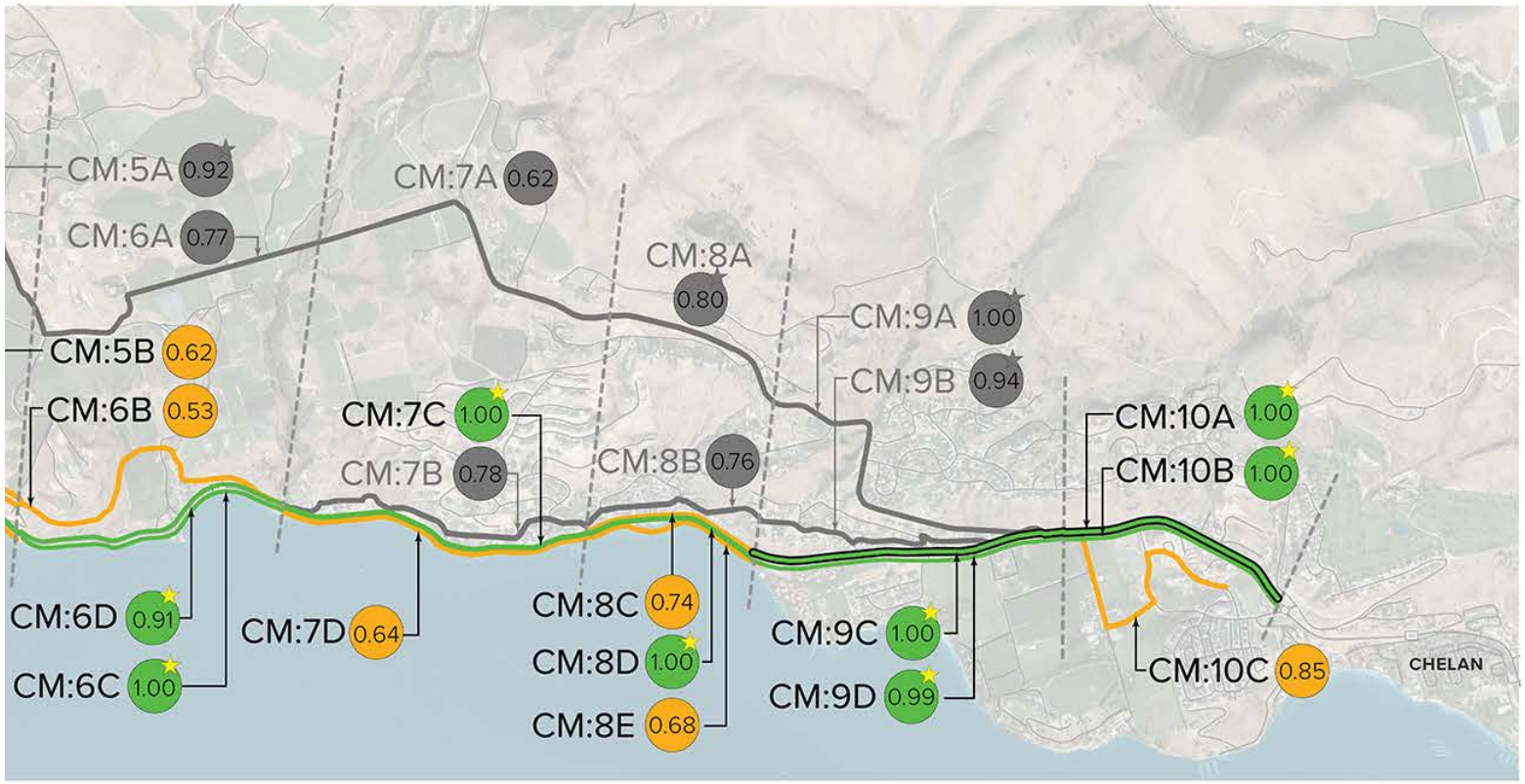
Chelan to Manson Corridor (CM)

Figure 5: Alignment alternatives with the recommended preferred alignment for Chelan to Manson Pathway Corridor (Segments 1 to 5)



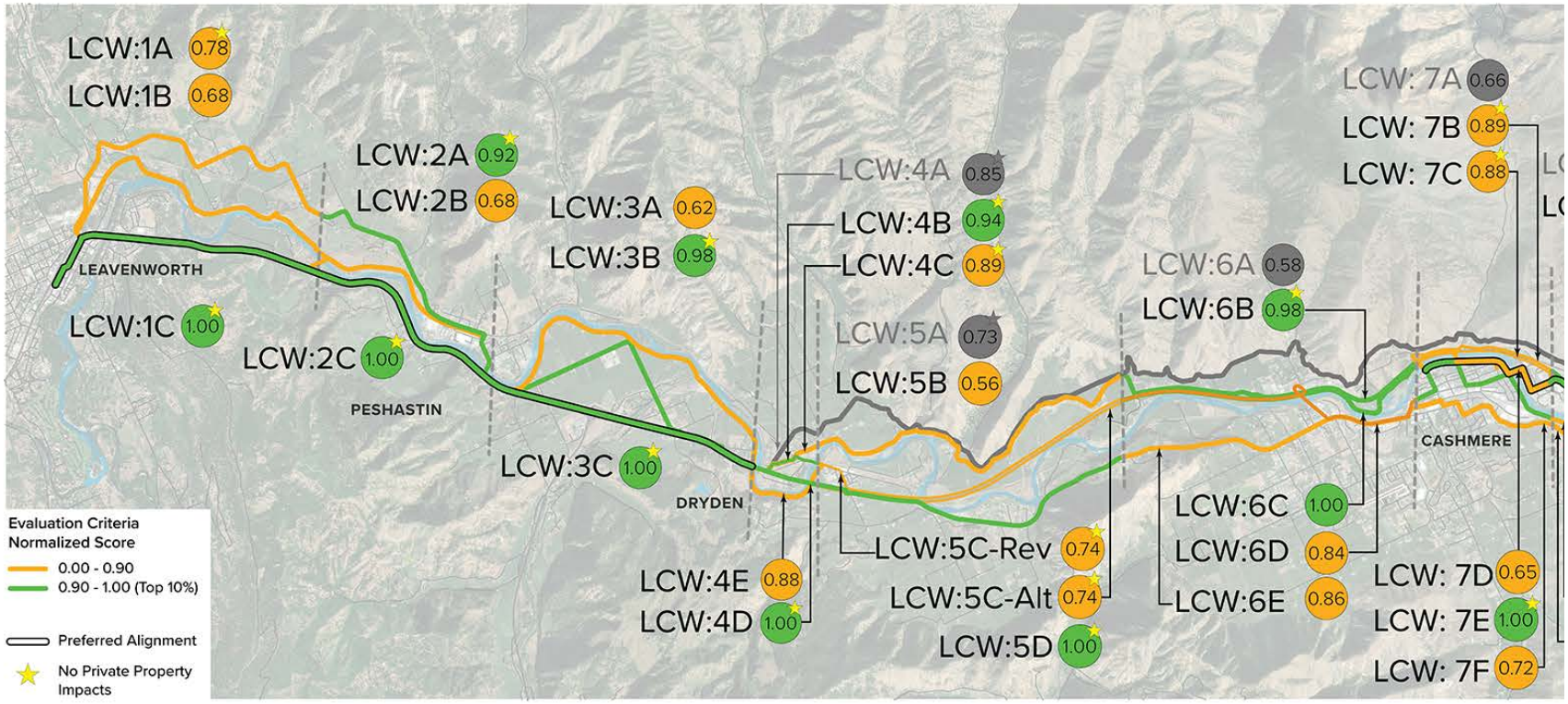
CHELAN TO MANSON (CM) - Alignment Alternatives with Recommended Preferred Alignment

Figure 6: Alignment alternatives with the recommended preferred alignment for Chelan to Manson Pathway Corridor (Segments 6 to 10)



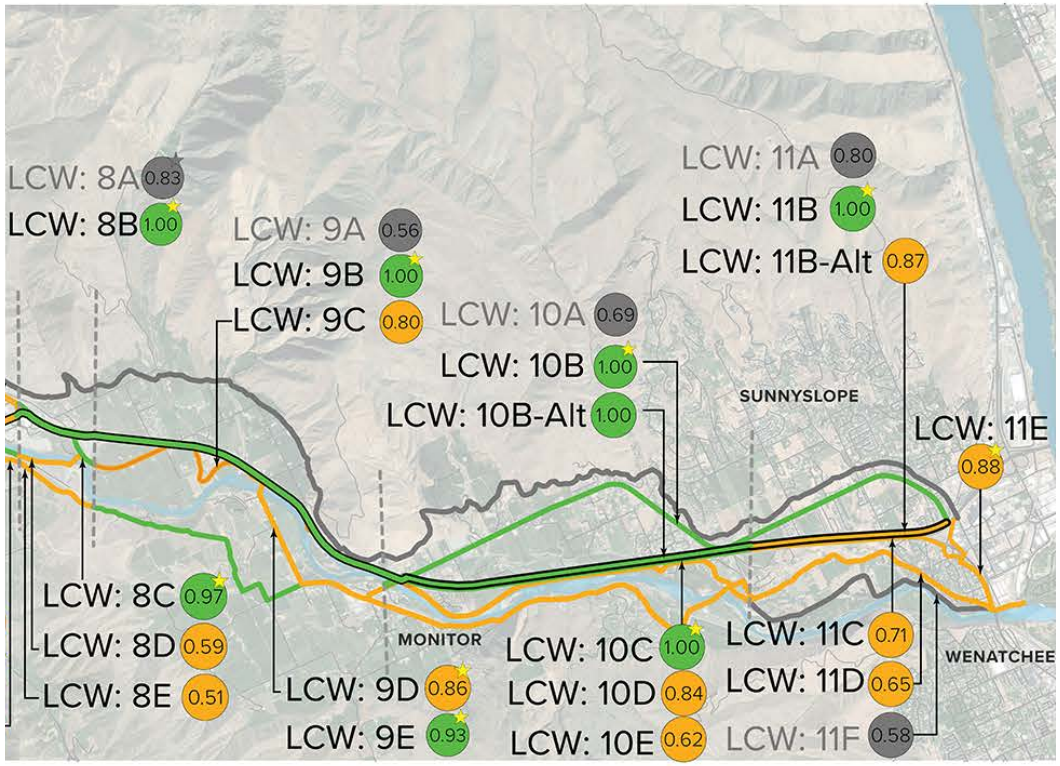
Leavenworth to Cashmere to Wenatchee Corridor (LCW)

Figure 7: Alignment alternatives with the recommended preferred alignment for Leavenworth to Cashmere to Wenatchee Pathway Corridor (Segments 1 to 7)



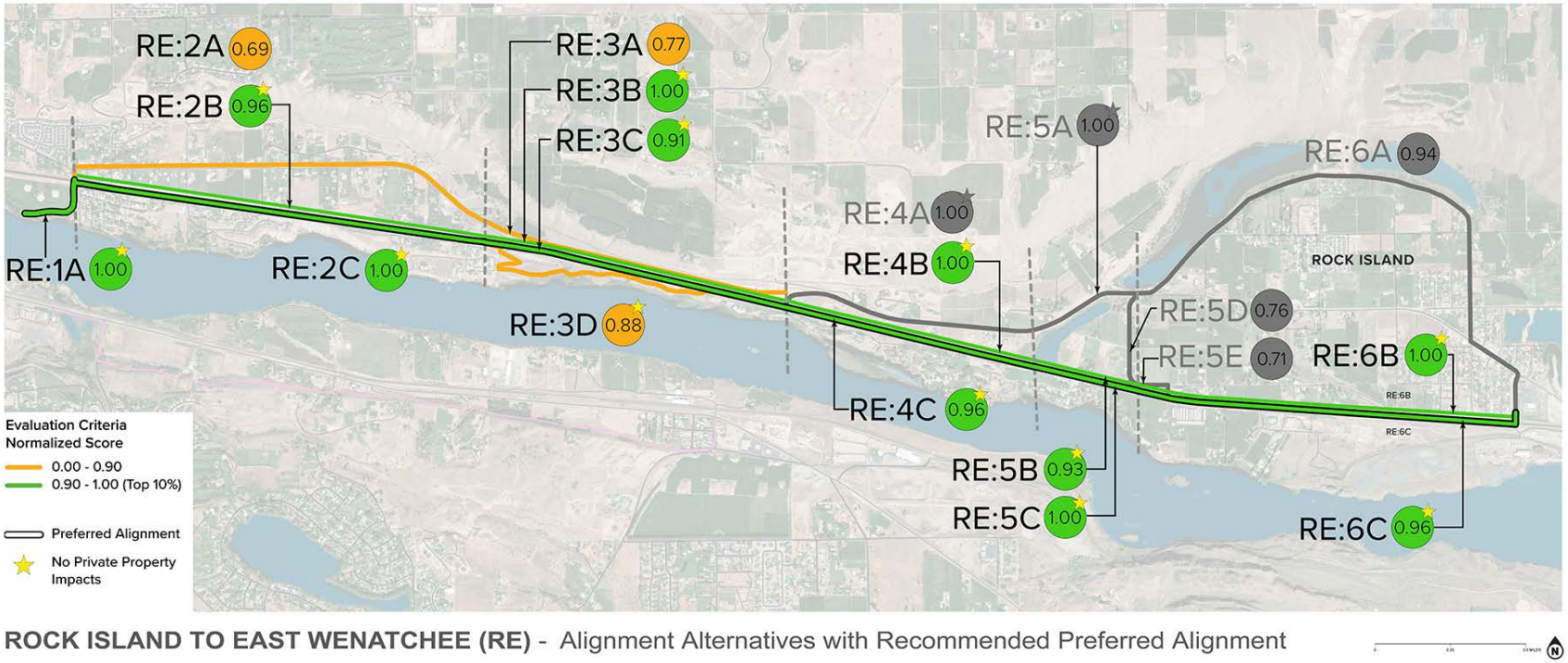
LEAVENWORTH TO CASHMERE TO WENATCHEE (LCW) - Alignment Alternatives with Recommended Preferred Alignment

Figure 8: Alignment alternatives with the recommended preferred alignment for Leavenworth to Cashmere to Wenatchee Pathway Corridor (Segments 8 to 11)



Rock Island to East Wenatchee Corridor (RE)

Figure 9: Alignment alternatives with the recommended preferred alignment for Rock Island to East Wenatchee Pathway Corridor



Chelan to Entiat to Wenatchee Corridor (RR)

This railroad corridor, potentially connecting Chelan to Entiat to Wenatchee on the west of Columbia River, was initially considered and analyzed using the same framework noted above. However, there were challenges associated with ROW and property acquisition for the proposed alignments. The project team is now considering locating the pathway corridor to the east of the Columbia River.

Appendix G: Public Engagement Process and Findings



Chelan-Douglas Transportation Council
Public Engagement Summary and Analysis Report

January 23, 2025

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Part 1: Public Engagement Process: What We Did

A robust community input process was launched at the start of the Chelan-Douglas Transportation Council (CDTC) Pathways Master Plan Project. The project team asked the local community to provide feedback on how a pathway could best serve the people who live, work, and recreate in the region, and asked them to share any concerns they may have about a pathway in each project corridor. This input will inform pathway design, implementation, and future operations, and it will guide the project team in developing a plan that prioritizes the needs of diverse trail users and stakeholders.

The engagement process focused on listening to diverse residents, future users, and stakeholders along the four corridors, which include:

- Manson to Chelan
- Leavenworth to Wenatchee
- Malaga to Wenatchee
- Rock Island to Wenatchee

By the Numbers

The team connected with residents and stakeholders along the CDTC Pathways Master Plan corridors in many ways: through tabling at existing community events, targeted stakeholder meetings, surveys, and web-based input tools. In total, there were:

- 12 events attended/tabled at
- 8 Community Advisory Council meetings, 5 in person, 3 virtual
- 2 Technical Advisory Committee meetings (in person)
- 1,897 map and survey participants
- 9,548 unique website visitors
- 185 unique comments and on the Pathways Master Plan input map
- 182 subscribers to the Pathways Master Plan mailing list

In-Person Engagement

Community-Focused Engagement

Throughout the engagement process, the project team shared information and received feedback at 12 community events. This allowed the project team to table at popular public events across the region, sharing information about the CDTC Pathways Master Plan and receiving feedback from a wide range of stakeholders. Tabling events reached individuals who might not have been able to attend a more formal public workshop, by intercepting them in their daily lives at school events, community nights, and local markets. Table 1 includes a summary of community events attended by the project team.

Table 1. Summary of In-Person Tabling and Events

Event	Date	Activities	Approx # Engaged	What We Heard
Rock Fest	July 1 2024	Pass out flyers, Document questions + concerns	125	• Excitement for more pathways "like the Apple Loop" • Concern about eminent domain and property owners' rights • Concern about attracting encampments and more interactions with unhoused populations
Manson Farmers Market	July 13 2024	Pass out flyers, Document questions + concerns	61	• Unsure how the path would get around Rocky Point • Like the idea of getting bikers away from the road • Seems like it would take 100 years with all the permissions needed • People don't want to give up their land
Leavenworth Farmers Market	July 13 2024	Pass out flyers, Document questions + concerns	81	• A path will create an opportunity for homeless people to live on/near it
Chelan Farmers Market	July 18 2024	Pass out flyers, Document questions + concerns	48	• Having a safe connection to Manson would be nice • Need accessible options for disabled people • Concerned about Rocky Point pinch point • Good idea
Leavenworth Farmers Market	July 20 2024	Pass out flyers, Document questions + concerns	32	• Keep a large buffer between the path and orchards • Bring the path through Leavenworth to enhance safety throughout town • Concerns about eminent domain
Wenatchee Farmers Market	July 20 2024	Pass out flyers, Document questions + concerns	73	• Interest in using e-bikes on the trail • Questions about the surface of the path, if it would have lighting, open hours, water stations • Separate biking from walking paths • Would use to commute to work • Some elderly people don't feel safe on the Apple Loop because they can't hear the bikes coming from behind
Cashmere Farmers Market	July 21 2024	Pass out flyers, Document questions + concerns	33	• I hope it works • A path like this would bring me to the area more often
Leavenworth Ski Hill Music	July 31 2024	Pass out flyers, Document questions + concerns	30	• Cool idea. Has tried biking between Leavenworth and Wenatchee in the past and almost died • This project is moving at the pace of the government
Wenatchee Farmers Market	August 3 2024	Pass out flyers, Document questions + concerns	71	• Questions about eminent domain and irrigation • I probably won't use it, but I think it's a good idea

Event	Date	Activities	Approx # Engaged	What We Heard
Chelan Back to School Event	August 18 2024	Pass out flyers, Document questions + concerns	98	• Families would like this, it is a good idea • Bad idea other than reducing traffic
Leavenworth Community Engagement Night	August 22 2024	Pass out flyers, Document questions + concerns	50	• it is a good idea • This has been tried before
Wenatchee Sunrise Rotary	October 15 2024	Announcement of project, pass out flyers	20	• Who is funding this? • Our community would use this
Wenatchee Rotary	October 24 2024	Presentation	?	•
Wenatchee Sunrise Rotary	December 10 2024	Presentation	?	•





Figure 1. Caption TBD

Tribal Engagement

Chelan and Douglas Counties reside on the ancestral lands of several bands of the Confederated Tribes of the Colville Reservation, which is a sovereign government with unique cultural, historical, and governance systems. Recognizing the importance of Tribal engagement, the Chelan-Douglas Pathways Master Plan will need to establish meaningful relationships with the Tribe to ensure their perspectives, histories, and priorities are thoughtfully integrated into the planning process. As preferred alignment options are identified for each pathway corridor, next steps will include reaching out to corresponding governmental departments individually to initiate conversations about the project.

Communications and Outreach

The project team used digital and other engagement tools to augment in-person engagement and to reach more people. This section details these efforts to communicate with and extend outreach efforts.

Project Website, Survey, and Public Input Map

Information about the CDTC Pathways Master Plan was available at the project website (chelandouglaspathways.org) and included a project summary and timeline, a public survey and interactive web map tool, Frequently Asked Questions (FAQ), e-newsletters, and Master Plan-related documents and maps. Additionally, throughout the duration of the Plan, two project updates/survey reminders were emailed to the full project contact list.

The full analysis of the survey and map can be found in Part 2: Survey and Public Input Map Results: What We Heard section.

Postcards

For zip codes where there was less engagement with online assets, the project team sent postcards to encourage engagement. In all, the team sent 12,884 postcards. The zip codes that received postcards are highlighted in gray in Table 2.

Table 2. Survey Response Rate by Zip Code as of September 4. Gray indicates where postcards were sent.

Zip Code	Population	# Surveys	Survey Rate	Estimated Website Views	Estimated Awareness Rate
Leavenworth	7,689	221	2.9%	1,913	24.9%
Peshastin	2,481	51	2.1%	441	17.8%
Malaga	2,075	36	1.7%	312	15.0%
Manson	3,814	50	1.3%	433	11.3%
Cashmere	7,562	77	1.0%	666	8.8%
Chelan	6,901	67	1.0%	580	8.4%
Dryden	646	5	0.8%	43	6.7%
Rock Island	1,514	11	0.7%	95	6.3%
Wenatchee	44,801	231	0.5%	1,999	4.5%
Monitor	1,749	2	0.1%	17	1.0%

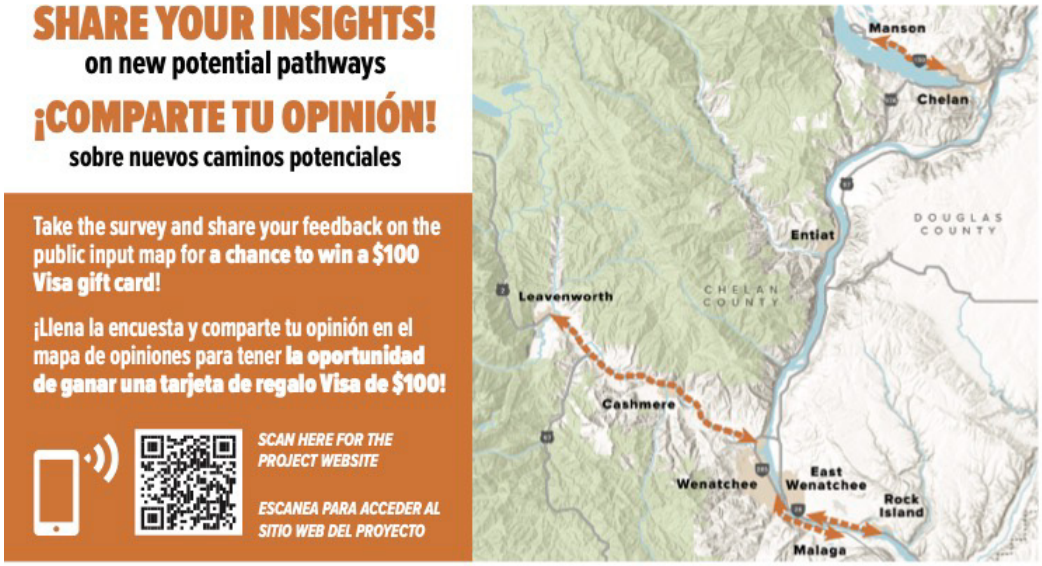


Figure 2. Postcard Sent to Encourage Engagement

Toolkit Outreach

The project team crafted a communications toolkit which included an email template, flyer, sample social media copy and graphics, videos, and social media posts to directly share. The survey and input map were also included in the toolkit. The toolkit was sent to 23 partners, including:

- Chelan PUD
- Justina of Manson School District
- Kari of Manson School District
- LINK Transit
- Team Naturaleza
- Evergreen Mountain Bike Alliance
- Lake Chelan Chamber of Commerce
- Steve of Peshastin Community Council
- Tyler of CAC from Cashmere
- Julie of CAC from Cashmere
- Doug of Peshastin Community Council
- Cascade School District
- Manson Chamber
- Visit Chelan County
- Community Foundation of North Central Washington
- Wenatchee Chamber of Commerce
- Malaga Community Council
- Waterville School District
- Chelan School District
- North Central Educational Service District
- Eastmont School District
- Wenatchee School District
- CAFE

Decals

The project team developed decals, each measuring 36 inches in diameter, which were strategically placed in 24 high pedestrian-use areas, including along bus stops, walking paths, pedestrian bridges, and parks, to enhance visibility and engagement. Designed specifically for pedestrian zones, the decals were not suitable for areas with vehicle traffic and required clean, prepared surfaces for optimal adhesion. Removal was straightforward, using a heat gun and paint scrapers to peel them off. All decals were removed by December 2024. The project team ensured that all had been removed before winter weather began.



Video Production and Social Media Outreach

To promote the survey and interactive web map, and attract people to the project website, social media posts were shared on Facebook pages, as well as through partners' social media platforms. Facebook advertisements were also purchased to drive more visits to the project website.

Social media was utilized to get the word about the project, survey, and input map. Ads were placed on the Spanish and English video to help increase their reach and engagement. As of September 9, the English video had reached 8,752 people and the Spanish video had reached 11,116 people on Facebook. An additional last "Last Chance" ad with video ran for two approximately weeks at the end of October. This last chance ad reached 10,148 people in English and 8,850 people in Spanish. The success of the social media campaigns, along with the high overall public awareness rates, were aided by video production. The videos now live on the project website and can be used for ongoing project awareness.

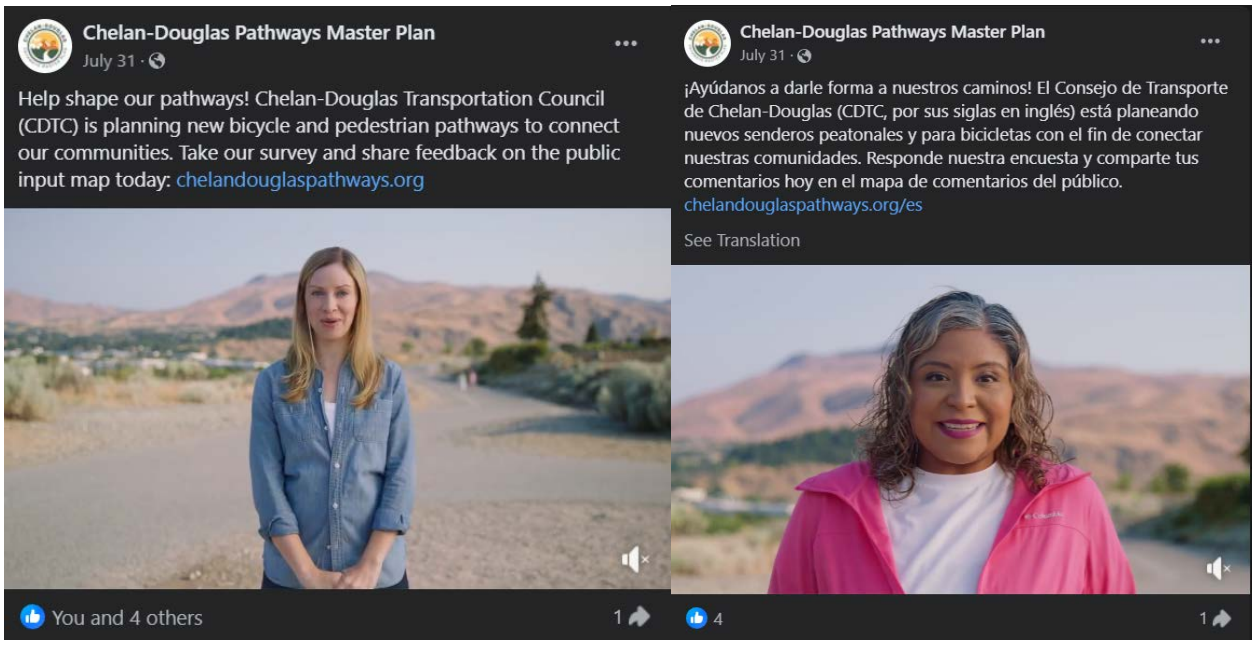


Figure 3. Social Media Posts with Videos in English and Spanish Promoting Survey and Public Input Map

Advisory Committees and Stakeholder Group Engagement

Technical Advisory Committee

One Technical Advisory Committee (TAC) was established (participants selected by CDTC) for all five pathway corridors to provide feedback and guidance to the consultant and PLT on the approach, methods, initial findings, and recommendations of the planning process. The TAC primarily included staff representatives from Chelan County, WSDOT, Link Transit, and each city relevant to each pathway corridor.

The purpose of the TAC was to provide local input, feedback, and advice specific to each corridor or issue.

Meeting topics that have been explored so far include:

1. **Existing Conditions Review**
   Focus: Provide general project overview and share information from field assessment and analysis for review; highlight assumptions that will guide feasibility assessment and alternatives analysis.
   Outcomes: Gather feedback on accuracy and determine if there are any information gaps.
2. **Public Engagement, Environmental, Social and Cultural Review, and Feasibility and Phasing**
   Focus: Discuss project updates re: feasibility and phasing options for each corridor, share process and results from public engagement, and provide project updates re: environmental, social, and cultural review.
   Outcomes: Discuss how findings from the public engagement process will help direct the next steps of the project.

Community Advisory Committee

A Community Advisory Committee (CAC) was established for each of the following pathway corridors:

- Wenatchee-Leavenworth
- Wenatchee-Malaga
- East Wenatchee-Rock Island
- Chelan-Manson

The purpose of each CAC was to provide input, feedback, and advice specific to each corridor or issue. The individuals with diverse perspectives within the community were invited to serve as a liaison between community members at large and the project team and partners responsible for decision-making. They helped ensure that community voices were heard and considered in the planning and evaluation of pathway alignment options. Additionally, the CAC fostered collaboration, transparency, and accountability in the planning process.

The CAC provided a venue for review and feedback from local representatives at key project milestones and served as an anchor point for hosting various community engagement activities specific to each pathway corridor. Alta and Sage Step facilitated the CAC meetings with assistance from CDTC and partner agency staff, as appropriate. Some CAC meetings were combined to promote project messaging and collaborative planning efforts in the region.

To ensure efficiency, CAC meetings were grouped when possible and then subdivided into smaller groups, each group pertaining to a specific pathway alignment or topic. The pathways were separated into two areas – northern and southern corridors. The southern corridor included the East Wenatchee – Rock Island corridor, the Wenatchee – Malaga corridor, and the Wenatchee-Leavenworth corridor. The northern corridor was represented by the Chelan – Manson corridor.

To promote a more efficient outreach effort, the southern corridor CACs met at the same place and time. The project team facilitated breakout groups specific to each corridor, allowing a deeper dive into pathway-specific information and discussion. For ease of travel for project stakeholders and CAC members, meetings were held in two central areas – Wenatchee and Chelan – and were also hosted virtually.

Grower Outreach

To ensure members of the local fruit growing industry were informed and involved in the Pathways Project the project team coordinated a meeting with them at the very beginning of the project (the morning before the project kick off meeting). With coordination help of the local county commissioner, the meeting was held early in the morning at the Hot Rod Café. The project team offered insights into the project goals and had an informal listening

session to field questions and concerns from the growers who attended. Twenty attendees provided their names and emails, which were added to the project contact list to ensure they would be updated on all future project public outreach.

Following the meeting the project team and some of the growers who were interested in attending went to a local orchard to tour the property and learn more about the conditions and practices that would be important to consider with regards to trail planning.





Table 3. Events, Dates, Location, and Attendance of Advisory Committees and Stakeholder Group Engagement

Event	Date	Location	Attendance
TAC	May 16, 2024	Wenatchee (WSDOT)	13
TAC	August 14, 2024	Wenatchee (WSDOT)	12
TAC	December 12, 2024	Virtual Meeting	10
CAC- Rock Island to East Wenatchee	June 6, 2024	Wenatchee (Pybus Market)	9
CAC- Rock Island to East Wenatchee	August 22, 2024	Virtual Meeting	5
CAC – Malaga to Wenatchee	June 6, 2024	Wenatchee (Pybus Market)	4
CAC – Malaga to Wenatchee	August 20, 2024	Virtual Meeting	4
CAC- Leavenworth to Cashmere to Wenatchee	June 6, 2024	Wenatchee (Pybus Market)	12
CAC- Leavenworth to Cashmere to Wenatchee	Second meeting	Cashmere	12
CAC- Chelan to Manson	June 6, 2024	Manson	3
CAC- Chelan to Manson	August 28, 2024	Virtual	5
Grower Outreach Meeting	March 20, 2024	Hot Rod Café in Monitor	19

Part 2: Survey and Public Input Map Results: What We Heard

This section summarizes the results of the Chelan-Douglas Pathways Survey and Public Input Map. The public feedback period was from July 13 to November 4, 2024. To better understand the public feedback, the project team studied the distribution of answers to each survey question and highlighted responses that came up frequently. The team also analyzed the feedback for each type of map input as it relates spatially to the proposed trail alternatives.

In addition to taking the survey, respondents could comment on the public input map, and like, dislike, or reply to map input from other respondents. Notably, all the most-liked comments of opposition received more dislikes than likes, meaning that overall, the survey found the project to be largely favored, but it remains controversial in specific areas where there are private property concerns and orchard concerns. Respondents across all corridors requested safe trail alternatives that avoid traffic and minimize proximity to highways.

Survey Results

The online interactive survey asked respondents to provide feedback about the pathway corridors they were interested in. The following section summarizes survey respondents and describes key findings.

Q1. Which corridor(s) do you want to provide feedback on?

The Leavenworth to Cashmere to Wenatchee Corridor was selected by 74% of respondents to provide feedback on. Each of the three remaining corridors were selected by about ¼ of respondents. Out of 1,811 total respondents, only 108 (6%) provided feedback on all four corridors.

Table 4. Responses to "Which corridor(s) do you want to provide feedback on?"

	Total Respondents	Chelan to Manson Corridor	Leavenworth to Cashmere to Wenatchee Corridor	Malaga to Wenatchee Corridor	Rock Island to East Wenatchee Corridor
Responses	1,811 (100%)	445 (25%)	1,333 (74%)	403 (22%)	403 (22%)

Q2. In the Chelan-Douglas Region, I am a…

Survey respondents were asked to describe their role or relationship to the Chelan-Douglas Region. Respondents provided the following information:

- **97% described themselves as residents (1,748 respondents).**
- Other prominent groups included:
    - 13% trail advocates (227 respondents).
    - 10% business owners (184 respondents).
    - 5% tree fruit growers/packers/shippers (90 respondents).
    - 4% non-profit or community-based organization representatives (67 respondents).

Table 5. Responses to "In the Chelan-Douglas Region, I am a…"

Response	Total Respondents	Chelan to Manson Corridor	Leavenworth to Cashmere to Wenatchee Corridor	Malaga to Wenatchee Corridor	Rock Island to East Wenatchee Corridor
Resident	1,748 (97%)	428 (96%)	1,290 (97%)	394 (98%)	390 (97%)
Visitor	35 (2%)	17 (4%)	29 (2%)	9 (2%)	10 (2%)
Business Owner	184 (10%)	44 (10%)	151 (11%)	41 (10%)	40 (10%)
Tree fruit grower/ packer/ shipper	90 (5%)	17 (4%)	76 (6%)	12 (3%)	10 (2%)
Trail Advocate	227 (13%)	56 (13%)	194 (15%)	67 (17%)	61 (15%)
Elected Official	22 (1%)	5 (1%)	14 (1%)	4 (1%)	6 (1%)
Land Manager	29 (2%)	12 (3%)	19 (1%)	7 (2%)	6 (1%)
Non-profit or community-based organization representative	67 (4%)	17 (4%)	60 (5%)	19 (5%)	19 (5%)
Other	39 (2%)	9 (2%)	33 (2%)	9 (2%)	11 (3%)
Total	**1,811 (100%)**	**445 (100%)**	**1,333 (100%)**	**403 (100%)**	**403 (100%)**

Q3. What are the main reasons you would use a walking or biking path in the corridor(s) you selected?

Respondents were asked to provide the main reasons they would use a walking or biking path. Across all corridors, responses were as follows:

- **87% said they would walk or bike for pleasure (1,574 respondents).**
- 33% said they would walk or bike to complete shopping, errands, and visiting trips (594 respondents).
- 21% said they would walk or bike to go to or from school or work (382 respondents).

Within specific corridors, responses were as follows:

- **Chelan to Manson Corridor Respondents:**
  - 11% indicated they would not use a path in this corridor, the highest percentage of any corridor (50 respondents).
- **Leavenworth to Cashmere to Wenatchee Corridor Respondents:**
  - 24% said they would use the path to commute to and from work or school (322 respondents).
- **Malaga to Wenatchee Corridor Respondents:**
  - 24% said they would use the path to commute to and from work or school (98 respondents).

Table 6. Responses to "What are the main reasons you would use a walking or biking path in the corridor(s) you selected?"

Response	All Responses	Chelan to Manson Corridor	Leavenworth to Cashmere to Wenatchee Corridor	Malaga to Wenatchee Corridor	Rock Island to East Wenatchee Corridor
Pleasure, exercising, or recreation	1574 (87%)	374 (84%)	1182 (89%)	370 (92%)	364 (90%)
Going to / from work or school	382 (21%)	72 (16%)	322 (24%)	98 (24%)	87 (22%)
Shopping, running errands, or visiting friends	594 (33%)	129 (29%)	489 (37%)	152 (38%)	142 (35%)
Safety	4 (<1%)	0 (0%)	3 (<1%)	1 (<1%)	1 (<1%)
I would not use a path on the corridor(s) I selected	140 (8%)	50 (11%)	94 (7%)	20 (5%)	20 (5%)
Other	34 (2%)	11 (2%)	24 (2%)	9 (2%)	13 (3%)
Total	**1,811 (100%)**	**445 (100%)**	**1,333 (100%)**	**403 (100%)**	**403 (100%)**

Q4. What mode of transportation would you use on a path in the corridor(s) you selected?

When asked what mode of transportation they would use in the corridor they selected, respondents said the following:

- **77% would bike (1,402 respondents).**
- **64% would walk (1,165 respondents).**
- 33% would jog (593 respondents).
- 28% would e-bike (499 respondents).
- 2% would use a wheelchair (36 respondents).
- 1% mentioned rollerblading, cross-country skiing, or horseback riding, even though these modes were not included in the survey options provided (28 respondents).

Table 7. Responses to "What mode of transportation would you use on a path in the corridor(s) you selected?"

Response	All Responses	Chelan to Manson Corridor	Leavenworth to Cashmere to Wenatchee Corridor	Malaga to Wenatchee Corridor	Rock Island to East Wenatchee Corridor
Biking	1,402 (77%)	314 (71%)	1,089 (82%)	341 (85%)	327 (81%)
Walking	1,165 (64%)	295 (66%)	837 (63%)	284 (70%)	290 (72%)
Jogging	593 (33%)	133 (30%)	488 (37%)	140 (35%)	126 (31%)
E-bike/scooter or similar	499 (28%)	129 (29%)	387 (29%)	116 (29%)	109 (27%)
Wheelchair	36 (2%)	11 (2%)	25 (2%)	9 (2%)	14 (3%)
Rollerblading	11 (1%)	3 (1%)	10 (1%)	5 (1%)	5 (1%)
Cross-country skiing	11 (1%)	3 (1%)	10 (1%)	1 (<1%)	1 (<1%)
Horseback	6 (<1%)	2 (<1%)	4 (<1%)	1 (<1%)	2 (<1%)
Other	52 (3%)	15 (3%)	40 (3%)	15 (4%)	16 (4%)

Response	All Responses	Chelan to Manson Corridor	Leavenworth to Cashmere to Wenatchee Corridor	Malaga to Wenatchee Corridor	Rock Island to East Wenatchee Corridor
None	129 (7%)	44 (10%)	90 (7%)	21 (5%)	19 (5%)
Total	**1,811 (100%)**	**445 (100%)**	**1,333 (100%)**	**403 (100%)**	**403 (100%)**

Q5. How often do you anticipate you would use a path in the corridor(s) you selected?

When asked how often they expect to use a path in the corridor they selected, respondents said:

- **51% would use the path weekly (927 of respondents).**
- 24% would use the path monthly (441 respondents).
- 19% would use the path daily (336 of respondents).
- 8% would never use the path (142 of respondents).

Table 8. Responses to "How often do you anticipate you would use a path in the corridor(s) you selected?"

Response	All Responses	Chelan to Manson Corridor	Leavenworth to Cashmere to Wenatchee Corridor	Malaga to Wenatchee Corridor	Rock Island to East Wenatchee Corridor
Daily	336 (19%)	89 (20%)	242 (18%)	89 (22%)	82 (20%)
Weekly	927 (51%)	220 (49%)	688 (52%)	227 (56%)	230 (57%)
Monthly	441 (24%)	102 (23%)	350 (26%)	91 (23%)	91 (23%)
Never	142 (8%)	50 (11%)	100 (8%)	25 (6%)	23 (6%)
Other	80 (4%)	15 (3%)	60 (5%)	22 (5%)	26 (6%)
Total	**1811 (100%)**	**445 (100%)**	**1333 (100%)**	**403 (100%)**	**403 (100%)**

Q6. What is your zip code?

Most respondents (97%) live within the Chelan-Douglas Transportation Council Regional Transportation Planning Organization area. However, a small percentage (3%) of responses came from other counties in Washington, including King, Snohomish, Whatcom, Cowlitz, Okanogan, and Ferry counties. Additionally, one respondent was from California, and another was from Alaska. These responses were compared to the populations of nearby cities and towns to calculate the percentage of residents who participated in the survey or viewed the project website by city.

Key Findings:

- Around two-thirds of all respondents (65%) were from 98801 (Wenatchee), 98826 (Leavenworth), 98815 (Cashmere), or 98802 (East Wenatchee and Unincorporated).
- Around 3% of responses were from outside of the MPO.
- While the highest number of website views came from 98801 (Wenatchee) with 2,919 total views, the city with the highest rate of residents who viewed the website was 98826 (Leavenworth) (38%).
- Around 8% of residents from all nearby cities and towns viewed the project website.

Table 9: Responses to "What is your zip code?"

Response	All Responses	Chelan to Manson Corridor	Leavenworth to Cashmere to Wenatchee Corridor	Malaga to Wenatchee Corridor	Rock Island to East Wenatchee Corridor
98801 (Wenatchee)	445 (25%)	78 (18%)	412 (31%)	179 (44%)	135 (33%)
98826 (Leavenworth)	338 (19%)	18 (4%)	337 (25%)	21 (5%)	21 (5%)
98802 (East Wenatchee)	193 (11%)	28 (6%)	127 (10%)	64 (16%)	139 (34%)
98815 (Cashmere)	175 (10%)	7 (2%)	175 (13%)	9 (2%)	9 (2%)
98816 (Chelan)	156 (9%)	156 (35%)	24 (2%)	9 (2%)	11 (3%)
98831 (Manson)	106 (6%)	106 (24%)	10 (1%)	2 (<1%)	5 (1%)
98847 (Peshastin)	88 (5%)	3 (1%)	88 (7%)	3 (1%)	3 (1%)
98828 (Malaga)	82 (5%)	3 (1%)	20 (2%)	80 (20%)	10 (2%)
98850 (Rock Island)	25 (1%)	0 (0%)	1 (<1%)	1 (<1%)	25 (6%)
98821 (Dryden)	13 (1%)	0 (0%)	12 (1%)	0 (0%)	1 (<1%)
98836 (Monitor)	3 (<1%)	0 (0%)	3 (<1%)	0 (0%)	1 (<1%)
Other	187 (10%)	46 (10%)	124 (10%)	34 (9%)	43 (11%)
Total	**1,811 (100%)**	**445 (100%)**	**1333 (100%)**	**403 (100%)**	**403 (100%)**

Table 10. Survey/Website Engagement by City or Town

Zip code (City)	City population	# Surveys	Survey Rate	Estimated Website views	Estimated Website Rate
98801 (Wenatchee)	44,801	445	1%	2,919	9%
98802 (East Wenatchee)	14,158	193	1%	1,667	12%
98826 (Leavenworth)	7,689	338	4%	2,919	38%
98815 (Cashmere)	7,562	175	2%	1,512	20%
98816 (Chelan)	6,901	156	2%	1,347	20%
98831 (Manson)	3,814	106	3%	916	24%
98847 (Peshastin)	2,481	88	4%	760	31%
98828 (Malaga)	2,075	82	4%	708	34%
98850 (Rock Island)	1,514	25	2%	216	14%
98821 (Dryden)	646	13	2%	112	17%
98836 (Monitor)	1,749	3	0%	26	1%
Other	--	187	--	1,615	--
Total	**93,390**	**1,811**	**2%**	**15,642**	**8%**

Key themes from comments:

The project team identified the following key themes through user-submitted comments:

- Many respondents conveyed a strong desire for trail infrastructure within each corridor.
- Local traffic creates discomfort or a sense of insecurity for bicyclists and pedestrians on the street network.

- Some respondents advocated for trail infrastructure that accommodates a range of transportation modes they use, such as cross-country skiing, horseback riding, and e-bikes.
- There was enthusiasm from several respondents regarding the potential for increased tourism and economic opportunities.
- Concerns were raised about potential costs and impacts on adjacent property owners, including orchard operators in the Wenatchee Valley.

Public Input Map Summary

The following sections present the results of the public input map. The map was open from July 2024 to November 2024. Respondents could choose to take the online survey, provide feedback on the input map, or both. In all, 893 people drew points and lines or voted on other people's input, and 2,167 points and lines were added to the input map. Only one respondent accessed the input map in Spanish. All input map responses are summarized by zip code in Table 11.

Table 11. Locations of Points Placed on the Public Input Map by Category. Note: 21 points were placed outside these zip codes and are not included in the table

Zip Code	Community	I Live / Work Here	Destinations	Areas to Avoid	Other Ideas
98801	Wenatchee	224 (51%)	171 (39%)	33 (8%)	12 (3%)
98826	Leavenworth	172 (39%)	229 (52%)	12 (3%)	23 (5%)
98815	Cashmere	111 (38%)	132 (45%)	49 (17%)	3 (1%)
98802	East Wenatchee	103 (55%)	57 (31%)	11 (6%)	15 (8%)
98816	Chelan	76 (44%)	77 (45%)	8 (5%)	10 (6%)
98847	Peshastin	54 (32%)	66 (39%)	45 (27%)	4 (2%)
98831	Manson	44 (42%)	60 (57%)	(0%)	2 (2%)
98828	Malaga	35 (49%)	20 (28%)	15 (21%)	1 (1%)
98850	Rock Island	11 (22%)	39 (76%)	1 (2%)	(0%)
98821	Dryden	10 (45%)	7 (32%)	3 (14%)	2 (9%)
98836	Monitor	7 (26%)	11 (41%)	8 (30%)	1 (4%)
Total		**847 (43%)**	**869 (44%)**	**185 (9%)**	**73 (4%)**

The interactive Public Input Map was set up to guide users through the requested feedback with the following information requested at each step:

1. Live and Work (anonymously indicate where the users live and/or work)
2. Destinations (identify destinations along pathway corridor)
3. Potential Pathways Opportunity (identify potential pathway alignment options)
4. Areas to Avoid (identify areas that should be avoided when planning a pathway)
5. Other Ideas (any other pertinent information to share)

Step 1. Live and Work

Respondents were asked to place a pin near where they live and/or work. In total, 853 points were placed as locations where people live and/or work (6 of these were outside the zip codes listed in Table 11); 851 respondents (>99%) indicated they live and/or work in Chelan or Douglas County (4 of these were outside the zip codes in Table 11). Figure 4 through Figure 9 show the responses to this step. For the purposes of this summary, the locations of these pins were generalized.

Chelan to Manson Corridor

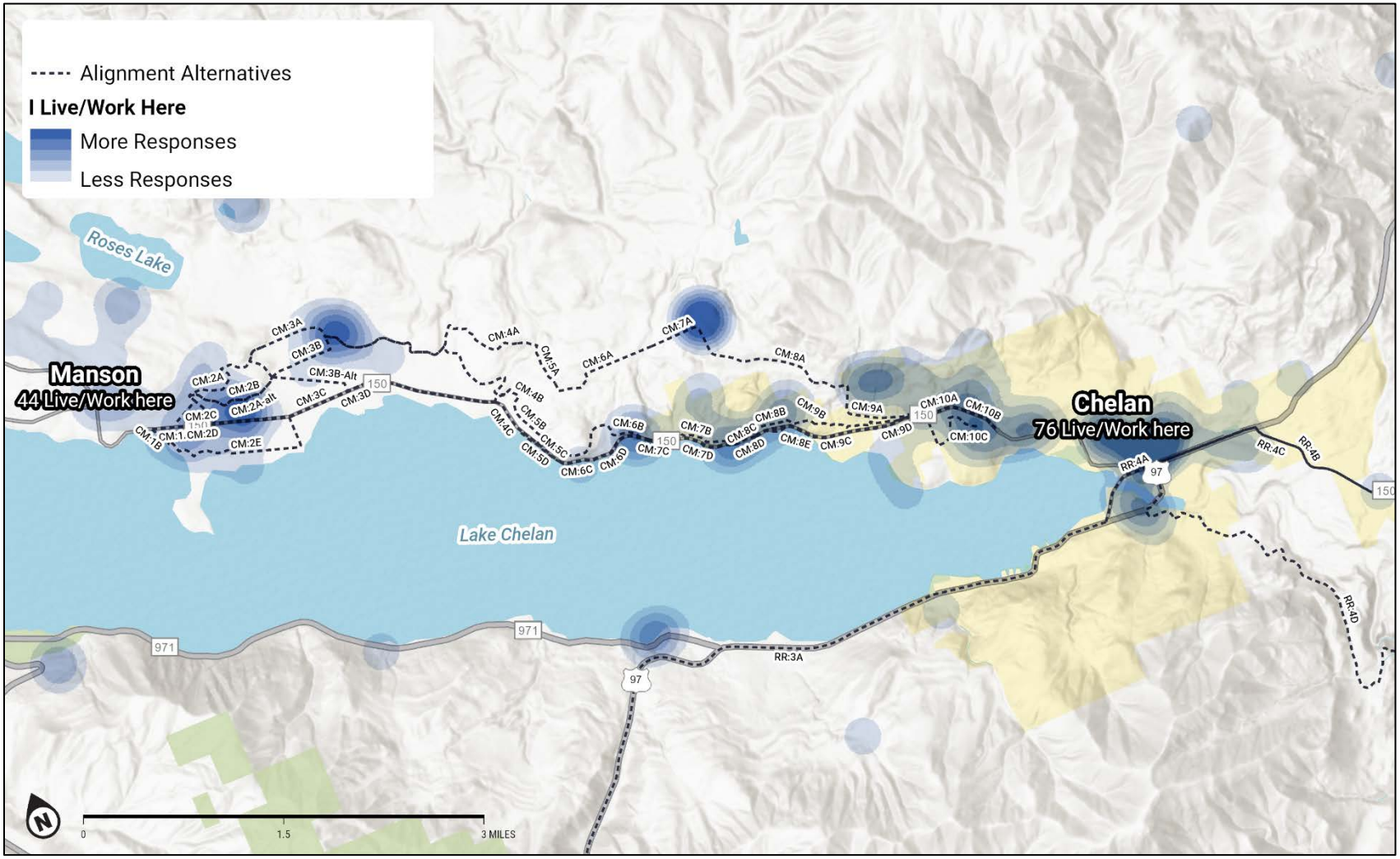


Figure 4. Respondents who indicated they live/work in the Chelan to Manson Corridor

Leavenworth to Cashmere to Wenatchee Corridor

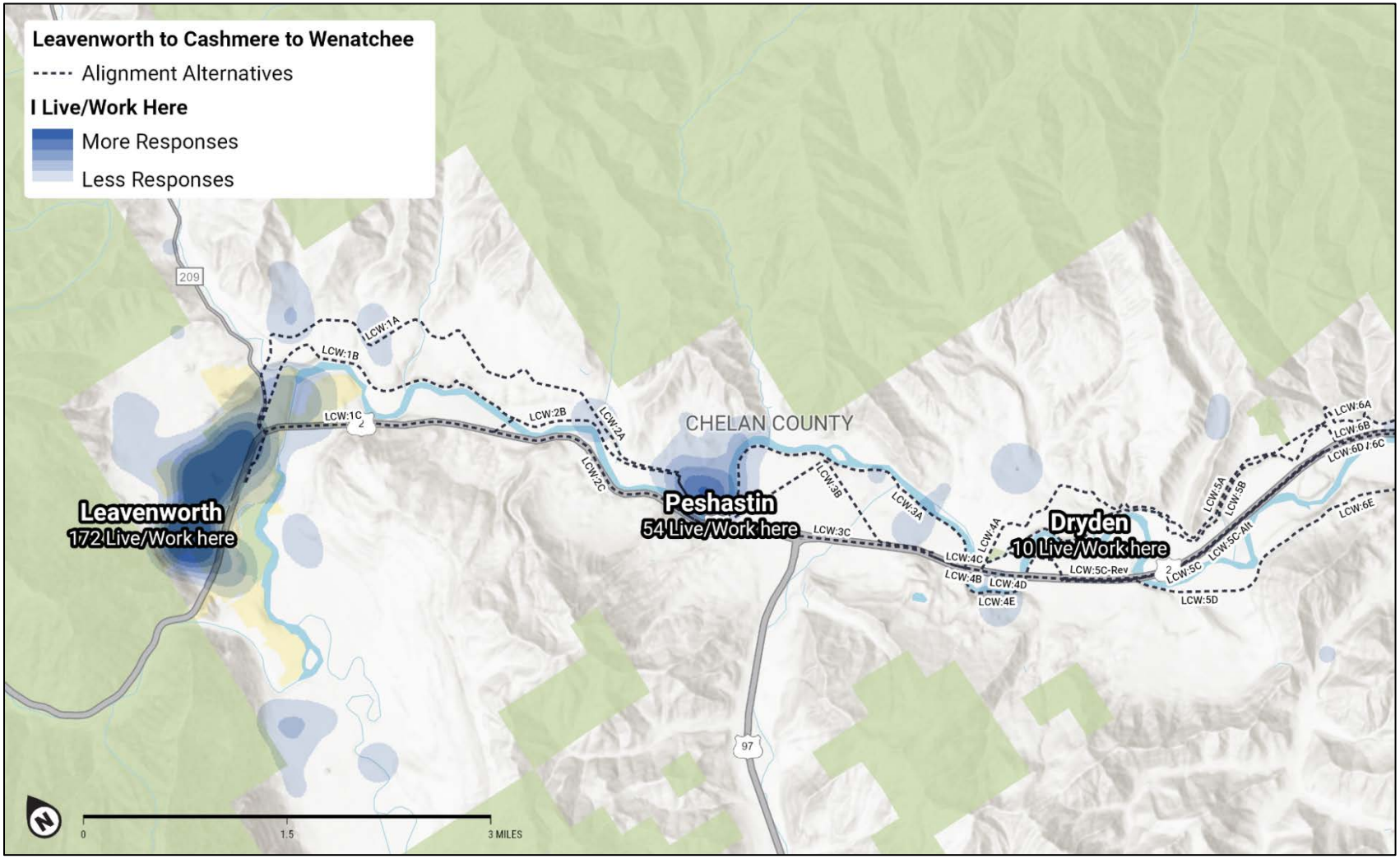


Figure 5. Respondents who indicated they live/work in the Leavenworth to Cashmere to Wenatchee Corridor (West)

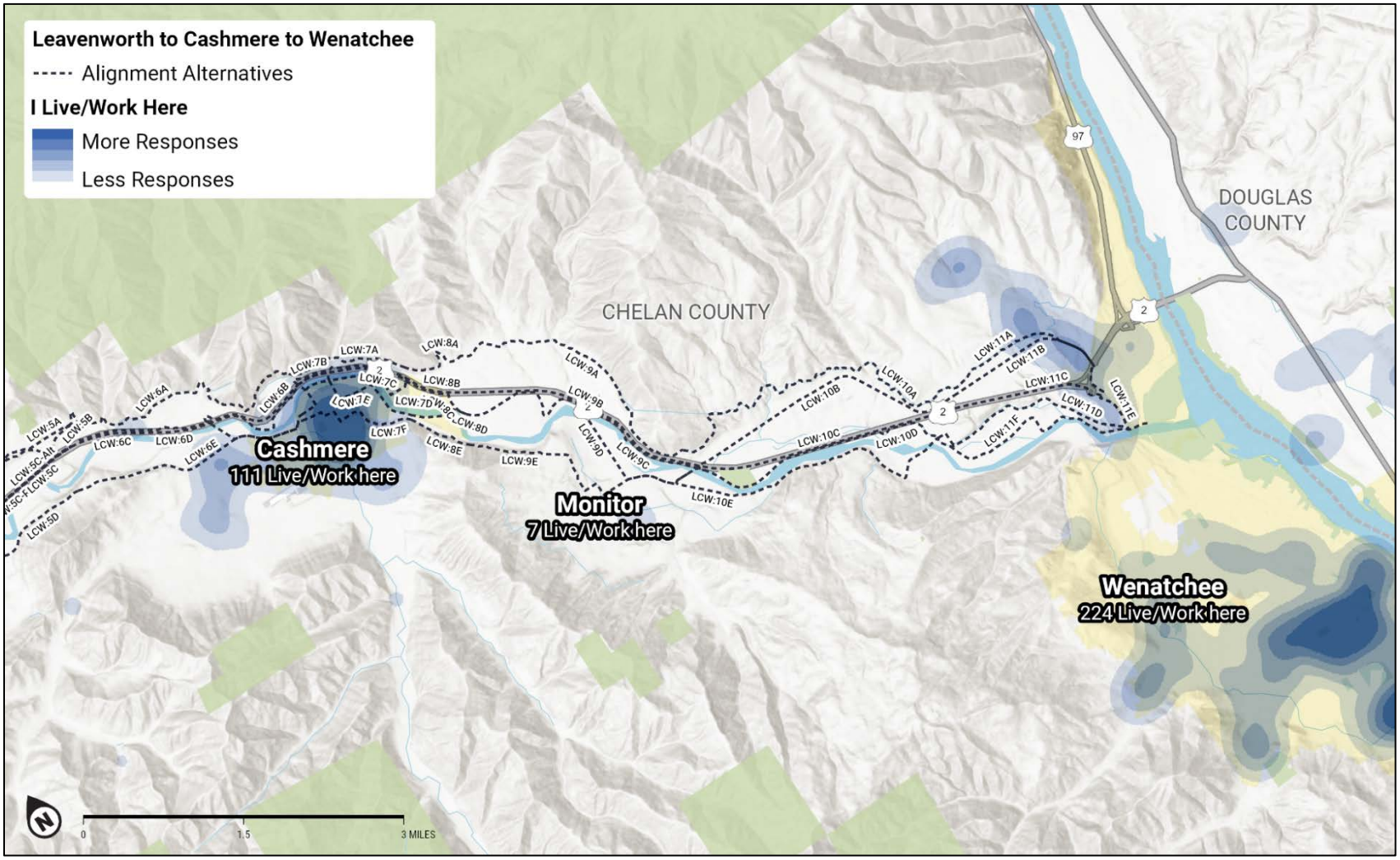


Figure 6. Respondents who indicated they live/work in the Leavenworth to Cashmere to Wenatchee Corridor (East)

Malaga to Wenatchee Corridor

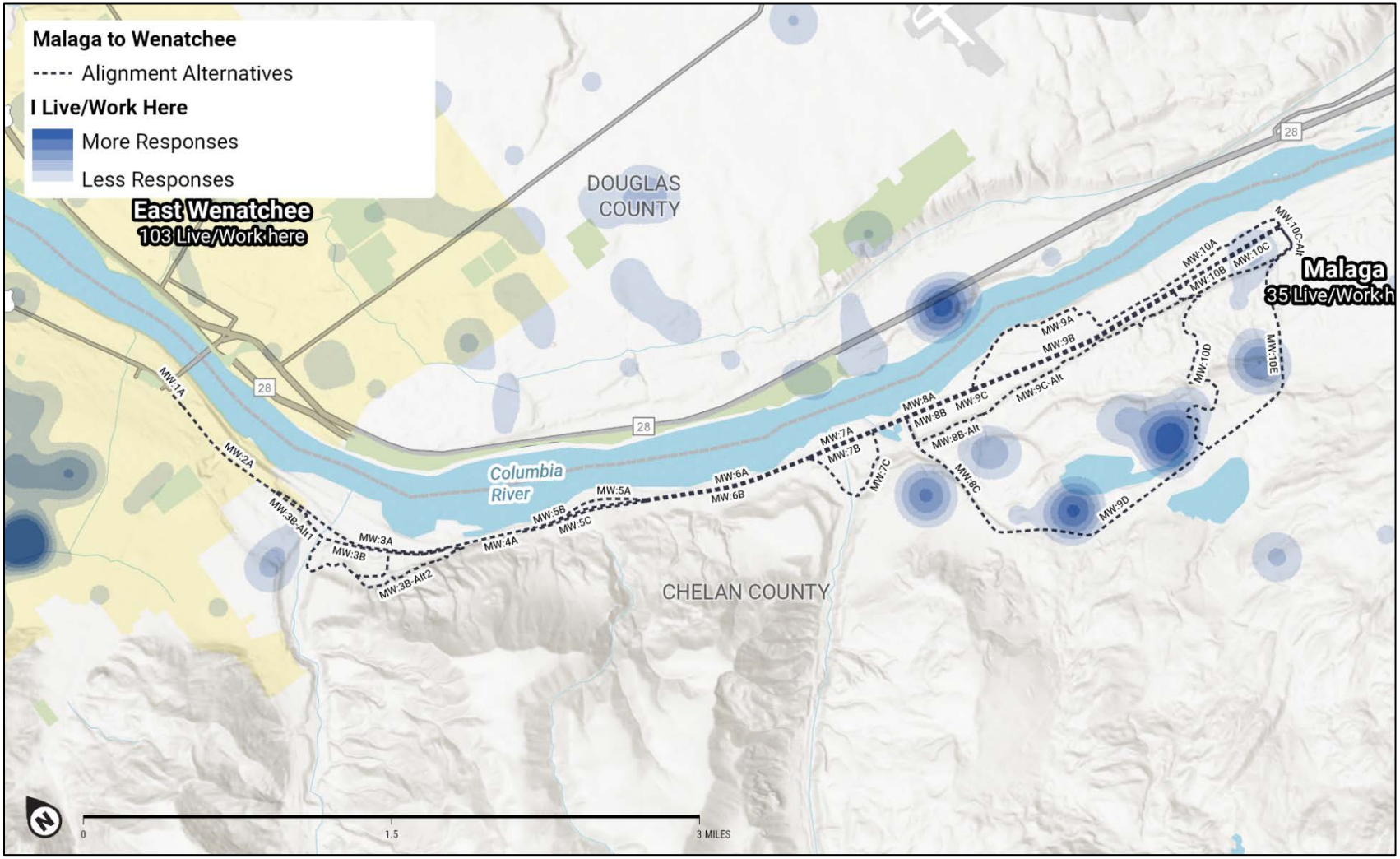


Figure 7. Respondents who indicated they live/work in the Malaga to Wenatchee Corridor

Rock Island to East Wenatchee Corridor

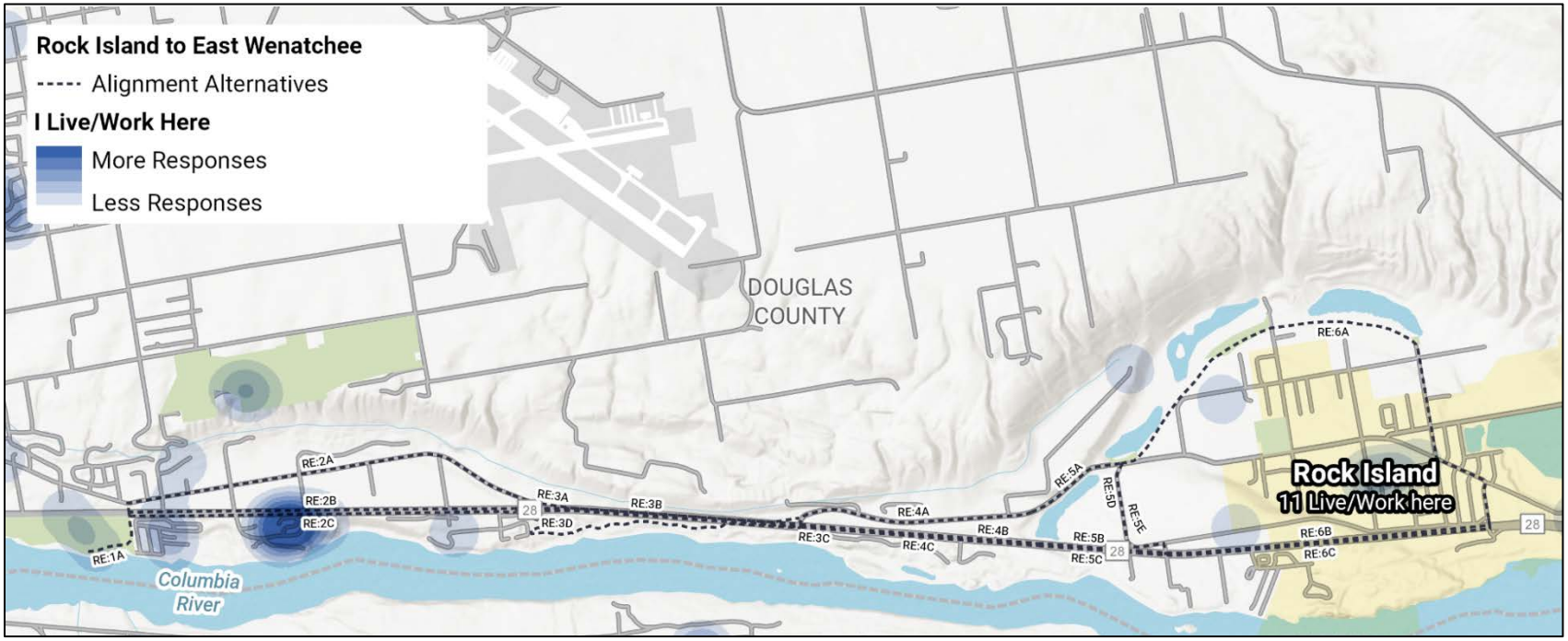


Figure 8. Respondents who indicated they live/work in the Rock Island to East Wenatchee Corridor

Wenatchee to Entiat to Chelan Corridor

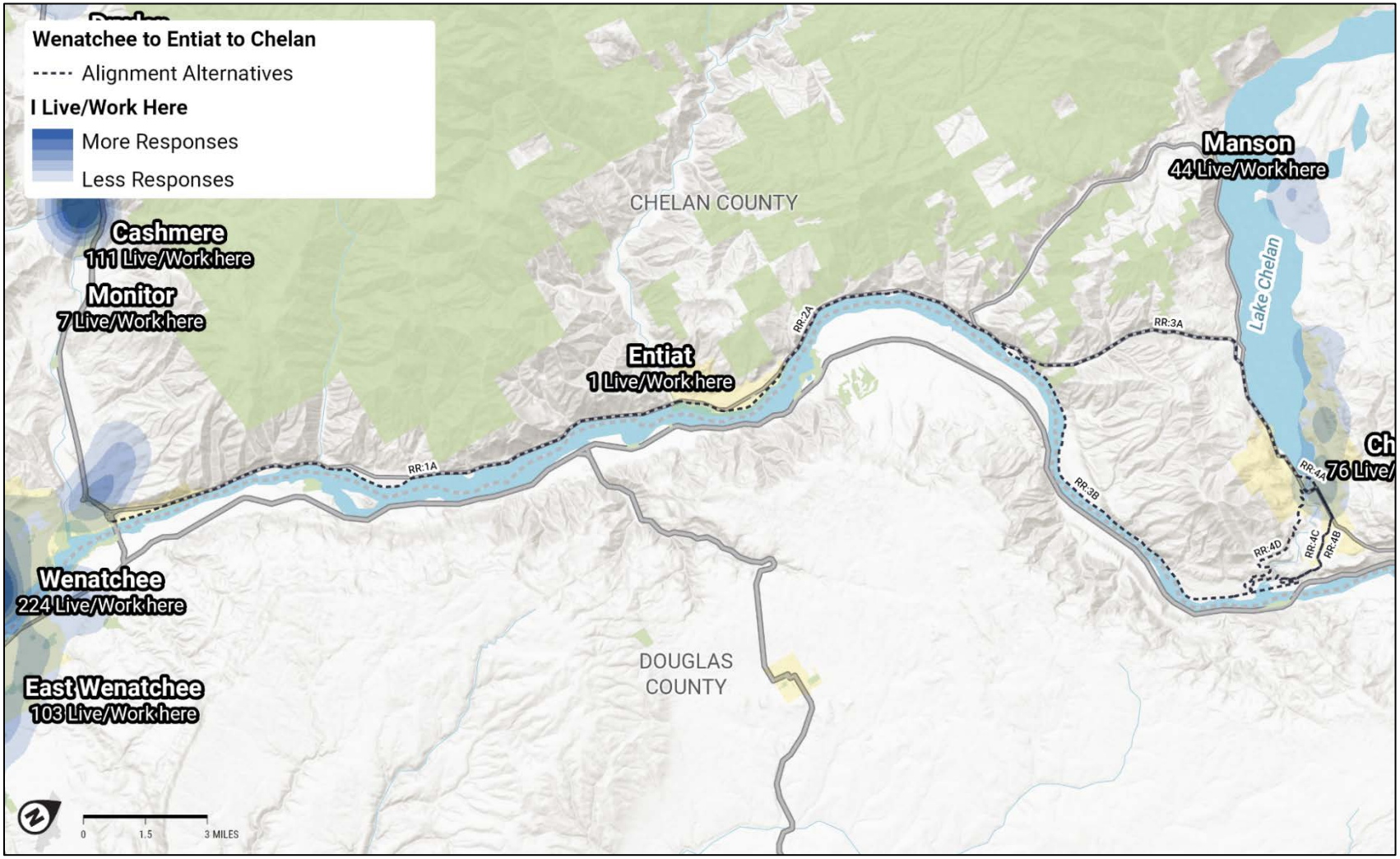


Figure 9. Respondents who indicated they live/work in the Wenatchee to Entiat to Chelan Corridor

Step 2. Destinations

Respondents were asked to identify any places or destinations that they would like to access near the corridor, including businesses, parks, schools, natural areas, or viewpoints. The project team removed destinations that were not relevant to the project (e.g., my friend's house) and consolidated duplicative destinations on the following maps (Figure 10 through Figure 15).

Key Findings:

- In total, 883 points were identified as destinations.
- 156 destinations were not labeled by respondents – if it was obvious what destinations were being labeled (ie. A park) the project team provided labels, when possible, without making unfounded assumptions.
- The highest density of user-submitted destinations are located in Leavenworth and Cashmere.
- Most destinations in Wenatchee are clustered in Downtown near the riverwalk crossing.

Chelan to Manson Corridor

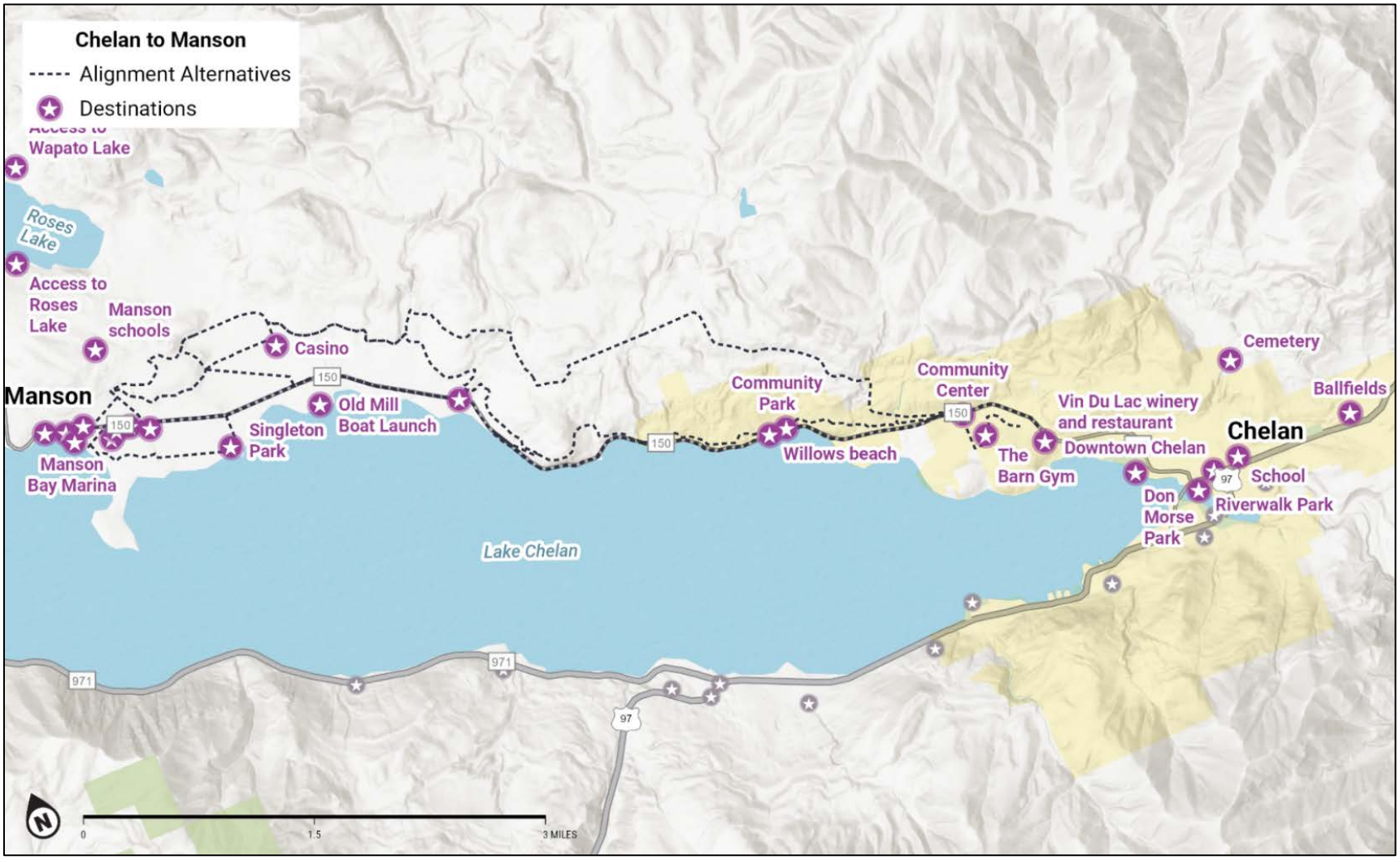


Figure 10. Community-identified destinations in the Chelan to Manson Corridor

Key Findings

- Several destinations were identified in Manson and Chelan, many of them are located along the highway.
- Many respondents identified opportunities for recreational lake access.

Leavenworth to Cashmere to Wenatchee Corridor

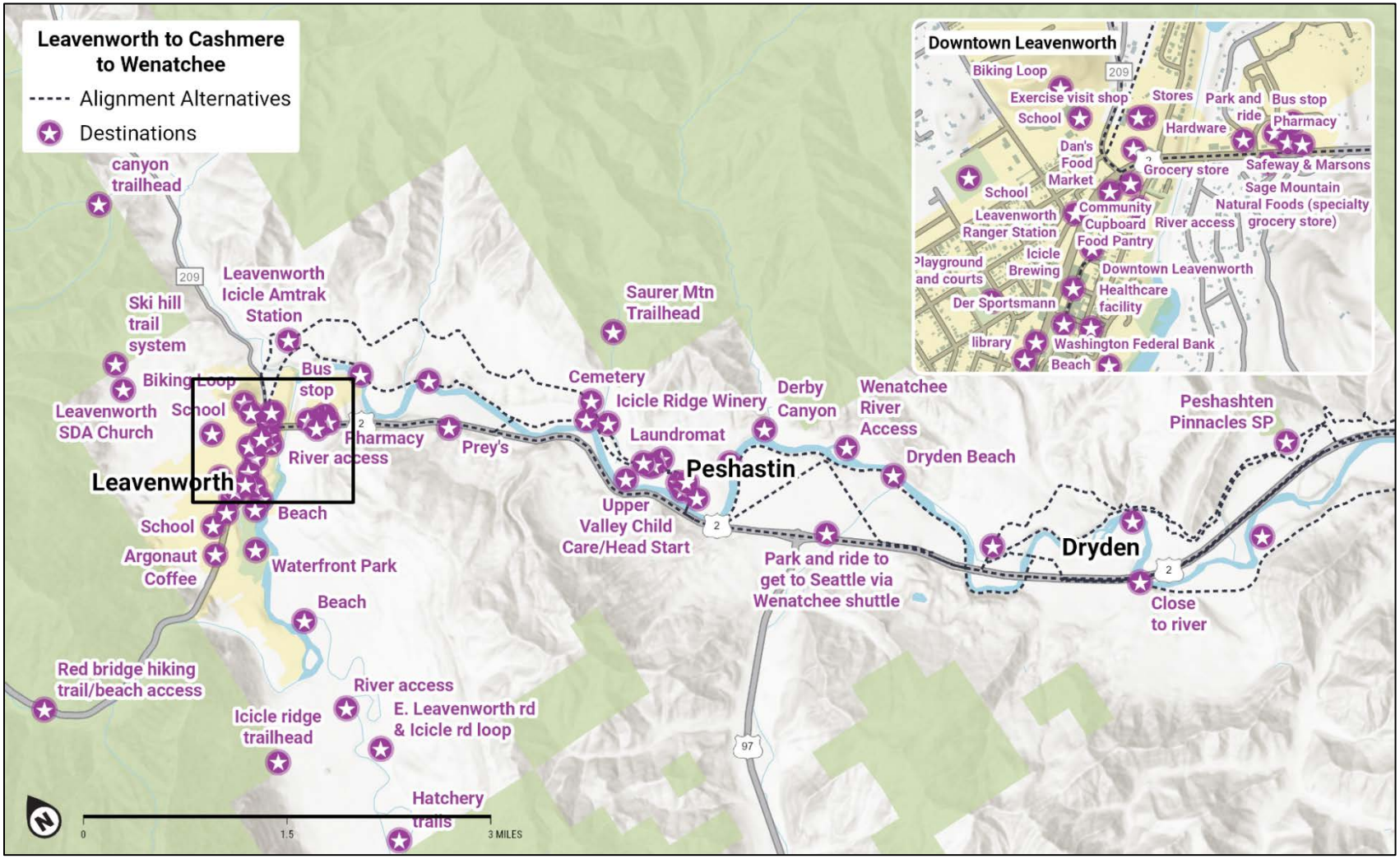


Figure 11. Community-identified destinations in the Leavenworth to Cashmere to Wenatchee Corridor (West)

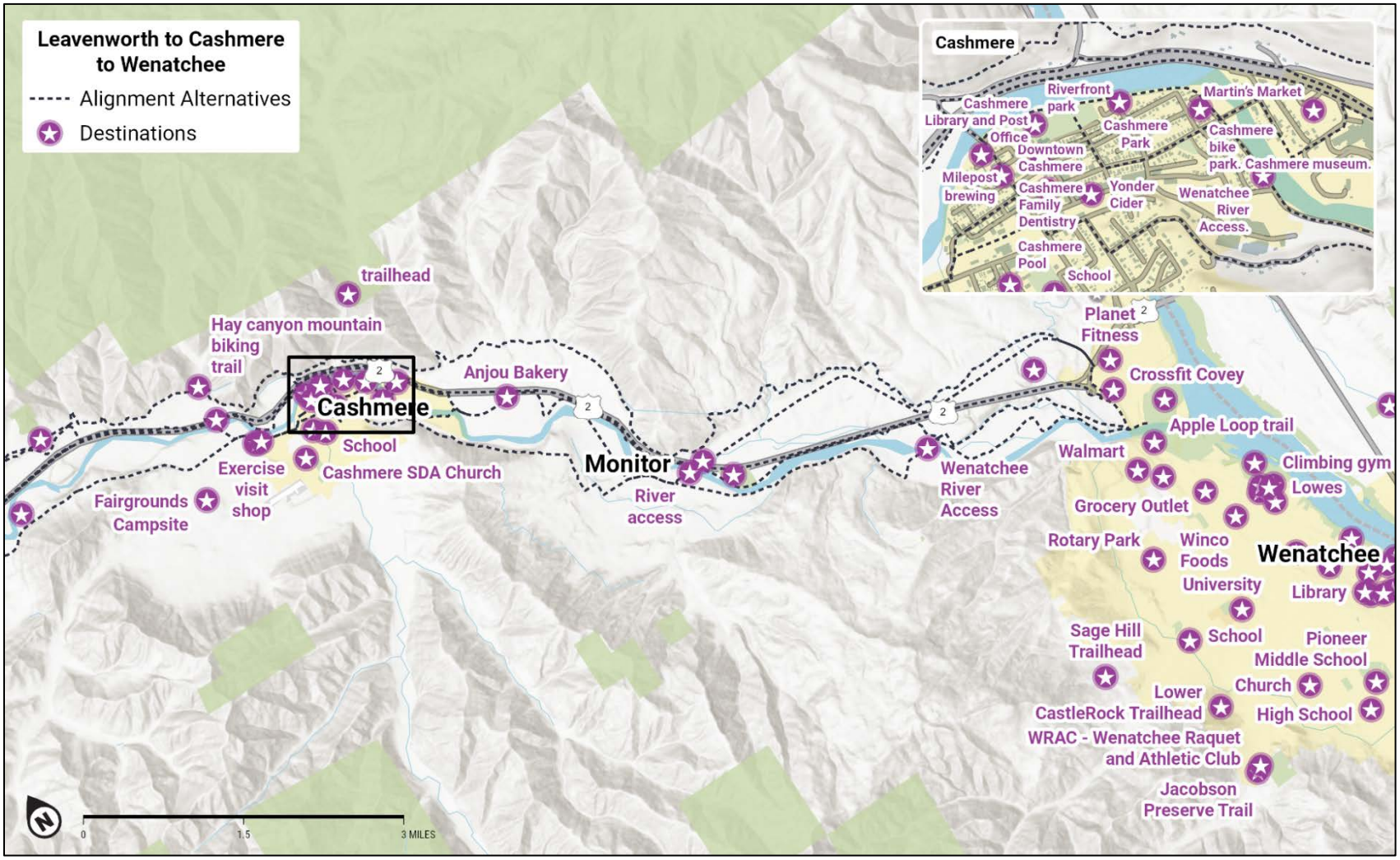


Figure 12. Community-identified destinations in the Leavenworth to Cashmere to Wenatchee Corridor (East)

Key Findings

- In Leavenworth, most destinations are located on Front Street. Wayfinding between the pathway corridor and Front Street will be an important factor in connecting a future trail to Leavenworth destinations.
- Two other dense areas of destinations in the corridor are in Downtown Leavenworth and in Cashmere at the intersection of Mill Road and Sunset Highway.
- Downtown Cashmere and Cashmere Waterfront Park were frequently submitted as destinations.
- Several respondents included Anjou Bakery as a destination.
- Some notable destinations near, but not within the corridor, include Ski Hill in Leavenworth and Lincoln Rock State Park.

Malaga to Wenatchee Corridor

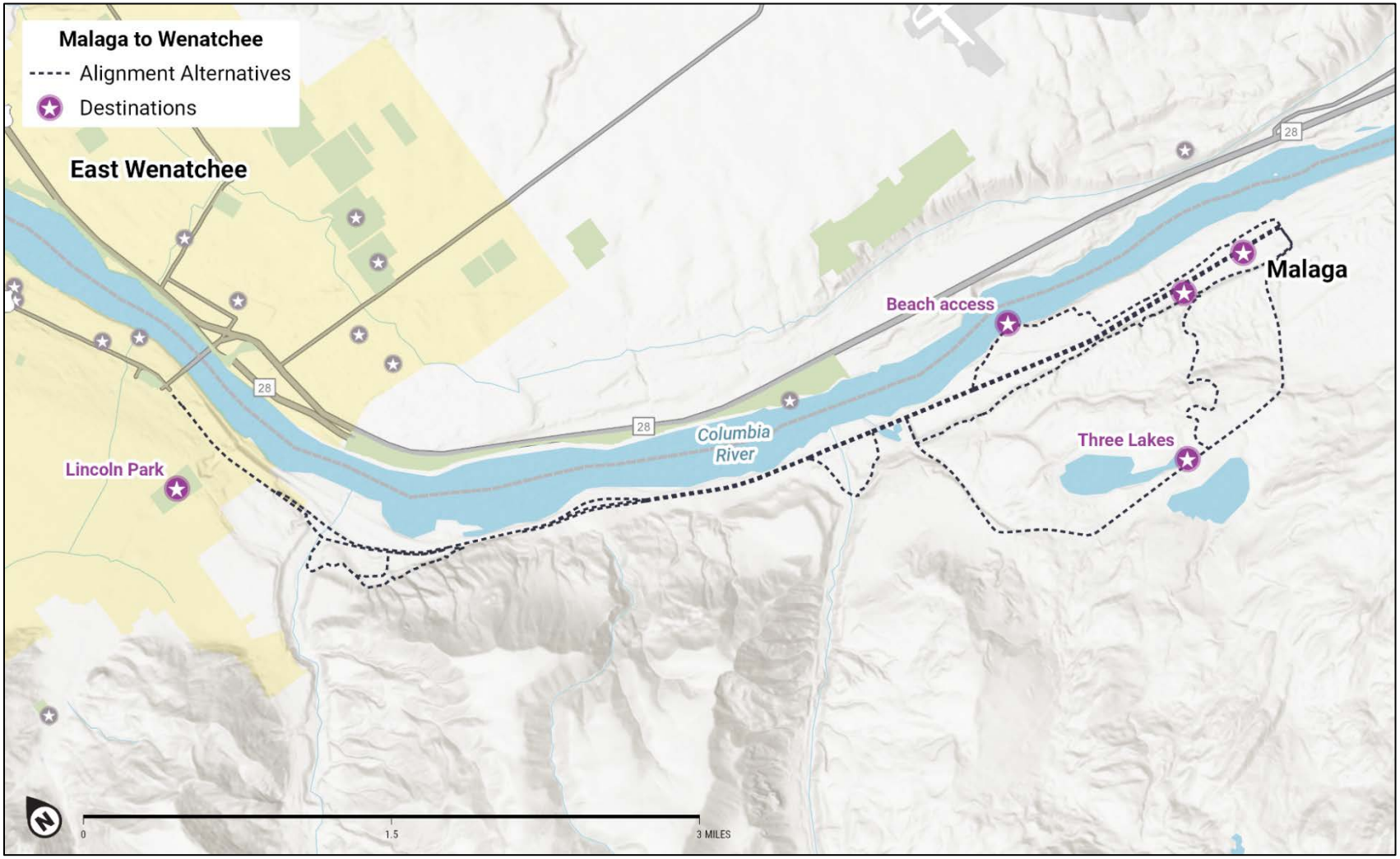


Figure 13. Community-identified destinations in the Malaga to Wenatchee Corridor

Key Findings

- Five destinations were identified near this corridor including the Malaga Market and the Future Waterfront Park.

Rock Island to East Wenatchee Corridor

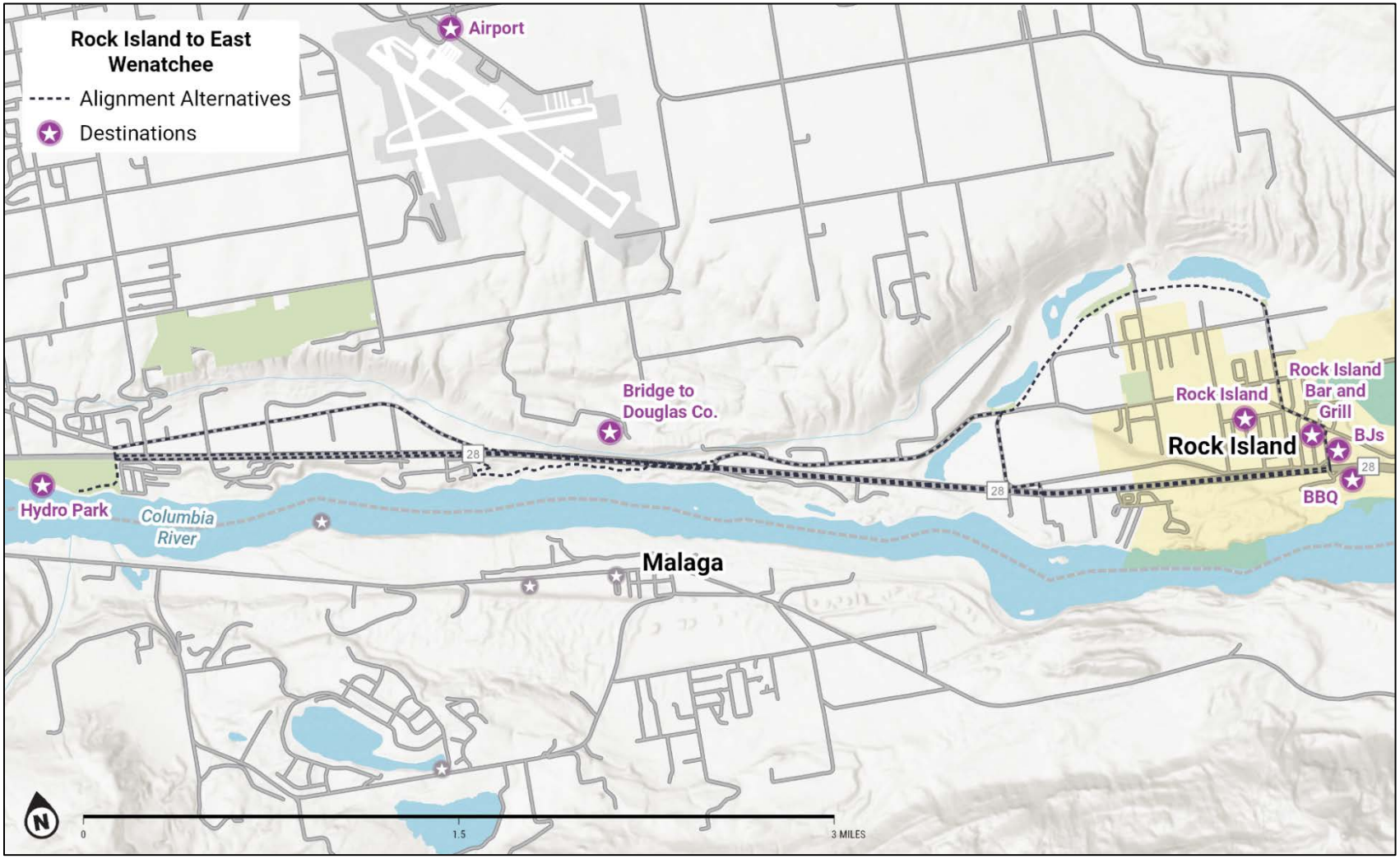


Figure 14. Community-identified destinations in the Rock Island to East Wenatchee Corridor

Key Findings:

- Six destinations were identified within this corridor, four of them in Rock Island.

Wenatchee to Entiat to Chelan Corridor

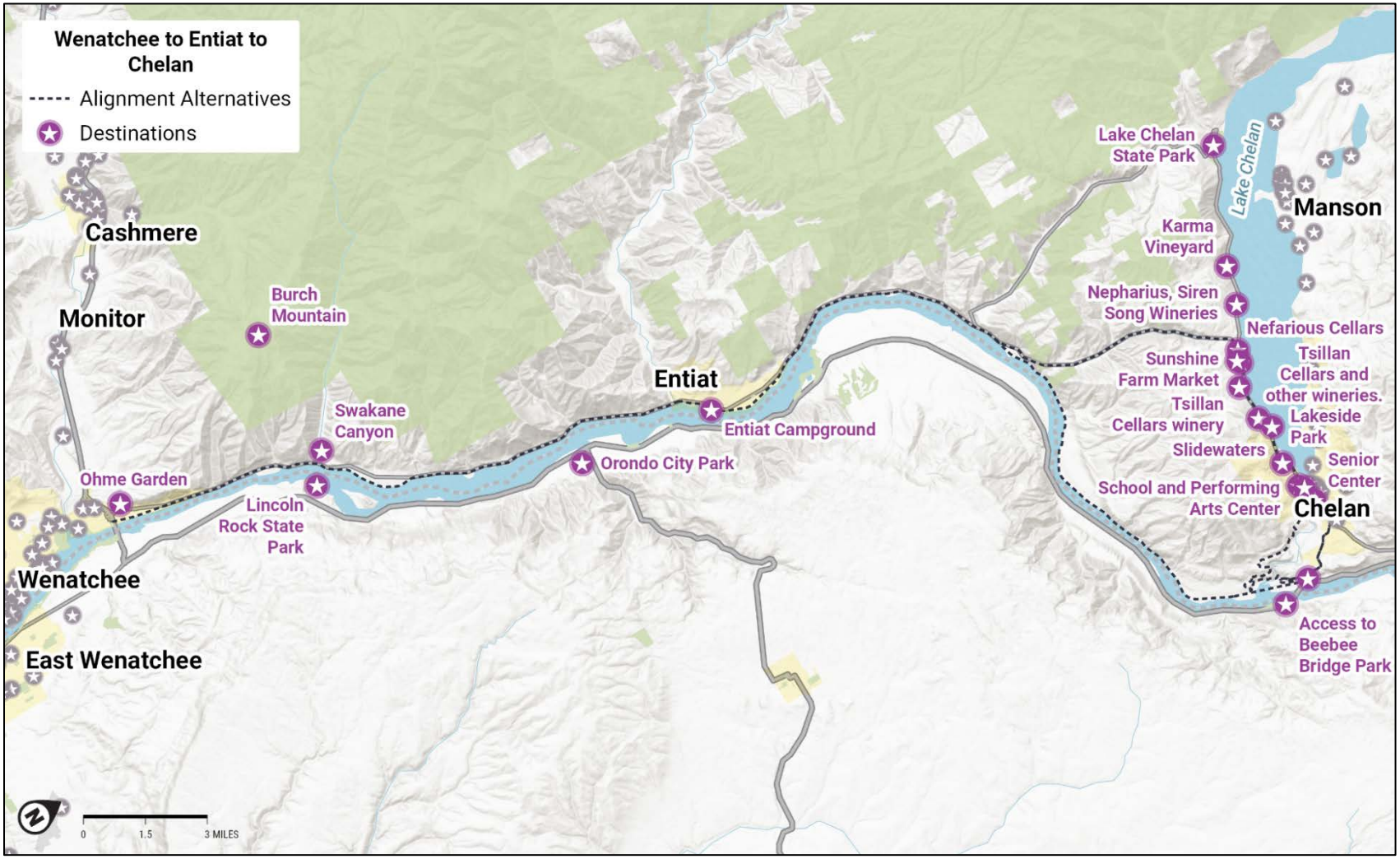


Figure 15. Community-identified destinations in the Wenatchee to Entiat to Chelan Corridor

Key Findings:

- This corridor was not included as a potential pathway in the public input map, but several respondents identified it as having destinations.
- Several destinations were identified on the south shore of Lake Chelan.
- Three destinations were identified west of the Columbia River: Ohme Garden, Swakane Canyon, and Entiat Campground.

Step 3. Potential Pathways Opportunity

Respondents were asked to identify potential pathway connections that would best improve access to natural areas, views, businesses, parks, etc. along the corridor.

In total, 171 potential pathway connections (lines) were drawn on the map, 156 of which were labeled with a description. These are shown in Figure 16 through Figure 28.

Key Findings:

- Respondents emphasized the need for safer pedestrian pathways, particularly around high-traffic areas like bridges, schools, and busy intersections.
- There were numerous requests for protected bike lanes, bike paths parallel to major highways, and safe routes that avoid high-traffic areas. A recurring theme is the desire for off-highway alternatives to reduce cyclist and pedestrian exposure to dangerous roadways, with alternative routes through back roads or underutilized corridors.
- Many people noted the potential for the Apple Capitol Loop Trail to connect from Stevens Street Bridge north to the 9th Street Bridge on the *west side* of the river.

Chelan to Manson Corridor

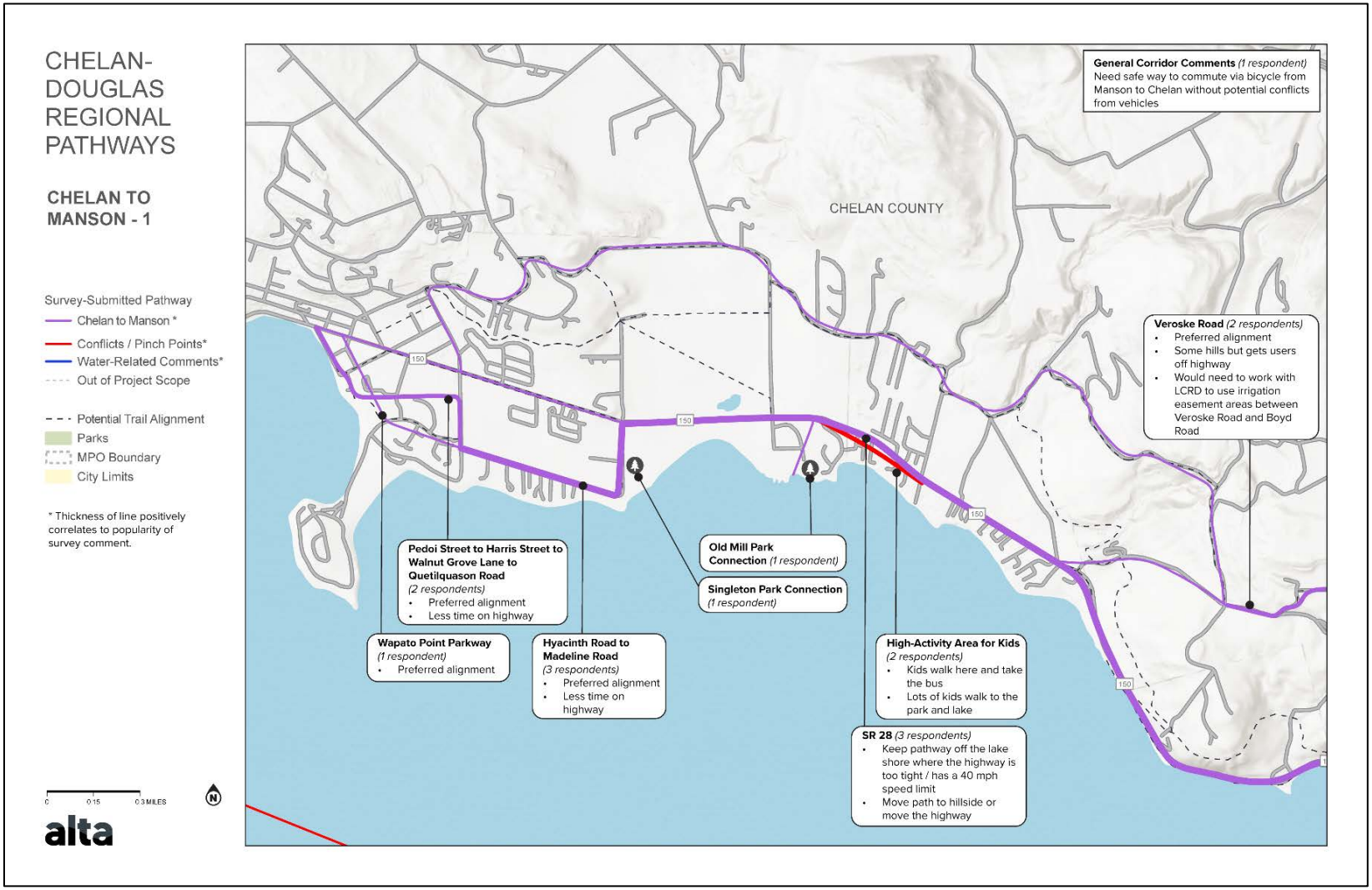


Figure 16. Community-identified pathway opportunities in the Chelan to Manson Corridor (1)

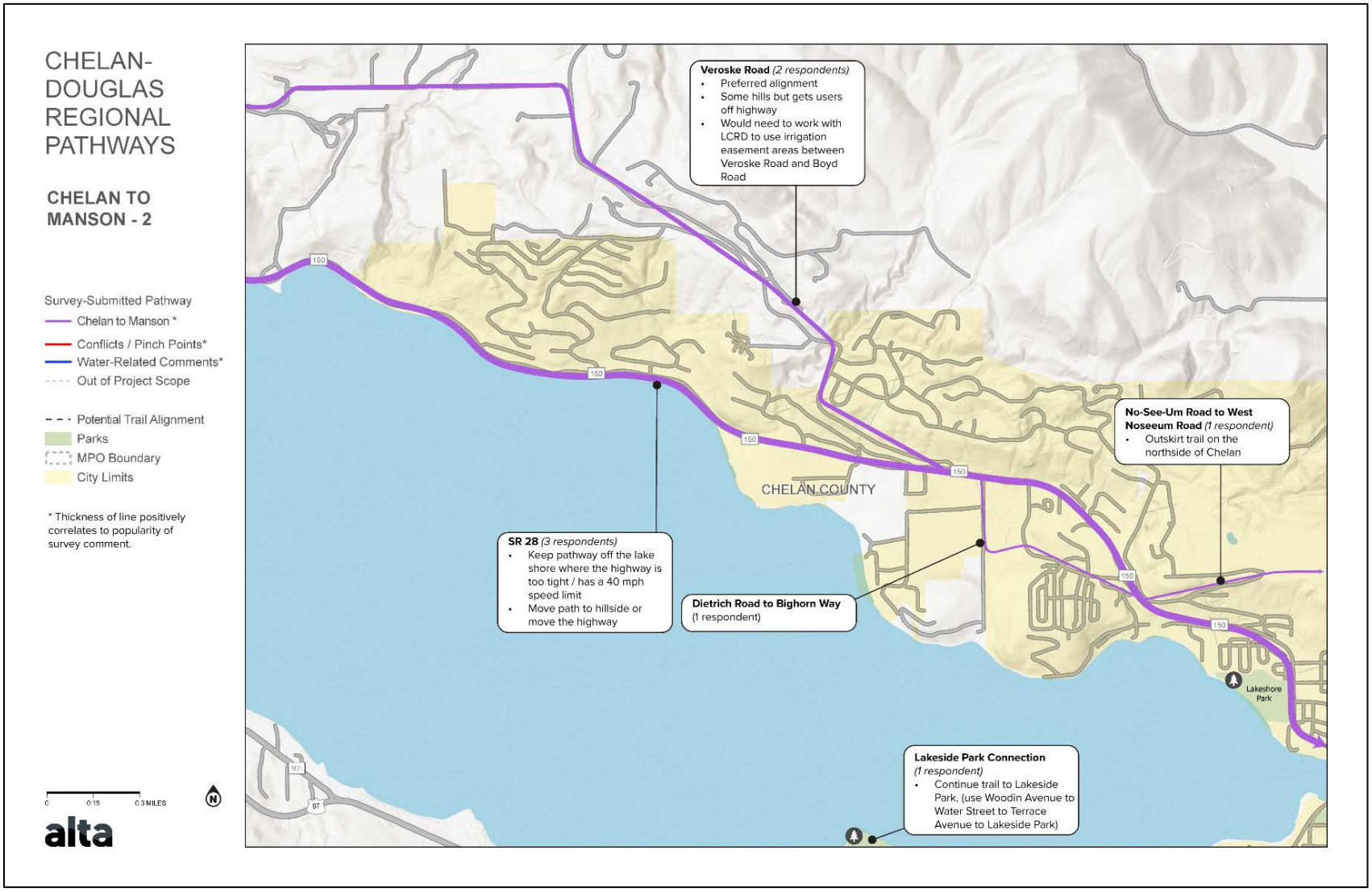


Figure 17. Community-identified pathway opportunities in the Chelan to Manson Corridor (2)

Key Findings

- On the north side of Lake Chelan, users identified either path close to the lake parallel to the highway or along smaller roads further from the lake.
- While there were a few ideas for paths on the south side of Lake Chelan, most users agree that the north side has the most opportunity.

Leavenworth to Cashmere to Wenatchee Corridor

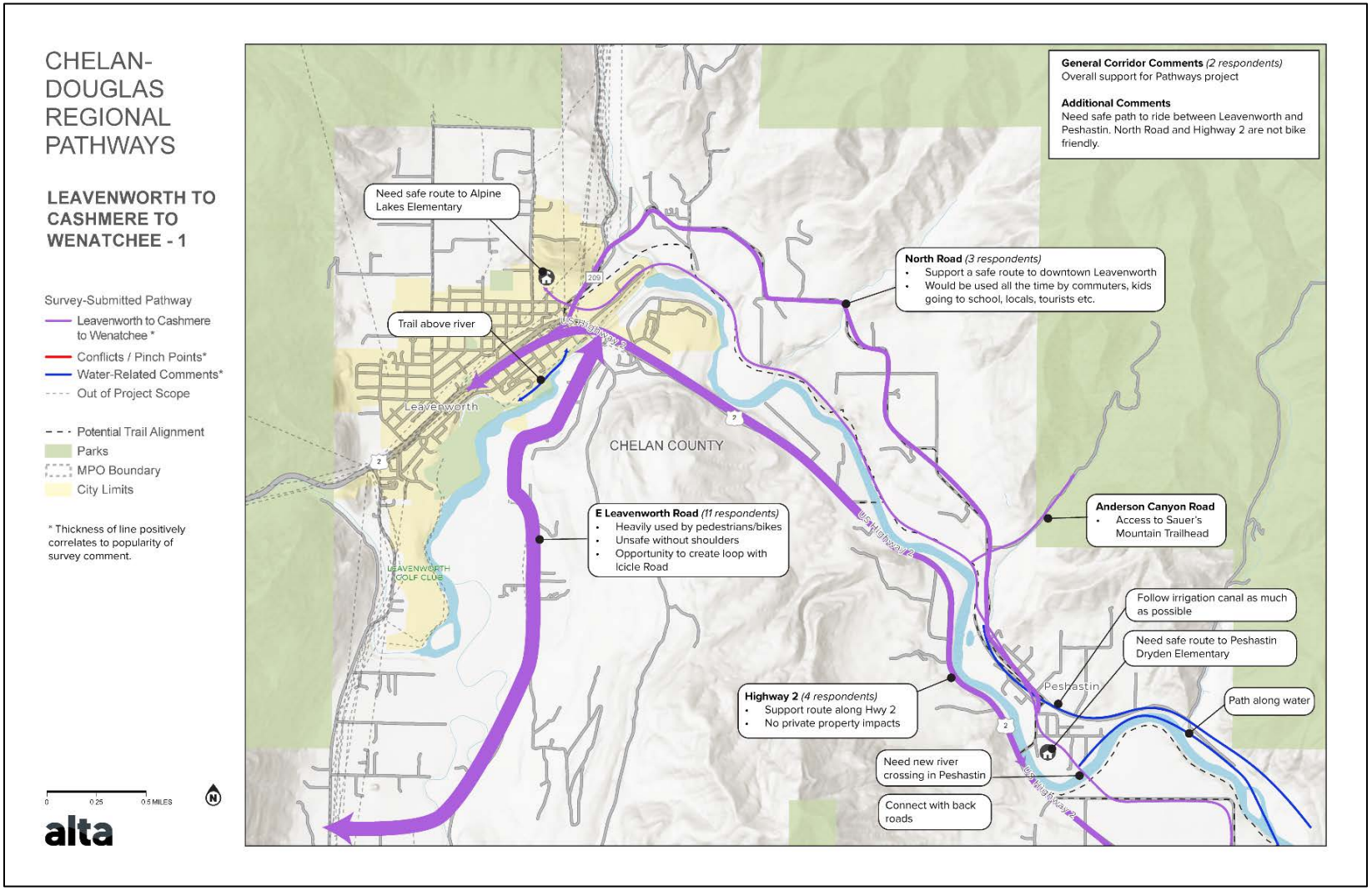


Figure 18. Community-identified pathway opportunities in the Leavenworth to Cashmere to Wenatchee Corridor (1)

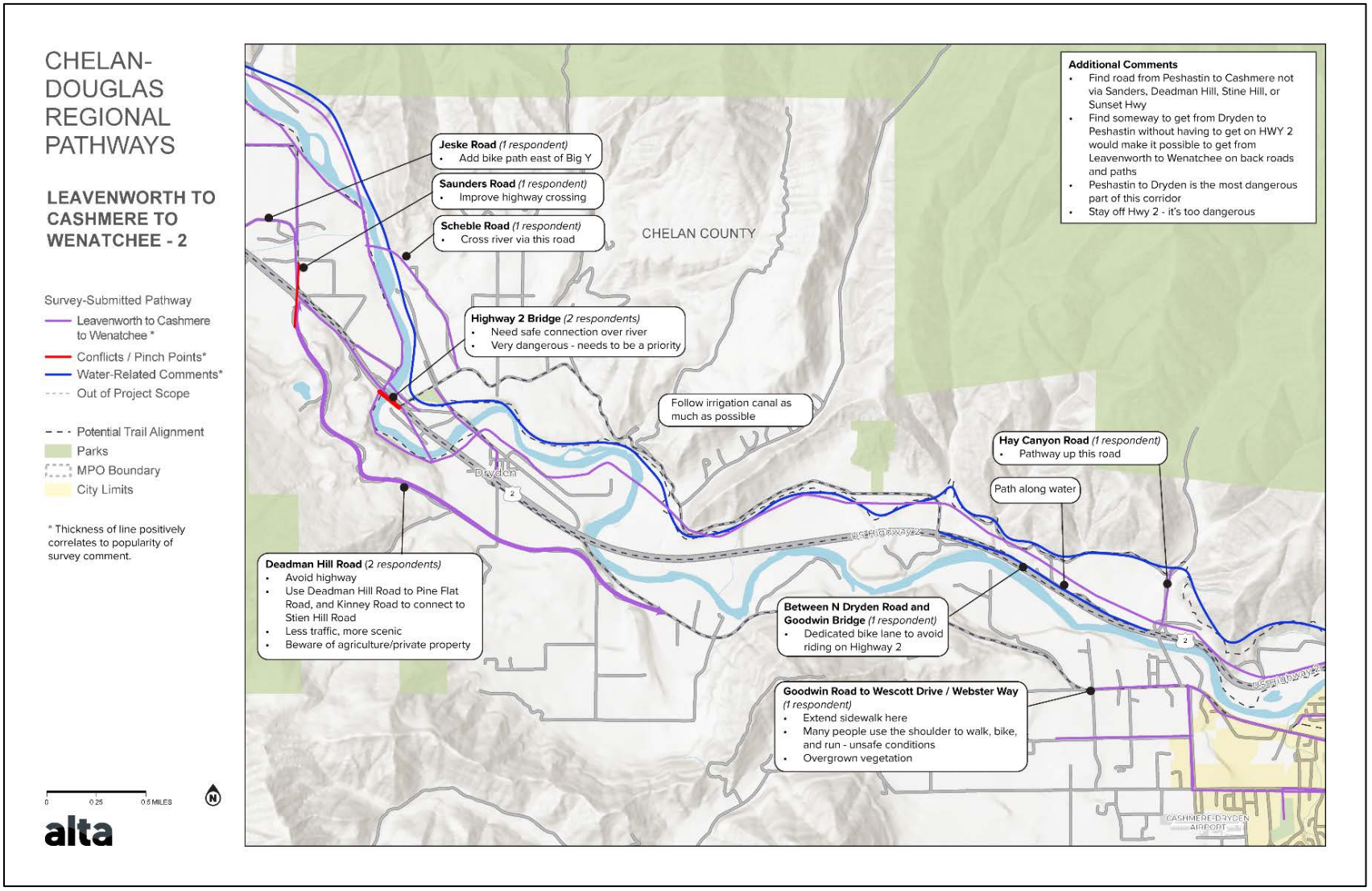


Figure 19. Community-identified pathway opportunities in the Leavenworth to Cashmere to Wenatchee Corridor (2)

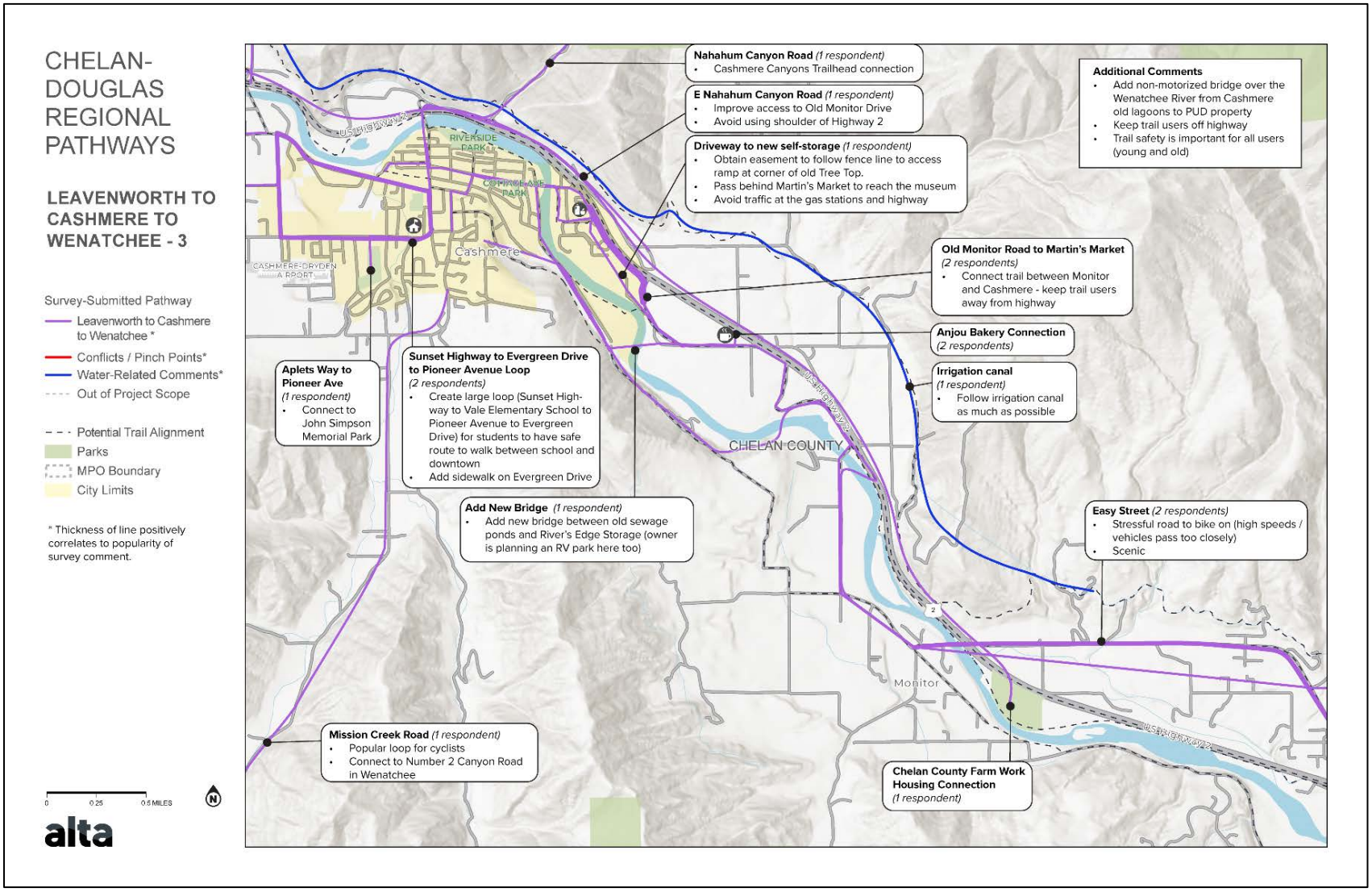


Figure 20. Community-identified pathway opportunities in the Leavenworth to Cashmere to Wenatchee Corridor (3)

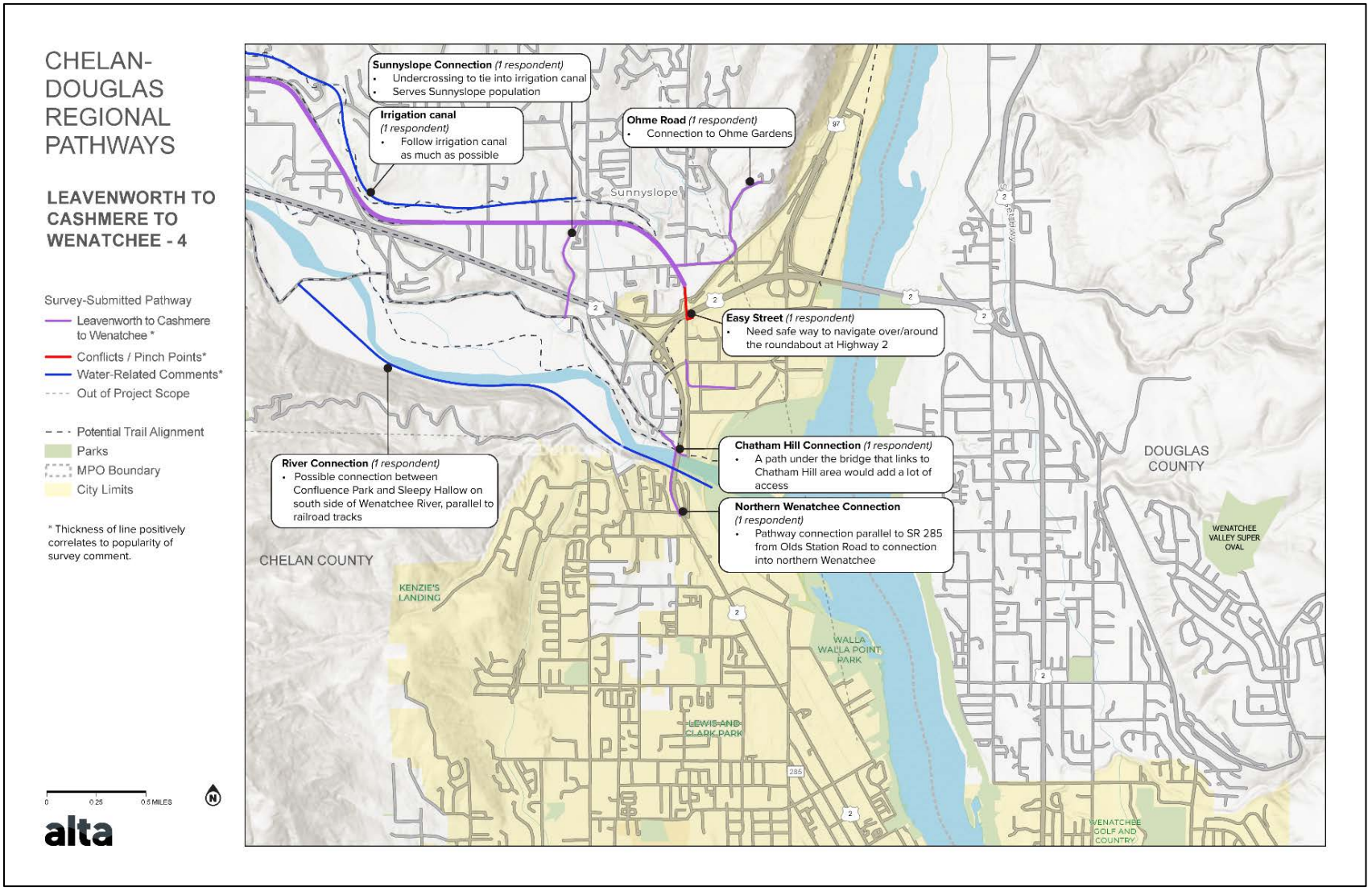


Figure 21. Community-identified pathway opportunities in the Leavenworth to Cashmere to Wenatchee Corridor (4)

Malaga to Wenatchee Corridor

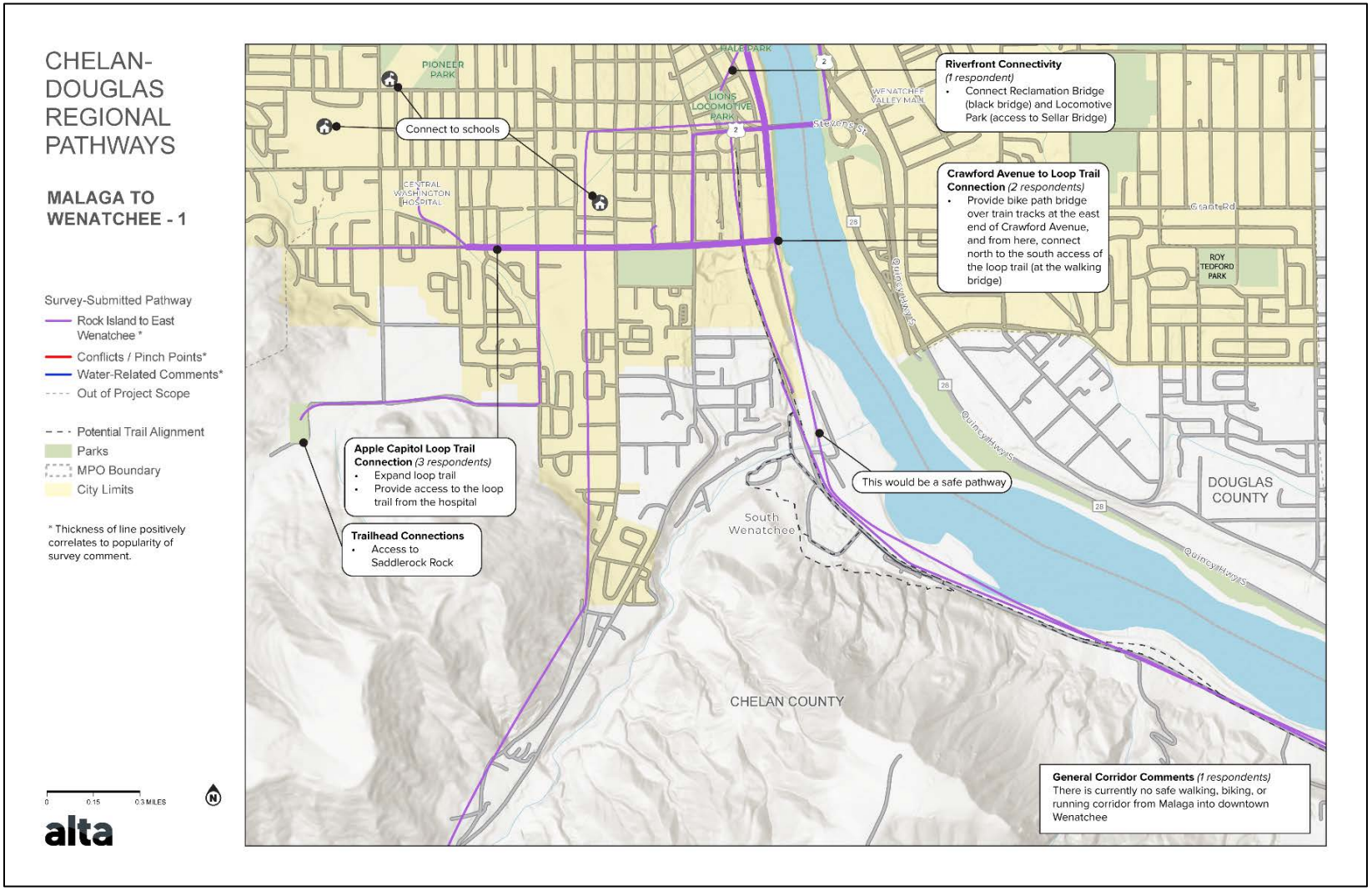


Figure 22. Community-identified pathway opportunities in the Malaga to Wenatchee Corridor (1)

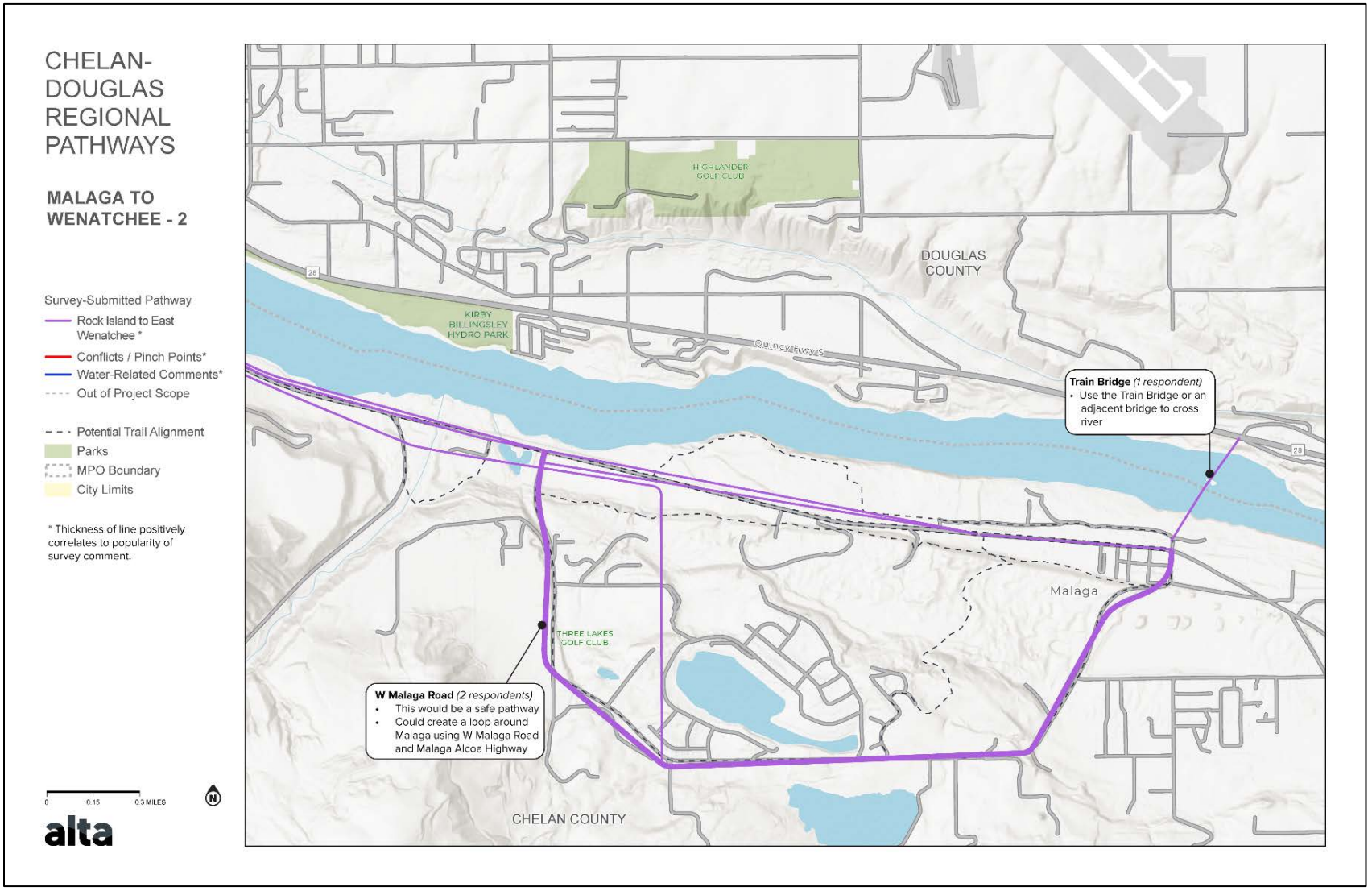


Figure 23. Community-identified pathway opportunities in the Malaga to Wenatchee Corridor (2)

Rock Island to East Wenatchee Corridor

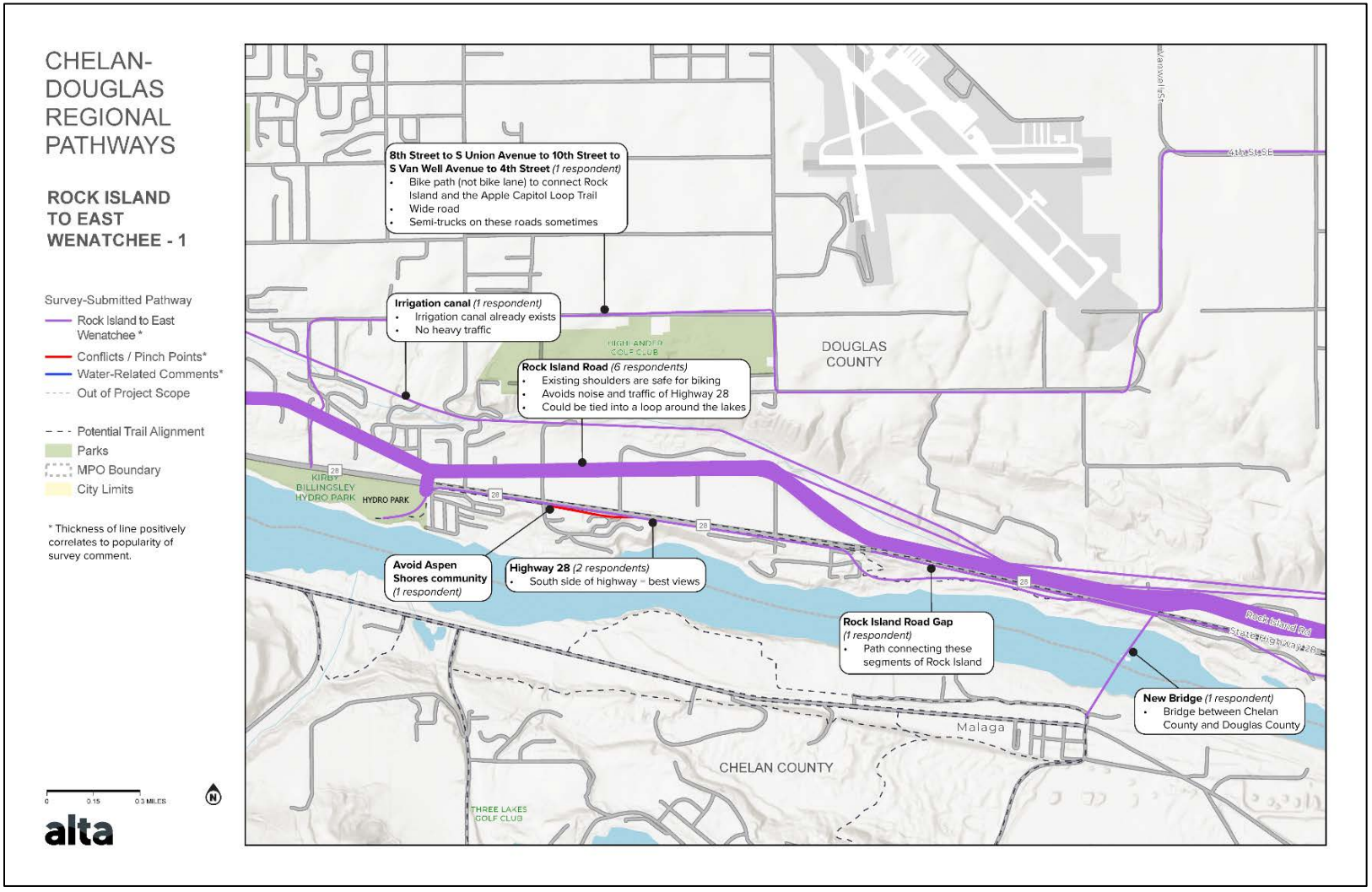


Figure 24. Community-identified pathway opportunities in the Rock Island to East Wenatchee Corridor (1)

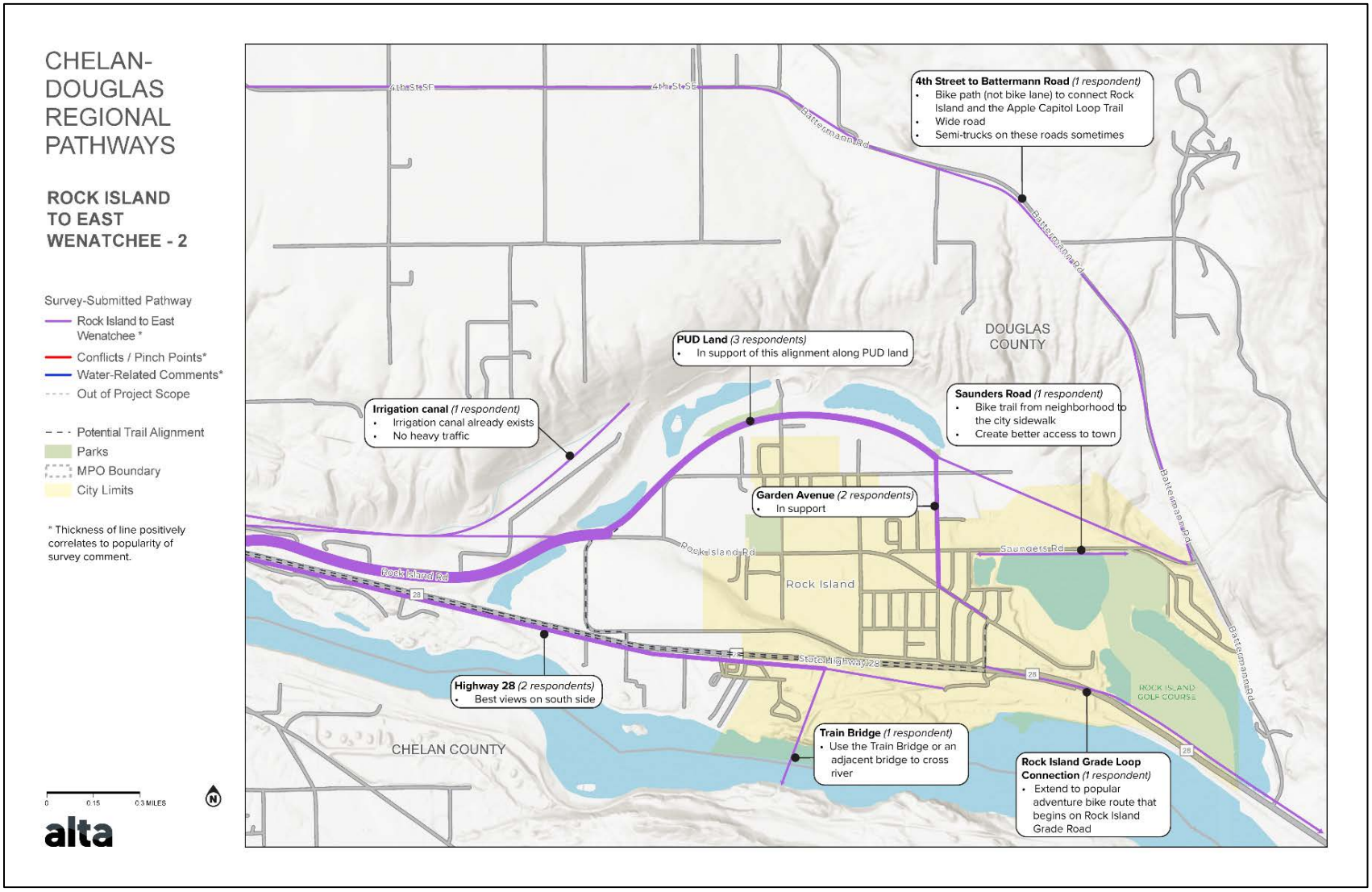


Figure 25. Community-identified pathway opportunities in the Rock Island to East Wenatchee Corridor (2)

Wenatchee to Entiat to Chelan Corridor

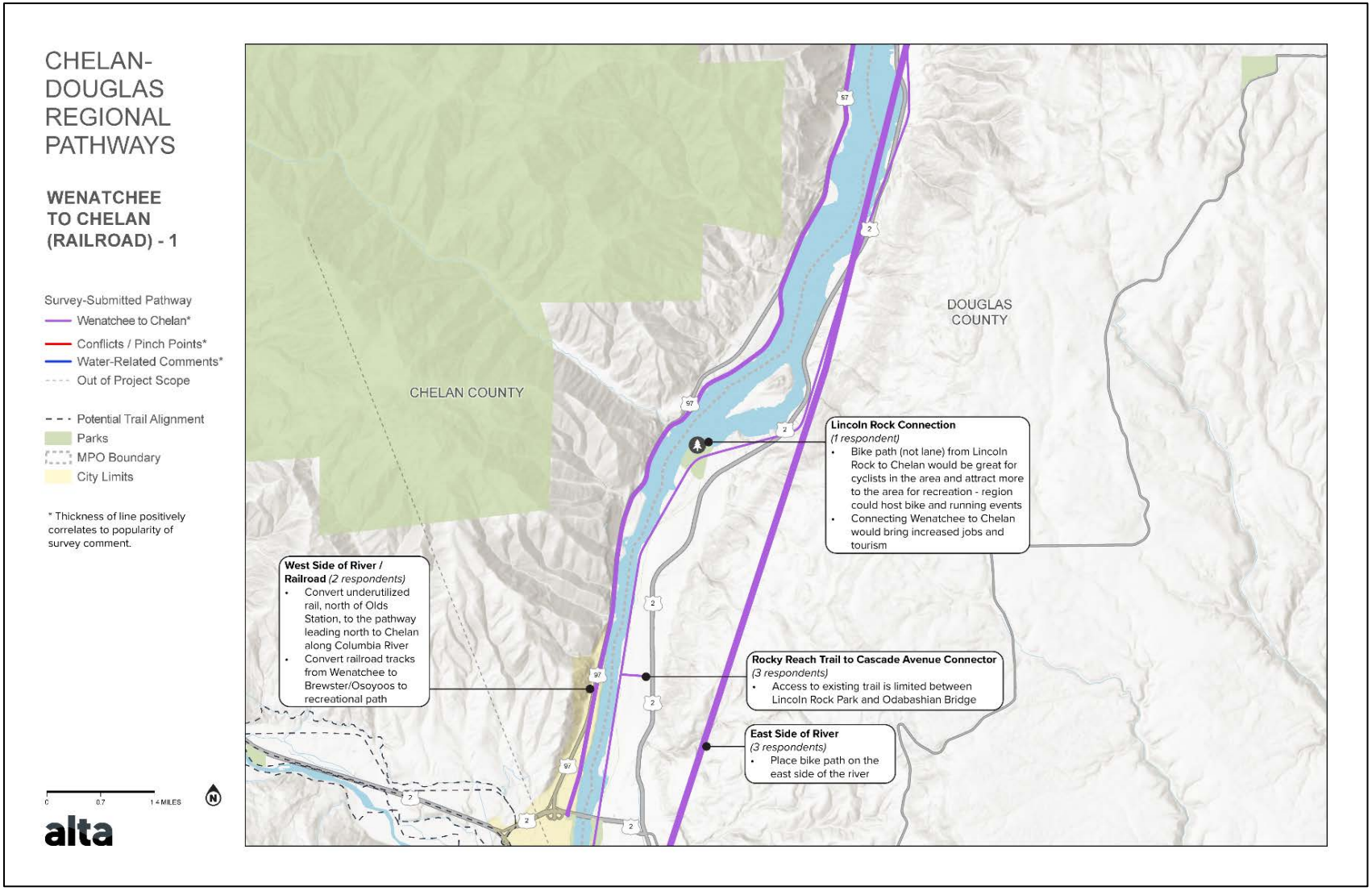


Figure 26. Community-identified pathway opportunities in the Wenatchee to Entiat to Chelan Corridor (1)

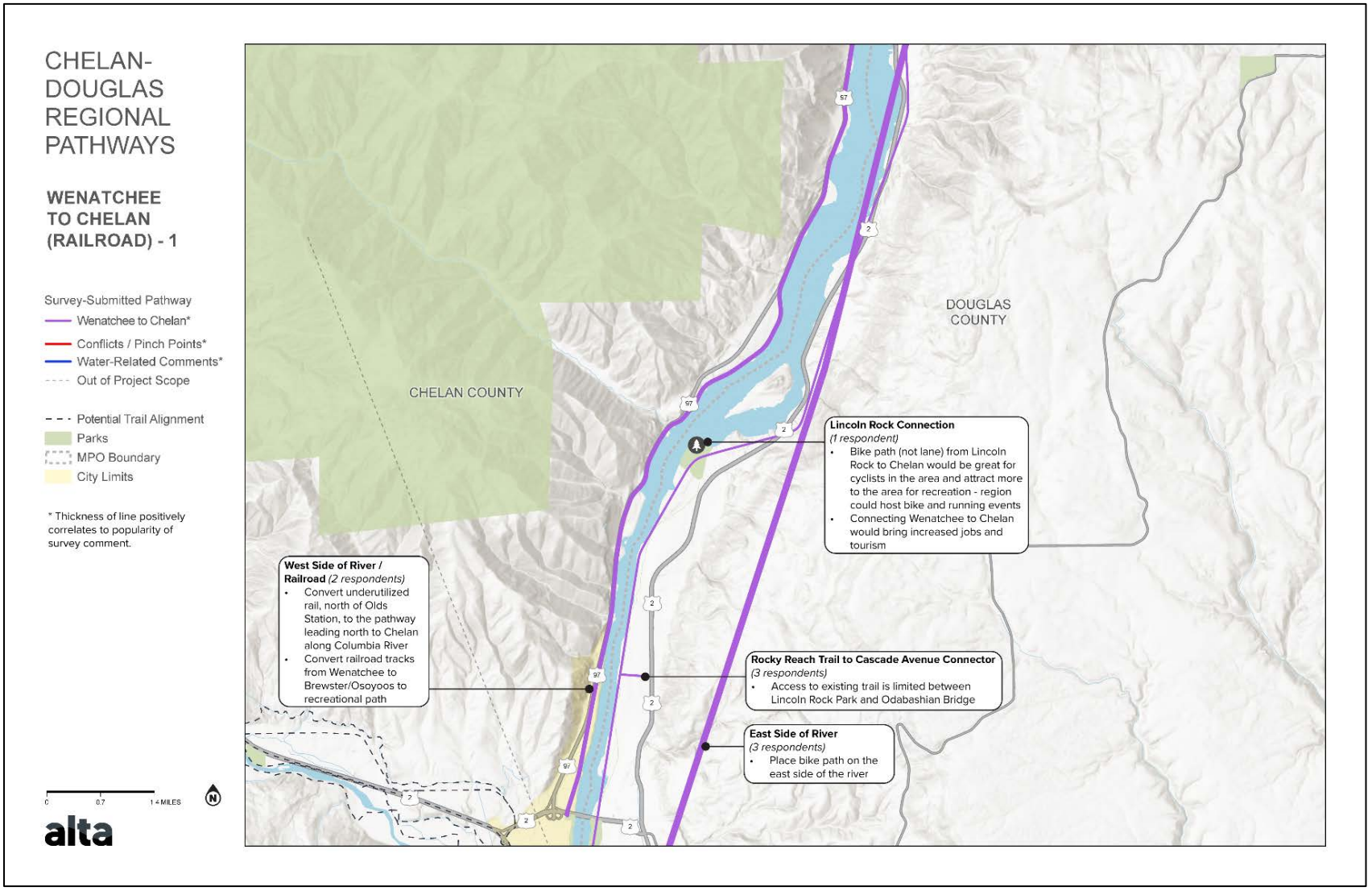


Figure 27. Community-identified pathway opportunities in the Wenatchee to Entiat to Chelan Corridor (2)

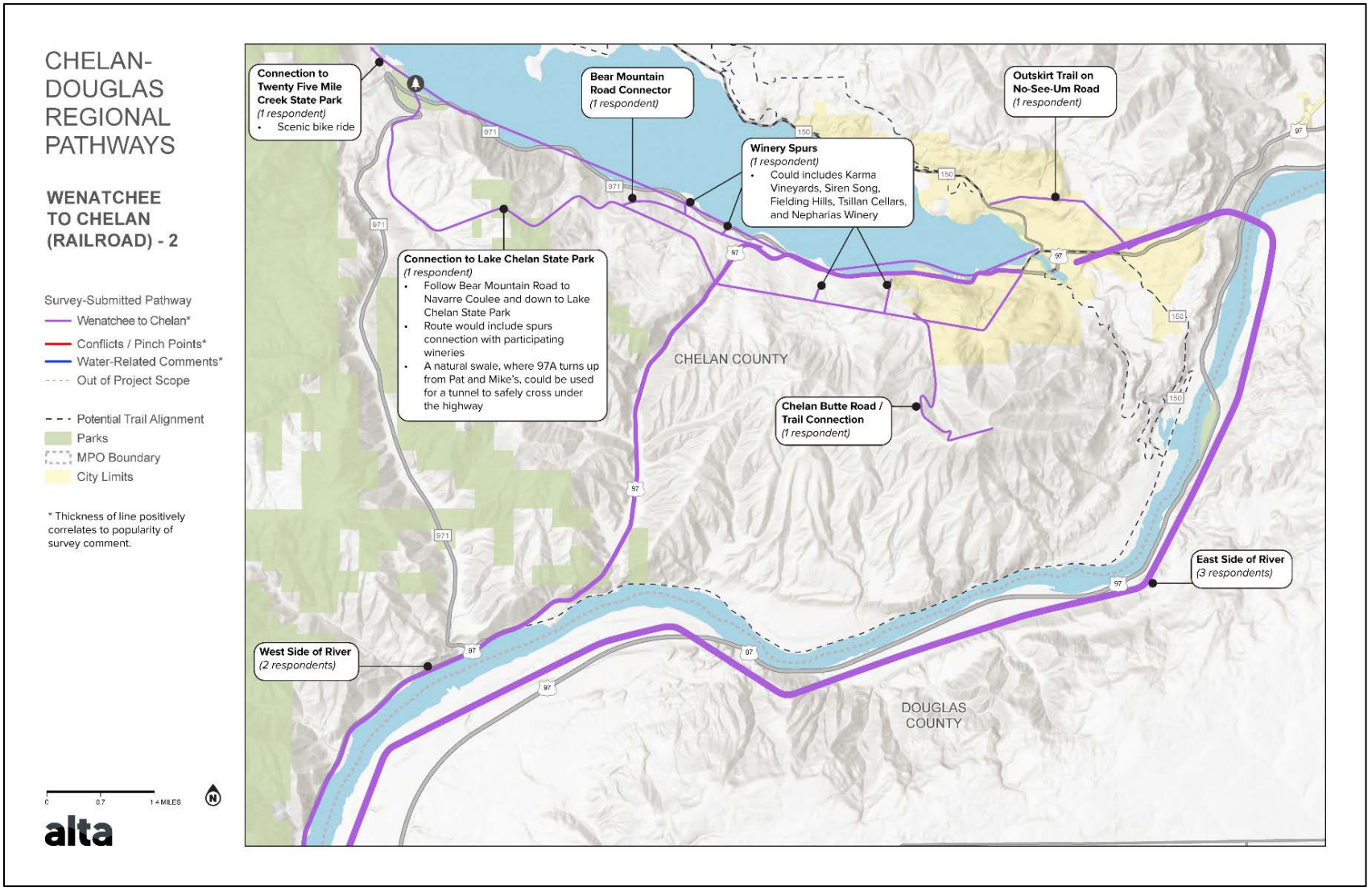


Figure 28. Community-identified pathway opportunities in the Wenatchee to Entiat to Chelan Corridor (3)

Key Findings

- Three respondents identified a potential pathway on the east side of the Columbia River.

Step 4. Areas to Avoid

Respondents were asked to identify any locations that should not have a pathway nearby. This section of the survey generated 185 comments and the most like and dislike activity of all categories. Figure 29 through Figure 33 show the responses to this step.

These concerns were then categorized based on the alignment alternative evaluation criteria and the following six categories emerged:

- Environmental: Concerns about environmental impacts or pollution.
- Pinch Points/Narrow Bridge: Concerns about the safety of trail users on narrow bridges.
- Orchard/Agricultural Impacts: Concerns about impacts to or impacts from agricultural operations.
- Feasibility: Location-specific concerns about feasibility.
- Private Property Impacts: Concerns about impacts to private property.
- Safety (Traffic): Concerns about the safety of trail users given the presence of vehicular traffic.
- Safety (Other): General concerns about the safety of trail users.

Key Findings

- Many respondents expressed concerns about trails passing too close to orchards, citing issues such as spray drift, objects thrown by mowers, and the potential impact on agricultural operations. A strong sentiment is to avoid these areas to protect farming practices and prevent potential conflicts.
- Respondents frequently mentioned avoiding trails along or near highways and high-traffic roads. Some respondents prefer trails to be located away from developed areas, particularly highways, to preserve a more natural and quieter environment.
- There are some concerns voiced about trail alignments being shown on private property.
- While most areas of concern were noted around orchards, other issues included environmental concerns, feasibility concerns, narrow bridges, and traffic safety.

Chelan to Manson Corridor



Figure 29. Community-identified areas to avoid in the Chelan to Manson Corridor

Key Findings

- In the Chelan to Manson corridor, concerns include the feasibility of fitting trail infrastructure in the right-of-way, access to lakefront property, and safety concerns for trail users near the highway.

Leavenworth to Cashmere to Wenatchee Corridor

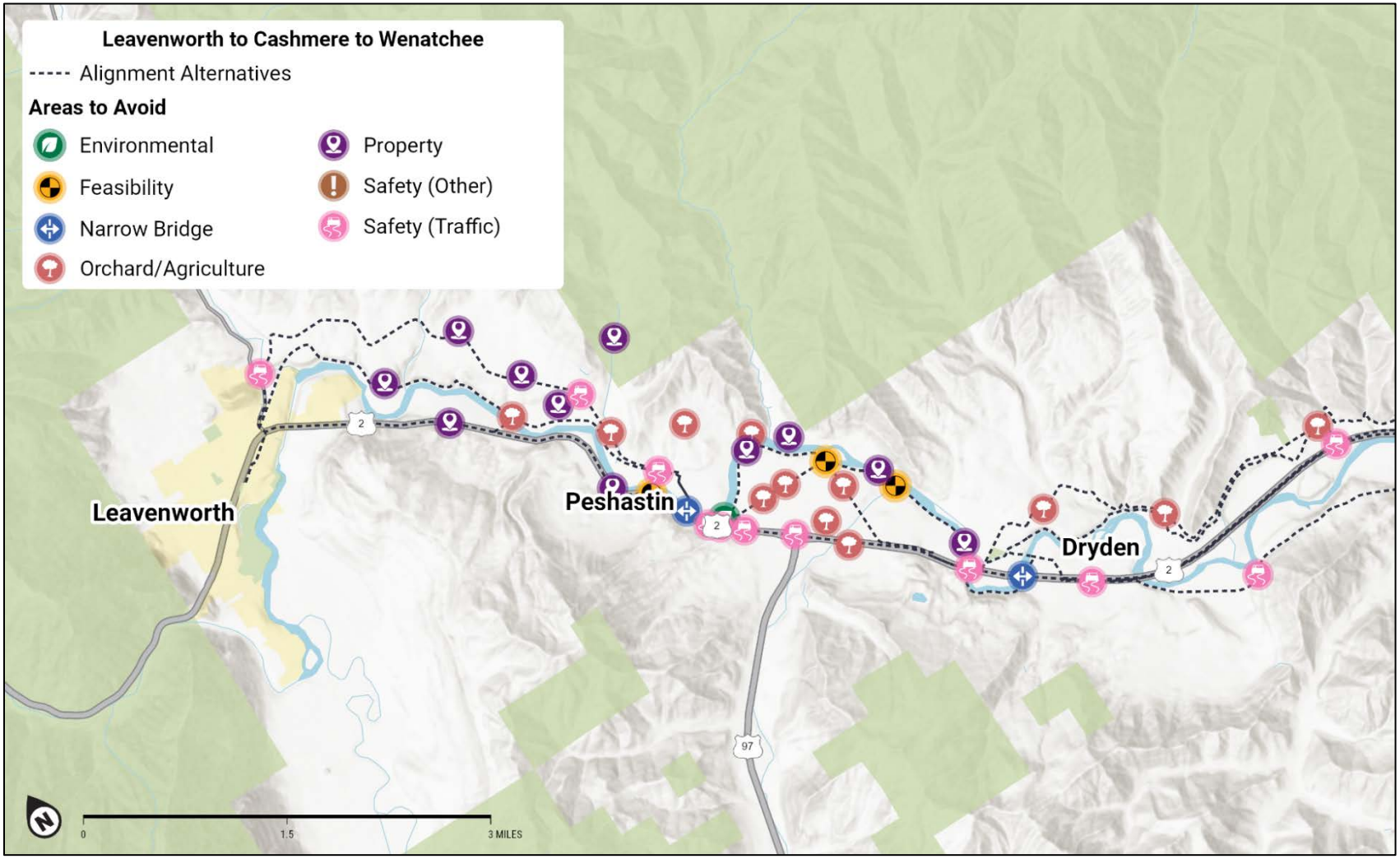


Figure 30. Community-identified areas to avoid in the Leavenworth to Cashmere to Wenatchee Corridor (West)

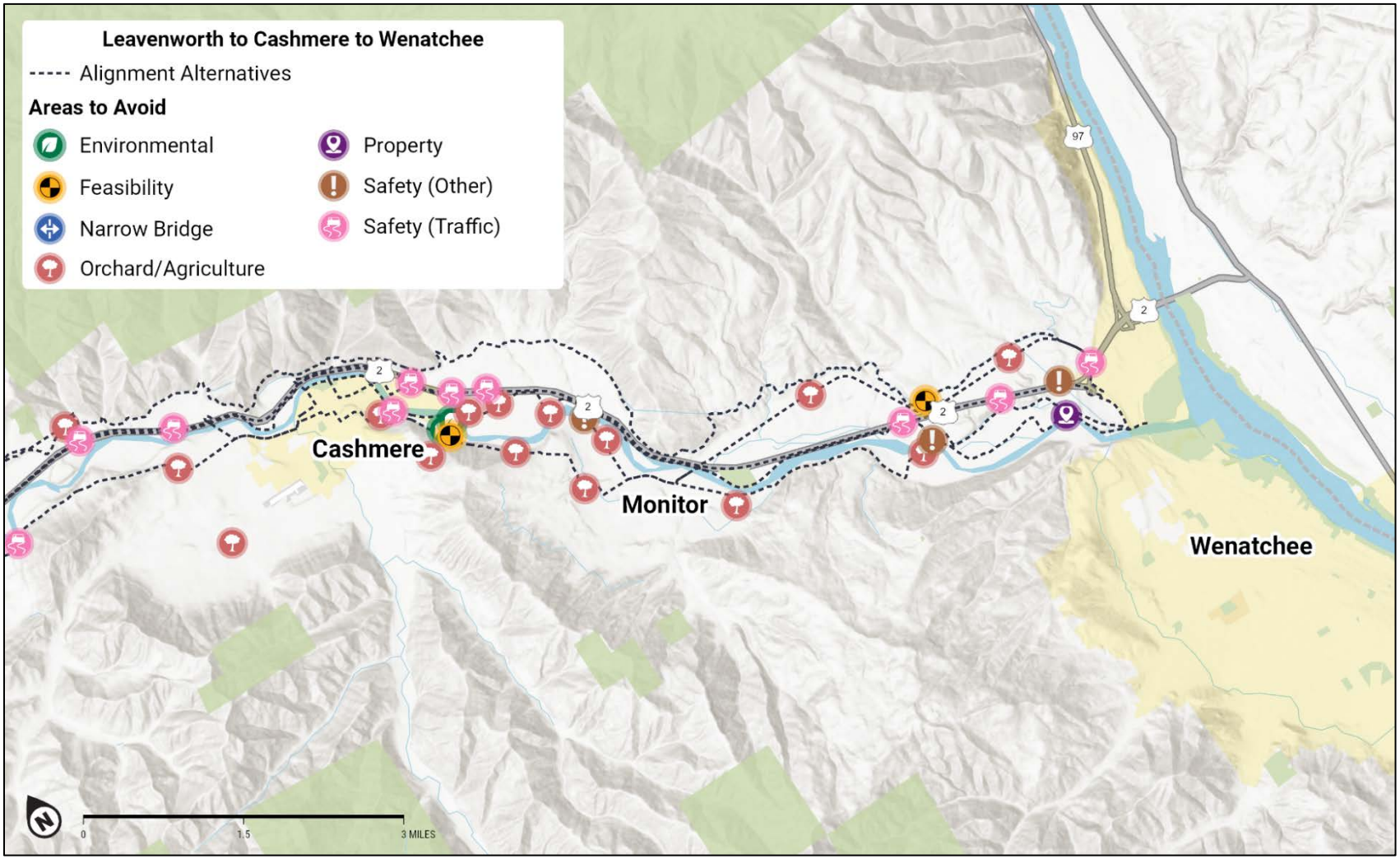


Figure 31. Community-identified areas to avoid in the Leavenworth to Cashmere to Wenatchee Corridor (East)

Key Findings

- In this corridor, the main concerns include impacts to orchards and agricultural operations and private property concerns.
    - "This is a family pear farm. You will make it nearly impossible to do our job raising fruit for our valley. This project could wipe out us farmers to farm at all and it could force us to stop farming all together and build houses like others due to all the restrictions."
    - "Too close to orchard, spray drift likely."
    - "North Road is too narrow for any widening. Orchards & homes will be negatively impacted."
    - "Orchards will have spray drifts and flying objects that have been mowed. Animals are not allowed in any orchards per restrictions from fruit buyers. Diesel fumes will be around all orchard areas. Poisons are placed in orchards for rodent control."
- Several community members mentioned safety concerns for trail users on or near Highway 2.
- There were some feasibility concerns for potential trail construction between Highway 2 and the Wenatchee River.
- Some members mentioned environmental concerns with alignments near the sewage treatment plant along the Wenatchee River.
- Some members mentioned concerns with the narrow bridge near Dryden.

Malaga to Wenatchee Corridor

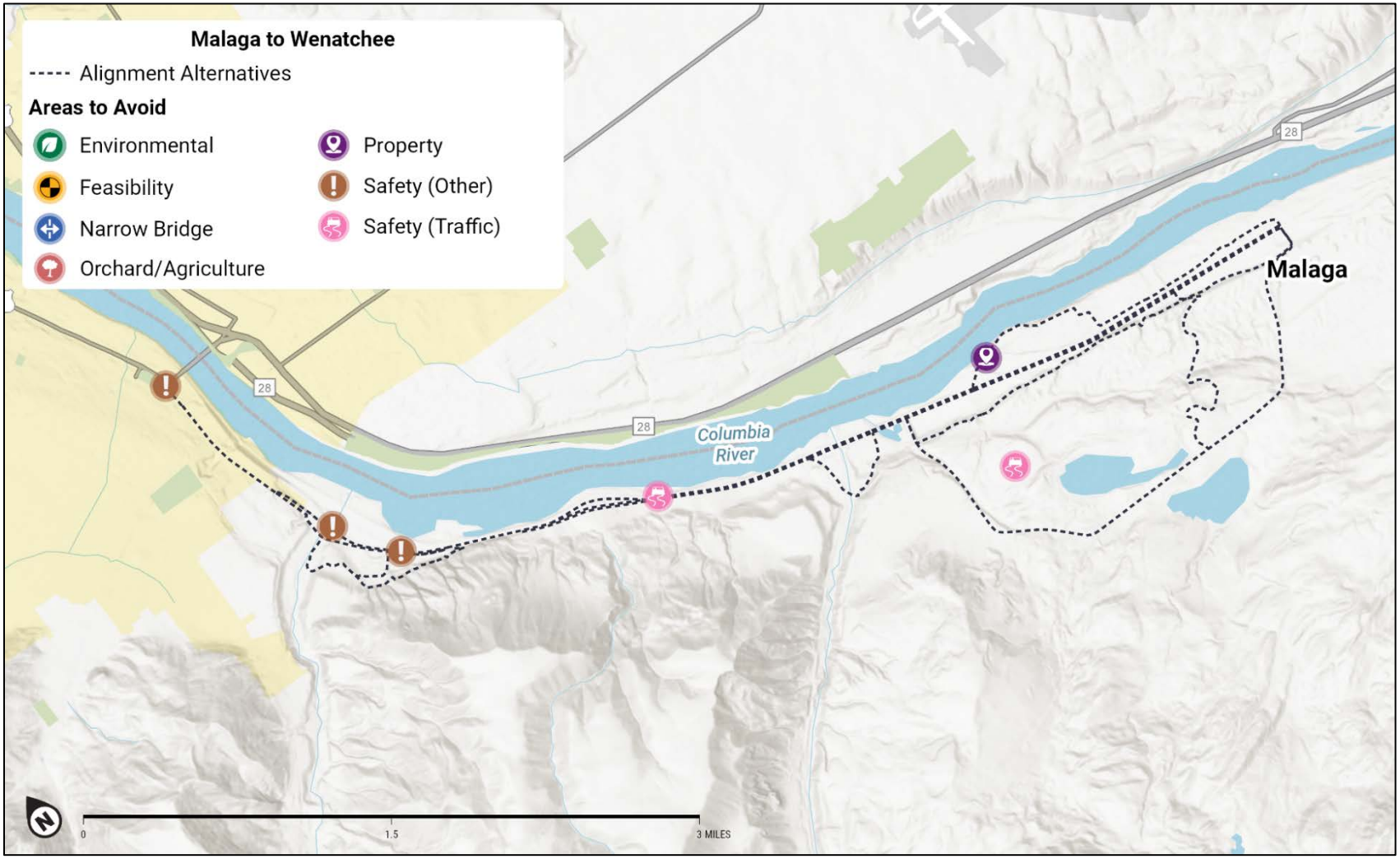


Figure 32. Community-identified areas to avoid in the Malaga to Wenatchee Corridor

Key Findings

- Near Malaga, there were private property concerns.
- Closer to downtown Wenatchee, several respondents expressed concern for user safety due to encampments in the area.

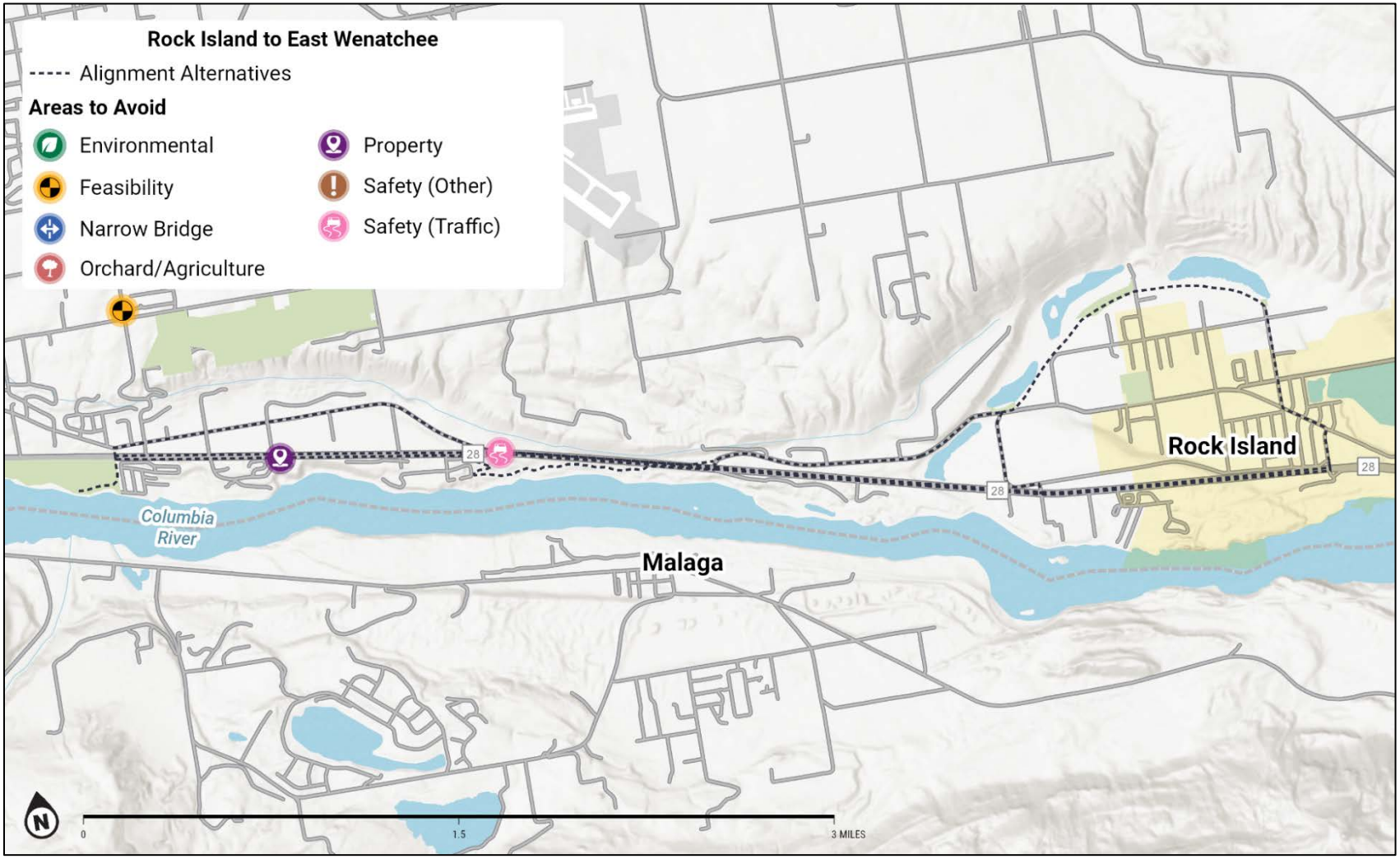


Figure 33. Community-identified areas to avoid in the Rock Island to East Wenatchee Corridor

Key Findings

- Respondents mentioned private property and traffic-related concerns along Highway 2.

Wenatchee to Entiat to Chelan Corridor

Key Findings

- No areas to avoid were mentioned in the Wenatchee to Entiat to Chelan Corridor.

Step 5. Other Ideas

Respondents were asked to share any additional ideas, information, or concerns related to the specific corridors on the map. These are shown in Figure 34 through Figure 39.

Chelan to Manson Corridor



Figure 34. Community-identified other ideas in the Chelan to Manson Corridor

Key Findings

- Members of the public identified several potential trailhead locations along this corridor.
- One respondent suggested following existing farm roads, rather than Highway 97 west of Chelan.
- Several new opportunities to expand lake recreation infrastructure were mentioned, including more dock space and new pathways to Lake Chelan.

Leavenworth to Cashmere to Wenatchee Corridor

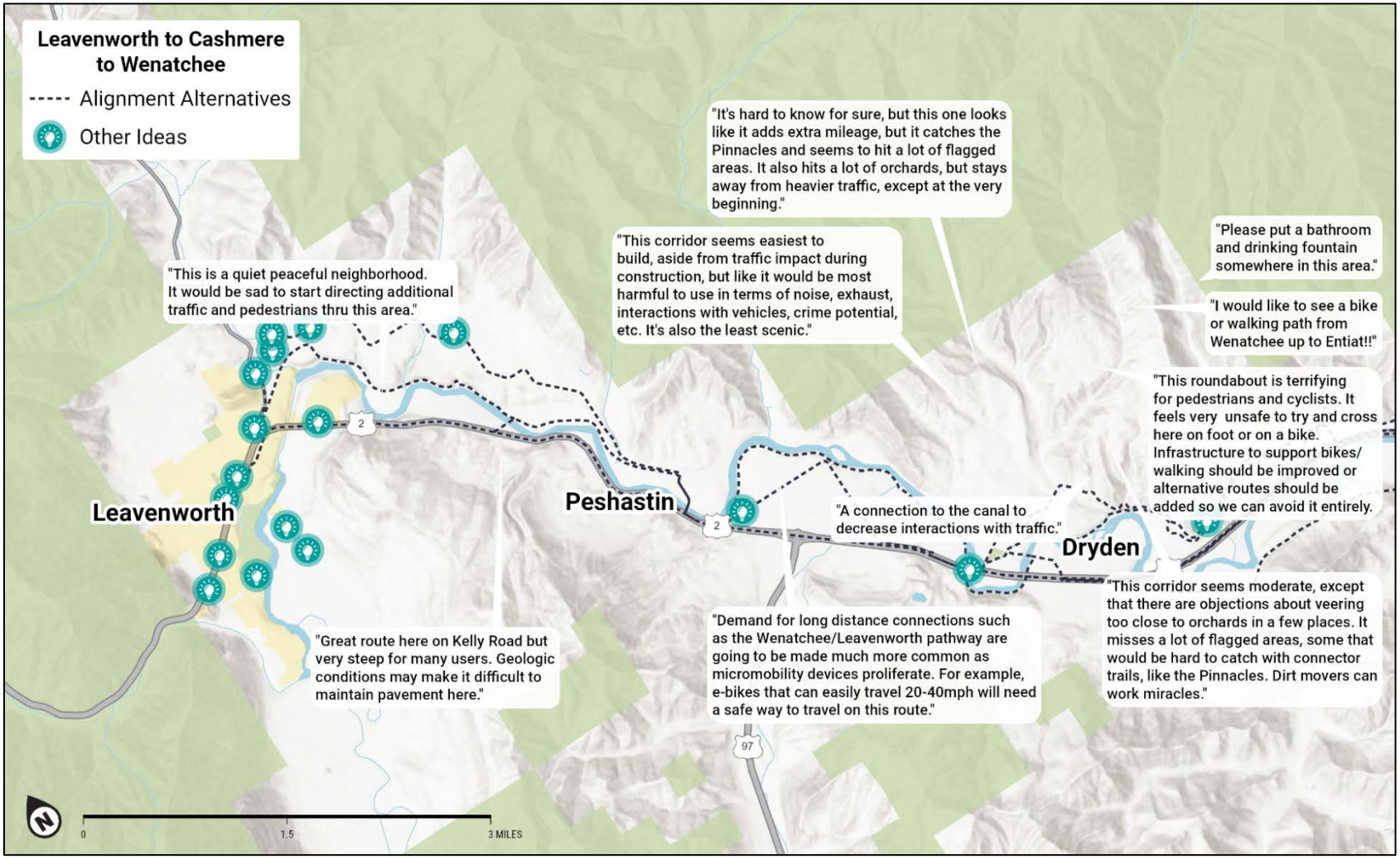


Figure 35. Community-identified other ideas in the Leavenworth to Cashmere to Wenatchee Corridor (West)

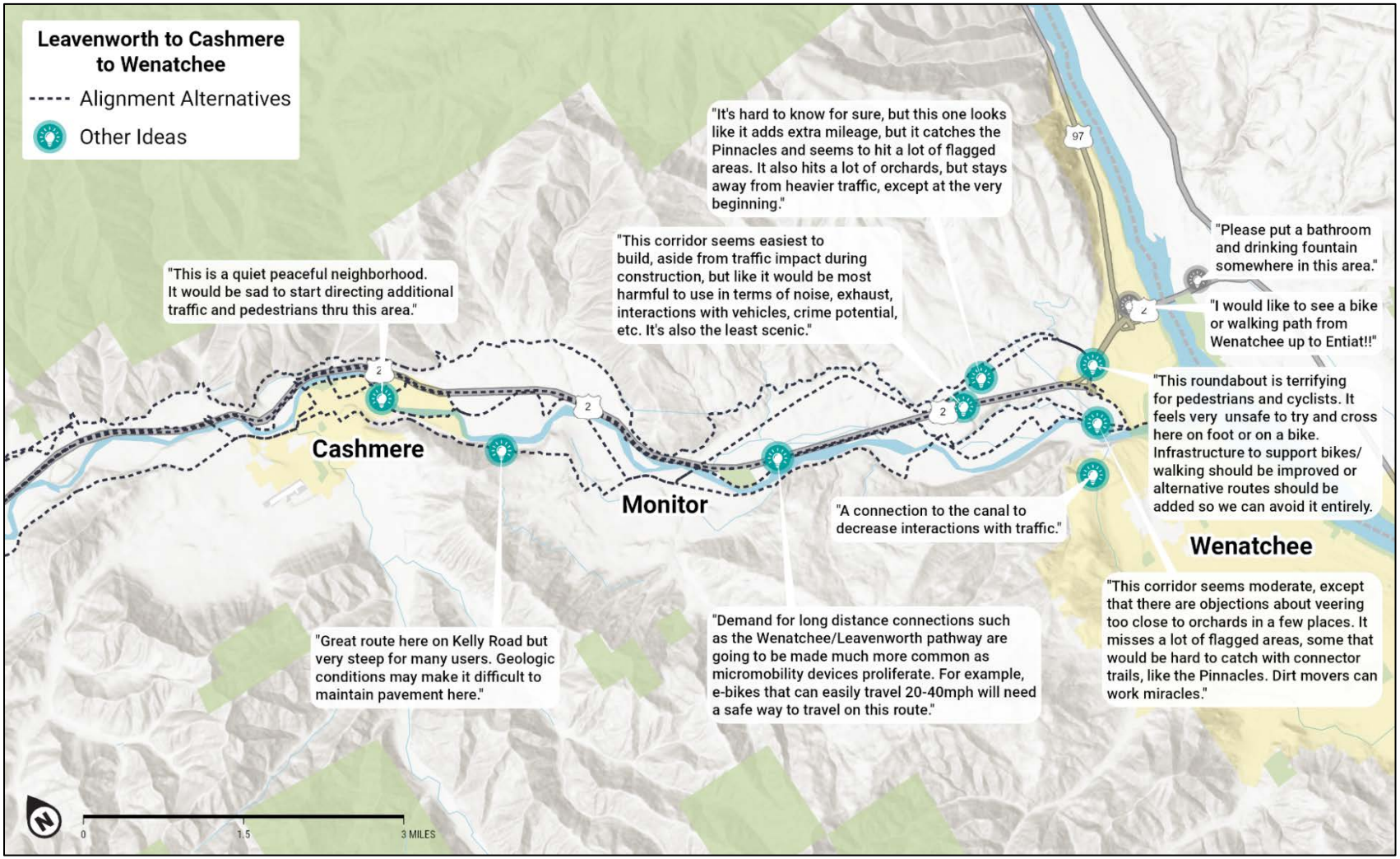


Figure 36. Community-identified other ideas in the Leavenworth to Cashmere to Wenatchee Corridor (East)

Key Findings

- Members of the public identified opportunities to remedy existing transportation barriers, including safe highway and river crossings.
- Some respondents mentioned locations where intersection modifications are needed to make these areas safer for bicyclists and pedestrians.
- One respondent suggested new path connections to existing grocery stores in Leavenworth.

Malaga to Wenatchee Corridor

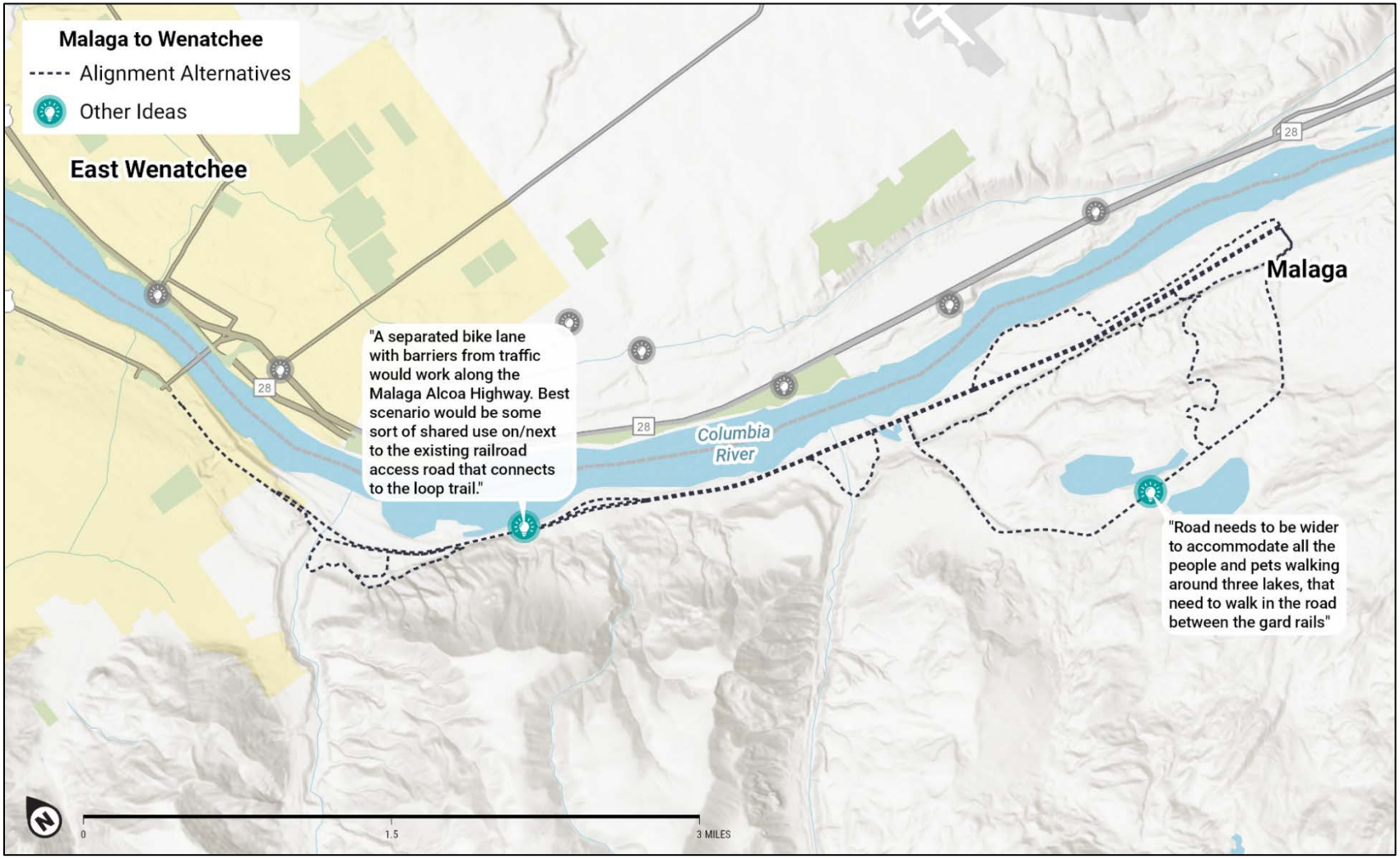


Figure 37. Community-identified other ideas in the Malaga to Wenatchee Corridor

Key Findings

- A member of the public suggested separated bike lanes along the Malaga-Alcoa Highway
- A member of the public suggested roadway improvements to accommodate residents walking around Three Lakes

Rock Island to East Wenatchee Corridor

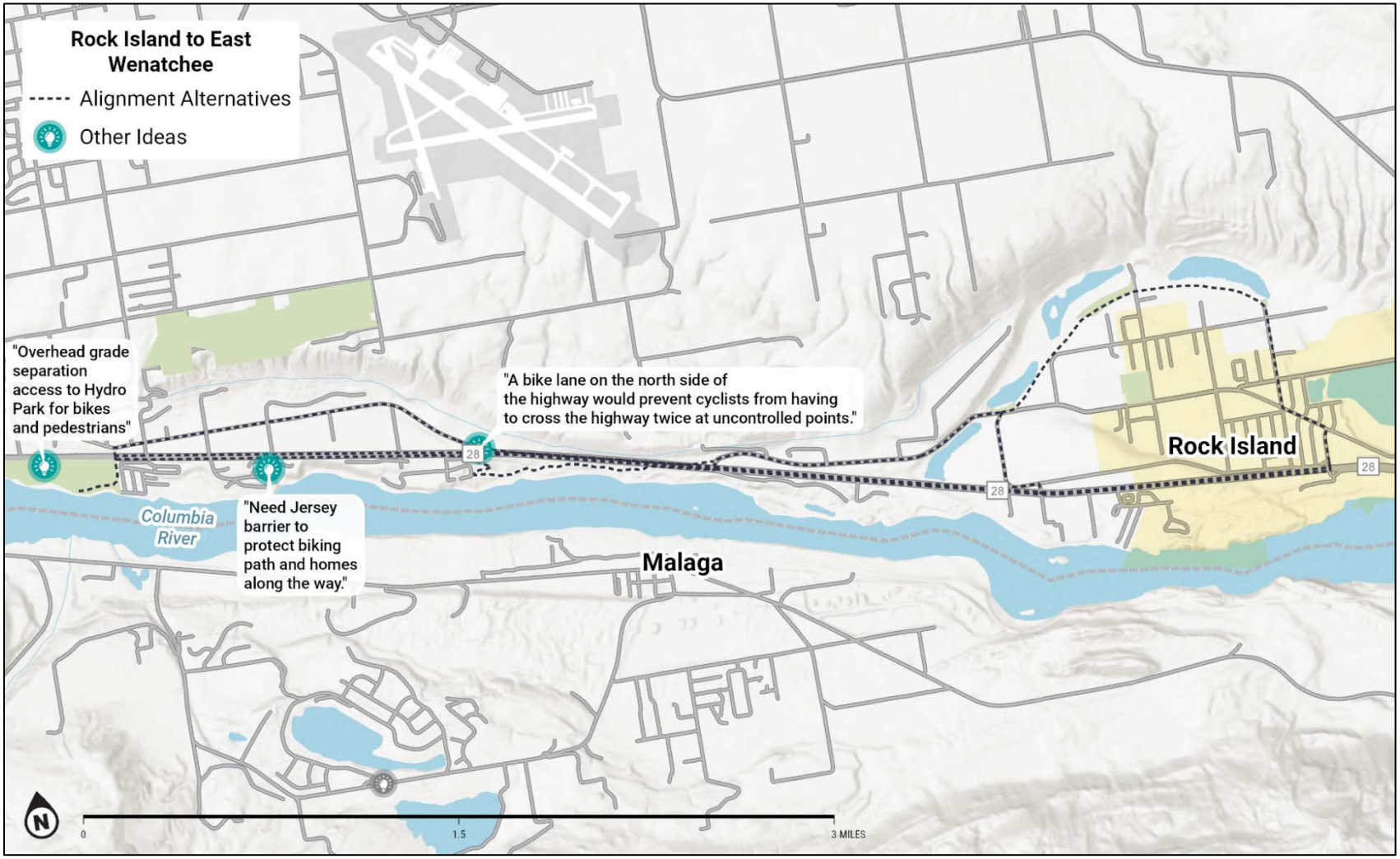


Figure 38. Community-identified other ideas in the Rock Island to East Wenatchee Corridor

Key Findings

- A member of the public suggested a grade-separated crossing providing access to Hydro Park.
- A member of the public suggested a bike lane on the north side of Highway 28.
- A member of the public suggested new highway barriers to protect trail users and homes along Highway 28.

Wenatchee to Entiat to Chelan Corridor

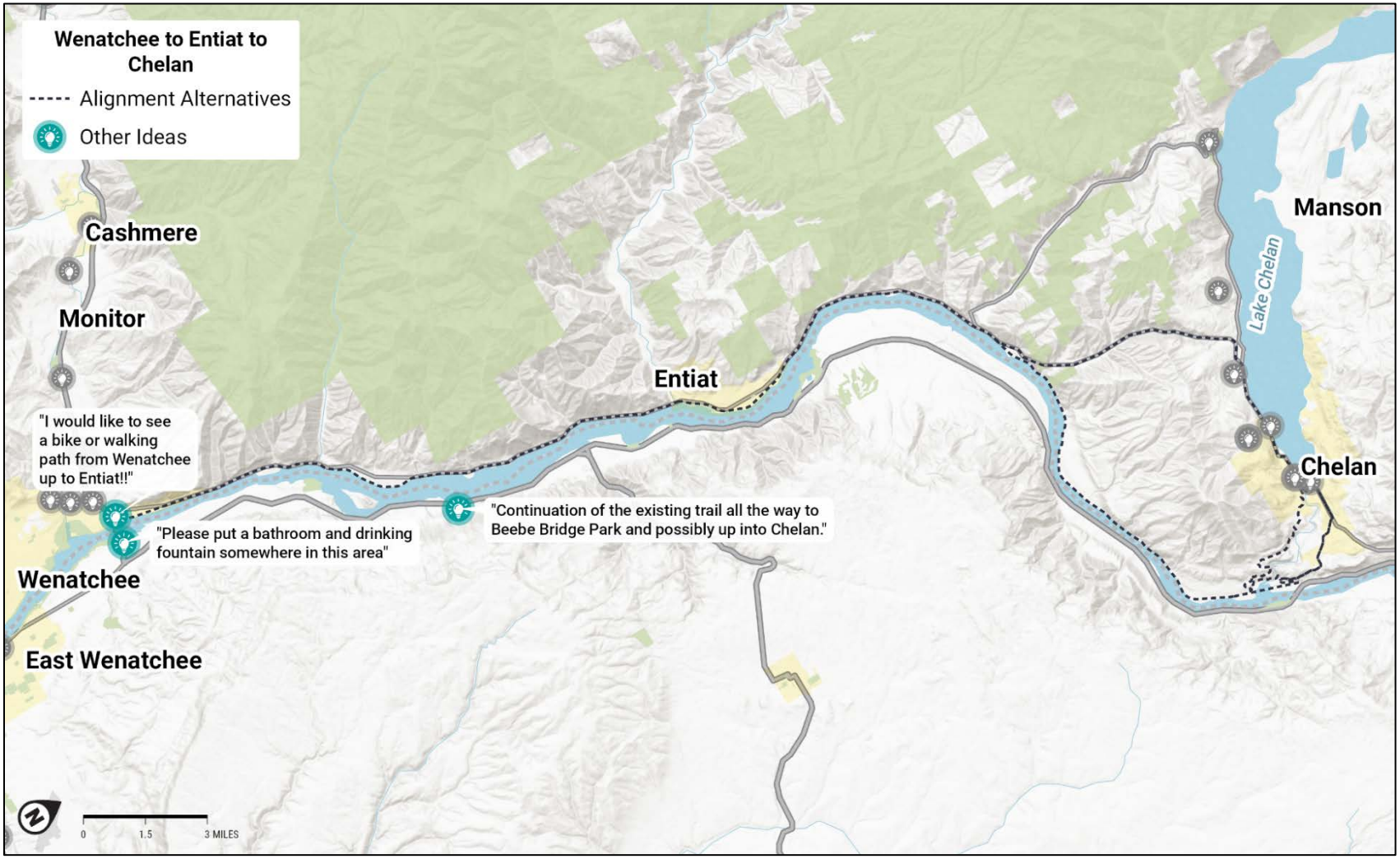


Figure 39. Community-identified other ideas in the Wenatchee to Entiat to Chelan Corridor

MEMORANDUM

To: Jeff Wilkens and Riley Shewak, Chelan-Douglas Transportation Council

From: Jill Roszel and Phil Longenecker, Alta

Date: November 25, 2024

Re: Chelan-Douglas Pathways Survey and Public Input Map Results

Introduction

The following information is a summary of the results from the Chelan-Douglas Pathways Survey and Public Input Map. The public feedback period was from July 13 to November 4, 2024. To better understand the public feedback, the project team studied the distribution of answers to each survey question and highlighted responses that came up frequently. The team also analyzed the feedback for each type of map input as it relates spatially to the proposed trail alternatives.

In addition to taking the survey, respondents could comment on the public input map, and like, dislike, or reply to map input from other respondents. Notably, all the most-liked comments of opposition received more dislikes than likes, meaning that overall, the survey found the project to be largely favored but remains controversial in specific areas where there are private property concerns and orchard concerns. Respondents across all corridors requested safe trail alternatives that avoid traffic and minimize proximity to highways.

Survey Results

Q1. Which corridor(s) do you want to provide feedback on?

The Leavenworth to Cashmere to Wenatchee Corridor was selected by 74% of respondents to provide feedback. Each of the three remaining corridors were selected by about ¼ of respondents. Out of 1811 total respondents, only 108 (6%) provided feedback on all four corridors.

Table 1: Responses to "Which corridor(s) do you want to provide feedback on?"

	Total Respondents	Chelan to Manson Corridor	Leavenworth to Cashmere to Wenatchee Corridor	Malaga to Wenatchee Corridor	Rock Island to East Wenatchee Corridor
Responses	1,811 (100%)	445 (25%)	1,333 (74%)	403 (22%)	403 (22%)

Q2. In the Chelan-Douglas Region, I am a…

Key Findings:

- **97% resident (1,748 respondents)**
- Other prominent groups included:

- 13% Trail Advocate (227 respondents)
- 10% Business Owner (184 respondents)
- 5% Tree Fruit Grower/Packer/Shipper (90 respondents)
- 4% Non-Profit or Community-Based Organization Representative (67 respondents)

Table 2: Responses to "In the Chelan-Douglas Region, I am a…"

Response	Total Respondents	Chelan to Manson Corridor	Leavenworth to Cashmere to Wenatchee Corridor	Malaga to Wenatchee Corridor	Rock Island to East Wenatchee Corridor
Resident	1,748 (97%)	428 (96%)	1,290 (97%)	394 (98%)	390 (97%)
Visitor	35 (2%)	17 (4%)	29 (2%)	9 (2%)	10 (2%)
Business Owner	184 (10%)	44 (10%)	151 (11%)	41 (10%)	40 (10%)
Tree fruit grower/ packer/ shipper	90 (5%)	17 (4%)	76 (6%)	12 (3%)	10 (2%)
Trail Advocate	227 (13%)	56 (13%)	194 (15%)	67 (17%)	61 (15%)
Elected Official	22 (1%)	5 (1%)	14 (1%)	4 (1%)	6 (1%)
Land Manager	29 (2%)	12 (3%)	19 (1%)	7 (2%)	6 (1%)
Non-profit or community-based organization representative	67 (4%)	17 (4%)	60 (5%)	19 (5%)	19 (5%)
Other	39 (2%)	9 (2%)	33 (2%)	9 (2%)	11 (3%)
Total	**1,811 (100%)**	**445 (100%)**	**1,333 (100%)**	**403 (100%)**	**403 (100%)**

Q3. What are the main reasons you would use a walking or biking path in the corridor(s) you selected?

Key Findings:

- **87% for pleasure (1,574 respondents)**
- 33% to complete shopping, errands, and visiting trips (594 respondents)
- 21% to go to or from school or work (382 respondents)

Chelan to Manson Corridor Respondents:

- 11% indicated they would not use a path in this corridor, the highest percentage of any corridor. (50 respondents)

Leavenworth to Cashmere to Wenatchee Corridor Respondents:

- 24% said they would use the path to commute to and from work or school. (322 respondents)

Malaga to Wenatchee Corridor Respondents:

- 24% said they would use the path to commute to and from work or school. (98 respondents)

Table 3: Responses to "What are the main reasons you would use a walking or biking path in the corridor(s) you selected?"

Response	All Responses	Chelan to Manson Corridor	Leavenworth to Cashmere to Wenatchee Corridor	Malaga to Wenatchee Corridor	Rock Island to East Wenatchee Corridor
Pleasure, exercising, or recreation	1574 (87%)	374 (84%)	1182 (89%)	370 (92%)	364 (90%)
Going to / from work or school	382 (21%)	72 (16%)	322 (24%)	98 (24%)	87 (22%)
Shopping, running errands, or visiting friends	594 (33%)	129 (29%)	489 (37%)	152 (38%)	142 (35%)
Safety	4 (<1%)	0 (0%)	3 (<1%)	1 (<1%)	1 (<1%)
I would not use a path on the corridor(s) I selected	140 (8%)	50 (11%)	94 (7%)	20 (5%)	20 (5%)
Other	34 (2%)	11 (2%)	24 (2%)	9 (2%)	13 (3%)
Total	**1,811 (100%)**	**445 (100%)**	**1,333 (100%)**	**403 (100%)**	**403 (100%)**

Q4. What mode of transportation would you use on a path in the corridor(s) you selected?

Responses:

- **77% would bike (1,402 respondents)**
- **64% would walk (1,165 respondents)**
- 33% would jog (593 respondents)
- 28% would e-bike (499 respondents)
- 2% would use a wheelchair (36 respondents)
- 28 respondents mentioned rollerblading, cross-country skiing, and horseback riding, even though these modes were not included in the survey options provided.

Table 4: Responses to "What mode of transportation would you use on a path in the corridor(s) you selected?"

Response	All Responses	Chelan to Manson Corridor	Leavenworth to Cashmere to Wenatchee Corridor	Malaga to Wenatchee Corridor	Rock Island to East Wenatchee Corridor
Biking	1,402 (77%)	314 (71%)	1,089 (82%)	341 (85%)	327 (81%)
Walking	1,165 (64%)	295 (66%)	837 (63%)	284 (70%)	290 (72%)
Jogging	593 (33%)	133 (30%)	488 (37%)	140 (35%)	126 (31%)
E-bike/Scooter or similar	499 (28%)	129 (29%)	387 (29%)	116 (29%)	109 (27%)
Wheelchair	36 (2%)	11 (2%)	25 (2%)	9 (2%)	14 (3%)
Rollerblading	11 (1%)	3 (1%)	10 (1%)	5 (1%)	5 (1%)
Skiing	11 (1%)	3 (1%)	10 (1%)	1 (<1%)	1 (<1%)
Horseback	6 (<1%)	2 (<1%)	4 (<1%)	1 (<1%)	2 (<1%)
Other	52 (3%)	15 (3%)	40 (3%)	15 (4%)	16 (4%)
None	129 (7%)	44 (10%)	90 (7%)	21 (5%)	19 (5%)

Total	**1,811 (100%)**	**445 (100%)**	**1,333 (100%)**	**403 (100%)**	**403 (100%)**

Q5. How often do you anticipate you would use a path in the corridor(s) you selected?

Key Findings:

- **51% would use the path weekly. (927 of respondents)**
- 24% would use the path monthly. (441 respondents)
- 19% would use the path daily. (336 of respondents)
- 8% would never use the path. (142 of respondents)

Response	All Responses	Chelan to Manson Corridor	Leavenworth to Cashmere to Wenatchee Corridor	Malaga to Wenatchee Corridor	Rock Island to East Wenatchee Corridor
Daily	336 (19%)	89 (20%)	242 (18%)	89 (22%)	82 (20%)
Weekly	927 (51%)	220 (49%)	688 (52%)	227 (56%)	230 (57%)
Monthly	441 (24%)	102 (23%)	350 (26%)	91 (23%)	91 (23%)
Never	142 (8%)	50 (11%)	100 (8%)	25 (6%)	23 (6%)
Other	80 (4%)	15 (3%)	60 (5%)	22 (5%)	26 (6%)
Total	**1811 (100%)**	**445 (100%)**	**1333 (100%)**	**403 (100%)**	**403 (100%)**

Q6. What is your zip code?

Most respondents (97%) live within the Chelan-Douglas Transportation Council Regional Transportation Planning Organization area. However, a small percentage (3%) of responses came from other counties in Washington, including King, Snohomish, Whatcom, Cowlitz, Okanogan, and Ferry counties. Additionally, one respondent was from California, and another was from Alaska. These responses were compared to the populations of nearby cities and towns to calculate the percentage of residents who participated in the survey or viewed the project website by City.

Key Findings:

- Around two-thirds of all respondents (65%) were from 98801 (Wenatchee), 98826 (Leavenworth), 98815 (Cashmere), or 98802 (East Wenatchee and Unincorporated).
- Around 3% of responses were from outside of the MPO.
- While the highest number of website views came from Wenatchee/98801 with 2,919 views, the city with the highest rate of citizens who viewed the website was Leavenworth (38%).
- Around 8% of residents from all nearby cities and towns viewed the project website.

Table 5: Responses to "What is your zip code?"

Response	All Responses	Chelan to Manson Corridor	Leavenworth to Cashmere	Malaga to Wenatchee Corridor	Rock Island to East

			to Wenatchee Corridor		Wenatchee Corridor
98801 (Wenatchee)	445 (25%)	78 (18%)	412 (31%)	179 (44%)	135 (33%)
98826 (Leavenworth)	338 (19%)	18 (4%)	337 (25%)	21 (5%)	21 (5%)
98802 (East Wenatchee)	193 (11%)	28 (6%)	127 (10%)	64 (16%)	139 (34%)
98815 (Cashmere)	175 (10%)	7 (2%)	175 (13%)	9 (2%)	9 (2%)
98816 (Chelan)	156 (9%)	156 (35%)	24 (2%)	9 (2%)	11 (3%)
98831 (Manson)	106 (6%)	106 (24%)	10 (1%)	2 (<1%)	5 (1%)
98847 (Peshastin)	88 (5%)	3 (1%)	88 (7%)	3 (1%)	3 (1%)
98828 (Malaga)	82 (5%)	3 (1%)	20 (2%)	80 (20%)	10 (2%)
98850 (Rock Island)	25 (1%)	0 (0%)	1 (<1%)	1 (<1%)	25 (6%)
98821 (Dryden)	13 (1%)	0 (0%)	12 (1%)	0 (0%)	1 (<1%)
98836 (Monitor)	3 (<1%)	0 (0%)	3 (<1%)	0 (0%)	1 (<1%)
Other	187 (10%)	46 (10%)	124 (10%)	34 (9%)	43 (11%)
Total	**1,811 (100%)**	**445 (100%)**	**1333 (100%)**	**403 (100%)**	**403 (100%)**

Table 6: Survey/Website Engagement by City or town

Zip code (City)	City population	# Surveys	Survey Rate	Estimated Website views	Estimated Website Rate
98801 (Wenatchee)	44,801	445	1%	2,919	9%
98802 (East Wenatchee)	14,158	193	1%	1,667	12%
98826 (Leavenworth)	7,689	338	4%	2,919	38%
98815 (Cashmere)	7,562	175	2%	1,512	20%
98816 (Chelan)	6,901	156	2%	1,347	20%
98831 (Manson)	3,814	106	3%	916	24%
98847 (Peshastin)	2,481	88	4%	760	31%
98828 (Malaga)	2,075	82	4%	708	34%
98850 (Rock Island)	1,514	25	2%	216	14%
98821 (Dryden)	646	13	2%	112	17%
98836 (Monitor)	1,749	3	0%	26	1%
Other	--	187	--	1,615	--
Total	**93,390**	**1,811**	**2%**	**15,642**	**8%**

Key themes from comments:

The project team read through user-submitted comments and identified the following key themes:

- Many respondents conveyed a strong desire for trail infrastructure within each corridor.
- Local traffic creates discomfort or a sense of insecurity for bicyclists and pedestrians on the street network.

- Some respondents advocated for trail infrastructure that accommodates a range of transportation modes they use, such as cross-country skiing, horseback riding, and e-bikes.
- There was enthusiasm among several respondents regarding the potential for increased tourism and economic opportunities.
- Concerns were raised about potential costs and impacts on adjacent property owners, including orchard operators in the Wenatchee Valley.

Public Input Map Summary

The following reflects the results of the public input map. The public input map was open from July 2024 to November 2024. Respondents could choose to take the online survey, provide feedback on the input map, or both. 893 people drew points and lines or voted on other people's input. In total, 2,167 points and lines were added to the input map. Only one respondent accessed the input map via Spanish. All input map responses are summarized by zip code in the table below.

Table 7. Locations of points placed on the public input map by category. Note: 21 points were placed outside these zip codes and are not included in the table.

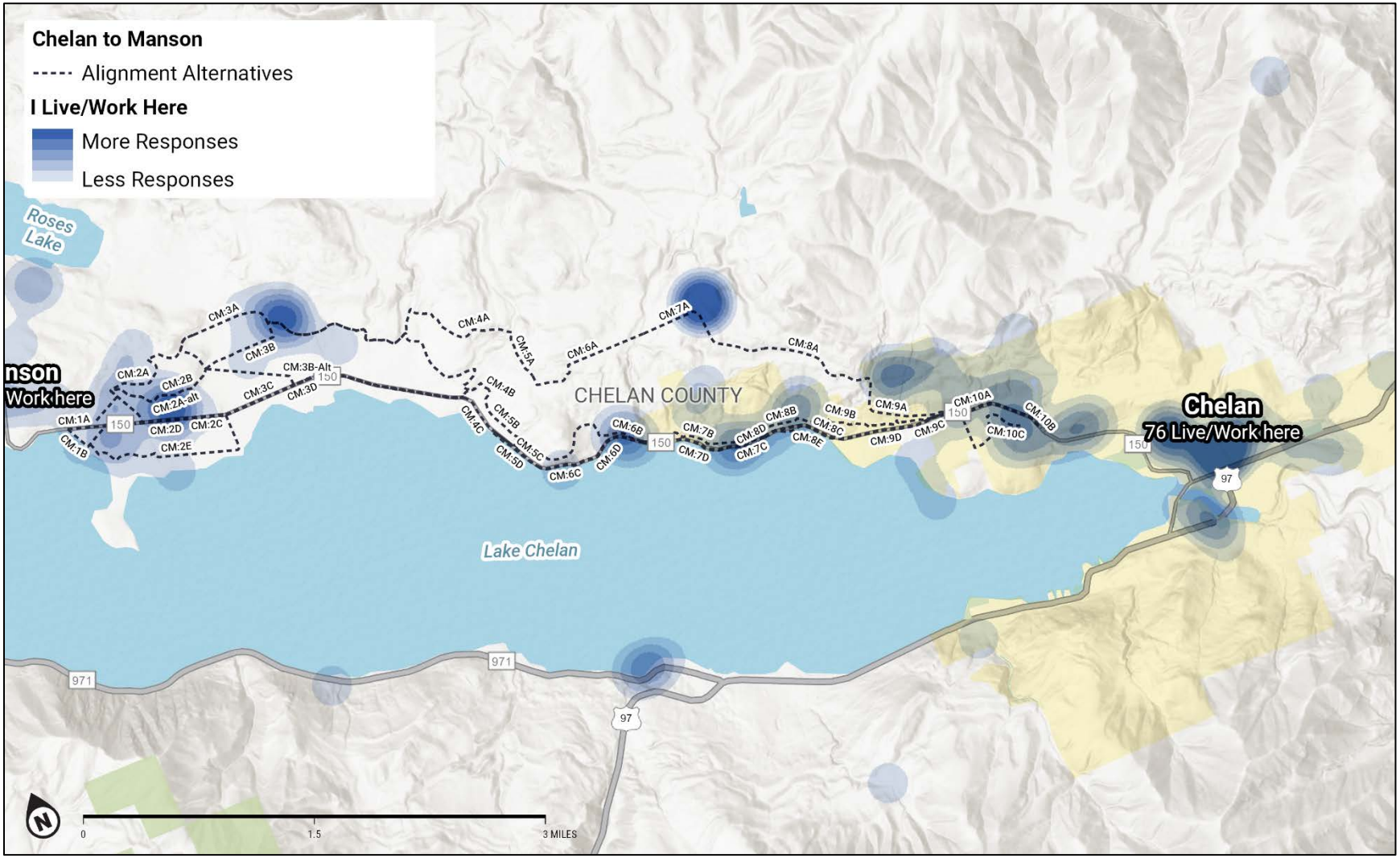
Zip Code	Community	I Live / Work Here	Destinations	Areas to Avoid	Other Ideas
98801	Wenatchee	224 (51%)	171 (39%)	33 (8%)	12 (3%)
98826	Leavenworth	172 (39%)	229 (52%)	12 (3%)	23 (5%)
98815	Cashmere	111 (38%)	132 (45%)	49 (17%)	3 (1%)
98802	East Wenatchee	103 (55%)	57 (31%)	11 (6%)	15 (8%)
98816	Chelan	76 (44%)	77 (45%)	8 (5%)	10 (6%)
98847	Peshastin	54 (32%)	66 (39%)	45 (27%)	4 (2%)
98831	Manson	44 (42%)	60 (57%)	(0%)	2 (2%)
98828	Malaga	35 (49%)	20 (28%)	15 (21%)	1 (1%)
98850	Rock Island	11 (22%)	39 (76%)	1 (2%)	(0%)
98821	Dryden	10 (45%)	7 (32%)	3 (14%)	2 (9%)
98836	Monitor	7 (26%)	11 (41%)	8 (30%)	1 (4%)
Total		**847 (43%)**	**869 (44%)**	**185 (9%)**	**73 (4%)**

Public Input Map - Step 1. Live and Work

Respondents were asked to place a pin near where they live and/or work. In total, 853 points were placed as locations where people live and/or work (6 of these were outside the zip codes listed in Table 7). 851 respondents (>99%) indicated they live and/or work in Chelan or Douglas County (4 of these were outside the zip codes in Table 7). For the purposes of this summary, the locations of these pins were generalized.

Chelan to Manson Corridor

Figure 1: Respondents who indicated they live/work in the Chelan to Manson Corridor



Leavenworth to Cashmere to Wenatchee Corridor

Figure 2: Respondents who indicated they live/work in the Leavenworth to Cashmere to Wenatchee Corridor (West)

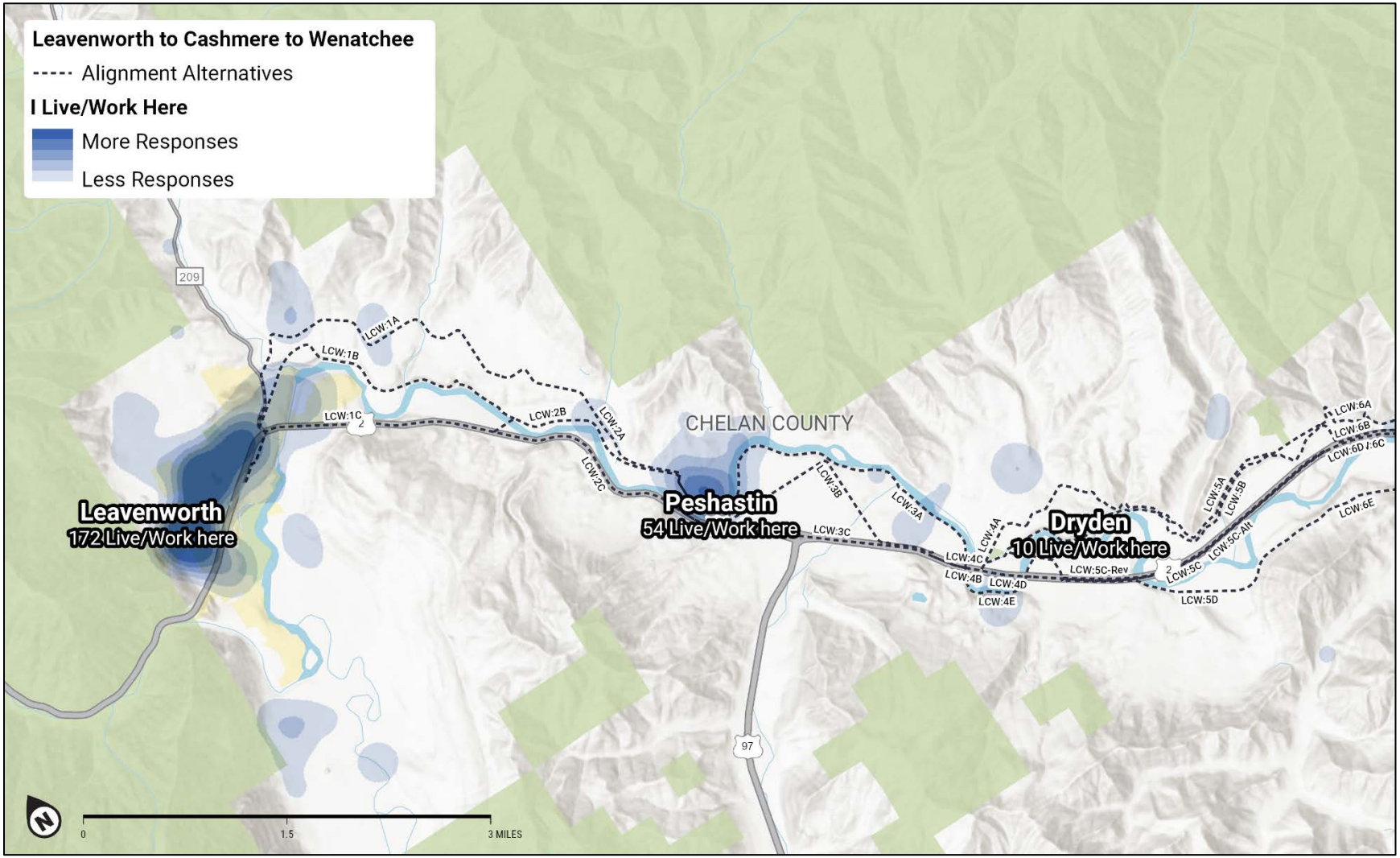
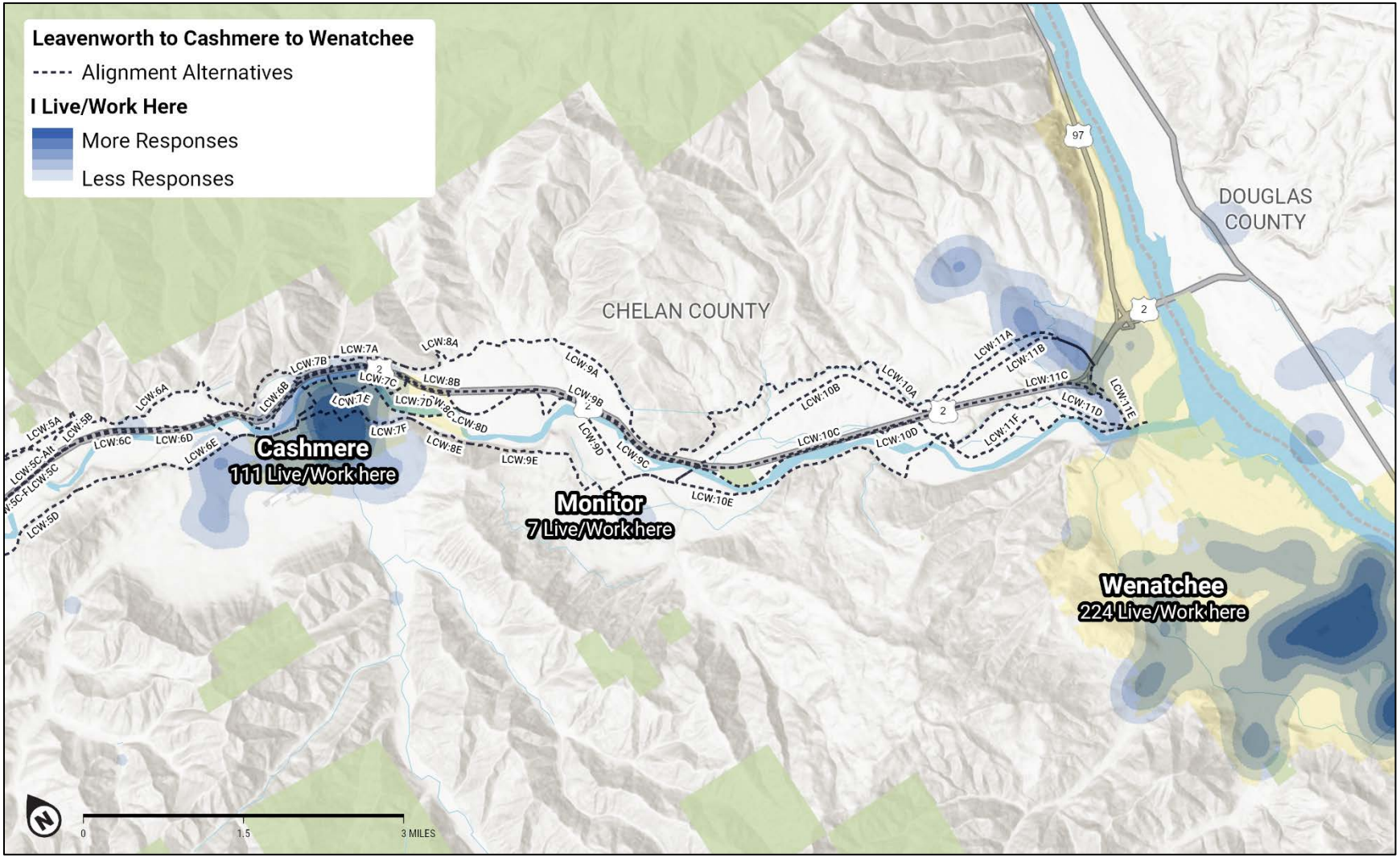
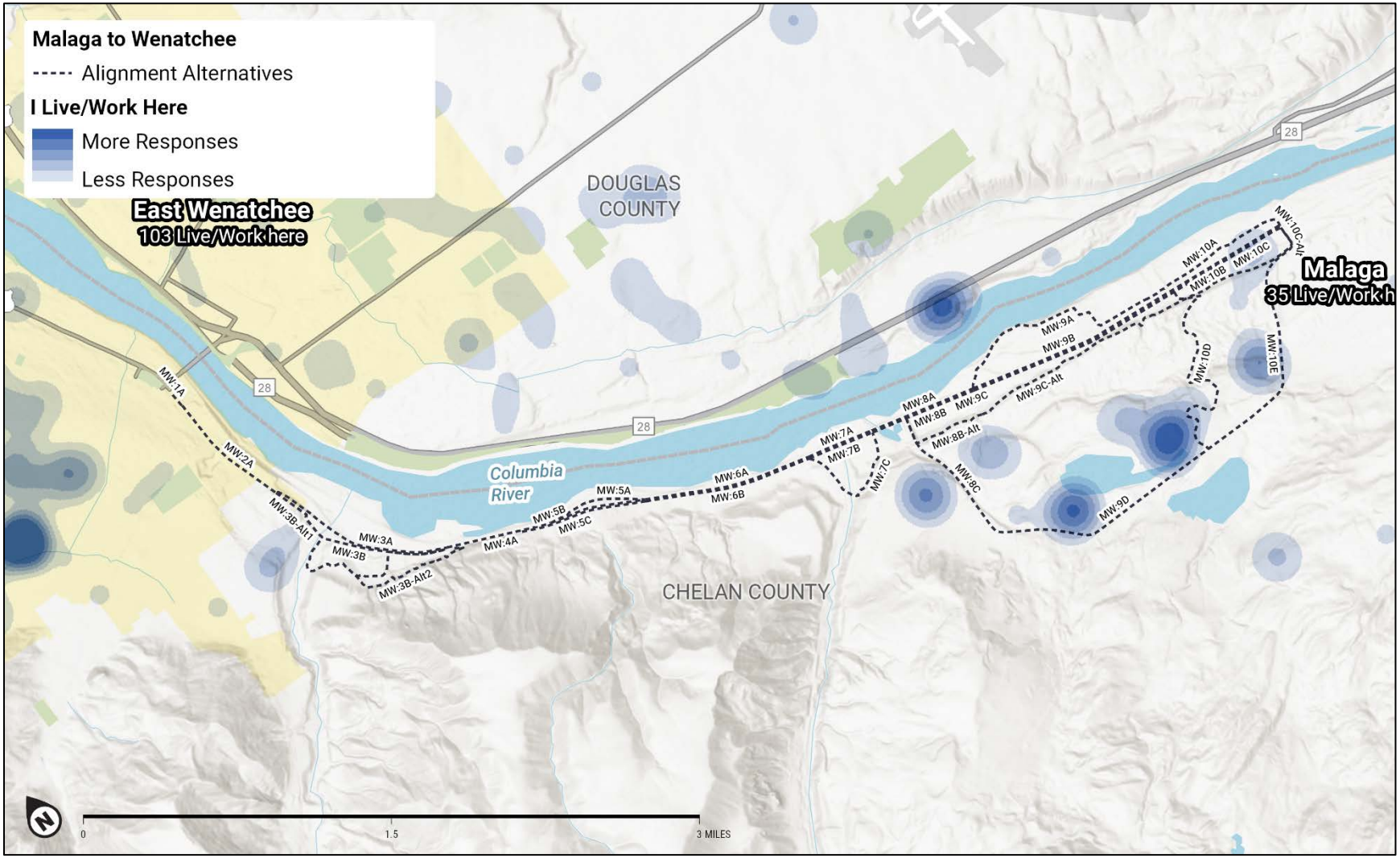


Figure 3: Respondents who indicated they live/work in the Leavenworth to Cashmere to Wenatchee Corridor (East)



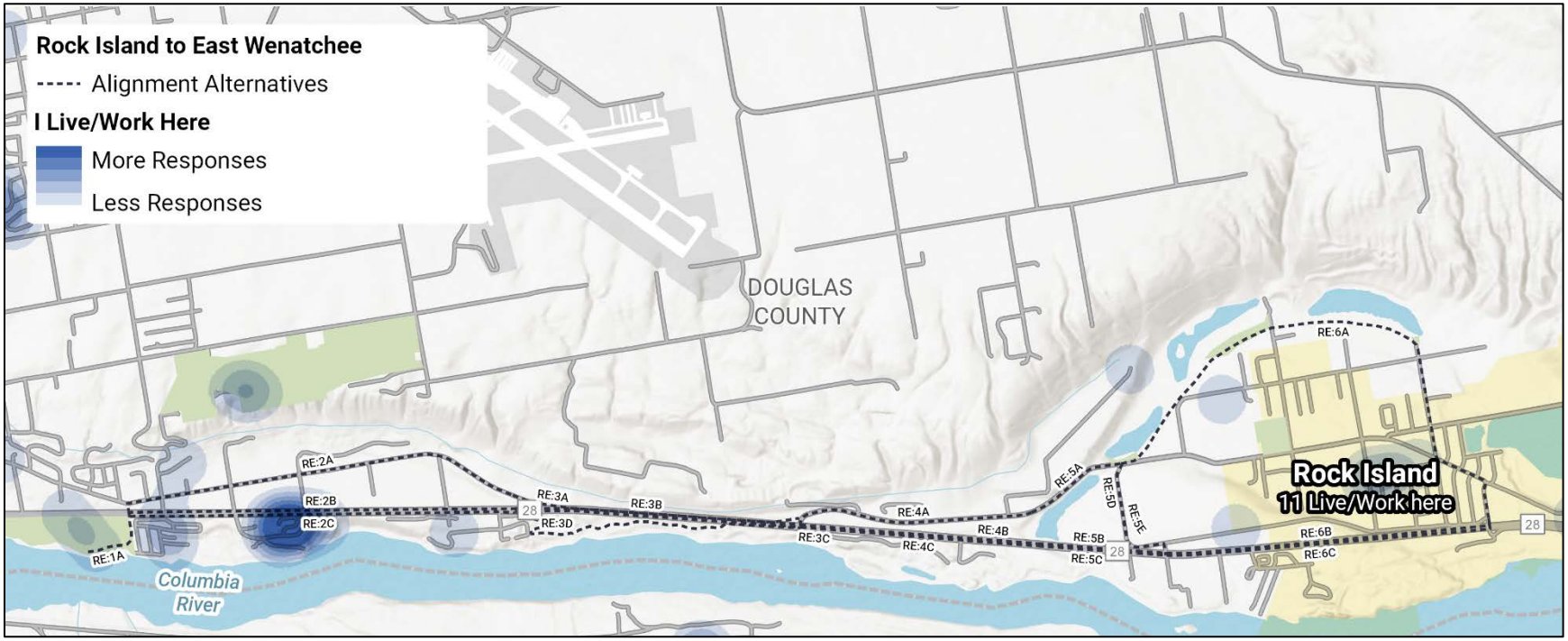
Malaga to Wenatchee Corridor

Figure 4: Respondents who indicated they live/work in the Malaga to Wenatchee Corridor



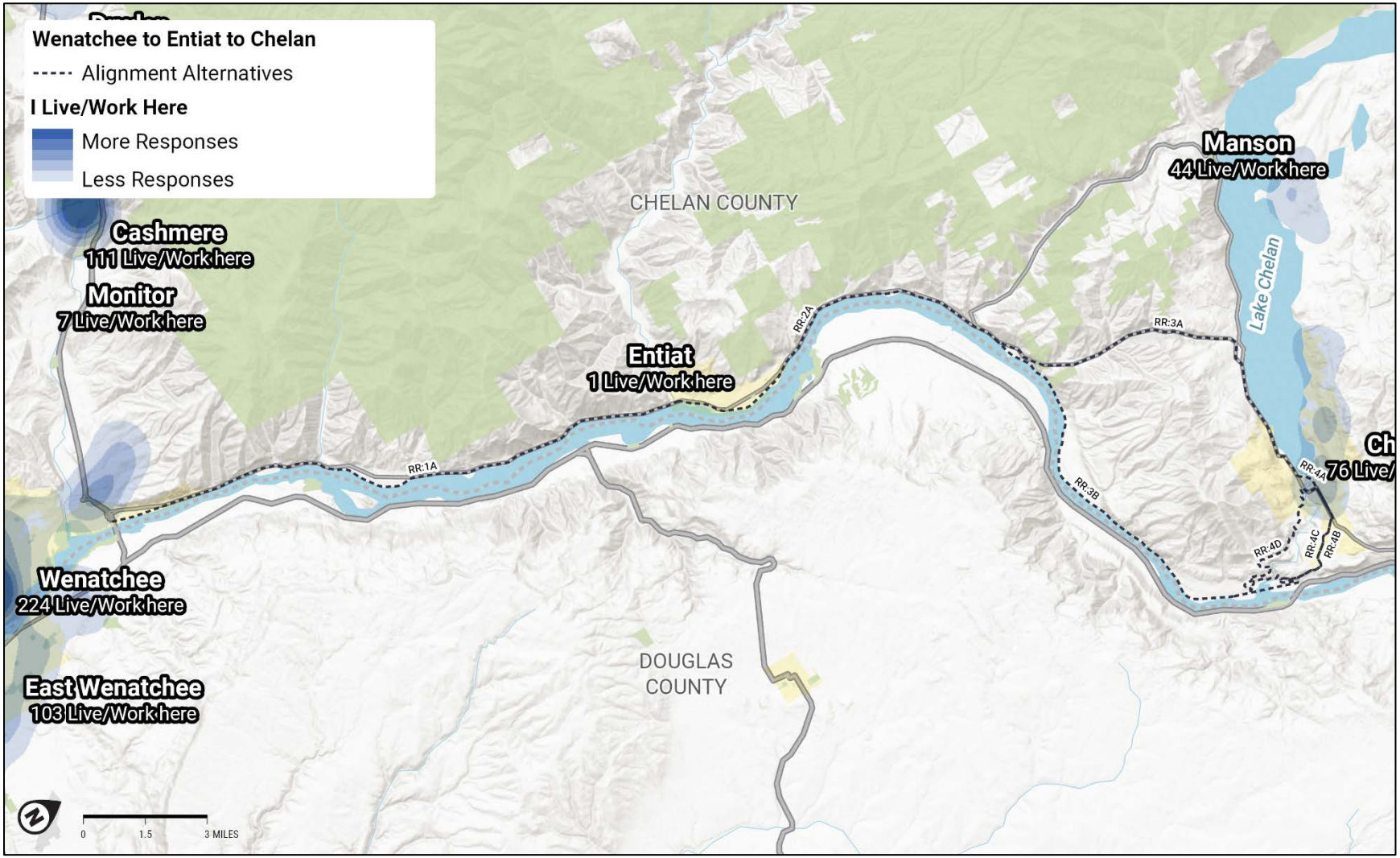
Rock Island to East Wenatchee Corridor

Figure 5: Respondents who indicated they live/work in the Rock Island to East Wenatchee Corridor



Wenatchee to Entiat to Chelan Corridor

Figure 6: Respondents who indicated they live/work in the Wenatchee to Entiat to Chelan Corridor



Public Input Map - Step 2. Destinations

Respondents were asked to identify any places or destinations that they would like to access near the corridor, including businesses, parks, schools, natural areas, or viewpoints. The project team removed destinations that were not relevant to the project (i.e. my friend's house) and consolidated duplicative destinations on the following maps.

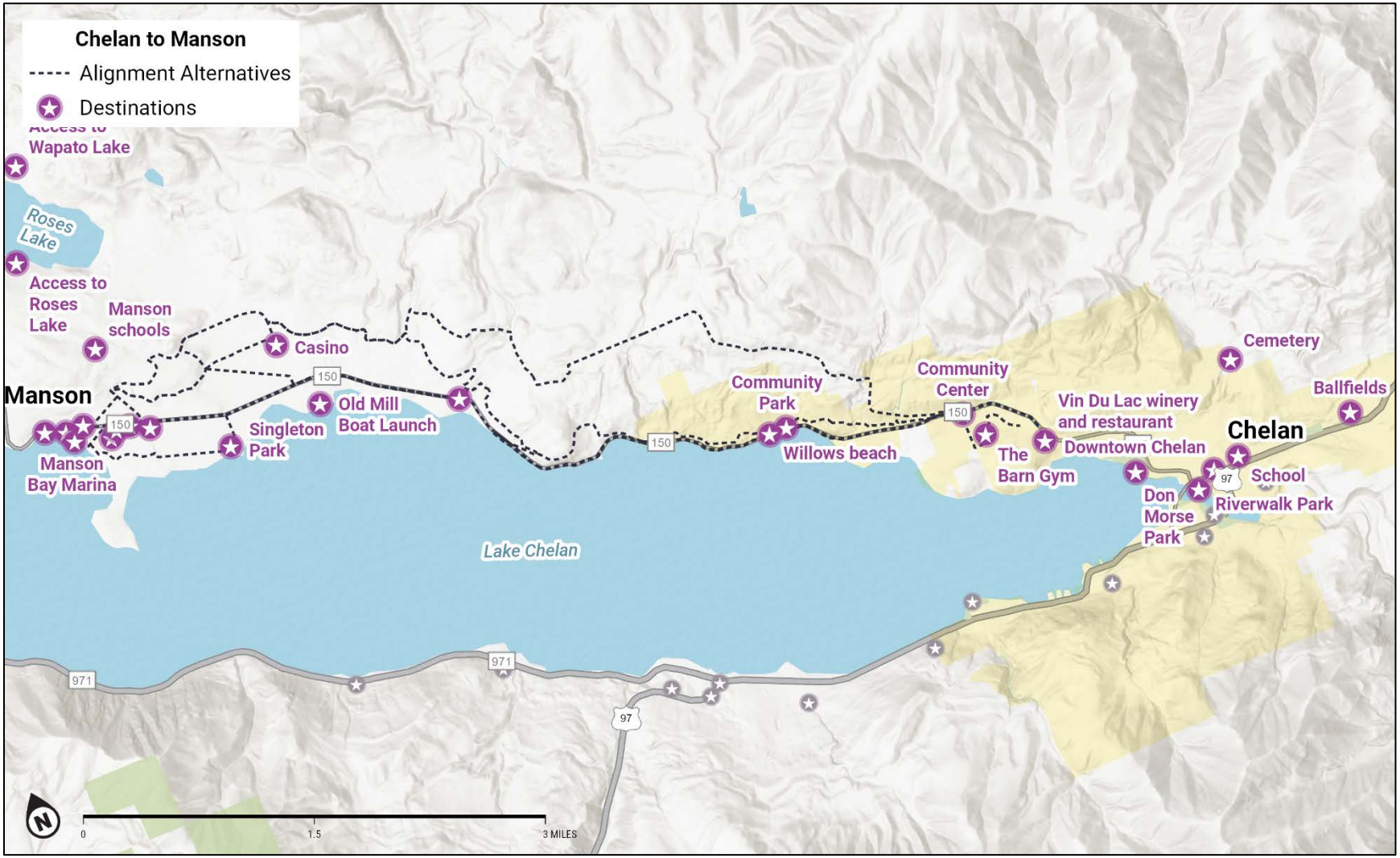
Key Findings:

- In total, 883 points were identified as destinations.
- 156 destinations were not labeled by respondents. The project team labeled the obvious intended destinations wherever possible.
- The highest density of user-submitted destinations are located in Leavenworth and Cashmere.
- Most destinations in Wenatchee are clustered in Downtown near the riverwalk crossing.

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Chelan to Manson Corridor

Figure 7: Community-identified destinations in the Chelan to Manson Corridor



***Key Findings**:*

- Several destinations were identified in Manson and Chelan, many of them are located along the highway.
- Many respondents identified opportunities for recreational lake access.

Leavenworth to Cashmere to Wenatchee Corridor

Figure 8: Community-identified destinations in the Leavenworth to Cashmere to Wenatchee Corridor (West)

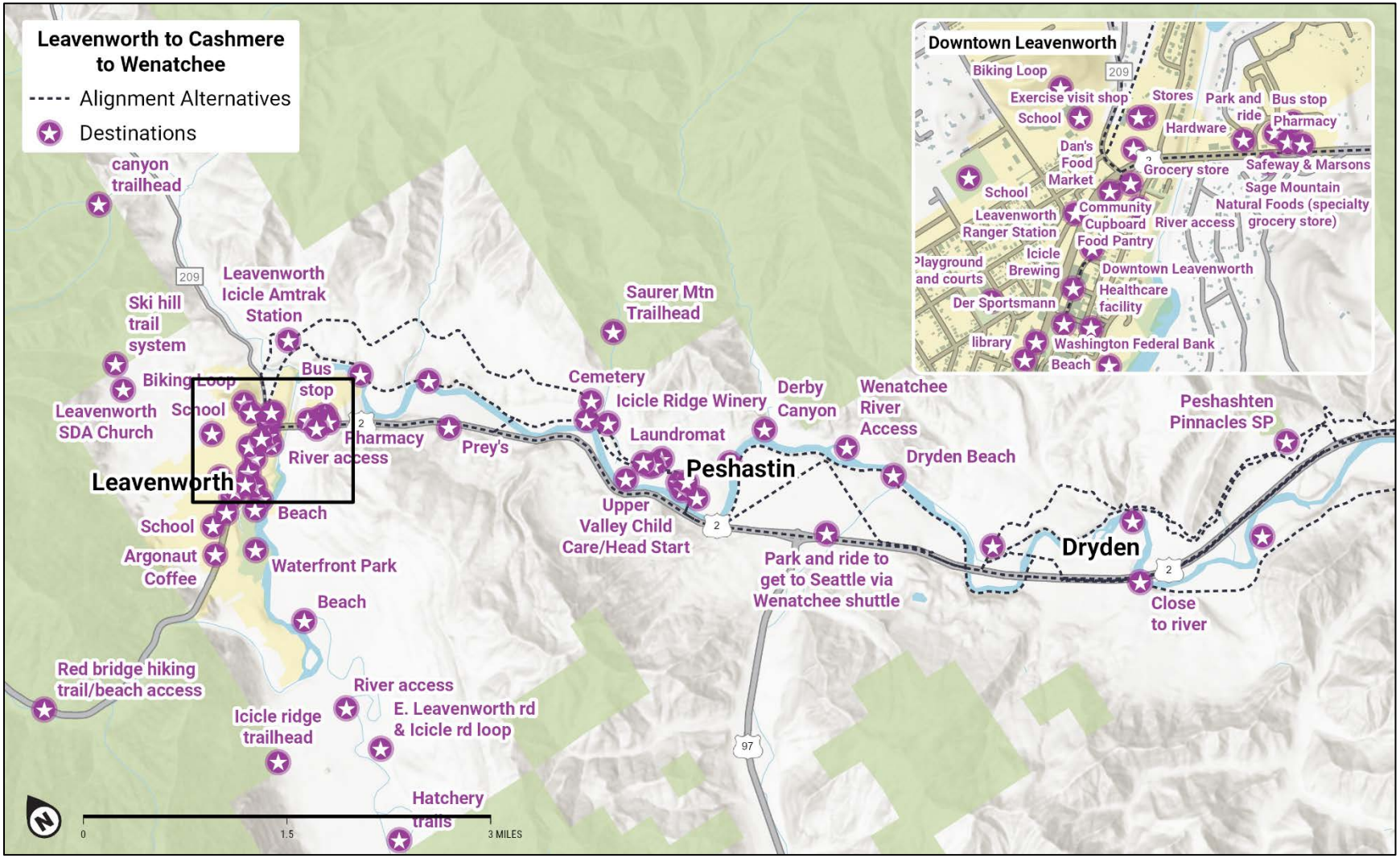
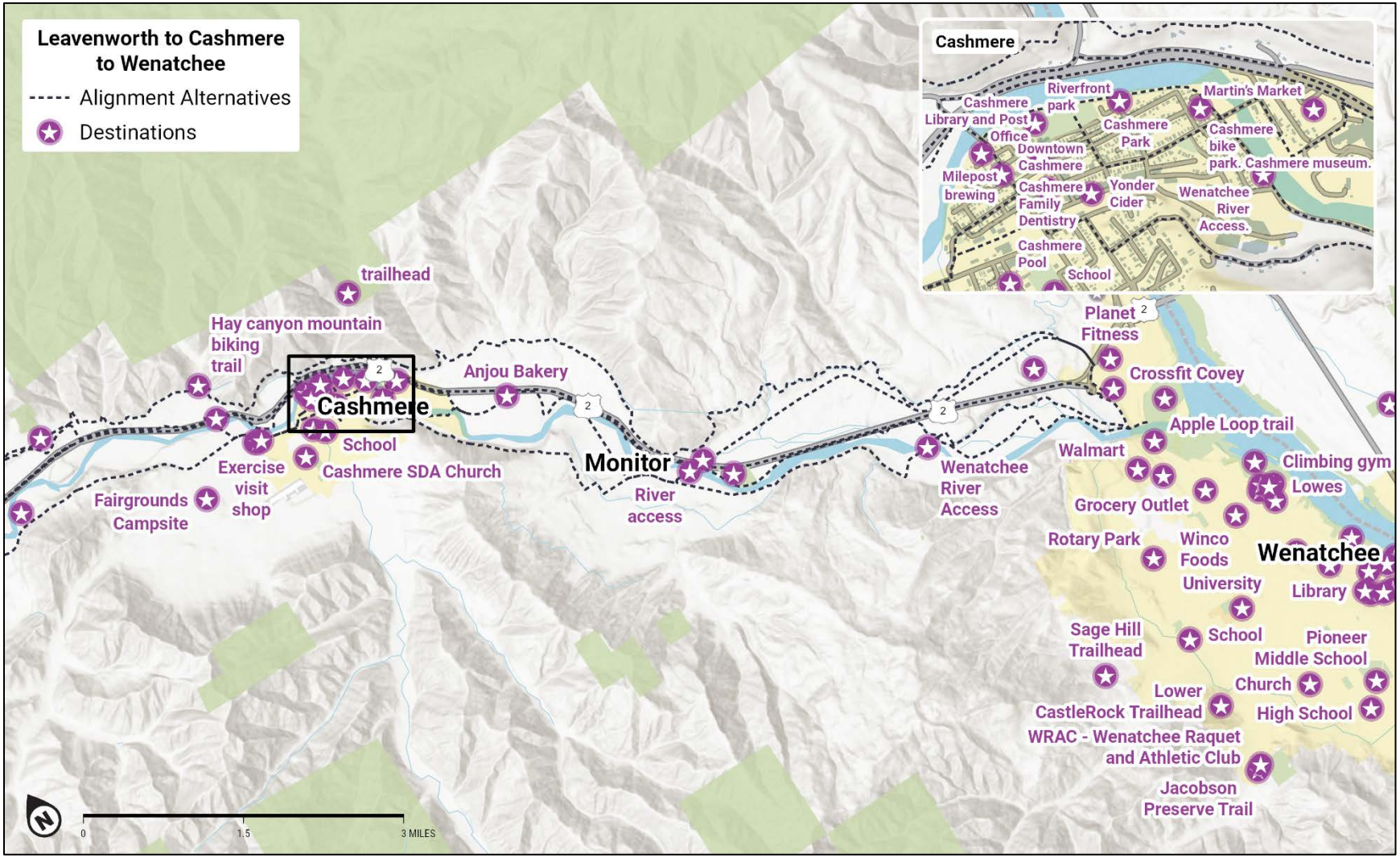


Figure 9: Community-identified destinations in the Leavenworth to Cashmere to Wenatchee Corridor (East)

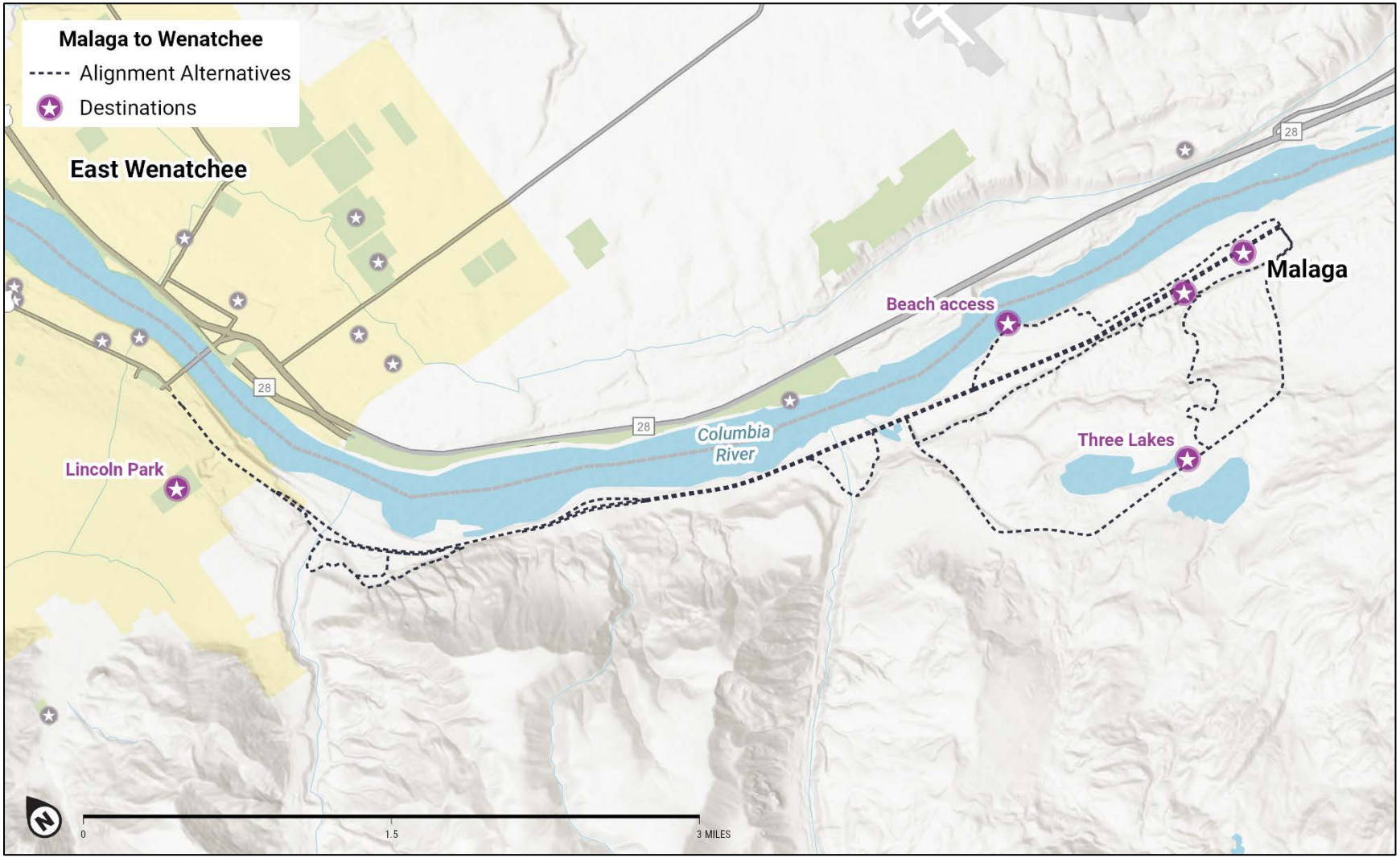


Key Findings

- In Leavenworth, most destinations are located on Front Street. Wayfinding between the pathway corridor and Front Street will be an important factor in connecting a future trail to Leavenworth destinations.
- Two other dense areas of destinations in the corridor are in Downtown Leavenworth and in Cashmere at the intersection of Mill Road and Sunset Highway.
- Downtown Cashmere and Cashmere Waterfront Park were frequently submitted as destinations.
- Several respondents included Anjou Bakery as a destination.
- Some notable destinations near, but not within the corridor, include Ski Hill in Leavenworth and Lincoln Rock State Park.

Malaga to Wenatchee Corridor

Figure 10: Community-identified destinations in the Malaga to Wenatchee Corridor

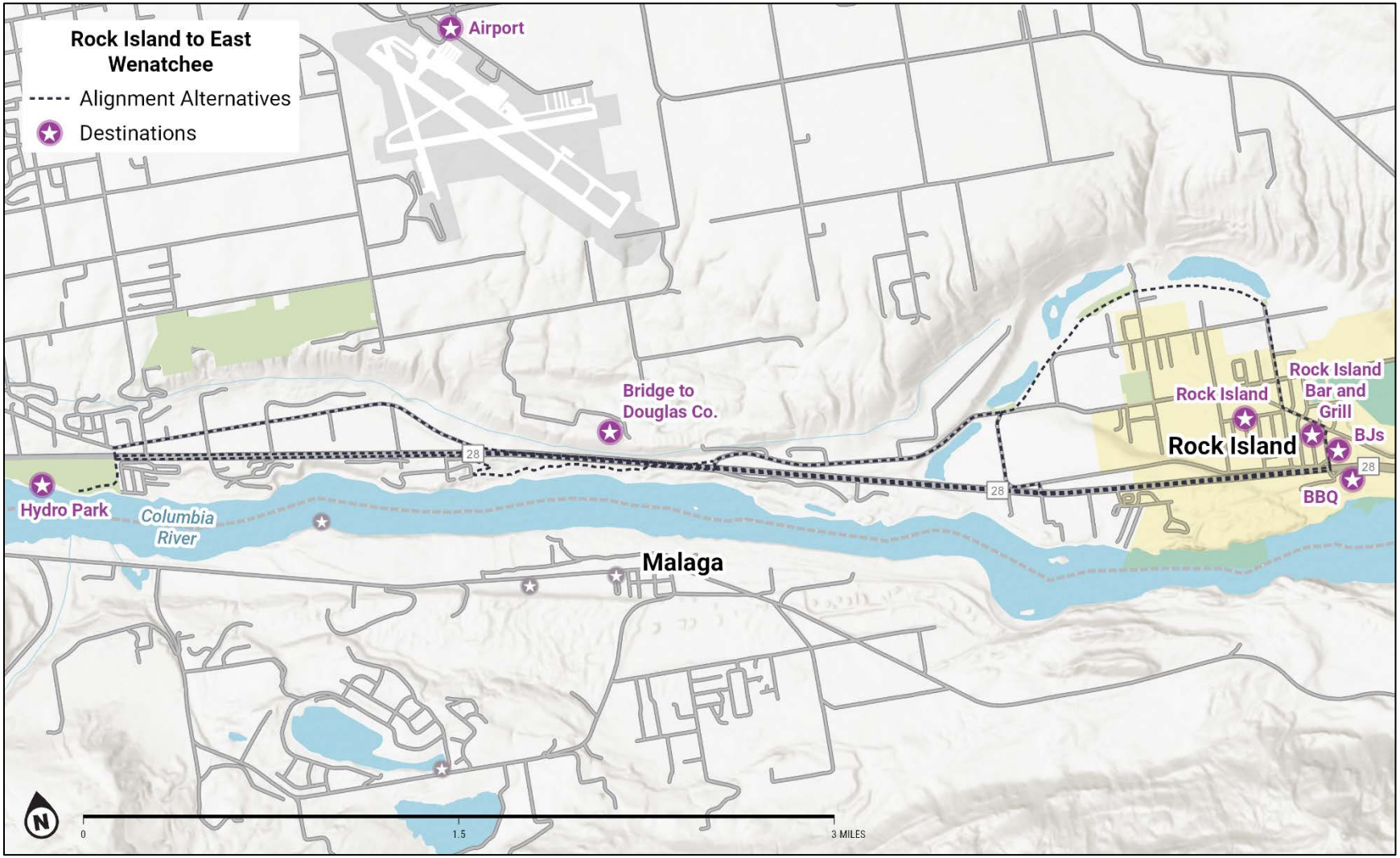


Key Findings

- Five destinations were identified near this corridor including the Malaga Market and the Future Waterfront Park.

Rock Island to East Wenatchee Corridor

Figure 11: Community-identified destinations in the Rock Island to East Wenatchee Corridor



***Key Findings*:**

- Six destinations were identified within this corridor, four of them in Rock Island.

Wenatchee to Entiat to Chelan Corridor

Figure 12: Community-identified destinations in the Wenatchee to Entiat to Chelan Corridor



Key Findings:

- This corridor was not included as a potential pathway in the public input map, but several respondents identified it as having destinations.
- Several destinations were identified on the south shore of Lake Chelan.
- Three destinations were identified west of the Columbia River: Ohme Garden, Swakane Canyon, and Entiat Campground.

Public Input Map - Step 3. Potential Pathways Opportunity

Respondents were asked to identify potential pathway connections that would best improve access to natural areas, views, businesses, parks, etc. along the corridor.

In total, 171 potential pathway connections (lines) were drawn on the map, 156 of which were labeled with a description.

Key Findings:

- Respondents emphasized the need for safer pedestrian pathways, particularly around high-traffic areas like bridges, schools, and busy intersections.
- There were numerous requests for protected bike lanes, bike paths parallel to major highways, and safe routes that avoid high-traffic areas. A recurring theme is the desire for off-highway alternatives to reduce cyclist and pedestrian exposure to dangerous roadways, with alternative routes through back roads or underutilized corridors.
- Many people noted the potential for the Apple Capitol Loop Trail to connect from Stevens Street Bridge north to the 9th Street Bridge on the *west side* of the river.

Chelan to Manson Corridor

Figure 13: Community-identified pathway opportunities in the Chelan to Manson Corridor (1)

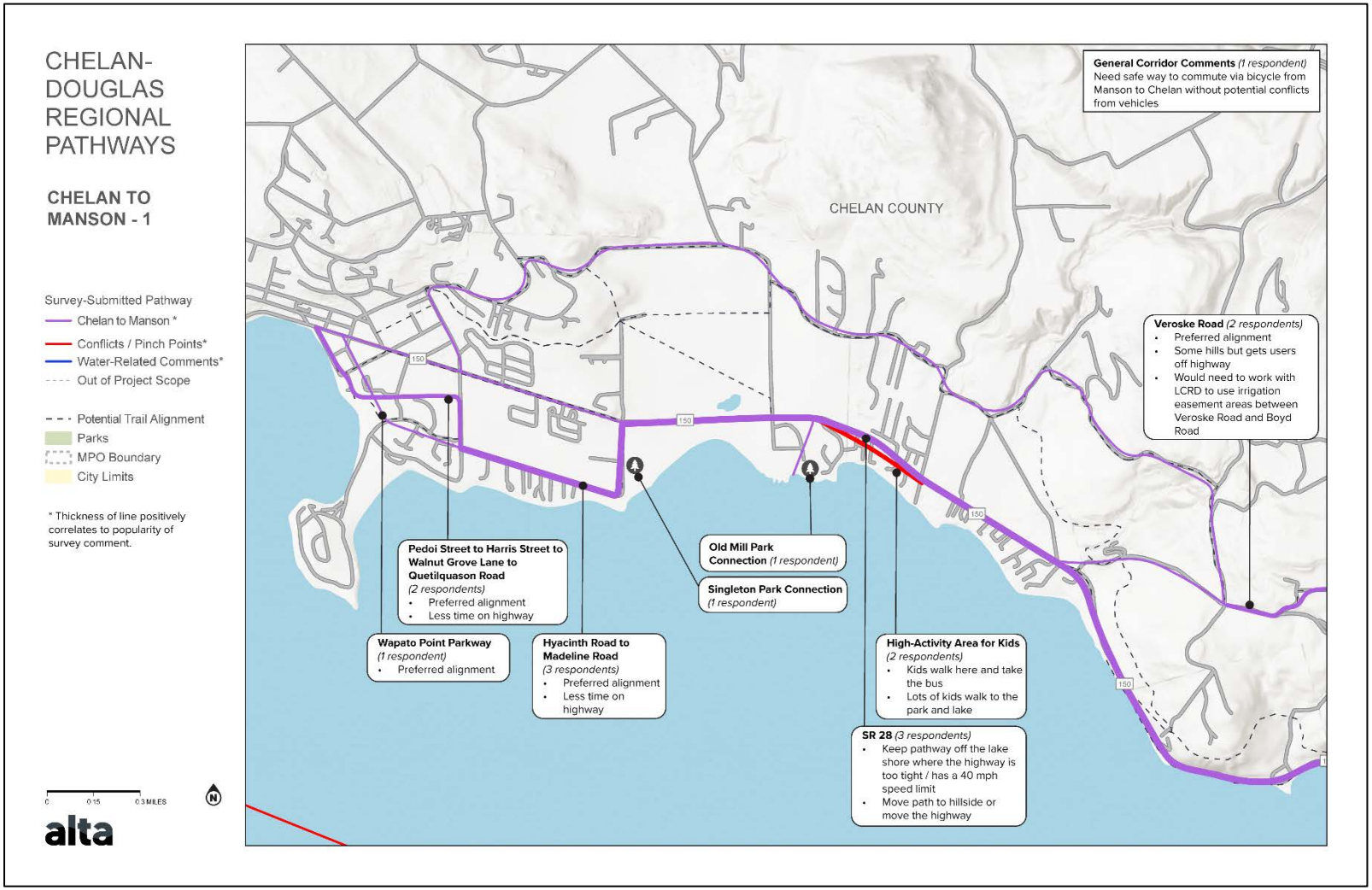
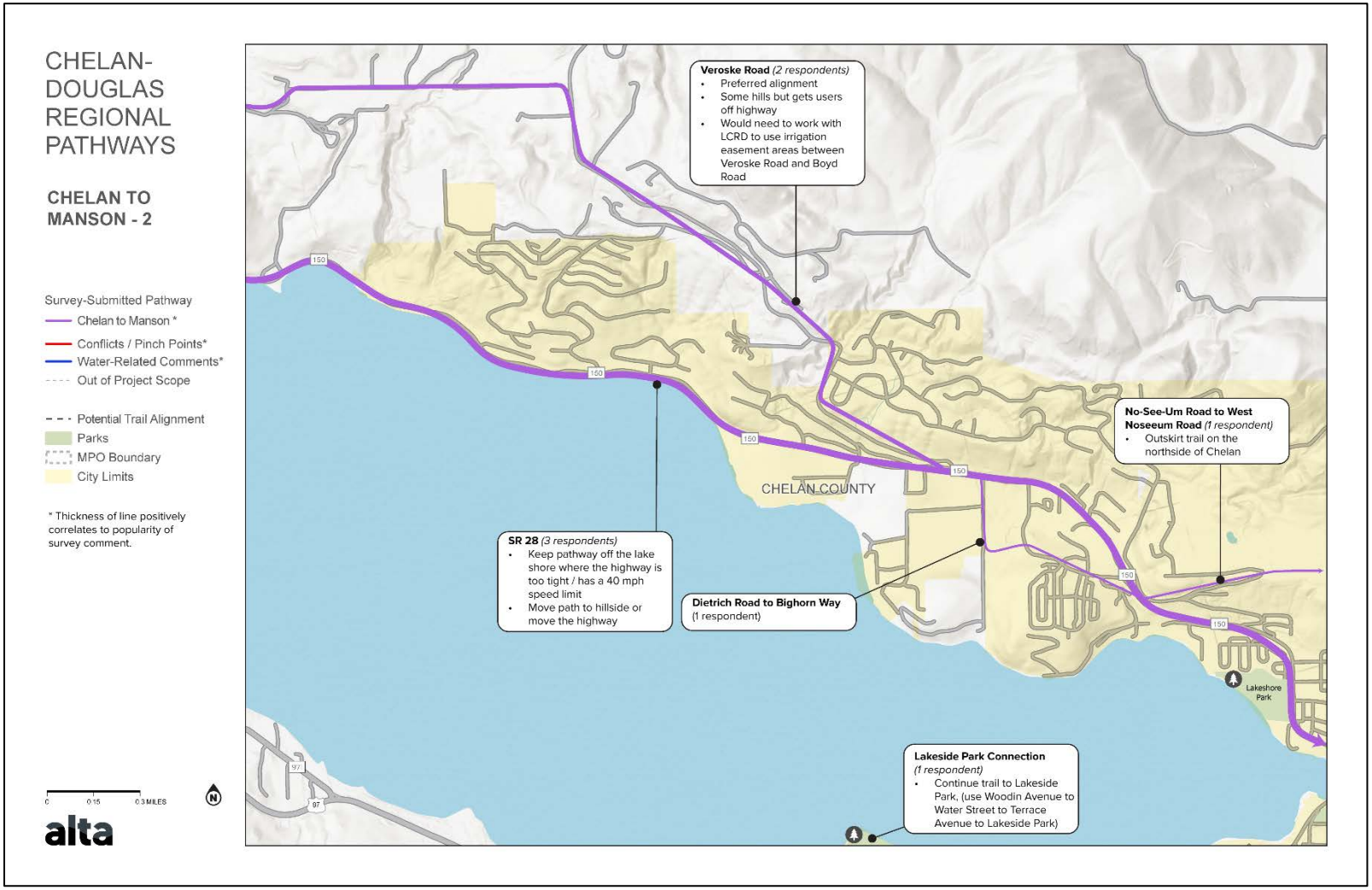


Figure 14: Community-identified pathway opportunities in the Chelan to Manson Corridor (2)



Key Findings

- On the north side of Lake Chelan, users identified either path close to the lake parallel to the highway or along smaller roads further from the lake.
- While there were a few ideas for paths on the south side of Lake Chelan, most users agree that the north side has the most opportunity.

Leavenworth to Cashmere to Wenatchee Corridor

Figure 15: Community-identified pathway opportunities in the Leavenworth to Cashmere to Wenatchee Corridor (1)

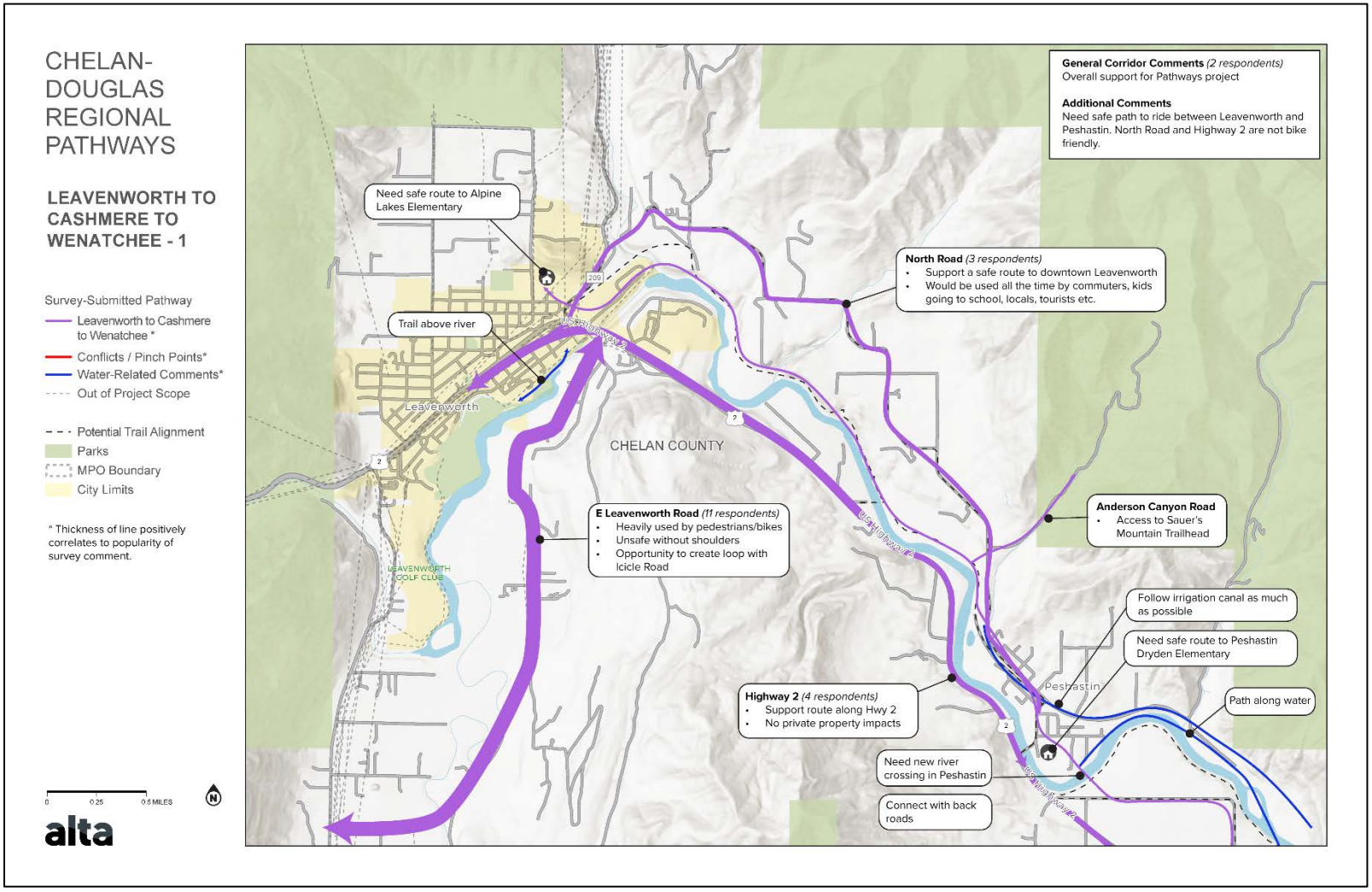


Figure 16: Community-identified pathway opportunities in the Leavenworth to Cashmere to Wenatchee Corridor (2)

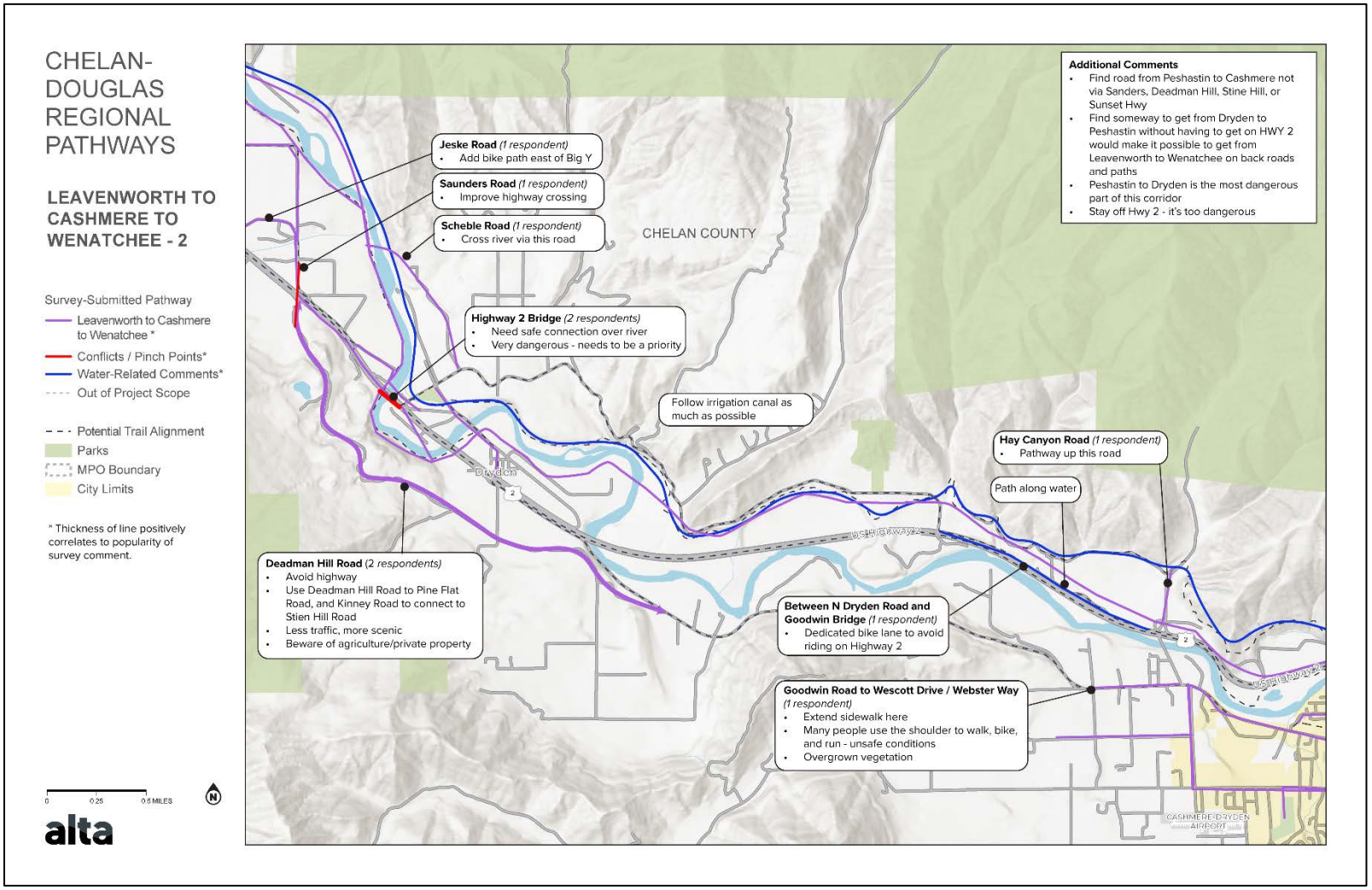


Figure 17: Community-identified pathway opportunities in the Leavenworth to Cashmere to Wenatchee Corridor (3)

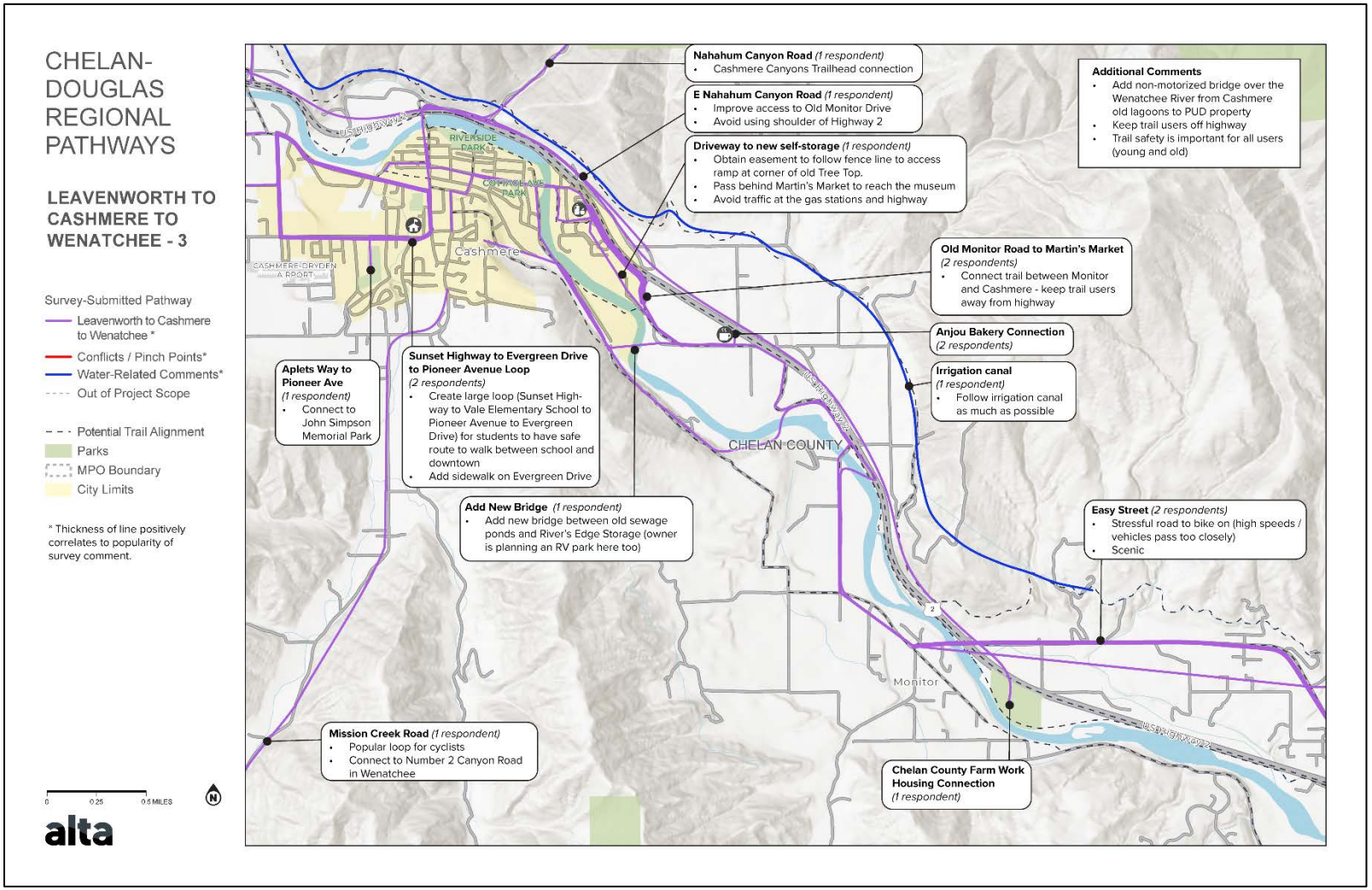
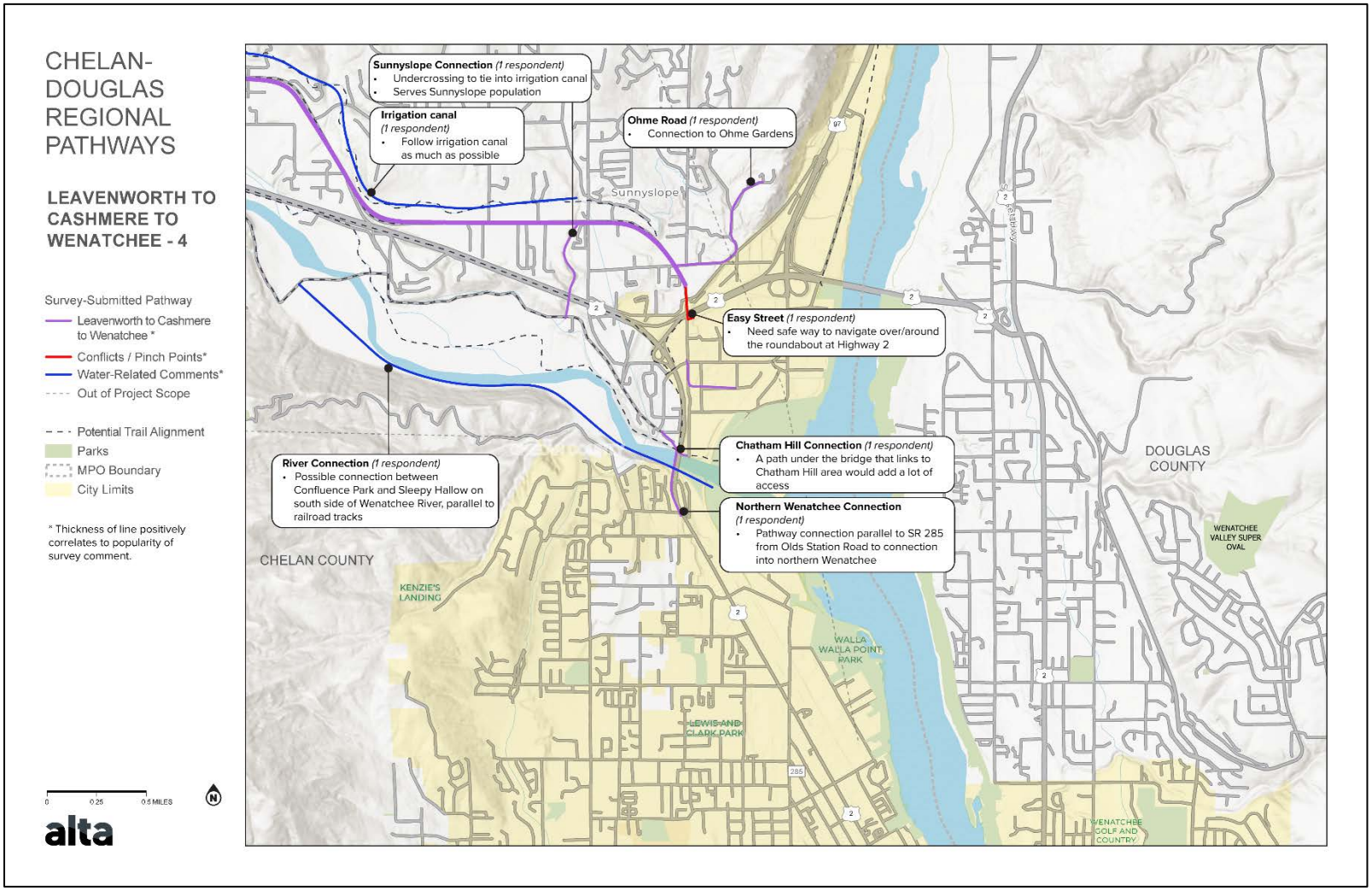


Figure 18: Community-identified pathway opportunities in the Leavenworth to Cashmere to Wenatchee Corridor (4)



Malaga to Wenatchee Corridor

Figure 19: Community-identified pathway opportunities in the Malaga to Wenatchee Corridor (1)

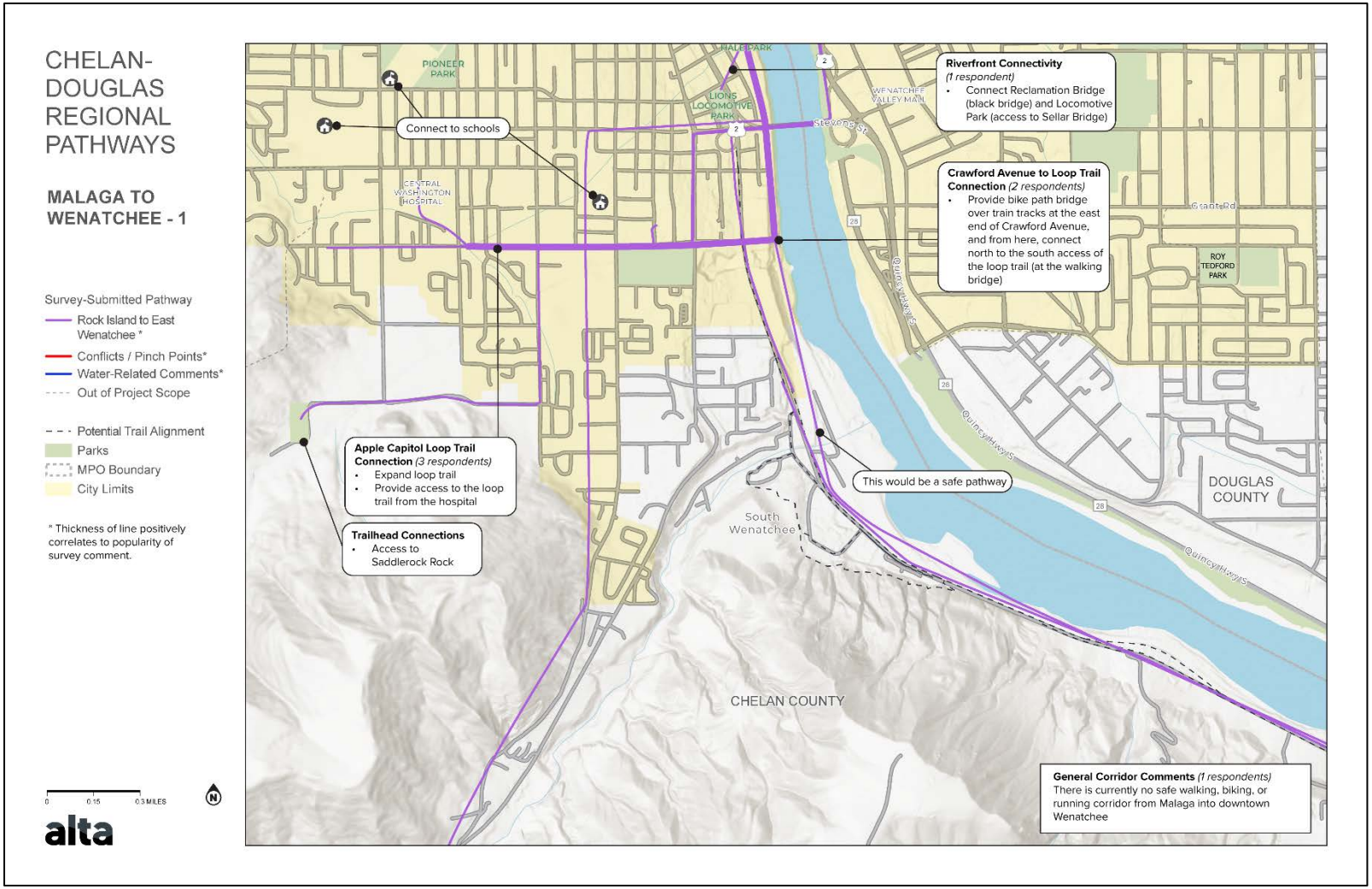
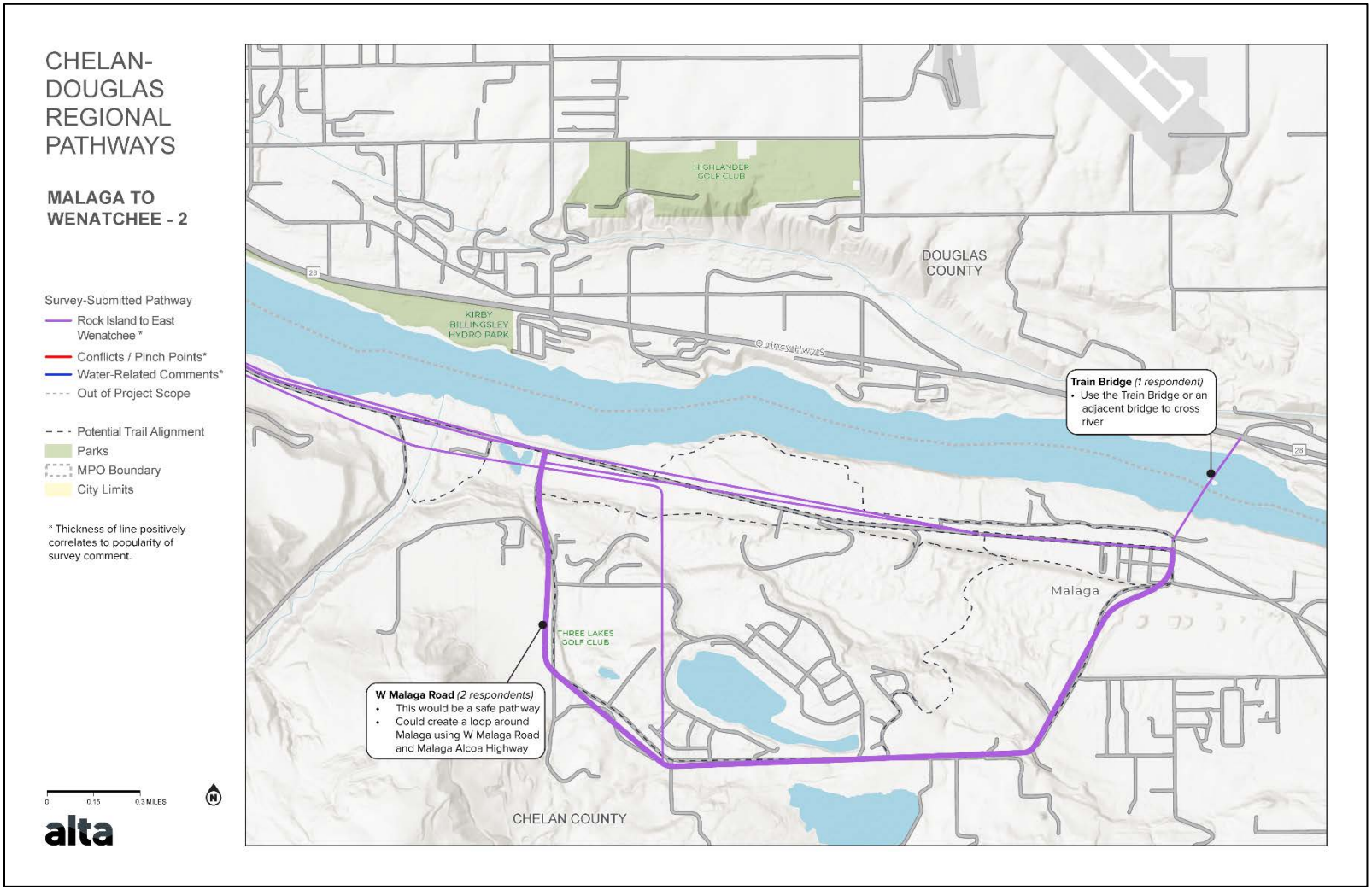


Figure 20: Community-identified pathway opportunities in the Malaga to Wenatchee Corridor (2)



Rock Island to East Wenatchee Corridor

Figure 21: Community-identified pathway opportunities in the Rock Island to East Wenatchee Corridor (1)

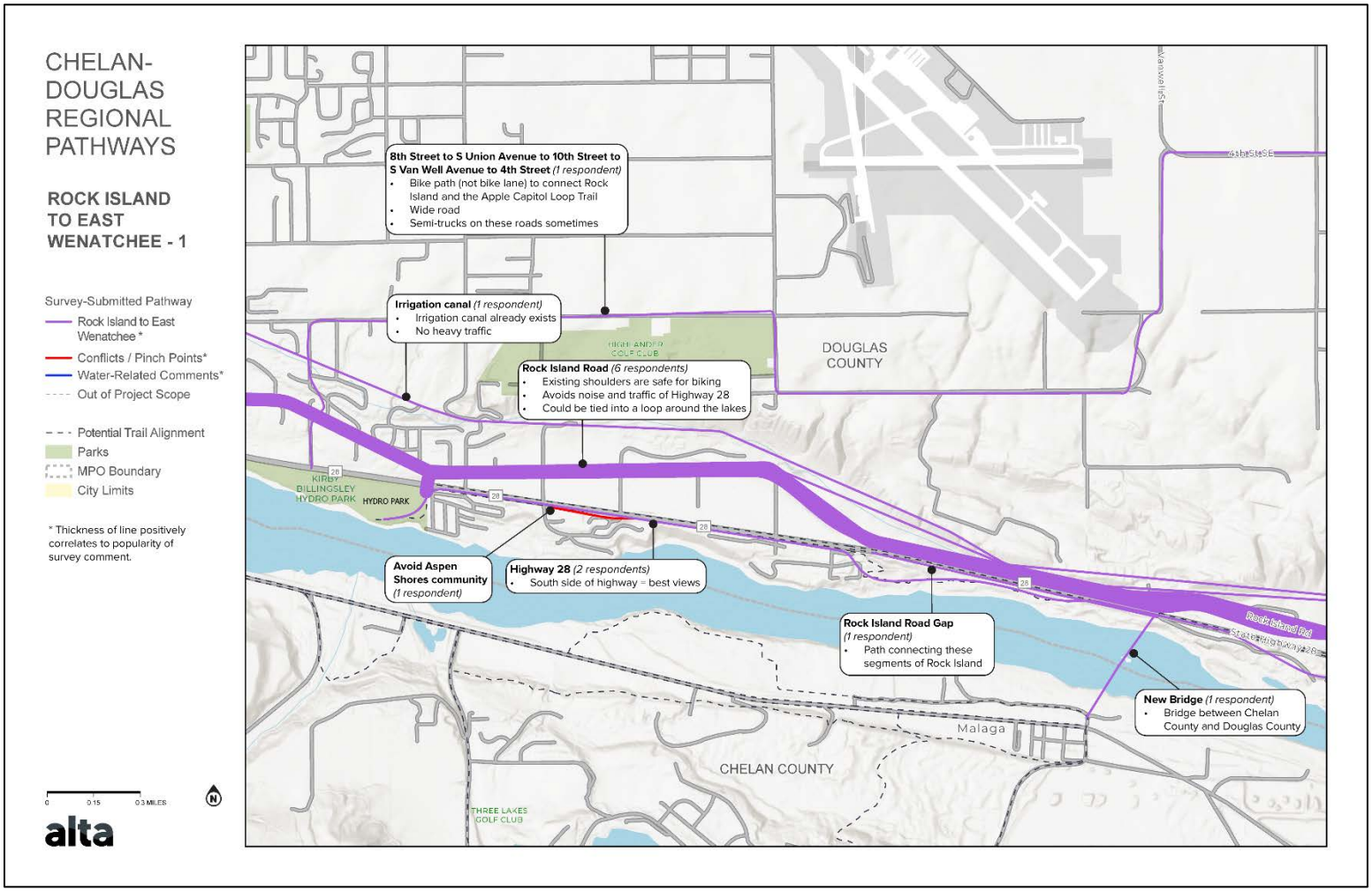
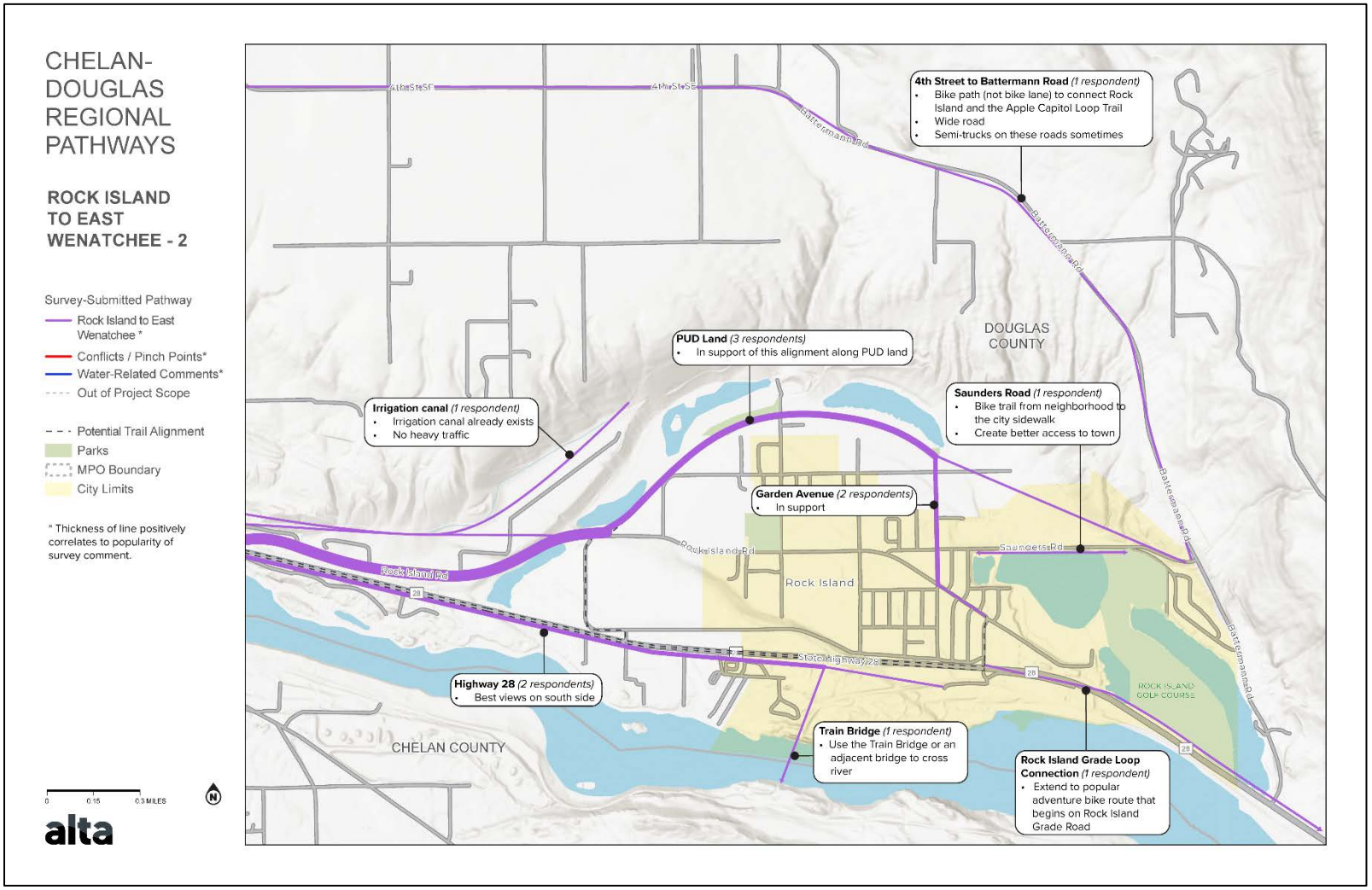


Figure 22: Community-identified pathway opportunities in the Rock Island to East Wenatchee Corridor (2)



Wenatchee to Entiat to Chelan Corridor

Figure 23: Community-identified pathway opportunities in the Wenatchee to Entiat to Chelan Corridor (1)

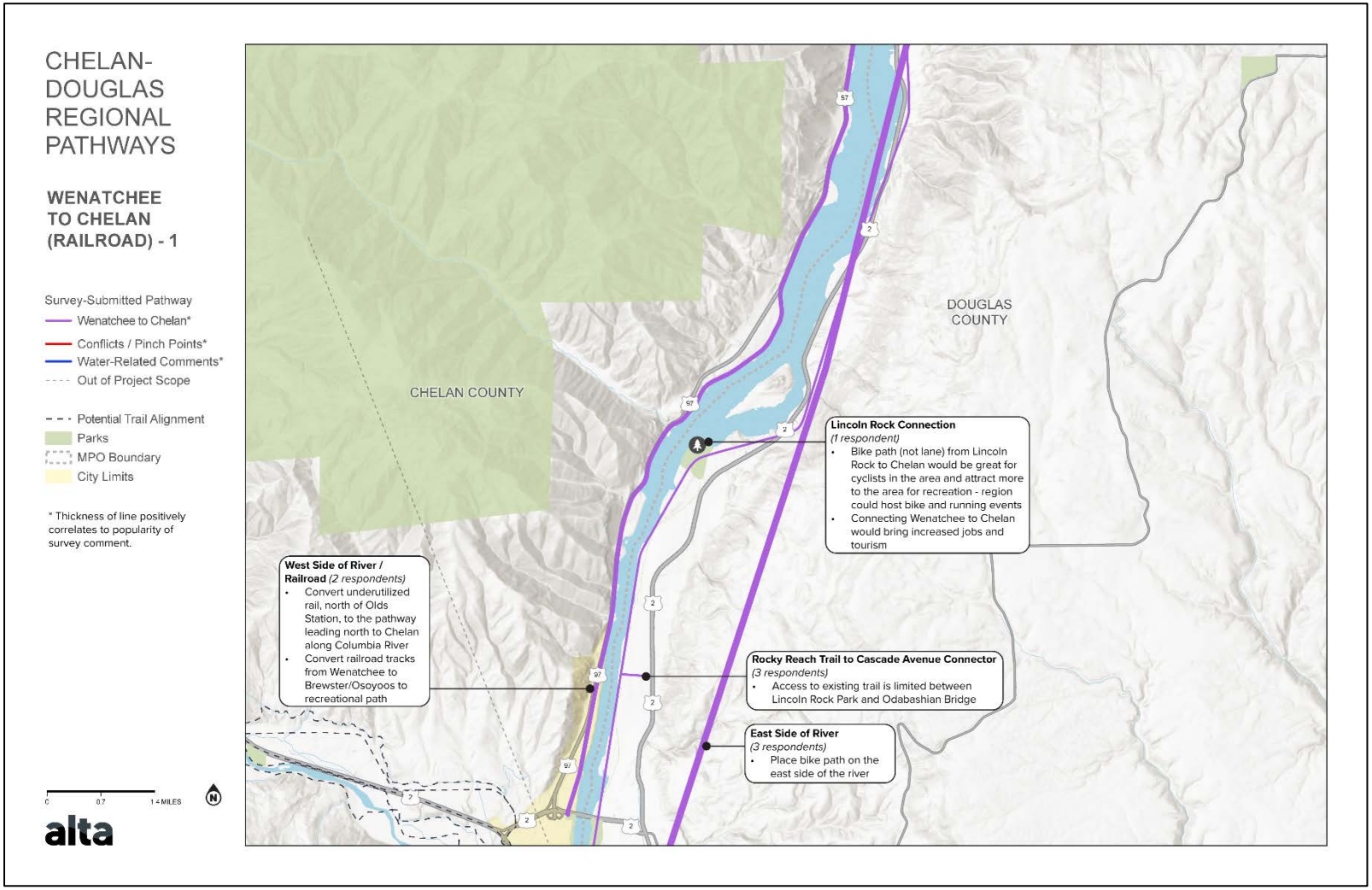


Figure 24: Community-identified pathway opportunities in the Wenatchee to Entiat to Chelan Corridor (2)

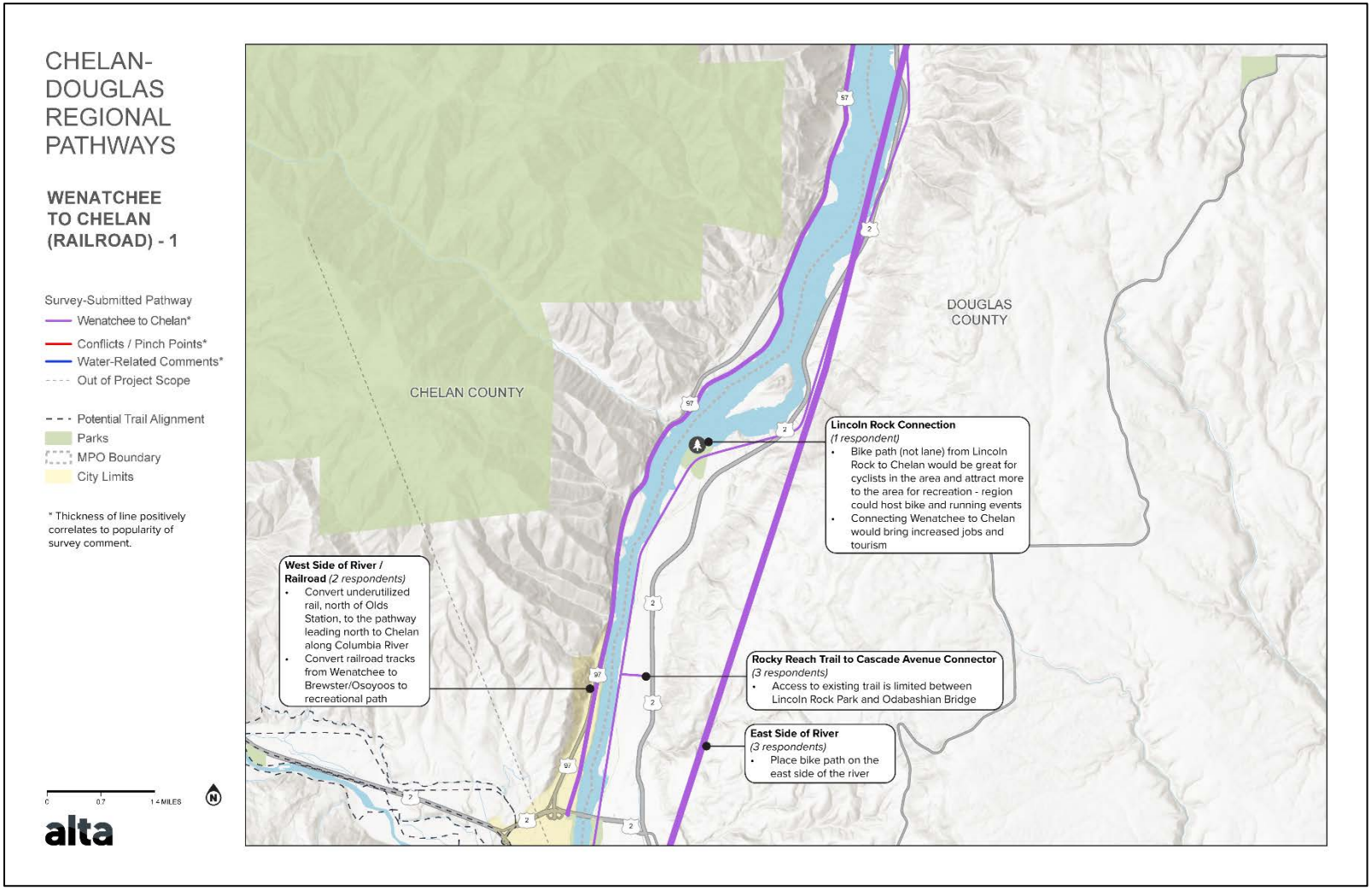
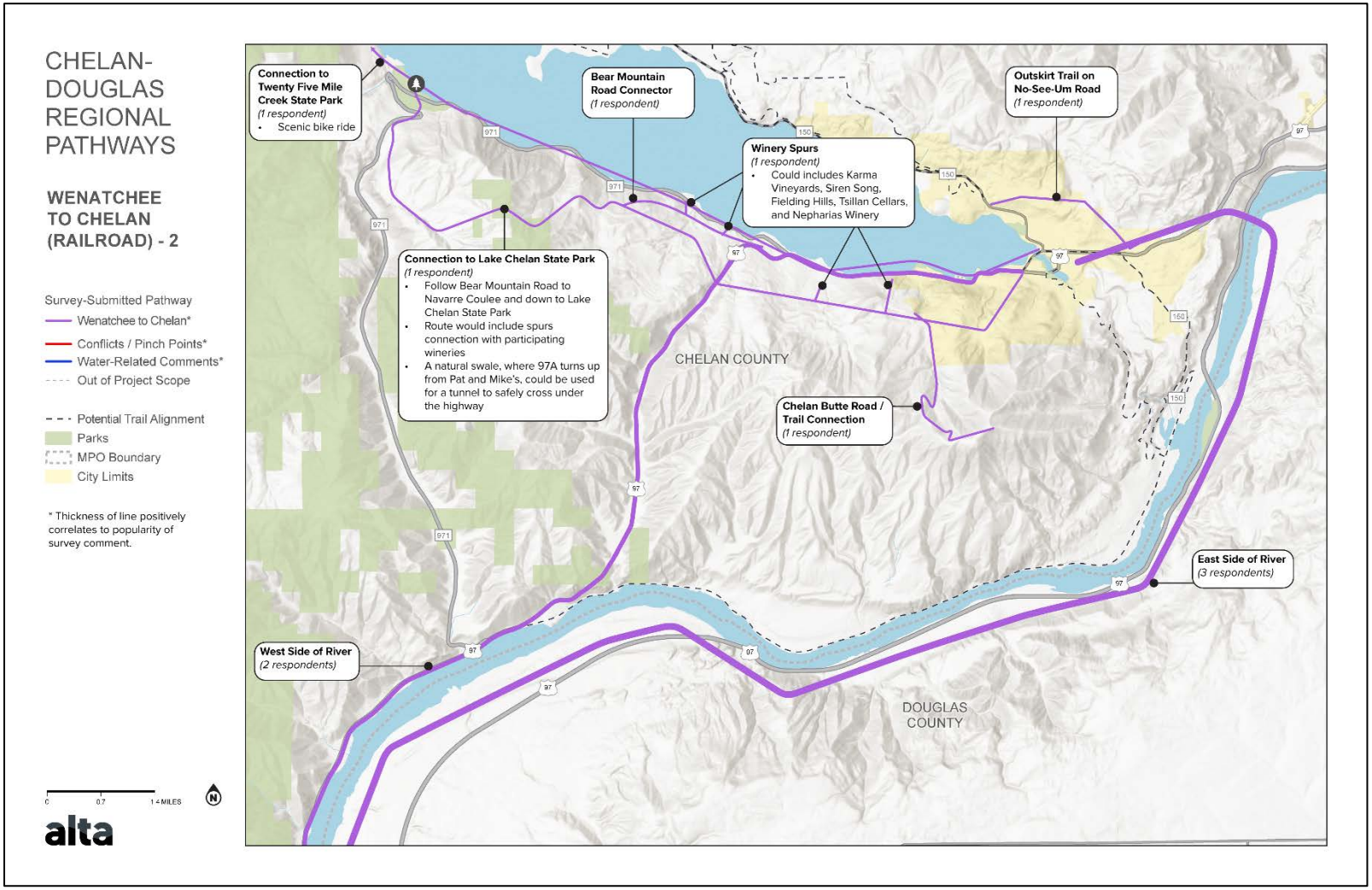


Figure 25: Community-identified pathway opportunities in the Wenatchee to Entiat to Chelan Corridor (3)



Key Findings

- Three respondents identified a potential pathway on the east side of the Columbia River.

Public Input Map - Step 4. Areas to Avoid

Respondents were asked to identify any locations that should not have a pathway nearby. This section of the survey generated 185 comments and the most like and dislike activity of all categories.

These concerns were then categorized based on the alignment alternative evaluation criteria and the following six categories emerged:

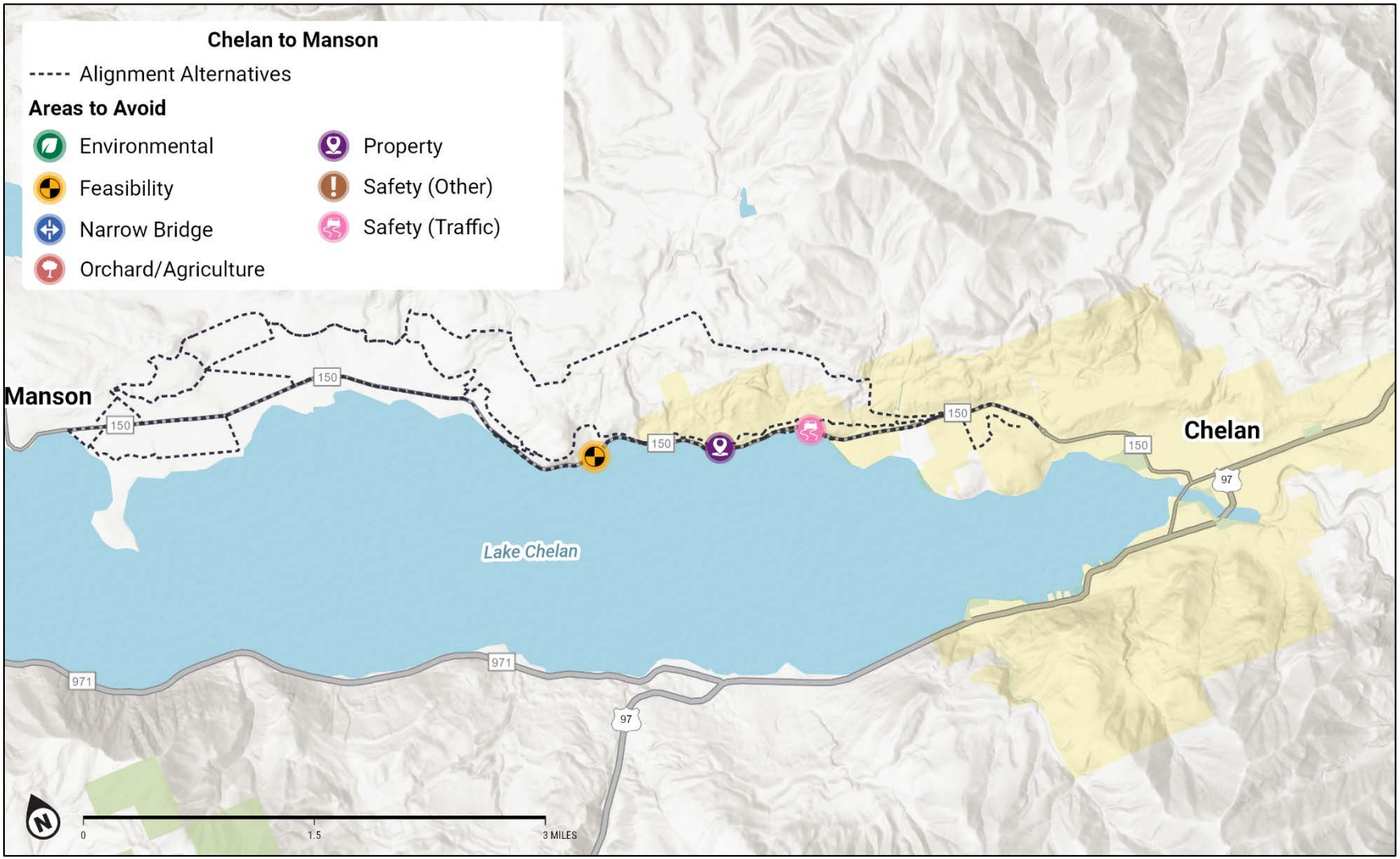
- Environmental: Concerns about environmental impacts or pollution.
- Pinch Points/Narrow Bridge: Concerns about the safety of trail users on narrow bridges.
- Orchard/Agricultural Impacts: Concerns about impacts to or impacts from agricultural operations.
- Feasibility: Location-specific concerns about feasibility.
- Private Property Impacts: Concerns about impacts to private property.
- Safety (Traffic): Concerns about the safety of trail users given the presence of vehicular traffic.
- Safety (Other): General concerns about the safety of trail users.

Key Findings:

- Many respondents expressed concerns about trails passing too close to orchards, citing issues such as spray drift, objects thrown by mowers, and the potential impact on agricultural operations. A strong sentiment is to avoid these areas to protect farming practices and prevent potential conflicts.
- Respondents frequently mentioned avoiding trails along or near highways and high-traffic roads. Some respondents prefer trails to be located away from developed areas, particularly highways, to preserve a more natural and quieter environment.
- There are some concerns voiced about trail alignments being shown on private property.
- While most areas of concern were noted around orchards, other issues included environmental concerns, feasibility concerns, narrow bridges, and traffic safety.

Chelan to Manson Corridor

Figure 26: Community-identified areas to avoid in the Chelan to Manson Corridor



Key Findings

- In the Chelan to Manson corridor, concerns include the feasibility of fitting trail infrastructure in the right-of-way, access to lakefront property, and safety concerns for trail users near the highway.

Leavenworth to Cashmere to Wenatchee Corridor

Figure 27: Community-identified areas to avoid in the Leavenworth to Cashmere to Wenatchee Corridor (West)

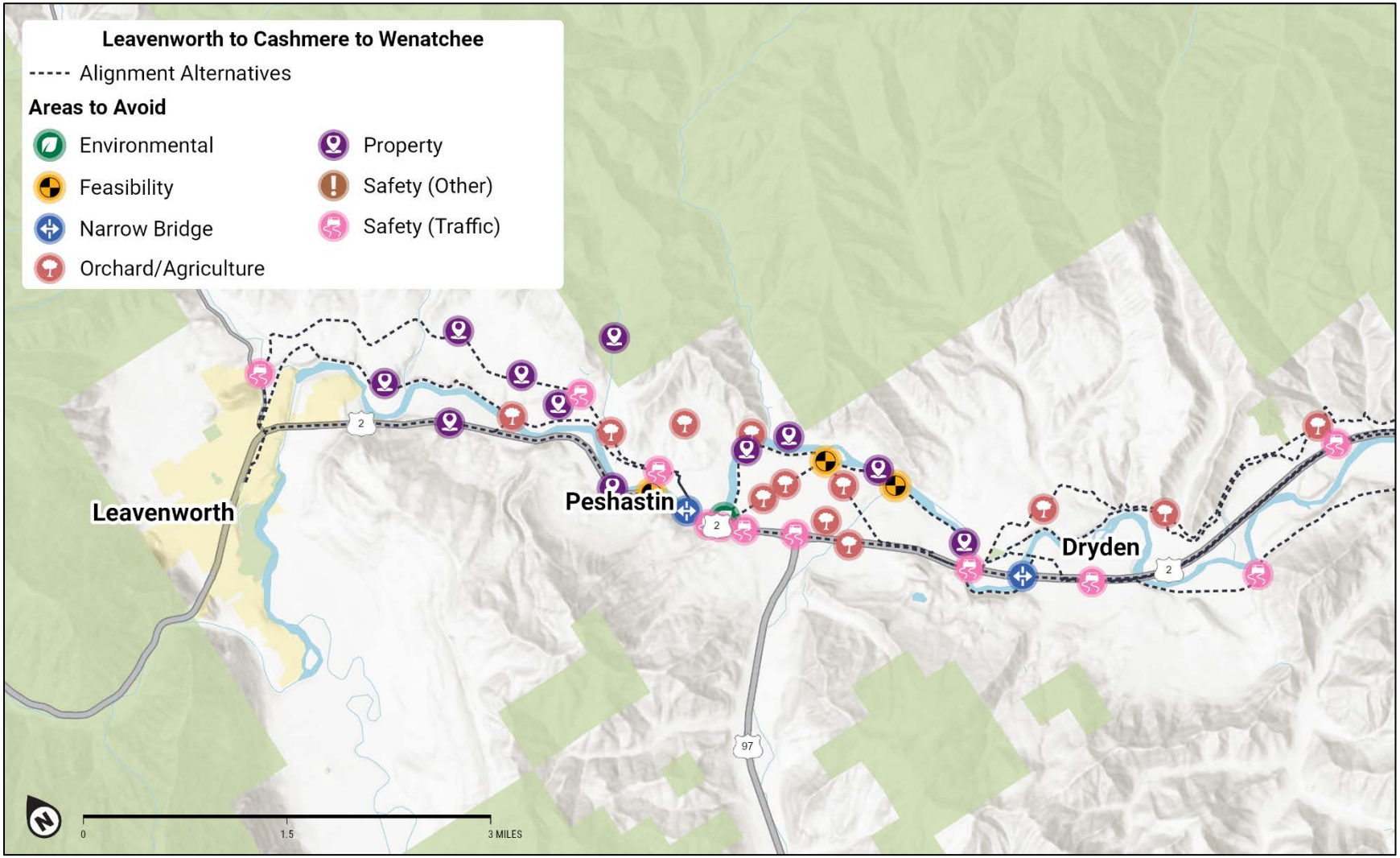
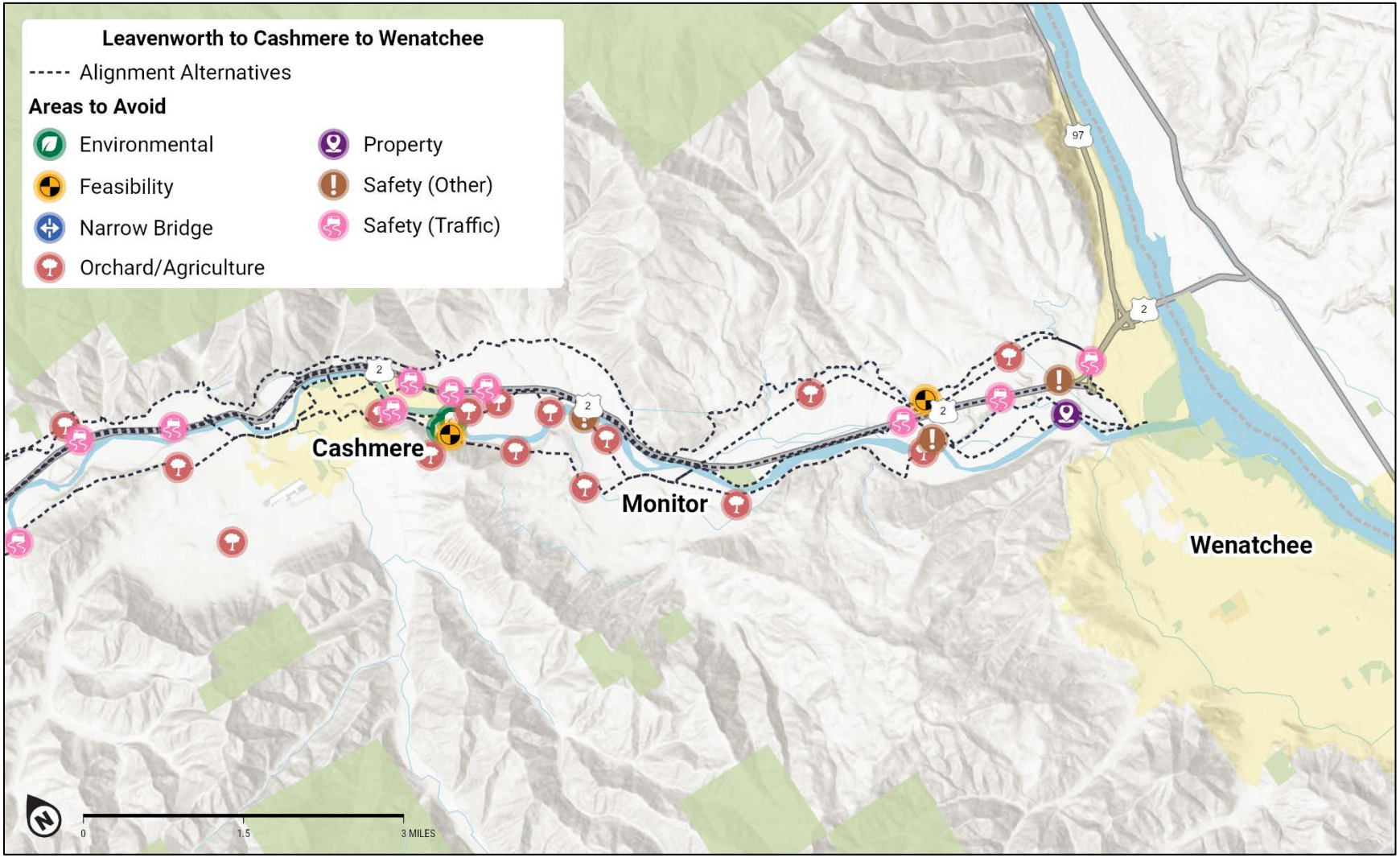


Figure 28: Community-identified areas to avoid in the Leavenworth to Cashmere to Wenatchee Corridor (East)

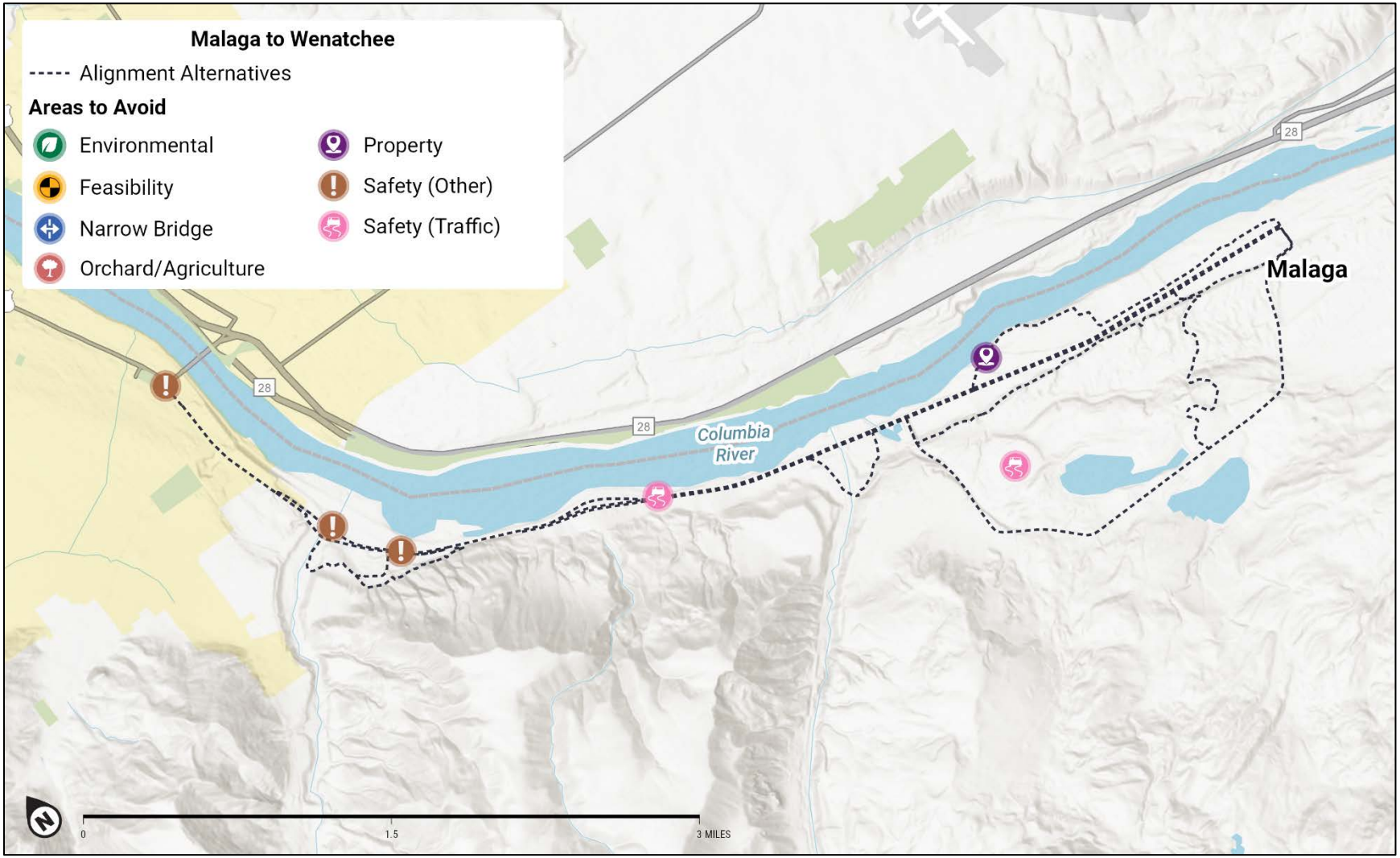


***Key Findings*:**

- In this corridor, the main concerns include impacts to orchards and agricultural operations and private property concerns.
    - "This is a family pear farm. You will make it nearly impossible to do our job raising fruit for our valley. This project could wipe out us farmers to farm at all and it could force us to stop farming all together and build houses like others due to all the restrictions."
    - "Too close to orchard, spray drift likely."
    - "North Road is too narrow for any widening. Orchards & homes will be negatively impacted."
    - "Orchards will have spray drifts and flying objects that have been mowed. Animals are not allowed in any orchards per restrictions from fruit buyers. Diesel fumes will be around all orchard areas. Poisons are placed in orchards for rodent control."
- Several community members mentioned safety concerns for trail users on or near Highway 2.
- There were some feasibility concerns for potential trail construction between Highway 2 and the Wenatchee River.
- Some members mentioned environmental concerns with alignments near the sewage treatment plant along the Wenatchee River.
- Some members mentioned concerns with the narrow bridge near Dryden.

Malaga to Wenatchee Corridor

Figure 29: Community-identified areas to avoid in the Malaga to Wenatchee Corridor

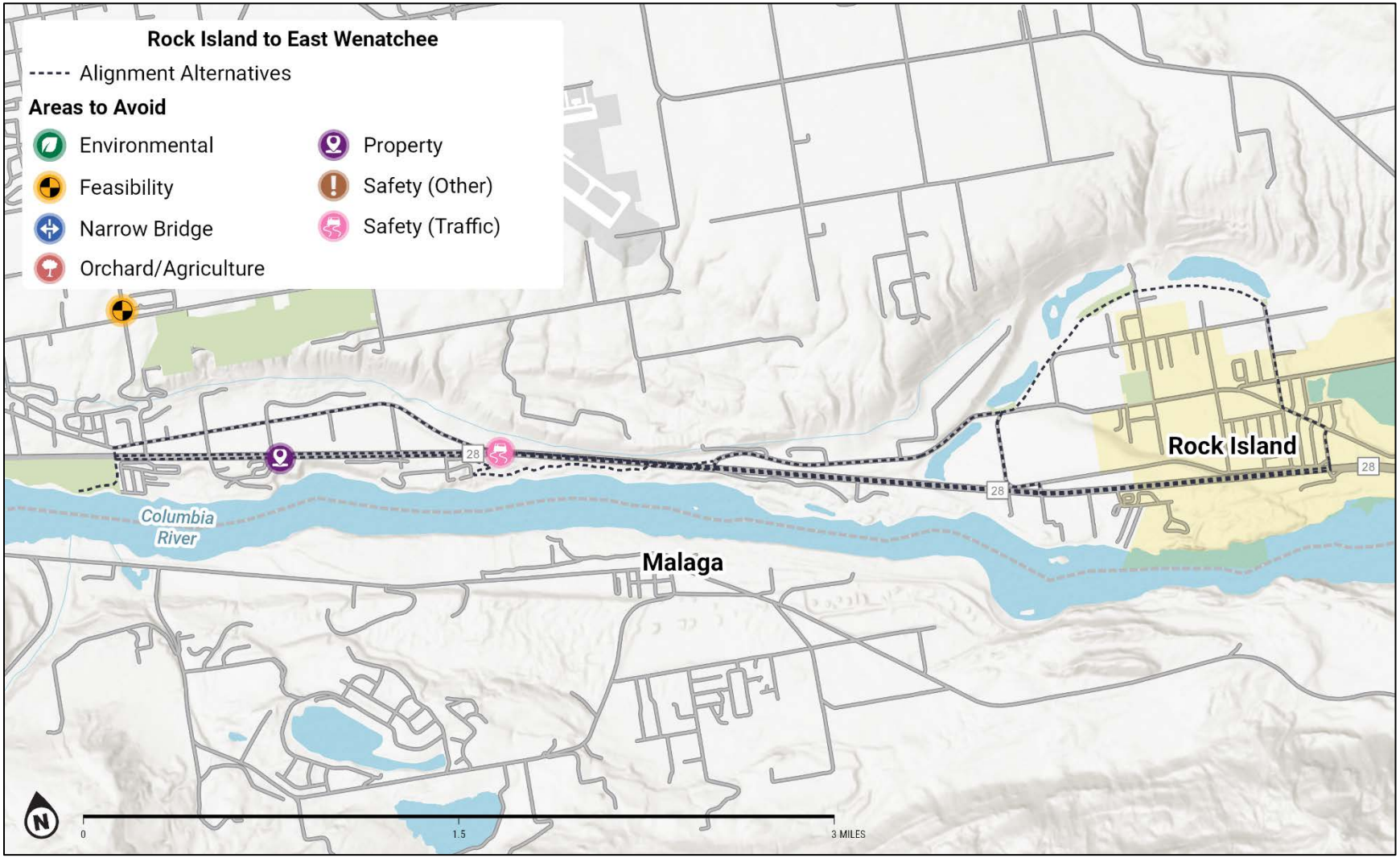


Key Findings

- Near Malaga, there were private property concerns.
- Closer to downtown Wenatchee, several respondents expressed concern for user safety due to encampments in the area.

Rock Island to East Wenatchee Corridor

Figure 30: Community-identified areas to avoid in the Rock Island to East Wenatchee Corridor



Key Findings

- Respondents mentioned private property and traffic-related concerns along Highway 2.

Wenatchee to Entiat to Chelan Corridor

Key Findings

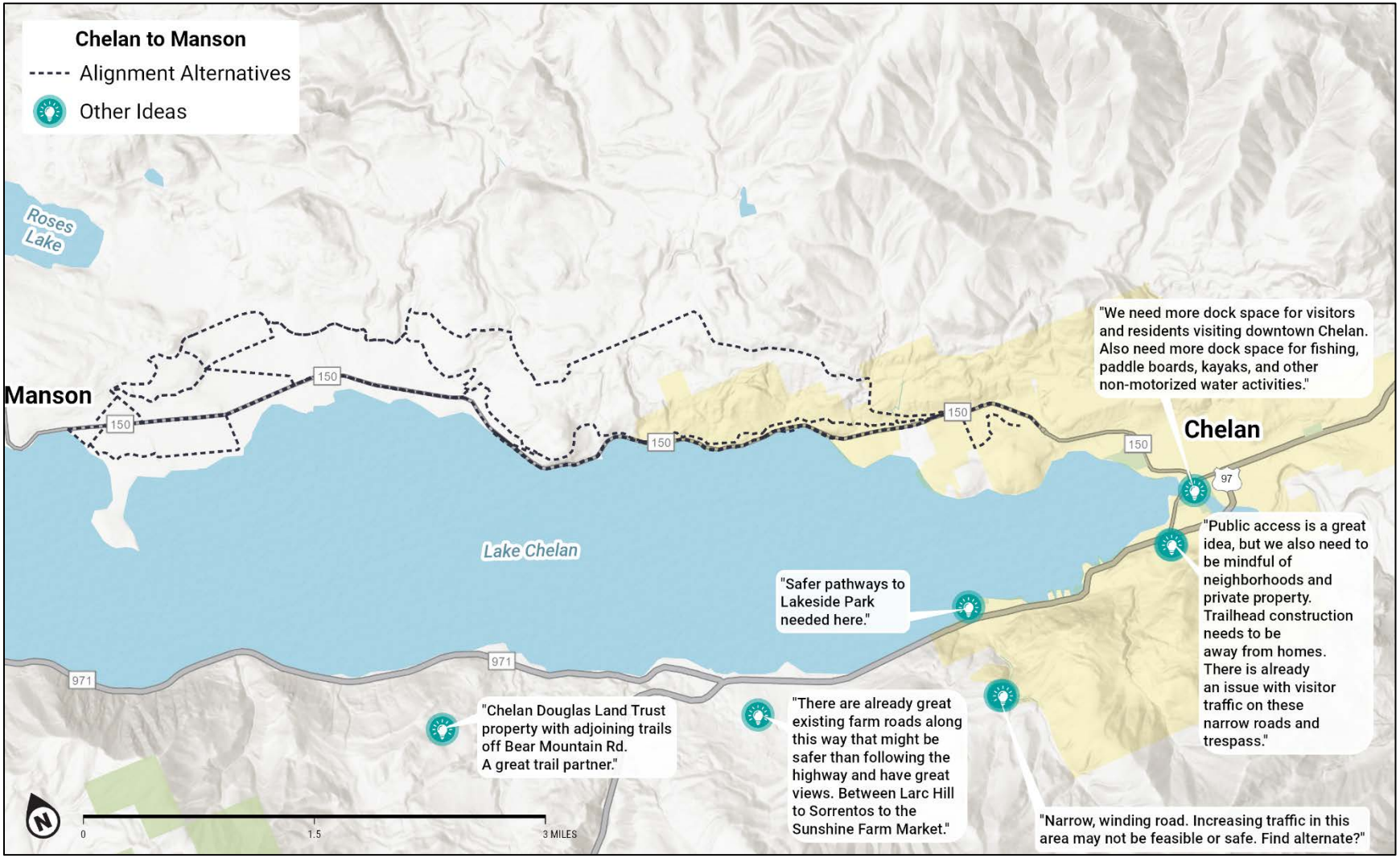
- No areas to avoid were mentioned in the Wenatchee to Entiat to Chelan Corridor.

Step 5. Other Ideas

Respondents were asked to share any additional ideas, information, or concerns related to the specific corridors on the map.

Chelan to Manson Corridor

Figure 31: Community-identified other ideas in the Chelan to Manson Corridor



Key Findings

- Members of the public identified several potential trailhead locations along this corridor.
- One respondent suggested following existing farm roads, rather than Highway 97 west of Chelan.
- Several new opportunities to expand lake recreation infrastructure were mentioned, including more dock space and new pathways to Lake Chelan.

Leavenworth to Cashmere to Wenatchee Corridor

Figure 32: Community-identified other ideas in the Leavenworth to Cashmere to Wenatchee Corridor (West)

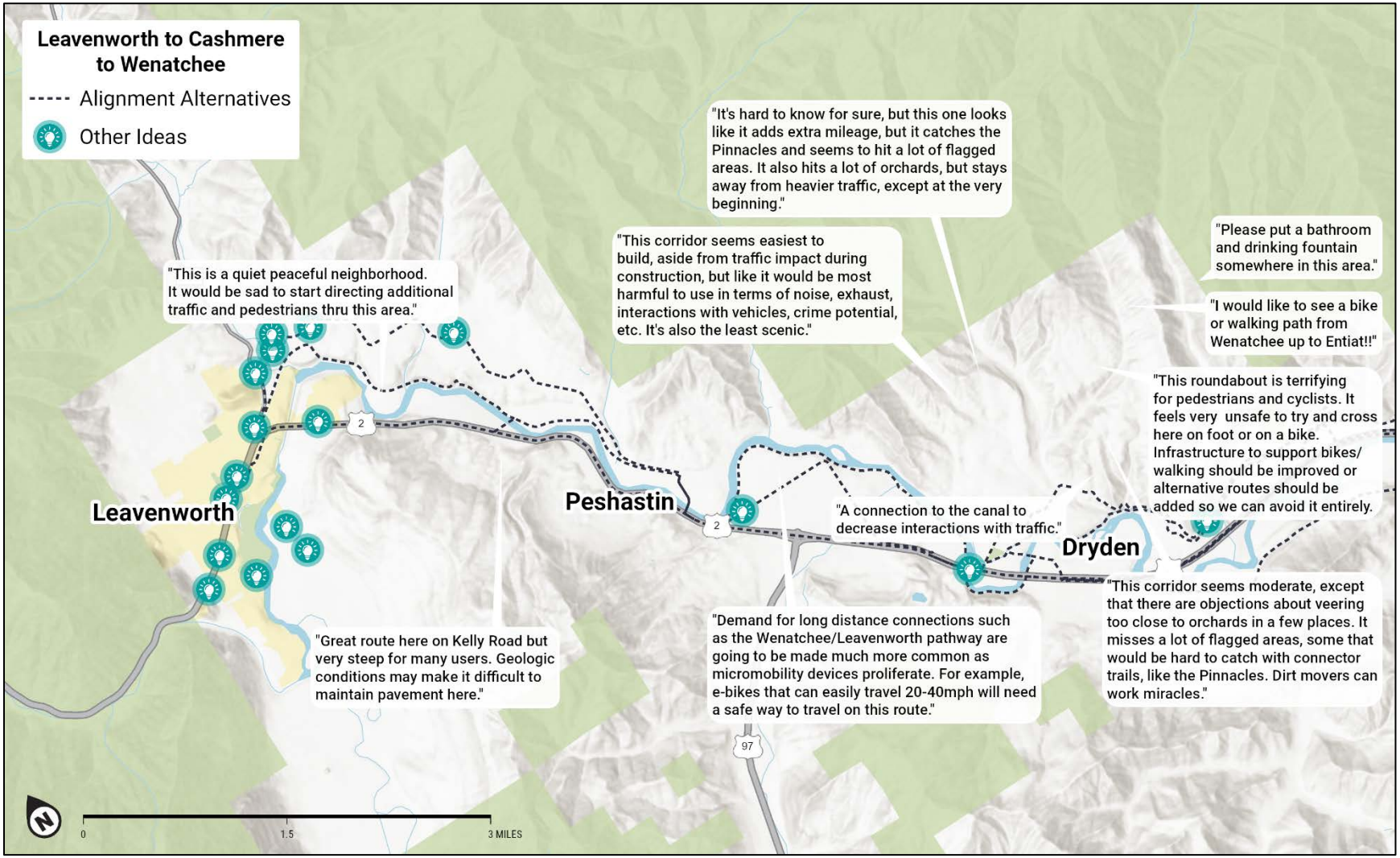
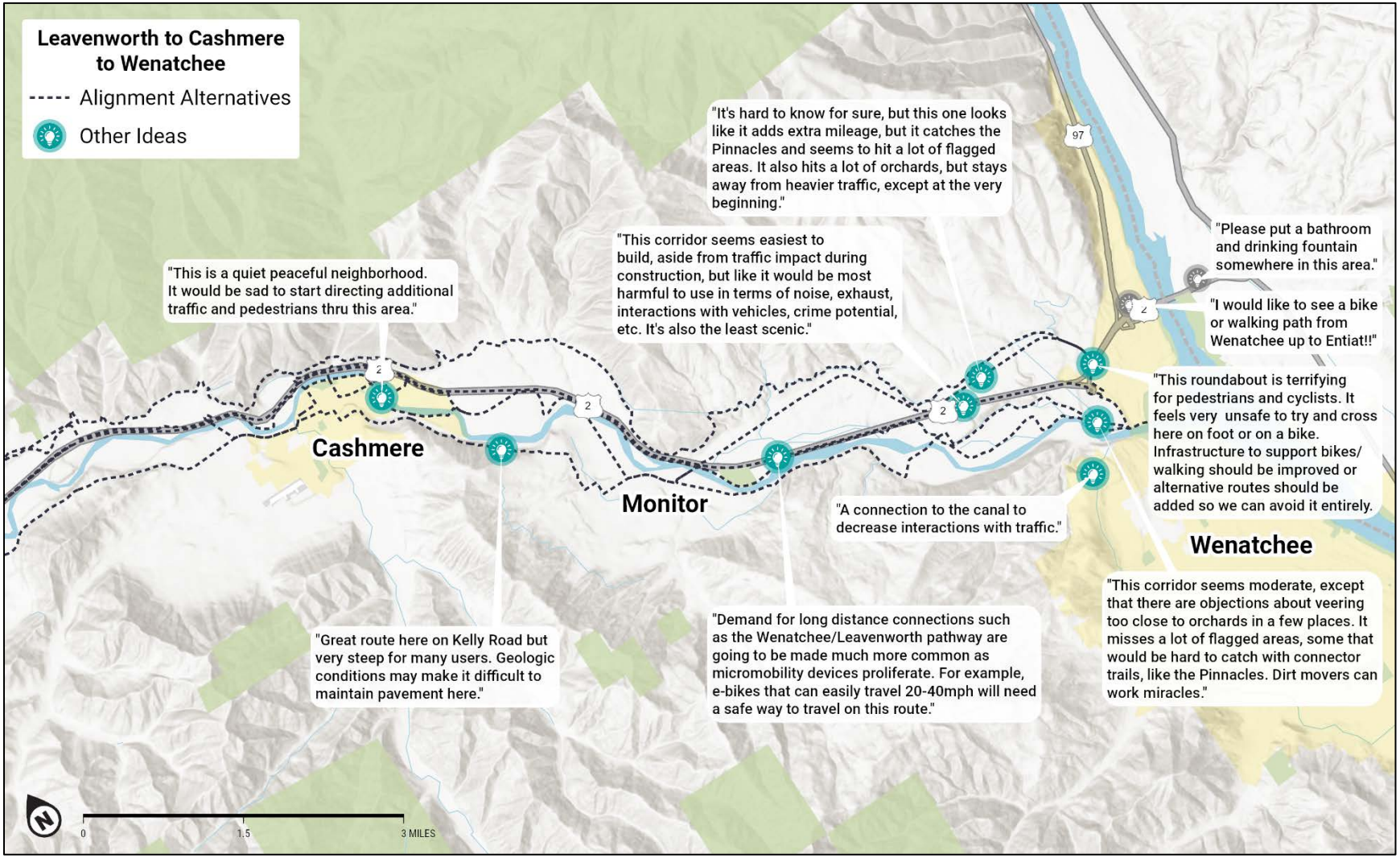


Figure 33: Community-identified other ideas in the Leavenworth to Cashmere to Wenatchee Corridor (East)

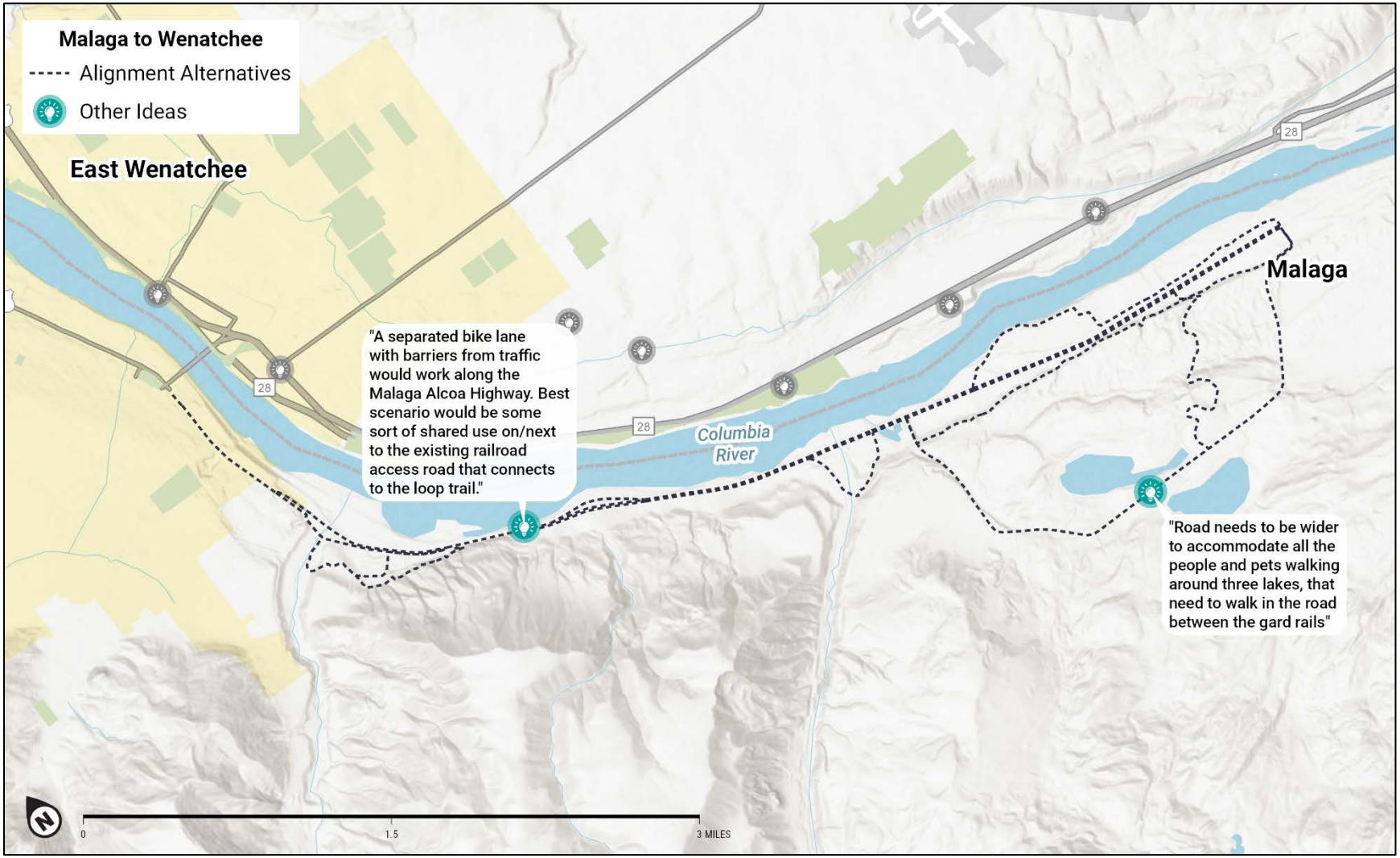


Key Findings

- Members of the public identified opportunities to remedy existing transportation barriers, including safe highway and river crossings.
- Some respondents mentioned locations where intersection modifications are needed to make these areas safer for bicyclists and pedestrians.
- One respondent suggested new path connections to existing grocery stores in Leavenworth.

Malaga to Wenatchee Corridor

Figure 34: Community-identified other ideas in the Malaga to Wenatchee Corridor

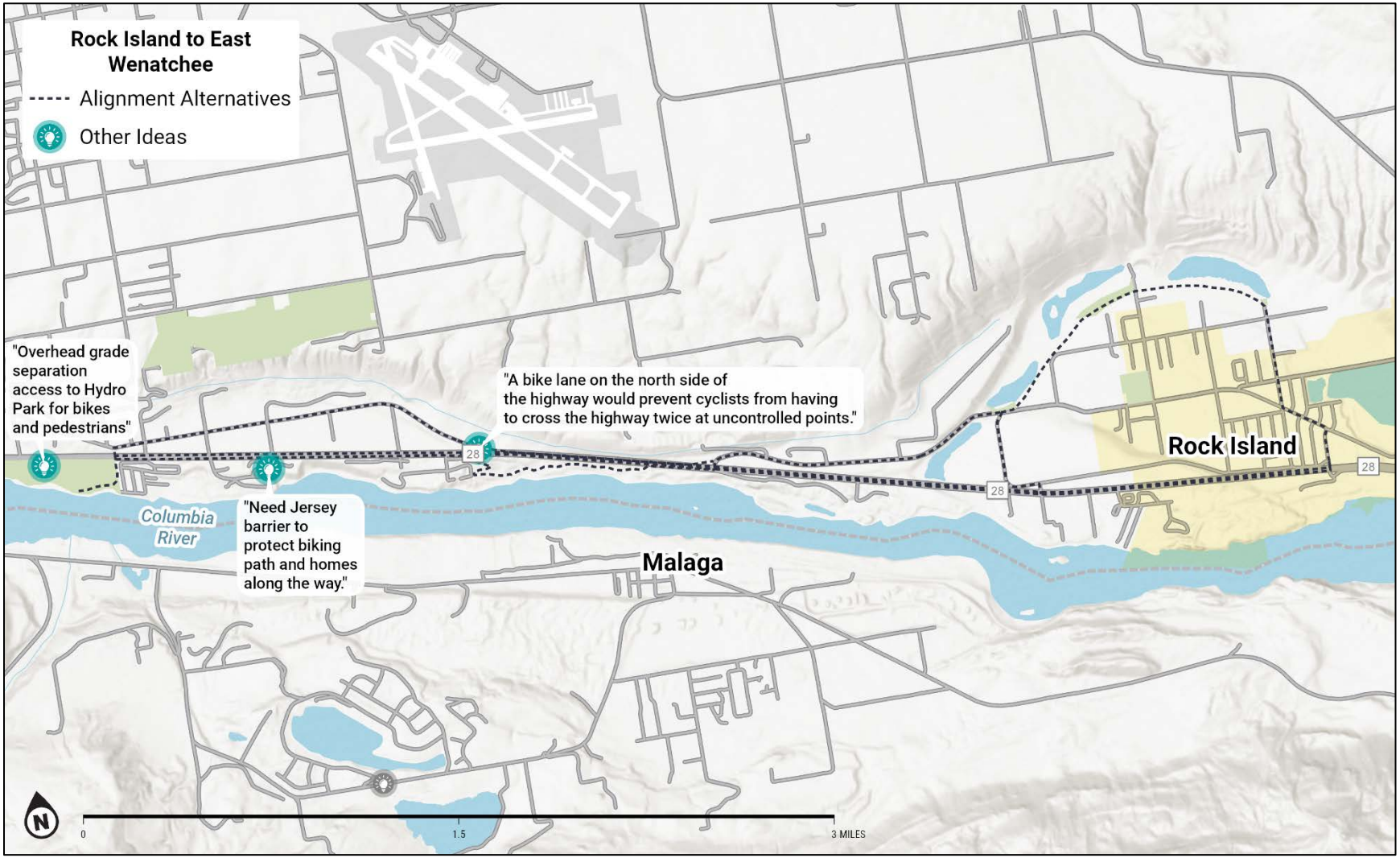


Key Findings

- A member of the public suggested separated bike lanes along the Malaga-Alcoa Highway
- A member of the public suggested roadway improvements to accommodate residents walking around Three Lakes

Rock Island to East Wenatchee Corridor

Figure 35: Community-identified other ideas in the Rock Island to East Wenatchee Corridor

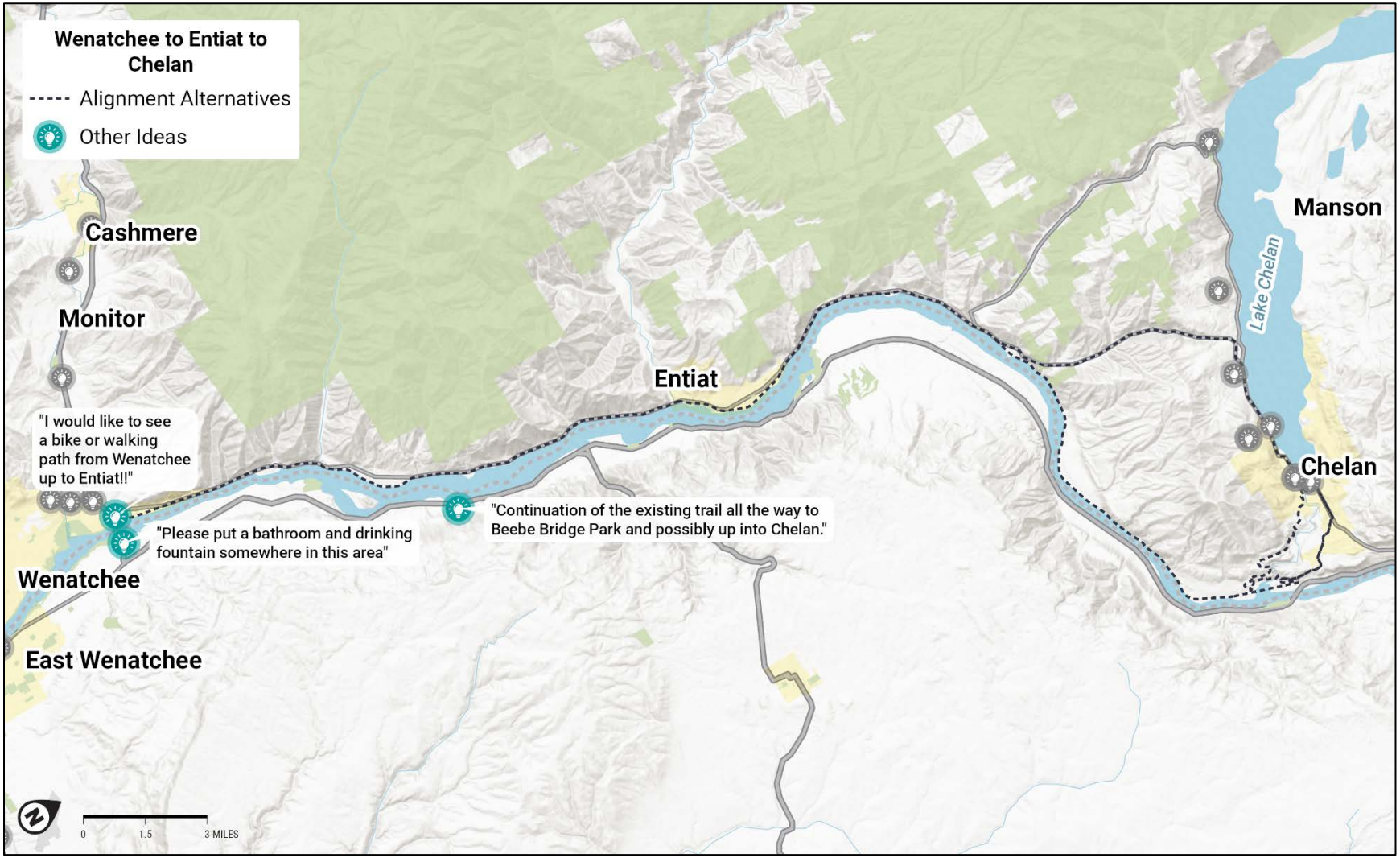


Key Findings

- A member of the public suggested a grade-separated crossing providing access to Hydro Park.
- A member of the public suggested a bike lane on the north side of Highway 28.
- A member of the public suggested new highway barriers to protect trail users and homes along Highway 28.

Wenatchee to Entiat to Chelan Corridor

Figure 36: Community-identified other ideas in the Wenatchee to Entiat to Chelan Corridor



Key Findings:

- A member of the public suggested additional recreation amenities in Wenatchee
- A member of the public suggested a continuation of the existing trail to Beebe Bridge Park.

Results Map Summary Layers

Clean summary layers for the public to read are distilled for the Chelan-Douglas Pathways Master Plan Survey and Public Input Map:

- Destinations
- Pathway Opportunities
- Areas to Avoid
- Updated Alignments Layer

Appendix H: Recommended Pathway Routes Public Engagement Summary Report



MEMORANDUM

To: Jeff Wilkens, Chelan-Douglas Transportation Council

From: Jill Roszel and Maura Paxton, Alta Planning + Design

Date: January 8, 2026

Re: Recommended Pathway Routes - Public Feedback Summary

Overview

A comprehensive community engagement process was initiated at the outset of the Chelan-Douglas Transportation Council (CDTC) Pathways Master Plan Project. From the beginning, the project team invited residents to share their ideas on how a regional pathway could best serve those who live, work, and recreate in the area. Community members were also encouraged to identify preferred pathway routes and share any concerns related to the proposed pathways.

This feedback played a critical role in shaping the team's decision-making as they identified recommended pathway route in each corridor. Before finalizing the Pathways Master Plan, the team presented draft route recommendations for public review, to ensure transparency and continued collaboration. Input gathered during this stage has been analyzed and incorporated into the final plan, reinforcing the community-driven nature of the project.

The project team provided draft alignment recommendations and asked for community feedback on these four corridors:

- Chelan to Manson
- Leavenworth to Cashmere to Wenatchee
- Malaga to Wenatchee
- Rock Island to East Wenatchee

Engagement Activities

This engagement round focused on connecting with all community members who had expressed interest in the project. Through earlier outreach efforts, the team compiled nearly 1,600 email contacts and promoted the recommended routes to this list. To share draft route recommendations, a prominent link was added to the project website homepage, directing visitors to dedicated pages for each pathway corridor.

Each corridor page featured:

- An interactive map highlighting recommended design elements.
- Photo simulations illustrating potential corridor appearances.
- Detailed information about proposed trail alignments (see Figure 1).

At the bottom of each page, a short survey invited community members to provide feedback. The survey language and formatting are included in the Appendix.

Figure 1: Content from the project website sharing a section of the Leavenworth to Cashmere to Wenatchee recommended alignment.



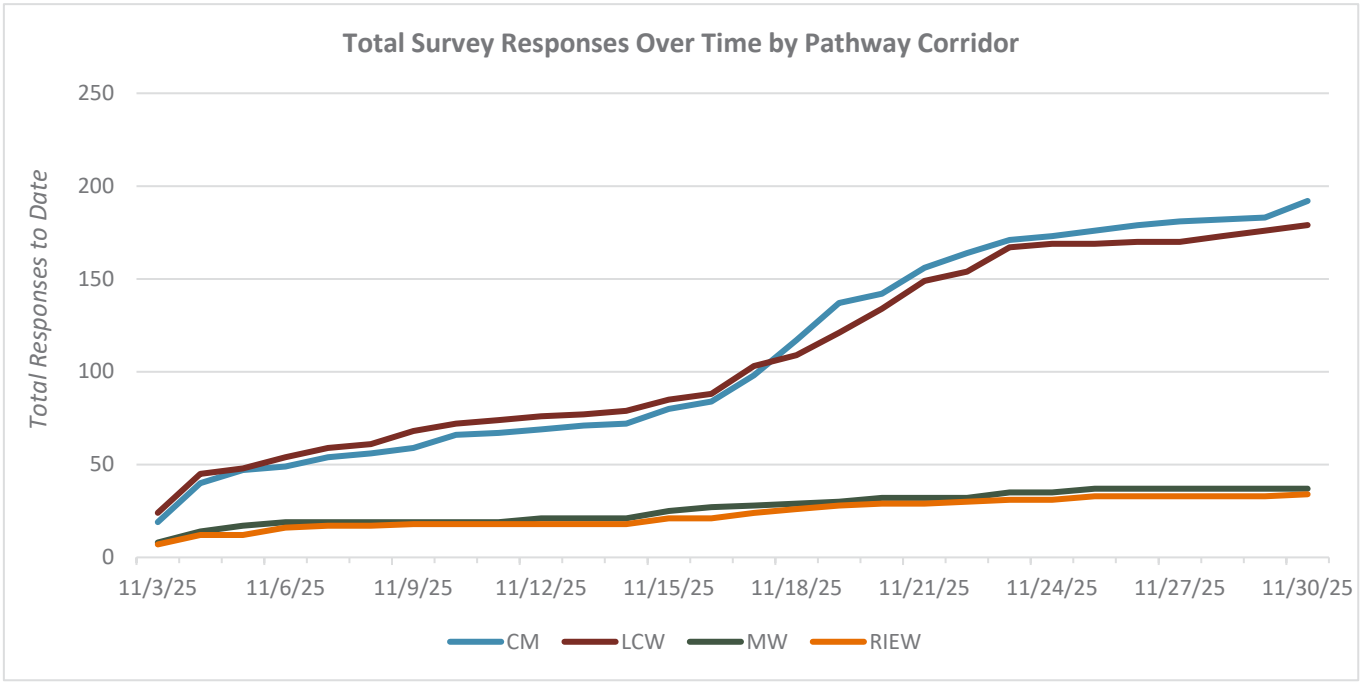
(9) Pathway near Old Monitor Road

The recommended route proposes closing the existing exit near Old Monitor Road. This exit has very low use, and vehicles would instead exit Highway 2 at Old Monitor Road.

Click image to zoom. Click the arrows to view the options.

The project team sent out two emails to the project contact list promoting the survey on November 3, 2025, and November 17, 2025. The survey ran from October 31, 2025 – November 30, 2025, and collected 449 responses.

Figure 2: Survey Responses Over Time



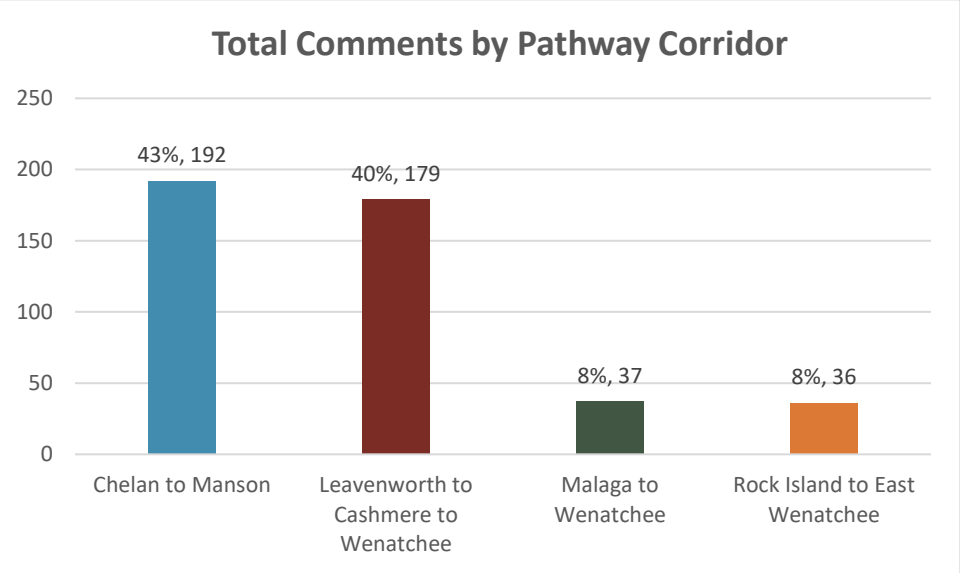
Additionally, members of the project team presented the pathway recommendations at the following events:

- Leavenworth Community Engagement Night (November 18, 2025)
- Chelan City Council Meeting (December 9, 2025)

Findings

There were 449 responses to the web survey questions from an estimated 369 individuals. In addition to responses from the pathway corridor specific surveys, the project team included feedback provided via the project website's "Ask a Question" form that included pathway feedback, these included 5 general responses that were not focused on a specific corridor.

Figure 3: Total Comments by Pathway Corridor



The project team initially categorized responses into four categories to understand the broad sentiments of the feedback:

- **Supports:** These responses expressed support for the project and did not contain additional critical feedback about the projects or routes.
- **Supports with Feedback:** These responses expressed support for the project but expressed comments or concerns about a specific element of the recommended route or project as a whole.
- **Does Not Support:** These responses expressed opposition to the pathway routes or project as a whole.
- **Has Questions:** These responses did not express an opinion about the project, but contained questions or comments about details of the project.

To better understand which elements of the recommended routes and project as a whole community members were responding to, the project team coded responses for key themes such as safety improvements, regional connectivity, alignment alternatives etc. Responses that provided no specific feedback were not coded, for example a comment such as “This looks great! Let’s build it.” would not receive a code for tracking specific opportunities or concerns.

The themes identified as key opportunities and concerns largely reflected the project team’s findings from earlier rounds of public engagement. This validated the feedback used to inform the recommended alignments and showed a need to communicate how the plan addresses the top concerns with the public.

The top opportunities mentioned in responses were:

- safety improvements (86, 19%),
- regional connectivity (45, 10%),
- recreation (27, 6%), and
- commuting (19, 4%).

The top concerns shared by respondents were:

- proximity to highways (52, 12%),
- cost to build (37, 8%),
- emergency vehicle access (35, 8%), and
- traffic congestion (33, 7%).

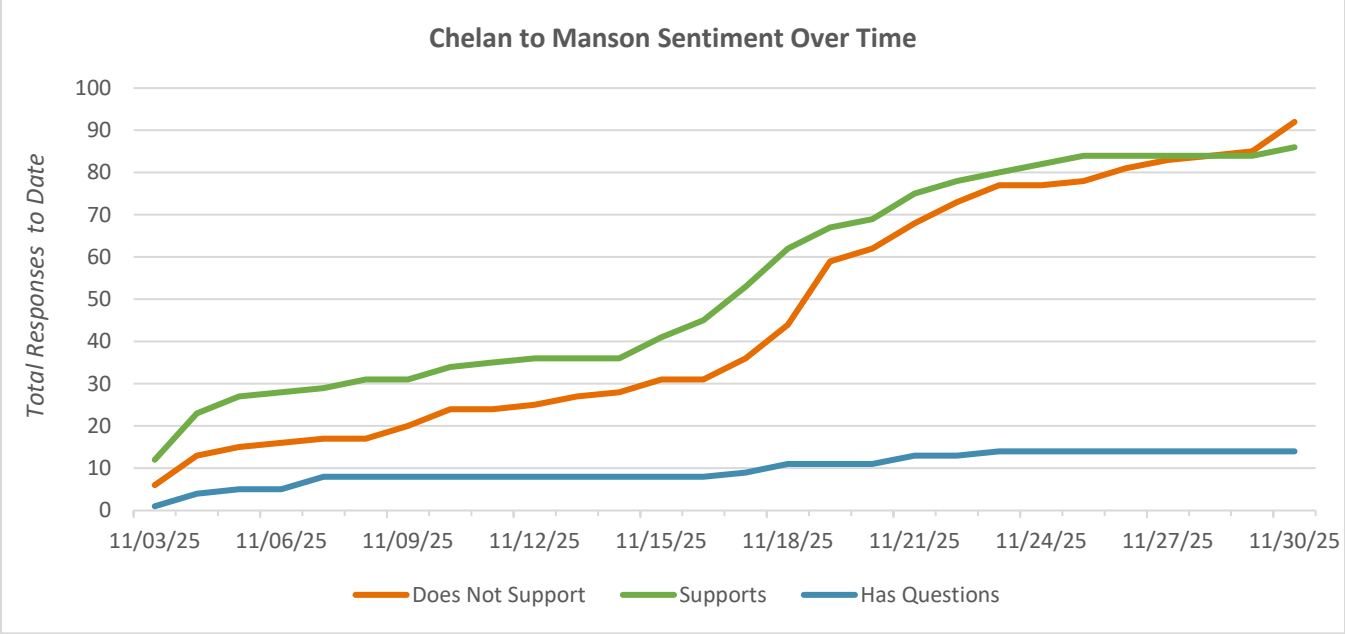
Many of the top concerns were specific to the Chelan-Manson pathway due to the large volume of responses for that pathway corridor, specifically cost, emergency vehicle access, and highway congestion. Proximity to the highway was the top concern for all other recommended pathway routes.

The overall sentiment and detailed feedback are outlined by the specific pathway corridors in the following sections. In addition, there is information about how the public input will influence the final route recommendations and how the Pathways Master Plan will address these concerns.

Chelan to Manson Pathway Corridor

The Chelan to Manson Pathway Corridor had both the highest number of responses and the most mixed feedback of any of the corridors. The concerns shared reiterated those expressed in the first round of public engagement about the project, namely congestion on SR 150 and potential impacts to the Cabanas – especially access and parking. There were 192 total responses, 14 (7%) of these expressed no opinion on the recommended pathway route and either left a question or comment about the route (Figure 4). Out of the 178 responses expressing an opinion on the route 86 (48%) were supportive while 92 (52%) were not.

Figure 4: Sentiment of Responses Over Time to Chelan to Manson Recommended Route Review



The primary concern raised by respondents was the potential impact of the pathway on emergency vehicle access and response times, a topic that saw a notable increase in comments following discussion at the Manson Community Council meeting on November 18, 2025. Many respondents also cited negative experiences during the construction of the Lakeside Trail in Chelan in summer 2025 as a reason for concern, particularly regarding possible future congestion on SR 150 during construction. Supportive feedback for this corridor tended to be less detailed than for other corridors, though safety improvements for people walking and biking were consistently identified as an important benefit. Additionally, some respondents viewed the pathway as an opportunity to reduce congestion on SR 150 by encouraging more people to walk and bike along a safe route between the two communities.

Opportunities: Chelan to Manson Pathway Route

Safety Improvements

Safety improvements were the top opportunity for the pathway corridor, mentioned in 39 (19%) of responses. Currently, traveling from Chelan to Manson on SR 150 is unsafe for people walking and biking due to high speeds, tight turns, and lack of dedicated infrastructure. The proposed pathway would be designed to address these concerns and provide a safe and reliable connection between the two communities. Many respondents expressed excitement about having a safer travel option and welcomed the new opportunity to walk or bike between Chelan and Manson.

"I would love to see a Manson to Chelan pathway. I want to commute between the two towns on bicycle but don't at this time because it doesn't seem safe."

Recreation and Scenic Beauty

Supportive responses highlighted increased opportunities for local recreation, mentioned in 9 responses (5%), particularly the chance to enjoy the area's natural beauty and scenic views. Additionally, some respondents noted the

pathway will create more equal access to recreation opportunities with lake views in the community beyond those who can afford lakefront property – including new viewpoints from the boardwalk and sections of SR 150 that do not currently have facilities for people walking or biking.

"I love all of it for recreation, safety, car pollution decrease, congestion decrease. Whether you're like me, a retired member of this community who wants to use my car less and get out more on my e-bike, or you're a younger member of the community using a bike to get to work or school, this is really valuable development!! Every moment we are out of our cars, we are appreciating this beautiful place we live and must protect."

Alignment Alternative: Boyd Road

Some community members (8 responses, 4%) suggested Boyd Road as a potential alternative route to connect Chelan and Manson, avoiding SR 150 and bypassing the Cabanas and Rocky Point. The project team thoroughly evaluated Boyd Road and determined the following:

- **Indirect Route:** Boyd Road is significantly less direct, which conflicts with the community's expressed desire for more direct paths to enhance connectivity.
- **Challenging Terrain:** The route crosses steep terrain, making it less accessible and usable. It would also reduce opportunities for integration with Link Transit, a key project priority.
- **Private Property Conflicts:** Developing a pathway along Boyd Road would create substantial conflicts with private property, which the project aims to avoid wherever possible.

Additionally, one community member suggested Boyd Road as a potential emergency access route, which could help address some concerns related to emergency access.

Alignment Alternative: Around the Lookout

Some community members (5 responses, 3%) preferred that the pathway remain along SR 150 rather than follow Bluebell Way between Bighorn Way and the Bighorn Way Roundabout in West Chelan. They emphasized the need for safety improvements along SR 150 and safer access to the Community Center, particularly for residents on the north side of the highway.

The project team selected the route through the Lookout to improve feasibility, reduce costs, and enhance connectivity by leveraging existing infrastructure. Providing safe access to the Community Center for residents north of SR 150 will require additional highway crossings, which should be incorporated into future planning efforts.

Concerns: Chelan to Manson Pathway Route - Concern

Emergency Access

Emergency vehicle access was the most frequently cited concern, mentioned in 34 responses (18%). Community members expressed worry that narrowing the shoulders in the Rocky Point section of SR 150 could restrict emergency vehicles from using the center of the highway, particularly during summer months when traffic congestion is common. Additionally, seven responses raised concerns about potential impacts on evacuation routes due to the

reduced roadway width. This issue gained heightened attention after a fire chief addressed it during the Manson Community Council meeting on November 18, which prompted an increase in related survey comments.

The project team met with the Washington State Department of Transportation (WSDOT) to review the recommended trail alignment throughout this corridor. WSDOT confirmed the proposed design complies with WSDOT roadway standards and supports their future goals to reduce speed and congestion in the corridor. The plan for this section also includes adjusting roadway curve radii during pathway construction, which is expected to improve traffic flow and positively impact emergency response times.

Looking ahead, the project team recommends a coordinated planning and design process to involve city leaders, public works, emergency personnel, and WSDOT to ensure any improvements along SR 150 address the future needs of the community. This collaboration should focus on improving evacuation routes and emergency access, creating safer routes for pedestrians and bicyclists, implementing traffic calming measures, and reducing congestion through the highway corridor.

SR 150 Congestion and Lane Narrowing

Congestion on SR 150 (32 responses, 17%) and lane narrowing (26 responses, 14%) were among the most common concerns for the Chelan-to-Manson corridor, often directly tied to emergency access issues noted above. As the population and popularity of these communities grow, traffic on SR 150 has steadily increased. Because this is the only direct travel route between Chelan and Manson, some respondents expressed concern about worsening congestion and longer travel times for work, school, and errands. However, a few respondents (3 responses, 2%) suggested that the pathway could help reduce congestion by providing an alternative travel option for people walking and biking.

The recommended pathway alignment is primarily located on the shoulder of SR 150 or off the highway on a boardwalk, avoiding the need to narrow travel lanes along most of the corridor. The only exception is near the Cabanas, where the project team recommends reducing lane widths slightly—from 12 feet to 11 feet—to address early feedback about unsafe crossing conditions for residents accessing the Cabanas from the opposite side of the highway. In this section, the design also includes modifying the roadway curve radii to improve vehicle flow and enhance safety, a topic that was discussed at length with WSDOT staff.

Cost

Fifteen percent of respondents identified cost as a concern in the Chelan to Manson corridor, which has the highest estimated cost per mile among the four recommended pathways—approximately $13.1 million per mile. The two pathway segments driving these higher costs are the Rocky Point boardwalk and the West Chelan segment near the Cabanas, which would require roadway improvements.

The project team acknowledges a diverse and well-structured funding strategy will be essential to address these concerns. The funding section of the Pathways Master Plan outlines potential approaches, including state and federal grants, local partnerships, nonprofit support, and nontraditional sources. While some community members expressed concerns about tax increases, this plan does not recommend tax-based funding as the primary source for capital or long-term maintenance costs.

Additionally, the project team developed phasing recommendations to prioritize the most feasible and affordable sections first—specifically, the west end of the pathway in Manson and the eastern end in Chelan. Phasing will allow the communities to spread construction costs over time and leverage multiple funding sources.

Despite the higher costs, the long-term benefits of the pathway—such as improved safety, enhanced connectivity, reduced traffic congestion, increased access to recreation, and economic opportunities—are expected to outweigh the initial investment. These benefits will contribute to a stronger, more connected community and support regional growth for years to come.

Need for Path

About ten percent of respondents (20 responses) questioned the need for a pathway between Chelan and Manson, often citing the current lack of people walking or biking between the towns. However, this low usage is largely due to the absence of safe infrastructure. Without a dedicated pathway, many residents and visitors are discouraged from walking or biking along this corridor.

Current volumes do not accurately reflect the potential demand once a safe, connected pathway is available. Experience from similar projects shows that providing safe infrastructure significantly increases walking and biking activity, improving mobility and reducing vehicle traffic.

The recommended pathways and alignments in this plan were developed based on existing plans and identified community needs in Chelan and Douglas counties. Specifically, this pathway aligns with the Chelan County Multimodal Pathways Plan, which identified a clear need for a safe route between Chelan and Manson for people walking and biking.

In addition to safety, the pathway will create a visual and physical connection to the waterfront, enhance connectivity between communities, and improve access to local destinations such as parks, businesses, and community centers. These benefits will strengthen the region’s recreational appeal, support economic growth, and foster a more vibrant, connected community.

Cabana Parking and Access

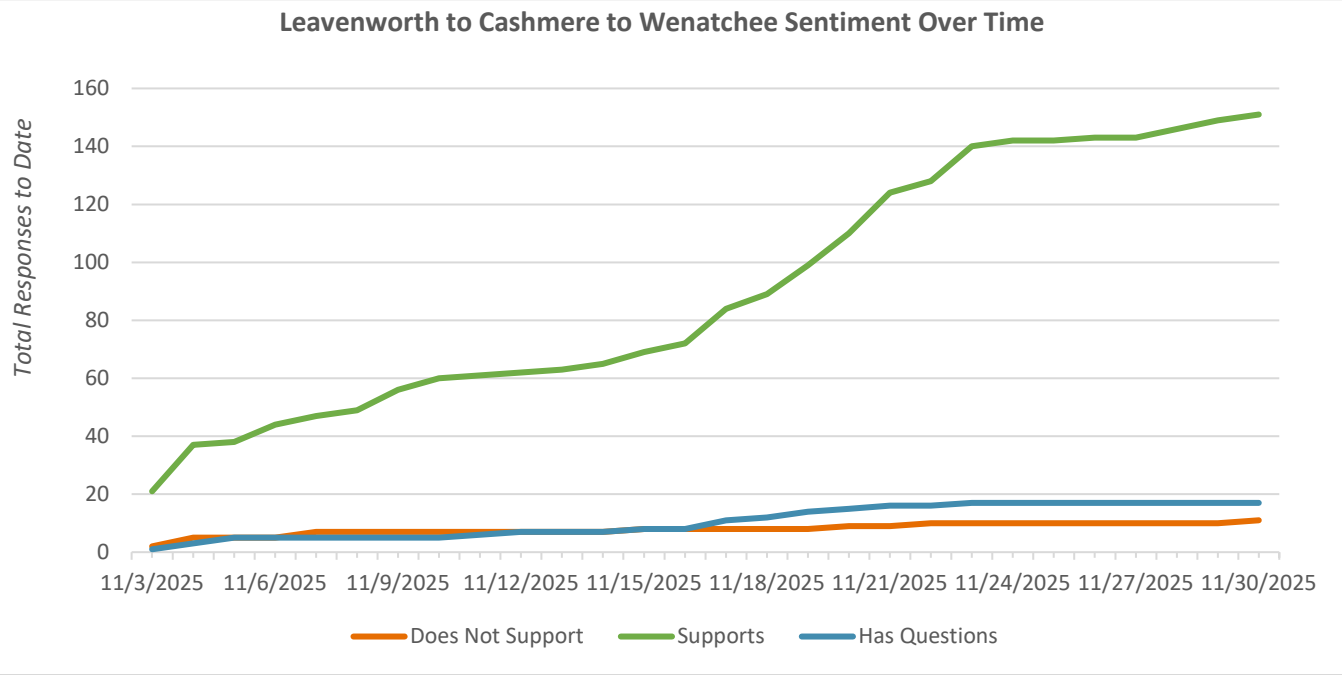
Eleven responses (6%), primarily from Cabana property owners, raised concerns about access, parking, and potential property impacts for the Cabanas. Some questioned whether the pathway would require acquisition of private property. These concerns were identified during the initial round of public engagement the project team met with a group of concerned residents to discuss these issues. The project team assured property owners that eminent domain would not be used. While a few properties may have very narrow strips of land (1–2 feet) affected by the pathway, any impacts would be compensated fairly. The project team also emphasized that project development is planned over a 20+ year timeline, providing ample time for coordination, mitigation, and thoughtful planning.

The project team deliberated and carefully designed the pathway alignment to avoid infringing on Cabana properties. The recommended route is proposed to shift SR 150 travel lanes slightly north and reduce lane widths from 12 feet to 11 feet near the Cabanas. This subtle adjustment works to address concerns about unsafe crossing conditions for residents and improve roadway safety.

Leavenworth to Cashmere to Wenatchee Pathway Corridor

There were 179 responses to the recommended route survey for the Leavenworth to Cashmere to Wenatchee pathway corridor. This pathway had the highest percentage of neutral responses with questions or comments of any corridor with 17 responses (9%). While this pathway corridor had more mixed feedback in earlier rounds of public engagement, the survey responses for the route recommendations were very positive. Out of the 162 responses expressing an opinion, 93% or 151 responses expressed support (70%) or support with additional feedback (23%) on the pathway route (Figure 5). Only 11 respondents (7%) did not support this recommended pathway route.

Figure 5: Sentiment of Responses Over Time to Leavenworth to Cashmere to Wenatchee Recommended Route Review



Consistent with the other pathway corridor feedback, respondents highlighted safety improvements and regional connectivity as the most significant benefits of this proposed route. Many also emphasized how the pathway could enhance quality of life for the region in multiple ways. The top concern was the pathway's proximity to highways—a recurring issue across the pathways project. Respondents also raised specific safety concerns about the crossing at Easy Street near the Highway 2 roundabout and offered questions or suggestions regarding trail amenities.

Opportunities: Leavenworth to Cashmere to Wenatchee Pathway Route

Safe Regional Connections

Safety improvements were the most frequently cited benefit (30 responses, 17%), closely followed by enhanced regional connectivity (29 responses, 16%). As the longest recommended route, respondents expressed enthusiasm about the variety of destinations they could access by walking or biking. Many shared personal experiences of attempting trips along existing routes that felt unsafe, which discouraged them from trying to walk or bike in the corridor.

Opportunities that respondents highlighted include improved connections at key points, such as the bridge near the Water Treatment Plant, and excitement about fewer highway crossings compared to current options. A few respondents also noted their appreciation for similar path networks in Alaska, which run near roads to link towns and recreation areas—suggesting this pathway could offer comparable benefits for the region.

"Of all the proposed projects, this is the one I'm most excited about. The ride to Leavenworth currently has some treacherous portions along the highway. This plan would ensure safe passage for runners and cyclists and would be a marvelous addition/extension of the current trail."

"This would be a fantastic addition to our community with many benefits. For example, it would provide a safe way for kids in the Cascade School District who live in Peshastin or Dryden to get to middle school and high school in Leavenworth. Adults in those communities could bike/walk to the grocery stores in Leavenworth. Not only would it be a great tourist attraction, it would help spread the Leavenworth tourists to Peshastin, Dryden and Cashmere."

Quality of Life

Many respondents emphasized how the pathway could enhance quality of life in the region. Key benefits include expanded recreation opportunities (13 responses, 7%), improved commuting options (11 responses, 6%), and economic development through tourism and increased travel choices for residents (9 responses, 5%). A few respondents also noted potential public health benefits, such as more opportunities for physical activity and reduced air quality impacts from driving. Additionally, some highlighted the potential to ease traffic congestion—particularly during large summer events—as more people choose to walk or bike instead of drive.

"A pathway like this is essential not just for our current residents, but for the future of our beautiful valley. With e-bikes and family cycling becoming more popular, now is the perfect time to make it happen. It offers both short- and long-term benefits. In the short term, it connects the community and provides safe, effective, non-motorized transportation between Leavenworth, Peshastin, Dryden, Cashmere, and Wenatchee. In the long term, it can reduce traffic, cut emissions, boost public health, create business opportunities along the route, and strengthen connections between the towns and cities it links."

Pathway Design and Amenities

Many respondents expressed interest in specific design elements and amenities to be included along the pathway corridor. Desired features include bathrooms, water fountains, and resting areas (5 responses, 3%); directional markings and lane separation on the pathway (4 responses, 2%); native plant landscaping (3 responses, 2%); shaded areas (2 responses, 1%); plant buffers (2 responses, 1%); and sound barriers (2 responses, 1%).

The recommended pathway route is in this plan in the early design phase and serves to ensure feasibility of implementation. The project team strongly recommends consideration to include these additional amenities as the pathway design progresses. Incorporating these features will be essential to creating a safe, comfortable, and enjoyable experience for all users.

"I am really excited for the potential of this. I also greatly appreciate that there are plantings on either side and not everything will be paved. I may have missed this, but if not, please use native plant species as they tend to do better and are better for other biota."

Alternate Alignment Option: Chumstick Highway

Eleven community members (6%) suggested extending the pathway along Chumstick Highway to improve connectivity between Plain and the rest of the region. While this connection is outside the scope of the current project, the project team recognizes its potential value for regional mobility and recreation.

The team recommends exploring this and other community-prioritized routes in future planning efforts to continue expanding safe, accessible connections for people walking and biking throughout the region.

Concerns: Leavenworth to Cashmere to Wenatchee Pathway Route

Highway Proximity

Proximity to the highway was the top concern for this corridor, mentioned in 19 responses (11%). While respondents appreciated that the route avoids steep terrain, they emphasized the need to ensure the pathway experience remains safe and pleasant. Key concerns included mitigating noise and vehicle emissions and providing sturdy barriers to protect users from traffic. Specific suggestions included installing sound barriers (3 responses, 2%) and planting vegetative buffers (2 responses, 1%).

"Certainly better than the current options on the shoulders of the roads but still next to the highway most of the way with its noise, smells and dangers. Creating a larger buffer between the path and the highway is essential to creating a safe and enjoyable path."

One of the guiding principles of the project is to create a separated pathway with physical barriers from highways to ensure user safety and comfort. Wherever possible, the route maximizes distance from the roadway and incorporates buffers and protective barriers. In certain sections—such as near School Street—the pathway is offset from the highway and positioned at a lower elevation to increase separation. Across the entire corridor, the design includes planted buffers of native vegetation along with barriers or guardrails to protect users and enhance the overall experience.

Easy Street Crossing

The highway crossing at Easy Street near the roundabout was a common concern, mentioned in 10 responses (6%). Most respondents cited current challenges with safely crossing the roundabout and expressed uncertainty about whether the proposed crossing would adequately address these issues. Several respondents suggested alternatives such as a pedestrian bridge or tunnel.

The safe crossing at Easy Street proposed by the project team includes a signalized pedestrian crossing with high-visibility markings for added safety. The design also incorporates ADA-compliant ramps and clear signage to guide both drivers and pathway users. These improvements aim to create a safer, more predictable crossing experience while maintaining efficient traffic flow at the roundabout.

Agricultural Impacts

Seven respondents (4%) expressed concerns about the pathway traveling too close to orchards and potentially impacting orchard operations. To address these concerns, the project team ensured orchard growers were

represented throughout the planning process by including them in the Community Advisory Committees and gathering input during early rounds of public engagement.

The project team determined the recommended routes with intention to minimize impacts on agricultural industries through the following measures:

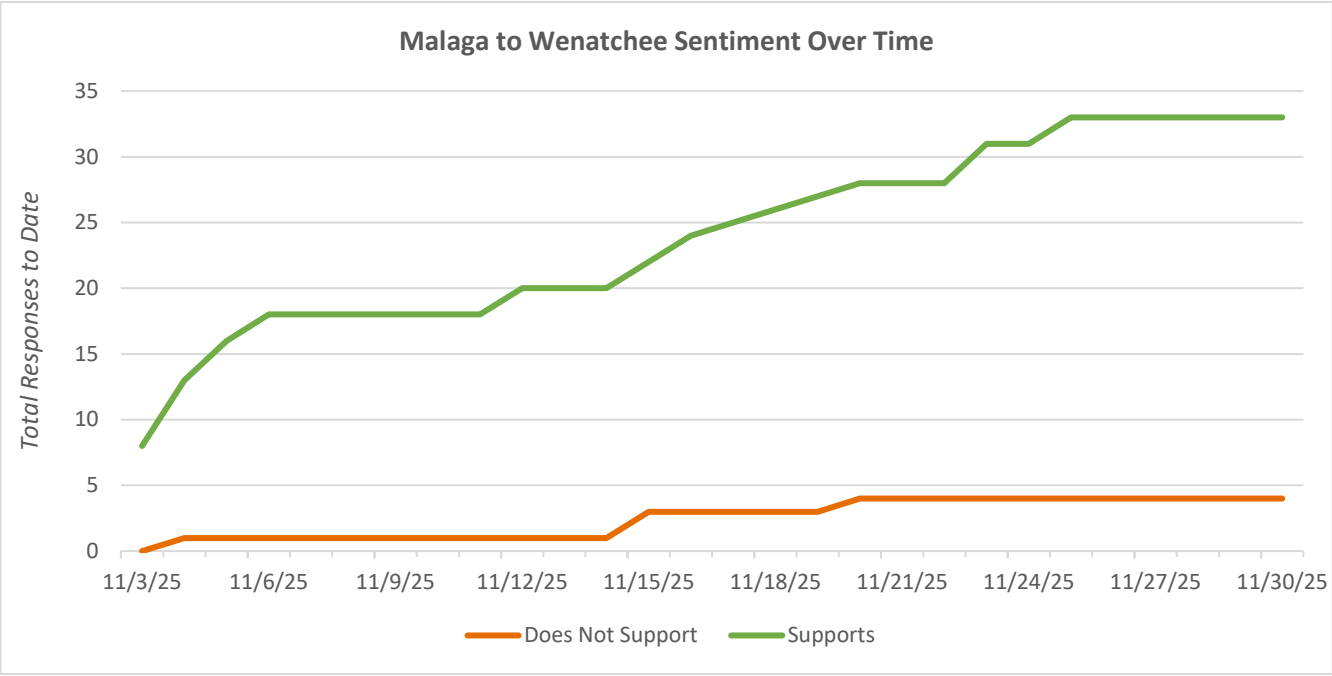
- **Alignment Selection**: Evaluation criteria prioritized routes that avoid traveling close to orchards.
- **Avoiding Irrigation Canals:** Irrigation canal routes were excluded to prevent negative impacts on orchard operations.
- **Protective Design**: Where the pathway runs between an orchard and the highway, the alignment is placed as close to the roadway as possible without compromising user safety and includes fencing to separate the pathway users from the orchard and its operations.

Malaga to Wenatchee Pathway Corridor

The recommended pathway route review survey for the Malaga-to-Wenatchee corridor received 37 responses with 89% (33 responses) expressing support—62% in full support and 27% with additional feedback (Figure 6). There were no neutral responses. Supportive comments focused on the pathway's potential to expand commuting and recreation opportunities, aligning with economic growth and new businesses in the community. Similar to other corridors, many respondents also emphasized the importance of safety improvements for people walking and biking.

The most common concerns included safety and comfort along sections of the pathway adjacent to the highway, as well as potential undesirable outcomes such as increased crime and litter in the community.

Figure 6: Sentiment of Responses Over Time to Malaga to Wenatchee Recommended Route Review



Opportunities: Malaga to Wenatchee Pathway Route

Safety Improvements

Many of the responses in support of the pathway mentioned the benefits of improved safety for people walking and biking in and around Malaga and Wenatchee (13 responses, 35%). In particular, having alternative routes to portions of Wenatchee Avenue, the Stemilt Creek Bridge, and the Malaga-Alcoa Highway were mentioned as currently stressful and unsafe travel routes. Additionally, as both communities continue to grow some respondents mentioned feeling less safe walking and biking on roads and excitement that these paths could help relieve current and future congestion as people chose to walk and bike.

"As someone who has spent hundreds of hours on a bicycle riding the highway between Wenatchee and Malaga I can say that these improvements would be an incredible benefit to the community. The Stemilt Creek bridge is so dangerous on a bike that I watch for traffic and often stop a hundred or so yards away from the bridge to wait to cross until there are no vehicles around. Adding a lane for bikes and pedestrians - even if just to that section would benefit cyclists, pedestrians, and motorists."

Regional Connections

In addition to safety, many respondents expressed excitement about improved regional connections for both commuting and recreation provided by the pathway (6 responses, 16%). Respondents specifically highlighted the connection to the Apple Capital Loop trail as a highly beneficial way to increase recreation opportunities for the Malaga community. Multiple responses mentioned interest in commuting to and from work and visiting the increasing number of businesses in Malaga.

To build on these benefits, the project team recommends that local leaders work to develop additional pathways within their communities, expanding the regional network to enhance connectivity, improve access, and meet future transportation and recreation needs.

"I'm a 30+ year resident of 3Lakes and worked 40 years at the hospital. I loved to cycle to work but it became much too dangerous to even contemplate about 15 years ago. Though retired recently, I am wholeheartedly for this pathway!! What a wonderful way to connect the new industries out this way and for residents to have a safe space to commute and recreate. Thank you!!!"

Pathway Extensions

Several comments also mentioned a desire to see more spurs or highlighted connections from the new pathway corridor. One respondent was interested in being able to loop with Hydro Park by connecting to the Apple Capital Loop Trail. The proposed Rock Island to East Wenatchee pathway with further extend this connection opportunity from Hydro Park to Rock Island. Respondents were also interested in a full pathway connection to Mission View Elementary School and a spur to connect with the multiuse trails at Three Lakes Golf Course from Stemilt Hill Road and Malaga Road. These connections can be pursued by the community in the future to continue to build safe connections for people walking and biking in the region.

Supporting Community Growth

Respondents also emphasized the significance of the pathway corridor as a key element in Malaga's future growth strategy, particularly because of its connection to the new Community Waterfront Park. There was strong interest in how this corridor can accommodate both current and anticipated population growth, especially as new businesses bring additional employment opportunities to the area. Given its role in complementing the Community Waterfront Park, several respondents suggested that this project should be prioritized for development.

Concerns: Malaga to Wenatchee Pathway Route

Proximity to the Highway

Respondents expressed concerns about the pathway's proximity to the highway, citing noise, emissions, litter, and the risk of vehicles breaching barriers. While a route farther from high-speed roads is preferred, steep terrain, private property, and railway crossings make alternatives impractical. To address these concerns, the design includes protective barriers, elevation changes where feasible, and native plantings to buffer noise, improve air quality, and create a more natural experience. Despite its location, the route will offer views of the Columbia River and surrounding foothills, maintaining scenic value and a strong connection to the landscape.

The Malaga-to-Wenatchee pathway follows high-speed corridors such as Wenatchee Avenue and the Malaga Alcoa Highway. Where space allows, the trail will be separated by vegetated buffers and barriers to enhance safety and visual separation from traffic and rail lines. In constrained areas like the Rock Cut, more substantial barriers will be installed. Native plantings throughout the corridor will soften views and provide ecological benefits. The project team will also recommend reducing highway speeds at trail crossings to improve safety.

"I am concerned about the proximity to automobile traffic, would prefer something closer to the river for safety and pleasure...but feel a pathway from Malaga to Wenatchee would be an enhancement of current transportation options."

Undesirable Path Use

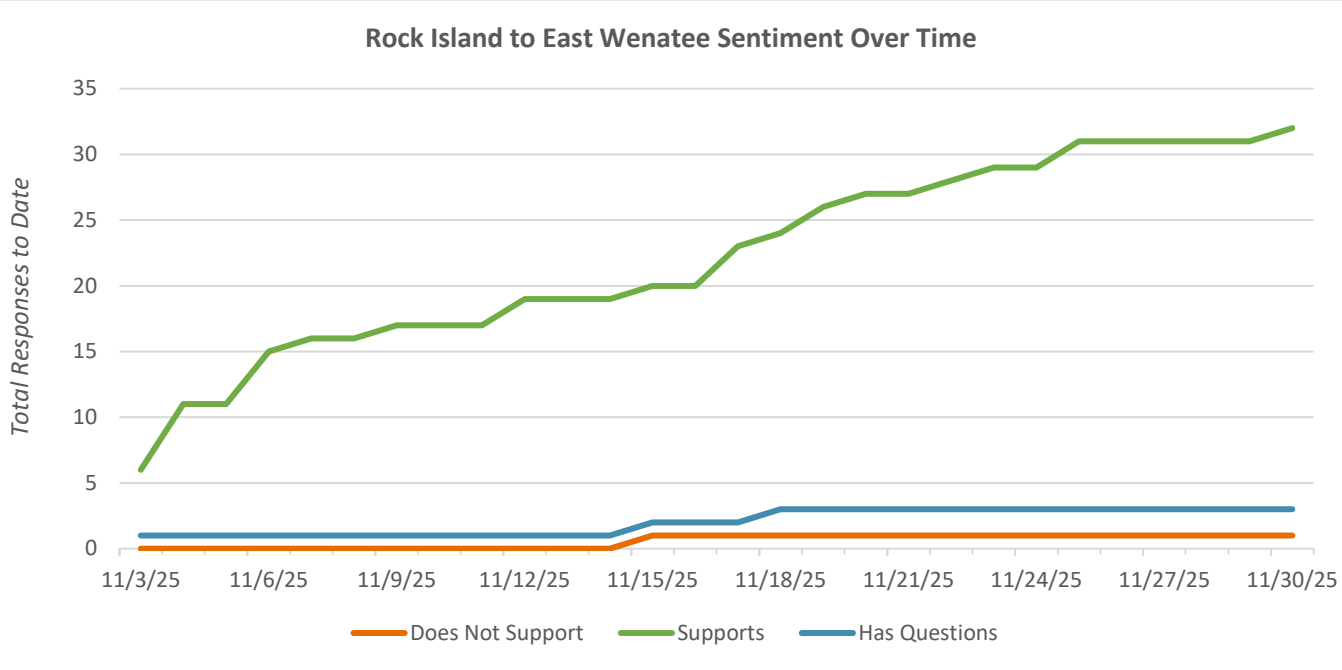
Some respondents expressed concerns about potential negative outcomes, including increased crime, homeless encampments, and trash accumulation along the pathways. The Operations, Management, and Maintenance Plan in Chapter 5 of the Pathways Master Plan addresses these issues by establishing a governance structure to ensure a safe, well-maintained, and enjoyable experience. The plan includes regular trash removal, graffiti cleanup, and infrastructure repairs, as well as public safety measures and outreach strategies should the pathway be used for temporary housing by individuals experiencing homelessness.

Implementation strategies also respond to concerns about speed differences among users. Through thoughtful pathway design, clear etiquette signage, and active management, the plan promotes safe and predictable interactions for all users.

Rock Island to East Wenatchee Pathway Corridor

Community feedback on the Rock Island to East Wenatchee Corridor was overwhelmingly positive, with 97% of respondents (32 out of 33 responses with an opinion) expressing support—85% without additional comments and 12% with feedback. There were also 3 neutral responses with a question or comment on the pathway corridor and 1 response not in support of the pathway. Key opportunities that were highlighted included improved connections to Rock Island, a safe highway crossing for Hydro Park, and enhanced safety for people walking and biking in East Wenatchee and Rock Island. The most common concerns mentioned were the pathway's proximity to the highway and the need for shade and cooling.

Figure 7: Sentiment of Responses to Rock Island East Wenatchee Recommended Route Review



Opportunities: Rock Island to East Wenatchee Pathway Route

Hydro Park Connection

Respondents expressed strong support for a safe crossing to connect the community with Hydro Park. Eight responses (22%) specifically mentioned Hydro Park or Nile Road, and three (8%) highlighted excitement about the highway crossing. Two respondents preferred a tunnel option—one noting it would be easier to navigate with a stroller—while one respondent expressed a preference for an overpass.

"I'm really glad to see a pedestrian crossing near Nile Ave!! It is so needed!! We live just across Hydro Park and find it ridiculous that we have to drive to get to this park when we could easily walk, if there was a safe path for us. I think the tunnel crossing options sounds the best and it looks the most accessible. I have a small child so using stairs isn't an easy task for us."

Connection to Rock Island

Nine responses (25%) expressed enthusiasm for the connection between Rock Island and the Apple Capital Loop Trail. Several noted benefits such as economic development, increased business opportunities in Rock Island, and expanded recreation options for the community. Two respondents (6%) indicated this pathway should be built first or ranked it as a top priority, citing the appeal of extending existing trails and creating a direct link to Rock Island.

Safety for People Walking and Biking

Many respondents highlighted improved safety for people walking and biking between communities as a key benefit (7 responses, 20%). Current routes require travel along highways and busy roads, including an unsafe crossing to Hydro Park and between the Mobile Home Park and the bus stop near Nile Road. One respondent noted the difficulty of leading community cycling club rides in this area due to these conditions and expressed enthusiasm for the safer connections the project will provide for both East Wenatchee and Rock Island.

"I love this proposed connection. This would make a huge difference in the safety and practicality of travelling between Rock Island and Wenatchee on bike or on foot. The proposed route and infrastructure improvements look awesome and as someone who has travelled that portion of highway between the east and west portions of Rock Island road I would very much appreciate these improvements. This route is part of a very popular cycling route that has been largely abandoned in recent years because of growing concerns about the safety of cycling on the highway. It would be awesome to have a viable, safe route that would restore that access. "

Concerns: Rock Island to East Wenatchee Pathway Route

Proximity to Highway

The most common concern in otherwise supportive comments was the pathway's proximity to SR 28 in certain sections (3 responses, 8%). Respondents cited issues such as noise, safety, and hazards from maintenance activities like snow storage and herbicide application. Several requested physical barriers and vegetation along the pathway corridor adjacent to the highway. The project team strongly recommends these features be incorporated into the design as the pathway development progresses. These design elements, along with elevation changes where feasible, will enhance safety, reduce exposure to traffic, and create a more comfortable and visually appealing experience for users.

Alternative Alignment Requests

One respondent suggested routing the pathway south of SR 28 to provide better river views. After careful evaluation, the project team selected the north-side alignment because it minimizes highway crossings, provides a more direct connection to lakes in Rock Island, and reflects the Community Advisory Committee's preference for a route along the north side of the highway. Additionally, the crossing near Nile Road was identified as the priority to improve access to key destinations, including HydroPark, the bus stop, and the mobile home park.

Another respondent asked why the route follows SR 28 instead of Rock Island Road. While Rock Island Road was considered, it scored significantly lower than the recommended alignment based on project criteria due to the steep slope, narrow ROW, and driveway impacts.

Shade and Cooling

Two responses (6%) expressed concern about shade and cooling on the pathway in the summer, especially in the sections routed adjacent to the highway. The section along SR 28 includes continuous planting areas between the pathway and the highway, which will provide shade and cooling benefits. The vegetated buffer will prioritize native plants, which are adapted to the area climate. The planted areas will include trees, which can provide surface cooling benefits of up to 45 degrees Fahrenheit.

The plan also recommends pathway amenities to address shade and cooling such as shade structures and hydration stations. The shade structures, such as free standing canopies, will be co-located with benches when no tree shade is available and at trail access points. Additionally, the plan recommends hydration stations at trail access points and along the pathways.

SR 28 Widening near Quincy

Two comments mentioned a desire to have SR 28 widened to four lanes near Quincy. While this plan does not focus on highway widening projects, the project team encourages local leaders to collaborate with WSDOT to integrate the pathway with current and future highway construction projects. The project team also recommends that local leaders work to develop additional pathways within their communities, expanding the regional network to enhance connectivity, improve access, and meet future transportation and recreation needs.

Next Steps

Following this round of community engagement, the project team will incorporate these findings into the Chelan-Douglas Regional Pathways Master Plan.

Additionally, the project team will continue to attend meetings to share the draft recommendations and update materials to address the most common questions received during the engagement process. The frequently asked questions copy for the website is available in the appendix. The team will also reach out directly to survey respondents who provided substantial feedback or asked questions to share information on how the plan addresses their concerns.

Appendix:

Survey Language

Let us know what you think about the recommended pathway route in the Leavenworth to Cashmere to Wenatchee Corridor!

- Name (Optional):
- Email (Required):
- Provide your feedback and comments here:

Let us know what you think about the recommended pathway route in the Leavenworth to Cashmere to Wenatchee Corridor!

Name (Optional)

Email *(Required)*

Provide your feedback and comments here: *(Required)*

SUBMIT

FAQs for Project Website

Universal Concerns Re: Pathway Planning, Design & Implementation

Who will pay to build these pathways?

The plan identifies a **diverse mix of funding sources** to ensure financial sustainability for both construction and long-term operations:

- **State and Federal Grants**
  - Programs such as Transportation Alternatives (TA), Surface Transportation Block Grant (STBG), Active Transportation Infrastructure Investment Program (ATIIP), and Safe Routes to School.
  - Competitive grants for resilience (PROTECT), carbon reduction, and recreational trails.
- **Local Partnerships**
  - Collaboration with cities, counties, and Link Transit for integrated mobility solutions.
  - Potential cost-sharing agreements with utility districts and parks departments.

- **Nonprofit and Philanthropic Support**
    - Engagement with organizations like Chelan-Douglas Land Trust, Complete the Loop Coalition, and regional foundations.
    - Opportunities for in-kind contributions and volunteer support for maintenance.
- **Nontraditional Financing**
    - Value capture mechanisms such as Special Assessment Districts (SADs), Tax Increment Financing (TIF), and Transportation Utility Fees (TUF).
    - Public-Private Partnerships (P3s) for design-build-maintain contracts.
    - Green financing options (e.g., green bonds) for environmentally focused segments.

Will the project require acquisition of private property?

The recommended alignments were chosen to minimize property acquisition. Most routes use existing right-of-way or public easements, which is why they are often adjacent to the highway. Where acquisition is unavoidable, the project will work closely with property owners to ensure fair and transparent processes.

Will the pathways follow irrigation canals?

No. The plan is committed to avoiding irrigation canal routes to protect agricultural operations and water infrastructure. If a property owner is interested in coordinating with the Pathways Project they are encouraged to contact the project team to discuss options.

When will the pathways be built?

The implementation strategy for the Chelan-Douglas Pathways Master Plan is designed to balance feasibility, cost, and community priorities. Development will likely occur in three tiers based on the following phasing framework, each reflecting the complexity and readiness of individual segments:

Tier 1: Immediate Feasibility

- Near-term implementation for segments with minimal physical, environmental, or regulatory constraints.
- These sections often leverage existing rights-of-way and infrastructure, reducing permitting and design complexity.
- High likelihood of near-term funding through grants and local partnerships.
- Examples: Connections to existing trail networks (e.g., Apple Capital Loop Trail), segments adjacent to public roads with available ROW.

Tier 2: Moderate Feasibility

- Mid-term implementation for segments requiring additional design, interagency coordination, or moderate permitting.
- May involve minor grading, property easements, or environmental mitigation.
- Funding will likely combine state/federal grants with local contributions and nonprofit support.

Tier 3: Long-Term Feasibility

- Long-term implementation for high-cost, complex segments such as boardwalks, major bridges, or areas with significant land acquisition needs.
- Requires extensive planning, permitting, and stakeholder engagement.
- Often dependent on future development or infrastructure improvements.

How will the design create a safe and comfortable pathway next to highways?

Safety and comfort for pathway users are top priorities. Each corridor includes segments near highways because these alignments scored highest for feasibility and connectivity. Safety is a top priority:

- **Physical barriers** (guardrails, fencing) and **vegetative buffers** will separate the pathway from traffic.
- In some locations, the path will be **offset at a lower elevation** than the roadway for added protection.
- Crossing points will include **signalized intersections, flashing beacons, or grade-separated bridges/tunnels** where needed.

Will the pathways impact emergency response and access?

The project team coordinated with WSDOT and emergency responders to ensure all recommendations allow for sufficient emergency vehicle access and response protocols.

Who will maintain the pathways?

A multi-agency Operations and Maintenance framework is proposed. See the Operations, Management, and Maintenance section in Chapter 5 of the Pathways Master Plan. Tasks include routine sweeping, vegetation trimming, trash removal, and seasonal maintenance.

I want the pathway to extend to a connection in my community! Is that possible?

This project does not specifically propose new pathways beyond those recommended within each corridor, but communities are encouraged to pursue future connections. The goal of the Pathways Project is to build a regional trail network that can expand over time.

Will the pathways include amenities like lighting, bike parking, seating, and rest areas?

Yes! The Pathways Master Plan prioritizes comfort, safety, and convenience by incorporating a range of amenities throughout the corridors. These include:

- Lighting at access points, crossings, and high-use areas to improve visibility and security
- Bicycle racks at trailheads and near key destinations to encourage biking
- Rest areas with benches and picnic tables placed at scenic viewpoints and trailheads, often co-located with shade structures and hydration stations
- Essential amenities such as bathrooms, drinking fountains, trash and recycling receptacles, and shade structures at major access points

The plan also includes operations and maintenance strategies to ensure these features remain in good condition, creating a safe and enjoyable experience for all users.

What kind of plantings will be used along the pathways?

The pathways will feature a thoughtfully designed palette of native plants chosen to:

- Thrive in the regional climate with minimal irrigation
- Support local wildlife and provide beneficial habitat
- Prevent the introduction of invasive species

Native trees will offer shade and cooling benefits, improving comfort for users, while shrubs and groundcover will enhance aesthetics, stabilize soils, and reduce erosion. This approach creates a resilient, low-maintenance landscape that blends seamlessly with the natural environment.

How will the pathway design promote the need for shade along the corridor?

The pathway design prioritizes shade through continuous planting zones with native trees, which can reduce surface temperatures and improve comfort and safety for users. In addition, shade structures, seating areas, and hydration stations will be strategically placed at trailheads and high-use locations along the route. These features not only provide relief from heat but also create inviting rest areas that enhance the overall user experience.

What about emergency access throughout the corridors?

The pathway design will preserve and enhance emergency access along the entire corridor. This means maintaining clear routes for fire, medical, and law enforcement vehicles and ensuring that any new infrastructure—such as bridges or crossings—meets emergency clearance and load requirements. The project team will work closely with local emergency service providers during planning, design, and implementation to integrate access needs, staging areas, and response protocols. This collaborative approach ensures the pathway improves safety without compromising emergency response capabilities.

Corridor-Specific FAQs

Chelan to Manson

Why is the pathway along SR 150 instead of the back roads?

SR 150 was selected because it offers the best balance of connectivity, safety, and feasibility. It directly links Chelan and Manson while providing access to parks, transit stops, and community destinations. The project team thoroughly evaluated back-road alternatives; however, those routes presented significant challenges, including steep grades, indirect travel, and extensive private property acquisition—making them less practical and more costly to implement.

How will the boardwalk near Rocky Point affect views and property?

The boardwalk is intentionally designed to preserve scenic vistas and minimize environmental and property impacts. By elevating the pathway on piers over the water, the design avoids steep terrain and reduces the need for land disturbance along the shoreline. This approach maintains unobstructed views of Lake Chelan for both pathway users and adjacent property owners, while ensuring safe passage in a challenging section of the corridor. The structure will be engineered to blend with the natural setting and include features that respect privacy and protect the surrounding landscape.

Leavenworth to Cashmere to Wenatchee

Will the pathway interfere with orchards?

The project team carefully designed the recommended alignment to avoid orchards wherever feasible. In locations where proximity is unavoidable, the plan incorporates buffer zones, vegetative screening, and traffic calming measures to minimize potential conflicts and protect agricultural operations. These strategies were developed in collaboration with growers and community stakeholders to ensure the pathway supports both recreation and the region's agricultural economy.

How will narrow bridges and rail crossings be addressed?

The plan includes new pedestrian and bicycle bridges and widened crossings at key locations to ensure safe and comfortable passage. The project team determined strategic location for improvements designed to eliminate pinch points, enhance user safety, and maintain connectivity along the corridor.

Malaga to Wenatchee

How will the pathway navigate steep terrain and the rock cut?

The design incorporates bench-style pathways and some regrading to maintain accessibility and safety in challenging areas. Where slopes or rock formations create pinch points, the alignment will use engineered benches cut into the hillside and, where necessary, structural solutions such as retaining walls or elevated sections. These approaches minimize environmental disturbance while ensuring the pathway remains comfortable and compliant with accessibility standards.

Will there be safe crossings along the highway?

Yes. The plan includes signalized crossings at key intersections and traffic-calming measures such as speed reductions and enhanced signage to prioritize pedestrian and cyclist safety. These improvements are focused on high-activity areas, including near Mission View Elementary School and the new Community Waterfront Park, ensuring safe and convenient access for students, families, and community members. Additionally, the project team recommends additional study to determine if there should be another crossing near the Malaga Market.

Rock Island to East Wenatchee

Why route along SR 28 instead of Rock Island Road?

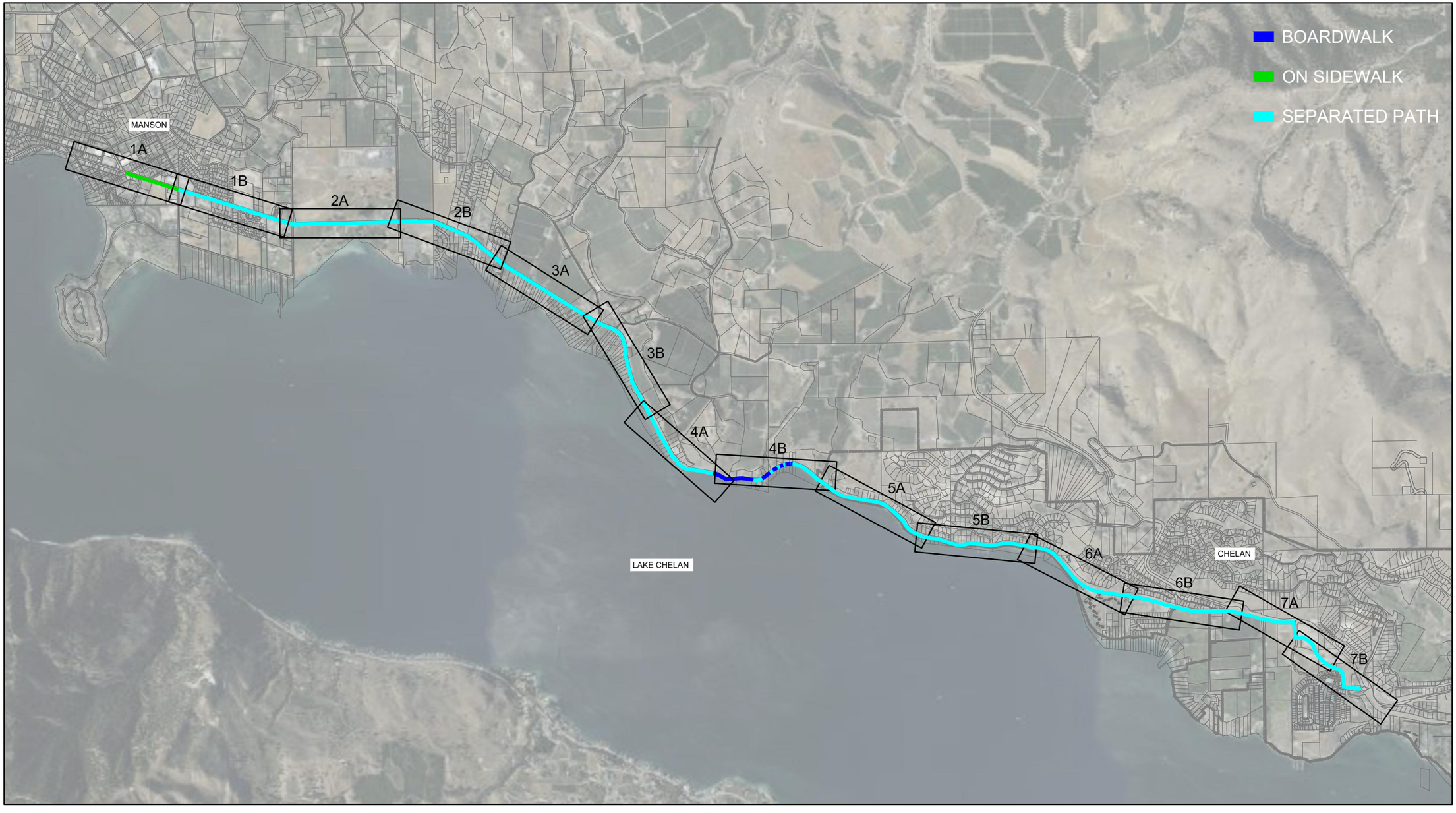
The SR 28 alignment was chosen because it scored significantly higher for connectivity, safety, and long-term feasibility. It provides direct access to regional destinations, transit connections, and the Apple Capital Loop Trail, while minimizing conflicts with residential areas. In contrast, Rock Island Road presented challenges such as limited right-of-way, steep terrain, and safety concerns for crossings, making it less practical and more costly to implement.

How will safe crossings be provided near Hydro Park and Nile Avenue?

To ensure safe and convenient crossing of SR 28, the plan includes grade-separated crossing options—either a pedestrian/bicycle bridge or a tunnel—at the west end of the pathway. This solution will connect the neighborhood north of the highway to Hydro Park and allow residents living south of the highway to safely access the nearby Link Transit bus stop by Nile Avenue while eliminating conflicts with high-speed traffic on SR 28. The design will prioritize visibility, accessibility, and user comfort, creating a safe link between the Apple Capital Loop Trail and the surrounding communities.

Appendix I: 10% Design of Each Pathway Alignment





PLAN
SCALE: 1" = 2400'

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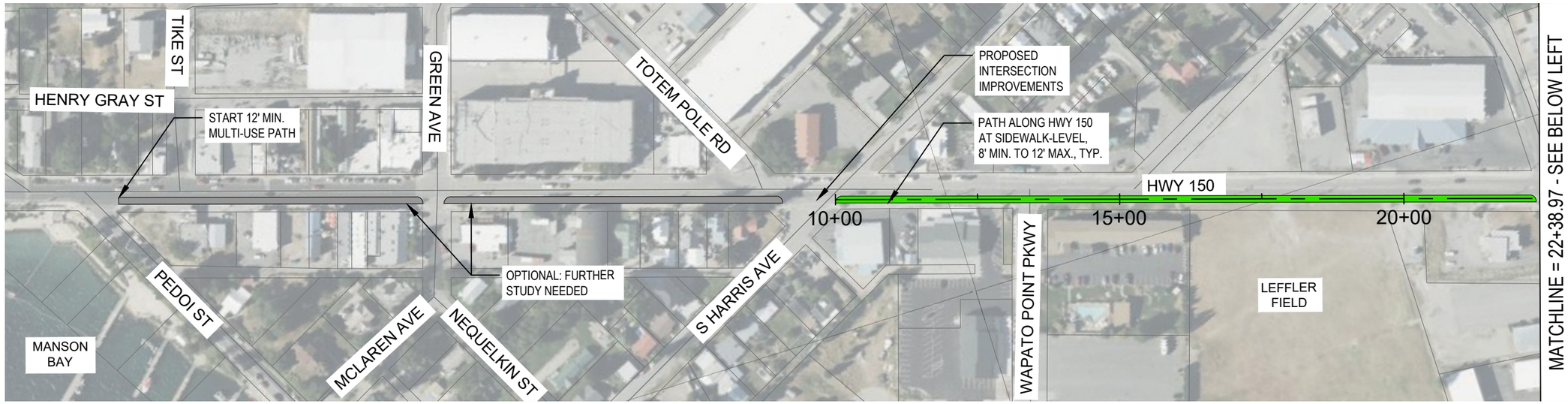
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CHELAN - MANSON CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
DOWNTOWN CHELAN TO DOWNTOWN MANSON

KEY MAP

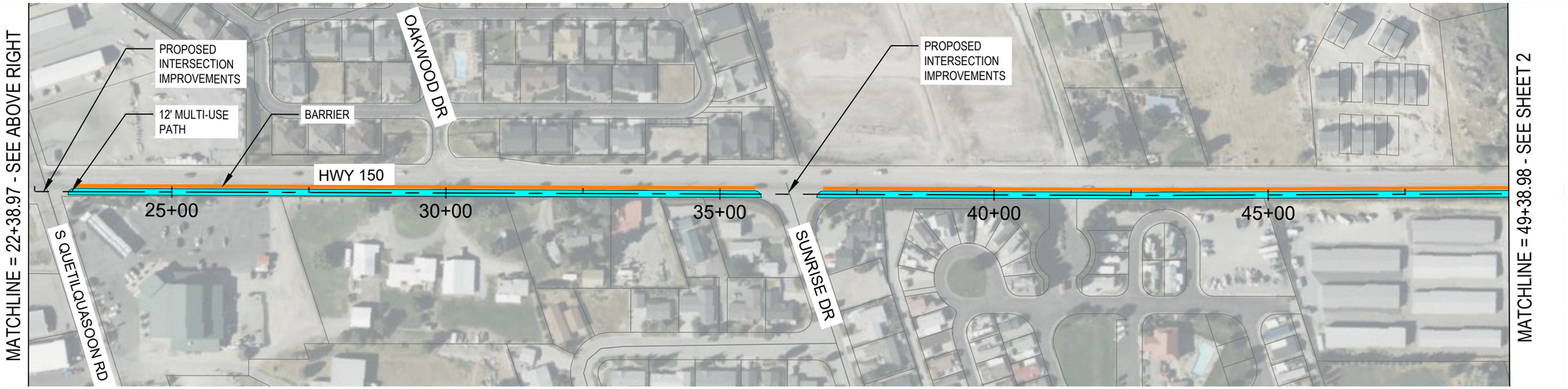
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MAP 1A



PLAN
SCALE: 1" = 200'

MAP 1B



PLAN
SCALE: 1" = 200'

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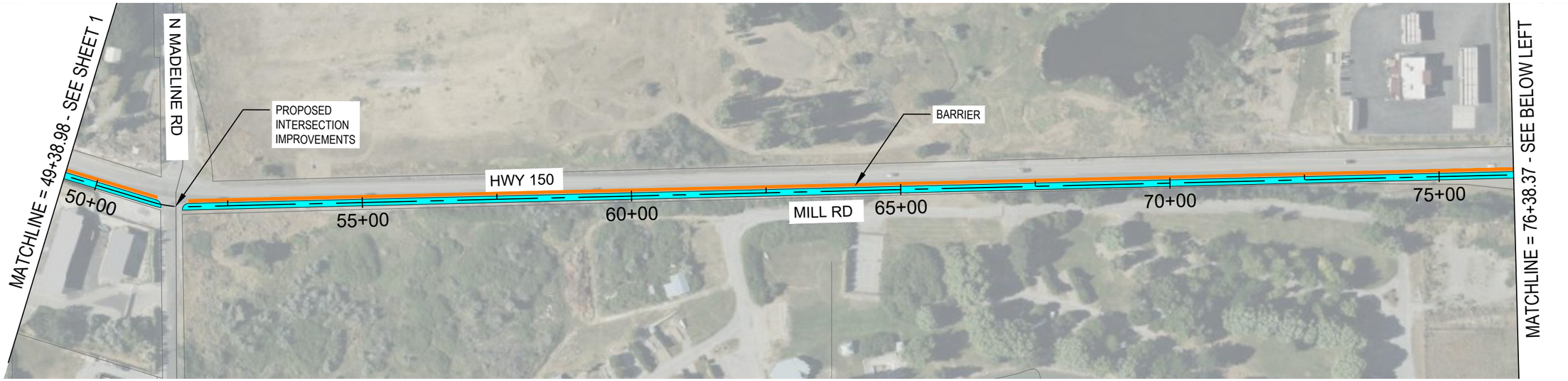
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CHELAN - MANSON CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
DOWNTOWN CHELAN TO DOWNTOWN MANSON

PLAN
1

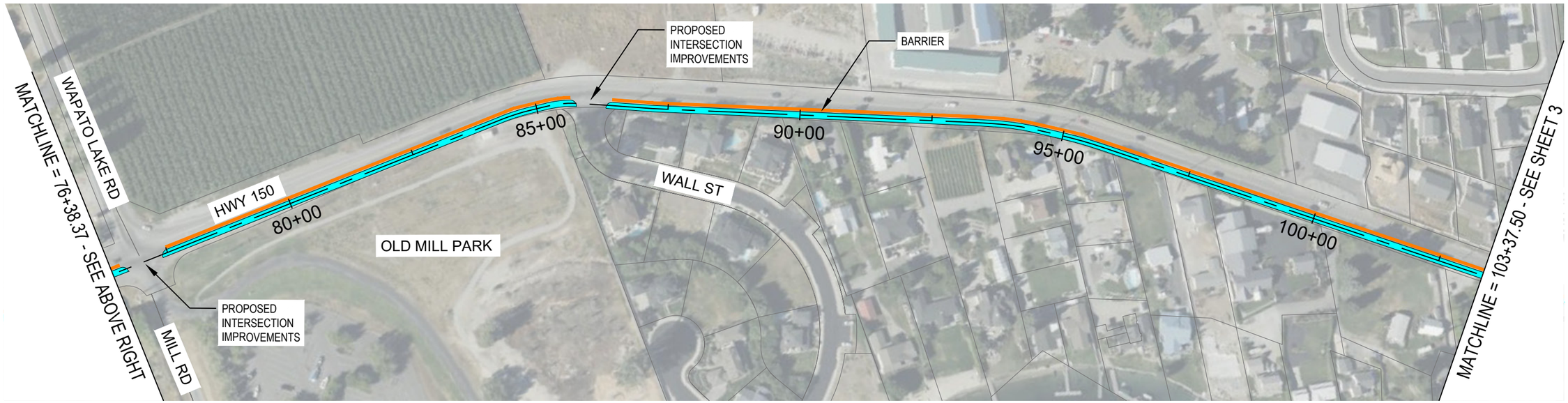
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MAP 2A



PLAN
SCALE: 1" = 200'

MAP 2B



PLAN
SCALE: 1" = 200'

alta

0 200' 400'
Scale: 1" = 200'

CHELAN - MANSON CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
DOWNTOWN CHELAN TO DOWNTOWN MANSON

PLAN

2

Chelan-Douglas | 410

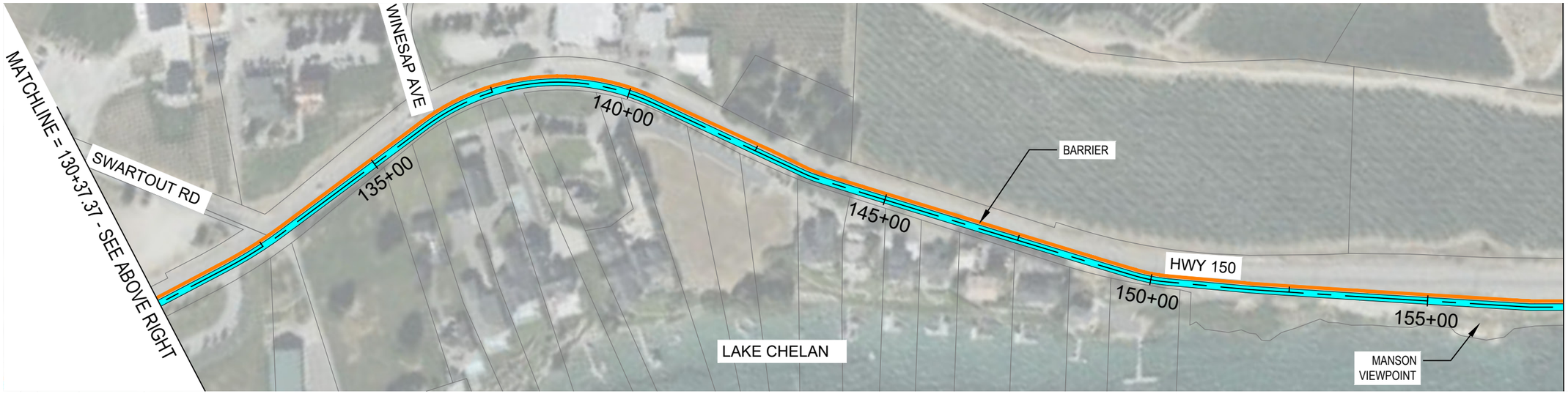
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MAP 3A



PLAN
SCALE: 1" = 200'

MAP 3B



PLAN
SCALE: 1" = 200'

alta

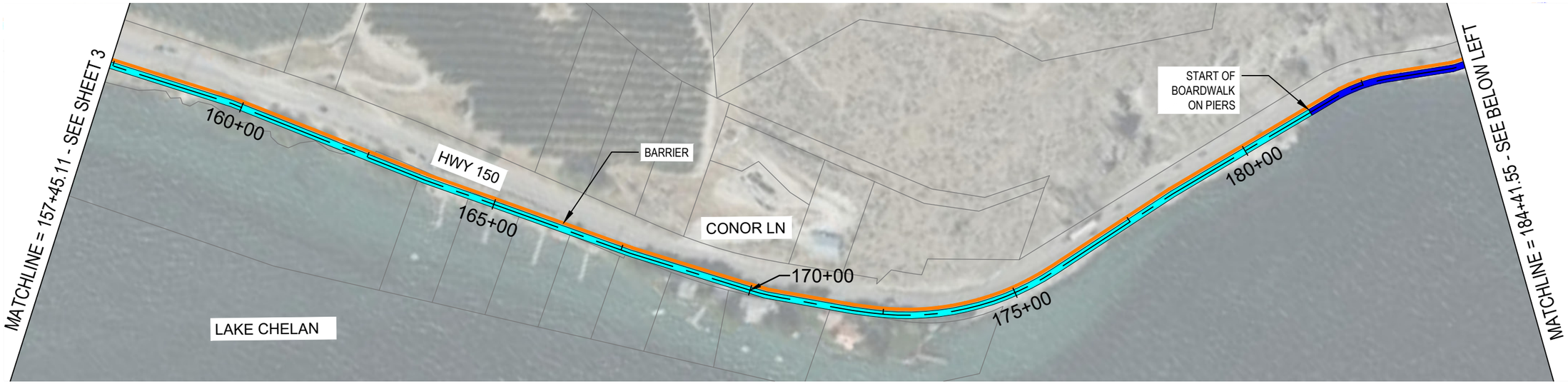
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CHELAN - MANSON CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
DOWNTOWN CHELAN TO DOWNTOWN MANSON

PLAN
3

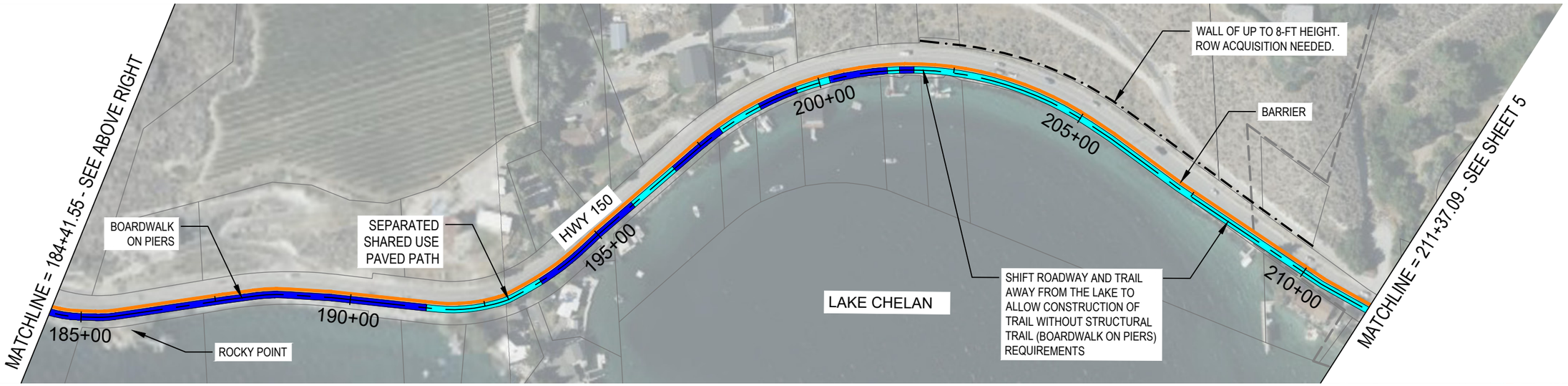
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MAP 4A



PLAN
SCALE: 1" = 200'

MAP 4B



PLAN
SCALE: 1" = 200'

alta

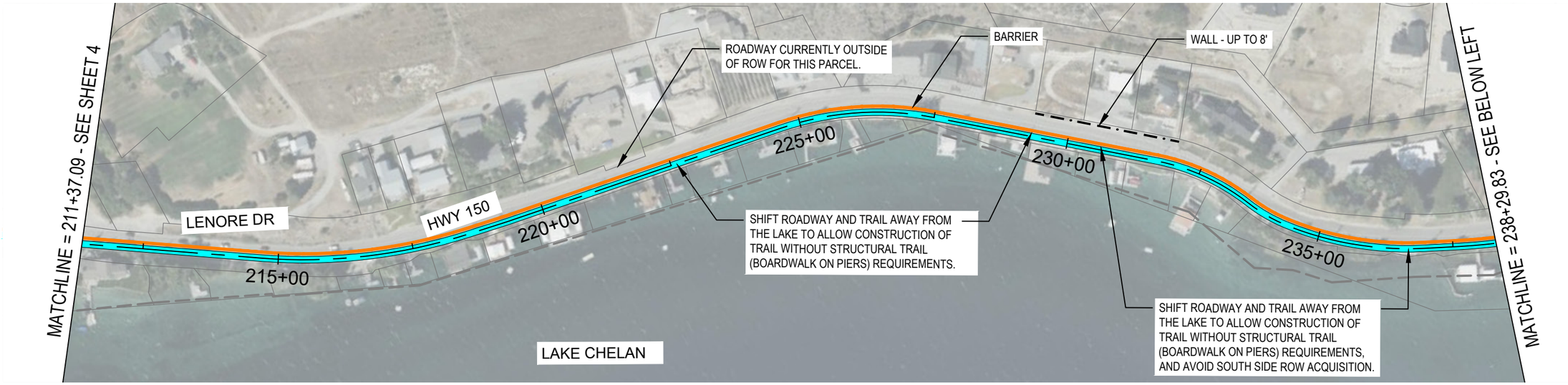
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CHELAN - MANSON CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
DOWNTOWN CHELAN TO DOWNTOWN MANSON

PLAN

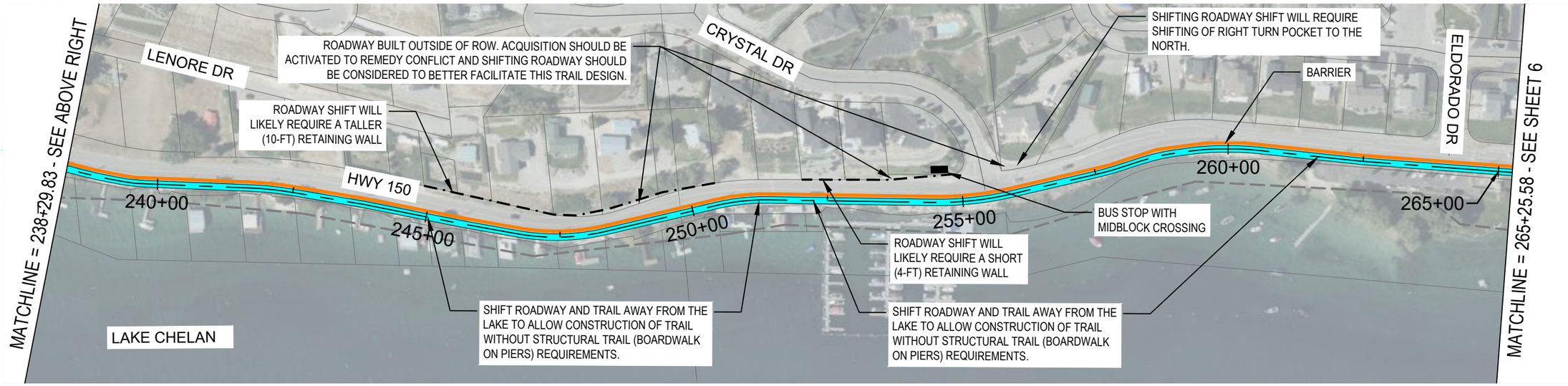
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MAP 5A



PLAN
SCALE: 1" = 200'

MAP 5B



PLAN
SCALE: 1" = 200'

alta

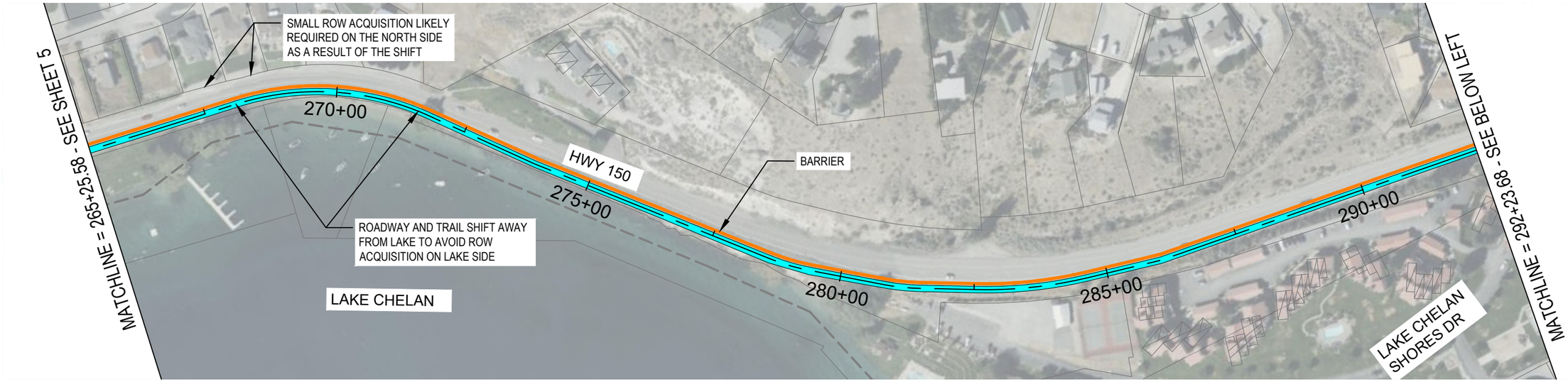
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CHELAN - MANSON CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
DOWNTOWN CHELAN TO DOWNTOWN MANSON

PLAN
5

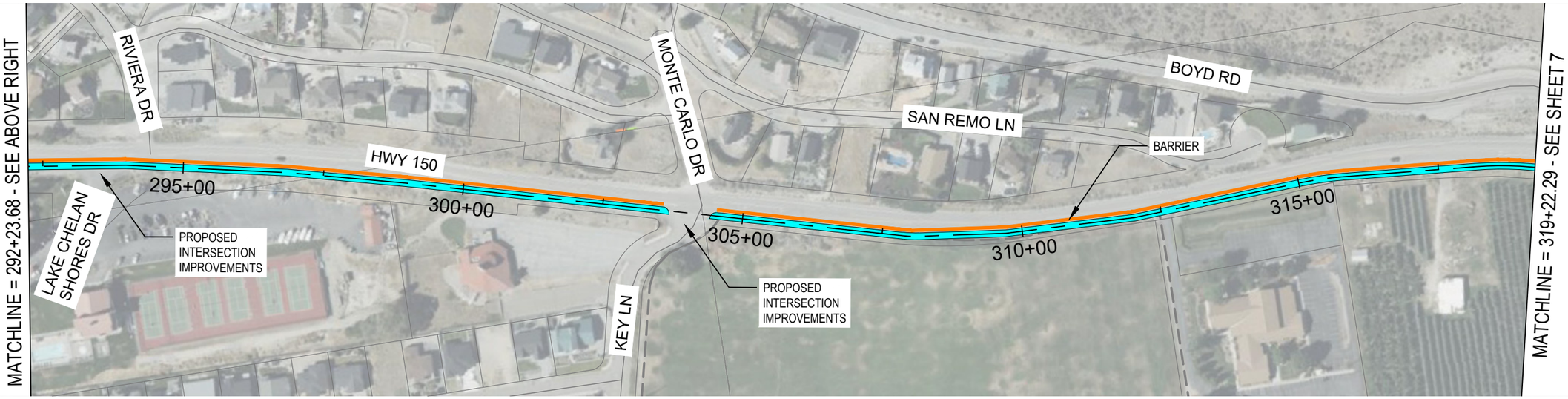
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MAP 6A



PLAN
SCALE: 1" = 200'

MAP 6B



PLAN
SCALE: 1" = 200'

alta

0 200' 400'
Scale: 1" = 200'

CHELAN - MANSON CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
DOWNTOWN CHELAN TO DOWNTOWN MANSON

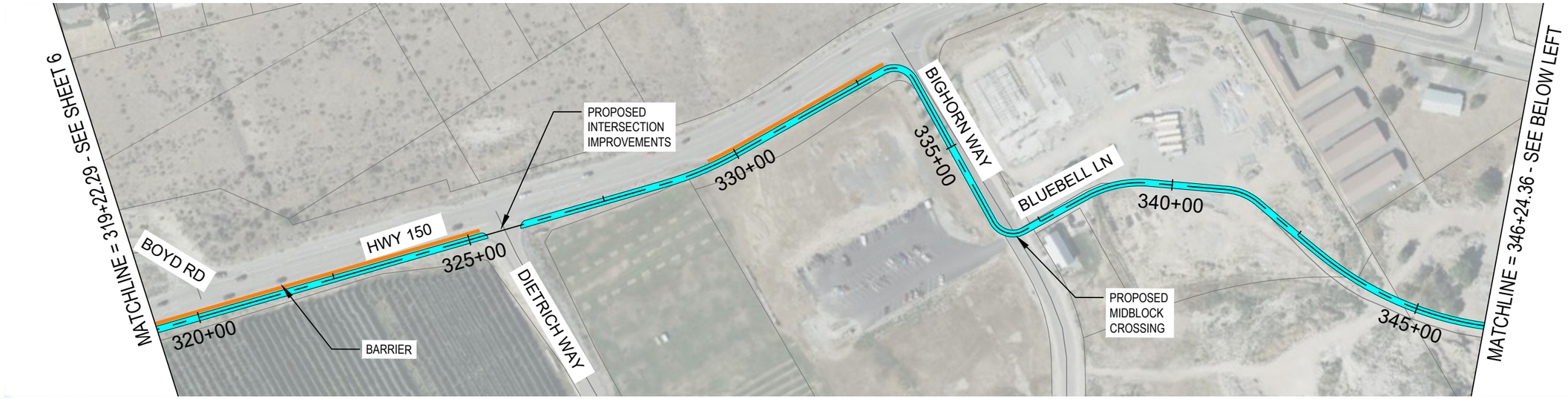
PLAN

6

Chelan-Douglas | 414

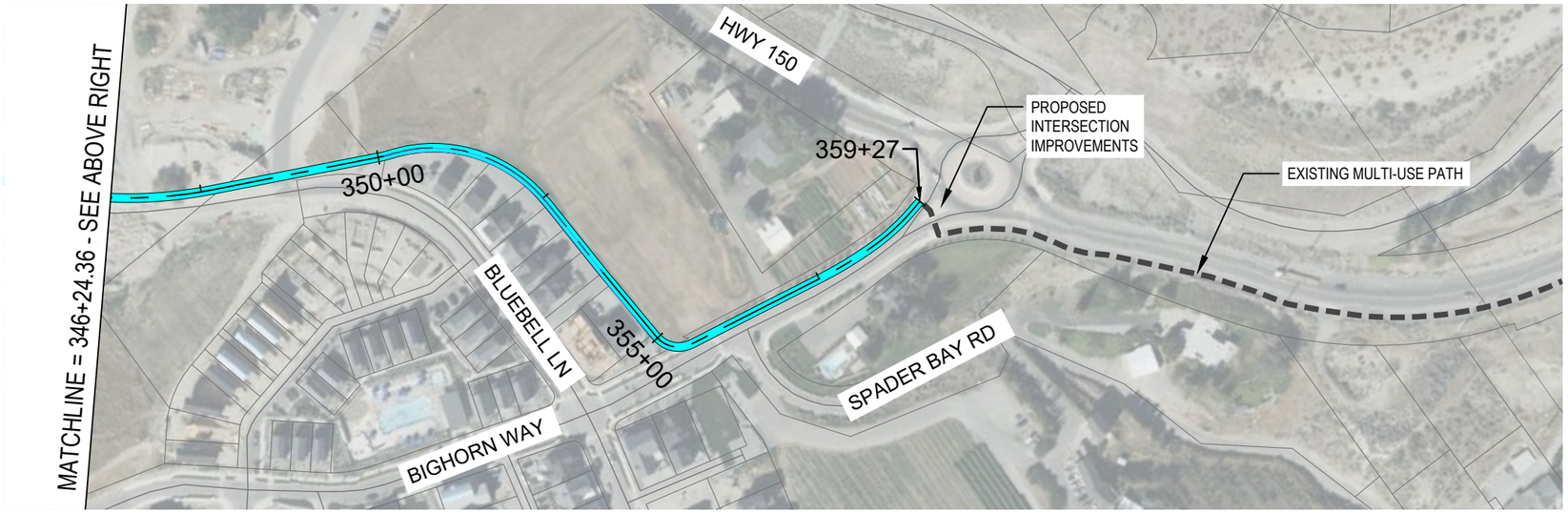
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MAP 7A



PLAN
SCALE: 1" = 200'

MAP 7B



PLAN
SCALE: 1" = 200'

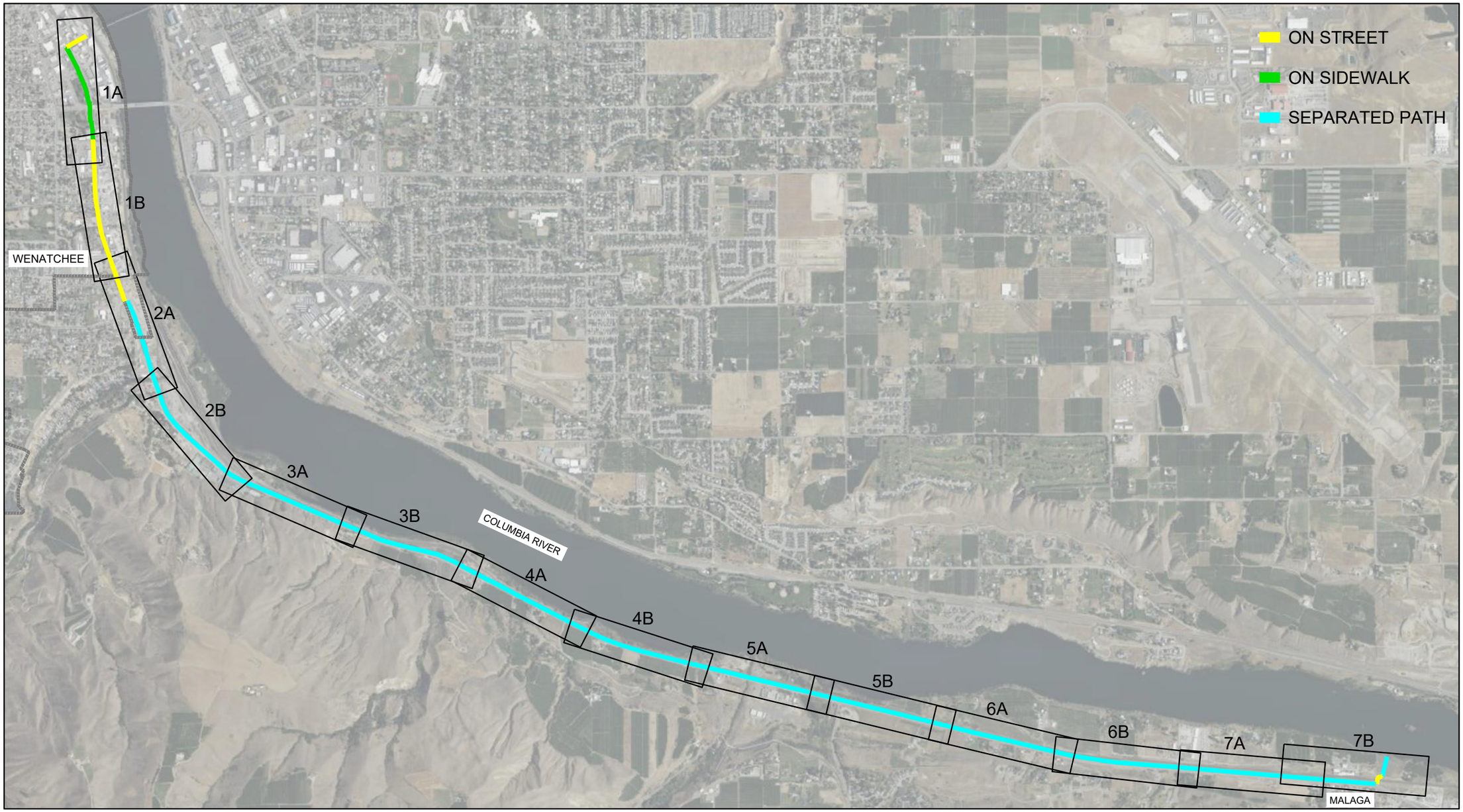
alta

0 200' 400'
Scale: 1" = 200'

CHELAN - MANSON CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
DOWNTOWN CHELAN TO DOWNTOWN MANSON

PLAN
7

Dwg filename: N:\Shared\PROJECTS\2024\2024.014 Chelan-Douglas, WA Regional Pathways\CAD\01_Plans\2024.014_Chelan to Manson Plan Sheets.dwg Last saved by: SamAlg Plot date: 11/12/2025 10:03 AM Plotstyle table: ALTA NCS Standard.stb



PLAN
SCALE: 1" = 2000'

alta

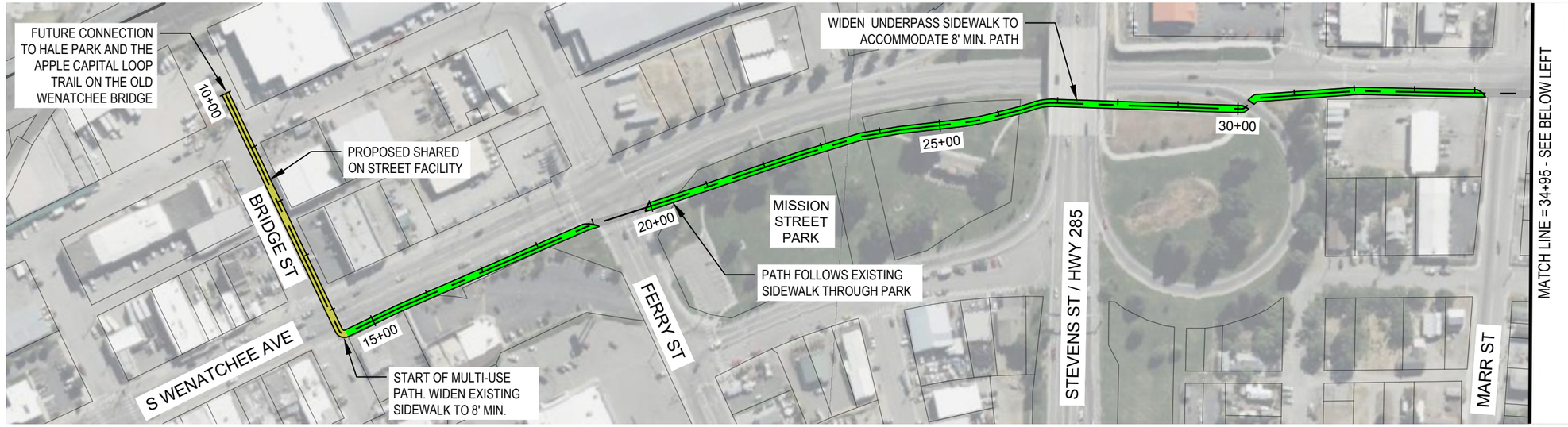
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MALAGA - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
BRIDGE STREET TO FUTURE MALAGA COMMUNITY PARK

KEY MAP

Dwg filename: N:\Shared\PROJECTS\2024\2024.014 Chelan-Douglas; WA Regional Pathways\CAD\01_Plans\2024.014_Malaga Key Map.dwg Last saved by: HannahHefner Plot date: 7/8/2025 10:24 AM Plotstyle table: ALTA NCS Standard.stb

MAP 1A



PLAN
SCALE: 1" = 200'

MAP 1B



PLAN
SCALE: 1" = 200'

alta

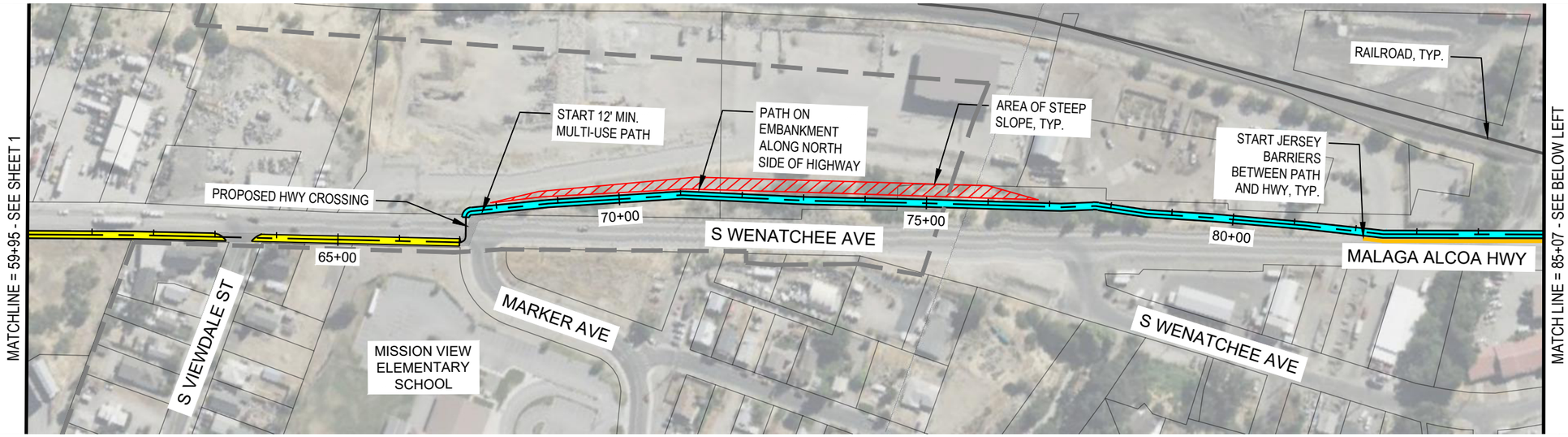
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Scale: 1" = 200'

MALAGA - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
BRIDGE STREET TO FUTURE MALAGA COMMUNITY PARK

PLAN
1

Dwg filename: N:\Shared\PROJECTS\2024\2024.014 Chelan-Douglas, WA Regional Pathways\CAD\01_Plans\2024.014_Malaga Plan Sheets.dwg Last saved by: HannahHefner Plot date: 7/8/2025 10:15 AM Plotstyle table: ALTA NCS Standard.stb

MAP 2A



PLAN
SCALE: 1" = 200'

MAP 2B



PLAN
SCALE: 1" = 200'

alta

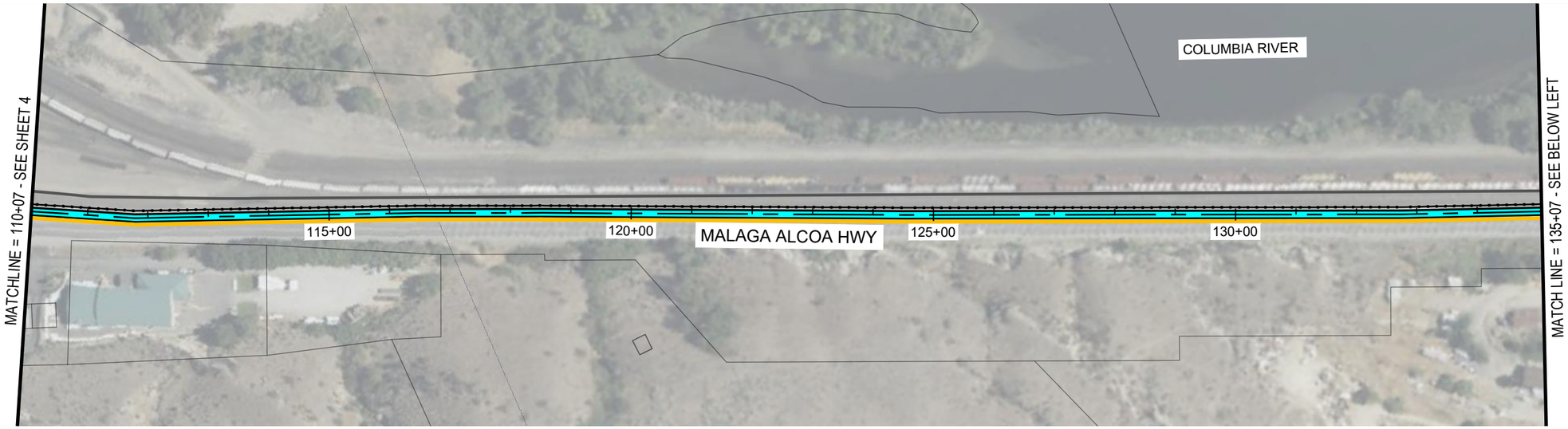
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Scale: 1" = 200'

MALAGA - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
BRIDGE STREET TO FUTURE MALAGA COMMUNITY PARK

PLAN

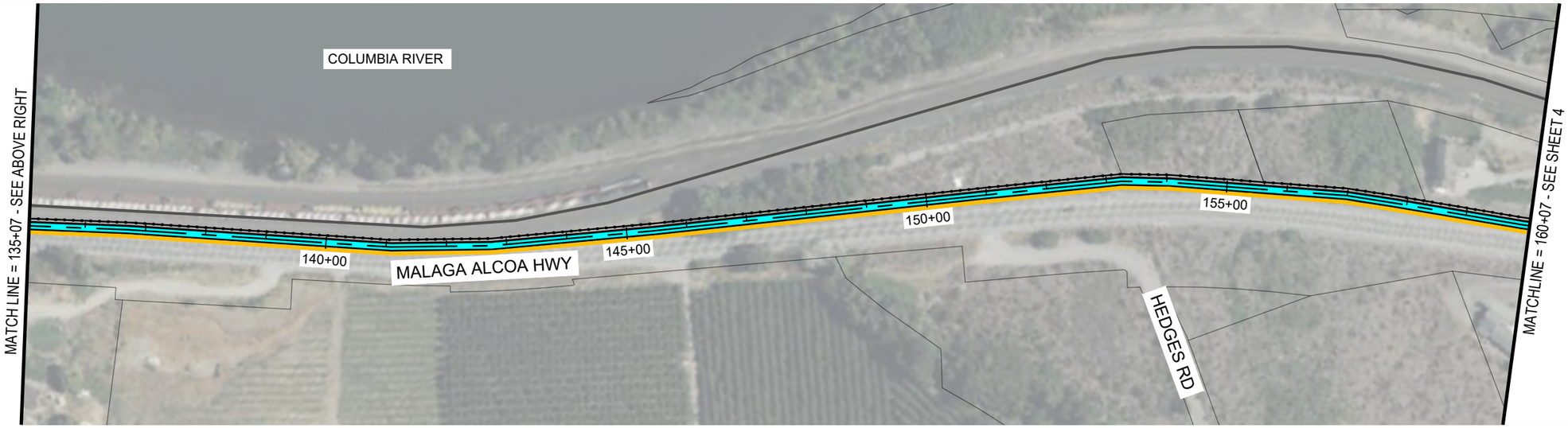
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MAP 3A



PLAN
SCALE: 1" = 200'

MAP 3B



PLAN
SCALE: 1" = 200'

alta

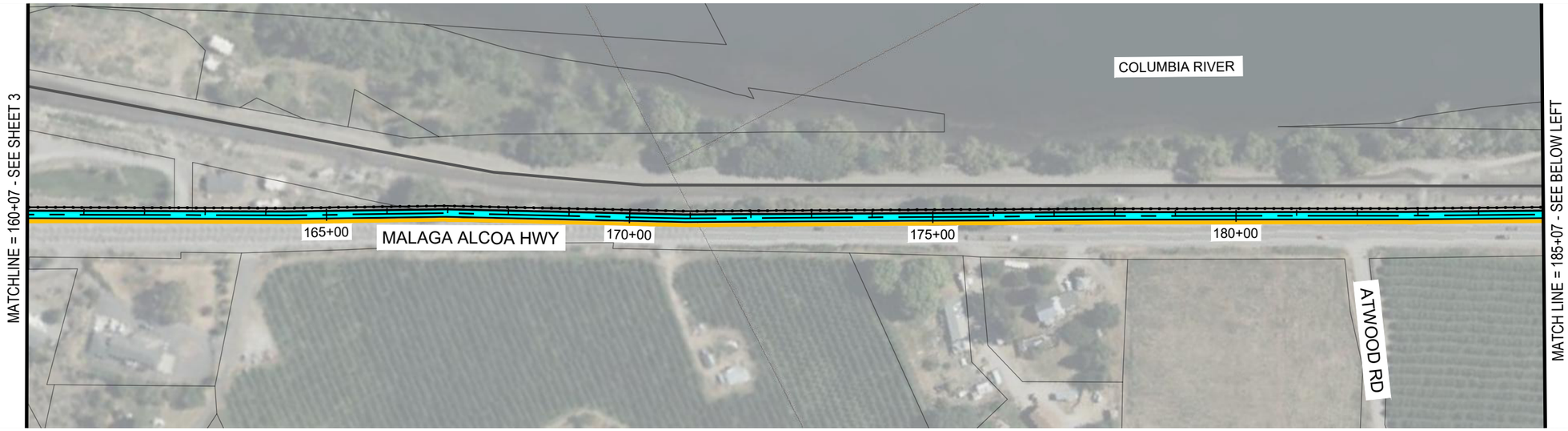
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MALAGA - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
BRIDGE STREET TO FUTURE MALAGA COMMUNITY PARK

PLAN
3

Dwg filename: N:\Shared\PROJECTS\2024\2024.014 Chelan-Douglas, WA Regional Pathways\CAD\01_Plans\2024.014_Malaga Plan Sheets.dwg Last saved by: HannahHefner Plot date: 7/8/2025 10:15 AM Plotstyle table: ALTA NCS Standard.stb

MAP 4A



PLAN
SCALE: 1" = 200'

MAP 4B



PLAN
SCALE: 1" = 200'

alta

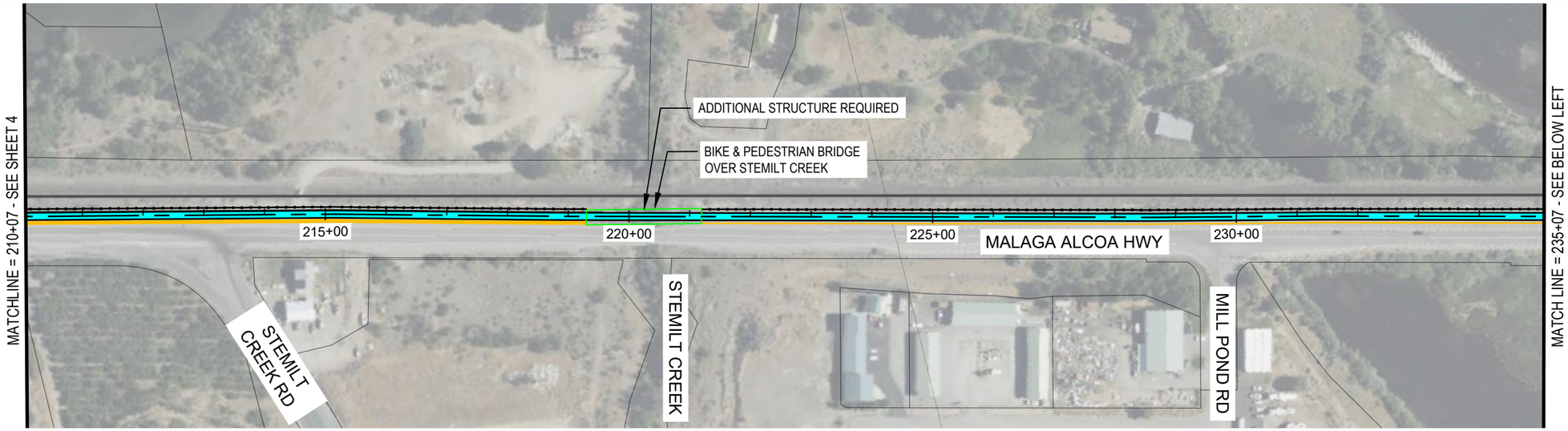
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MALAGA - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
BRIDGE STREET TO FUTURE MALAGA COMMUNITY PARK

PLAN

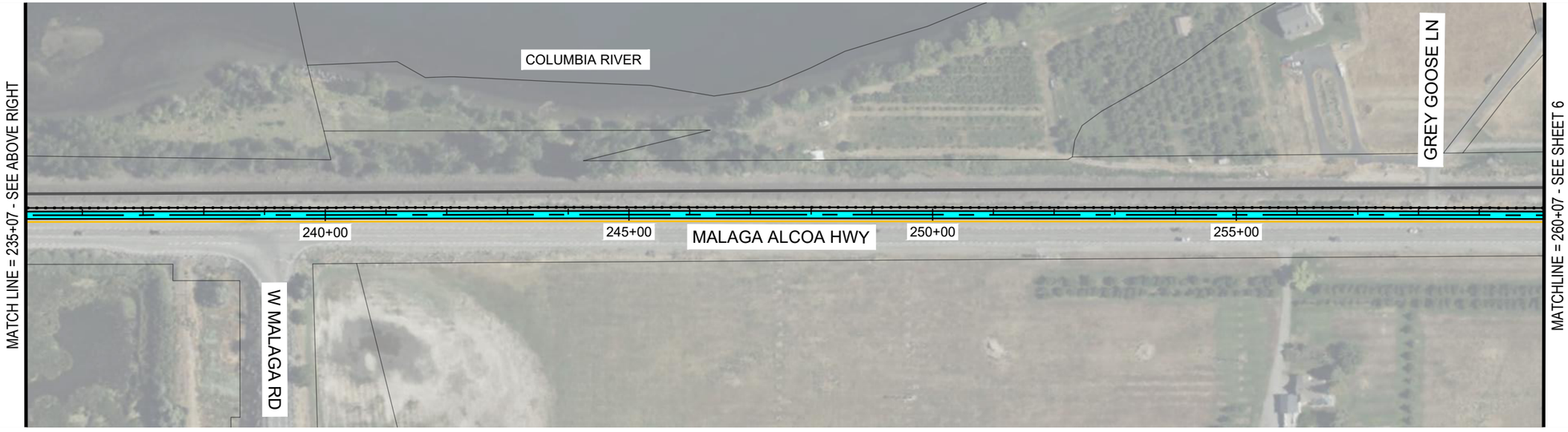
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MAP 5A



PLAN
SCALE: 1" = 200'

MAP 5B



PLAN
SCALE: 1" = 200'

alta

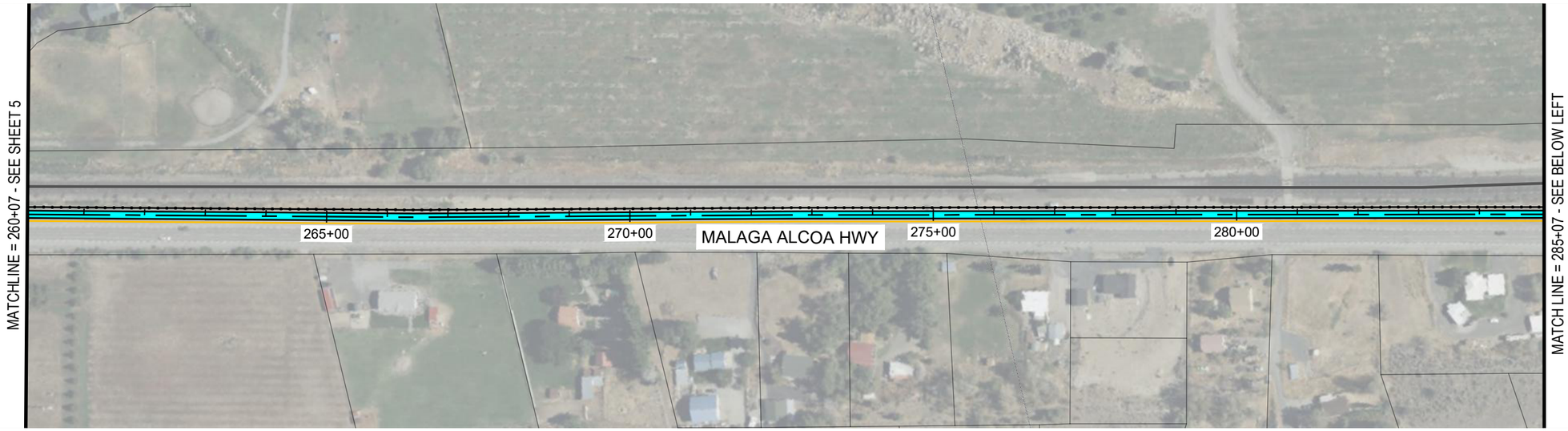
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MALAGA - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
BRIDGE STREET TO FUTURE MALAGA COMMUNITY PARK

PLAN
5

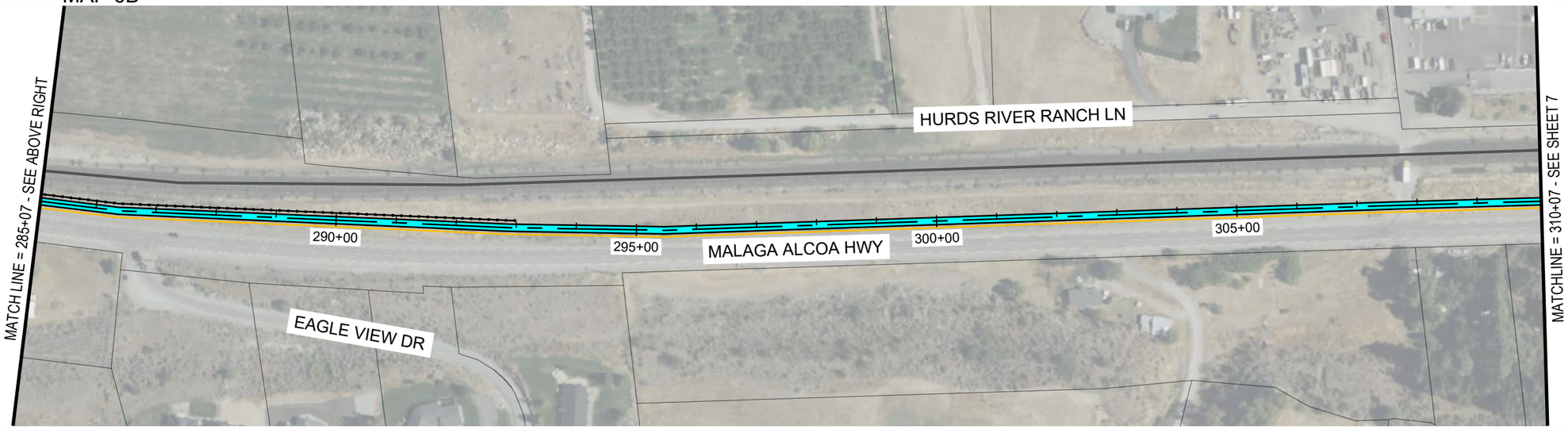
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MAP 6A



PLAN
SCALE: 1" = 200'

MAP 6B



PLAN
SCALE: 1" = 200'

alta

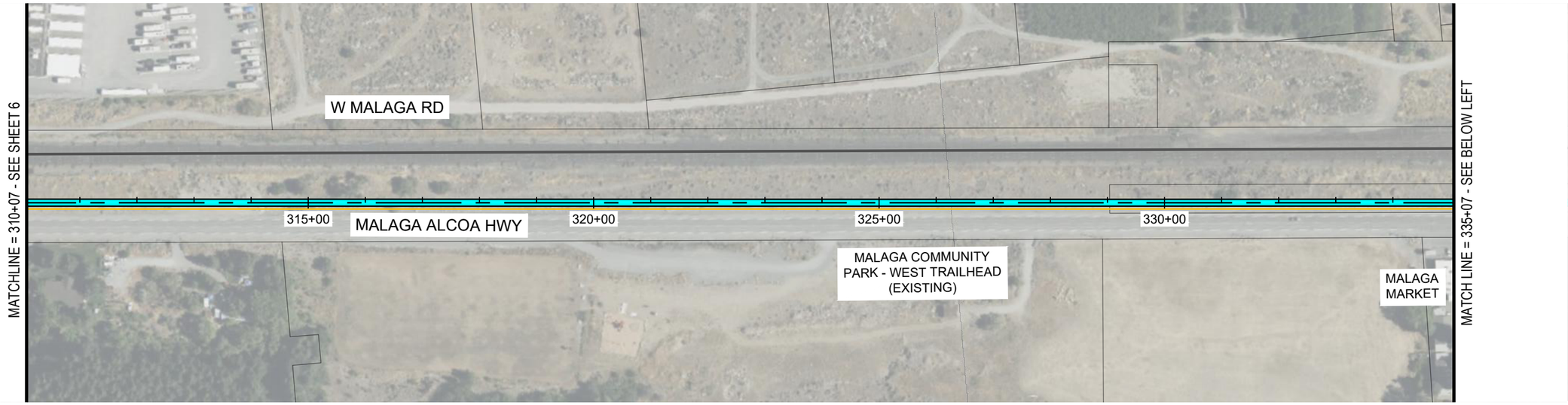
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MALAGA - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
BRIDGE STREET TO FUTURE MALAGA COMMUNITY PARK

PLAN

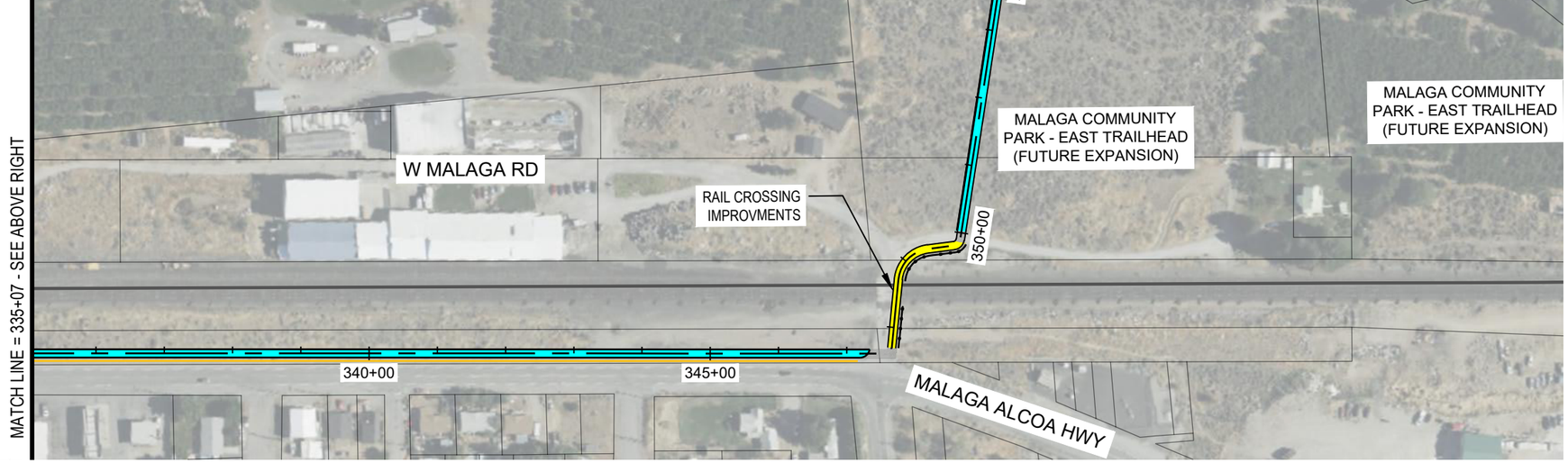
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MAP 7A



PLAN
SCALE: 1" = 200'

MAP 7B



PLAN
SCALE: 1" = 200'

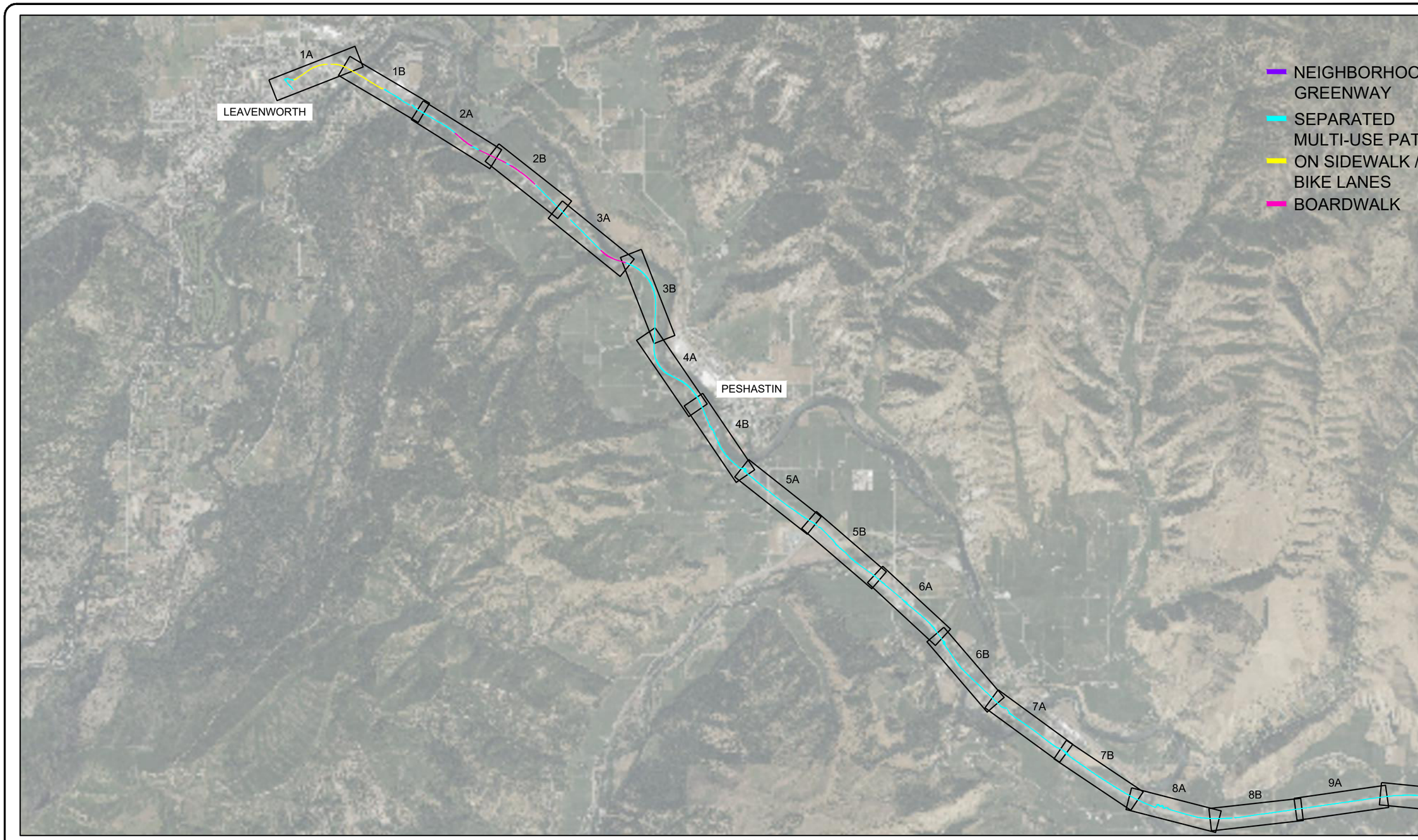
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0 200' 400'
Scale: 1" = 200'

MALAGA - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
BRIDGE STREET TO FUTURE MALAGA COMMUNITY PARK

PLAN
7

Dwg filename: N:\Shared\PROJECTS\2024\2024.014 Chelan-Douglas, WA Regional Pathways\CAD\01_Plans\2024.014_Malaga Plan Sheets.dwg Last saved by: HannahHefner Plot date: 7/8/2025 10:17 AM Plotstyle table: ALTA NCS Standard.stb



PLAN
SCALE: 1" = 2000'

Chelan-Douglas | 424

ROCK ISLAND - EAST WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIG
HYDRO PARK TO DOWNTOWN E

0 200' 400'

C:\PROJECTS\2024\2024.014 Chelan-Douglas, WA Regional Pathways\CAD\01_Plans\2024.014_Leavenworth Key Map.dwg Last saved by: SylviaPasquariello Plot date: 1/8/2026 1:03 PM Plotstyle table: ALTA NCS Standard.stb



PLAN
SCALE: 1" = 2000'

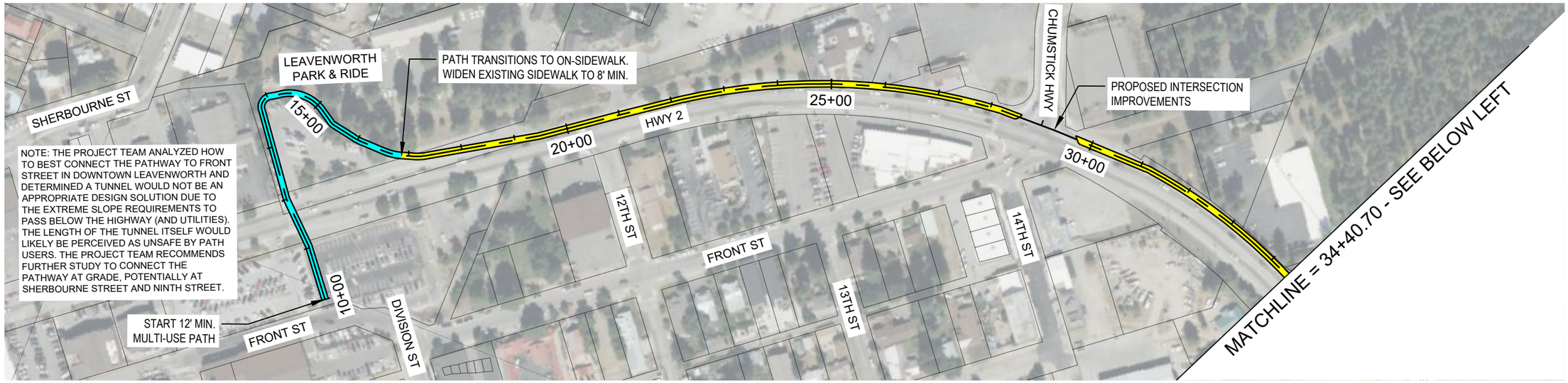
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ROCK ISLAND - EAST WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
HYDRO PARK TO DOWNTOWN ROCK ISLAND

KEY MAP - 2

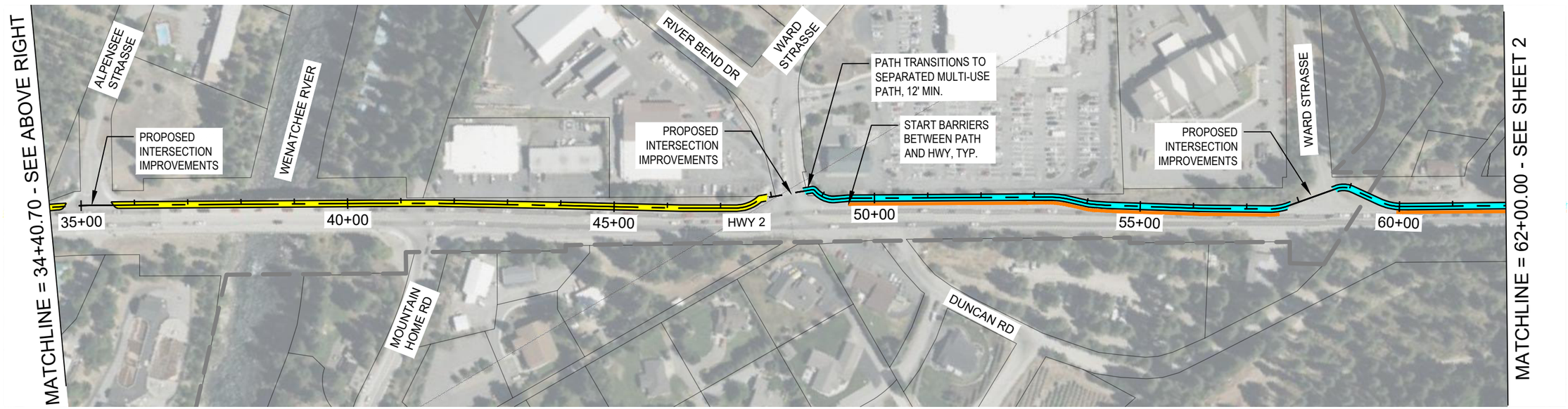
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MAP 1A



PLAN
SCALE: 1" = 200'

MAP 1B



PLAN
SCALE: 1" = 200'

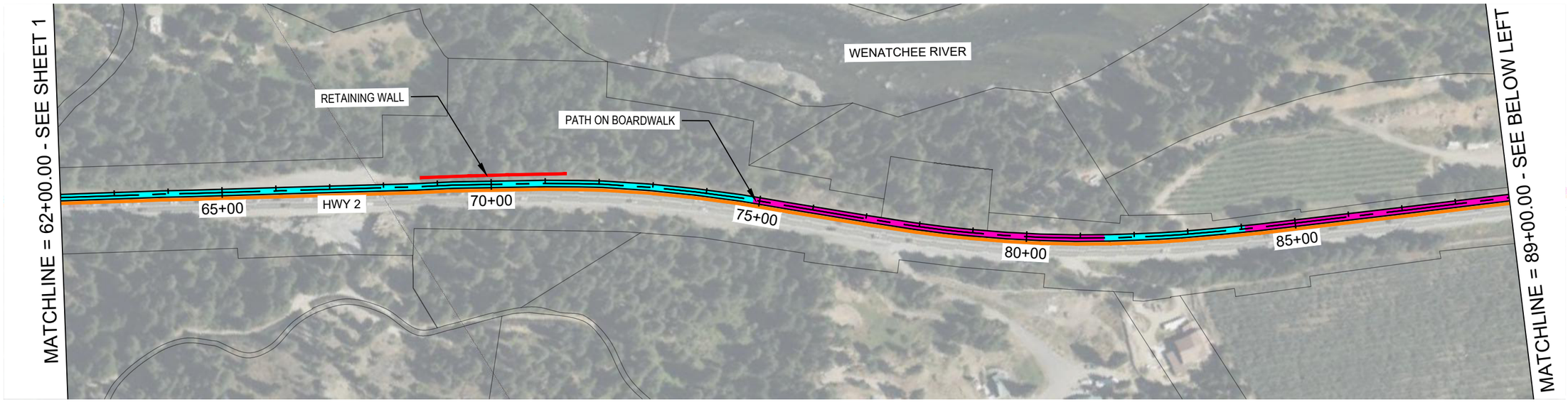
alta

0 200' 400'
Scale: 1" = 200'

LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

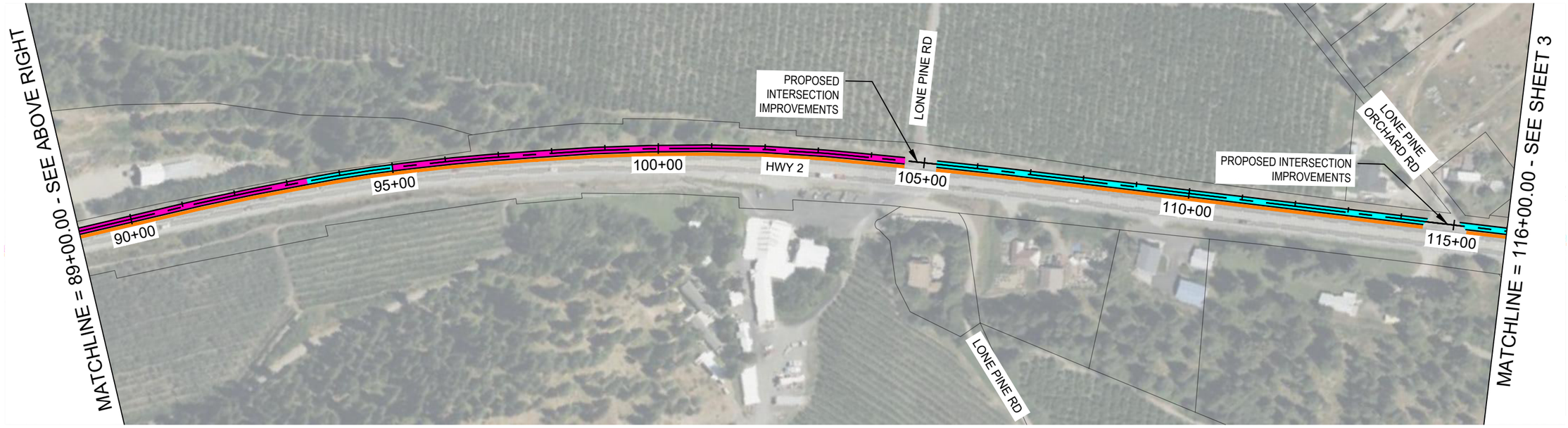
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MAP 2A



PLAN
SCALE: 1" = 200'

MAP 2B



PLAN
SCALE: 1" = 200'

alta

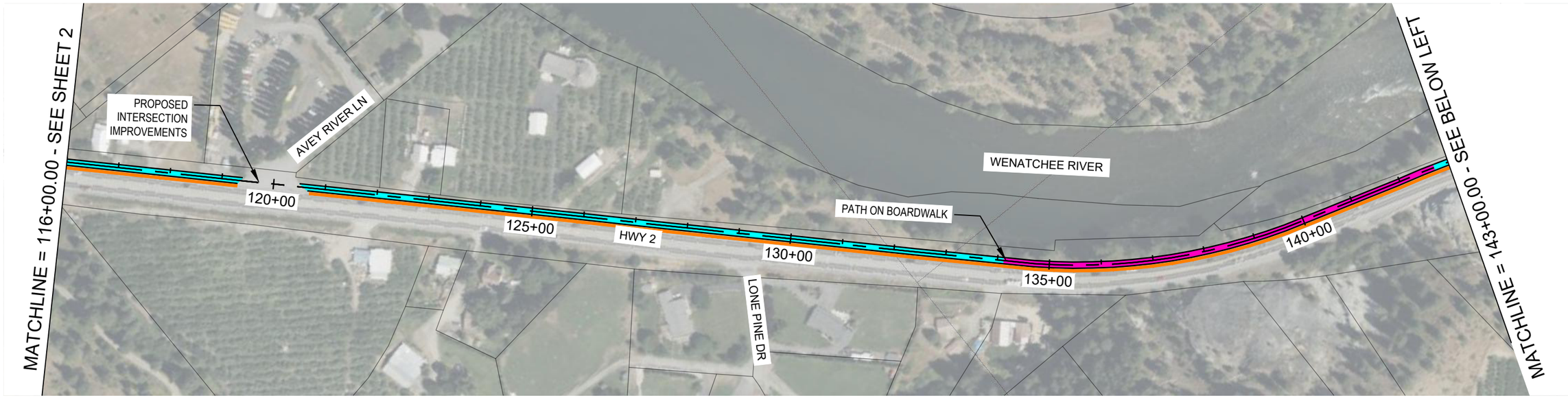
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Scale: 1" = 200'

LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

PLAN
2

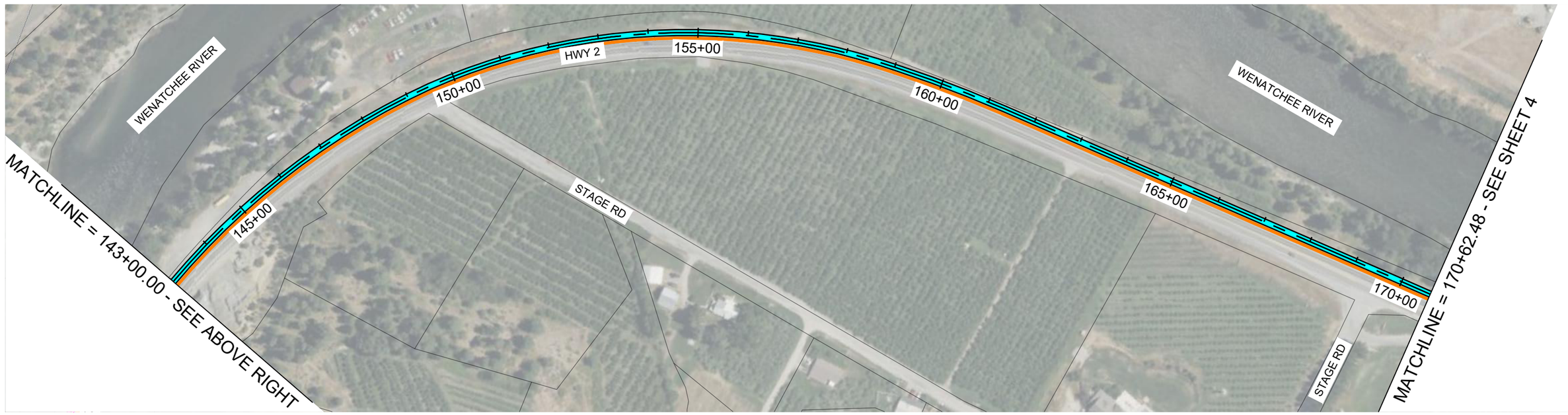
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MAP 3A



PLAN
SCALE: 1" = 200'

MAP 3B



PLAN
SCALE: 1" = 200'

alta

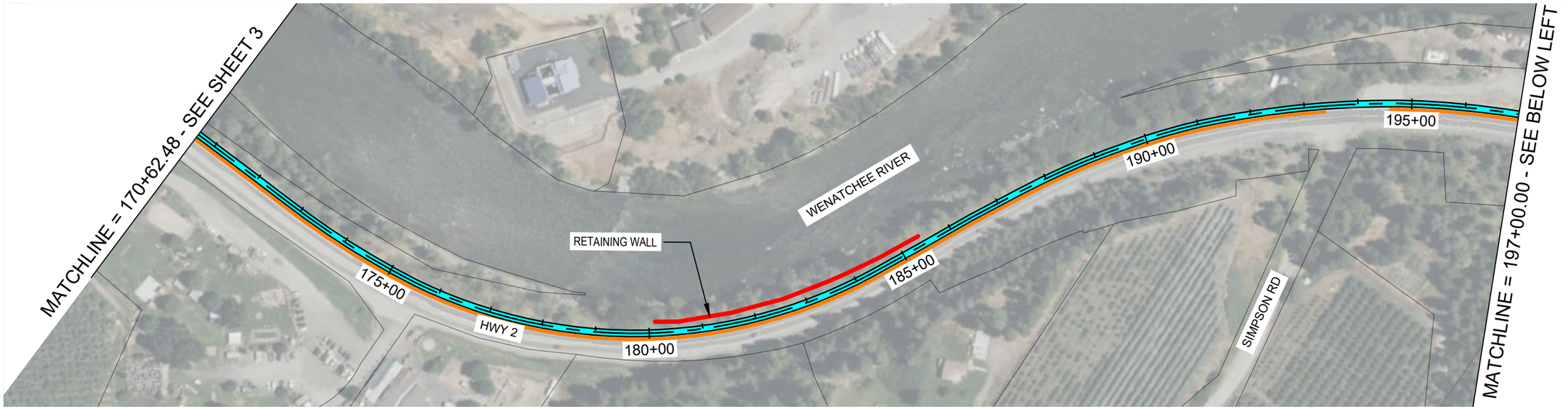
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Scale: 1" = 200'

LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET
Chelan-Douglas | 420

PLAN
3

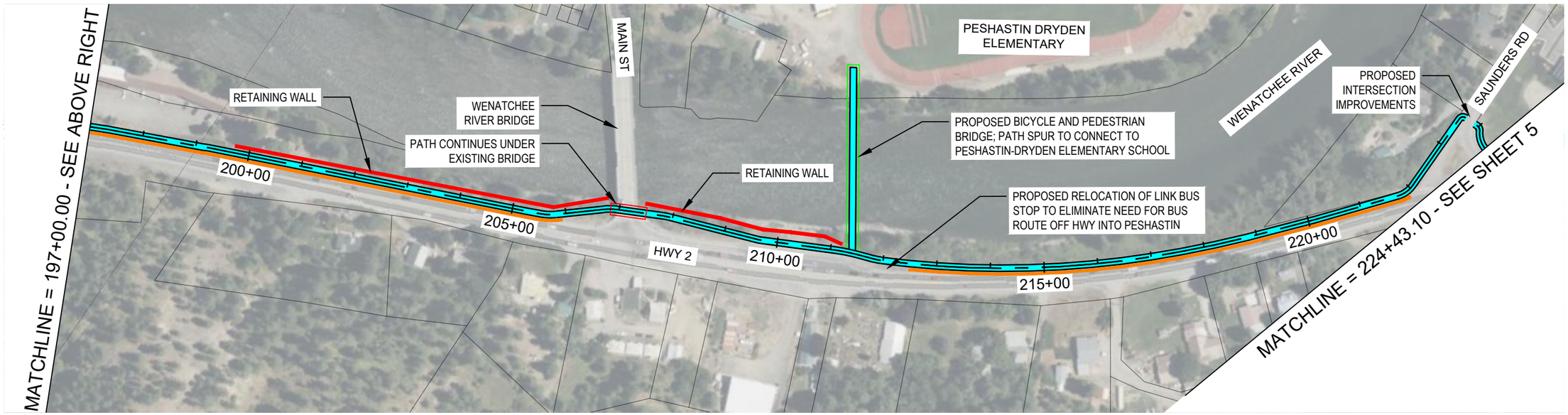
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MAP 4A



PLAN
SCALE: 1" = 200'

MAP 4B



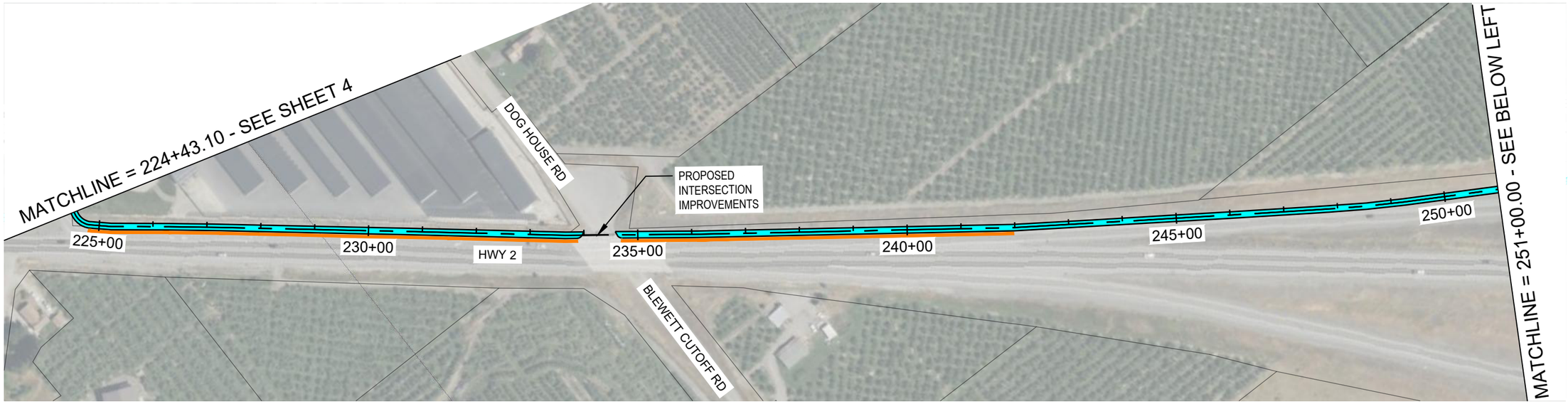
PLAN
SCALE: 1" = 200'

LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

PLAN
4

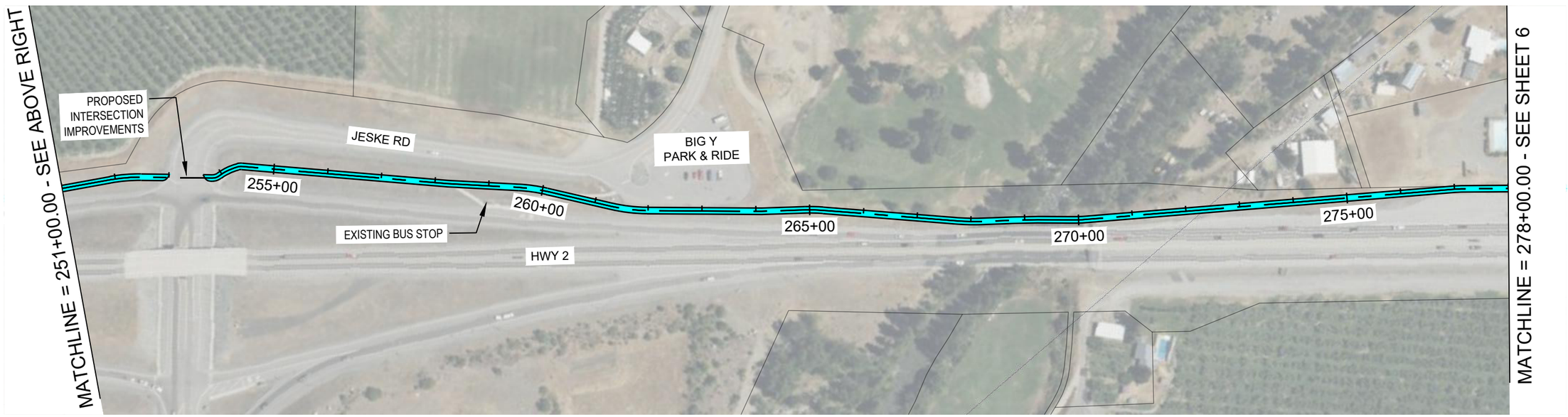
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MAP 5A



PLAN
SCALE: 1" = 200'

MAP 5B



PLAN
SCALE: 1" = 200'

alta

0 200' 400'
Scale: 1" = 200'

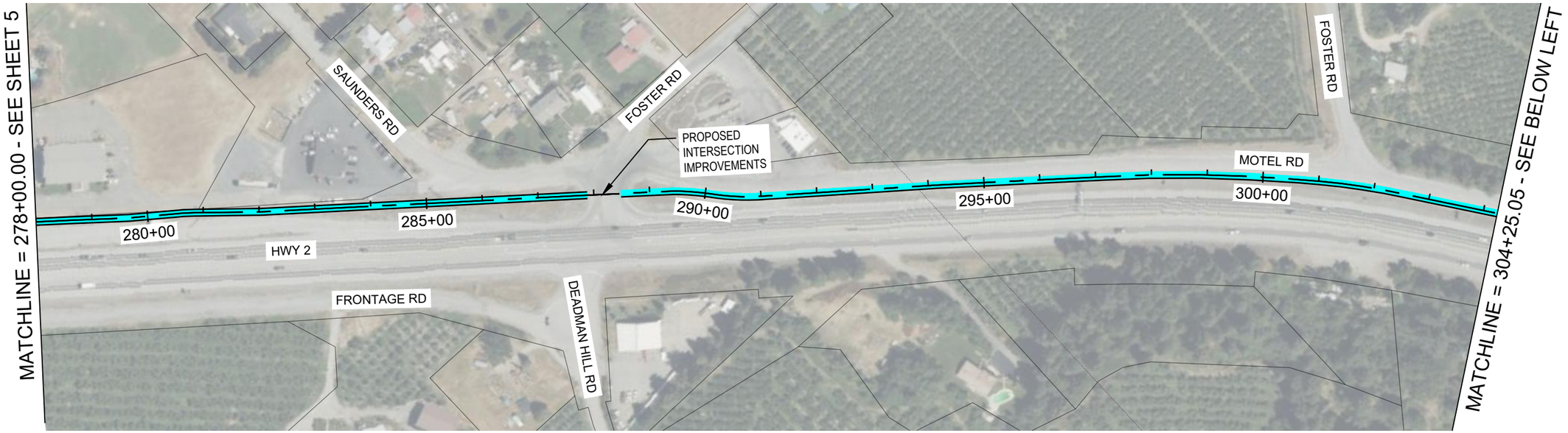
LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

Chelan-Douglas | 430

PLAN
5

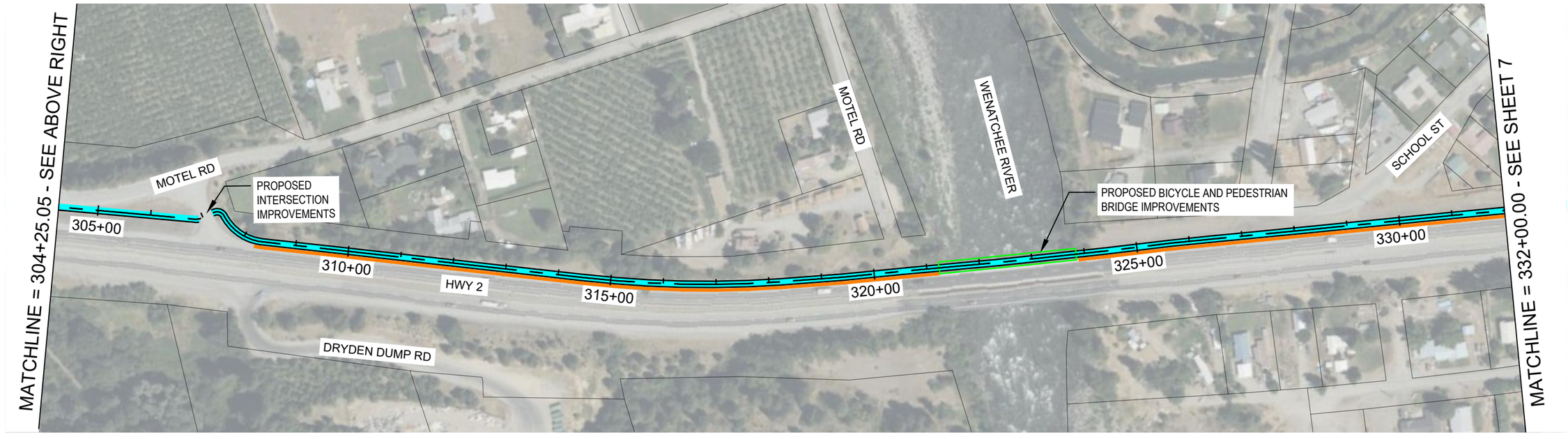
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MAP 6A



PLAN
SCALE: 1" = 200'

MAP 6B



PLAN
SCALE: 1" = 200'

alta

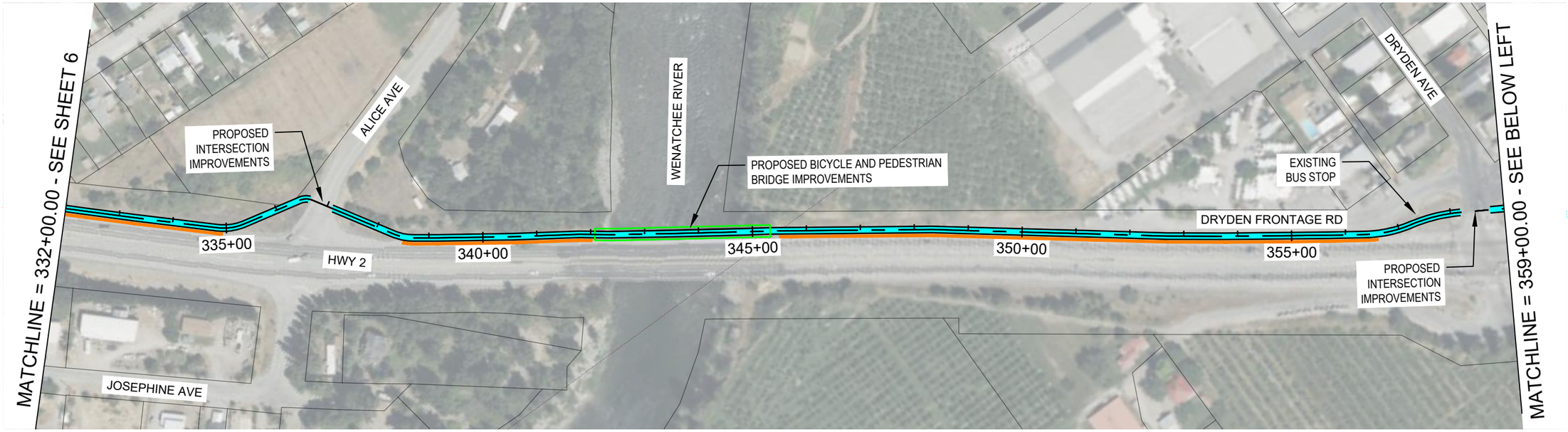
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LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

PLAN
6

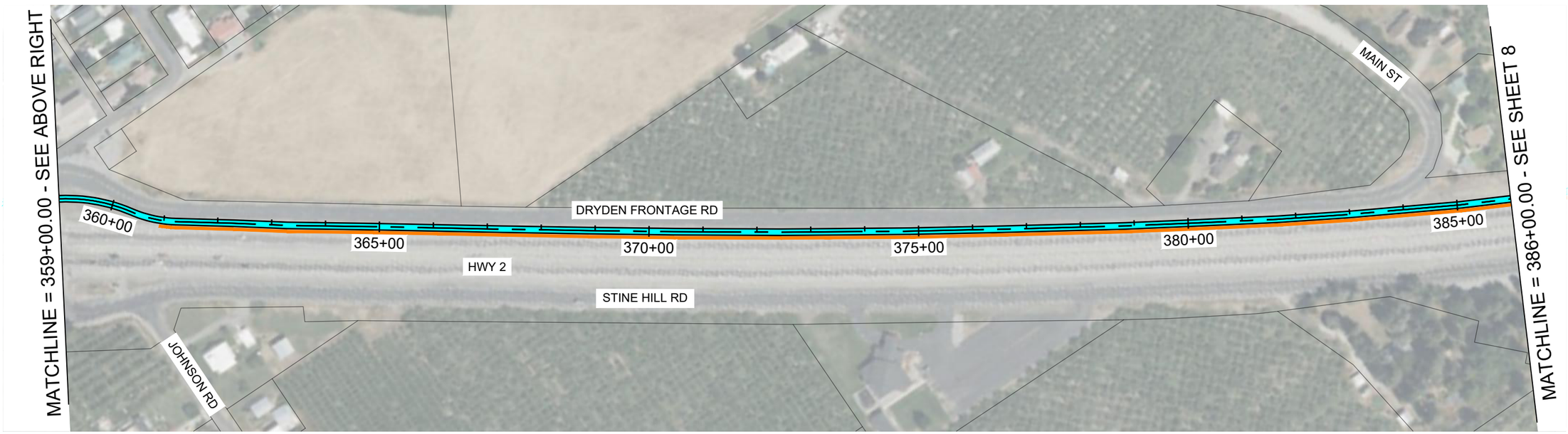
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MAP 7A



PLAN
SCALE: 1" = 200'

MAP 7B



PLAN
SCALE: 1" = 200'

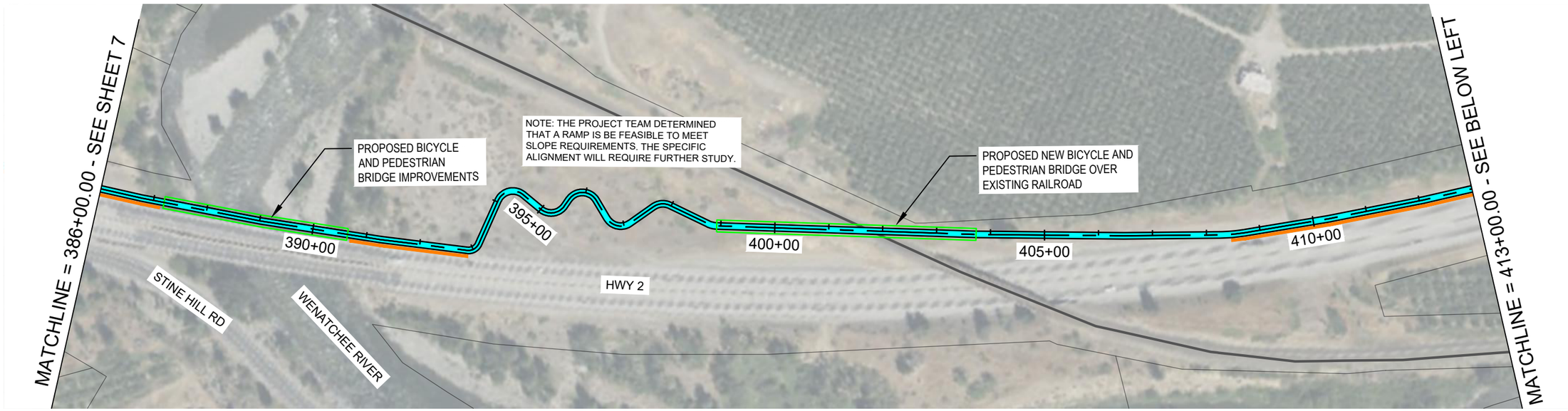
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0 200' 400'
Scale: 1" = 200'

LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

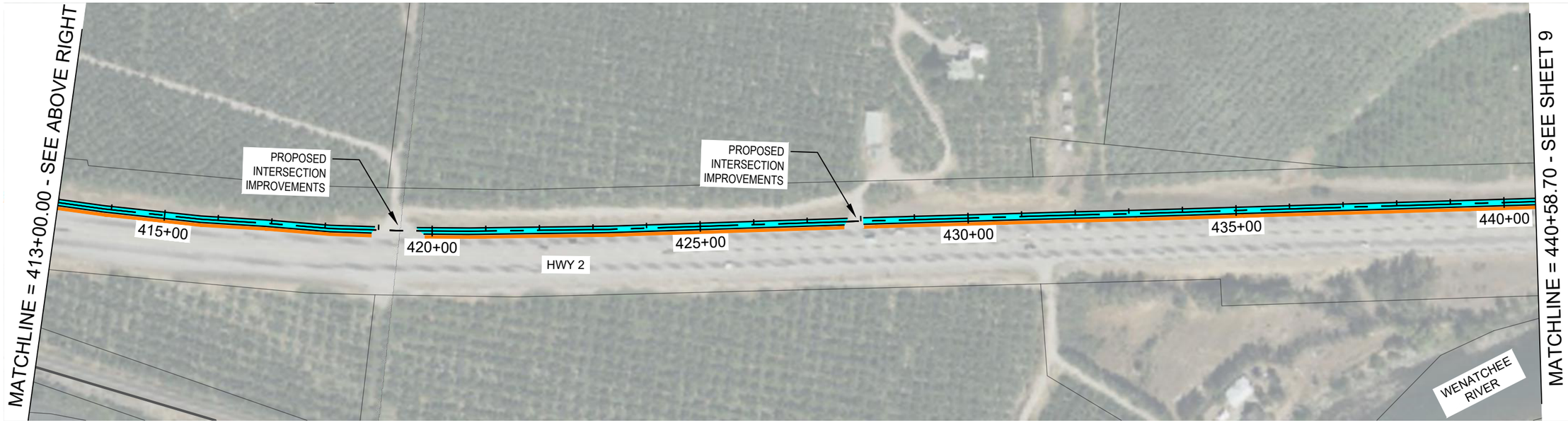
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MAP 8A



PLAN
SCALE: 1" = 200'

MAP 8B



PLAN
SCALE: 1" = 200'

alta

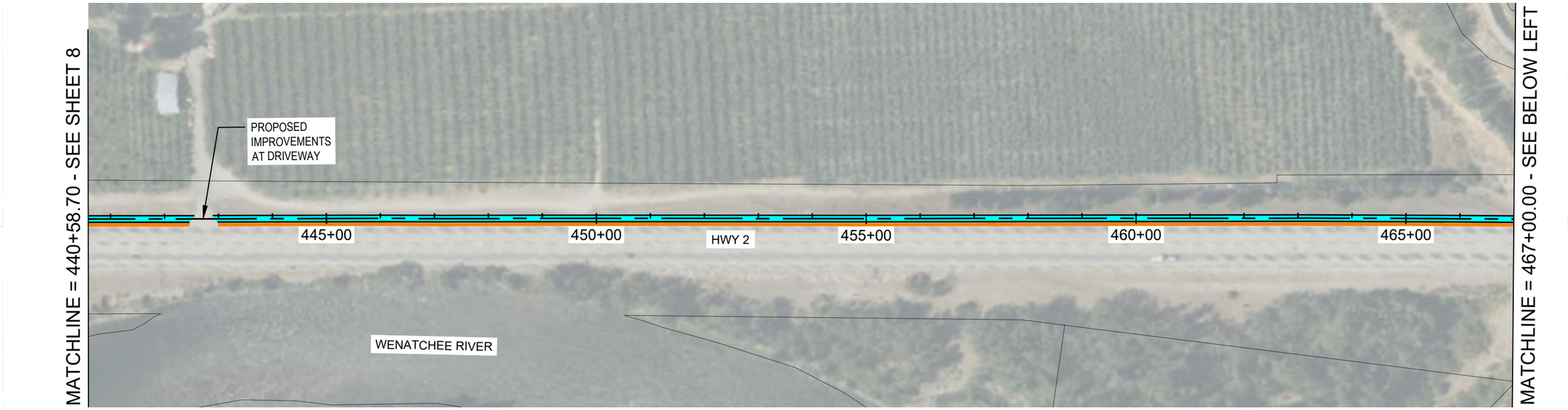
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LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

PLAN
8

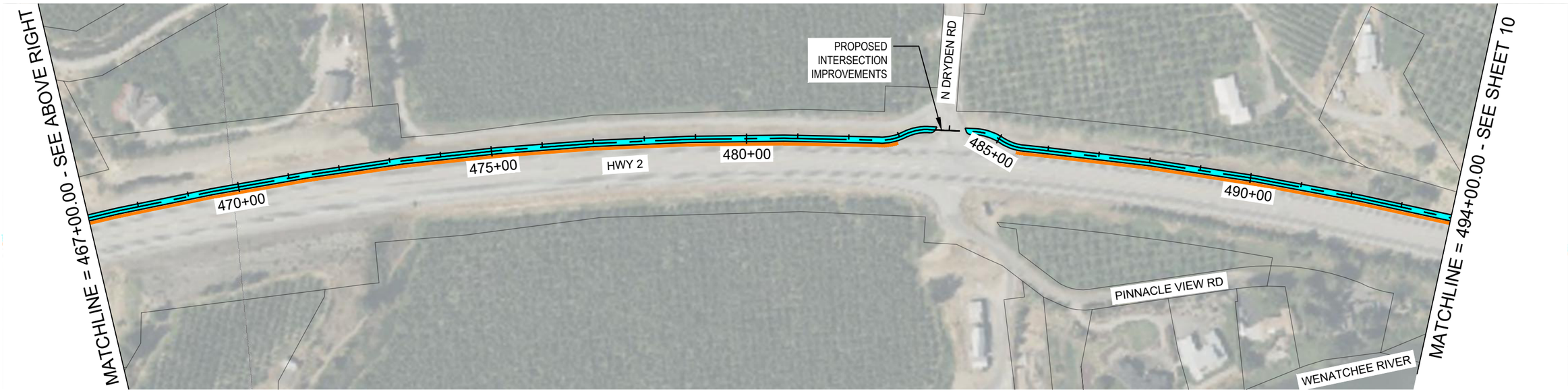
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MAP 9A



PLAN
SCALE: 1" = 200'

MAP 9B



PLAN
SCALE: 1" = 200'

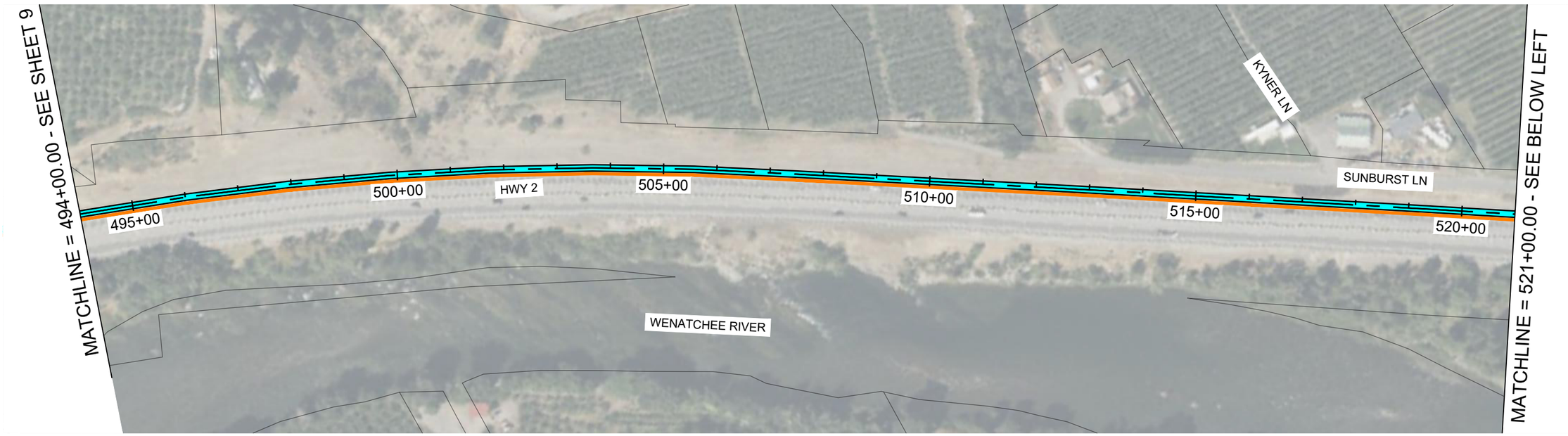
alta

0 200' 400'
Scale: 1" = 200'

LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

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MAP 10A



PLAN
SCALE: 1" = 200'

MAP 10B



PLAN
SCALE: 1" = 200'

alta
Chelan-Douglas Pathways Master Plan

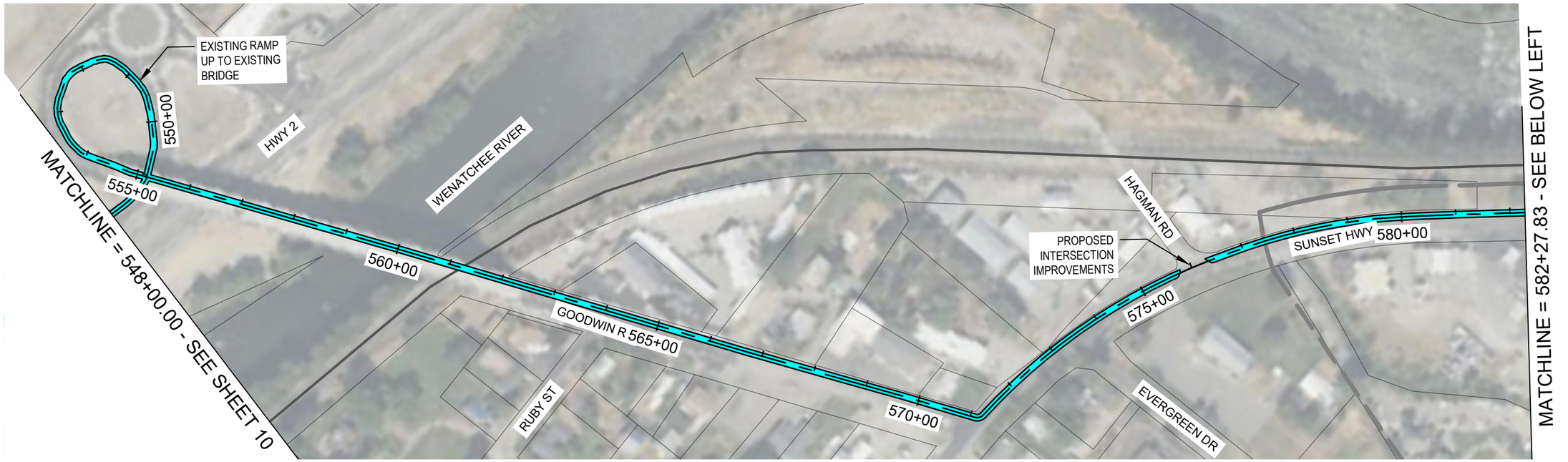
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LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

PLAN
10

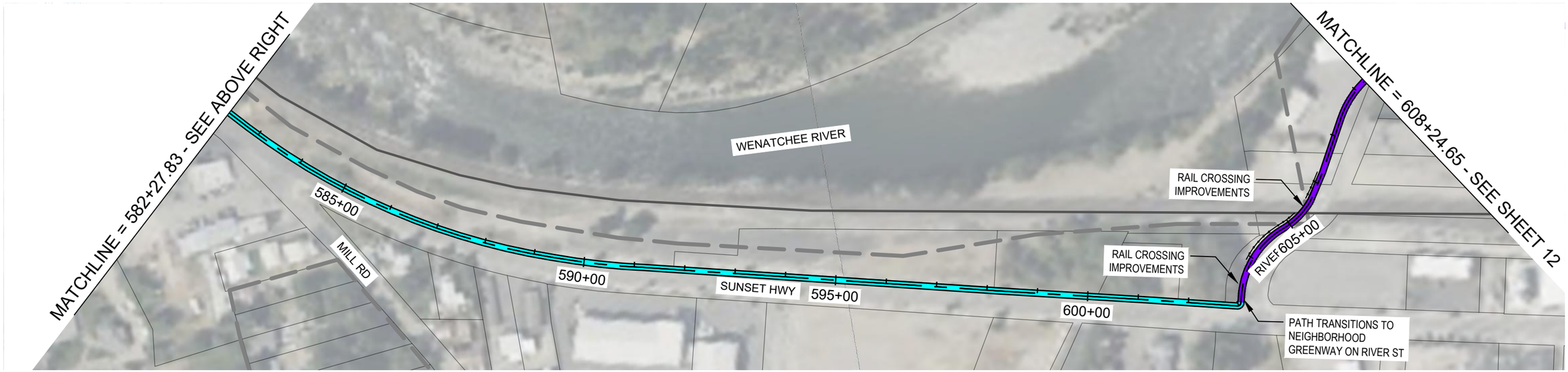
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MAP 11A



PLAN
SCALE: 1" = 200'

MAP 11B



PLAN
SCALE: 1" = 200'

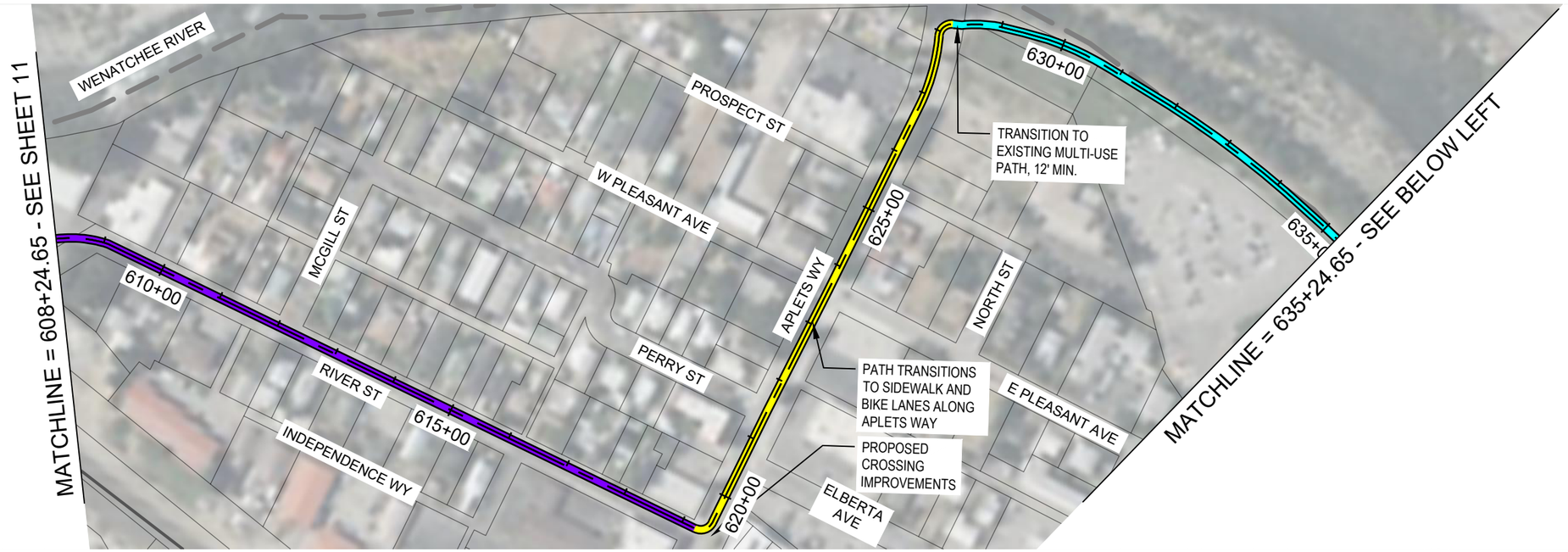
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0 200' 400'
Scale: 1" = 200'

LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

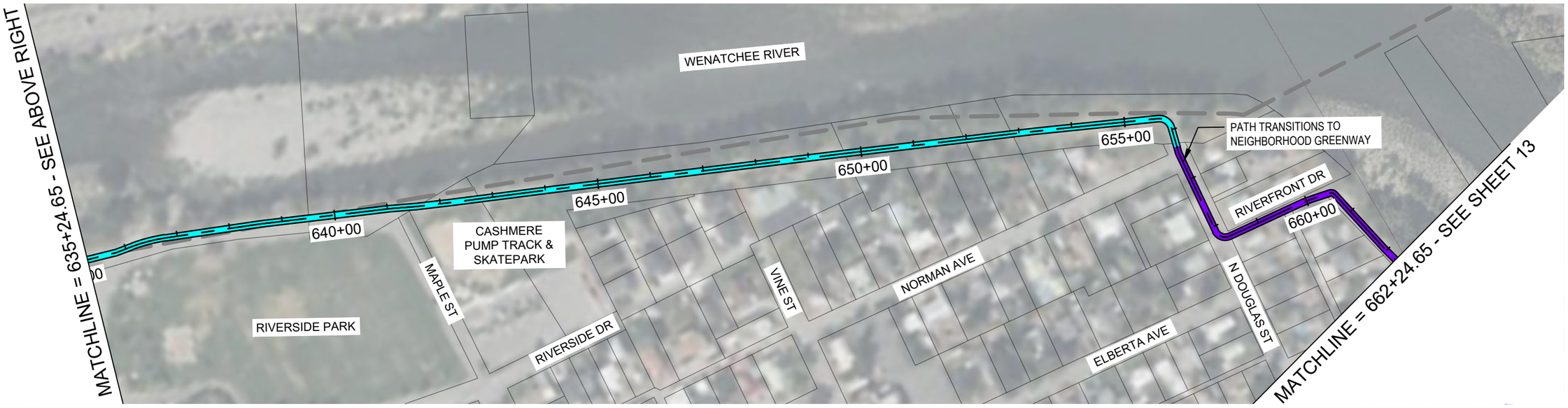
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MAP 12A



PLAN
SCALE: 1" = 200'

MAP 12B



PLAN
SCALE: 1" = 200'

alta

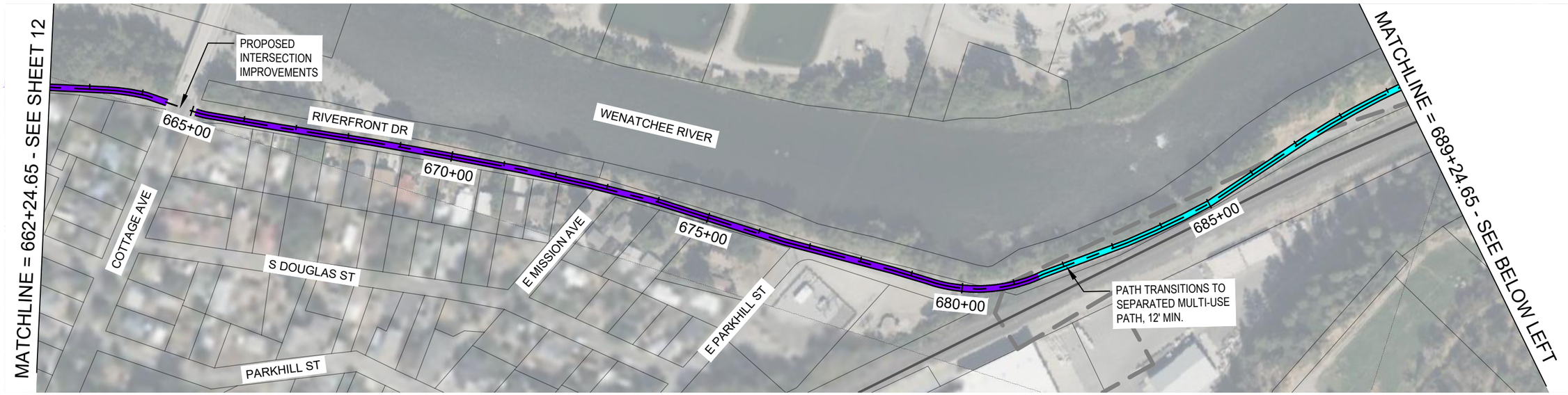
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LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

PLAN
12

Dwg filename: N:\Shared\PROJECTS\2024\2024.014 Chelan-Douglas, WA Regional Pathways\CAD\01_Plans\2024.014_Leavenworth Plan Sheets.dwg Last saved by: SylviaPasquarielo Plot date: 1/8/2026 11:57 AM Plotstyle table: ALTA NCS Standard.stb

MAP 13A



PLAN
SCALE: 1" = 200'

MAP 13B



PLAN
SCALE: 1" = 200'

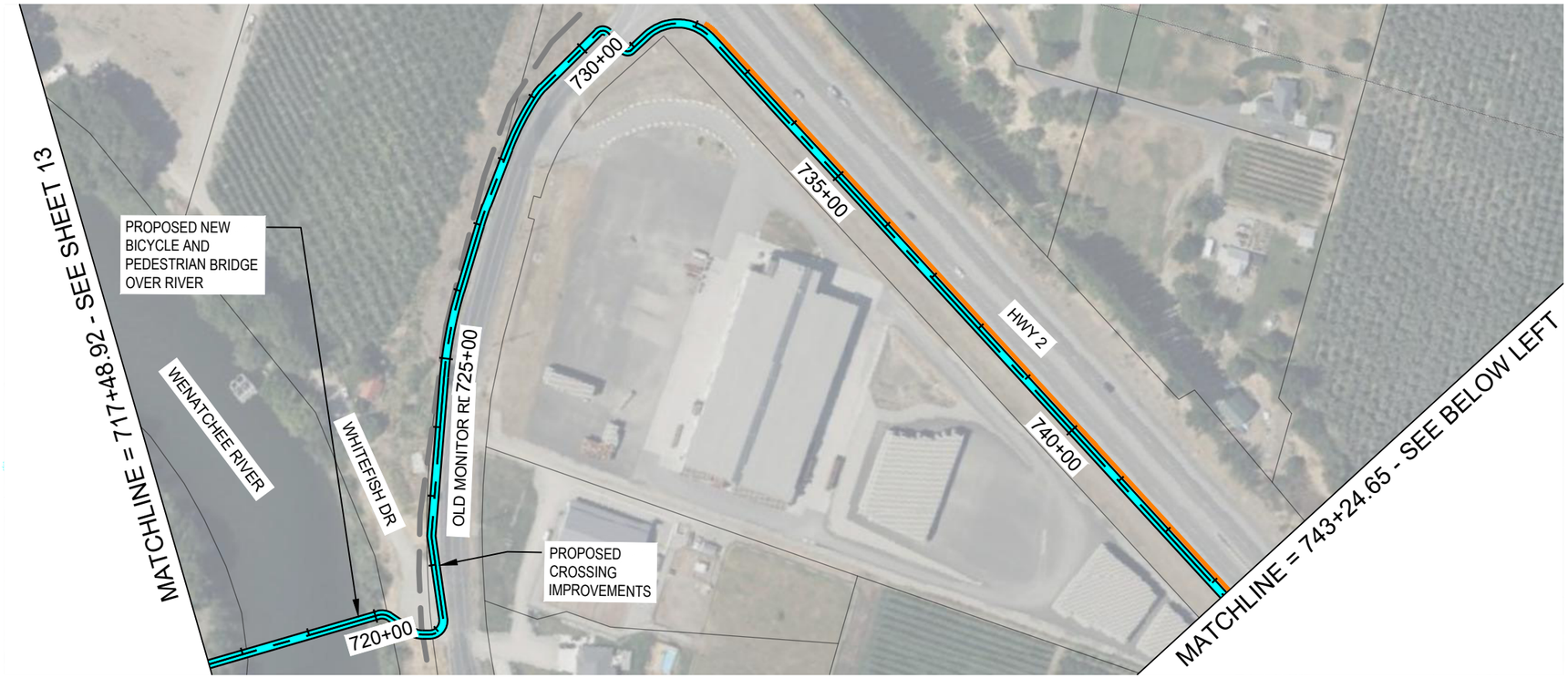
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0 200' 400'
Scale: 1" = 200'

LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

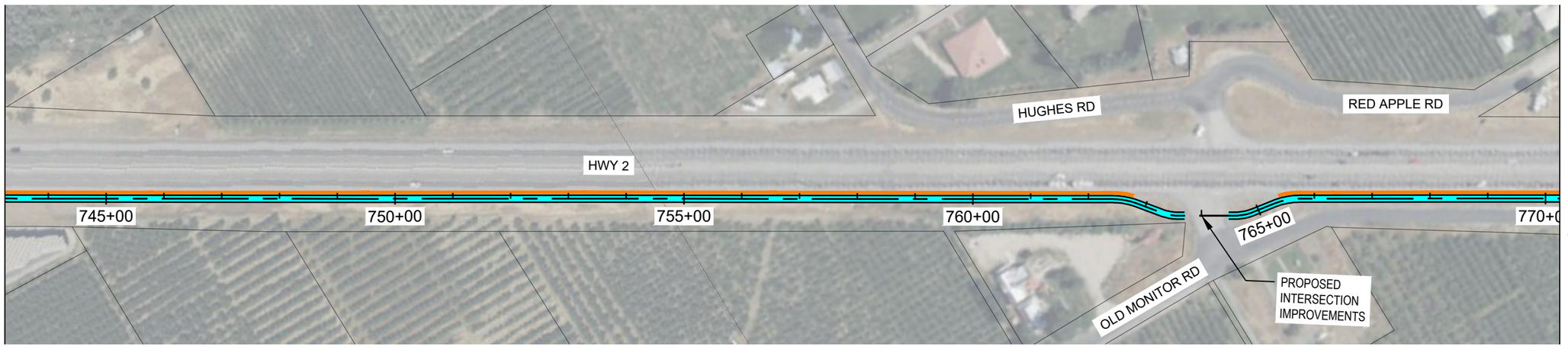
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MAP 14A



PLAN
SCALE: 1" = 200'

MAP 14B



PLAN
SCALE: 1" = 200'

alta

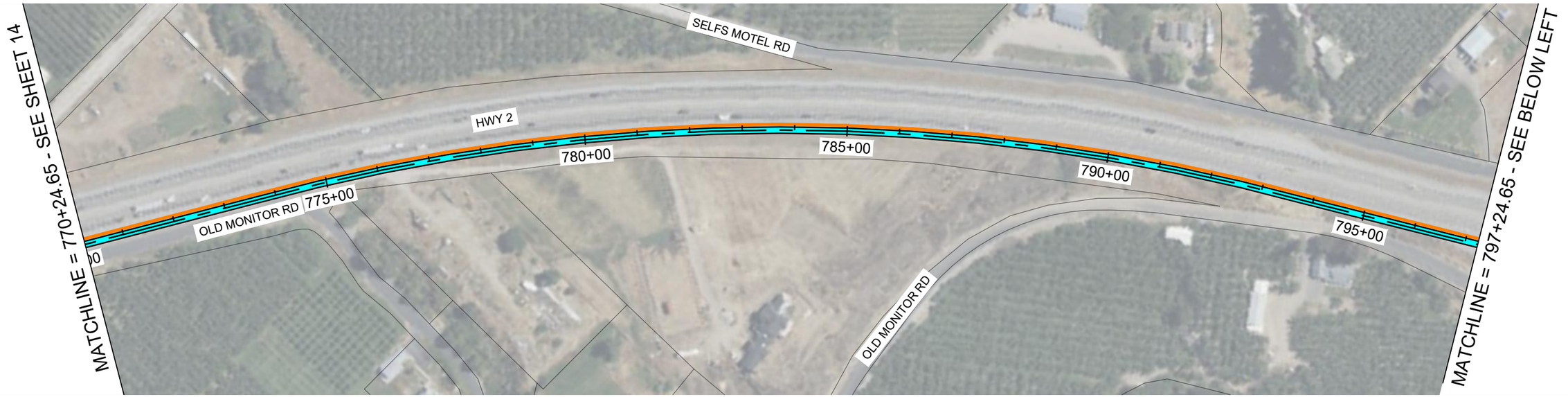
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LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

PLAN
14

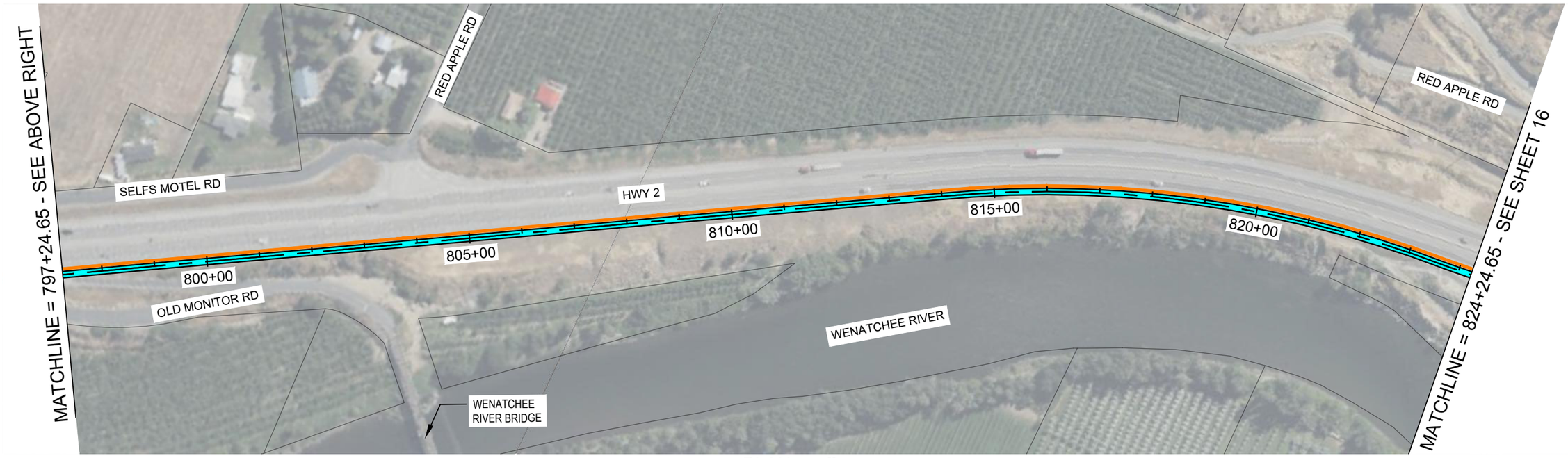
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MAP 15A



PLAN
SCALE: 1" = 200'

MAP 15B



PLAN
SCALE: 1" = 200'

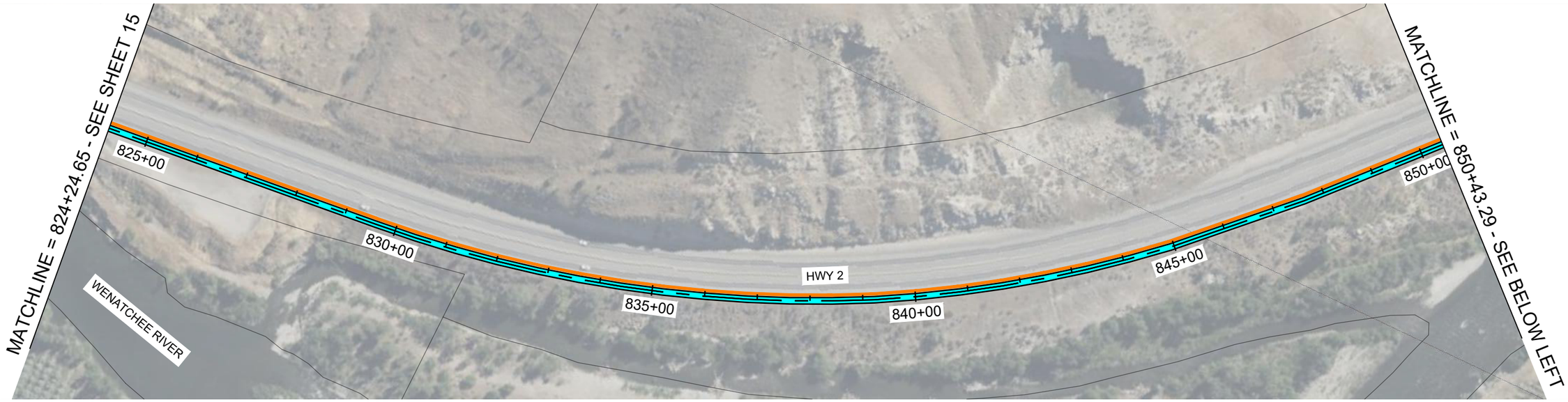
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0 200' 400'
Scale: 1" = 200'

LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

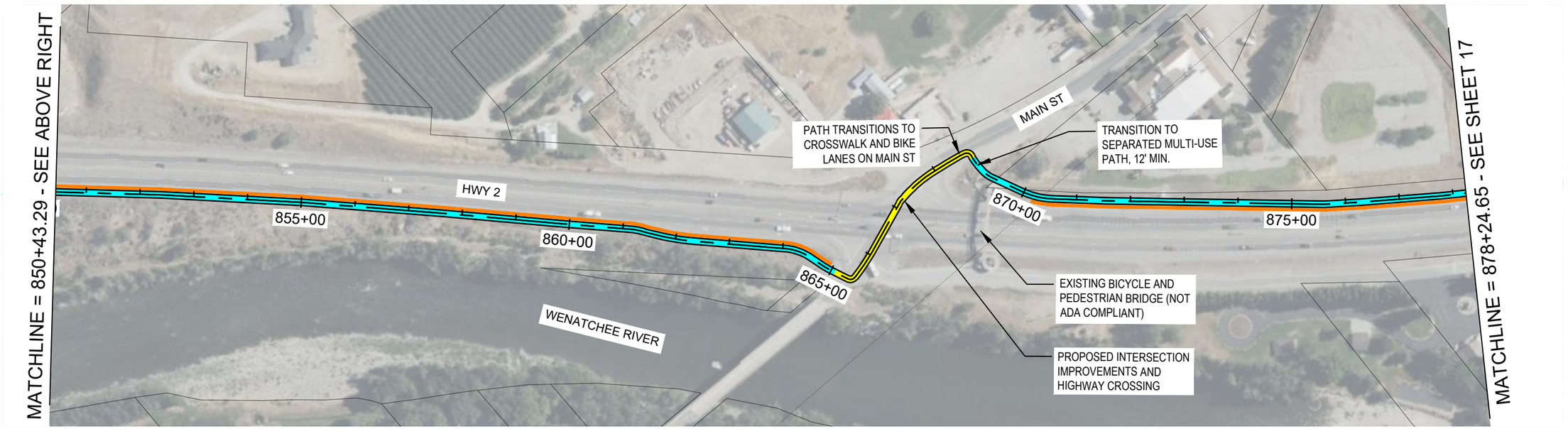
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MAP 16A



PLAN
SCALE: 1" = 200'

MAP 16B



PLAN
SCALE: 1" = 200'

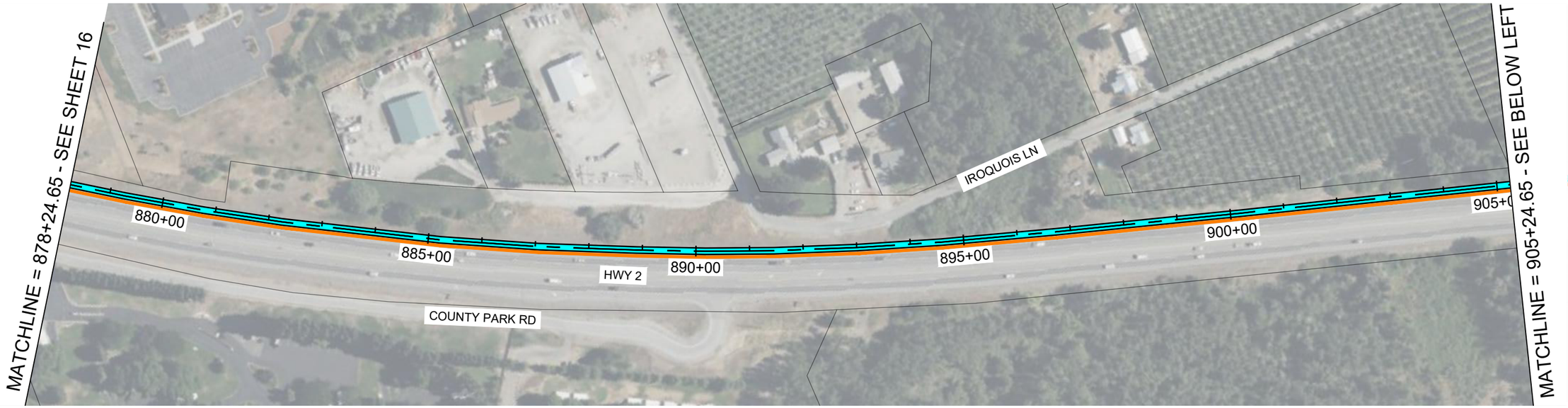
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0 200' 400'
Scale: 1" = 200'

LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

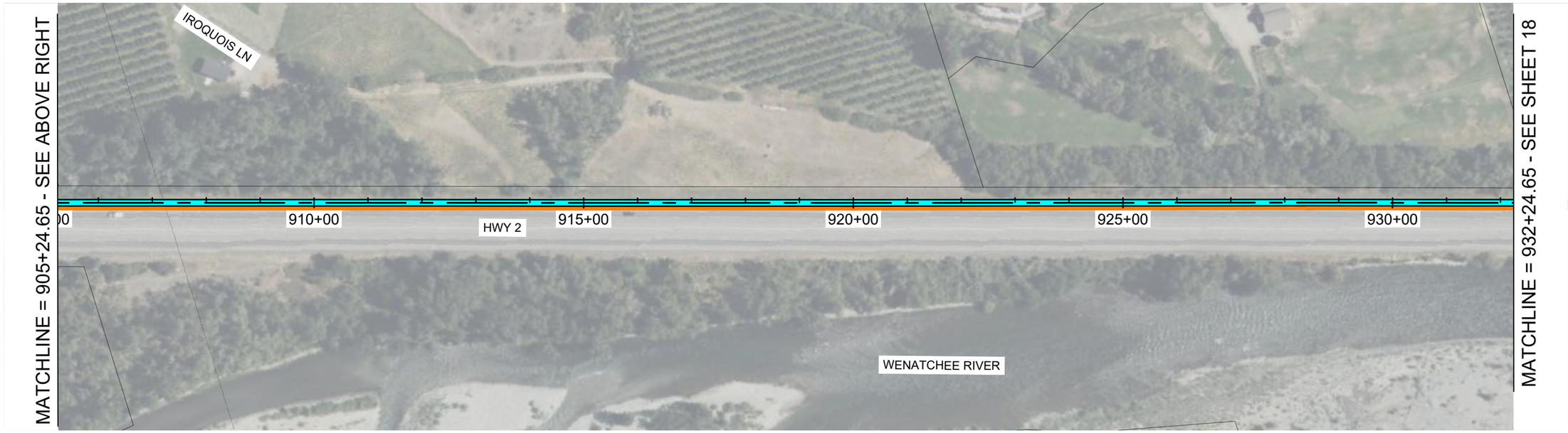
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MAP 17A



PLAN
SCALE: 1" = 200'

MAP 17B



PLAN
SCALE: 1" = 200'

alta

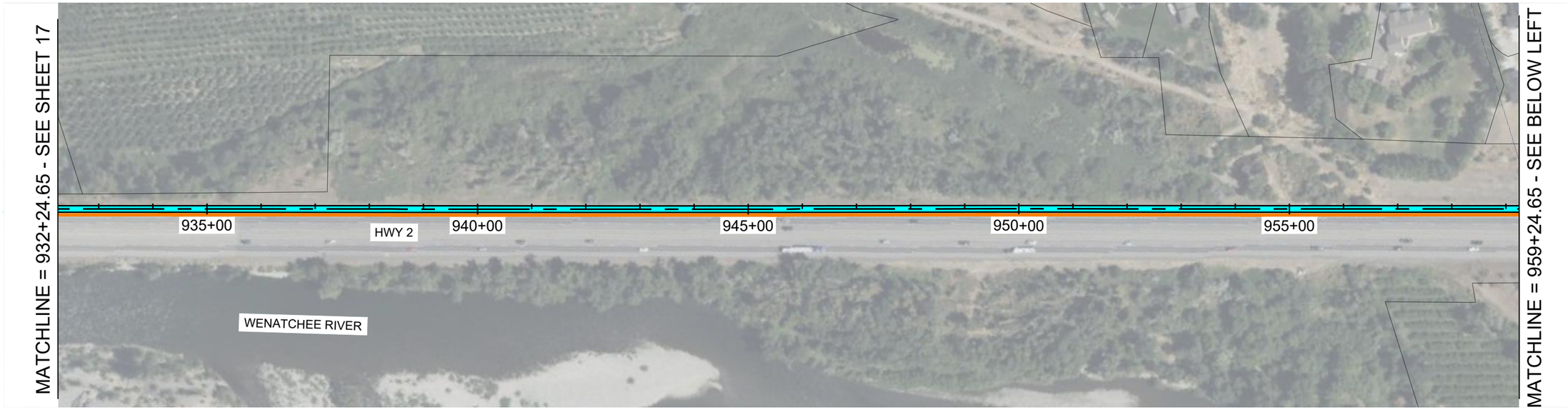
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LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

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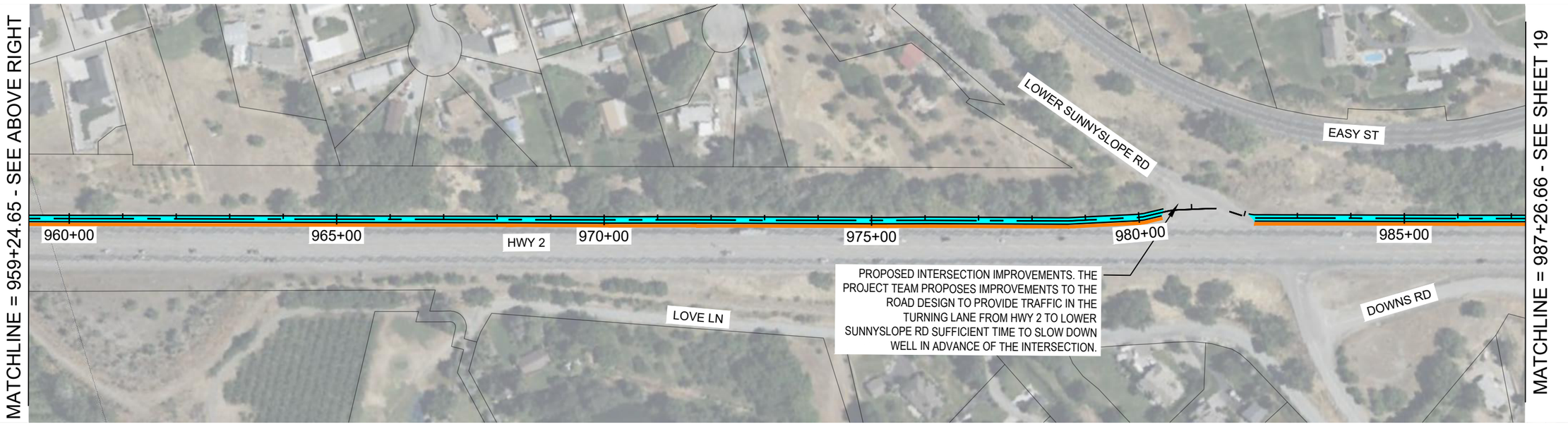
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MAP 18A



PLAN
SCALE: 1" = 200'

MAP 18B



PLAN
SCALE: 1" = 200'

alta

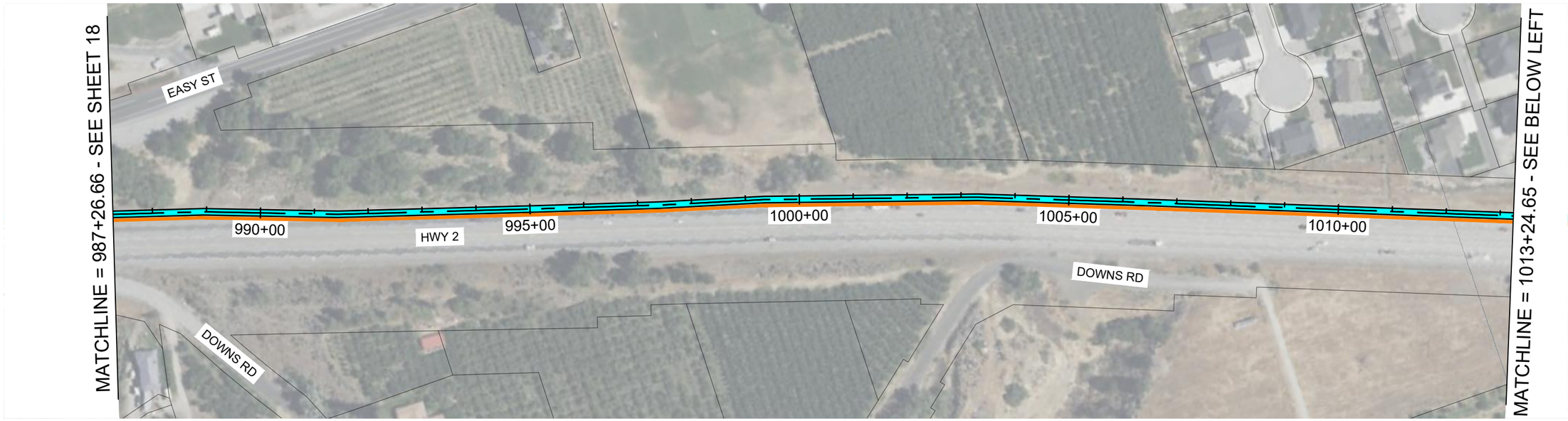
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LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

PLAN
18

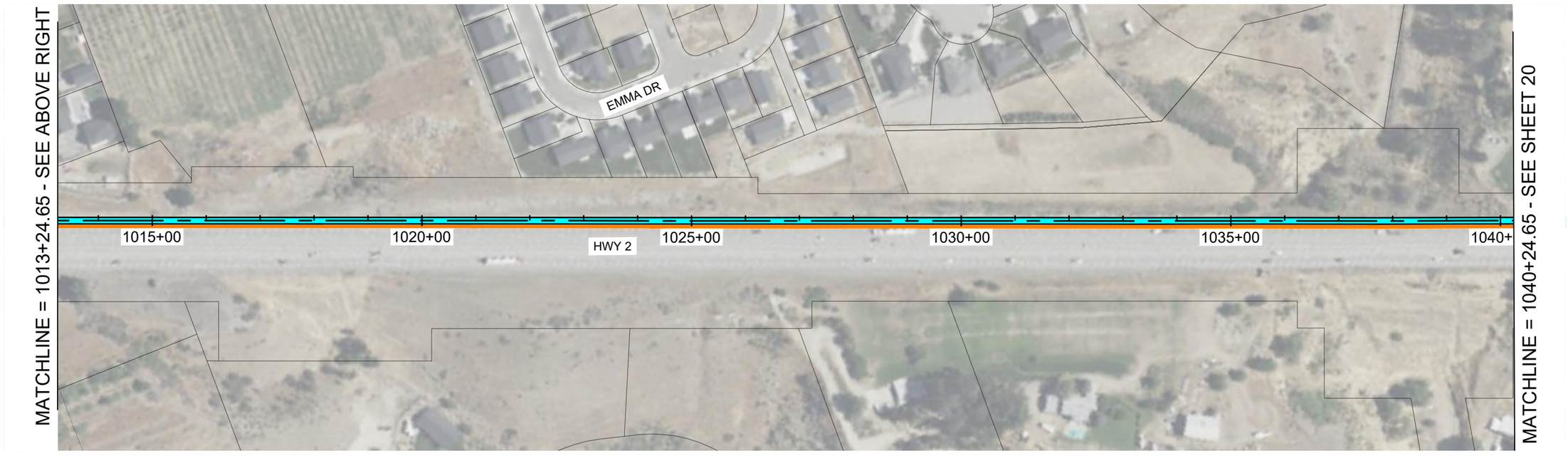
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MAP 19A



PLAN
SCALE: 1" = 200'

MAP 19B



PLAN
SCALE: 1" = 200'

alta

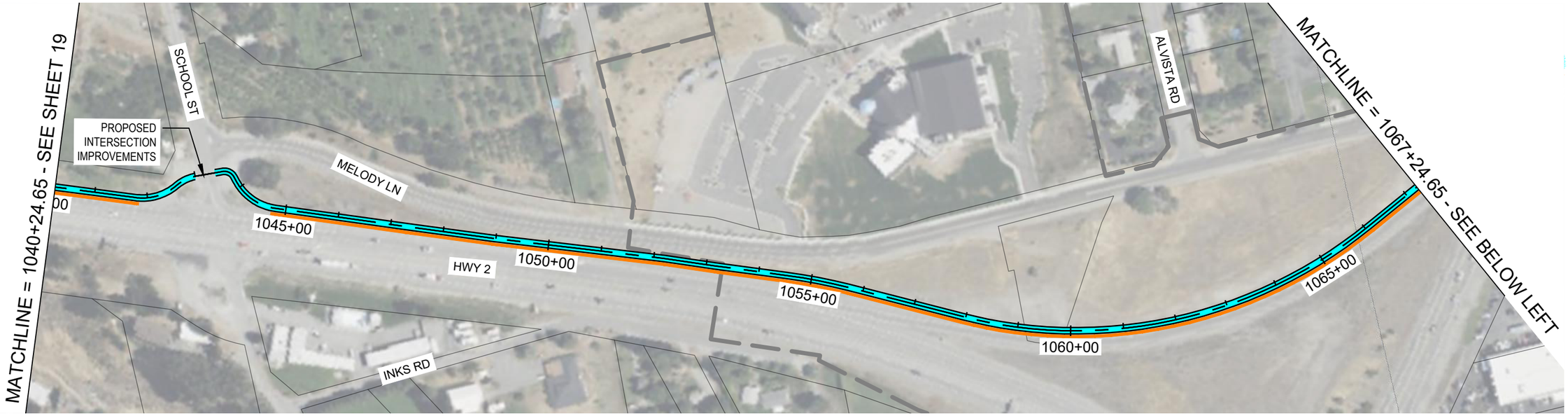
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LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

PLAN

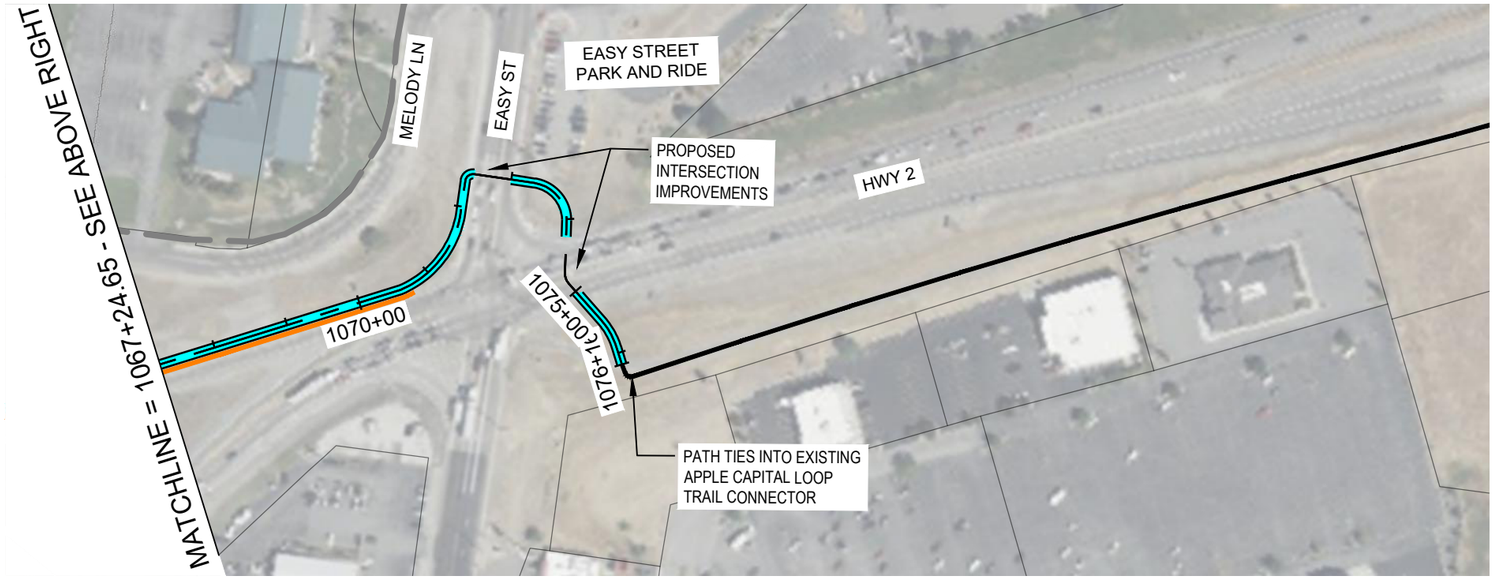
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MAP 20A



PLAN
SCALE: 1" = 200'

MAP 20B



PLAN
SCALE: 1" = 200'

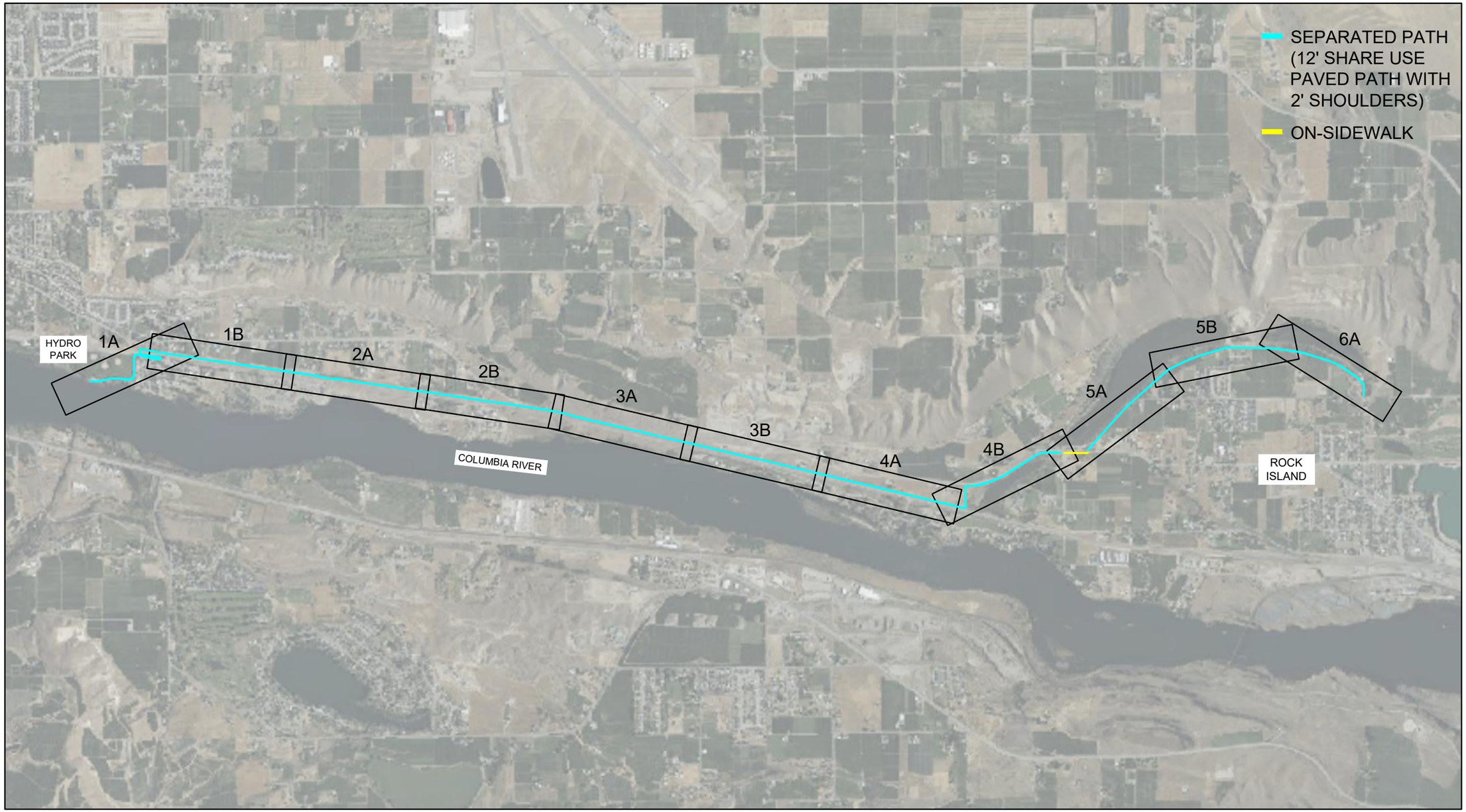
alta

0 200' 400'
Scale: 1" = 200'

LEAVENWORTH - CASHMERE - WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
FRONT STREET TO APPLE CAPITAL LOOP TRAIL CONNECTOR ON EASY STREET

PLAN
20

Drawing filename: N:\Shared\PROJECTS\2024\2024.014 Chelan-Douglas, WA Regional Pathways\CAD\01_Plans\2024.014_Leavenworth Plan Sheets.dwg Last saved by: SylviaPasquarielloPlot date: 1/8/2026 12:06 PM PlotsStyle table: ALTA NCS Standard.stb



PLAN
SCALE: 1" = 2000'

alta

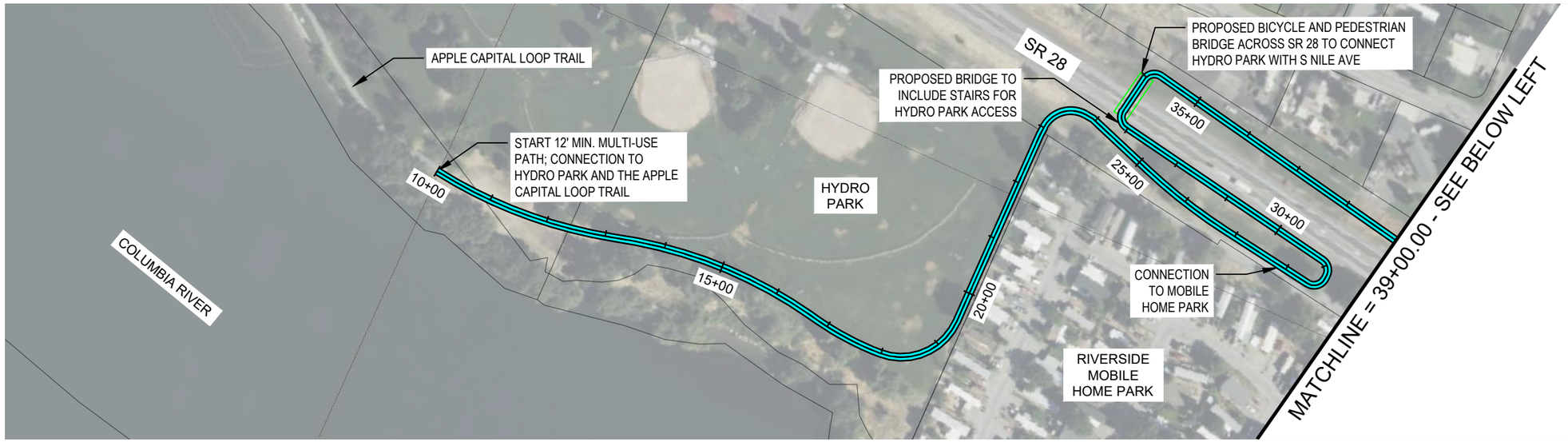
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Scale: 1" = 200'

ROCK ISLAND - EAST WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
HYDRO PARK TO DOWNTOWN ROCK ISLAND

KEY MAP

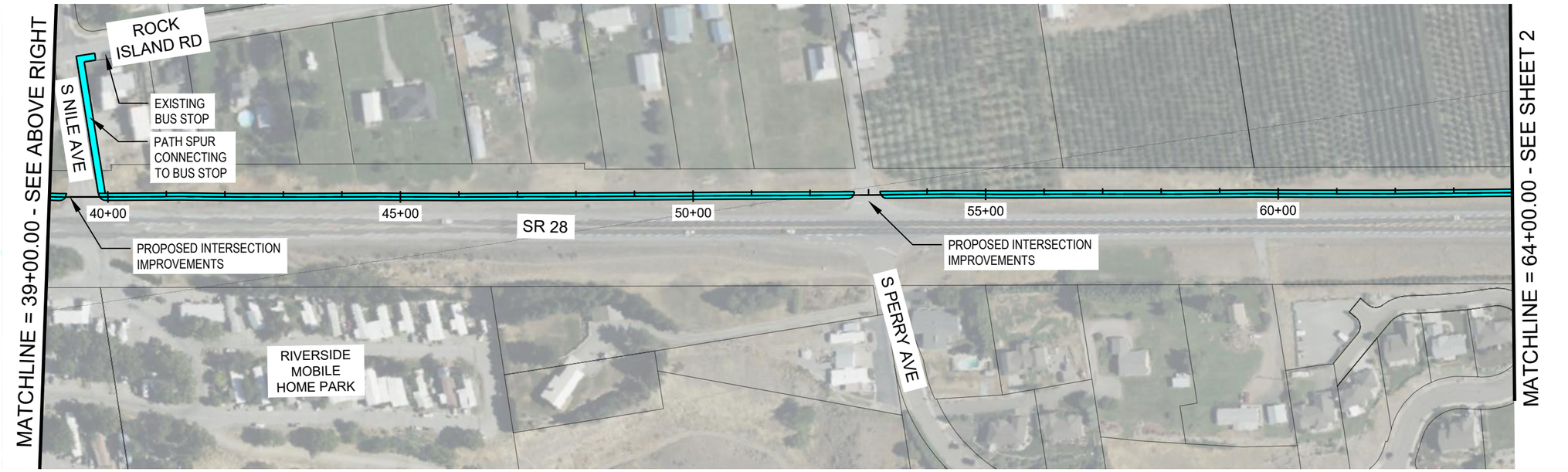
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MAP 1A



PLAN
SCALE: 1" = 200'

MAP 1B



PLAN
SCALE: 1" = 200'

alta

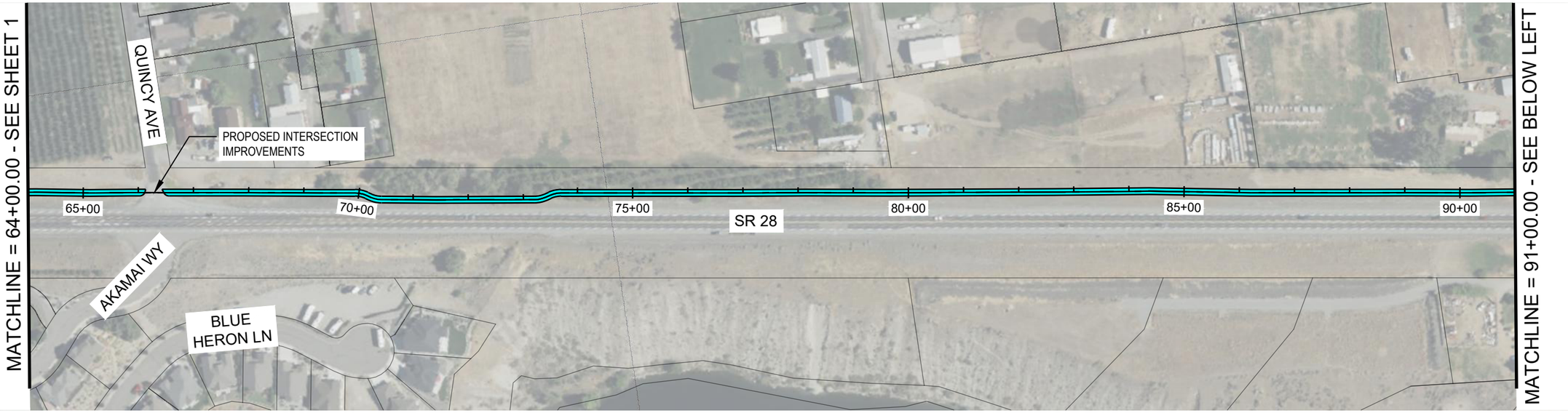
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ROCK ISLAND - EAST WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
HYDRO PARK TO DOWNTOWN ROCK ISLAND

PLAN
1

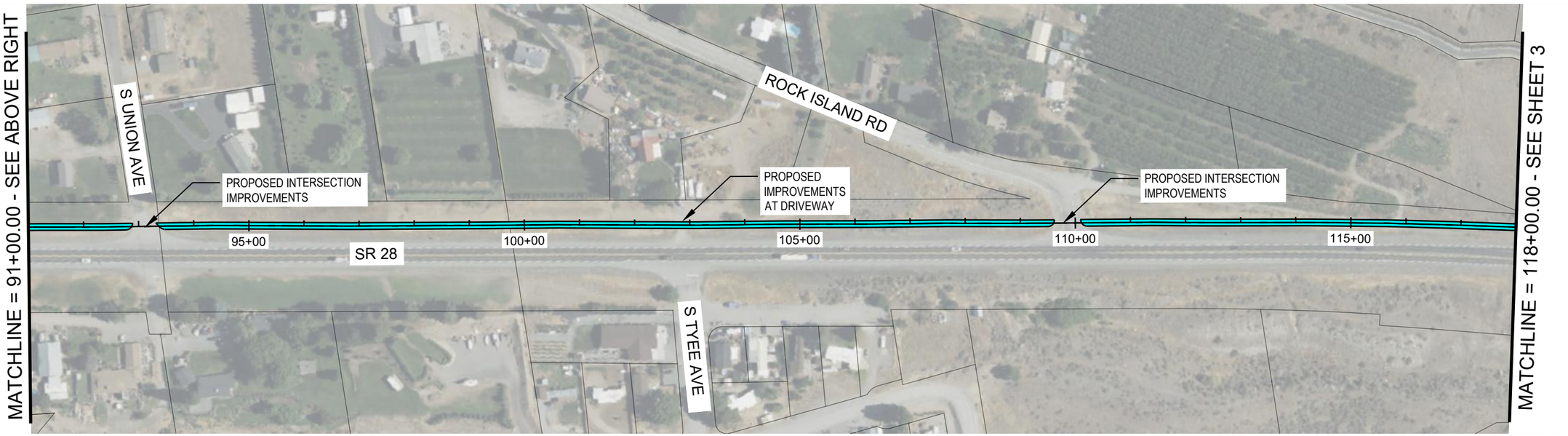
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MAP 2A



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MAP 2B



PLAN
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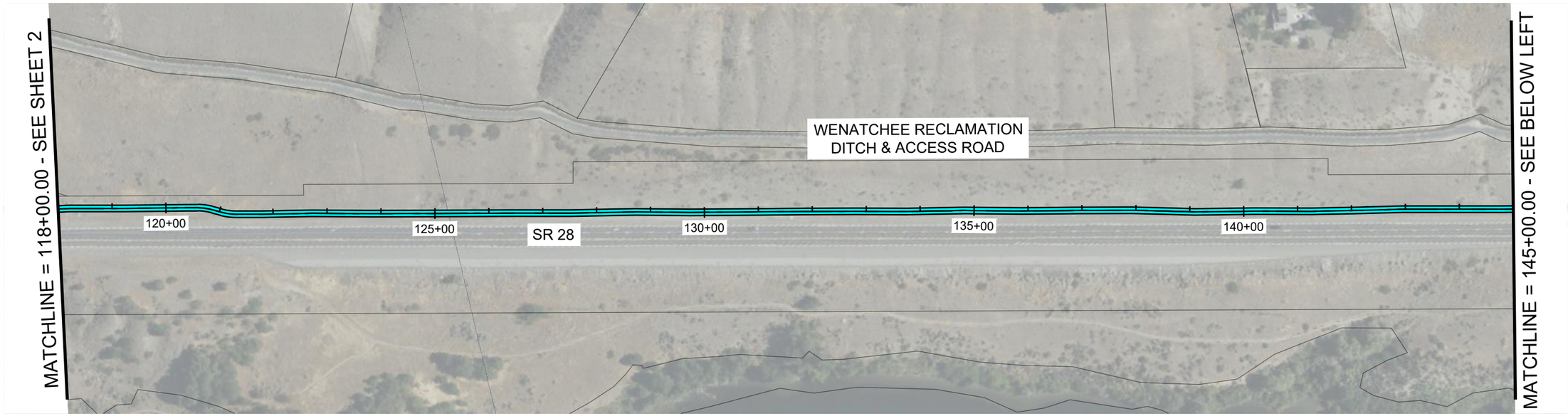
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ROCK ISLAND - EAST WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
HYDRO PARK TO DOWNTOWN ROCK ISLAND

PLAN

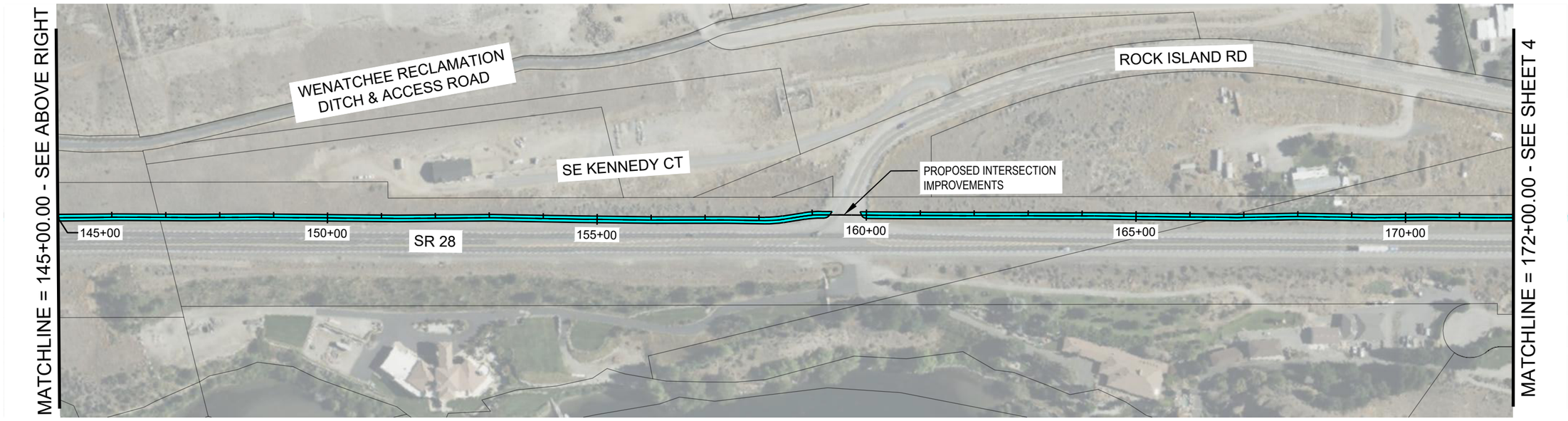
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MAP 3A



PLAN
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MAP 3B



PLAN
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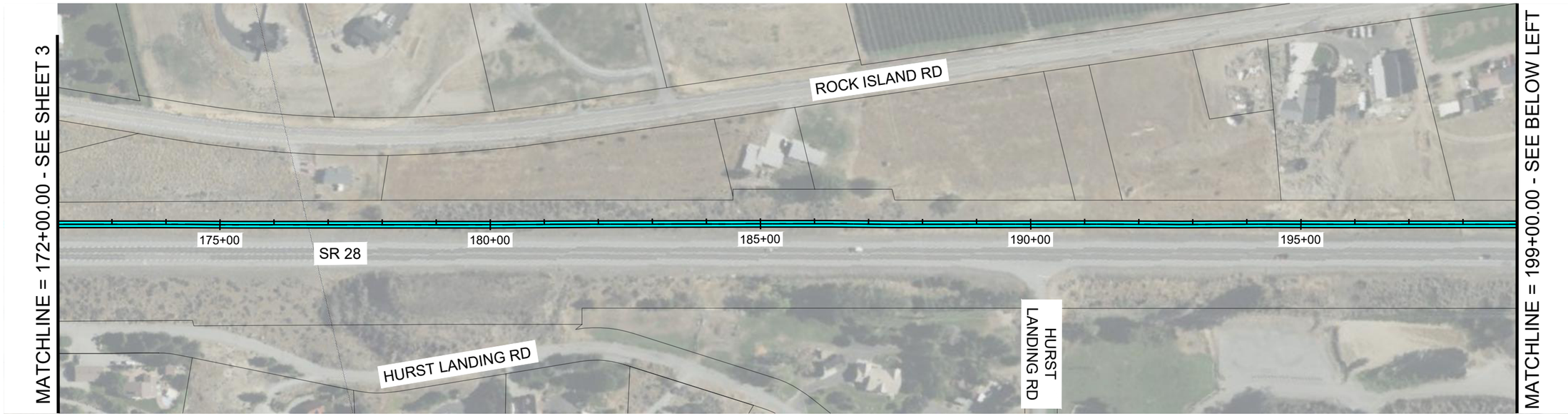
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ROCK ISLAND - EAST WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
HYDRO PARK TO DOWNTOWN ROCK ISLAND

PLAN
3

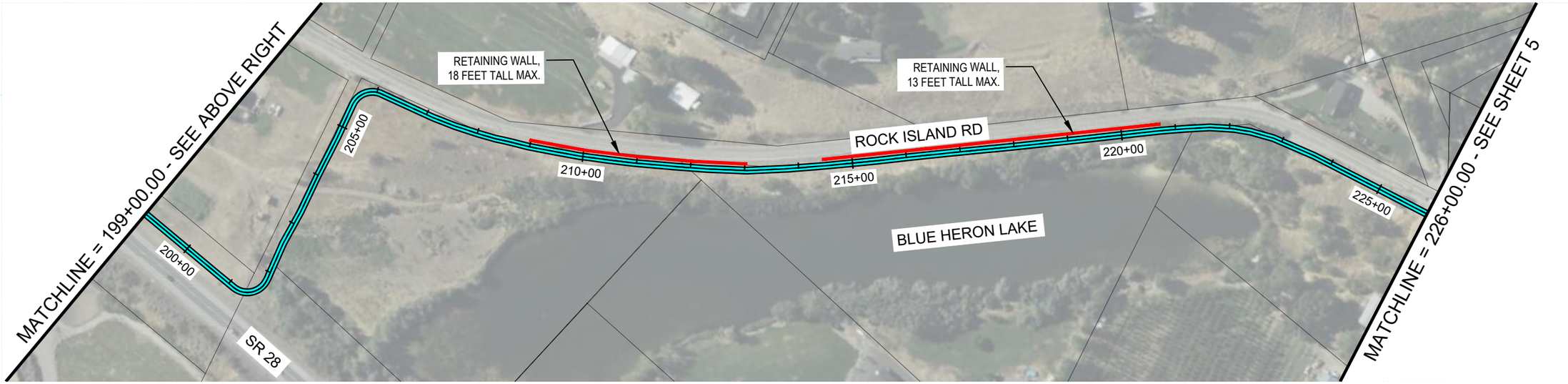
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MAP 4A



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MAP 4B



PLAN
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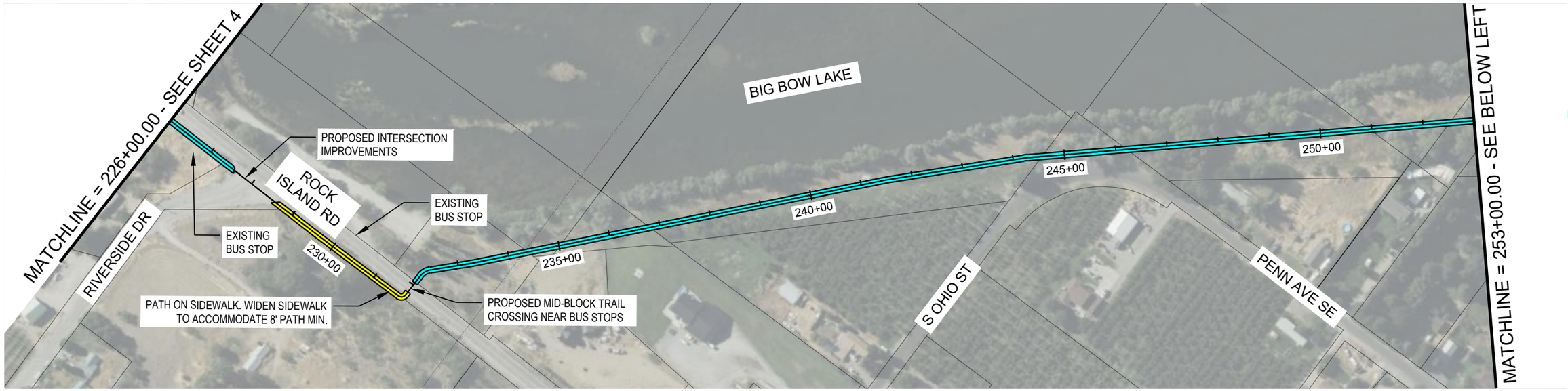
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ROCK ISLAND - EAST WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
HYDRO PARK TO DOWNTOWN ROCK ISLAND

PLAN

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MAP 5A



PLAN
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MAP 5B



PLAN
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ROCK ISLAND - EAST WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
HYDRO PARK TO DOWNTOWN ROCK ISLAND

PLAN
5

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MAP 6A



PLAN
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ROCK ISLAND - EAST WENATCHEE CORRIDOR: RECOMMENDED PATHWAY ALIGNMENT MAP
HYDRO PARK TO DOWNTOWN ROCK ISLAND

PLAN

Appendix J: Pathway Benefits Analysis



MEMORANDUM

To: Chelan-Douglas Regional Pathways Master Plan

From: Alta Planning + Design

Date: 7/7/2025

Re: Task 6.4 Pathway Benefits

Making the Case for Trails

The team conducted an analysis of the benefits to society that would occur if a series of trail alignments were built in Chelan and Douglas Counties as part of implementing the Chelan-Douglas Regional Pathways Master Plan.

Introduction

Trails preserve natural and cultural resources, improve mobility and safety, promote health and well-being, foster tourism, and enhance the quality of life for residents and visitors alike. For the purposes of this memo, the benefits highlight both the quantitative and qualitative returns that future implementation of the entire visionary greenway corridor can generate within the region. The trail alignments considered by this memorandum cover nearly 40 miles.

The economic analysis estimated the number of bicycle and pedestrian trips that might take place on each of the proposed trail alignments and assessed the potential benefits that might accrue after the alignment was constructed. These benefits are reported in annual amounts, and also in total amounts over a 20-year period. The benefits are organized around the following categories:

- **Transportation:** Estimates that some travel now occurring by car will in the future be by bicycle or walking, allowing for household savings on vehicle wear-and-tear and savings to society from reduced traffic levels.
- **Community Development:** Number of people living within a walkable or bikeable distance of the trail alternative, estimated respectively at one-half and three miles as-the-crow flies.
- **Emissions:** Monetary value of reductions in pollutants that impact air quality such as CO2, NOx, SO2, and PM2.5.
- **Public Health:** Monetized health benefits of increased physical activity and reduced mortality from that increased physical activity.

- **Economic Activity and Tourism Spending:** monetary value of tourism drawn to the area due to the trail, based on comparative estimates of non-local visitor spending on goods, services and lodging.

The results of this analysis are summarized in Table 1. These are annual expected benefits by alignment and benefit type. More information on the background of each analysis is included in the Methodology and Results sections below.

Table 1. Summary of benefits expected each year by alignment, by benefit type

Trail Alignment	Transportation ($2023)	Community Development (active trips)	Emissions ($2023)	Public Health ($2023)	Tourism ($2023)	**Total Annual Benefits ($2023)**
Malaga to Wenatchee	$70,700	298,300	$16,100	$1,282,000	$829,000	**$2,496,100**
Leavenworth to Cashmere	$7,800	125,300	$1,800	$537,000	$4,649,000	**$5,320,900**
Cashmere to Wenatchee	$42,100	327,600	$9,600	$1,417,000	$4,251,000	**$6,047,300**
Chelan to Manson	$22,100	167,000	$5,100	$723,000	$4,098,000	**$5,015,200**
Rock Island to East Wenatchee	$3,300	22,200	$800	$95,000	$3,000	**$124,300**
Total Annual Benefits	**$146,000**	**$940,400**	**$33,400**	**$4,054,000**	**$13,830,000**	**$19,003,800**

Methodology

This economic analysis is primarily based on estimates of the number of bicycle and pedestrian trips that would take place on the proposed trail alignment if constructed. The analysis then reports the potential benefits that might accrue from those trips if the entire proposed alignment was constructed.

Daily Estimate of Demand

To understand the number of bicycle and pedestrian trips, the team conducted a context-sensitive estimate of demand. Powerful proxy metrics for demand and mode shift potential are – respectively – the density and percentage of Active Trip Potential (ATP) trips, or vehicle trips shorter than three miles.

The team extrapolated existing counts provided by the Chelan-Douglas Transportation Council on the Apple Capital Loop to the proposed trails. Bicyclists and pedestrians were counted continuously, and then reported in 15-minute increments from January to March 2023, as well as five days in May 2023. These counts were seasonally adjusted using factors from the National Bicycle and Pedestrian Documentation Project (NBPDP).[1]

The NBPDP factors generate appropriate count estimates for months outside of those counted based on the seasonal biking and walking patterns in areas with similar climates to Chelan and Douglas Counties. Within the study area, people tend to prioritize outdoor activities more in the warmer months, and these adjustment factors account for that increase in activity. These adjusted counts are then used to calculate a daily total of bicycle and pedestrian use.

Using the average daily volumes from the counts in **Table 3**, bicycle and pedestrian trip counts were scaled and applied to mile-long segments of the proposed greenway by leveraging ATP trips to create adjustment factors. Replica Places' activity-based model outputs for a typical Thursday in Spring of 2023 were used to collect information on ATP trips. Details of Replica's modeling approach are articulated in **Appendix A.**

ATP trips evaluated included those that terminate within a 0.5-mile pedestrian buffer and 1.25-mile bicyclist buffer of a proposed greenway segment relative to the baseline number of ATP trips occurring within a similar 0.5-mile pedestrian buffer and 1.25-mile bicyclist buffer area around an existing comparable counter greenway segment. These estimated counts were then summed for all segments along the proposed greenway and divided by the average bicycle and pedestrian trip length from the 2017 National Household Travel Survey to account for unique trips (2.38 miles and 0.86 miles, respectively).

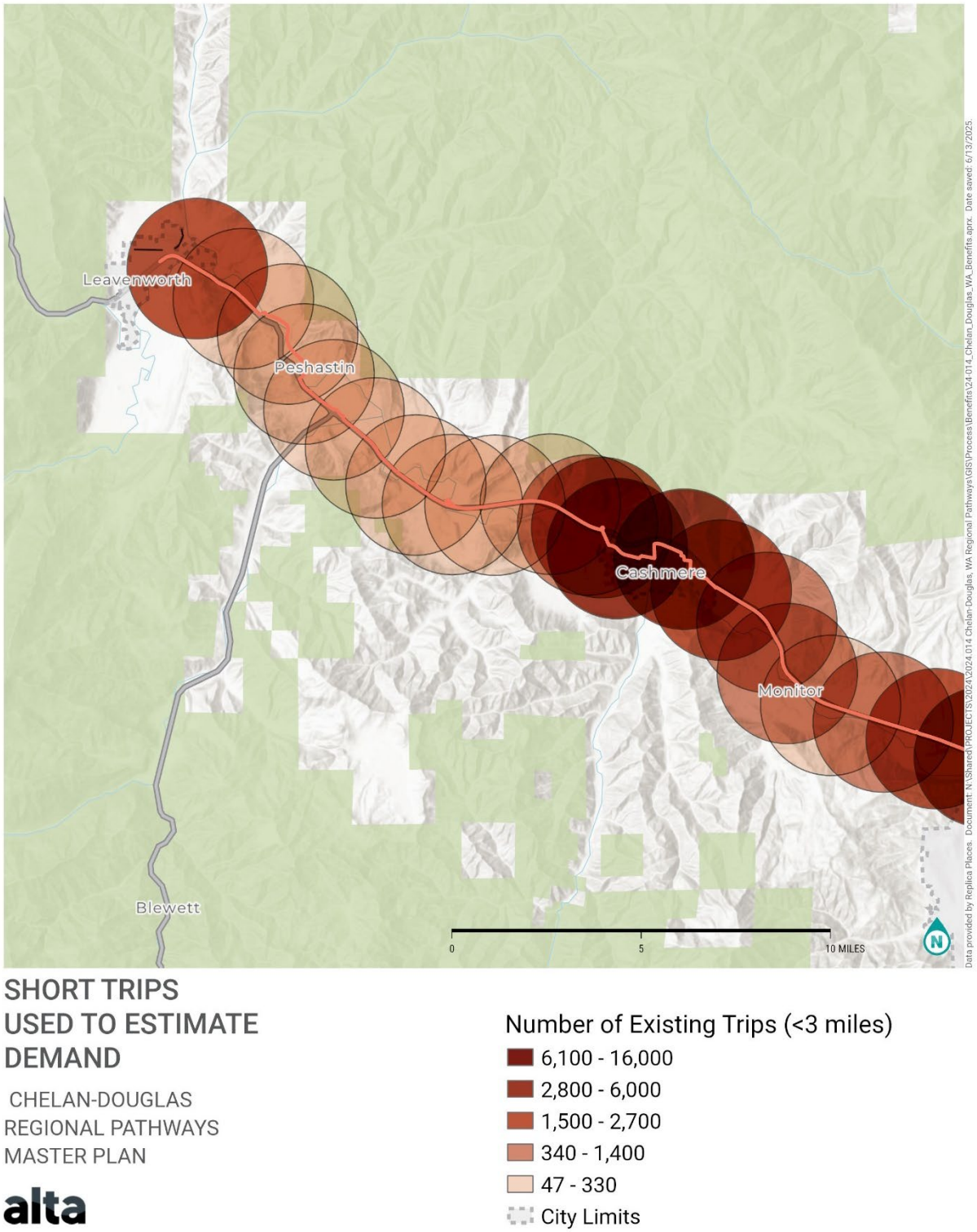


Figure 1. Short-trips along Leavenworth to Cashmere corridor

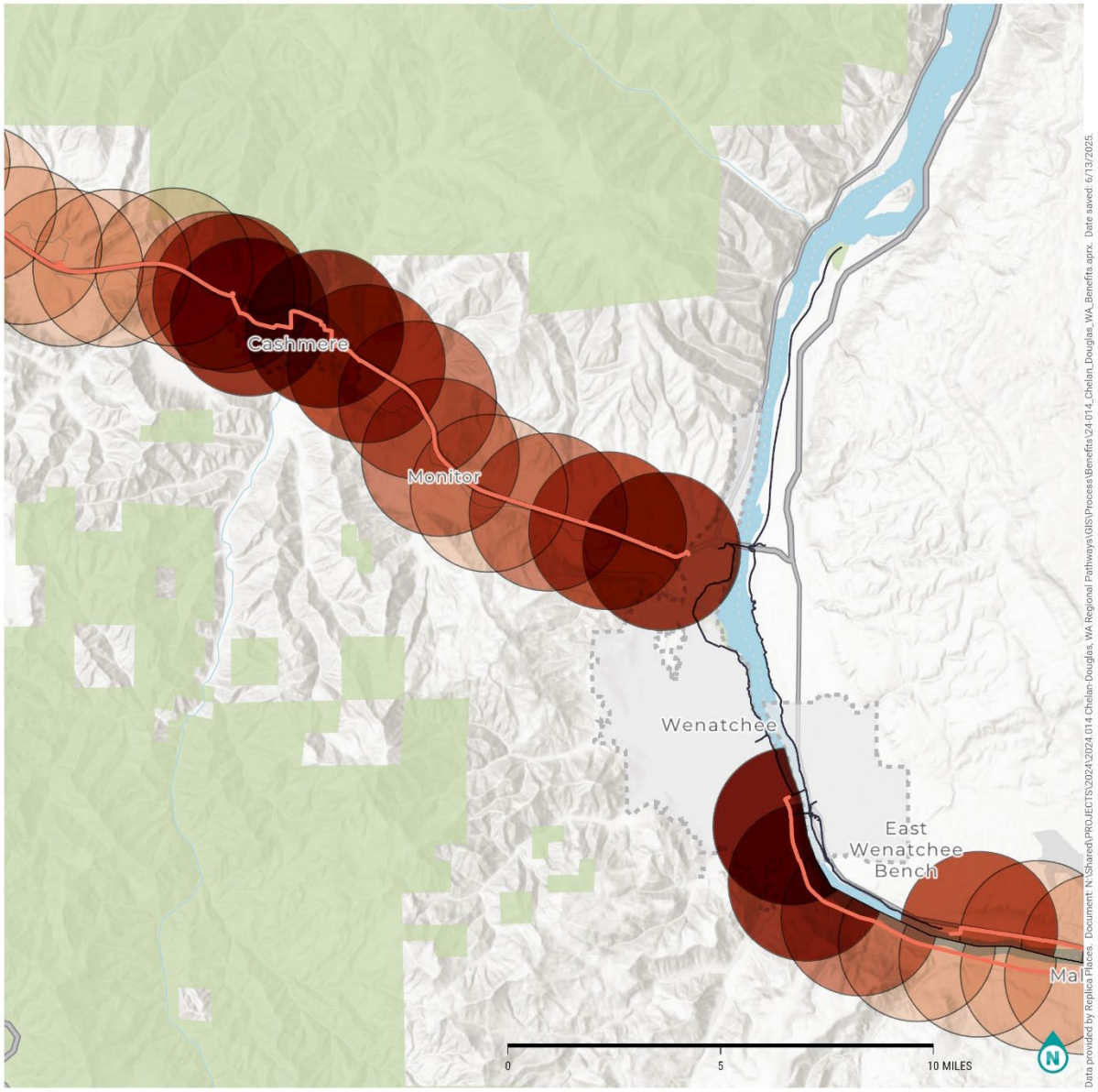


Figure 2. Short-Trips along Cashmere to Wenatchee corridor

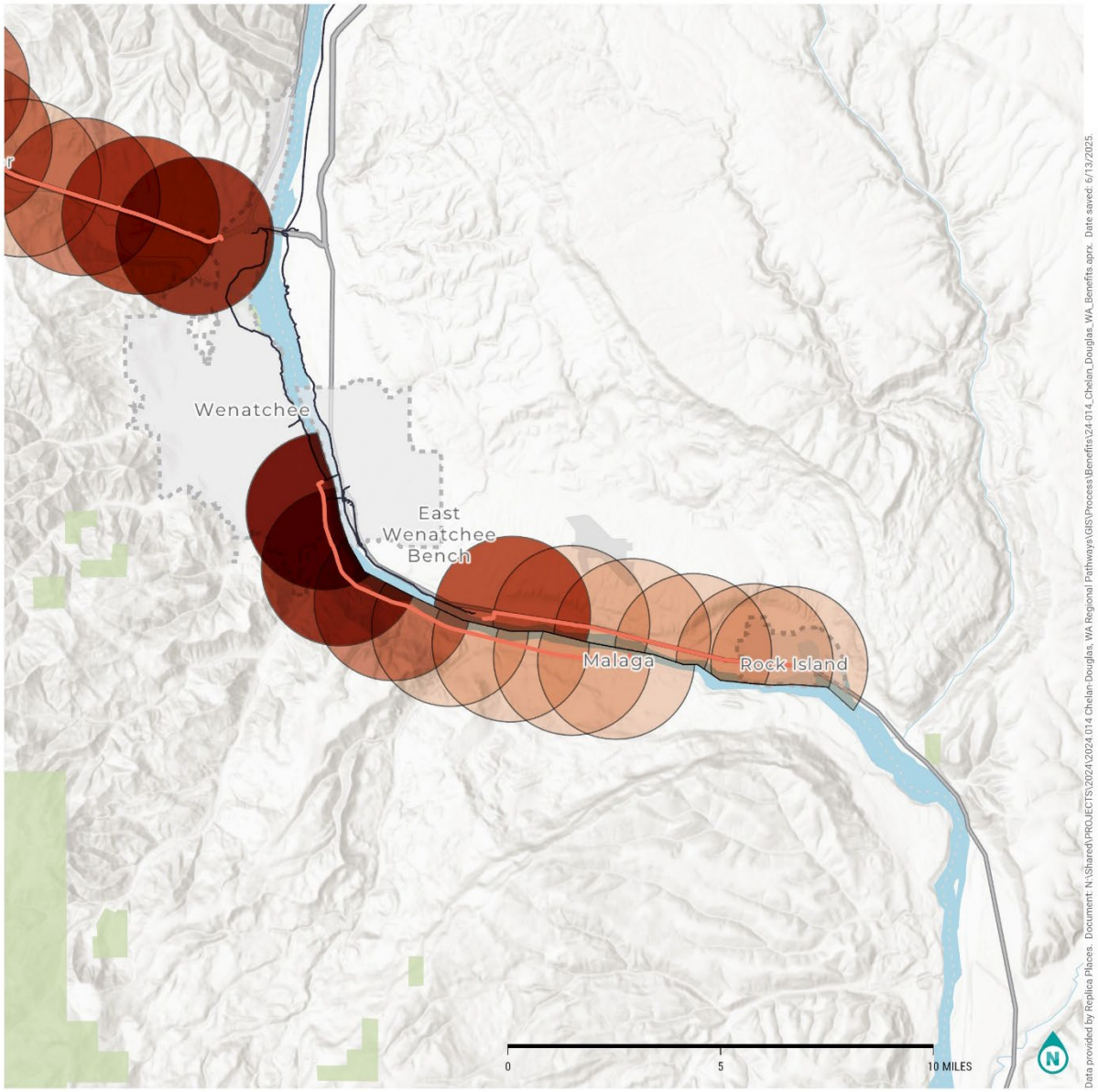


Figure 3. Short-Trips along Malaga to Wenatchee and Rock Island to East Wenatchee corridors

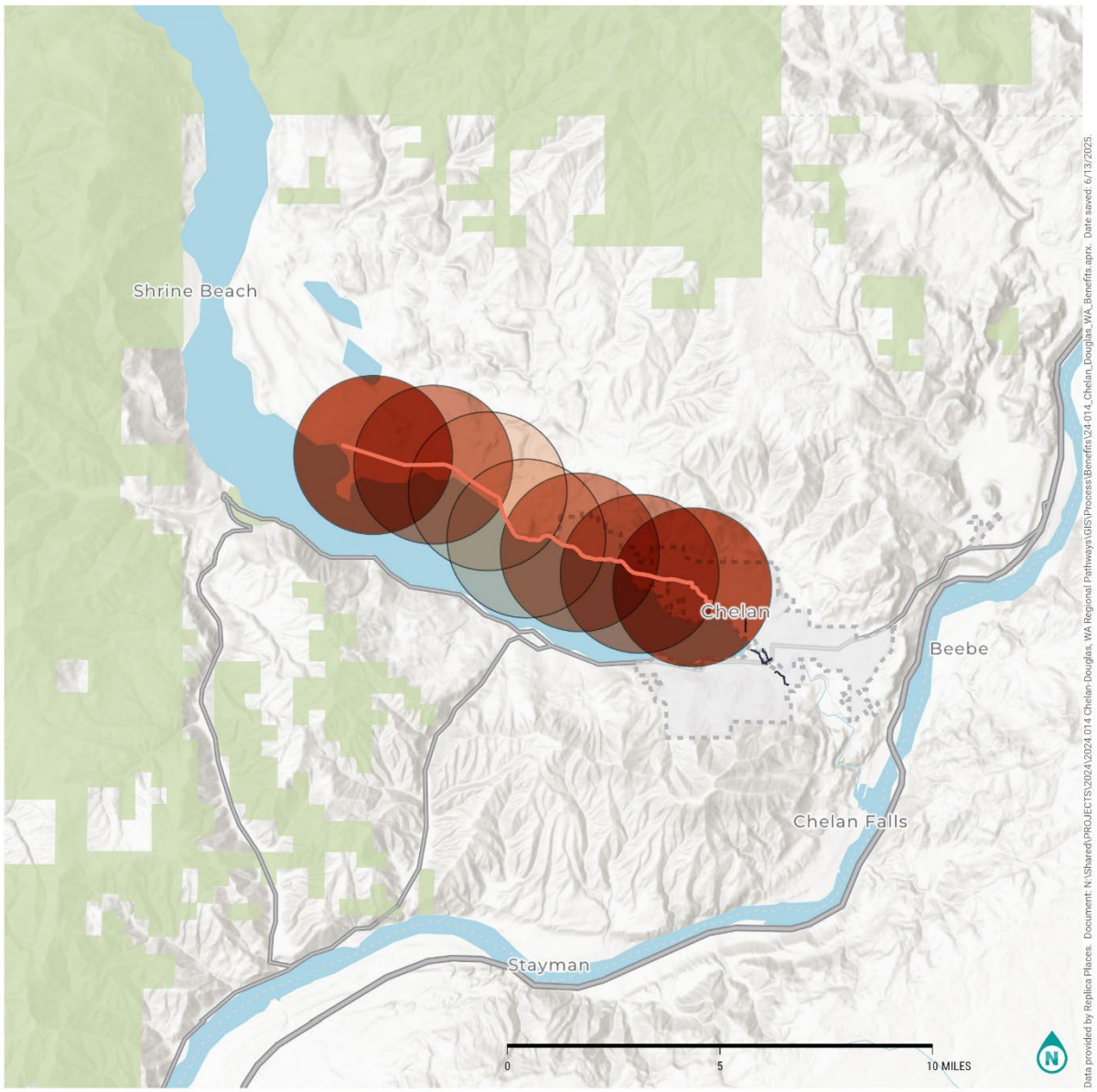


Figure 4. Short-trips along Chelan to Manson corridor

In summary, we compute the person-miles traveled based on the estimated counts on these "synthetic counters", and then divide them by the average trip distances to get an estimate of unique user trips. The pattern of short trips along the trail corridors are shown in Figures 1-4.

The resulting walking and biking trips estimated for each trail alignment are summarized in Table 2.

Table 2. Estimate of Walking and Bicycling Demand

Trail Alignment	Corridor Length	Estimated Daily Average of Bike Trips	Estimated Daily Average of Pedestrian Trips	Estimated Average Total Daily Users
Malaga to Wenatchee	6 miles	159	258	417
Leavenworth to Cashmere	12 miles	67	88	155
Cashmere to Wenatchee	7 miles	109	296	405
Chelan to Manson	7 miles	52	154	206
Rock Island to East Wenatchee	6 miles	18	13	31

Of note, the existing counts included data collected over multiple years post-construction, and as such, it is expected that it may take multiple years post-construction for the proposed alignments to reach these per day estimates.

Daily Estimates to Annual Walking and Biking

The daily estimates were extrapolated to annual trip volumes and broken into different trip types (i.e. commuting or recreation, school, college, and utilitarian) using the existing travel patterns from the U.S. Census American Community Survey[2] and data from the National Household Transportation Survey[3], see Table 3. The annual extrapolations account for the expected number of trips per week by trip type (i.e. commute, school, and college trips are expected five out of seven days a week, and other trip types are expected to occur seven days a week). These trips are then summed over a year and reported in the benefits results for each alignment.

Table 3. Trip Purpose Multiplier

Multiplier Type	Bike	Walk
Utilitarian Trip Multiplier	5.33	8.77
Social/Recreational Trip Multiplier	1.68	2.18

Transportation Savings and Emissions

The car trips replaced by active trips (walking or biking) generate a number of benefits. For example, fewer cars driving on the road can result in less wear-and-tear on the roadway and less maintenance costs for the community over time. In addition, avoided trips reduce the emissions from combustion engines. A trip replacement factor is calculated to understand how many of the walking and biking trips are replacing vehicular trips.

The trip replacement factor for each alignment was calculated based on a proprietary Alta model substitution model which uses percentages of trips less than four miles in length in the immediate area of the alignment. More details on this confidential model are included in **Appendix B: Modal Substitution Rate Model Documentation**.

The calculated trip replacement factors for each alignment in this study are summarized in Table 4. The multipliers used to calculate benefits from reduced vehicle-miles-traveled are included in Table 5.

Table 4. Trip Replacement Factors

Trail Alignment	Modeled proportion of active trips previously conducted by cars
Malaga to Wenatchee	24.66%
Leavenworth to Cashmere	6.44%
Cashmere to Wenatchee	13.57%
Chelan to Manson	14.03%
Rock Island to East Wenatchee	14.78%

Table 5. Transportation and Environmental Sustainability Multipliers

Multiplier	Value (metric tons/VMT)
Roadway Maintenance Cost Savings	$0.08 per VMT[4]
Particulate Matter 2.5 ($PM_{2.5}$) [5]	0.0000000044
Nitrous Oxides (NOx) [6]	0.0000008
Sulfur Oxides (SO_2) [7]	0.00000001
Carbon Dioxide[8]	0.00044

Community Development

The number of people within the walkable and bikeable areas around each alignment were reported for this category, as well as the number of trips estimated along the trail.

Public Health Benefits

More people bicycling and walking can help encourage an increase in physical activity levels, increased cardiovascular health, and other positive outcomes for users. The benefits from reduced mortality were calculated using the recommended values provided in the 2024 USDOT BCA Guidance (Table A-13) and the national distribution of age ranges and travel patterns. These benefits were only applied to the estimated number of walking and biking trips induced by the project.

Table 6 displays the multipliers that were used.

[4] Kitamura, R., Zhao, H., and Gubby, A. R. Development of a Pavement Maintenance Cost Allocation Model. Institute of Transportation Studies, University of California, Davis. https://trid.trb.org/view.aspx?id=261768

[5] The Safer Affordable Fuel-Efficient Vehicles Rule for MY2021-MY2026 Passenger Cars, USDOT BCA Guidance 2023, Table A6 and Light Trucks Preliminary Regulatory Impact Analysis (October 2018) https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ld_cafe_co2_nhtsa_2127-al76_epa_pria_181016.pdf

[6] The Safer Affordable Fuel-Efficient Vehicles Rule for MY2021-MY2026 Passenger Cars, USDOT BCA Guidance 2023, Table A6 and Light Trucks Preliminary Regulatory Impact Analysis (October 2018) https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ld_cafe_co2_nhtsa_2127-al76_epa_pria_181016.pdf

[7] The Safer Affordable Fuel-Efficient Vehicles Rule for MY2021-MY2026 Passenger Cars, USDOT BCA Guidance 2023, Table A6 and Light Trucks Preliminary Regulatory Impact Analysis (October 2018) https://www.nhtsa.gov/sites/nhtsa.dot.gov/files/documents/ld_cafe_co2_nhtsa_2127-al76_epa_pria_181016.pdf

[8] Technical Support Document: Technical Update of the Social Cost of Carbon for Regulatory Impact Analysis Under Executive Order 12866. https://www.whitehouse.gov/sites/default/files/omb/inforeg/scc-tsd-final-july-2015.pdf

Table 6. Mortality Reduction Multipliers

Mortality Reduction Benefits of Induced Active Transportation	Value
Walking Value per Induced Trip	$8.06
Cycling Value per Induced Trips	$7.18
Walking Age Proportion (20-74 years old)	67%
Cycling Age Proportion (20-64 years old)	54%
Trips induced from non-active modes	89%

Tourism Benefits

The team reviewed recent analyses performed by the State of Washington as well as Chelan and Douglas counties to find information that could inform a benefits estimation specifically for the pathways in this plan. For example, according to preliminary analysis of2022 Datafy information: there was $8.3 million in recreation spending in Douglas County in 2022 and 71.4 million in recreation spending in Chelan County.[9]

After reviews, the team chose to use figures from a recent economic analysis of outdoor recreation in the state of Washington examined the economic impacts and specific expenditures of recreation users by activity, even specifically walking and biking on paved or gravel trails.[10]

This analysis reported that 4,389,743 participants walking on paved or gravel trails had total annual expenditures of $1,016,664,000. This equates to an estimate of $232 spent by each person walking on equipment, lodging, food and other items while conducting that activity. After implementation, visitors to the Chelan-Douglas trail alignments are likely to spend money on food, retail, entertainment, and lodging, but not equipment. The report indicates that these trip-related spending types make up 71% of the total, suggesting **people walking on trails could be expected to spend $165 each**.

In addition, 1,127,096 participants bicycled on paved or gravel trails, spending an estimated $733,965,000 on equipment, lodging, food and other items while conducting that activity. This equates to $651 spent by each person cycling. After implementation, visitors to the Chelan-Douglas trail alignments are likely to spend money on food, retail, entertainment, and lodging, but not equipment. The report also indicates that these trip-related spending types make up 71% of the total, suggesting **people biking on trails could be expected to spend $463 each**.

As a means of estimation, the project team used a combination of travel information from Replica Places, as well as relative recreational spending amounts between Chelan and Douglas counties to understand how many bikers and walkers of the future trails will be from out-of-town, otherwise known as non-local users.

[9] Preliminary analysis provided by local county stakeholder committee.
[10] Mojica, J. and Fletcher, A. 2020. *Economic Analysis of Outdoor Recreation in Washington State, 2020 Update*. Tacoma, WA: Earth Economics.

Replica Places data indicates that 17,092 people travel from outside Chelan and Douglas Counties into the study area on a typical Saturday in the Spring of 2023. This is 17 percent of all travelers to the counties during the same timeframe.

Table 7. Replica Travel Estimates

Replica Travel Estimate, Saturday, Spring 2023	
People traveling into Chelan or Douglas, from outside	17,092
People traveling and ending trip in Chelan Douglas, from anywhere	100,949
Percentage of non-local persons, all travel types	16.9%

To understand the differences in tourism within Chelan and Douglas counties the team turned to seasonal housing density.[11] Comparing the percentage of homes that are seasonal can help estimate the expected relative amount of tourism that occurs within the area and provides relative tourism differences between trail alignments. This figure was calculated using Vacancy Status of housing units as recorded by the U.S. Census American Community Survey five-year estimate 2022. Each trail intersects several block groups, and the proportion of vacant housing that is seasonal was weighted proportionally to the length of trail intersecting that census block group. This resulted in the following seasonal housing percentages for each trail in Table 8.

Using the Replica estimate of non-local visitors to the counties (17%) as a mid-point for non-local trail users, then the relative proportion of non-local trail users to each trail alignment would be as it's listed in Table 8.

Table 8. Seasonal housing along each trail alignment, American Community Survey, five-year estimate 2022.

Trail Alignment	Seasonal Housing along each trail alignment	Estimated Non-Local Proportion of Trail Users
Malaga to Wenatchee	6.8%	2.3%
Leavenworth to Cashmere	96.7%	32.9%
Cashmere to Wenatchee	40.5%	13.8%
Chelan to Manson	78.6%	26.7%
Rock Island to East Wenatchee	0.1%	0.1%

Finally, the project team only estimated tourism benefits for the portion of the year when the trail was expected to be used, from March 1 to October 31. National Bicycle and Pedestrian Documentation[12] project monthly adjustment factors were used to make this seasonal adjustment. These figures, along with the estimates of non-local trail users, were used to estimate the annual tourism spending benefits for each alignment.

Results

Once the annual trips, non-local visitor percentages and non-local spending amounts were estimated, then specific benefit estimates in the categories of transportation, community development, emissions, public health and tourism were generated. The team relied on U.S. Department of Transportation multipliers, recent research methods, and client-driven assumptions about each trail alignment to estimate the following benefits. The reported benefit amounts are not discounted.

Malaga to Wenatchee Alignment Estimate of Benefits

The Malaga to Wenatchee alignment travels approximately 6 miles from the township of Malaga to Wenatchee on the south side of the Columbia River. This corridor is characterized by commercial and industrial uses at the north/west end in Wenatchee and transitions to rural residential and agriculture toward Malaga. The estimated demand for this alignment is one of the highest, due to a large number of short trips near the corridor. Many of these trips could potentially convert to active modes and use the trail. In total, the societal benefits from this alignment can be estimated at **$2.5 million per year**. **Over a twenty-year period, this trail could provide $50.0 million in benefits to the region.**

- **Transportation:** Estimates that some travel now occurring by car will in the future be by bicycle or walking, allowing for household savings on vehicle wear-and-tear and savings to society from reduced traffic levels.
    - **$70,700 each year.**
    - **$1,414,000 over 20 years.**
- **Community Development:** Number of people living within a walkable or bikeable distance of the trail alternative, estimated at one-half mile and three (3) miles as-the-crow flies, respectively.
    - **Total walking and biking:**
        - **298,300 walking and biking trips each year.**
        - **6.0 million walking and biking trips over 20 years.**
    - **Walkable population: 25,900 people.**
    - **Bikeable population: 78,130 people.**
- **Emissions:** Monetary value of reductions in pollutants that impact air quality such as CO2, NOX, SO2, and PM2.5.
    - **Annual emissions benefits of $16,100 each year.**
    - **$368,100 over 20 years.**
- **Public Health:** Monetized health benefits of increased physical activity and reduced mortality from that increased physical activity.
    - **Health benefits of $1,282,000 each year.**
    - **$26.0 million over 20 years.**
- **Economic Activity and Tourism Spending:** monetary value of tourism drawn to the area due to the trail, based on comparative estimates of non-local visitor spending on goods, services and lodging.
    - **$829,000 each year.**
    - **$16.6 million over 20 years.**

Leavenworth to Cashmere Alignment Estimate of Benefits

The Leavenworth to Cashmere alignment travels approximately 12 miles from the town of Leavenworth to Wenatchee. The estimated demand for this alignment is more conservative than other alignments in the project, due to a limited number of existing short trips along the corridor other than within the town areas.

Overall, the benefits from this alignment are estimated at **$5.3 million per year**. **Over a twenty-year period, this trail could provide $106 million in benefits to the region**.

- **Transportation:** Estimates that some travel now occurring by car will in the future be by bicycle or walking, allowing for household savings on vehicle wear-and-tear and savings to society from reduced traffic levels.
    - **$7,800 each year.**
    - **$156,000 over 20 years.**
- **Community Development:** Number of people living within a walkable or bikeable distance of the trail alternative, estimated at one-half mile and three (3) miles as-the-crow flies, respectively.
    - **Total walking and biking:**
        - **125,300 trips per year.**
        - **2.5 million walking and biking trips over 20 years.**
    - **Walkable population: 15,179 people.**
    - **Bikeable population: 18,845 people.**
- **Emissions:** Monetary value of reductions in pollutants that impact air quality such as CO2, NOX, SO2, and PM2.5.
    - **Annual emissions benefits of $1,800 each year.**
    - **$36,000 over 20 years.**
- **Public Health:** Monetized health benefits of increased physical activity and reduced mortality from that increased physical activity.
    - **Health benefits of $537,000 each year.**
    - **$10.7 million over 20 years.**
- **Economic Activity and Tourism Spending:** monetary value of tourism drawn to the area due to the trail, based on comparative estimates of non-local visitor spending on goods, services and lodging.
    - **$4,649,000 each year.**
    - **$93.0 million over 20 years.**

Cashmere to Wenatchee Alignment Estimate of Benefits

The Cashmere to Wenatchee alignment travels approximately seven miles from the town of Cashmere to Wenatchee. The estimated demand for this alignment is one of the second highest, due to a large number of short trips that currently existing near the corridor. Overall, the benefits from this alignment can be estimated at **$6.0 million per year**. **Over a twenty-year period, this trail could provide $121 million in benefits to the region**.

- **Transportation:** Estimates that some travel now occurring by car will in the future be by bicycle or walking, allowing for household savings on vehicle wear-and-tear and savings to society from reduced traffic levels.
    - **$42,100 each year.**
    - **$842,000 over 20 years.**
- **Community Development:** Number of people living within a walkable or bikeable distance of the trail alternative, estimated at one-half mile and three (3) miles as-the-crow flies – and the proportions of children, seniors, as well as number of households with access to one or fewer vehicles in those communities.
    - **Total walking and biking:**
        - **327,600 trips per year.**
        - **6.6 million walking and biking trips over 20 years.**
    - **Walkable population: 15,000 people.**
    - **Bikeable population: 41,000 people.**
- **Emissions:** Monetary value of reductions in pollutants that impact air quality such as CO2, NOX, SO2, and PM2.5.
    - **Annual emissions benefits of $9,600 each year.**
    - **$192,000 over 20 years.**
- **Public Health:** Monetized health benefits of increased physical activity and reduced mortality from that increased physical activity.
    - **Health benefits of $1,417,000 each year.**
    - **$28.3 million over 20 years.**
- **Economic Activity and Tourism Spending:** monetary value of tourism drawn to the area due to the trail, based on comparative estimates of non-local visitor spending on goods, services and lodging.
    - **$4,251,000 each year.**
    - **$85.0 million over 20 years.**

Chelan to Manson Alignment Estimate of Benefits

The Chelan to Manson alignment travels approximately seven miles from Manson to the city of Chelan, along Lake Chelan. There is a great deal of agricultural production along this corridor, with fruit tree exports and, more recently, vineyards being very popular land uses. The estimated demand for this alignment is one of the second highest, due to a large number of short trips that currently existing near the corridor. Overall, the benefits from this alignment can be estimated at **$5.0 million per year**. **Over a twenty-year period, this trail could provide $100 million in benefits to the region**.

- **Transportation:** Estimates that some travel now occurring by car will in the future be by bicycle or walking, allowing for household savings on vehicle wear-and-tear and savings to society from reduced traffic levels.
    - **$22,100 each year.**
    - **$442,000 over 20 years.**
- **Community Development:** Number of people living within a walkable or bikeable distance of the trail alternative, estimated at one-half mile and three (3) miles as-the-crow flies – and the proportions of children, seniors, as well as number of households with access to one or fewer vehicles in those communities.
    - **Total walking and biking:**
        - **167,000 trips per year.**
        - **3.3 million walking and biking trips over 20 years.**
    - **Walkable population: 7,400 people.**
    - **Bikeable population: 11,600 people.**
- **Emissions:** Monetary value of reductions in pollutants that impact air quality such as CO2, NOX, SO2, and PM2.5.
    - **Annual emissions benefits of $5,100 each year.**
    - **$102,000 over 20 years.**
- **Public Health:** Monetized health benefits of increased physical activity and reduced mortality from that increased physical activity.
    - **Health benefits of $723,000 each year.**
    - **$14.5 million over 20 years.**
- **Economic Activity and Tourism Spending:** monetary value of tourism drawn to the area due to the trail, based on comparative estimates of non-local visitor spending on goods, services and lodging.
    - **$4,098,000 each year.**
    - **$82.0 million over 20 years.**

Rock Island to East Wenatchee Alignment Estimate of Benefits

The Rock Island to East Wenatchee alignment travels approximately six miles from Rock Island community to the eastern portion of Wenatchee on the north side of the Columbia River. This section of trail would connect to the existing Apple Capital Loop at Hydro Park. The estimated demand for this alignment is the lowest, due very few short trips that currently existing near the corridor, see Figure 3. Overall, the benefits from this alignment can be estimated at **$124,300 per year**. **Over a twenty-year period, this trail could provide $2.5 million in benefits to the region**.

- **Transportation:** Estimates that some travel now occurring by car will in the future be by bicycle or walking, allowing for household savings on vehicle wear-and-tear and savings to society from reduced traffic levels.
    - **$3,300 each year.**
    - **$66,000 over 20 years.**
- **Community Development:** Number of people living within a walkable or bikeable distance of the trail alternative, estimated at one-half mile and three (3) miles as-the-crow flies – and the proportions of children, seniors, as well as number of households with access to one or fewer vehicles in those communities.
    - **Total walking and biking:**
        - **22,200 trips per year.**
        - **444,000 walking and biking trips over 20 years.**
    - **Walkable population: 13,400 people.**
    - **Bikeable population: 34,000 people.**
- **Emissions:** Monetary value of reductions in pollutants that impact air quality such as CO2, NOX, SO2, and PM2.5.
    - **Annual emissions benefits of $800 each year.**
    - **$16,000 over 20 years.**
- **Public Health:** Monetized health benefits of increased physical activity and reduced mortality from that increased physical activity.
    - **Health benefits of $95,000 each year.**
    - **$1.9 million over 20 years.**
- **Economic Activity and Tourism Spending:** monetary value of tourism drawn to the area due to the trail, based on comparative estimates of non-local visitor spending on goods, services and lodging.
    - **$3,000 each year.**
    - **$124,300 over 20 years.**

Study Limitations

The primary purpose of the analysis is to enable a more informed policy discussion on the benefits of investing in the proposed trail alignments in Chelan and Douglas counties. The team would note that the estimated demand in this study is likely conservative, as it is based on the context of existing short-trips surrounding each trail alignment (and not fully accounting for people traveling to the area to recreate). For some recreational areas, we would expect a larger estimate of use for social or recreational trips as connections to the trail are further developed. Even with extensive primary and secondary research incorporated into the impact analysis model, it is impossible to accurately predict the exact impacts of various factors. Accordingly, all estimated benefit values are rounded and should be considered order of magnitude estimates, rather than exact amounts.

Appendix A: Technical Documentation.
Replica Methodology

replica methodology

0. About Replica

Replica is a data platform for the built environment. By combining powerful data insights with an uncompromising approach to privacy, Replica provides a holistic view into the ways mobility, land use, and economic activity intersect. Our approach to delivering insights to our customers is rooted in using a composite of data sources to do advanced modeling and simulation of activity across time and space.

I. Executive Summary

At Replica, we understand that data is only valuable when you can trust it to inform analysis and decision-making. To that end, this document outlines data sources, data processing methods, and data outputs for Replica Places, Trends, and Scenario, to help our customers[1] evaluate the quality and accuracy of our models, and assess data privacy implications.

Replica Places are high-fidelity activity-based travel models[2] that simulate the movements of residents, visitors, and commercial vehicles in a given area. Replica produces Places models as "megaregions," most of which cover between 10 and 50 million people and multiple states, for a typical weekday and typical weekend day in a given season. Data outputs can be queried down to the network link level.

Replica Trends is a nationwide activity-based model updated each week with near-real-time data on mobility, consumer spending, and land use. Trends has census-tract-level fidelity with mobility data including origins and destinations, trip mode, and residential vehicle miles traveled (VMT), and total consumer spending data across a number of sub-categories, including retail, grocery stores, restaurants, and travel.

Replica Scenario is the first tool that allows anyone working with the built environment to easily forecast travel activities anywhere in the country. With Scenario, public agencies and their consultants can obtain high-quality, detailed data projections of future conditions based on expected changes to the population, land use, and transportation infrastructure.

[1] Replica has served over 100 clients throughout the U.S., including Caltrans (the California Department of Transportation [DOT]), the Metropolitan Transportation Authority in New York, the NY State Division of the Budget, the Illinois DOT, NJ TRANSIT, and the Office of the Chief Technology Officer (OCTO) in Washington, D.C.

[2] Activity-based models are transportation models in which travel demand is derived from people's daily activity patterns. Activity-based models represent which activities are conducted when, where, for how long, for and with whom, and the travel choices they will make to complete them.

Replica generates its data by running large-scale, computationally intensive simulations. These simulations allow us to deliver granular data outputs that match behavior in aggregate, but don't surface the actual movements (or compromise the privacy) of any one individual.

Rather than simply cleansing, normalizing, and scaling individual data sources, Replica uses a composite of data sources to:

(1) Create a synthetic population that matches the characteristics of a given region

(2) Train a number of behavior models specific to that region

(3) Run simulations of those behavior models applied to the synthetic population in order to create a "replica" of transportation and economic patterns

(4) Calibrate the outputs of the model against observed "ground-truth" to improve quality

In our data outputs, origin-destination pairs are consistent with human activities. Population demographics are accurate and correlate with appropriate movement. Recurring activities are coherent over time and capture a pattern of life. Routing between locations is consistent with local road networks and transportation options, and the scale of population and number of trips is appropriate for a given geographic extent.

In the following document, we outline our sources, methodology, and outputs, as well as detail regarding our uncompromising approach to protecting individual privacy.

II. Source Data

Replica builds its simulations using a diverse set of third-party data from public and private-sector sources. These sources include five categories of data:

Mobile location data: To create a representative sample of daily movement patterns within a place, Replica uses multiple types of mobile location data as inputs to our model – location-based services (LBS) data collected from personal mobile devices; vehicle in-dash GPS data; and point-of-interest aggregates. Previous versions of Replica's model also included cellular networks data as another source of mobile location data. Replica only acquires de-identified mobile location data.

Consumer / resident data: Demographic data from public and private sources provides the basis for determining where people live and work, and the characteristics of the population, such as age, race, income, and employment status.

Built environment data: Land use data (such as zoning regulations), building data (such as total square footage and use types), and transportation network data (such as road and transit networks) are used to determine where people live, work, and shop, and by what means it is possible to travel to each activity.

Economic activity data: Includes all transactions, including credit card, debit card, and cash transactions, that take place at a point of sale. With this input, Replica depicts the level and types of spending that occurred at a particular time and place.

Ground truth data: Ground truth data is used to calibrate and improve the overall accuracy of Replica outputs. The types of ground truth collected by Replica include auto and freight volumes, transit ridership, and bike and pedestrian counts. Ground truth is both acquired directly by Replica and provided by customers.

Each of Replica's data processing pipelines leverages a composite of these diverse data sets. This process minimizes the risk of sampling bias that exists in any single source on its own. For example, a product that relies more heavily on data from personal mobile devices risks failing to adequately simulate the portions of the population that do not have mobile devices or those who opt out of device tracking technologies. Our composite approach also creates resiliency against data quality issues and protects against disruptions of individual data sources.

III. Replica Places Overview

Replica Places simulations reflect the complete activities and movements of residents, visitors, and commercial vehicle fleets in a region and season on a typical day. Places are delivered as megaregions, most of which cover between 10 and 50 million residents and multiple states, enabling the entire contiguous United States and Hawaii to be produced in a small number of megaregions.

The output of each simulation is a complete, disaggregate trip and population table for an average weekday and average weekend day in the subject season (e.g., Fall 2021). The model represents a 24-hour period with second-by-second temporal resolution, and point-of-interest-level spatial resolution. Each row of data in the simulation output reflects a single trip, with characteristics about both the trip (e.g, origin, destination, mode, purpose, routing, duration) and trip taker (e.g., age, race/ethnicity, income, home location, work location).

Each completed model also includes an associated quality report, which compares the outputs of the simulation to ground truth data, enabling customers to compare Replica's modeled outputs with observed counts.

Replica updates Places models annually.

IV. Replica Places Methodology

Replica's process to generate its Places simulations is best described in four steps:

Step 1: Create Synthetic Population. Each year, Replica generates a nationwide synthetic population, statistically equivalent to the actual population, for the entirety of the United States. Replica creates a synthetic population in order to overcome the limitations of census data, which is only provided at the aggregate level. Synthetic populations allow Replica to assign attributes to individuals and households while protecting privacy and preserving spatial fidelity.

The synthetic population is generated using census and consumer marketing data. Replica applies data science techniques to this data that allow for: (1) modeling the dependencies in socio-demographic parameters and structure of the households, and (2) generating individual

households that match census information at the required level of aggregation, such as block groups or tracts.

Each synthetic household consists of people with an assigned set of attributes: age, sex, race, ethnicity, employment status, household income, vehicle ownership status, and resident or visitor status. Workplace locations for all employed individuals are assigned based on the combination of mobile location data aggregates and census information. These assignments are static in each seasonal model, but can and do change across seasons.

To begin each specific Places deployment, the population relevant for the specific megaregion and season is extracted from the nationwide population.

Step 2: Create Mobility Model. Modern machine learning techniques are then used to develop travel personas. Personas are based on the composite of mobile location data for the megaregion and specific season. Personas are an extraction of behavioral patterns from individual devices that live in, work in, travel to, travel from, or pass through a specific region during the modeled season. Each persona is composed of three underlying behavioral-choice models: activity planning and sequencing (e.g., at home -> drive to work -> at work -> drive to shop -> at shop -> drive to home), destination location choice (i.e., the exact location people are traveling to and from), and travel mode (i.e., the chosen mode).

Replica's mobile-location data represents anywhere from 5% to 20% of a local population. Replica intentionally only acquires what data is necessary to build statistically representative models, another tenet of balancing model fidelity with user privacy.

Step 3: Generate Activity. To simulate activity, the outputs from Step 1 and Step 2 are joined. Each synthetic household is assigned one or more personas using home and work locations as a primary input, enhanced with matching by available socio-demographic attributes and by the role of the person in a household. In effect, with travel behavior models assigned, each synthetic person can now make choices about when, where, and how to travel.

Replica uses three models to assign movements to the individuals in the synthetic population. The **activity sequence model** determines the activities of a person's day, including recurring activities (e.g., travel to work, school drop off), and one-time activities (e.g., shopping, visiting a restaurant, social visit to a friend's residence). The **location choice model** determines the specific location of each discretionary activity (e.g., what restaurant is chosen for lunch, where grocery shopping gets done), assigning a location at the point-of-interest level. The **mode choice model** determines how the trip will be made based on the state of the transportation network, accounting for available transit options and multiple driving routes.

Movement is then simulated with an agent-based approach that accounts for congestion and other interactions between individual travel itineraries.

Step 4: Calibrate. After each individual simulation is run, the modeled outputs are compared to aggregate control group data (i.e., observed counts, or "ground truth") for quality and reporting purposes. This calibration process involves solving a set of large-scale optimization problems with an objective function defined as "fit to observed ground truth." We strike a careful balance to

ensure that the calibration algorithms do not overfit the modeled outputs to the calibration data, as both outliers and a certain level of noise are often present in every dataset.

To complete this iterative calibration process, Replica always holds out some of its own ground truth data from the initial mobility simulation. Replica can also incorporate additional ground truth provided by its customers for additional quality enhancement.

As noted earlier, when a completed model is published, customers also have access to an associated quality report.

V. Replica Places Data Outputs

Each simulation results in a complete trip, population, and routing table.

Population Attributes: Each trip is associated with a specific person in the simulation, for whom the following characteristics are available:

- Age
- Sex
- Race and ethnicity
- Primary language
- Employment status
- Industry of employment
- Home location
- Work location
- Individual and household income
- Work-from-home status
- Vehicle ownership status
- Resident or visitor status

See full list of attributes available here.

Trip Attributes: Each trip is assigned the following attributes:

- Origin and destination points
- Origin and destination points by land use category
- Trip distance
- Trip duration
- Start and end time
- Complete routing information for each trip (network links and transit routes)
- Trip mode, including private auto driver, private auto passenger, public transit, walking, biking, freight, and transportation network companies (TNCs)
- Trip purpose, including home, work, errands, eat, social, shop, recreation, commercial, and school

See full list of attributes available here.

Location Detail: Replica models to specific real-world locations and points of interest (e.g., a specific office building, the Starbucks at a certain address) — trips are modeled from individual building footprint to individual building footprint, rather than zone to zone. We update our

nationwide catalog of points of interest monthly, and we use the applicable set of locations for each simulation.

VI. Replica Trends Overview, Methodology, and Outputs

Replica produces its Trends dataset on a weekly basis, providing near-real-time insight into mobility and spending patterns.

The output of Trends is a series of data points for each census tract in the country, delivered weekly. Trends includes data from the start of 2019 and onwards, enabling year-over-year comparisons.

Mobility Data

- Complete hourly nationwide OD table, representing an average day in the prior week (link)
- Mode Split (including auto, transit, walking, and biking) (link)
- Residential Vehicle Miles Traveled (link)

Economic Data

- Total dollars of Consumer Spend by all residents of each census tract, and at all merchants in each census tract, across the below categories. Learn more about weekly spend by home location and weekly spend by merchant location.
    - Retail
    - Grocery Stores
    - Gas Stations, Parking, Taxis, Tolls
    - Restaurants & Bars
    - Airline, Hospitality, & Car Rental
    - Entertainment & Recreation
- Breakdown of on- and off-line spend for certain categories
- Spend county-to-county flows by merchant location and resident location, broken down by sector (link)

Additional Data

- Summary Demographic and Household Data
- Land Use Data

In order to produce these outputs, Replica runs a modified version of its Places pipeline on a daily basis. The Trends pipeline leverages the same synthetic population and travel personas as

described in the Places methodology above. However, there are three primary differences in the data processing pipeline:

- First, because the pipeline is run for the entire country on a daily basis, limitations in computing power mean that trip mode is modeled with a modified router that does not provide network link or transit line-level detail.
- Second, because weekly deliveries make it impossible to receive ground-truth data from customers for calibration, Trends outputs are calibrated internally from different sources (e.g., comparing mobile location data to in-vehicle GPS data). We also compare our Trends data to previously released, calibrated Places models.
- Third, Trends does not currently model visitor or freight trips. We plan to add these trip estimates in a future update.

In effect, these differences in the pipeline reflect a trade-off of granularity and detail for speed of delivery, in order to maintain consistent quality. To that end, Trends data is best used for monitoring changes over time, and Places data is best used for in-depth point-in-time analysis that may benefit from the ability to do cross-tabular filtering and individual trip analysis.

VII. Replica Scenario Overview, Methodology, and Outputs

Scenario is an extension of our core Places modeling pipeline, updated to be able to accept new input data representing growth and/or investment scenarios. We currently accept changes to population, employment, work from home rates, and roadway networks to model associated impacts on travel behavior and the broader transportation network.

Our travel synthesis pipeline in Scenario leverages the activity sequence model, location choice model, and mode choice model from our Places modeling pipeline, with certain changes, including to traffic and transit assignment. For traffic assignment, we adopt an approach where we estimate the true physical capacity of road segments, replicating the traditional speed/flow approach (based on the Highway Capacity Manual) for every major road in the country that reaches capacity in the data that we have. We then use these physical capacities to constrain the number of trips that can be routed along each road option. When a road is at capacity, subsequent travelers will take an alternate route or adjust their departure time to accommodate.

For transit assignment in Scenario, we model forecasted line-level totals based off of a Base Year run, which has detailed trip information associating origin and destination geographies with specific transit services. We start with each tract-level origin/destination pair, and scale the number of Base Year trips that traveled on each transit line, using a weighted average of population and employment changes in the origin and destination tract. Then, we sum the totals across all origin/destination pairs to get updated line-level ridership estimates. This allows our model to be responsive to local changes in population and employment forecasts with high granularity.

The outputs of Scenario include the following data:

- New population, employment, and home-work distribution
- Travel behaviors (origins, destinations, mode choice, trip distances, etc.)
- Road volumes and transit line ridership
- Locations where travel demand exceeds road capacity

VIII. Complementary Datasets

In addition to the core Places, Trends, and Scenario datasets, Replica makes additional, complementary datasets available to its customers. These include:

- Nationwide synthetic population (link)
- Nationwide parcel-level land use data, including both parcel area and building area data (link)
- Nationwide Annual Average Daily Traffic (AADT) data (link)
- Nationwide Annual Free-Flow Speeds data (link)
- Nationwide Quarter-Hourly Speed Profiles (link)
- Nationwide Turning Movement Count (TMC) data (link)

IX. Applications

Our applications provide end-to-end solutions for extracting insights from Replica data, accelerating analyses and facilitating quick access to answers. Complementing our core datasets, including Places, Trends, and Scenarios, these applications are tailored to meet the diverse needs of our customers. These include:

- Transit Demand & Equity Application (link)
- TMC Explorer (link)
- Safe Streets Planner (link)
- Network Speeds Viewer (link)
- Network Link Volumes (link)
- AADT Explorer (link)

X. Approach to Privacy

The approach outlined here reflects Replica's uncompromising belief that better insights should not come at the expense of personal privacy. Our methodological approach enables us to provide highly granular output data while remaining faithful to a series of privacy-first technical commitments. At Replica, we:

- Only procure de-identified data from our source vendors. We never receive, use, or output personally identifiable information.
- Never share raw locational data with our customers — or any other third-parties.
- Build models from different data sources independently so that we abstract out potentially identifying details of any individual before combining these models into our aggregate outputs.
- Never join data sources on keys containing sensitive data.
- Incorporate proven techniques, like statistical noise injection, into our algorithms to ensure that (1) it is impossible to ascertain if an individual's information is part of our source data by inspecting our modeled outputs; (2) it is impossible to learn which specific locations were visited by an individual whose information was part of our source data by inspecting our modeled outputs.

Simply put, Replica's methodology results in outputs that make it impossible to track or identify the movements of any individual.

If you have any questions about Replica's products or methodology, please contact support@replicahq.com.

MEMORANDUM

Appendix B: Modal Substitution Rate Methodology

MEMORANDUM – Confidential Business Information (CBI)

To: BCA Reviewers

From: Grace Young, Rohan Oprisko, Mike Sellinger, and David Wasserman, Alta Planning + Design

Date: April 1, 2022

Re: Modal Shift Model Notes

Modal Substitution Rates: Introduction

Modal substitution rates refer to the percentage of users of a facility who substituted one mode for another (Volker et al. 2019). These rates are often determined from survey instruments asking about alternative modes. When users substitute a carbon-free mode like biking for a carbon-intensive mode like driving, there is an associated emissions savings, proportional to the length of the trip. The following model provides a means for estimating the percentage of future facility users that will substitute a carbon-free mode in place of driving. This serves as a crucial step in identifying reductions in vehicle miles traveled and the emissions-saving benefits of the proposed facility.

Methodology

A series of univariate regression models were tested on peer-reviewed auto-to-bike substitution rates for projects in 10 cities around the United States. Six variables were collected at the city level and tested as inputs in a univariate regression model predicting the modal shift factor using an ordinary least squares regression from the statsmodels Python library.

CBI Rationale

These regression equations are the result of internal R&D at Alta and represent a data-driven approach to identifying realistic modal substitution rates given contextual information about a project area. Disclosure of these models before they can be further published in peer review research represents a disincentive for firms to advance research and development to advance context sensitive practice. This research was based on Alta Planning + Designs proprietary know-how and understanding of active transportation research and available data resources to inform them.

For more details on calculating this rate for your project, contact Alta Planning + Design at altago.com

Appendix N: O&M Case Studies



Appendix K: O&M Case Studies

Bear Creek Greenway, Oregon

The Bear Creek Greenway is an approximately 22.4-mile paved, multiuse trail that links the cities of Ashland, Talent, Phoenix, Medford, and Central Point in Jackson County, Oregon. The steering committee recommendation for this project was the service district hybrid model, which combines a County Service District with an Intergovernmental Agreement between Jackson County, Ashland, Talent, Phoenix, Medford, Central Point, and the Oregon Department of Transportation. While the County Service District is proposed as a funding mechanism, the annual operations plan will be compiled through a multijurisdictional partnership, similar to the way in which the Greenway is currently managed, a system which has been very successful.

Costs are classified as ongoing or one-time costs depending on their frequency. The selected project list requires an estimated annual $2.7 million in 2024 dollars, as shown in the table below. This list includes both ongoing needs and one-time projects. Estimated ongoing costs are $2.1 million; estimated one-time costs are $5.9 million. A 10-year amortization of all one-time investments would result in annual costs of $2.7 million.

Figure 1: Estimated One-Time and Annual Costs (FY 2024 dollars)

Capital Cost Type	One-Time Cost	Annual Cost
Ongoing Costs		
Maintenance and Operations	$ -	$ 2,124,695
Subtotal Ongoing Costs	$ -	$ 2,124,695
One-time Capital Needs		
Maintenance and Operations	$ 150,000	$ 15,000
Amenities/Enhancements	$ 2,918,000	$ 291,800
Riparian Restoration	$ 2,230,000	$ 223,000
Capital Repair/Replacement	$ 230,000	$ 23,000
Capital Expansion/New Access	$ 375,000	$ 37,500
Subtotal One-Time Costs	$ 5,903,000	$ 590,300
Total Project Costs	**$ 5,903,000**	**$ 2,714,995**

Source: Jackson County; ECOnorthwest