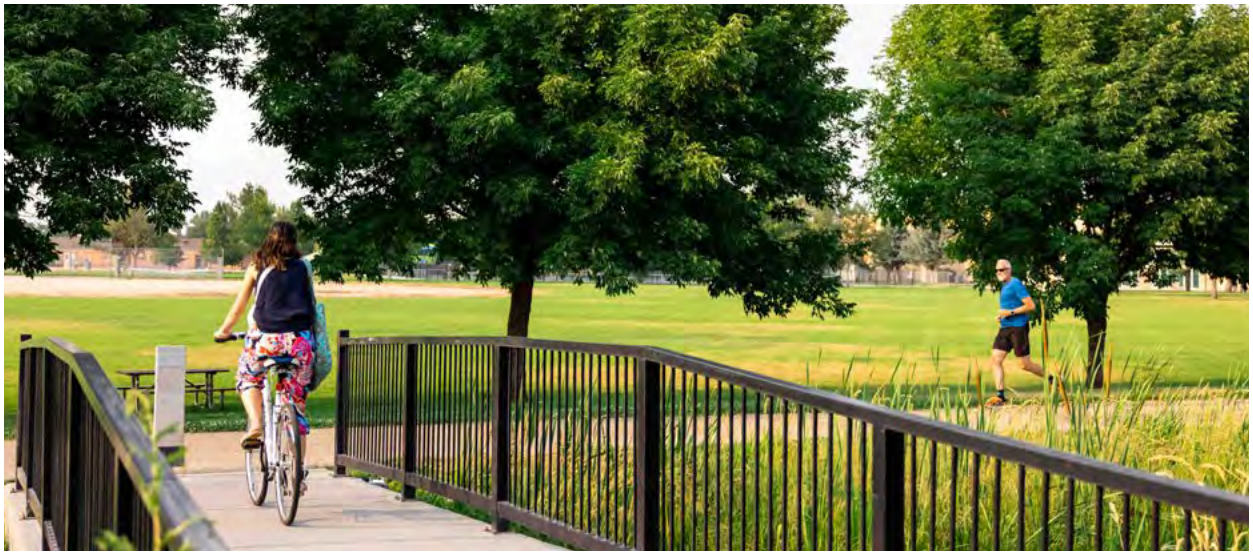
Boise Pathways Master Plan

BOISE
CITY OF TREES

JANUARY 2022

BOISE PATHWAYS MASTER PLAN



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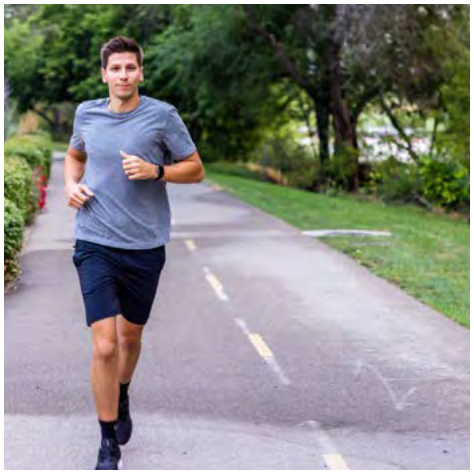


01

The Vision

INTRODUCTION

WHY THIS PLAN? WHY NOW?

Over fifty years ago, the idea of the Boise River Greenbelt was conceived. A vision for an active community and connections to the outdoors preserved the banks of the Boise River for recreation, environmental protection, and a way for people to move across the valley.

Fast forward to today, and Boiseans enjoy a well connected Greenbelt, made up of roughly 25 miles of paved pathways, used for both recreation and transportation. Boise's portion of this signature amenity was completed in 2016, and now the City is looking beyond the Greenbelt. Enter the Boise Pathways Master Plan - a visionary yet actionable plan that explores opportunities for expanding Boise's network of pathways, offering people who visit, work, and live in Boise more choices for transportation and recreation.

The development of this plan aligns with one of the core tenets of the City's Transportation Action Plan, which is to seek modern transportation solutions to create real mobility choice for Boiseans.

ORIGINS OF THE PLAN

While the fifty-year anniversary of the Greenbelt served as a launch point for future pathway planning, there are other reasons for the plan coming to fruition at this time:

- Residents express an increasing desire to see Boise's pathway system expand beyond the Greenbelt to provide safe transportation and recreation to a broader geographic range of residents
- There is increasing public support and interest in exploring the utilization of existing utility corridors such as canals and railroads to provide connectivity without having to rely on the street network
- Off-street corridors are an area where the City of Boise has the ability to prioritize, develop, and implement multimodal improvements

PURPOSE OF THE PLAN

Just like the 1969 Boise River Greenbelt Comprehensive Plan set the course for the Greenbelt, the purpose of this plan is to serve as a tool the City of Boise can use to:

- Understand the level of effort required for a full network of pathways
- Guide future off-street capital improvement expenditures
- Communicate and collaborate with partner agencies, organizations, stakeholders, and the public

WHAT IS A PATHWAY?

For the purposes of this plan, a pathway is defined as any paved path intended for two-way, non-motorized travel such as biking, walking, or other forms of active transportation. Pathways are off-street facilities, and are typically categorized as either shared use paths or sidepaths based on their physical setting.

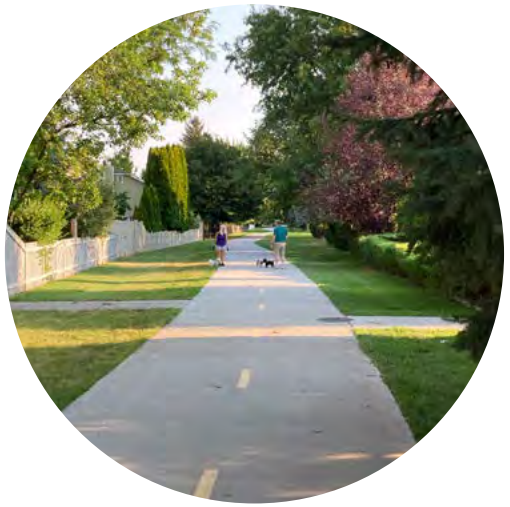
Shared Use Paths

Shared use paths are pathways that fall outside of road rights-of-way, typically running through parks or along riparian, canal, or railroad corridors. The Boise River Greenbelt and other neighborhood pathways (e.g., DeMeyer Park pathway), are examples of shared use paths. Shared use paths are the focus of this plan.

Sidepaths

Sidepaths are pathways that run adjacent to a roadway, typically within the right-of-way. The Federal Way Bikeway and Chinden Blvd sidpath are examples of sidepaths in Boise today.

Pathways are a minimum of 10 feet wide (8 feet in constrained corridors where anticipated pathway traffic is low). Boise's neighborhoods, subdivisions, and parks contain many walking paths that are not considered existing pathways for the purpose of this plan because of their narrow width and inability to accommodate two-way travel.



Shared Use Path

Sidepath

THE VALUE OF PATHWAYS

Pathways provide a wide variety of personal and community benefits. The fields of public health, urban planning, real estate, tourism, urban design, and transportation have all been involved in studying, measuring, and reporting the direct and indirect value of investment in pathways. Some key benefits are summarized here.

ACCESS

Pathways provide a low-cost transportation option to access recreation, jobs, shopping, and transit. They also serve as opportunities for community spaces like gardens, plazas, and linear parks to be distributed near residents.

HEALTH

Pathways provide a safe space for active transportation and recreation away from motorized vehicles. They also enable physical activity, with a host of health benefits like disease prevention and improved mental wellness.

82% OF ALL TRIPS in the U.S. happen in cars, and **45% OF THEM ARE 3 MILES OR LESS,**
(NHTS, 2017)

The lowest-earning portion of the population spends **2x AS MUCH OF THEIR INCOME** on **TRANSPORTATION** as the average American household
(ITDP, 2019)

80% of Americans **DO NOT ACHIEVE** the recommended 150 minutes per week of **MODERATE EXERCISE**
(Centers for Disease Control and Prevention)

Residents of **WALKABLE COMMUNITIES** are **2x** as **LIKELY TO MEET PHYSICAL ACTIVITY GUIDELINES** compared to those who do not live in walkable neighborhoods
(Frank, 2005)

20 MINUTES WALKING OR BIKING each day is associated with 21% LOWER RISK OF HEART FAILURE FOR MEN and 29% LOWER RISK FOR WOMEN
(Rahman, 2014 and 2015)

ECONOMIC IMPACT

Pathways create economic value in multiple ways. Implementing more pathways can stimulate the local economy and support local user spending, tourism, and increased property values. High quality pathways can also attract businesses focused on quality of life to attract and retain employees.

One key consideration in pathway development is that increased property values, taxes, and rents can negatively impact low-income residents. It is critical to pair affordable housing strategies with new pathway development, which requires collaboration across City departments.

A 2018 study looking at the economic impact of approximately 37 miles of multi-use paths in North Carolina found (NC State ITRE, 2017):

- An impact of $19.4 million in total estimated revenue for local businesses.
- Benefits from the one-time expenditure of $26.7 million in trail construction are estimated at $48.7 million in total business revenue and 790 jobs from construction.

EVERY $1 SPENT on **SHARED-USE PATHS** generates **23% MORE JOBS** than each dollar spent on road infrastructure without pedestrian or bicycle components

- $684,000 in total estimated sales tax revenue.
- $25.7 million impact from savings due to more physical activity, less pollution and fewer traffic injuries.
- For every $1 spent on trail construction, $1.72 annually is supported from those benefits.

CLIMATE ACTION

Pathways provide a low-carbon travel option and require a smaller footprint than other transportation investments. They can also be paired with sensitive corridor preservation and rehabilitation of streams or other environmental habitats, providing overlapping environmental benefits along with recreation.

BIKING 2 MILES rather than driving **AVOIDS EMITTING 2 lbs OF POLLUTANTS,** which would take 1.5 months for one tree to sequester (EPA, 2000 and NC State, 2001)

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THE HISTORY OF PATHWAYS IN BOISE

Pathway planning in the Treasure Valley stretches back over 50 years, when leaders first began to look at the potential for pathways along Boise's riparian, rail, and canal corridors in the 1960s. Facing lines at the gas stations and a crippling energy crisis, transportation planners looked at ways to encourage alternative transportation. Together, they slowly recognized that effective mobility networks constituted more than simply roads for cars, and they began to plan for better pedestrian and bicycle infrastructure.

The themes and goals that dominated early pathway planning remain significant points in planning today: providing transportation choices, prioritizing safety, connecting people to the places they need to go, and blending people's recreational and transportation needs. Planners recognized that no one-size-fits-all solution existed. Small, narrow neighborhood streets existed in the same network as broad, busy collector streets, and the need for comfortable bicycle and pedestrian connections was increasingly prevalent.

In addition to grappling with the street network, planners recognized that existing rights of ways (ROWS) may provide opportunities to connect people and communities. Canal and rail corridor prospects were eyed with excitement and anticipation, and pathway concepts for Boise's extensive canal system have been part of transportation and general plans for more than four decades.

1880s — Engineers and farmers begin to design and construct irrigation canals

1887 — The Oregon Short Line tracks are completed to Boise.

1962 — Atkinson and Associates planning consultants recommended that the City of Boise acquire river front acreage and create a linear park system.

1969 — City of Boise adopted the Boise River Greenbelt Comprehensive Plan to promote "Health, Welfare, and Recreation" and broke ground the same year.

1972 — City of Boise adopted an Urban Bicycle Route system, classifying paths and routes into four categories.

City of Boise prevailed in a lawsuit, allowing it to condemn riverfront parcels to construct the Greenbelt. The city began acquiring parcels that year.

1975 — The first paved portion of the Greenbelt opened along Shoreline Park.

1969: Concept map from the Boise River Greenbelt Comprehensive Plan

1976

The Boise Metropolitan Transportation Study Committee published the Urban Bicycle Route System Master Plan. This plan is the first to recommend various canals in the city for pathways.

2004

City of Boise adopted its Parks and Recreation Comprehensive Plan, which urged pathways along canals throughout Boise.

2009

ACHD completed the Roadway to Bikeways Plan, which was updated in 2018. Both plans aimed to provide a framework for completing a safe, connective bicycle facility network that facilitates bike transportation.

2015

The Idaho Legislature enacted a law stripping local entities of the ability to use the power of eminent domain "for trails, paths, greenways or other ways for walking, running, hiking, bicycling or equestrian use, unless adjacent to a highway, road or street."

2016

City of Boise completed the final mile of the Greenbelt, from Main to Americana on the river's south side, the same year it adopted the Transportation Action Plan, which aims to balance the city's transportation needs and create real mobility choices.

2019

COMPASS, the Community Planning Association of Southwest Idaho, commissioned a Rails with Trails study, which was completed in 2019 and identified a feasible path route from Nampa to Boise.

1909: New York Canal Diversion Dam (Idaho Historical Society)

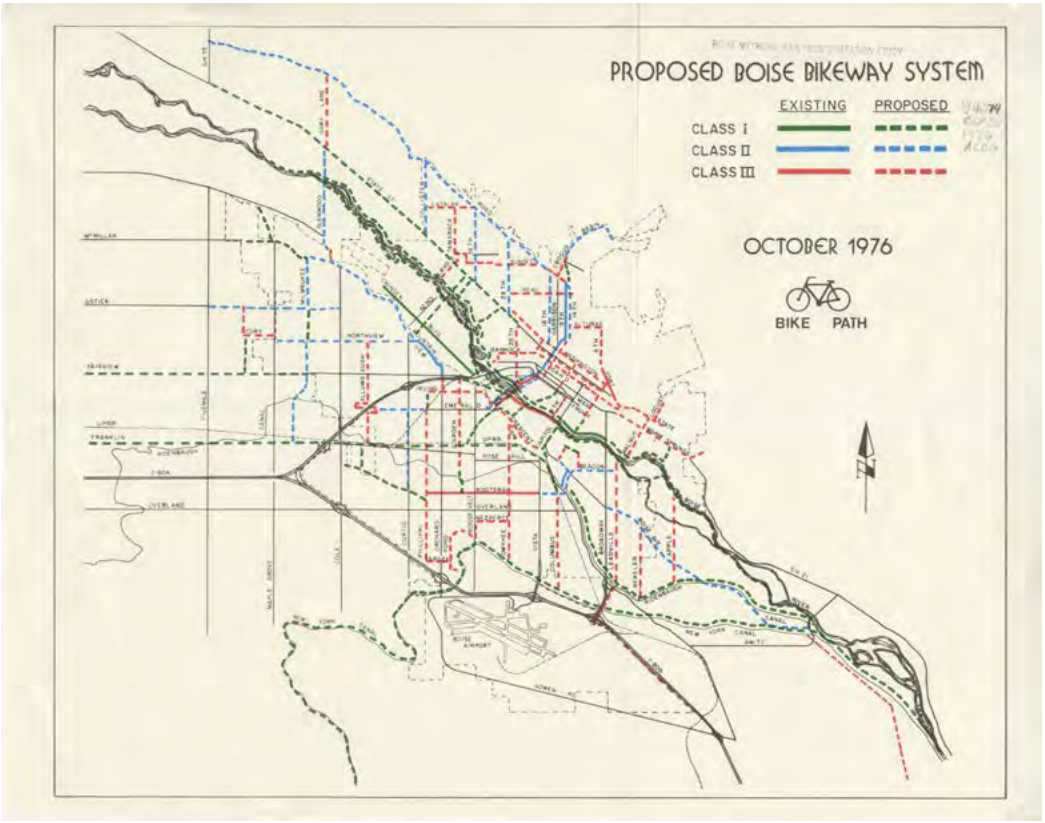
CANALS

The canal system throughout the City of Boise dates back to the 19th century, and is credited with the growth and success of the Boise Valley. Its serpentine network cuts through neighborhoods throughout the entire valley. Neighborhoods lying on the south side of the Boise River (including the Central Bench, Southwest, and Southeast areas) feature three main systems. The larger two systems have large feeder canals known as the New York Canal and the Ridenbaugh Canal, which divert water from the Boise River via diversion dams on the far eastern end of the valley – below Lucky Peak Dam and Ada County's Barber Park, respectively. The third south-side system diverts water from the river through the Settlers Canal at Ann Morrison Park. On the north side of the river (including the North and East Ends, Foothills, and Northwest areas), farmlands are fed by two main canals: the Farmers Union ditch and the Boise Valley Canal. These carry water west through 26 miles of land to Star, Idaho. Finally, a much smaller system called the Boise City Canal traverses established urban neighborhoods like the North End. Despite its name, this is not a municipally owned canal. Where topography and sufficient space for safe use allows, canal corridors have the potential to serve as additions to Boise's existing recreational amenities as well as providing alternative commuting options.

Greenbelt over Old Railroad Bridge: 1988; (ITD_10125 Drawer 5 Box 1 Folder 153, Idaho State Archives)

RAILS

The presence of historic rail lines in some of Boise's neighborhoods has given rise to efforts aimed at adapting them into planning efforts. The Oregon Short Line – which is now the Union Pacific – has run along the bench since the 1920s. Some documents, such as the 1999 Vista Vision Neighborhood Plan, recognize that these features have been barriers to movement rather than facilitating connectivity. Such plans have proposed developing the rail right-of-way thoughtfully to remove its presence as a barrier and instead transition it into an amenity. Railroad rights of way, therefore, have been a target of interest when planning for pathways, and historic plans have consistently referenced the rail corridors as connection options. Many references to these ideas can be found in discussions related to linear parks and open spaces. The most recent plan to focus on the rail corridor was the COMPASS 2019 Rail with Trail Feasibility and Probable Cost Study.



THE IDAHO STATESMAN, Boise, Sunday, May 13, 1973 PAGE 1- C

Now You Can Cross Boise

Bike Paths Grow Away From Cars

In case you haven't discovered it, there is a way to cross the heart of Boise via bicycle without coming wheel to wheel with an automobile — at least not often.

Betty Kelley, city Greenbelt coordinator, explains how the cyclist can get from Broadway to Americana:

Begin at the Broadway end of Campus Drive (you might meet a few motors on Campus Drive but chances are better there than any other downtown road), ride along the river, take the gravel path under the Capitol Boulevard and Eighth Street bridges, try the new Greenbelt Bikeway along the river behind Link's School of Business into Ann Morrison Park and wind your way through Ann Morrison to Americana.

The route carries the rider to the best of Boise's people places — the two major parks, the new library, art gallery, museum and the river.

By the end of summer there will be more, Mrs. Kelley hopes. The bikeway may be extended, still on the south side of the river, across Americana. Eventually both sides of the river may have bike paths with river crossings.

An architect now is looking at the Clements Concrete building just across from Ann Morrison Park to see if it could be transformed into a bicycle concession for rentals.

To the east, bike paths and trails soon will link Warm Springs City Golf Course to Municipal Park. Boise Water Corp. owns the property in between the two sites and has agreed to allow that use of the land, Mrs. Kelley said.

WATCH OUT, AUTOS! The bicycles are coming. Today is Bike Sunday in Boise. This scene may not be repeated but chances are the combination of sunshine and Mother's Day will bring out the city's many bicycle fans. Friday a West Junior High physical education class took to the road for a bike tour to Barber Park.

Top left: 1976 Plan Map - "Proposed Boise Bikeway System"

Bottom left: Idaho Statesman, May 13, 1973

Top right: First section of the Greenbelt, Anne Morrison Park; date unknown (ITD_10536 Drawer 5 Box 1 Folder 148, Idaho State Archives

GOALS OF THIS PLAN

The goals of the Boise Pathways Master Plan play an important role in shaping the plan's recommendations, determining priority projects, and guiding the implementation process over the next several years. Based on previously established initiatives and supplemented by community input, this section outlines the goals of the plan.

BOISE'S PATHWAY SYSTEM SHOULD...

Make Useful Connections

Pathways should connect people to where they want to go, including work, school, parks, and daily needs such as grocery stores. New pathways should fill current gaps in the active transportation network.

Promote Equity, Access, and Choice

The pathway system should expand people's transportation and recreation choices by being equitably distributed across the City, especially in high-need neighborhoods. The system should accommodate people of varying ages and abilities.

Enable Active Lifestyles

The pathway network should create more opportunities for outdoor recreation and enable active lifestyles, contributing to improved public and individual health.

Increase Economic Vitality

The pathway system should serve as an attraction to the City, connect to employment centers, and foster a market for active living and outdoor recreation businesses.

Reduce Environmental Impacts

The pathway system should reduce reliance on motor vehicles and contribute to Boise's overall transportation initiatives to reduce traffic congestion and emissions.

EFFORTS DURING AND AFTER THE PLANNING PROCESS SHOULD FOCUS ON...

Implementation

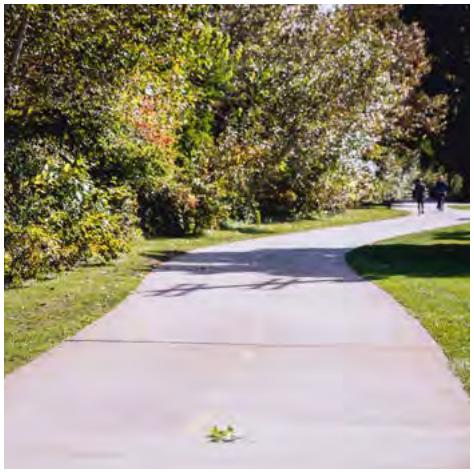
This plan should establish clear criteria for prioritizing future investment and should serve as a tool that enables the City to make quality decisions when opportunities arise.

Partnership Development

This plan should create an opportunity for collaboration and communication that recognizes the diverse uses of pathway corridors and various needs of potential partners including stakeholders, local interest groups, private developers, impacted citizens, and the community at large.

Community Voice

This plan and the implementation of its recommendations should be informed and influenced by members of the community.



02

Pathways in Boise Today

EXISTING PATHWAYS

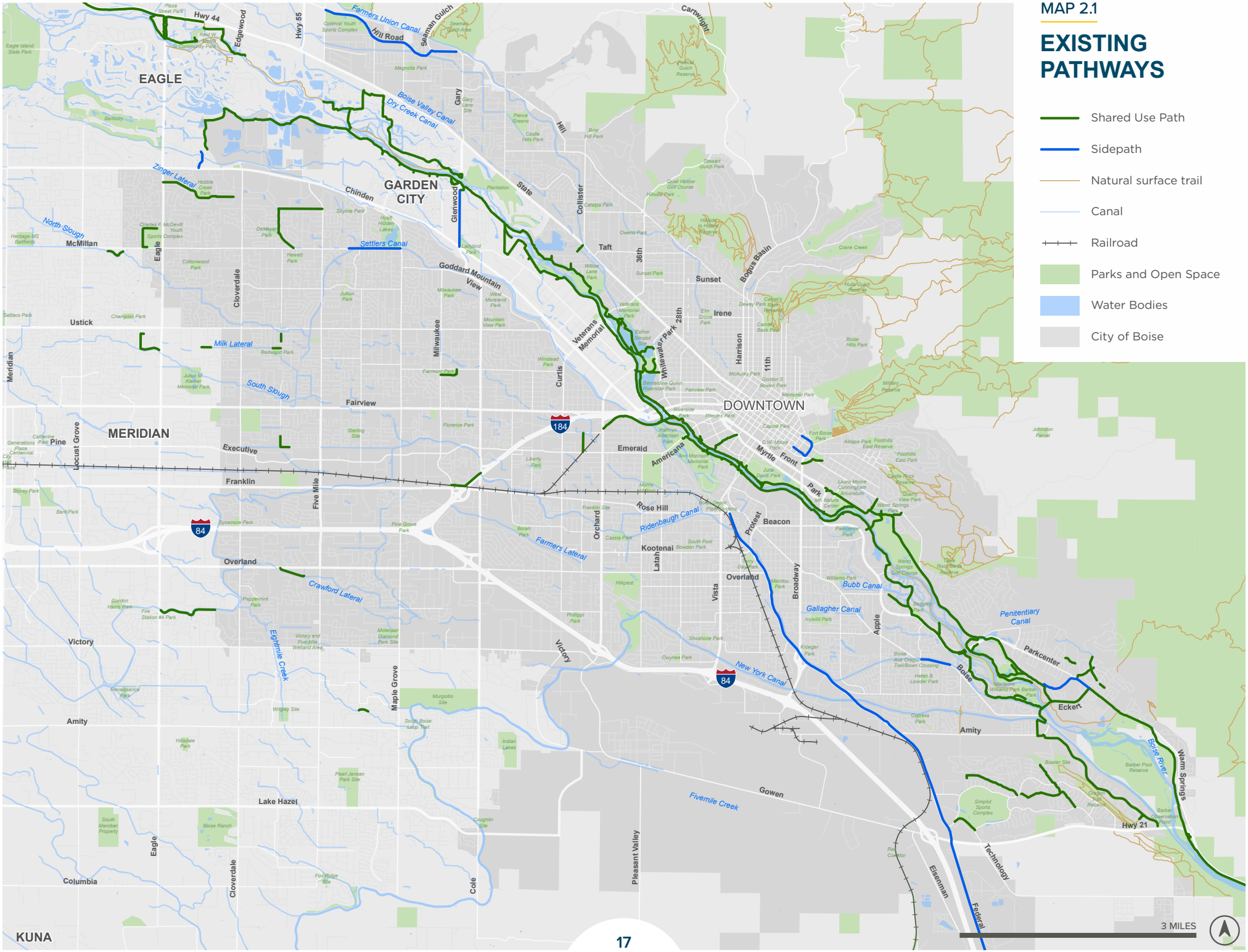
Today, Boise's pathway network consists of roughly fifty miles of shared use paths and sidepaths. The majority of this mileage is located along the Boise River as part of the Greenbelt system, with other shorter pathway segments dispersed throughout the City. This section provides an analysis of Boise's existing pathways related to their physical setting and scale, City demographics, and urban context. Challenges and opportunities in creating a connected pathway network are also summarized.

Map 2.1 on the following page illustrates Boise's existing pathway network.

±50 miles

*of **existing pathways** in Boise today*

***of Boiseans** live within a 10-minute walk of an existing pathway*


MAP 2.1
EXISTING PATHWAYS
Shared Use Path
Sidepath
Natural surface trail
Canal
Railroad
Parks and Open Space
Water Bodies
City of Boise
EAGLE
GARDEN CITY
MERIDIAN
DOWNTOWN
KUNA
McMillan
Ustick
Fairview
Pine
Executive
Franklin
Overland
Victory
Amity
Lake Hazel
Columbia
Taft
Sunset
Irene
Emerald
Rose Hill
Beacon
Kootenai
Hwy 44
Hwy 55
Edgewood
Hill Road
Seaman Gulch
Cartwright
Farmers Union Canal
Boise Valley Canal
Dry Creek Canal
Zinger Lateral
Chinden
State
Glenwood
Collister
36th
Bogus Basin
North Slough
Settlers Canal
Goddard Mountain View
Cloverdale
Eagle
Milwaukee
Curtis
Veterans Memorial
Whitewater Park
28th
Harrison
11th
Milk Lateral
South Slough
Meridian
Locust Grove
Five Mile
Americana
Myrtle
Front
Park
Orchard
Ridenbaugh Canal
Protest
Broadway
Vista
Latah
Farmers Lateral
Crawford Lateral
Bubb Canal
Gallagher Canal
Penitentiary Canal
New York Canal
Parkcenter
Boise
Eckert
Apple
Eighteenmile Creek
Maple Grove
Victory
Fivemile Creek
Gowen
Pleasant Valley
Cole
Eisenman
Technology
Federal
Hwy 21
Boise River
Warm Springs
184
84
3 MILES

SETTING & SCALE

Not all pathways are created equal. They vary in user experience as well as their utility in connecting to various places across the City. Both setting (i.e., physical context, proximity to people and destinations, etc.) and scale (i.e., length and continuity) have an impact on how effective a pathway is in serving a significant transportation and recreation purpose.

PATHWAY SETTING

Shared use paths and sidepaths function in a similar fashion in that they are separated from the street and provide a comfortable, safe experience for people of varying ages and abilities. However, different corridor types have varying impacts on user experience and pathway design standards. Existing shared use paths in Boise can be found along riparian (river/creek) corridors, parks and open space, and canal corridors.

Additionally, Boise's existing pathway network contains sidepaths along roadway corridors. Sidepaths tend to produce more interactions with motor vehicles than shared use paths (e.g., intersections, driveways, etc.), but still offer a high-quality experience compared to on-street bikeways in heavy traffic environments.

Other opportunity corridors not currently utilized for pathways in Boise today include rail corridors and overhead utility corridors.

Riparian corridor

Park / Open Space

Canal / lateral corridor

Roadway corridor

PATHWAY SCALE

The length and coverage of a pathway can determine its usefulness as a transportation and recreation corridor. A combination of connected regional and neighborhood scale pathways are needed to establish a pathway system that is useful for daily transportation and recreation needs.

Regional Pathways

Regional pathways such as the Boise River Greenbelt and the Federal Way Bikeway cover a large area, spanning multiple neighborhoods and connecting to a wide variety of destinations. Having access to a regional pathway makes walking or riding a bicycle a more viable transportation choice. Additionally, longer pathways are more desirable for recreation, especially if continuous loops are present, where someone going for a jog or ride can enjoy a different route on the way back.

Neighborhood Pathways

Neighborhood pathways serve a smaller geographic area and are typically only used by the people who live directly adjacent to them. These shorter pathway segments can make useful connections to parks and grocery stores, but typically aren't utilized for commuting to work or longer distance recreation, unless they make connections to more regional active transportation facilities.

Boise River Greenbelt

Federal Way Bikeway

DeMeyer Park Pathway

Zinger Lateral Pathway

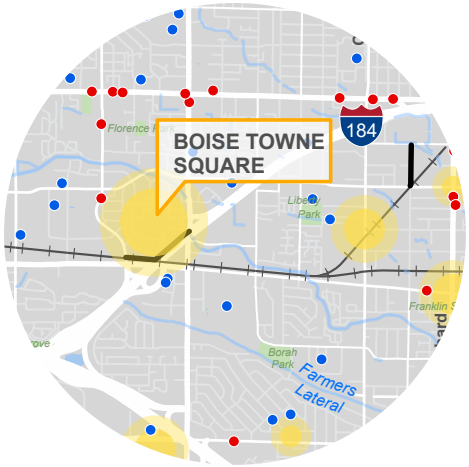
PATHWAYS IN CONTEXT

The following section explores varying influential factors and characteristics of the City in an effort to better understand the quality of the existing pathway system and identify opportunities for improvement. Existing pathways were overlaid on various datasets to evaluate the pathway system's:

- Access to destinations
- Proximity to people
- Integration with the on-street bikeway network and
- Relationship with land use

A multi-faceted demographic analysis was also conducted to identify parts of Boise where people would likely benefit the most from having access to pathways, especially for transportation purposes.

These factors not only help to identify opportunities for new pathways, but also serve as a tool in evaluating top priorities for near-term implementation and investment.



ACCESS TO DESTINATIONS

Making useful connections to the places people need to go is one of the driving goals of the plan. Map 2.2 overlays school locations, parks, and Activity Center data from the City's comprehensive plan, Blueprint Boise, to better understand pathway connections to destinations. Activity Centers range in regional significance, but all represent locations in the City that serve as local and regional trip generators, such as major employment centers and commercial centers.

PROXIMITY TO PEOPLE

Approximately 10 percent of Boiseans live within a 10-minute walk of a pathway. Proximity of people to pathways can be a strong indicator of how well a pathway system serves the community. Map 2.3 looks at how many Boise residents live within a quarter- and half-mile of a pathway. This analysis paints a general picture, but it should be noted that it provides only a general understanding by measuring distance "as the crow flies" and does not account for street network connectivity, meaning that someone could fall within the half-mile buffer but still be more than a ten-minute walk from the nearest pathway access point. Also important to note is that not all pathways are created equal. For example, West Boise contains a handful of shorter, isolated pathway segments, so residents living near these pathways are not as well served as residents living near longer, more continuous pathways such as the Greenbelt.

*1/2 mile **by foot*** → ***10 min***

*1/2 mile **by bike*** → ***3 min***

ON-STREET BIKEWAY INTEGRATION

This plan is all about off-street connections, but low-stress, on-street bikeways (both existing and planned) will need to be considered in order to make critical connections and close gaps in the pathway network. Map 2.4 overlays ACHD's Regional Low-stress (RLS) Network with the existing pathway network to better understand how comfortable on-street connections might fit into the pathway system.

ACHD Level 3 Bikeways

In the 2018 ACHD Roadways to Bikeways Master Plan Update, several corridors were identified for Level 3 bikeways, which include protected bike lanes, raised bike lanes, cycle tracks, and multi-use pathways. These projects are typically implemented in conjunction with road reconstruction, and the level of separation is determined on a case-by-case basis. ACHD multi-use pathways are considered pathways as defined by this plan and should be considered part of the pathway system.

ACHD Level 2 Bikeways

Several existing and planned ACHD Level 2 bikeways, which consist of either conventional bike lanes or buffered bike lanes, are included in the RLS Network. Not all of these meet the qualifications for low-stress bikeways as defined by NACTO's *Designing for All Ages & Abilities* (2017) and FHWA's *Bikeway Selection Guide* (2019), which outline thresholds for road characteristics such as vehicle speeds and volumes.

ACHD Level 1 Bikeways

Although people on bikes share the road with vehicles on these routes, the nature of these streets are low-stress due to low traffic volumes and speeds, and are often supplemented with signage, pavement markings, or traffic calming elements to encourage safe conditions for people on bikes as well as pedestrians. When necessary, low-speed neighborhood bike routes should be considered for making critical connections in the pathway system.

FUTURE LAND USE

Analyzing designated land uses and vacant land can be helpful when trying to identify areas of the City that may have greater opportunities for new pathways. Generally speaking, parks and open space, public, institutional, and planned community land uses yield more opportunities for pathways, as well as some industrial and lower-density residential land uses. Map 2.5 also overlays the City's inventory of vacant land, which presents potential opportunities regardless of underlying land use.

EQUITY

One of the driving goals of the planning and implementation process for Boise's pathway system is to enable diverse transportation choices and prioritize neighborhoods that might benefit the most from active transportation infrastructure investment. Map 2.6 is the result of overlaying several variables related to equity. They include:

- Income
- Educational attainment
- Race
- Age (people over the age of 65 or under the age of 18)
- Language isolation (people with limited English proficiency)
- Vehicle access

KEY TAKEAWAYS

STRENGTHS

Existing Regional Pathways

The Boise River Greenbelt and the Federal Way Bikeway are Boise's only existing pathways of regional significance, but they offer several benefits. Both span a large portion of the City, are surrounded by higher-density and mixed-use development, and make direct connections to Boise's downtown area, making them useful for commuter and other utilitarian trips in addition to serving as recreational amenities. From a recreational perspective, the fact that the Greenbelt runs along both sides of the river makes it an attractive destination pathway, making loops and variety of routes a possibility. Another strength is that they both offer high quality user experience, with connections to nature along the Greenbelt and impressive views of the foothills from Federal Way.

Public Support for Active Transportation

Boiseans have been advocating for better active transportation infrastructure for decades. The emergence of organizations such as the Boise Bicycle Project, Canals Connect Communities Coalition, Treasure Valley Cycling Alliance, Idaho Walk Bike Alliance, and Idaho Access Project continue to strengthen the culture of safe walking and bicycling for all in Boise and advocate for improvement.

WEAKNESSES

Pathway Coverage and Access

Significant stretches of pathways are limited to the Greenbelt and Federal Way, and only ten percent of Boise's population is within a 10-minute walk of a pathway today. Residents of Central Bench and surrounding neighborhoods lack pathways within close proximity, although accessing nearby regional pathways via neighborhood streets is doable. West and Southwest Boise residents, however, lack local pathways *and* face significant barriers to accessing regional pathways, such as I-184, arterial streets, and the lack of street connectivity due to the topography of the Bench. North and northwest Boiseans also lack significant pathway connections.

Adopted Policies and Programs

One of the best ways to quickly implement pathways is to capitalize on opportunities for synergy with private development and capital projects. Current policies lack robust pathway requirements for new developments and should be updated to encourage partnership with developers.

Additionally, room for improvement exists in the City's programs for evaluating pathway use, reporting and resolving issues, and supporting and promoting active transportation.

OPPORTUNITIES

Canal Corridors

The decades-old idea to utilize canal and canal lateral corridors as pathways is still, if not more, relevant today. As Boise's open space and undeveloped land has gradually made way for urban development, canal corridors represent some of the only remaining open space corridors that provide long, continuous connection opportunities. Key considerations when implementing pathways along canals include user safety and access for canal maintenance and operations.

Railroad Corridors

The Union Pacific Railroad corridor and associated spurs present a major opportunity for connecting West Boise residents, along with Treasure Valley residents as far west as Nampa, to the downtown area. Previous studies of rail-with-trail implementation have already identified potential alignments, crossings, and preliminary construction cost estimates.

Partnerships: ACHD

ACHD has previously identified several corridors for Level 3 bikeways, which could include multi-use paths. Level 3 bikeways may also include protected bike lanes and raise cycle tracks, which are higher-comfort bikeways, but do not attract as broad of an audience as fully separated pathways. One opportunity for this plan is to work closely with ACHD to encourage pathway implementation along these and other corridors identified as part of the Regional Low-stress (RLS) Network and explore other corridors that may have ample space for separated multi-use paths. The RLS Network also presents opportunities for making north-south connections and closing gaps where separate pathways are not feasible. Additionally, opportunities exist for utilizing any ACHD-owned land or rights-of-way not intended for roadways.

Partnerships: advocacy groups

Existing groups such as the Boise Bicycle Project and the Canals Connect Communities Coalition are examples of groups of Boise residents already advocating for a stronger pathway network. One opportunity for the implementation of this plan is to strengthen City relationships with these groups and find ways to work together.

Partnerships: canal operators

In order to utilize canal corridors for pathways, partnership with canal districts is critical. Although obstacles to implementing pathways along canals exist, there are several examples of municipalities and canal operators working together to make it work for everyone. One opportunity for this plan to succeed is for the City to identify and facilitate win-win scenarios that address safety near canals and operational ease.

CHALLENGES

North/South connections

Boise's physical geography lends itself to strong east/west connections, with the Boise River, major topographical features, and other waterways primarily oriented in an east/west fashion. Most existing and planned pathways follow this pattern. One challenge of this plan is to make north/south connections across the City.

The Bench

A major topographical feature in Boise, the Bench is a barrier to connectivity and mobility, with only a handful of arterial roadways that traverse its steep slope. In particular, West Bench residents, despite their close proximity to the Greenbelt, lack direct access to it without utilizing high-traffic roadways such as Glenwood, Curtis, and Orchard. One challenge of this planning effort is creating safer connections for West Bench residents to the Greenbelt and other destinations

Canal operations

Boise's canals provide an essential service in conveying water to the region's agricultural lands and man-made landscapes. The need for regular and emergency maintenance of canals requires that canal operators have the ability to access service roads at all times. This presents a challenge when considering pathways in canal corridors, especially where space is limited.

Canal safety

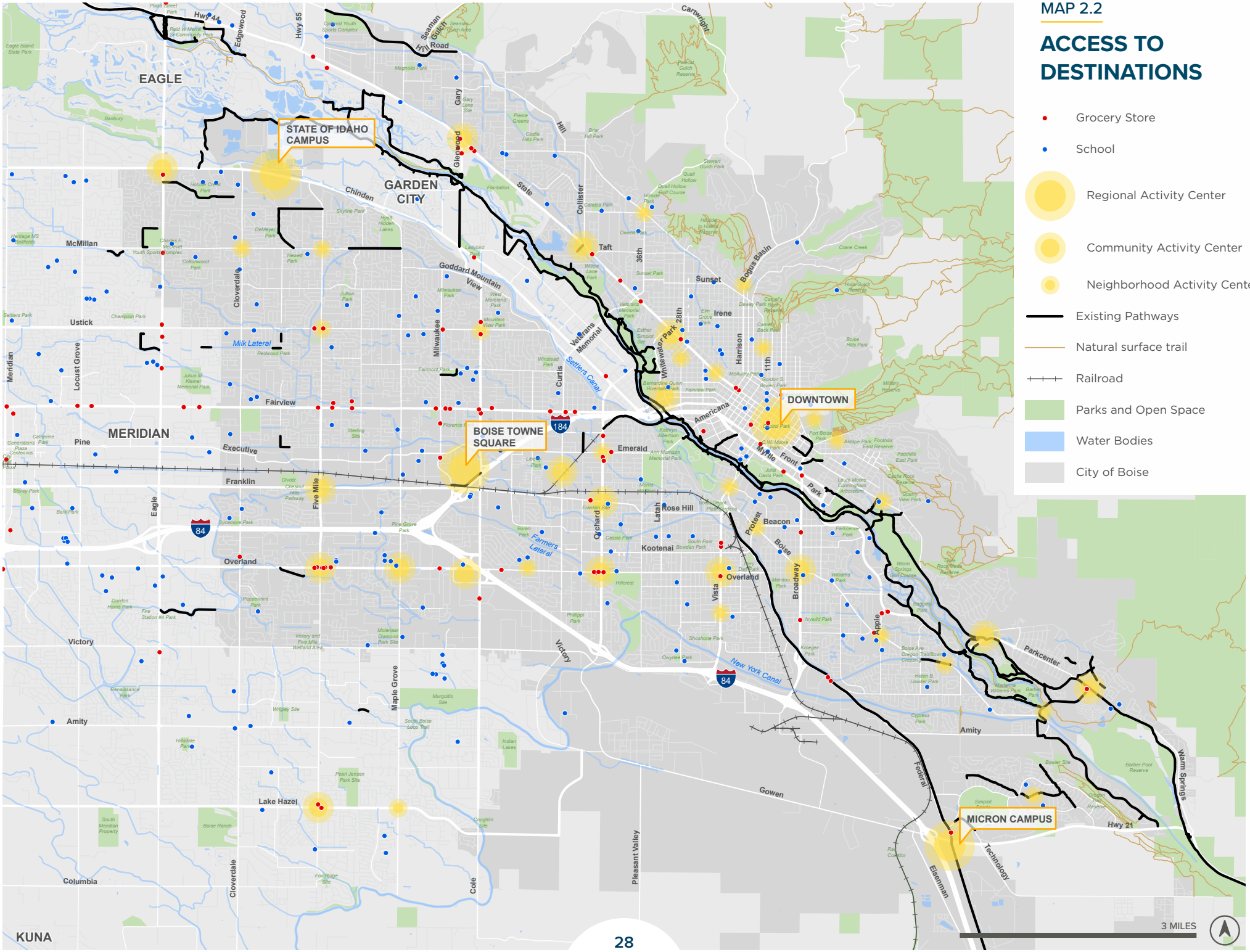
Canal water is cold and fast, and canals' steep banks are difficult to escape. Pathways proposed along canal corridors present unique challenges in ensuring public safety.

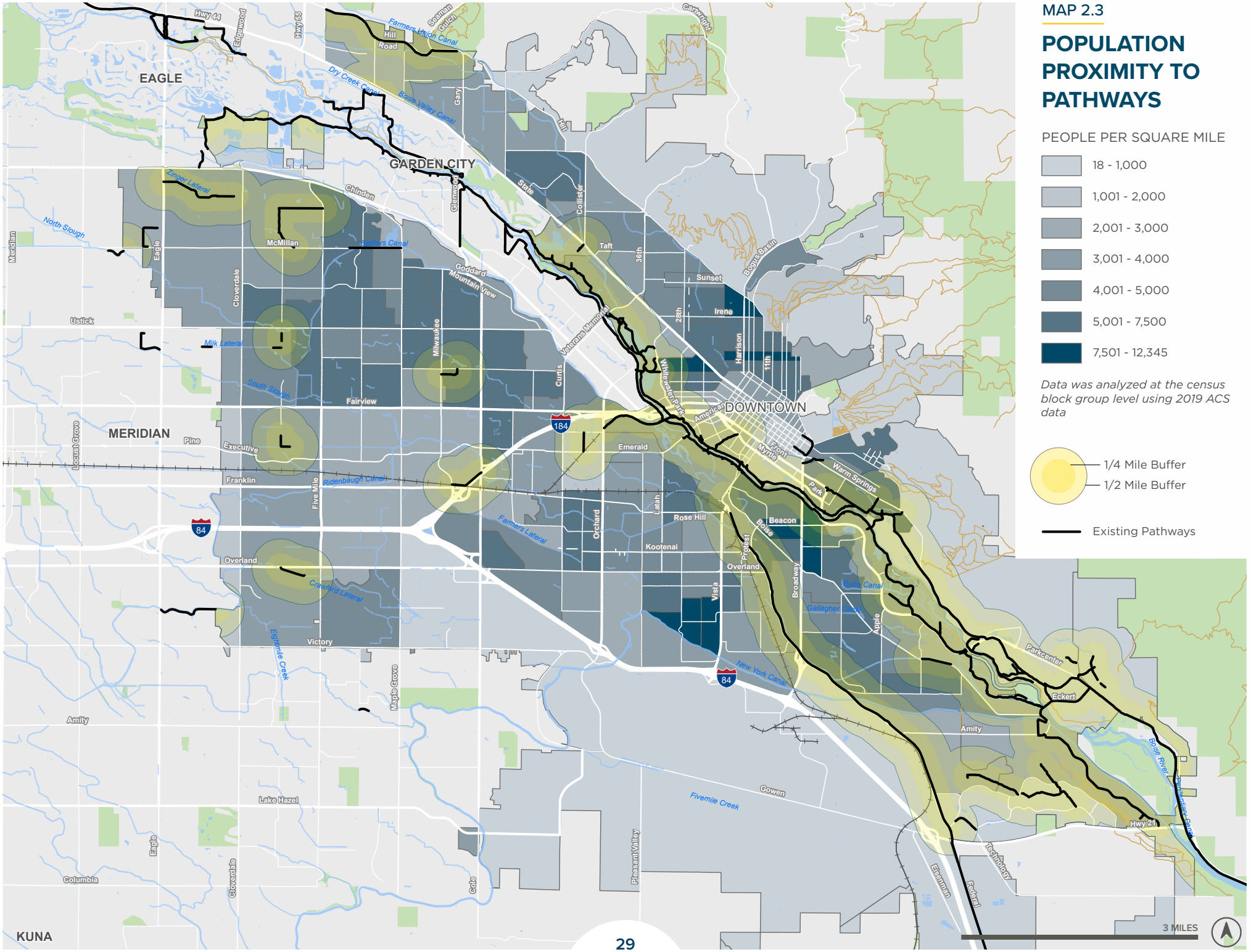
Other constrained corridors

In addition to canals, other corridors that seem intuitive for pathway development, such as rail corridors or utility easements, come with special considerations and design requirements that can decrease the feasibility of building a pathway.

Land Ownership and Control

Most of the opportunity corridors in Boise involve underlying owners (e.g. neighbors, businesses, etc.) or agencies that control the land. This is typical in most urban contexts, and although its impact can be minimal, it can result in increased project complexity and the need for extra coordination.


MAP 2.2
ACCESS TO DESTINATIONS
Grocery Store
School
Regional Activity Center
Community Activity Center
Neighborhood Activity Center
Existing Pathways
Natural surface trail
Railroad
Parks and Open Space
Water Bodies
City of Boise
STATE OF IDAHO CAMPUS
BOISE TOWNE SQUARE
DOWNTOWN
MICRON CAMPUS
EAGLE
GARDEN CITY
MERIDIAN
KUNA
McMillan
Ustick
Pine
Fairview
Franklin
Overland
Victory
Amity
Lake Hazel
Columbia
Taft
Sunset
Irene
Emerald
Rose Hill
Kootenai
Beacon
Overland
Amity
Gowen
Milk Lateral
Settlers Canal
Farmers Lateral
New York Canal
Goddard Mountain View
Whitewater Park
Bogus Basin
Hwy 44
Hwy 55
Seaman Gulch Hill Road
Cartwright
Edgewood
Glenwood
Gary
Hill
State
Collister
36th
28th
11th
Harrison
Veterans Memorial
Curtis
Chinden
Cloverdale
Millwaukee
Meridian
Locust Grove
Five Mile
Eagle
Orchard
Latah
Vista
Broadway
Protest
Boise
Americana
Myrtle
Front
Park
Parkcenter
Apple
Warm Springs
Federal
Technology
Eisenman
Pleasant Valley
Cole
Maple Grove
Victory
Hwy 21
3 MILES



MAP 2.3

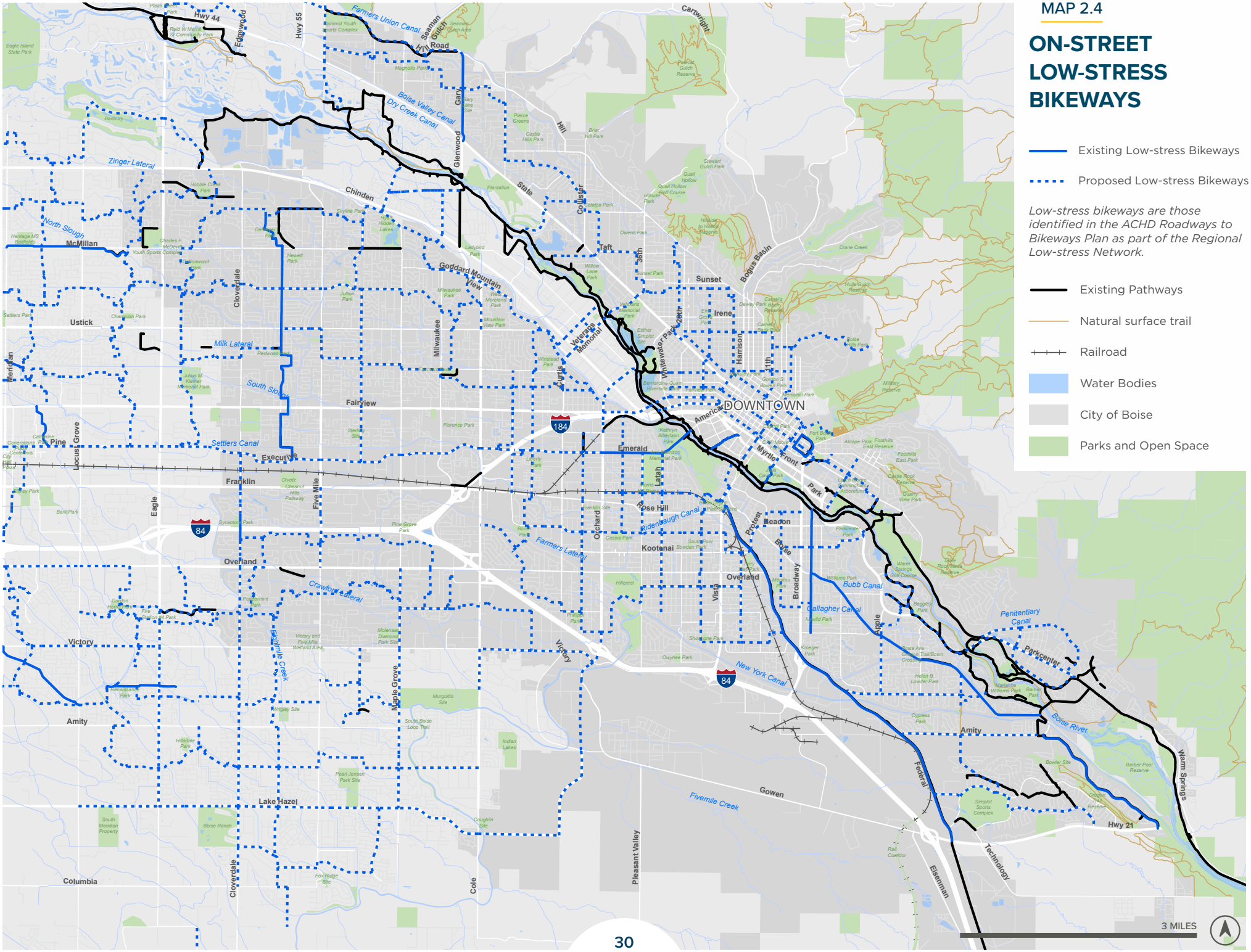
POPULATION PROXIMITY TO PATHWAYS

PEOPLE PER SQUARE MILE

- 18 - 1,000
- 1,001 - 2,000
- 2,001 - 3,000
- 3,001 - 4,000
- 4,001 - 5,000
- 5,001 - 7,500
- 7,501 - 12,345

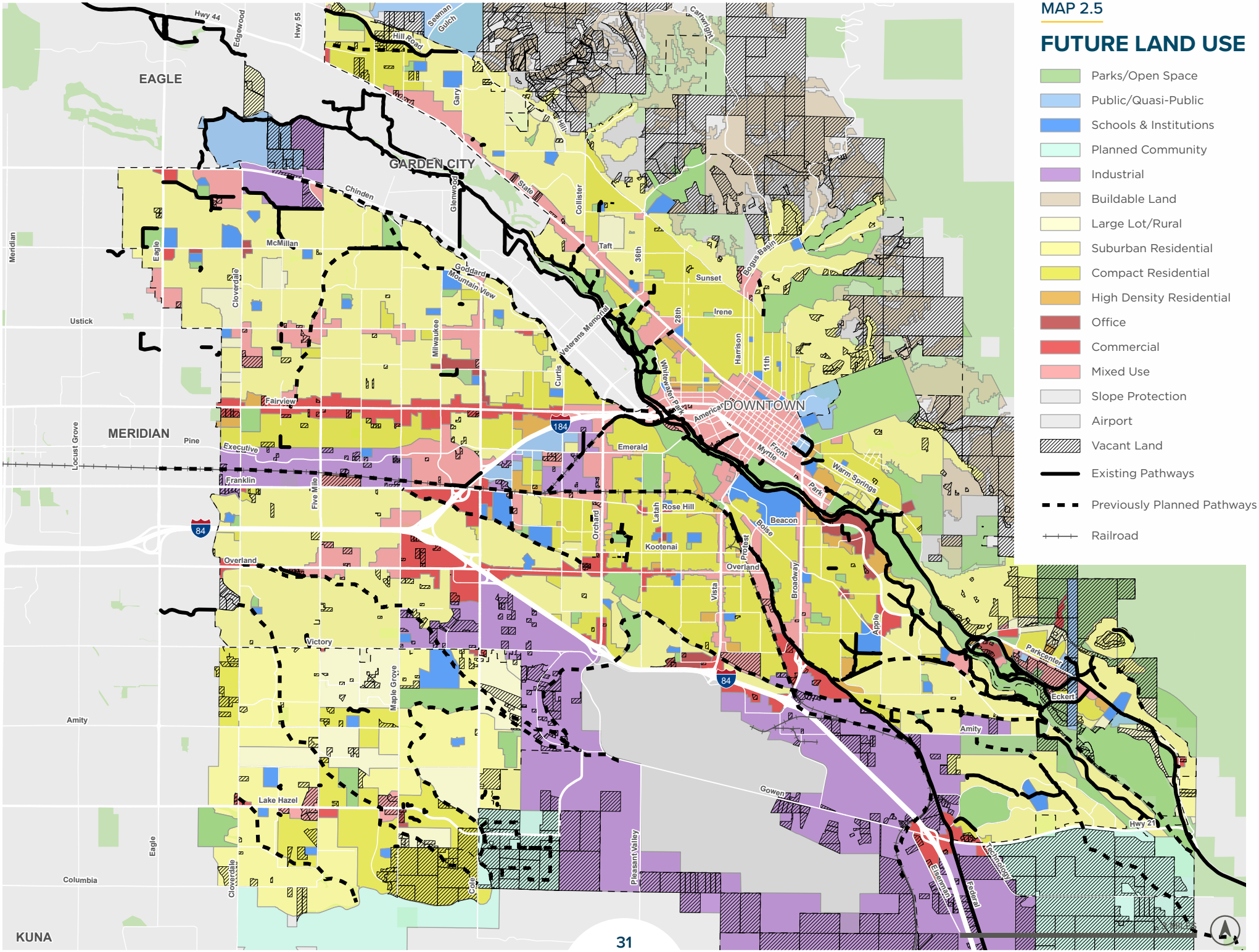
Data was analyzed at the census block group level using 2019 ACS data

- 1/4 Mile Buffer
- 1/2 Mile Buffer
- Existing Pathways


MAP 2.4
ON-STREET LOW-STRESS BIKEWAYS
Existing Low-stress Bikeways
Proposed Low-stress Bikeways
Low-stress bikeways are those identified in the ACHD Roadways to Bikeways Plan as part of the Regional Low-stress Network.
Existing Pathways
Natural surface trail
Railroad
Water Bodies
City of Boise
Parks and Open Space
DOWNTOWN
Boise River
Dry Creek Canal
Boise Valley Canal
Farmers Union Canal
Seaman Gulch
Hill Road
Cartwright
Hwy 44
Edgewood
Hwy 55
Glenwood
Garry
Hill
Collister
State
Zinger Lateral
Chinden
North Slough
McMillan
Ustick
Meridian
Cloverdale
Goddard
Mountain View
Milwaukee
Milk Lateral
South Slough
Fairview
Locust Grove
Pine
Settlers Canal
Eagle
Five Mile
Franklin
Overland
Crawford Lateral
Victory
Eightmile Creek
Maple Grove
Amity
Lake Hazel
Columbia
Cole
Pleasant Valley
Gowen
Fivemile Creek
Taft
36th
Sunset
Bogus Basin
Irene
Veterans Memorial
Whitewater Park
Harrison
11th
Front
Myrtle
Americana
Emerald
Latah
Rose Hill
Orchard
Kootenai
Ridenbaugh Canal
Farmers Lateral
Protest
Beacon
Boise
Broadway
Vista
Bubb Canal
Gallagher Canal
New York Canal
Penitentiary Canal
Parkcenter
Apple
Federal
Technology
Eisenman
Hwy 21
Warm Springs
184
84
3 MILES
30

MAP 2.5

FUTURE LAND USE

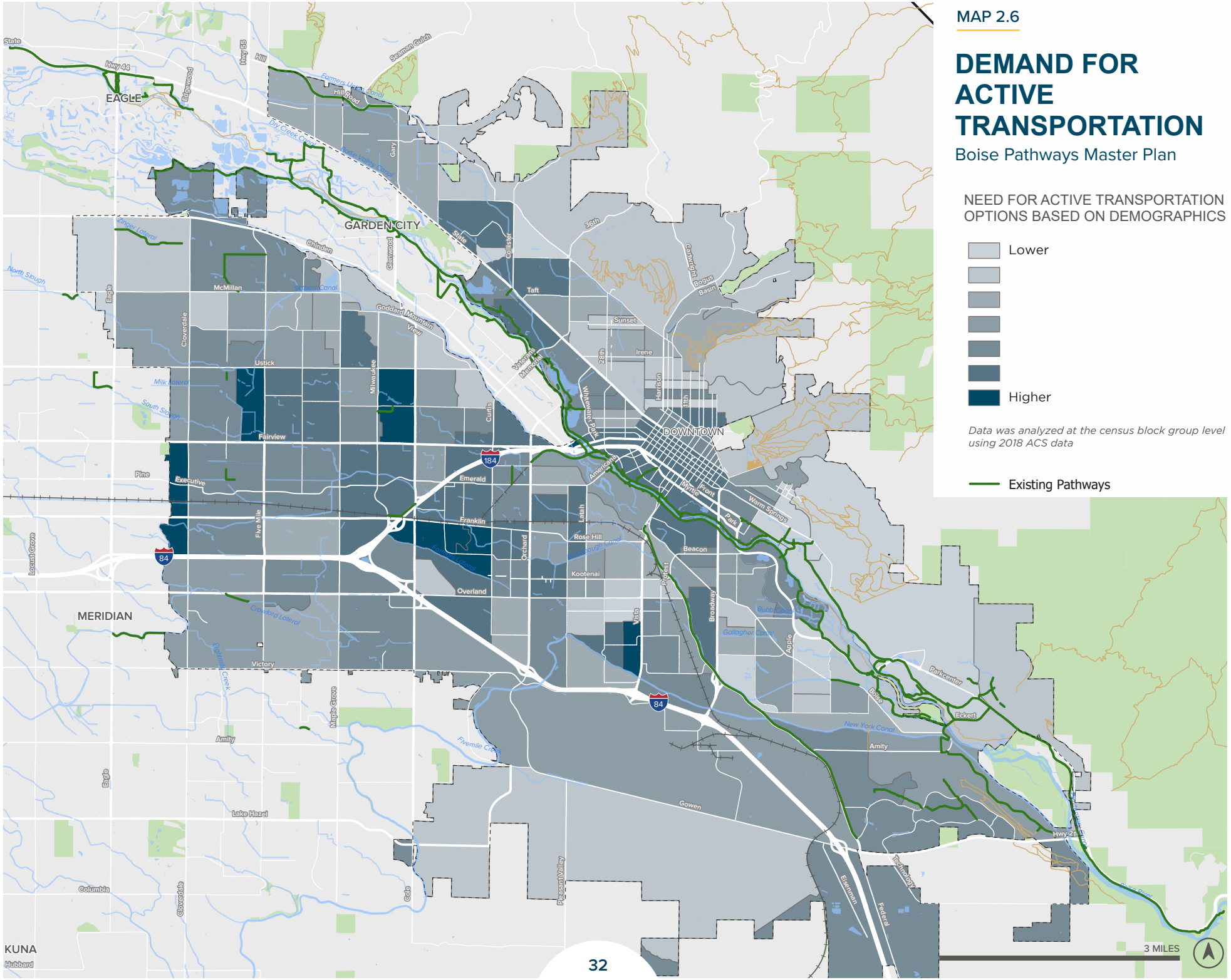


- Parks/Open Space
- Public/Quasi-Public
- Schools & Institutions
- Planned Community
- Industrial
- Buildable Land
- Large Lot/Rural
- Suburban Residential
- Compact Residential
- High Density Residential
- Office
- Commercial
- Mixed Use
- Slope Protection
- Airport
- Vacant Land
- Existing Pathways
- Previously Planned Pathways
- Railroad

MAP 2.6

DEMAND FOR ACTIVE TRANSPORTATION

Boise Pathways Master Plan

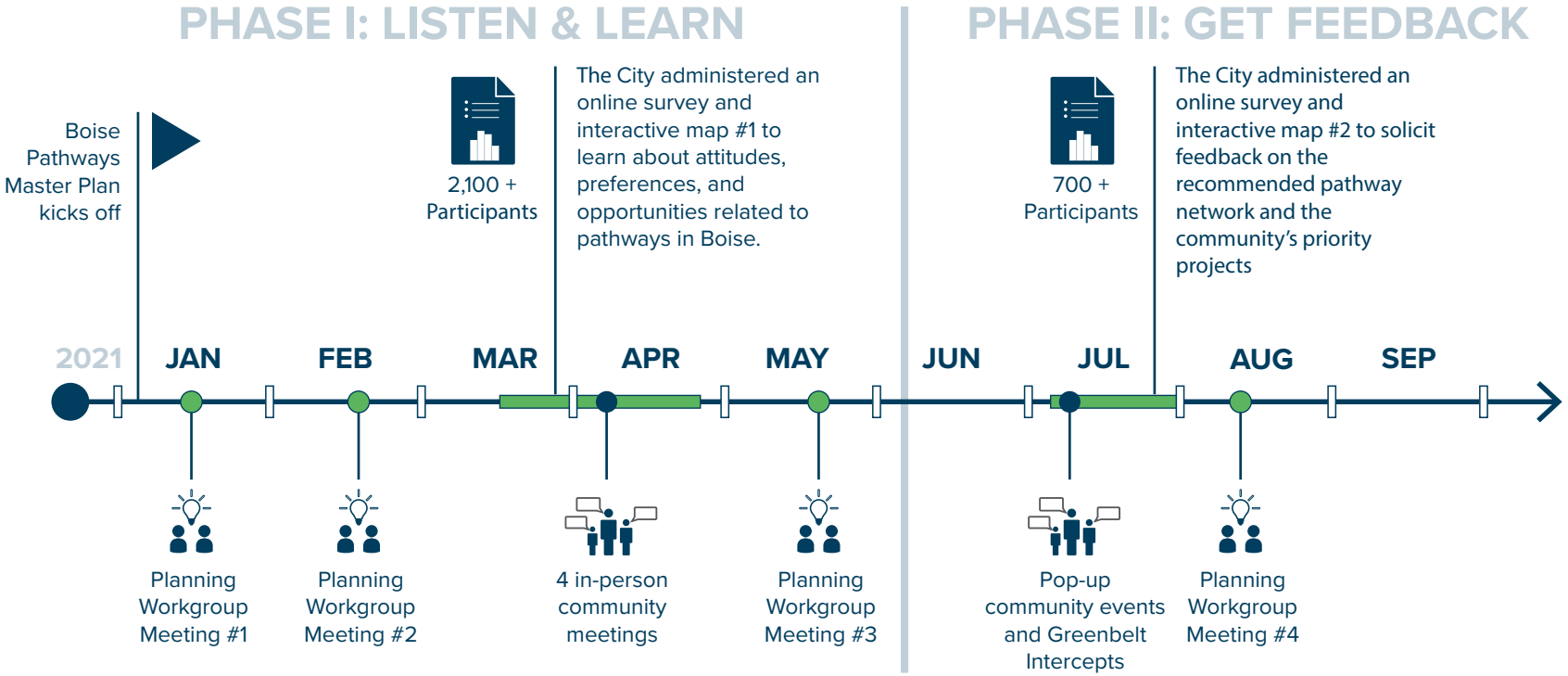


03

Community Voice

PUBLIC INPUT

Hearing from people who live, work, and play in Boise was critical in identifying opportunities, challenges, goals, and priorities for the pathway system. Ideas and feedback were solicited from the general public as well as a Planning Workgroup made up of stakeholders, community members, and partner agencies. Both online and in-person strategies were used to hear from the community during two different phases of the planning process: 1) Background research and existing conditions and 2) Recommendations and prioritization development. This chapter summarizes what we heard.



PHASE I OUTREACH: LISTEN & LEARN

Phase I of the community outreach efforts took place in the beginning stages of the project while the planning team was conducting background research and analyzing existing conditions. During this phase, the general public and the Planning Workgroup were engaged in an effort to gather more information regarding challenges and opportunities related to pathways in Boise.

ONLINE SURVEY #1

Over 2,100 people responded to an online survey geared toward understanding how and why people use pathways, as well as general attitudes and preferences related to active transportation.

KEY INSIGHTS

Most of the survey results are illustrated on the following page, but some of the highlights include:

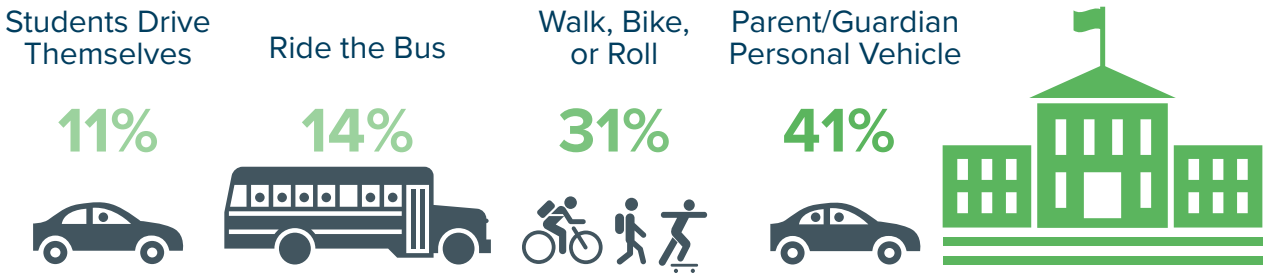
- People use existing pathways for recreation more than transportation, but almost 40 percent still use pathways for transportation at least three times a week.
- Limited access to pathways, pathways that feel unsafe due to adjacent vehicular traffic, and no pathways that reach needed destinations limits participants' pathway use.
- Most students are driven to school by a parent; 31 percent walk, bike, or roll.

Survey #1 Results

FREQUENCY OF PATHWAY USE

	Daily	A few times a week	A few times a month	Rarely	Never
For **Recreation or Exercise**	23%	42%	25%	9%	1%
Transportation (To Work, School, Etc.)	12%	26%	24%	26%	12%

HOW CHILDREN GET TO SCHOOL IF PARTICIPANTS HAVE CHILDREN AT HOME



TOP THREE REASONS PEOPLE WOULD LIKE TO USE PATHWAYS

Access Downtown

Access restaurants and entertainment

Access local parks, trailheads, or other recreation space

TOP THREE REASONS PARTICIPANTS DO NOT USE PATHWAYS MORE

No safe/convenient access/no pathways nearby

Pathways feel unsafe due to car-related hazards

They don't connect to where participants need to go

EMERGING THEMES FROM THE COMMUNITY

"What would more pathway connections in Boise mean to you?" When asked this question, survey and community meeting participants expressed a wide range of opinions, preferences, and desired outcomes for the plan. Several themes emerged from responses to this question and were used to refine the goals of the plan stated in Chapter 1. Emerging themes are outlined below, listed in order of emphasis given by the community.

Enhanced Quality of Life

- Easy access to outdoor recreation
- Healthy and happy lifestyles
- More enjoyable commuting

"It would greatly enhance the livability factor of the city..."

More Connections

- to Downtown
- to Schools
- to everyday needs

"More people might choose to walk or bike more often for transportation if there was a well connected pathway network they felt safe and comfortable on that get them to multiple locations within a reasonable amount of time. This is important for many reasons for our city."

Less Driving. Less Traffic.

- Likelihood of driving less
- Less pressure on roadways

"I'd ride my bike and walk more often! I live on the bench and an easier connection to the greenbelt that feels safe and accessible would mean I would rarely drive anywhere in the spring and summer months."

Safety

- Ability to avoid busy streets
- Most roads are unsafe for kids

"I live in an area right off Overland and can't ride or walk anywhere without being on a major road, cars going 40 or 50 mph"

A Better Pathway System

- More pathways to choose from
- Less traffic on Greenbelt
- Better access to/from existing pathways

"More pathways could shift some current volume off of the Greenbelt and in the foothills."

"We don't live far from the Federal Way pathway, but it is very dangerous to get to because there is not a cross walk near us"

Equity & Choice

- Improved access and amenities for residents in historically underserved neighborhoods
- More transportation choices

"A more multi-modal city. Improved safety for non-motorized travel. More options and possibility to travel without a car. A city for everyone."

Economic Vitality

- A more attractive city
- More exploration of the City
- Better access to businesses and employment centers

"The greenbelt was one of the primary motivators for my spouse and I when we moved to Boise 10 years ago. Since then we have opened and operate two small businesses and bought a home in Boise. I see our pathways as the lifeblood of our community."

More Takeaways

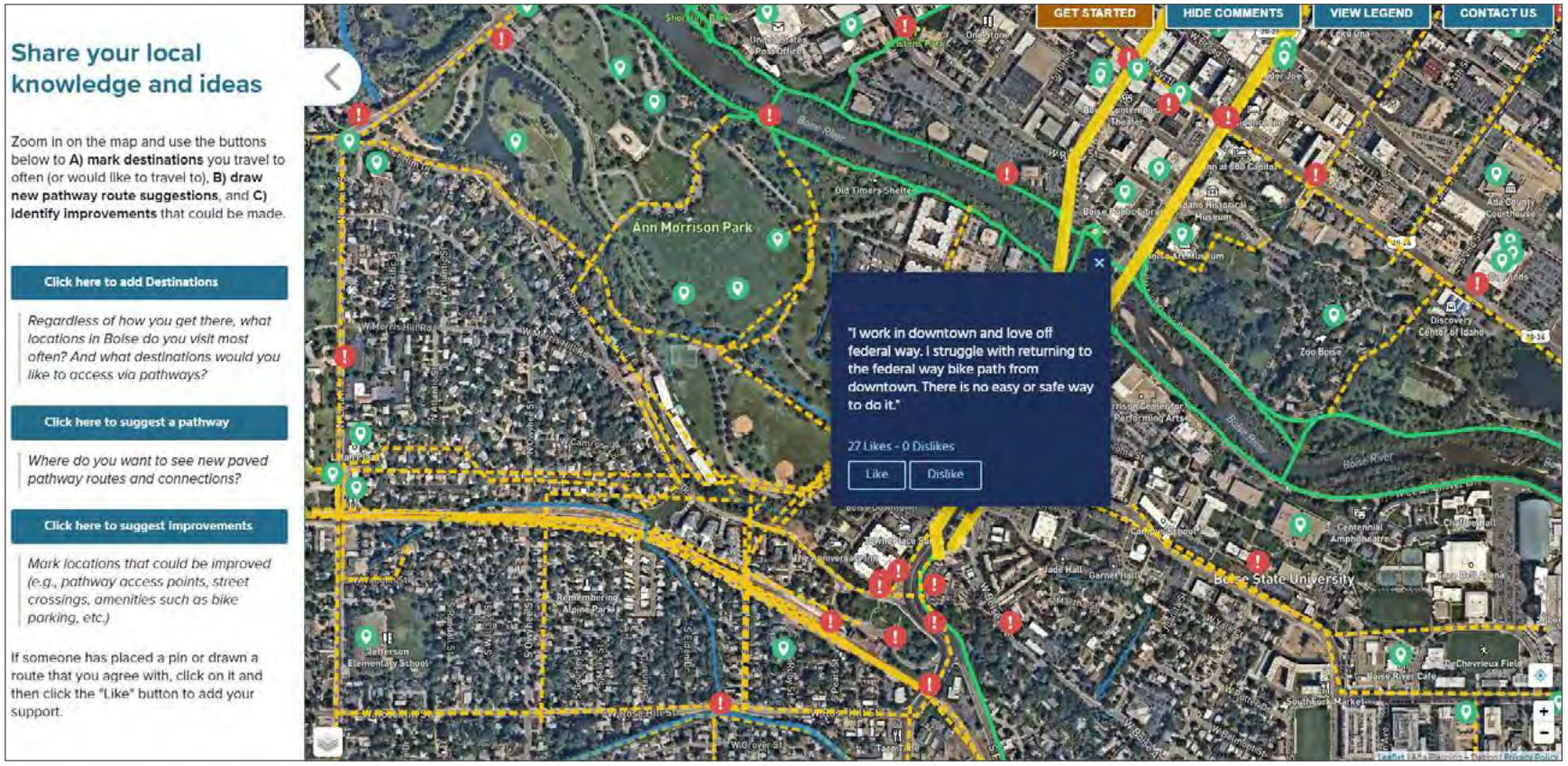
A handful of additional themes were consistently present in general public comments, including comments related to:

- **Environmental quality:** Lowering emissions and improving air quality
- **Social benefits and sense of community:** More family time outdoors and interaction with neighbors and strangers
- **Utilization of canal corridors:** Many respondents expressed a desire to formalize canal corridor use and that they feel safer next to canals than fast-moving cars
- **Pathway etiquette and regulation:** Mitigating pathway user conflicts; education and enforcement of pathway rules

WEB MAP #1: GENERATING IDEAS

In conjunction with the survey, respondents were also invited to identify opportunities and challenges related to pathways in Boise using an online interactive map, which collected over 1,000 suggestions from roughly 1,000 unique participants. Participants were prompted to 1) mark destinations they would like to access using pathways, 2) identify improvement areas (regarding safety, accessibility, etc.), and 3) suggest new pathway routes and connections. Participants were also able to "like/dislike" suggestions made by others to help the planning team identify broader community preferences and concerns.

Below: screenshot from the interactive web map



WHERE DO PEOPLE WANT TO GO?

Respondents were asked to mark destinations they visit often, and where they would like to go using pathways. Map 3.2 shows the results. Some of the most frequently mentioned destinations, including Downtown, the Foothills, the Cassia Park area, and the Boise Co-op are shown below (larger circles indicate more emphasis from the community).

WEB MAP: SUGGESTED IMPROVEMENTS

Suggested improvements to the pathway system were marked by participants, indicating existing pathways and access infrastructure that could be improved. While the locations and comments regarding needed improvements were diverse, most of the comments fit into the following general themes:

- Street crossing improvements
- Improved access to the Boise River Greenbelt
- Provide lighting along pathways
- Improve pavement quality on older pathways
- Provide city-wide pathway connections so bike lanes and trails don't come to a sudden end
- Minimize the impact of adjacent roadways on feelings of safety while using the pathway system

WEB MAP: SUGGESTED PATHWAY ROUTES

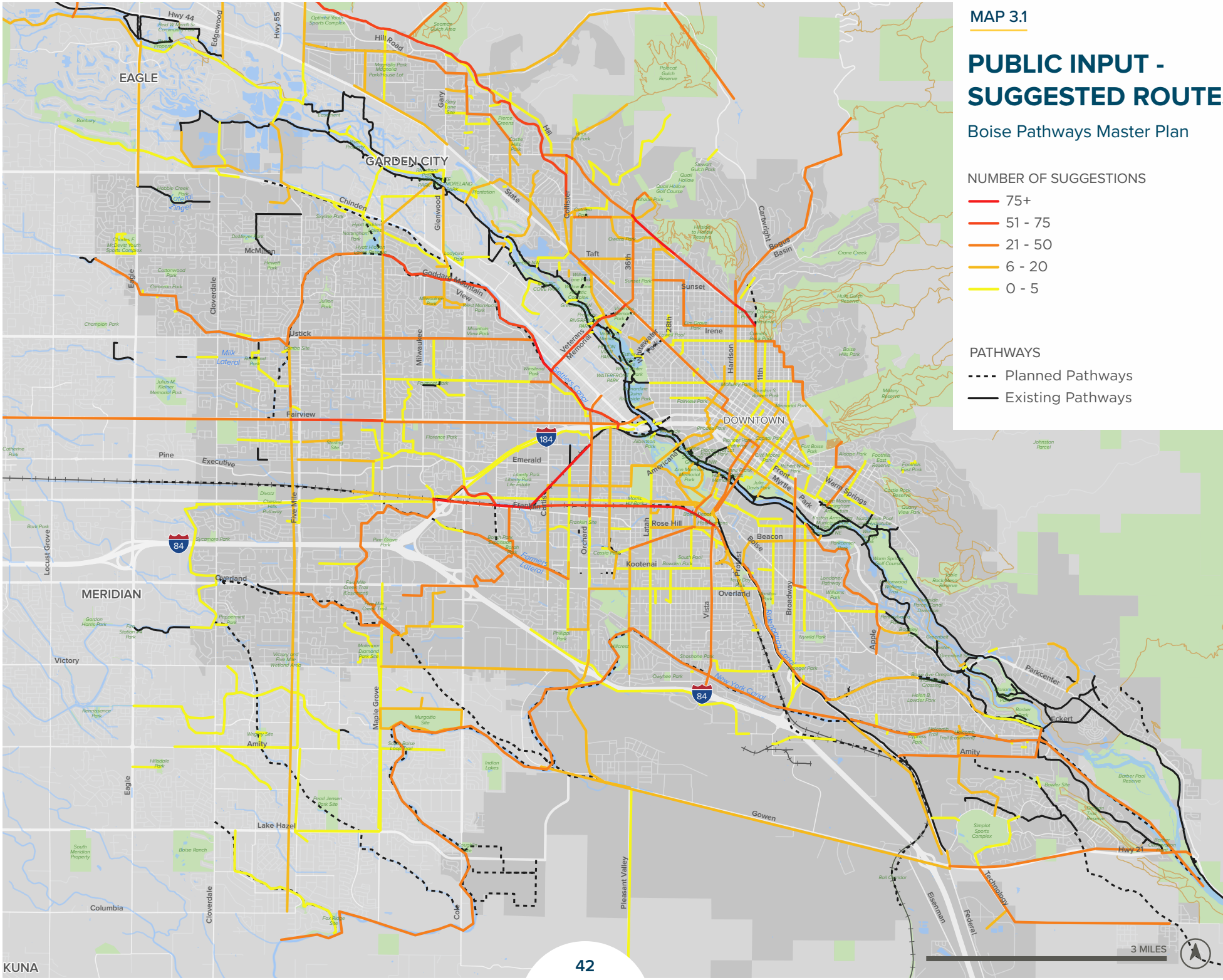
Map 3.1 illustrates suggested pathway routes and connections made by survey respondents, organized by popularity. While the primary focus of this plan is off-street corridors, many people expressed a desire for separation from cars along roadways. Some of the most commonly suggested/liked routes include:

- The railroad corridor, especially between Boise Towne Square and Boise Depot, as well as the rail spur from Hartman St to Irving St
- Settlers Canal from Maple Grove Rd to the Greenbelt
- Connections between the Bench, Greenbelt, and foothills via Veterans Memorial Parkway
- Farmers Union Canal corridor in Northwest Boise

MAP 3.1

PUBLIC INPUT - SUGGESTED ROUTES

Boise Pathways Master Plan



COMMUNITY MEETINGS

Community members were invited to attend one of two in-person or two virtual Neighborhood Conversations. For each event, space was limited to 20 participants with advanced registration required. The in-person events were held at Municipal and Winstead Park, with all participants practicing physical distancing. The virtual events were held using Zoom.

The neighborhood conversations sought to actively solicit input from a wide range of community members on existing pathway conditions and future vision, as well as raise awareness about the project. Themes from these discussions include:

Current Pathway System Used For Commute And Recreation

Many participants use the existing pathway system for both recreation and commute purposes. Many who live within easy access of an existing pathway will either walk or bike to the pathway. However, some participants noted that since they live far from a pathway, they often drive to Greenbelt to walk or bike for recreation.

Need For Increased Capacity Within System

The COVID-19 Pandemic showed participants how important open space is in our community. Many participants felt that the pathways experienced increase in usage and crowds. Participants believed that expanding the system would help to relieve some of the congestion on the Greenbelt and Foothills trails.

An Expanded Pathway System Will Open Up The City For Everyone

Many participants agreed that an expanded pathway system would “open” up the city for everyone. People saw an expanded pathway system as an opportunity to make it easier and more convenient to see new parts of the city. As well, many

mentioned that an expanded pathway system will create opportunity for new businesses and spaces across the city.

Coordinate With Partner Agencies

Participants urged the city to coordinate with other agencies in order to create a seamless pathway system. Many urged us to connect to Ada County Highway District on street bike and pedestrian facilities or to connect through Garden City to the greenbelt.

Make Useful Connections

Participants expressed a desire for the expanded pathway system to connect to important destinations such as schools, restaurants, and parks. They felt that connecting to places

Concerns About Safety Of All Users

As the pathway system is expanded, many expressed concern about the safety of all users. Some safety concerns included addressing conflicts between cars and pathway users when having to cross an on-street facility and the conflict between pathways users that move at different speeds (bikers, walkers, scooters, etc.). Some suggested that as the pathway system is expanded the city should invest in bicycle/pedestrian education and culture building to address these issues.

PLANNING WORKGROUP

The Planning Workgroup was organized for the purpose of getting City staff, community members, and stakeholders in the same room to generate ideas, steer the planning process, and provide feedback on the deliverables of the plan. The group consisted of representatives from the following groups:

- Boise Parks & Recreation
- Boise Planning & Development Services
- City of Boise Mayor's Office
- City Council
- Multiple Neighborhood Associations
- Ada County Highway District
- Boise Project Board of Control
- Idaho Walk Bike Alliance
- Boise Valley Economic Partnership
- Idaho Chapter Sierra Club & Canals Connect Communities Coalition
- Inclusive Idaho
- Idaho Access Project
- Ada Soil and Water Conservation District
- CDH Health
- Treasure Valley Cycling Alliance

PHASE I PLANNING WORKGROUP MEETINGS

Meeting #1

Meeting #1 was dedicated to establishing a vision for the plan, desired outcomes, and initial opportunities and challenges

Meeting #2

The second meeting gave the Planning Workgroup a chance to see the results of the background research and existing conditions analysis, which resulted in further discussions about opportunities for new pathways

PHASE II OUTREACH: GET FEEDBACK

Phase II of community outreach took place during the second half of the planning process during the development of recommendations and the prioritization strategy. During this phase, the general public and the Planning Workgroup were engaged in an effort to identify opportunities missed in draft recommendations and develop a prioritization process that is reflective of the community's values.

ONLINE SURVEY #2

The second online survey was primarily aimed at informing the community of the strategy that was used to identify priority projects and solicit input on which of the proposed projects the community thinks should be prioritized for near-term implementation (see Chapter 6). Participants were also asked to give their feedback on the goals of the plan, which influenced the prioritization outcomes.

KEY INSIGHTS ON THE GOALS

Most participants expressed their support for the established goals. Additional comments and ideas that often emerged include:

- The desire to see separated modes and other improvements to the Greenbelt
- The need to prioritize safety
- The desire to protect habitat and create green space

WEB MAP 2: PRIORITY PATHWAYS

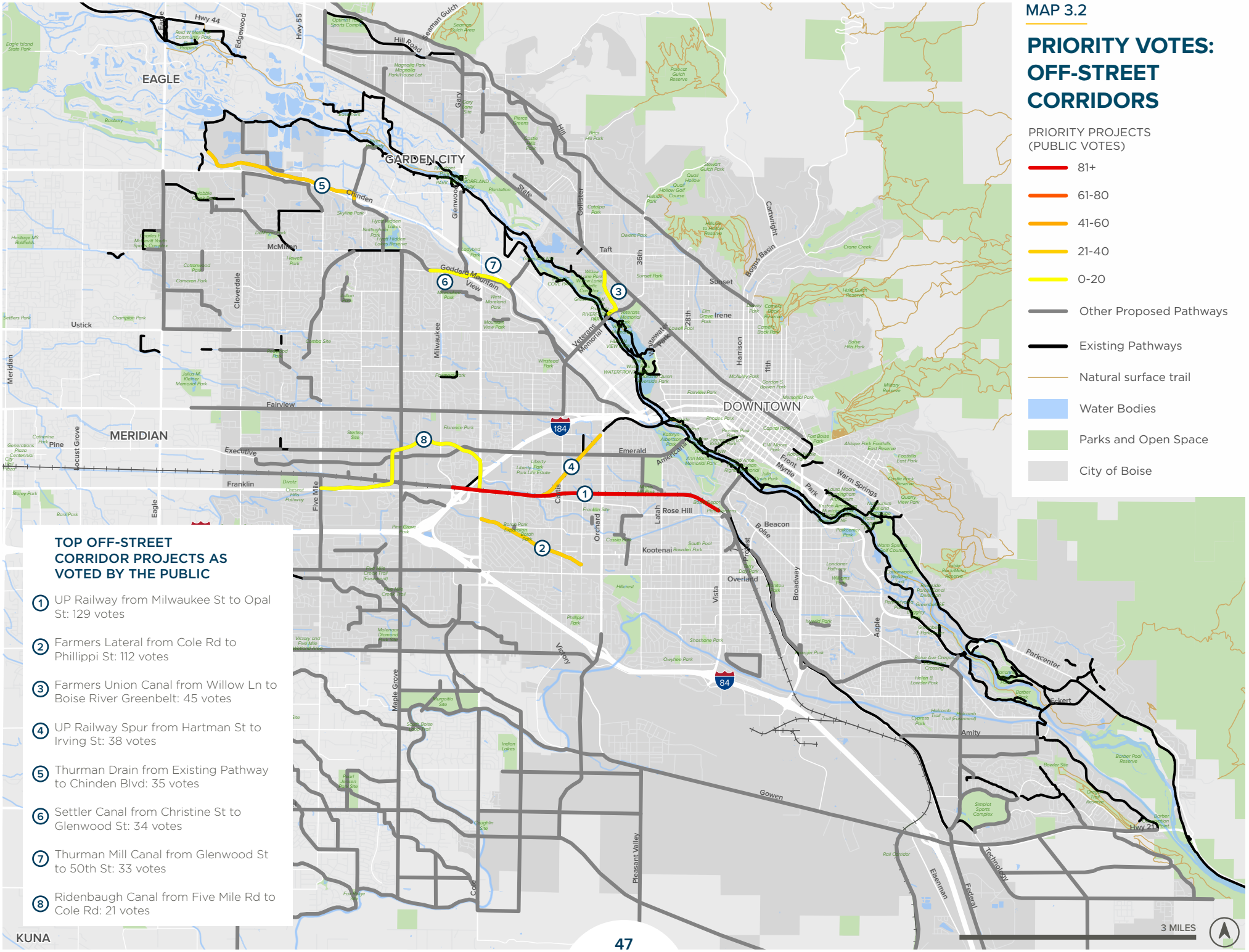
The primary objective of the second web map was to get the public's input on what proposed pathway projects they would like to see the City invest in first. This was done by presenting the recommended pathway network, and highlighting the initial top projects that emerged from the preliminary goal-based evaluation of the prioritization process (see Chapter 6). Participants were able to select their top five priorities from a list of 30, and the results were then incorporated into the overall prioritization score assigned to each off-street pathway project.

While the focus of this plan is off-street corridors, proposed roadway corridor projects were included in the public web map to reflect the projects that best meet the goal-based prioritization criteria. Chapter 6 goes into more detail as to how projects were identified and why roadway corridor projects, while priorities, may not be slated for near-term implementation due to the greater flexibility the City has to implement projects along off-street corridors. However, public feedback on proposed roadway corridors will be used to articulate public interest in their implementation with respective transportation agencies.

Map 3.2 and 3.3 on the following pages show off-street corridor projects and roadway corridor projects that emerged as high value projects based on the goals, and indicates which of these projects received the most priority votes from the community.

It is important to note that the process of getting the public's input on priority projects represents one step in a multi-step prioritization process, and does not indicate the final list of priority projects.

Above: screenshot from the interactive web map



MAP 3.2

PRIORITY VOTES: OFF-STREET CORRIDORS

PRIORITY PROJECTS (PUBLIC VOTES)

- 81+
- 61-80
- 41-60
- 21-40
- 0-20
- Other Proposed Pathways
- Existing Pathways
- Natural surface trail
- Water Bodies
- Parks and Open Space
- City of Boise

TOP OFF-STREET CORRIDOR PROJECTS AS VOTED BY THE PUBLIC

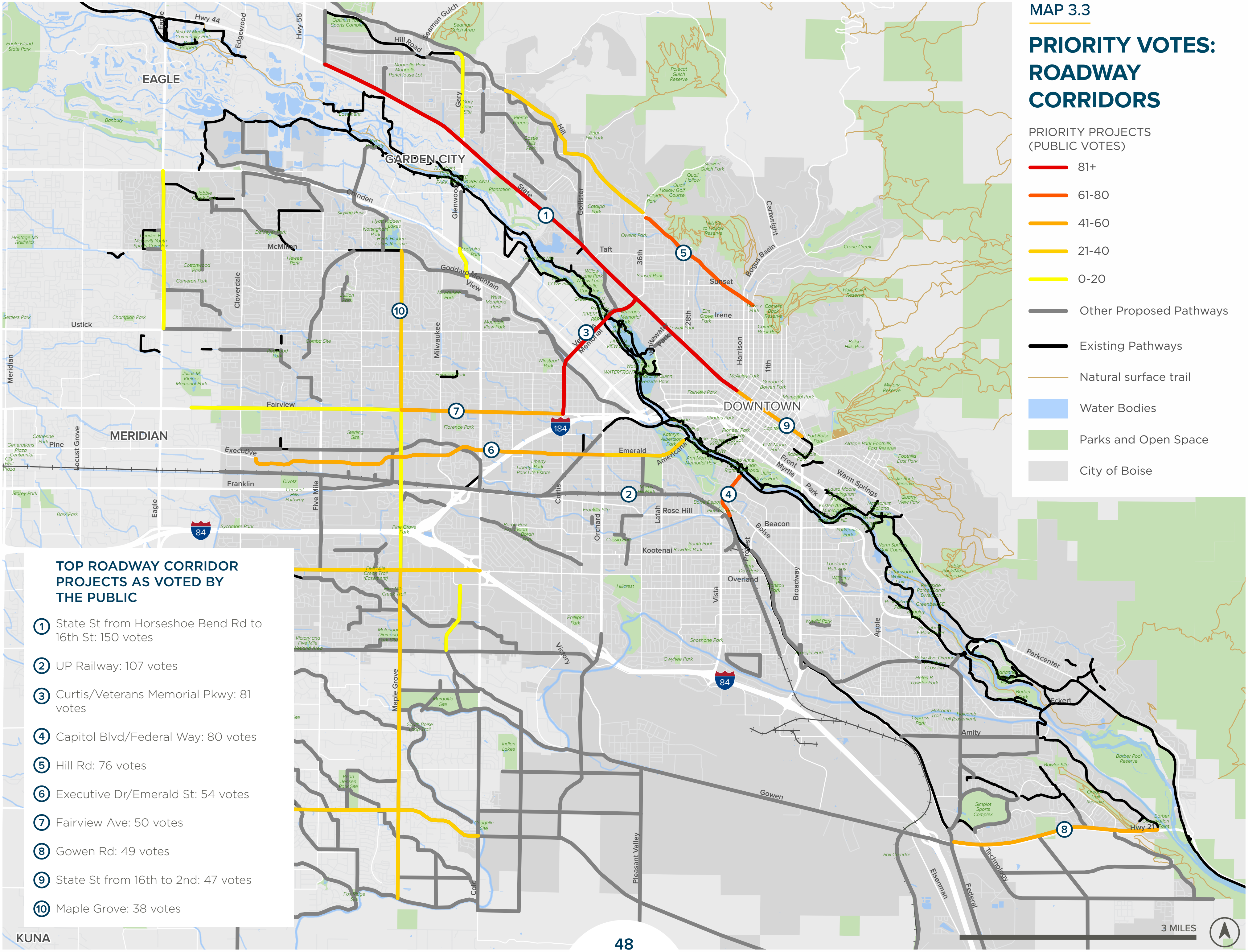
1. UP Railway from Milwaukee St to Opal St: 129 votes
2. Farmers Lateral from Cole Rd to Phillippi St: 112 votes
3. Farmers Union Canal from Willow Ln to Boise River Greenbelt: 45 votes
4. UP Railway Spur from Hartman St to Irving St: 38 votes
5. Thurman Drain from Existing Pathway to Chinden Blvd: 35 votes
6. Settler Canal from Christine St to Glenwood St: 34 votes
7. Thurman Mill Canal from Glenwood St to 50th St: 33 votes
8. Ridenbaugh Canal from Five Mile Rd to Cole Rd: 21 votes

MAP 3.3

PRIORITY VOTES: ROADWAY CORRIDORS

PRIORITY PROJECTS (PUBLIC VOTES)

- 81+
- 61-80
- 41-60
- 21-40
- 0-20
- Other Proposed Pathways
- Existing Pathways
- Natural surface trail
- Water Bodies
- Parks and Open Space
- City of Boise



TOP ROADWAY CORRIDOR PROJECTS AS VOTED BY THE PUBLIC

1. State St from Horseshoe Bend Rd to 16th St: 150 votes
2. UP Railway: 107 votes
3. Curtis/Veterans Memorial Pkwy: 81 votes
4. Capitol Blvd/Federal Way: 80 votes
5. Hill Rd: 76 votes
6. Executive Dr/Emerald St: 54 votes
7. Fairview Ave: 50 votes
8. Gowen Rd: 49 votes
9. State St from 16th to 2nd: 47 votes
10. Maple Grove: 38 votes

POP-UP EVENTS AND GREENBELT INTERCEPTS

Several in-person community events were utilized to get feedback on the recommended pathway network, including intercepts along the Greenbelt. The purpose of these outreach efforts was to provide opportunities for face-to-face conversations and direct community members to the online survey to provide feedback.

Pop-up events included:

- Campos Market engagement
- West YMCA Kids Camps engagement
- Community event JUMP, JAM, and JIVE
- Greenbelt intercept at Esther Simplot Park
- Comba Park engagement
- Greenbelt intercept at Green Acres Food Truck Park

PLANNING WORKGROUP

During the second phase of the planning process, the Planning Workgroup helped refine the planned pathway network, recommended policies and programs, and the prioritization methodology.

PHASE II PLANNING WORKGROUP MEETINGS

Meeting #3

The third meeting with the Planning Workgroup was focused on two things: 1) getting feedback on the preliminary recommendations for new pathways and 2) understanding which criteria should be used to prioritize projects for implementation. Missing opportunities for new pathways were identified, and criteria that ended up guiding the prioritization process emerged. Group members were asked to put themselves in the City's shoes and identify projects they felt best achieved the goals of the plan. This lead to discussion around why some projects could provide a higher value to the community than others, which ultimately helped the planning team identify criteria for determining priority projects.

Once criteria for prioritization were established, the Planning Workgroup participated in an online survey in which they ranked criteria based on importance. This contributed to the overall weights given to each criterion (see Chapter 6).

Meeting #4

The final meeting with the Planning Workgroup gave the planning team an opportunity to solicit feedback on the draft plan and discuss any missing opportunities for non-infrastructure recommendations, such as policies and programs that could be adopted to promote pathway implementation and use.

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04

Network Recommendations

CREATING A NETWORK

Building on decades of planning efforts, community input, and the lessons learned from studying existing challenges and opportunities, Chapter 4 introduces Boise's planned pathway network and discusses other infrastructural elements, such as on-street connections, safe crossings, and supporting amenities.

THE PATHWAY NETWORK

Developed with the plan's goals in mind, over 110 pathway projects are proposed in the Boise Pathways Master Plan, making new connections throughout the City, including potential future development areas, and introducing 112 miles of pathways. Combined with Boise's ±50 miles of existing pathways, the built-out network will string together a total of over 160 miles of pathways.

When completed, the overall pathway network will put 76 percent of current Boise residents within a half mile, or a 10-minute walk, of a pathway. It will connect Boiseans to a multitude of grocery stores, schools, parks, and businesses across the City, expanding opportunities for transportation and recreation.

The following pages present the planned pathway network and outline considerations for different corridor types.

110+ miles

*of **newly proposed pathways** across the City*

***of Boiseans** live within a 10-minute walk of the existing and planned pathway network*

PATHWAY NETWORK APPROACH

This plan originated from a desire to build pathways where the City has the ability to plan, prioritize, and implement transportation-related projects. Therefore, the development of the pathway network in this plan is focused on off-street corridors. Undeveloped land, parks, canal and riparian corridors, and other off-street corridors such as railroads were all analyzed to identify opportunities for pathways.

Due to the built-out nature of Boise, gaps in the planned pathway network will need to be filled using on-street facilities. On-street connections will either be sidepaths along arterial roadways or low-stress bikeways on collector/local roads.

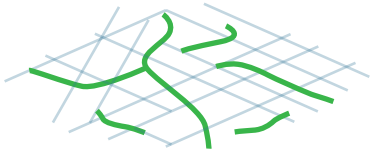
Arterial roads were analyzed in coordination with ACHD to determine opportunities for sidepaths that make connections between off-street shared use paths.

ACHD's Regional Low Stress Network, which consists of on-street bikeways intended to provide a high comfort experience for varying ages and abilities, was overlaid on the pathway network and utilized to close critical gaps.

The resulting network consists of off-street shared use paths, supplemented by short segments of sidepaths and low-stress on-street bikeways that complete the network.

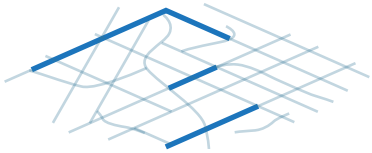
Figure 4.1 on the following page illustrates this process. See Map 4.1 for Boise's planned pathway network.

Figure 4.1: Pathway network development



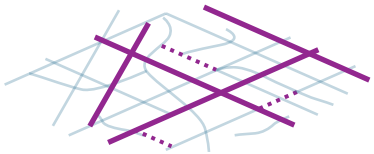
Shared use paths (off-street corridors)

- *Opportunities along canals, railroads, and through parks and open space*
- *High comfort for all*
- *Transportation + active / passive recreation opportunities*
- *Park / nature experience*



Sidepath critical connections (arterial roadways)

- *Sidepath segments along roadways that make critical connections to the off-street network*
- *Extend the pathway experience*
- *Support transportation uses*



Collector/local road critical connections (ACHD's RLS Network & gap closures)

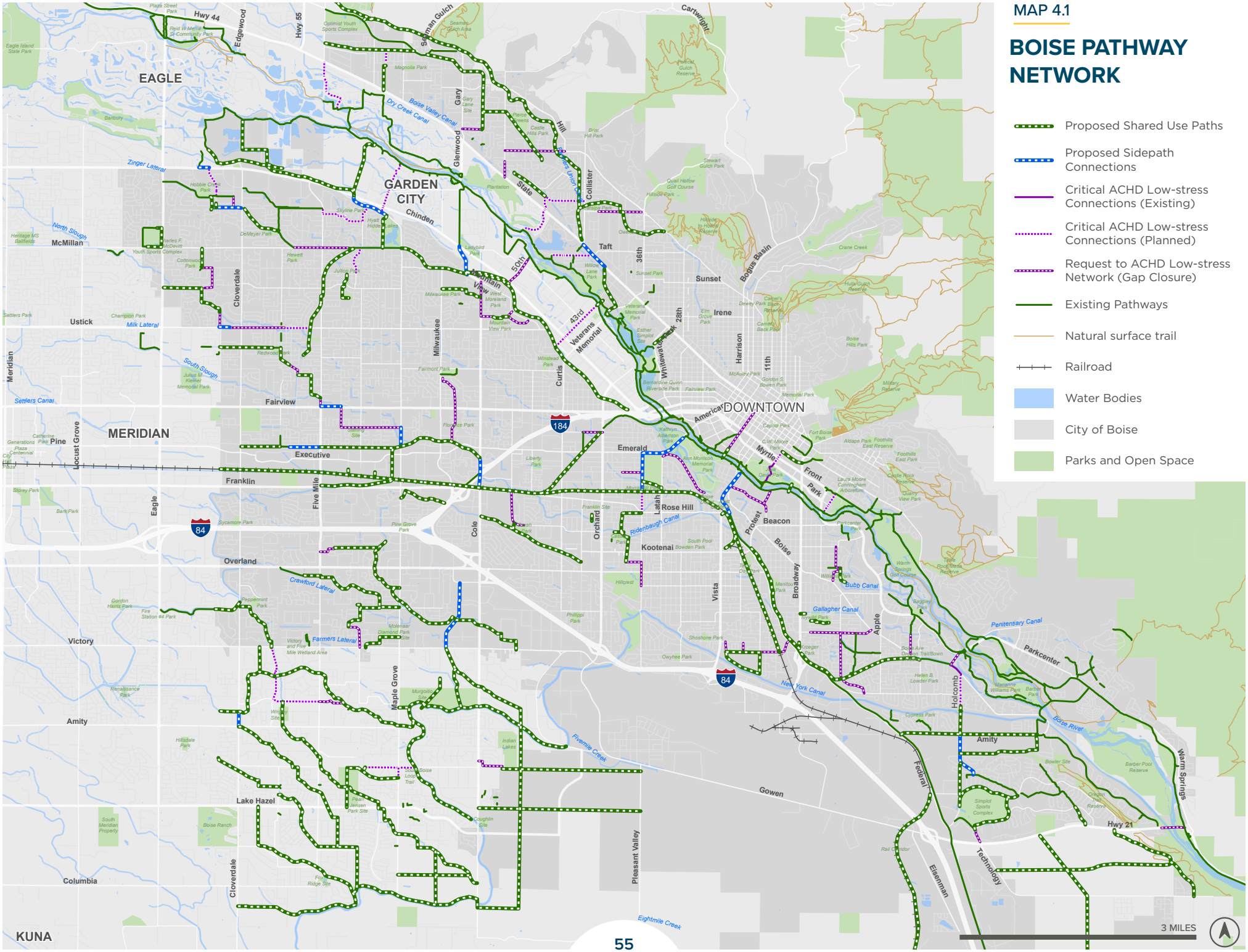
- *High-comfort bikeways identified in ACHD's Roadways to Bikeways Plan*
- *Critical on-street connections not previously identified as bikeways by ACHD that close gaps in the pathway network*
- *Extend the reach of the pathway network where shared use paths or sidepaths may not be feasible*

Boise's Planned Pathway Network

- *Off-street pathway corridors, with critical on-street connections, that achieve a comfortable, connected network*
- *See Map 4.1*

MAP 4.1

BOISE PATHWAY NETWORK

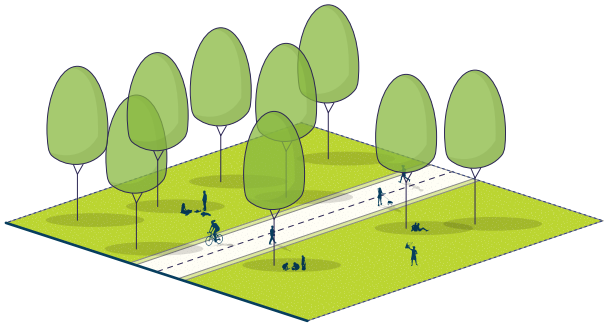


CORRIDOR TYPES

As explained in Chapter 2, the physical context of a pathway impacts user experience and design requirements. Proposed pathways in this plan fall in parks/open space, riparian, canal, and railroad corridors. Critical on-street connections are also considered part of the pathway network and are proposed either as sidepaths or heightened emphasis on particular segments of ACHD's RLS network. More details related to constraints and design considerations are highlighted in Appendix E: Design Guidelines.

Parks/Open Space (or future development)

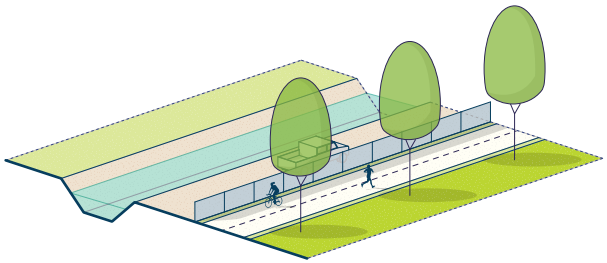
± 29 MILES



- *May include parks and dedicated open space through developments*
- *Provides more of a park / nature experience*
- *More space for trees and landscaping*
- *Typically more traffic and a wider variety of users, modes, ages, and abilities*

Canal Corridor

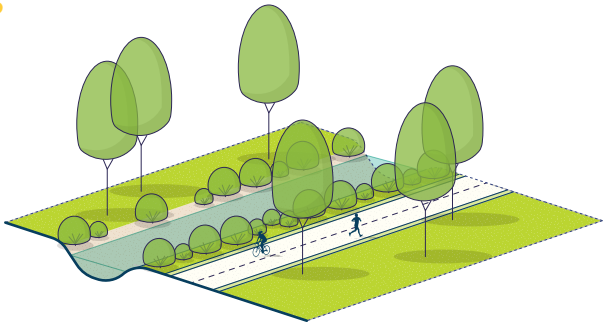
± 53 MILES



- *May include larger canals and smaller laterals*
- *Provides continuous experience due to limited intersections with streets*
- *Canals are some of the last remaining stretches of undeveloped land / open space of significant length in Boise*
- *Requires coordination with canal operators and, when necessary, underlying property owners*

Riparian Corridor

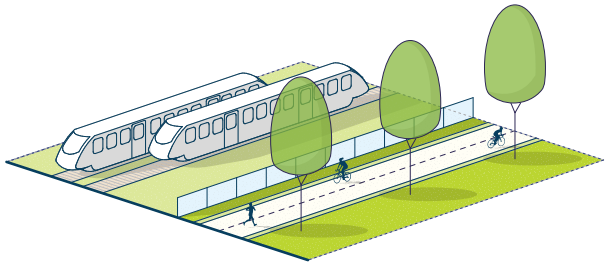
± 12 MILES



- *Includes many of the City's smaller creeks, especially in Southwest Boise*
- *Provides a park / nature experience and interaction with natural habitats*
- *Presents opportunities for habitat restoration*

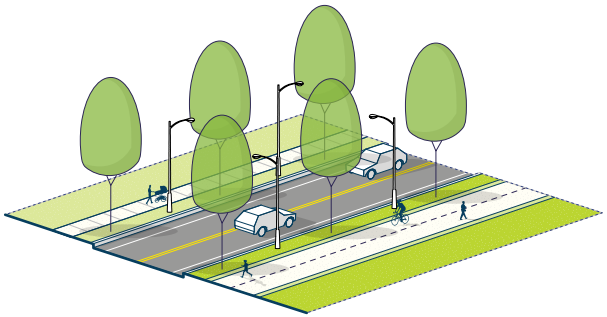
Active Rail Corridor

± 12 MILES



- *Includes the Union Pacific Railroad and associated spurs*
- *Provides continuous, direct, and regional routes with limited street crossings*
- *Requires coordination with railroad operators to ensure safety*
- *Has potential for integration with passenger rail and transit*

Critical Roadway Connections



- *Includes sidepaths and low-stress on-street bikeways that fill critical gaps between shared use paths*
- *Can extend the pathway experience into urban settings and provide direct access to destinations*
- *Easily integrates with transit*
- *Requires considerations for interactions with vehicle traffic at intersections and driveways*

CRITICAL ON-STREET CONNECTIONS

Boise's planned pathway network relies on critical on-street connections to ensure a consistent user experience. Map 4.1 illustrates on-street connections, including a) sidepath connections along arterials and b) segments of ACHD's Regional Low Stress (RLS) Network - existing, planned, and proposed gap closures.

SIDEPATH CONNECTIONS

Separated multi-use paths typically provide the highest level of comfort, but in some cases along roadways, protected bike lanes, raised bike lanes, or cycle tracks may be more appropriate than sidepaths. Each roadway segment should be approached on an individual basis. Sidepaths may be appropriate for ACHD Level 3 bikeways if any of the following apply:

- Expected users include children or other less experienced bicyclists
- Few interruptions such as intersections and driveways exist
- Right-of-way space is available on one or both sides
- There is not a strong need to access destinations on both sides of the street; or frequent crossings can be accommodated
- Impacts to adjacent properties can be mitigated
- The corridor serves a recreational purpose
- The corridor connects to an existing or planned shared use path or sidepath (provides consistency)

In addition to critical connections identified on Map 4.1, opportunities for longer sidepaths along arterial corridors were analyzed in coordination with ACHD. Potentially feasible corridors are shown on Map D.1 in Appendix D.

LOW-STRESS ON-STREET CONNECTIONS

While critical low-stress on-street connections are identified on Map 4.1, Map 4.2 on the following page overlays the remainder of ACHD's RLS network to illustrate the overall high-comfort network when combined with Boise's planned pathway network.

This plan recommends further coordination with ACHD to prioritize planned low-stress bikeways that connect pathways and encourage the adoption of new routes to the RLS Network that fill gaps in the pathway network as identified on Map 4.1.

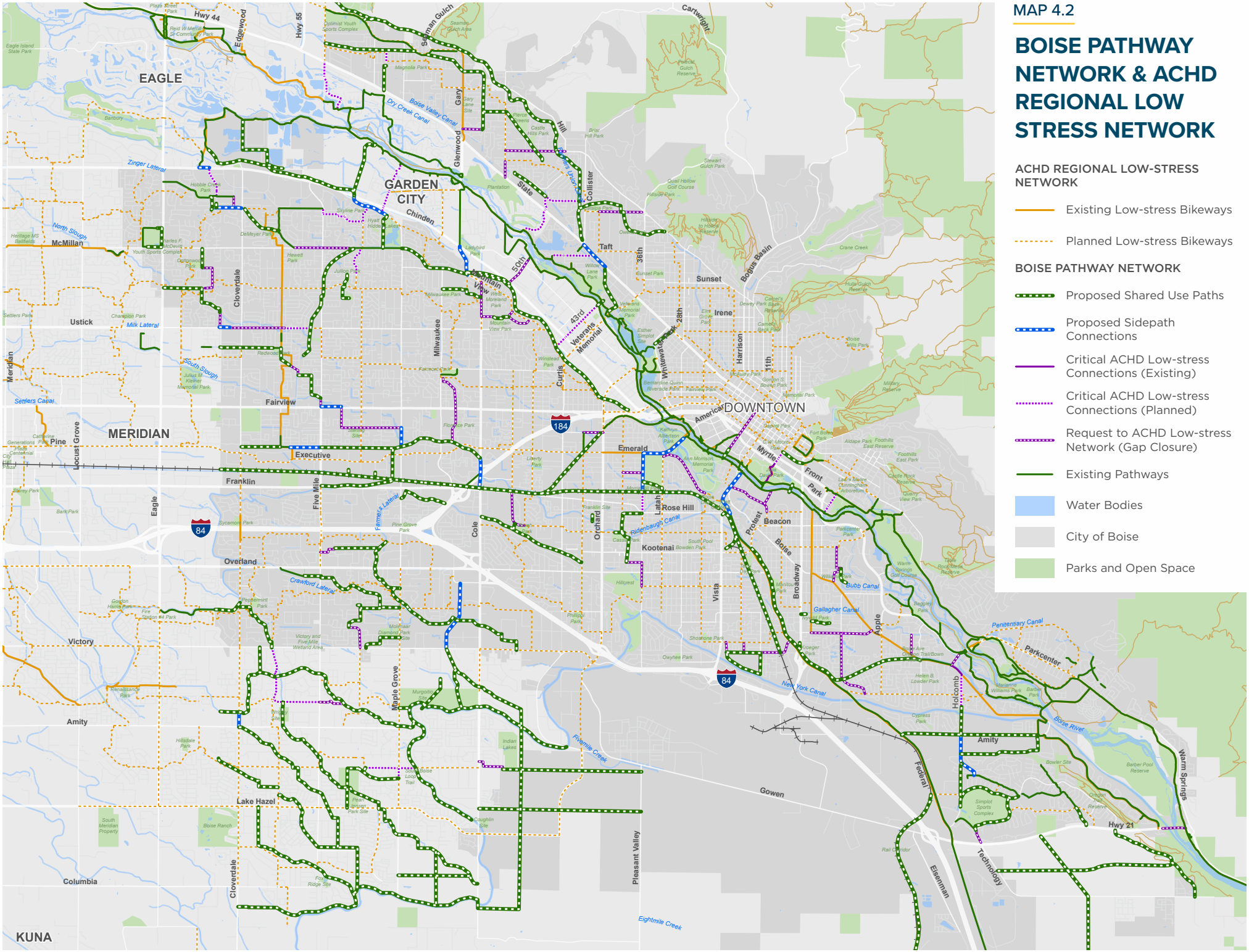
Leadville Bikeway (low-stress bike boulevard)

Recommendations:

- Collaborate with ACHD to evaluate the RLS Network, adding new routes that fill pathway gaps, and ensuring best practice standards for comfort are implemented, especially when closing gaps in the pathway network
- Coordinate with ACHD to extend sidepath connections along roadway corridors where feasible (See Map D.1 in Appendix D)

MAP 4.2

BOISE PATHWAY NETWORK & ACHD REGIONAL LOW STRESS NETWORK



ACHD REGIONAL LOW-STRESS NETWORK

- Existing Low-stress Bikeways
- Planned Low-stress Bikeways

BOISE PATHWAY NETWORK

- Proposed Shared Use Paths
- Proposed Sidepath Connections
- Critical ACHD Low-stress Connections (Existing)
- Critical ACHD Low-stress Connections (Planned)
- Request to ACHD Low-stress Network (Gap Closure)
- Existing Pathways
- Water Bodies
- City of Boise
- Parks and Open Space

SAFE CROSSINGS

Map 4.3 shows recommended crossings of streets, highways, creeks, rivers, and canals. The majority of these crossings are mid-block street crossings, where the utilization of existing crossings or signalized intersections is not feasible, requiring a significant detour.

For most people, interaction with vehicle traffic is one of the primary deterrents to using active transportation, which is why off-street pathways attract such a wide range of people. However, unless careful consideration is given to how pathways cross streets, highways, and other barriers, the concern over safety will still be prevalent in people's decision to use pathways for transportation. The exact location and number of street crossings may change as a result of further feasibility and alignment studies for each new pathway.

SELECTING A CROSSING TREATMENT

Selecting the most appropriate pathway crossing treatment depends on the characteristics of the barrier that the pathway crosses. Treatments range from simple marked crosswalks to full traffic signals or grade-separated crossings. An engineering study should be conducted for each crossing to determine the most appropriate treatment, and should consider:

- Number of lanes
- Presence of or opportunity for a median
- Distance from adjacent signalized intersections
- Pathway user volumes and delays
- Vehicle speeds and volumes
- Geometry of the location
- Possibility to consolidate multiple crossing points
- Availability of street lighting

Crosswalk

Where streets are 2-3 lanes wide and vehicle speeds are low (15-25 mph), a crosswalk should be considered. Crosswalks consist of high visibility paint at a minimum, and may include pedestrian crossing signs with supplemental yield triangle pavement markings. Raised crosswalks should also be considered as a traffic calming measure and to prioritize pathway users.

Active Warning Beacon

An active warning beacon is an appropriate treatment when 2-3 lane roads have more moderate vehicle speeds (25-40 mph). This treatment consists of high visibility crosswalks and pedestrian warning signage with Rectangular Rapid Flashing Beacons (RRFBs) mounted to the sign post. RRFBs are typically push activated, but can also include passive detectors that recognize pathway users and immediately activate the RRFB. When possible, pedestrian refuge islands should be included.

Hybrid Beacon

Hybrid beacons should be installed at crossings of streets that are more arterial in nature, either due to high vehicle speeds or number of lanes. Hybrid beacons are centered over each travel lane, typically push activated, and are accompanied by signage to indicate to drivers where to stop and how to interpret the light patterns. Hybrid beacons should not be used in conjunction with railroad crossing signals due to the similarity of flashing signals (use full traffic signal instead). It is important that the beacon is immediately activated after the button is pushed, unless there are nearby signals to coordinate timing.

Full Traffic Signal

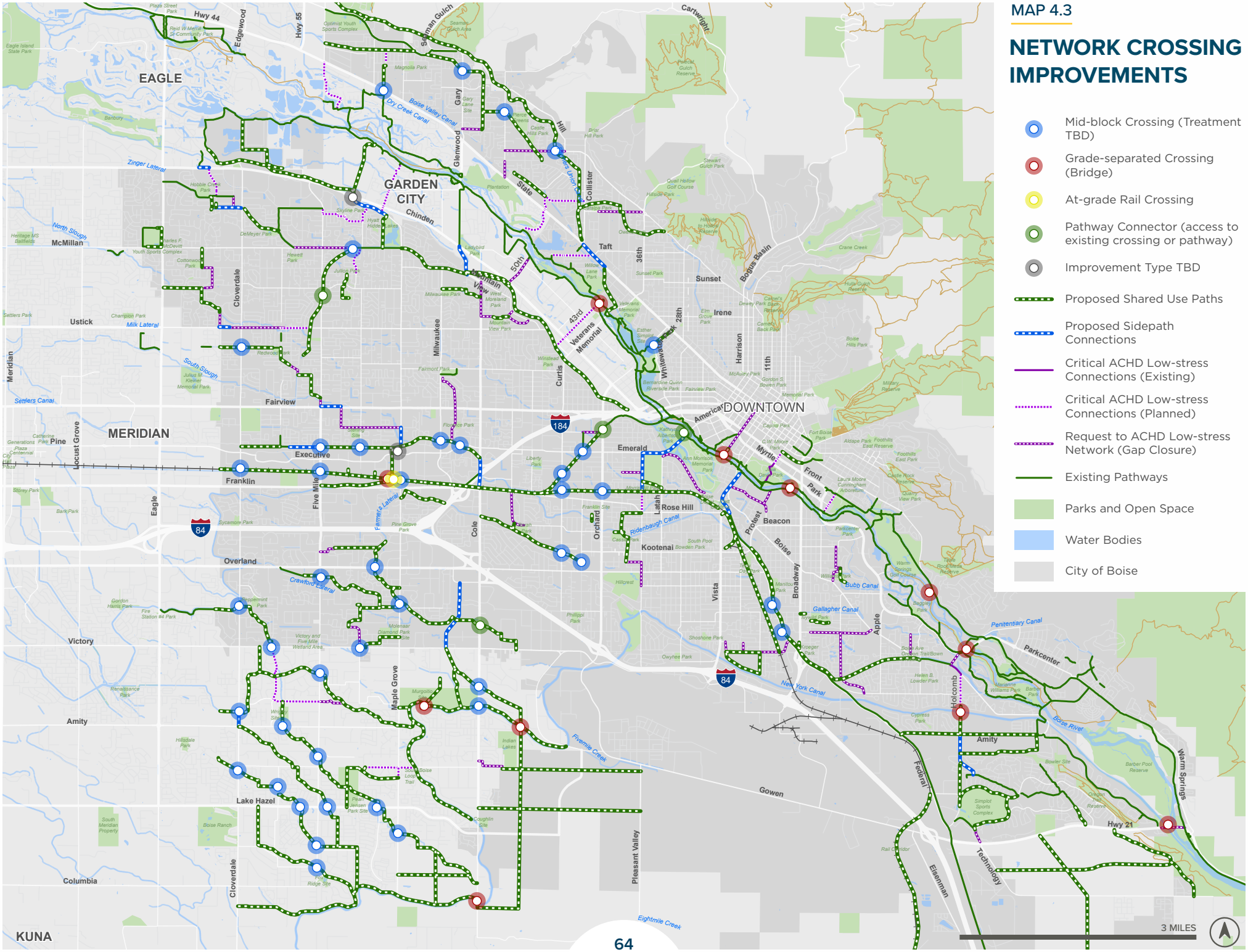
The use of a full traffic signal at a mid-block location would require a signal warrant as outlined in the *Manual on Uniform Traffic Control Devices* (MUTCD) and should be considered where pathways cross arterial roads in conjunction with a railroad crossing or where high volumes of pathway traffic is anticipated.

Grade Separation

Grade separated crossings include bridges and undercrossings and should be used when physical barriers such as canals or creeks need to be crossed, or when an at-grade street or railroad crossing is deemed unsuitable through an engineering analysis. Bridges and undercrossings should be at least 14’ wide (16’ preferred). Greater widths are preferred for undercrossings that are longer than 60’. Undercrossings should have a minimum vertical clearance of 10’, and lighting should be considered, especially in culverts or tunnels or when high use is anticipated.

MAP 4.3

NETWORK CROSSING IMPROVEMENTS



CONTEXTUAL GUIDANCE

The matrix below provides guidance for crossing treatments when a pathway crosses a street or highway at unsignalized locations and should be used during the design process when considering appropriate crossing treatments. More information can be found in FHWA's *Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations* (2018).

		Local Streets 15-25 mph		**Collector Streets** 25-30 mph			**Arterial Streets** 25-45 mph							
CROSSING TREATMENT		2 lane	3 lane	2 lane	2 lane with median refuge	3 lane	2 lane	2 lane with median refuge	3 lane	4 lane	4 lane with median refuge	5 lane	6 lane	6 lane with median refuge
1	Crosswalk Only (high visibility)	✓	✓	EJ	EJ	X	EJ	EJ	X	X	X	X	X	X
	Crosswalk with warning signage and yield lines	EJ	✓	✓	✓	✓	EJ	EJ	EJ	X	X	X	X	X
	Raised Crosswalk	✓	✓	✓	✓	EJ	EJ	X	X	X	X	X	X	X
2	Active Warning Beacon (RRFB)	X	EJ	✓	✓	✓	✓	✓	✓	X	✓	X	X	X
3	Hybrid Beacon*	X	X	EJ	EJ	EJ	EJ	✓	✓	✓	✓	✓	✓	✓
4	Full Traffic Signal	X	X	EJ	EJ	EJ	EJ	EJ	EJ	✓	✓	✓	✓	✓
5	Grade separation	X	X	EJ	EJ	EJ	X	EJ	EJ	✓	✓	✓	✓	✓

LEGEND	
Most Desirable	✓
Engineering Judgement	EJ
Not Recommended	X

*Hybrid beacons should not be used in conjunction with railroad crossing signals due to the similarity in lens and flash pattern. Use full traffic signal instead.

SUPPORTING ELEMENTS

Building quality pathways and crossings is only one of the first steps in creating a world-class pathway system and fostering a culture of active transportation. Several additional amenities can be implemented to enhance the user experience and ultimately make the decision to walk, bike, or roll for daily trips more convenient. This plan recommends that the supporting infrastructure in this section be implemented with the construction of new pathways, depending on context. Recommendations include:

- Bicycle parking
- Wayfinding and branding
- Trailheads and rest areas
- Green infrastructure
- Lighting

BICYCLE PARKING

Adequate bicycle parking should be installed within 30 feet of pathway and foothill trailheads to encourage active transportation to these facilities. Bike racks should also be installed along pathways were needed, such as at rest areas or river access points.

The City should update its short-term and long-term bicycle parking requirements for new developments to be consistent with the standards established by the Association of Pedestrian & Bicycle Professionals (APBP) in *Bicycle Parking Guidelines, 2nd Edition (2010).*

Recommendations:

- Update standards for minimum bicycle parking rates for new development
- Install bicycle parking at pathway and foothill trailheads and along pathways as needed

WAYFINDING & BRANDING

Improving the legibility and identity of the pathway network can greatly enhance residents' perception of the walkability and bikeability of Boise. An intentional, unified pathway wayfinding and branding strategy can:

- Heighten awareness that walking and biking are viable means to get around by including distances and travel times to destinations
- Make pathways easier to use, especially for visitors and newcomers, and communicate proper pathway etiquette and emergency information
- Increase the visibility and, therefore, safety of people using the pathway system, especially at street crossings
- Establish a recognizable identity for Boise's pathway system

Recommendations:

- Develop a pathways wayfinding and branding plan
- Include wayfinding in the planning, design, and cost estimating for new pathways

TRAILHEADS AND REST AREAS

Carefully placed trailheads and rest areas support pathway users, contribute to placemaking, and may include the following amenities:

- Site furnishings such as seating, trash receptacles, drinking fountains, and lighting
- Shade and enhanced landscaping
- Information and wayfinding kiosks
- Bike parking and repair stations

Typically implemented where anticipated pathway use is high, these spaces should be incorporated along new and existing pathways when space allows.

Recommendations:

- Consider the inclusion of trailheads and rest areas during the design of new pathways

GREEN INFRASTRUCTURE

Green infrastructure is a planning and design approach that manages stormwater, mitigates the urban heat island effect, and improves air quality through the use of elements such as bioretention swales, permeable pavement, shade trees, and landscaping. Adopted pathway design standards should account for space needed to incorporate landscaping and shade trees to grow Boise's urban canopy coverage and improve the pathway user experience.

Recommendation:

- Coordinate with Boise Parks and Recreation to ensure that trees and landscaping best practices are implemented when new pathways are constructed.

LIGHTING

Pathway lighting is encouraged along heavily used pathways between Municipal Park and Americana Blvd. Properly designed lighting can improve visibility and natural surveillance, increase pathway access and use, provide a sense of safety and security, and extend operating hours during shorter days. In addition, properly lit pathways reduce bicycle and pedestrian collisions during night time hours.

Per the Boise River Resource Management and Master Plan, pathway lighting outside of the downtown core should be limited to protect the integrity of local animal habitats.

Recommendations:

- Reevaluate lighting policies when City of Boise Pathways Master Plan is updated

IMPROVING THE GREENBELT

During the course of this plan's development, the Boise River Greenbelt received a lot of attention from community members expressing the desire to see improvements made to this signature pathway system. As Boise's population grows, it is clear that the strain on the Greenbelt's capacity is increasing.

New pathways proposed in this plan may reduce the stress currently being placed on the Greenbelt. Additionally, the City is currently taking action to replace outdated or uprooted asphalt with concrete in high-traffic areas, and is constantly making improvements to amenities along the way.

However, even as new pathways are constructed across the region, the Greenbelt will remain the signature pathway of Boise and the Treasure Valley. Therefore, continued attention and resources should be dedicated to enhancing the Greenbelt experience and maintaining its status as the gem of Boise and the backbone of the region's pathway network.

Some actions the City should consider include:

- Evaluation of demand and widths
- Unique branding
- Evaluation of access

UNIQUE BRANDING AND STORYTELLING

As part of future wayfinding and branding efforts for the pathway network, unique branding and storytelling should be considered for Boise's signature pathways such as the Greenbelt. The Greenbelt's branding should not compete with the aesthetic of the overall wayfinding system, but should be recognizable as unique to the Greenbelt, and may include the incorporation of a unique logo, colors, or graphics on signage, pavement markings, and site furnishings. Interpretive signage can also be included to tell the story of the Boise River and its surrounding development. These efforts should be coordinated with municipalities who touch the Greenbelt to develop a cohesive strategy across the valley.

Recommendation:

- Develop a unique branding and storytelling strategy for the Boise River Greenbelt in addition to general pathway wayfinding elements used throughout the network

ACCESS EVALUATION

Access to the Greenbelt via active modes should continue to be studied beyond the efforts of this plan. The City should conduct careful analysis to determine the need for new access points and improvements to existing access points. Garden City should be included in this effort, as many Boiseans' most direct way to the Greenbelt is through Garden City. Any time new development occurs along the Greenbelt, public access paths and/or improved wayfinding to the Greenbelt should be evaluated.

Recommendation:

- Conduct an evaluation to identify new and improved Greenbelt access points

DEMAND AND WIDTHS EVALUATION

The typical width of the Greenbelt is about 12 feet. It gets overcrowded in some areas and conflicts between various user types have been reported. The City should consider conducting a formal evaluation of the Greenbelt to determine the need for and feasibility of widening the pathway and providing separation for different users along certain segments. FHWA's *Shared Use Path Level of Service (SUPLOS) Calculator* guide is a good resource for developing a framework for this evaluation. This evaluation can be conducted independently or in partnership with other municipalities as part of a regional effort.

Determining appropriate pathway width

Appropriate pathway widths are determined by several quantitative and qualitative factors, and professional judgement should be used on a case-by-case basis. Factors included and not included in the FHWA SUPLOS Calculator include:

- **Available right-of-way:** In many cases, constrained corridors limit how wide a pathway can be and optimal widths may be difficult to achieve.
- **Demand:** User volumes is one of the primary factors in establishing appropriate pathway widths (see Figure 4.2). Accurate user counts should be conducted for existing pathways under evaluation, and demand analyses for future pathways should be conducted to determine demand.
- **Reported user conflicts:** Conflicts between different pathway users traveling at varying speeds is an indication that the pathway is too narrow or does not provide separation between user types.
- **Surrounding context:** Pathways that provide access to several destinations in more urban contexts attract more people and a wider variety of user types, requiring more pathway width.
- **User & mode types:** Pedestrians, joggers, adult cyclists, children on bikes, people on skateboards, and people on other devices such as e-scooters all differ in travel behavior and speed. A wider variety of user types and modes requires more pathway width.
- **Desire for destination pathway:** Some pathways that are intended to serve as a destination or signature facility may require a more generous width than the FHWA SUPLOS Calculator recommends to provide a more substantial experience.

Calculating Level of Service

The volumes listed in Figure 4.2 are estimates based on level of service calculations for the Greenbelt at the Anne Frank Memorial near 9th Street, where user counts and existing pathway widths are known. Based on daily average user counts at this location, the Greenbelt would need to be about 20 feet in width, providing separation between slower and faster moving modes, in order to achieve a Level of Service Grade A per the FHWA SUPLOS Calculator. While widening is likely not achievable for this location due to physical constraints, these results provide a baseline understanding for calculating pathway level of service and determining appropriate pathway widths.

Recommendation:

- Conduct an evaluation of Greenbelt demand and widths to identify widening and separation needs

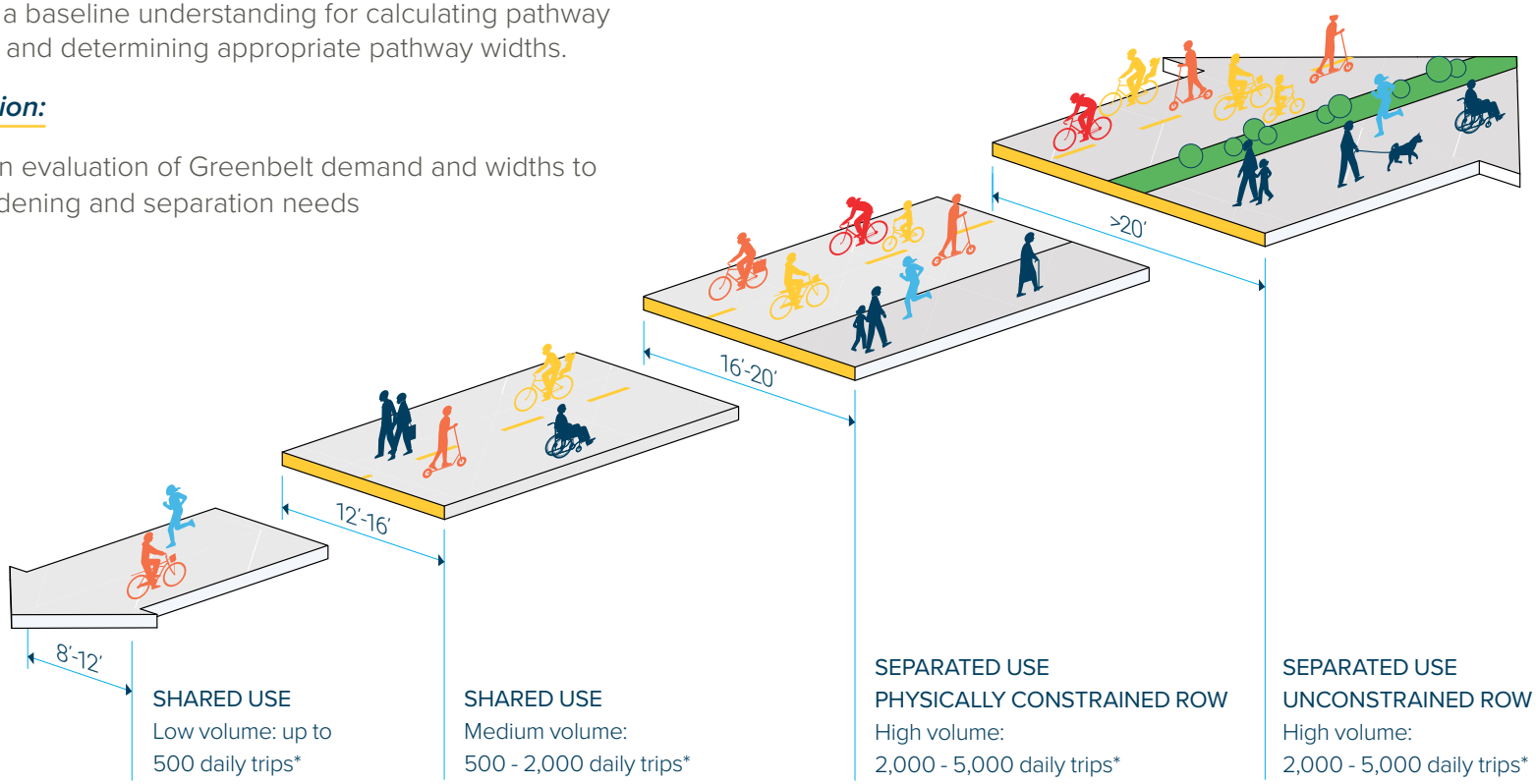


Figure 4.2: Pathway demand, width, and user separation

** Volumes are to serve as a guide, and were derived by using the FHWA SUPLOS Calculator and known Greenbelt user counts, pathway widths, and reported user conflicts to estimate thresholds for low, medium, and high volumes.*

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05

Beyond the Infrastructure

POLICIES & PROGRAMS

The “if you build it, they will come” philosophy is only part of the strategy in achieving the goals of this plan. Non-infrastructure initiatives such as policy adoption, programs that promote active transportation participation, and other initiatives that maintain a high-quality pathway system make a significant impact on the success of any pathway network. The initiatives outlined in this chapter can serve an essential role in a) getting pathways built and b) making pathways a viable transportation choice for Boiseans.

POLICIES

Adopted policies play a crucial role in encouraging development patterns and standards that promote active transportation and the implementation of infrastructure recommendations from this plan. This section outlines policies that the City of Boise can incorporate into relevant decisions.

PATHWAY DEDICATION FOR NEW DEVELOPMENT

Whenever a tract of land within any proposed development includes a pathway designated in the Boise Pathways Master Plan, the pathway shall be required as part of the public right-of-way or as a separate, platted easement. Required easement widths will differ depending on context as well as for neighborhood connector paths (25-30 feet) and multi-use paths (30-50 feet). Required easement widths should account for clear zones and landscaping, including shade trees.

Design and construction of pathways shall be consistent with the guidelines contained in this plan, including widths, clear zones, pathway materials, etc.

Where pathway construction cannot be required, the City may consider offering incentives in the form of reduced fees, cost sharing, density bonuses, or reduction in other open space requirements when adopted pathway alignments are constructed through private development.

HOA's shall maintain secondary pathways. When pathways are of regional significance, maintenance responsibility will be determined on a case-by-case basis.

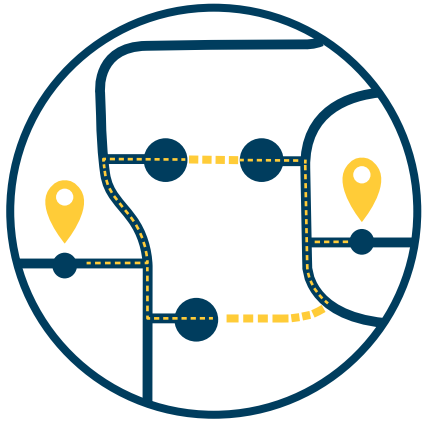
PATHWAY ORIENTED DEVELOPMENT

New developments along pre-existing and new pathways should face the pathway by incorporating entrances, public access micropaths, and private patios and balconies adjacent to the pathway, allowing visual and physical access.

Similar to transit oriented development (TOD), the City could consider requiring specific design standards along pathway frontages that optimize the public/private interface to creating an active, pedestrian-friendly environment.

PATHWAY ACCESS REQUIREMENTS

New developments shall provide paved pathway connections (micropaths) to existing and planned public pathways located within or adjacent to the development. Such access points should be constructed no less frequently than every 900 feet along the adjacent pathway corridor. The design and construction of these connections shall be consistent with the guidelines contained in this plan, including easements wide enough to accommodate medium- and large-maturing trees.



OTHER POLICIES AFFECTING ACTIVE TRANSPORTATION

Pedestrian connectivity through the end of cul-de-sacs

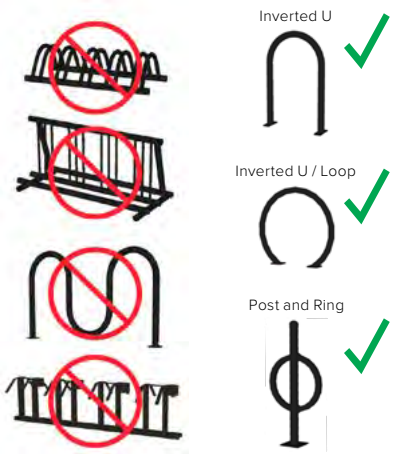
Cul-de-sacs hinder connectivity for people using active modes. Developments shall provide micropath connections at the end of all unavoidable, necessary cul-de-sacs.

Pedestrian-friendly block length standards

Long block lengths without mid-block crossings do not support active transportation. Requiring block lengths lower than 400 feet increases pedestrian connectivity and enables people who choose to use active modes.

Connectivity standards for new development

The City should consider requiring a specific Connectivity Index for new developments, which is a ratio of links (street segments) and nodes (intersections and dead ends) that indicates how connected the street network is. The higher the ratio, the higher the connectivity.



AMENITY REQUIREMENTS FOR NEW DEVELOPMENT

Bicycle parking

As mentioned in Chapter 4, the City should update its development standards to ensure that bicycle parking requirements, both short-term and long-term, for new developments are consistent with the standards established by the Association of Pedestrian & Bicycle Professionals (APBP) in *Bicycle Parking Guidelines, 2nd Edition (2010)* and *Essentials of Bike Parking: Selecting and Installing Bike Parking that Works (2015)*. Standards for rates, rack selection, and rack placement should be included.

Other amenities

In addition to bike parking requirements, the City should consider requiring other amenities, such as change rooms, showers, and bike repair stations in its building code or offered as development credits, especially for employment-centered land uses.

REDUCE OR ELIMINATE MINIMUM VEHICLE PARKING REQUIREMENTS

Several cities across the country are adopting policies that reduce or eliminate minimum vehicle parking requirements for new developments. This is an especially important consideration in transit-oriented development (TOD) where alternative transportation options are available. Providing a connected pathway network in conjunction with this policy can encourage the use of active modes. Eliminating minimum parking standards is unlikely to result in developers providing zero vehicle parking, as it is a desirable amenity for potential tenants; however, it gives developers flexibility based on the context of the project and the anticipated demand for parking.

PROGRAMS

Campaigns and initiatives centered around pathways and active transportation play an integral role in creating a culture of active transportation. This sections outlines some programs the City should consider to enhance user experience along pathways and foster a sense of pride among community members.

BIKE RACK AND BIKE CORRAL REQUEST PROGRAM

In coordination with ACHD, the City should establish a program that allows businesses and schools to request bike racks or corrals in front of their business, at no (or reduced) cost to the business or school, to involve businesses and schools in promoting active transportation. Many cities across the U.S. have a bike rack request program; one example is Salt Lake City, Utah (https://www.slc.gov/transportation/bike/get-involved/). It should be made clear that bike racks installed through this program will not count as meeting Boise's required bicycle parking for new or renovated buildings.

MAINTENANCE REQUEST PROGRAM

Currently, the best way to report a maintenance issue (e.g., fallen tree limbs blocking a pathway, broken glass or debris, vandalism, etc.) in Boise's parks is to call the City's Parks and Recreation department. This plan recommends the City develop a more convenient and well-known way for community members to report issues and get feedback that the City has followed through. It is common for cities to create and advertise a mobile-friendly website and/or application that allows people to submit photos and descriptions of issues that need to be addressed by the City.

DATA COLLECTION PROGRAM

Data drives decisions. The City should develop a formal data collection program to understand trends in pathway use in as many locations as possible and in all seasons. Additional permanent and visible counters should be added to strategic locations along the Greenbelt and should be considered every time a new pathway is constructed.

ADOPT-A-PATHWAY PROGRAM

Residents and organizations in Boise can contribute to open space maintenance through the Adopt-a-Habitat program. This program should either be expanded to include Boise's existing and newly constructed pathways or an independent Adopt-a-Pathway program should be established to keep the City's pathways free of litter and noxious weeds. The City of Nampa currently runs an Adopt-a-Pathway program and is a good example to look to.

PATHWAY PLACEMAKING PROGRAM

Public art can activate spaces and enrich the experience along pathways. The City should consider working with the Department of Arts & History to develop a public art program for signature pathways such as the Greenbelt, in which spaces along the Greenbelt can be dedicated for permanent and temporary art installations. Art brings additional value beyond cultural enrichment and placemaking in its ability to activate and brighten spaces otherwise perceived as uncomfortable or dangerous, such as bridge underpasses.

BOISE'S WEED WARRIOR PROGRAM

Boise Parks and Recreation's Weed Warrior program and the annual Goathead Fest are great ways to mitigate puncture vine along Boise's pathways and trails. This plan recommends that the City supplement these efforts by developing a online, GIS-based interactive map that is editable by the public in order to digitally crowd source goathead infestation locations and treatment status. An example of a similar platform can be viewed here: https://www.slc.gov/parks/trails-natural-lands/puncturevinefree/locate-and-report-puncturevine/

OTHER INITIATIVES

DEDICATED PATHWAYS PROGRAM

Boise's Parks and Recreation Department currently manages the maintenance of existing pathways, but to make progress on expanding and maintaining the new pathway system a dedicated program should be established. This plan recommends that the City establish a pathway program with staff responsible for administering the following:

- Coordinating programs previously mentioned in this chapter
- Pathway planning and prioritization
- Design review for new pathways
- Relationship building and coordination with partners (e.g., ACHD, irrigation districts, etc.), underlying land owners, and neighbors
- Coordinating the maintenance program
- Tracking and recording the issuance and requirement of easements
- Pursuing funding for the pathway program and construction of new pathways
- Manage League of American Bicyclists Bicycle Friendly Community applications and incorporate feedback

UPDATING AGREEMENTS WITH IRRIGATION DISTRICTS

The City should prioritize maintaining the communication with irrigation districts that has been established during the development of this plan to keep the conversation going. Additionally, this plan recommends that the City make an effort to update its agreements with each irrigation district for pathway implementation within and adjacent to canal easements.

Agreements should focus on the operational needs of canal operators and creating a safe space for all users. Some elements of an agreement may include:

- The City may provide on-site detour signage and online information for canal pathway closures to allow scheduled and emergency canal maintenance
- The City may assume full liability for legal matters related to pathway use within canal corridors
- The City may be a partner in securing funding for the piping of canals in order to implement pathways

The City should also consider including typical cross sections in its agreements with irrigation districts so pathway design is understood by both parties.

ADDRESSING CRIME AND SHELTERING

No park or pathway is immune to crime; however, integrating overlapping design principles can greatly reduce opportunities for criminal behavior on pathways. The City of Boise should make an effort to ensure that pathways are designed in accordance with principles of Crime Prevention Through Environmental Design (CPTED), which is a philosophy that suggests that behavior can be influenced by one's physical environment. Principles of CPTED include the following:

- Natural Surveillance: Maintaining open sight lines to and along the trail, using transparent fencing, and keeping vegetation maintained.
- Natural Access Control: Both real and symbolic barriers - including fences, berms, and vegetation - to define and limit access to an adjacent building or other use along pathways.
- Territorial Reinforcement: Physical elements that reinforce that the space is public, including branded elements, wayfinding signage, public art, etc.
- Maintenance: Immediate removal of graffiti or repair of vandalism, landscape maintenance to limit areas of concealment, etc. Neglected property can encourage mistreatment.

PATHWAYS GOOGLE STREET VIEW

The Parks and Recreation department should make the small investment of creating and regularly updating a Google "street view" imagery of all of Boise's pathways, especially the Greenbelt. Being able to remotely observe on-the-ground conditions is beneficial for planning and coordination, both for internal staff and outside consultants and agencies.

TRACKING THE ISSUANCE/REQUIREMENT OF PATHWAY EASEMENTS

The City needs to establish standards and processes for tracking the issuance and requirement of pathway easements. Staff resources should be dedicated to ensuring that easements that are issued/required during the entitlements phase of any development are properly recorded. The record should be kept in a GIS format so that spatial and attribute data can be included and should be updated every time a new instance occurs.

STRATEGIC REAL ESTATE ACQUISITIONS

As part of the City's pathway program, efforts should be made to identify opportunities to acquire land that can be used to complete gaps in the pathway network. These efforts should be made in conjunction with other City initiatives, such as providing housing and addressing climate resiliency.

06

Next Steps

REALIZING THE VISION

The Boise River Greenbelt came to fruition thanks to a vision and a plan. The recommendations in Chapters 4 and 5 illustrate the vision for Boise's pathway system. So what is the plan for making it a reality? This chapter outlines the City of Boise's next steps in

- Prioritizing future investment
- Funding new pathways, and
- Working with community partners.

PRIORITIZING FUTURE INVESTMENT

Over 110 new shared use path projects are proposed in this plan. So where should the City start? This section outlines a strategy for evaluating proposed projects in order to determine top priorities. The prioritization strategy aims to provide an objective evaluation approach, but should serve only as a guide, as flexibility in implementation is highly encouraged when opportunities arise to share resources, achieve cost savings, or partner with developers and agencies.

EVALUATION APPROACH

The framework for evaluating proposed projects is two-fold. First, how well does the project achieve the goals of the plan? This determines the degree to which a project adds value to the community. And second, how feasible is the project from a logistics and engineering perspective? A project may check several boxes related to the plan's goals, but physical constraints or context could present challenges that make the investment less feasible in the near term.

DETERMINING GOAL-BASED PROJECT VALUE

The desired outcome of the prioritization is to provide a way for the City to quantify the impact a given project adds to the community. The focus for this first step of the evaluation process centers on how well each project meets specific criteria, which were generated from the goals of the plan. For each criterion, every proposed project was assigned a score of 0, 1, or 2 based on how well it meets that given criterion.

- 0 = does not meet criteria
- 1 = somewhat meets criteria
- 2 = meets criteria

Community input indicated that some criteria are more important than others. For example, a pathway that connects a neighborhood to a grocery store may be considered a higher priority than a pathway that connects to a community park. To reflect this in the evaluation process, the planning team, with stakeholder input, assigned a weight, or multiplier, to each criterion.

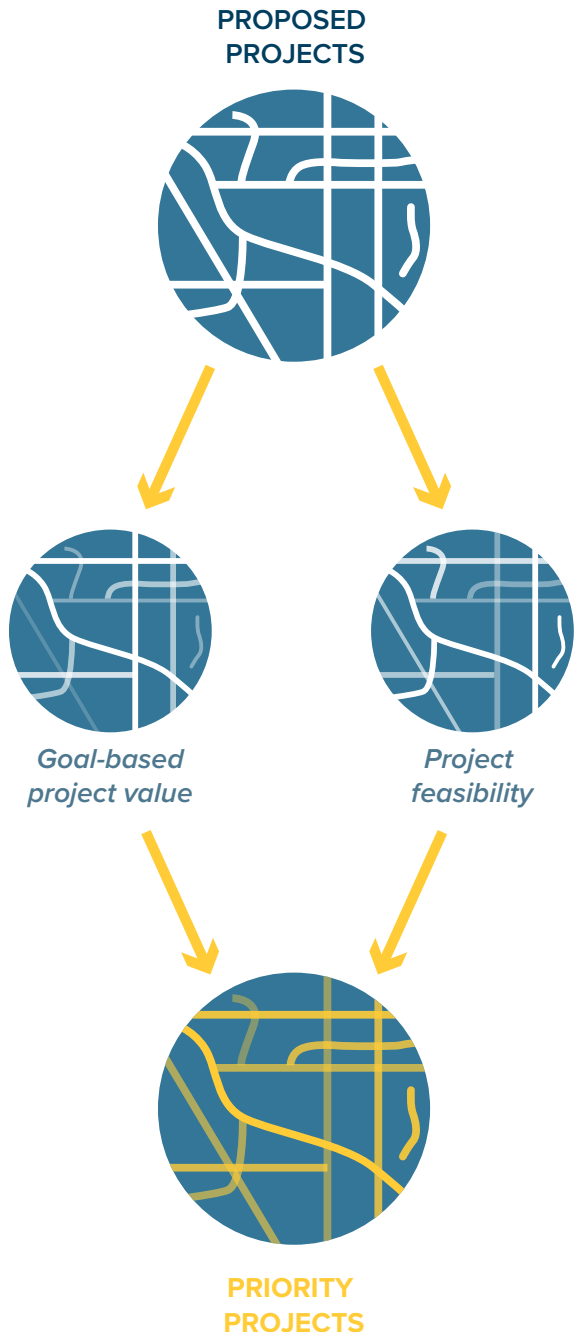
Each project in question was scored based on these parameters; a higher final score implies that a project is more aligned with the plan's goals.

DETERMINING PROJECT FEASIBILITY

Project feasibility is influenced by physical constraints and who controls the underlying land, and feasibility is an important factor that further refines results from the goal-based evaluation. A project that scores high in the goal-based evaluation that has very low feasibility will ultimately be given a lower priority score and slated for longer-term implementation.

One of the main factors driving feasibility is the support of partnering agencies and stakeholders who own or use the land proposed for pathways. Some of those partners include various irrigation districts, Union Pacific Railroad, adjacent cities, school districts, and various private land owners. Partnerships with ACHD and ITD are also needed to complete critical connections along roadways.

While some partners were engaged during the development of this plan to gauge support for specific projects, determining project feasibility will be an ongoing process during implementation.



EVALUATION CRITERIA

The criteria used for evaluating and prioritizing pathway projects in this plan mirror the goals of the plan established in Chapter 1. They fall into one of three categories:

- Connectivity
- Equity, Access, and Choice
- Community Support

Evaluation criteria, their weights (score multipliers), and descriptions are outlined in Table 6.1.

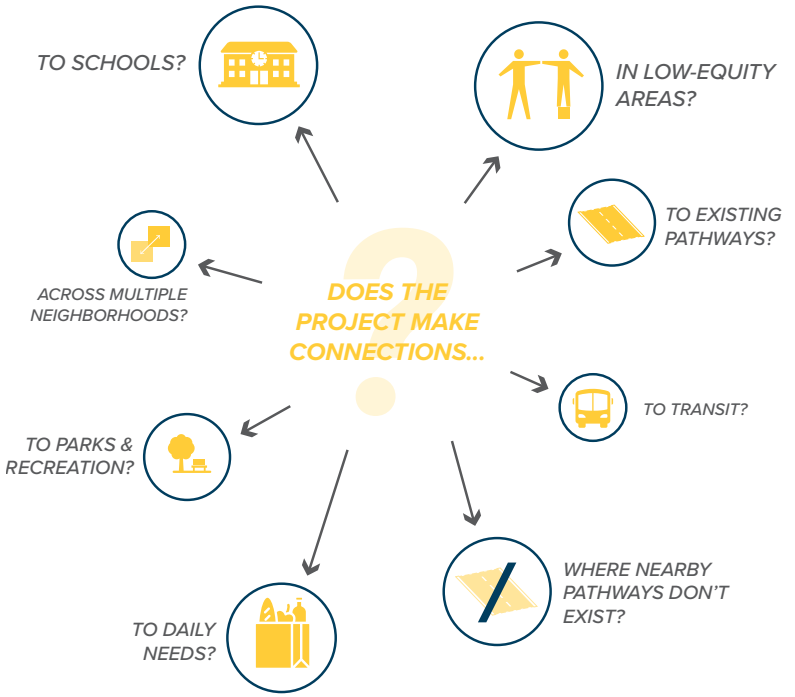


TABLE 6.1 Goal-based evaluation criteria & scoring

	Criteria	Multiplier	Score	Description
Connectivity	Connects to daily needs	5	0	No connections
			1	Connects to one activity center or grocery store
			2	Connects to multiple activity centers (or one regional) or runs along major commercial thoroughfare
	Connects to schools	5	0	No connections
			1	Connects to one school or extends an existing school connection
			2	Connects to multiple schools or connects to a junior high or high school
	Connects to existing pathways or recreation destinations	3	0	No connections
			1	Connects to or extends an existing neighborhood pathway or connects to a neighborhood park
			2	Connects to or extends a regional pathway or connects to a regional park, foothills area, or reserve
	Connects to transit	3.5	0	No connections
			1	Makes an indirect connection to a stop on one of VRT's frequent service routes
			2	Makes a direct connection to a stop on one of VRT's frequent service routes
	Connects multiple neighborhoods	1.5	0	Pathway is less than one (1) mile in length (adjust if connects to existing regional pathways)
			1	Pathway is 1-2 miles in length (adjust if connects to existing regional pathways)
			2	Pathway is greater than two (2) miles in length
Equity, Access, Choice	In an area not currently served by pathways	3	0	A pathway greater than or equal to a half mile in length already exists nearby
			1	Minimal or short pathways that are less useful exist nearby (within 1/2 mile of proposed project)
			2	No pathways nearby (project falls completely outside of 1/2 mile buffer of existing pathways)
	In an area identified as having greater need	5	0	Falls in area of low need based on demographic analysis or citywide demographic indexes
			1	Falls in area of moderate need based on demographic analysis or citywide demographic indexes
			2	Falls in area of high need based on demographic analysis or citywide demographic indexes
Community Support	Receives public support	2	0	Received widespread public opposition in online input map
			1	Received minimal public support and limited opposition in online input map
			2	Received widespread public support in online input map

EVALUATION RESULTS

GOAL-BASED PROJECT VALUE

Map 6.1 highlights pathway projects based on a goal-oriented evaluation, and does not account for feasibility. The list below highlights the overall top 10 pathway projects that emerged from the goal-based evaluation and public feedback.

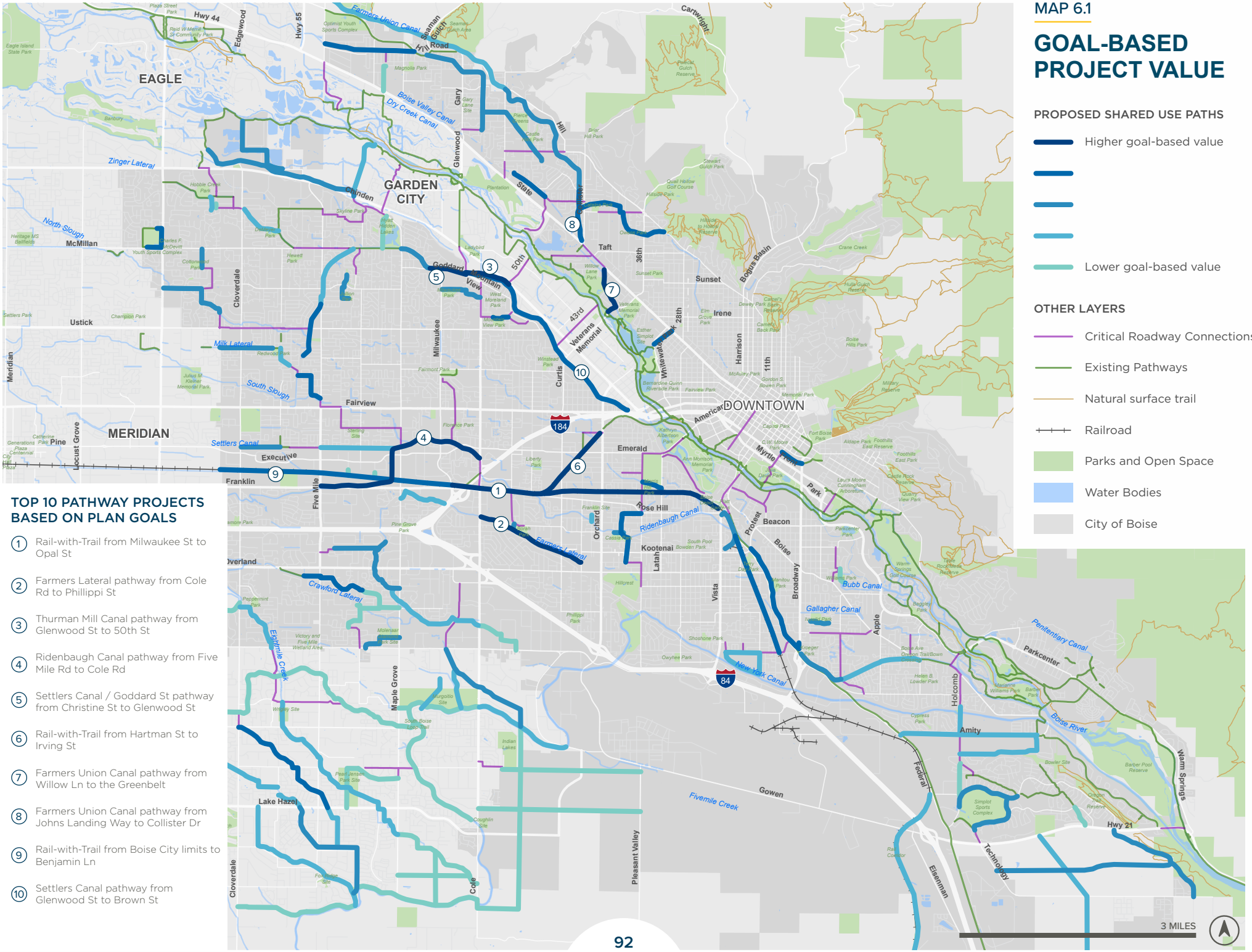
Top 10 pathway projects based on plan goals:

- Rail-with-Trail from Milwaukee St to Opal St
- Farmers Lateral pathway from Cole Rd to Phillippi St
- Thurman Mill Canal pathway from Glenwood St to 50th St
- Ridenbaugh Canal pathway from Five Mile Rd to Cole Rd
- Settlers Canal pathway from Christine St to Glenwood St
- Rail-with-Trail from Hartman St to Irving St
- Farmers Union Canal pathway from Willow Ln to the Greenbelt
- Farmers Union Canal pathway from Johns Landing Way to Collister Dr
- Rail-with-Trail from Boise City limits to Benjamin Ln
- Settlers Canal pathway from Glenwood St to Brown St

While roadway corridors were included in the public outreach prioritization process (see Map 3.3), they were not evaluated for alignment with the project goals since the implementation of roadway projects are prioritized and implemented through separate agency processes (ACHD and ITD). However, the public support received and the recognition that these roadway corridors complement the high comfort network will be crucial for communicating and pursuing implementation in partnership with ACHD and ITD.

MAP 6.1

GOAL-BASED PROJECT VALUE



PROPOSED SHARED USE PATHS

- Higher goal-based value
- Lower goal-based value

OTHER LAYERS

- Critical Roadway Connections
- Existing Pathways
- Natural surface trail
- Railroad
- Parks and Open Space
- Water Bodies
- City of Boise

TOP 10 PATHWAY PROJECTS BASED ON PLAN GOALS

1. Rail-with-Trail from Milwaukee St to Opal St
2. Farmers Lateral pathway from Cole Rd to Phillippi St
3. Thurman Mill Canal pathway from Glenwood St to 50th St
4. Ridenbaugh Canal pathway from Five Mile Rd to Cole Rd
5. Settlers Canal / Goddard St pathway from Christine St to Glenwood St
6. Rail-with-Trail from Hartman St to Irving St
7. Farmers Union Canal pathway from Willow Ln to the Greenbelt
8. Farmers Union Canal pathway from Johns Landing Way to Collister Dr
9. Rail-with-Trail from Boise City limits to Benjamin Ln
10. Settlers Canal pathway from Glenwood St to Brown St

PROJECT FEASIBILITY

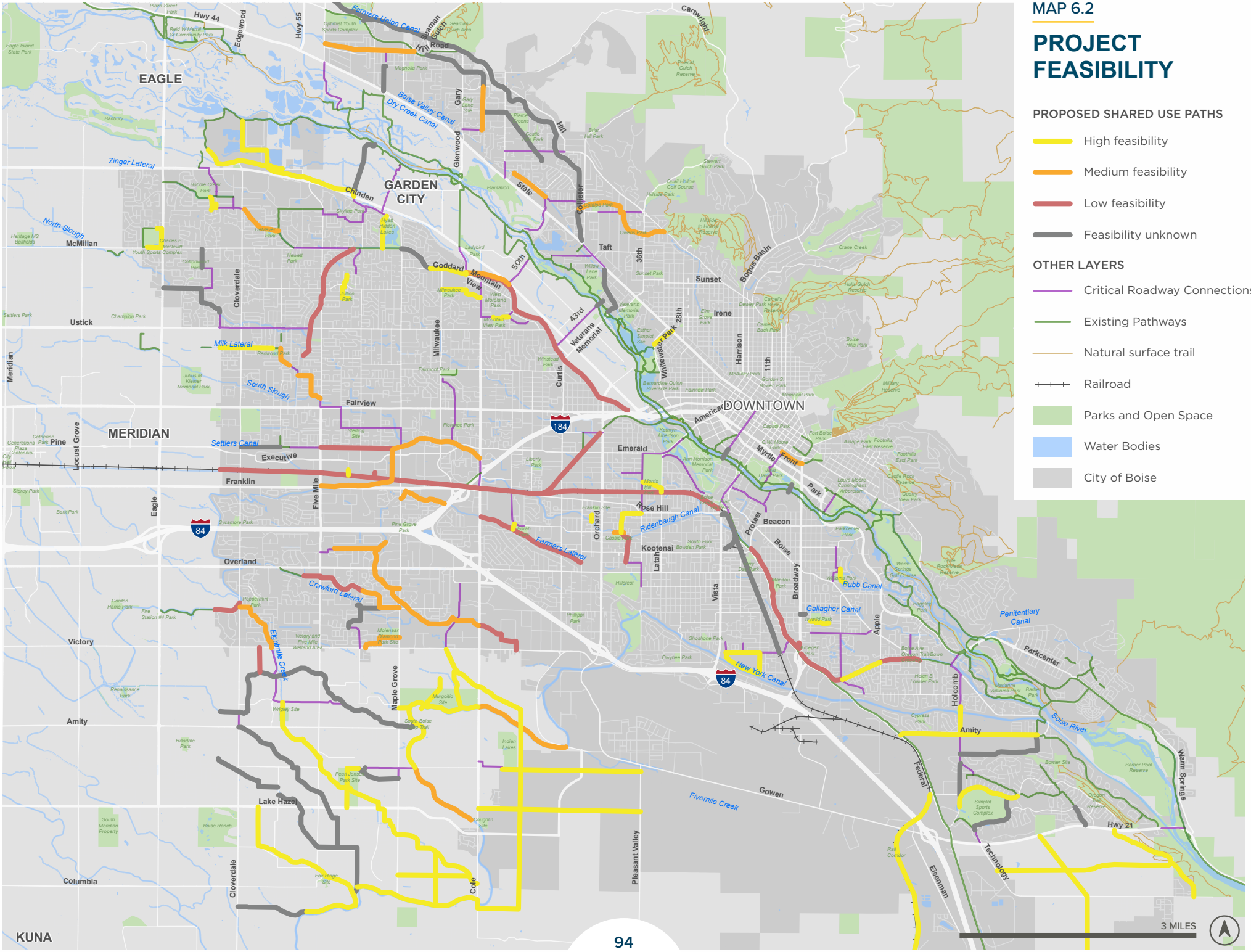
Factors affecting a project's feasibility include a) stakeholder/ partner support (e.g., irrigation districts, railroad operators, etc.) and b) constructability and physical constraints.

It should be noted that partnering agencies, including some irrigation districts, are willing partners in the City's efforts to build pathways; however, factors such as canal access needs for operations can decrease the likelihood of near-term implementation and/or significantly increase implementation costs for the City.

Map 6.2 highlights proposed projects based on high, medium, and low feasibility. Several projects require future study and stakeholder coordination to determine feasibility.

- **High Feasibility:** near-term implementation appears to be achievable, although may require concessions in design criteria based upon further engineering analysis. Project is likely immediately ready for design.
- **Medium Feasibility:** has support from stakeholder partners, but needs further study to determine constructability, including coordination with property owners. Project is immediately ready for a feasibility study.
- **Low Feasibility:** near-term implementation not feasible. Focus on long-term partner relationships and future development changes.
- **Unknown Feasibility:** yet to be determined; needs further communication with stakeholder partners and/or land owners.

Feasibility will continue to evolve as the built environment changes, more discussions with partnering agencies take place, and as other opportunities arise. Refer to the City's website for an updated status of project feasibility and implementation.



MAP 6.2

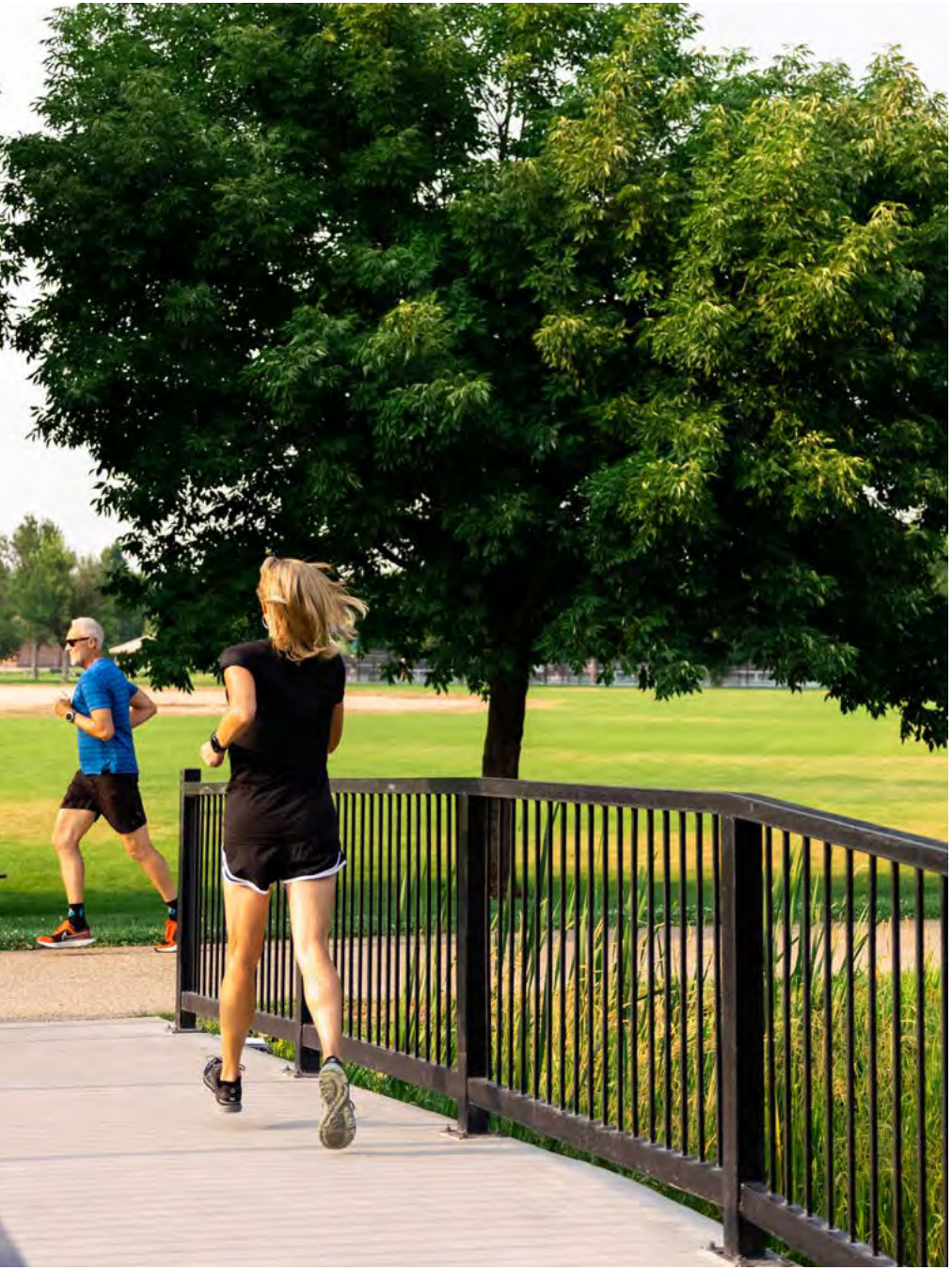
PROJECT FEASIBILITY

PROPOSED SHARED USE PATHS

- High feasibility
- Medium feasibility
- Low feasibility
- Feasibility unknown

OTHER LAYERS

- Critical Roadway Connections
- Existing Pathways
- Natural surface trail
- Railroad
- Parks and Open Space
- Water Bodies
- City of Boise



NEAR-TERM PRIORITY PROJECTS

PRIORITIZATION RESULTS

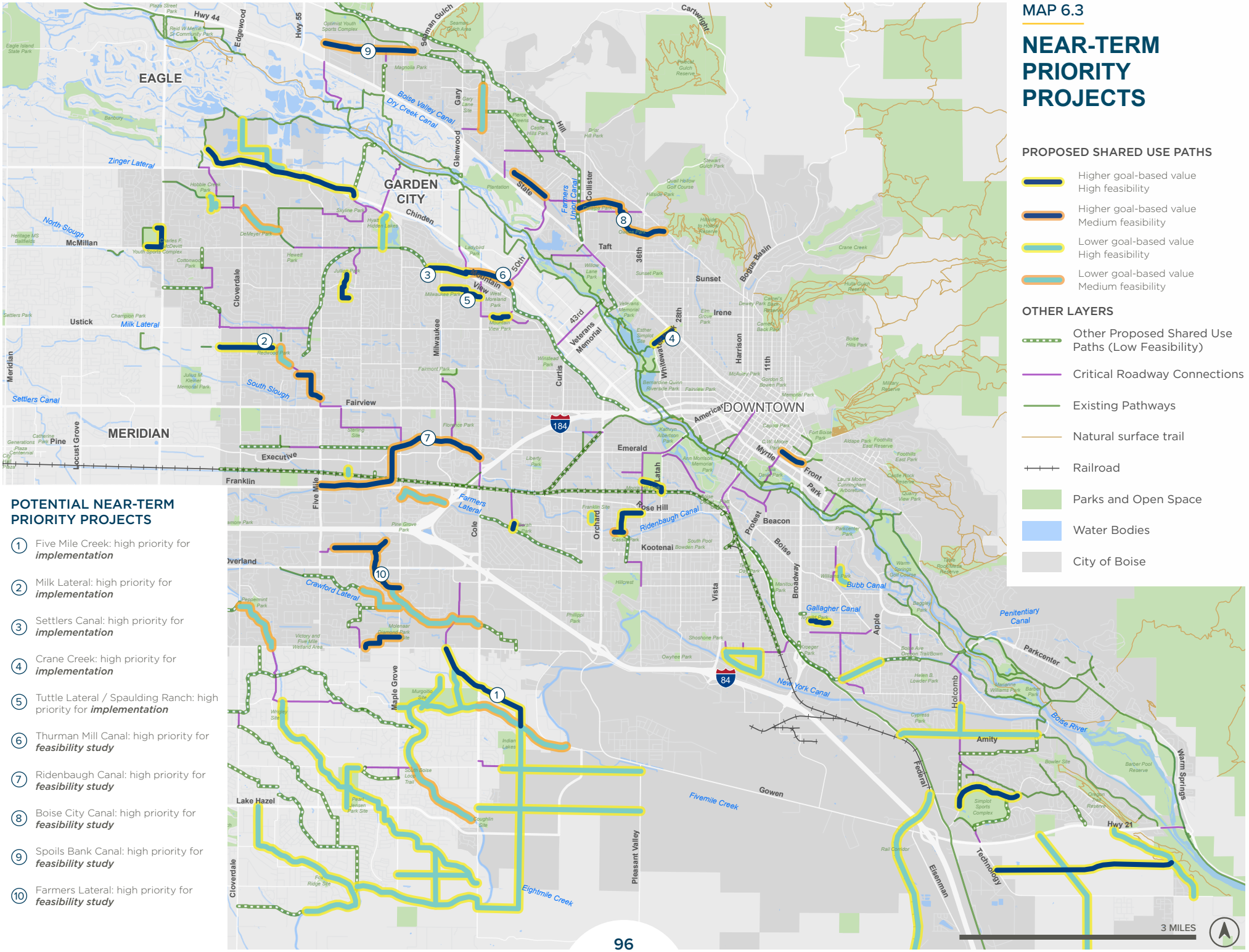
Map 6.3 illustrates proposed pathway projects that emerged from combining goal-based evaluation and project feasibility results. Because feasibility can be a determining factor of near-term implementation, only high- to medium-feasibility projects are shown on the map, ranked by goal-based project value.

Projects that should be considered for near-term implementation are those that a) demonstrate a significant added value to the community (i.e., they score high on the goal-based criteria) and b) are considered more feasible in the near future. High-value projects that have high feasibility should be prioritized for near-term design and construction. High-value projects with medium feasibility should be prioritized for future feasibility studies.

As the City gains more understanding of feasibility for planned pathways, near-term priorities may shift. The City may also choose to adjust priorities in anticipation of future development or when other opportunities arise.

MAP 6.3

NEAR-TERM PRIORITY PROJECTS



POTENTIAL NEAR-TERM PRIORITY PROJECTS

1. Five Mile Creek: high priority for ***implementation***
2. Milk Lateral: high priority for ***implementation***
3. Settlers Canal: high priority for ***implementation***
4. Crane Creek: high priority for ***implementation***
5. Tuttle Lateral / Spaulding Ranch: high priority for ***implementation***
6. Thurman Mill Canal: high priority for ***feasibility study***
7. Ridenbaugh Canal: high priority for ***feasibility study***
8. Boise City Canal: high priority for ***feasibility study***
9. Spoils Bank Canal: high priority for ***feasibility study***
10. Farmers Lateral: high priority for ***feasibility study***

PROPOSED SHARED USE PATHS

- Higher goal-based value, High feasibility
- Higher goal-based value, Medium feasibility
- Lower goal-based value, High feasibility
- Lower goal-based value, Medium feasibility

OTHER LAYERS

- Other Proposed Shared Use Paths (Low Feasibility)
- Critical Roadway Connections
- Existing Pathways
- Natural surface trail
- Railroad
- Parks and Open Space
- Water Bodies
- City of Boise

FUNDING NEW PATHWAYS

OVERVIEW

When considering possible funding sources for pathway projects, it is important to remember that not all construction activities or programs will be accomplished with a single funding source. It will be necessary to consider several sources of funding that together will support full project completion. Funding sources can be used for a variety of activities, including planning, design, construction, and maintenance. This section outlines the most likely sources of funding from the federal, state, and local government levels. Note that this reflects the funding available at the time of writing. Funding amounts, cycles, and the programs themselves may change over time.

★ *indicates primary funding source*

FEDERAL

Federal funding is typically directed through state agencies to local governments either in the form of grants or direct appropriations. Federal funding typically requires a local match of five percent to 50 percent, but there are sometimes exceptions. The following is a list of possible Federal funding sources that could be used to support the construction of trail facilities.

Fixing America's Surface Transportation (FAST Act)

In December 2015, President Obama signed the FAST Act into law, which replaces the previous Moving Ahead for Progress in the Twenty-First Century (MAP-21). The Act provides a longterm funding source of $305 billion for surface transportation and planning for FY 2016-2020. Overall, the FAST Act retains eligibility for big programs - Transportation Investments Generating Economic Recovery (TIGER - now called RAISE), Surface Transportation Program (STP), and Highway Safety Improvement Program (HSIP).

For more information: https://www.transportation.gov/fastact

★

Transportation Alternatives (TA)

Transportation Alternatives (TA) is a funding source under the FAST Act that consolidates three formerly separate programs under SAFETEA-LU: Transportation Enhancements (TE), Safe Routes to School (SRTS), and the Recreational Trails Program (RTP). Funds are available through a competitive process. These funds may be used for a variety of pedestrian, bicycle, and streetscape projects. These include:

- SRTS programs (infrastructure and non-infrastructure programs
- Construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bikeways, pedestrian and bicycle signals, traffic calming techniques, and lighting and other safety-related infrastructure
- Construction, planning, and design of infrastructure-related projects and systems that will provide safe routes for non-drivers, including children, seniors, and individuals with disabilities
- Construction of rail-trails
- Recreational trails program

Eligible entities for TA funding include local governments, regional transportation authorities, transit agencies, natural resource or public land agencies, school districts or schools, tribal governments, and any other local or regional government entity with responsibility for oversight of transportation or recreational trails that the State determines to be eligible.

The FAST Act provides $84 million for the Recreational Trails Program. Funding is prorated among the 50 states and Washington D.C. in proportion to the relative amount of off-highway recreational fuel tax that its residents paid. To administer the funding, states hold a statewide competitive process. The legislation stipulates that funds must conform to the distribution formula of 30% for motorized projects, 30% for non-motorized projects, and 40%^ for mixed use projects. Each state governor is given the opportunity to "opt out" of the RTP.

For more information: https://www.fhwa.dot.gov/fastact/factsheets/transportationalternativesfs.cfm

Surface Transportation Block Grant (STBG) Program

The FAST Act converts the Surface Transportation Program into the Surface Transportation Block Grant (STBG) program. This program is among the most flexible eligibilities among all Federal-aid and highway programs. The Surface Transportation Program (STP) provides states with flexible funds which may be used for a variety of highway, road, bridge, and transit projects. A wide variety of pedestrian improvements are eligible, including trails, sidewalks, crosswalks, pedestrian signals, and other ancillary facilities. Modification of sidewalks to comply with the requirements of the Americans with Disabilities Act (ADA) is also an eligible activity. Safe Routes to School programs, congestion pricing projects and strategies, and recreational trails projects are other eligible activities. Under the FAST Act, a State may use STBG funds to create and operate a State office to help design, implement, and oversee public-private partnerships eligible to receive Federal highway or transit funding. In general, projects cannot be located on local roads or rural minor collectors. However, there are exceptions. These exceptions include recreational trails, pedestrian and bicycle projects, and Safe Routes to School programs.

For more information: https://www.fhwa.dot.gov/ fastact/factsheets/stbgfs.cfm

Highway Safety Improvement Program (HSIP)

HSIP provides $2.4 billion for projects and programs that help communities achieve significant reductions in traffic fatalities and serious injuries on all public roads, bikeways, and walkways. Bicycle and pedestrian safety improvements, enforcement activities, traffic calming projects, and crossing treatments for non-motorized users in school zones are eligible for these funds.

For more information: http://www.fhwa.dot.gov/fastact/factsheets/hsipfs.cfm

Safe Routes To School (SRTS) Program

SRTS enables and encourages children to walk and bike to school. The program helps make walking and bicycling to school a safe and more appealing method of transportation for children. SRTS facilitates the planning, development, and implementation of projects and activities that will improve safety and reduce traffic, fuel consumption, and air pollution in the vicinity of schools. Most of the types of eligible SRTS projects include sidewalks or shared use paths. However, intersection improvements (i.e. signalization, marking/upgrading crosswalks, etc.), on-street bicycle facilities (bike lanes, wide paved shoulders, etc.) or off-street shared use paths are also eligible for SRTS funds.

For more information: https://itd.idaho.gov/alt-programs/

Rebuilding American Infrastructure With Sustainability And Equity (RAISE) Grants

On April 13, 2021, the U.S. Department of Transportation (DOT) published a Notice of Funding Opportunity (NOFO) to apply for $1 billion in Fiscal Year (FY) 2021 discretionary grant funding through RAISE grants.

★ *indicates primary funding source*

RAISE, formerly known as BUILD and TIGER, has awarded over $8.9 billion in grants to projects in all 50 states, the District of Columbia and Puerto Rico since 2009.

Projects for RAISE funding will be evaluated based on merit criteria that include safety, environmental sustainability, quality of life, economic competitiveness, state of good repair, innovation, and partnership. Within these criteria, the Department will prioritize projects that can demonstrate improvements to racial equity, reduce impacts of climate change and create good-paying jobs.

For the 2021 RAISE grants cycle, the maximum grant award was $25 million, and no more than $100 million can be awarded to a single State, as specified in the appropriations act. Up to $30 million will be awarded to planning grants, including at least $10 million to Areas of Persistent Poverty.

For more information: https://www.transportation.gov/RAISEgrants

Federal Lands Access Program (FLAP)

The Federal Lands Access Program (FLAP) was created to improve transportation facilities that provide access to, are adjacent to, or are located within Federal lands. FLAP supplements State and local resources for transportation facilities, including pathways, with an emphasis on high-use recreation sites and economic generators.

For more information: https://highways.dot.gov/federal-lands/programs-access

★ *Federal Land And Water Conservation Fund*

The Land and Water Conservation Fund (LWCF) has historically been a primary funding source of the U.S. Department of the Interior for outdoor recreation development and land acquisition by local governments and state agencies. Since 1965, the LWCF program has built a park legacy for present and future generations. As of August 2020, the LWCF is now permanently funded by the federal government for $900 million every year. This is hundreds of millions more per year than the fund typically receives.

For more information: https://www.ncparks.gov/more-about-us/grants/lwcf-grants

Rivers, Trails, And Conservation Assistance Program

The Rivers, Trails, and Conservation Assistance Program (RTCA) is a National Parks Service (NPS) program that provides technical assistance via direct NPS staff involvement to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program only provides planning assistance; there are no implementation funds available. Projects are prioritized for assistance based on criteria, including conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation, and focusing on lasting accomplishments. Project applicants may be state and local agencies, tribes, nonprofit organizations, or citizen groups. National parks and other federal agencies may apply in partnership with other local organizations. This program may benefit trail development in Boise indirectly through technical assistance, but is not a capital funding source.

For more information: https://www.nps.gov/orgs/rtca/index.htm

Environmental Contamination Cleanup Funding Sources

EPA's Brownfields Program provides direct funding for brownfields assessment, cleanup, revolving loans, and environmental job training. EPA's Brownfields Program collaborates with other EPA programs, other federal partners, and state agencies to identify and leverage more resources for brownfields activities. The EPA provides assessment grants

★ *indicates primary funding source*

to recipients to characterize, assess, and conduct community involvement related to brownfields sites. They also provide Area-wide planning grants (AWP) which provides communities with funds to research, plan, and develop implementation strategies for areas affected by one or more brownfields.

For more information: https://www.epa.gov/brownfields

National Fish And Wildlife Foundation: Five Star & Urban Waters Restoration Grant Program

The Five Star & Urban Waters Restoration Grant Program seeks to develop community capacity to sustain local natural resources for future generations by providing modest financial assistance to diverse local partnerships for wetland, riparian, forest and coastal habitat restoration, urban wildlife conservation, stormwater management as well as outreach, education and stewardship. Projects should focus on water quality, watersheds and the habitats they support. The program focuses on five priorities: on-the-ground restoration, community partnerships, environmental outreach, education, and training, measurable results, and sustainability. Eligible applicants include nonprofit organizations, state government agencies, local governments, municipal governments, tribes, and educational institutions. Projects are required to meet or exceed a 1:1 match to be competitive.

For more information: http://www.nfwf.org/fivestar/Pages/home.aspx

★ *Watershed Flood Prevention Operations (WFPO)*

The USDA's Natural Resources Conservation Service administers a program called Watershed Flood Prevention Operations (WFPO) - also known as Watershed Operations, PL-566. The purpose of this program is to provide technical and financial assistance for planning and implementing authorized projects. Authorized project purposes include agricultural water management, flood prevention, water quality management, and public recreation, among others. This funding source is often utilized to conserve irrigation water lost to seepage and evaporation by piping open canals and ditches, and should seriously be considered for proposed projects in this plan. Depending on the project purpose, cost share can be as much as 100%, and coupling water-related projects with recreational elements such as pathways make applications more competitive.

For more information: https://www.nrcs.usda.gov/wps/portal/nrcs/detailfull/id/programs/planning/wpfp/?cid=nrcseprd1727448

LOCAL FUNDING SOURCES

There are several funding possibilities available from the state and local government, including some possible funds available through agencies such as the Idaho Commerce and Labor Department and Economic Development, ITD, LHTAC, and Idaho Parks & Recreation. Most of these funding agencies require Boise to identify projects and list them in their CIP to be eligible for funding, along with requiring the city to provide a percentage of local funds to match the total funding.

★ *Boise Open Space Levy Funds*

Managed by the Open Space and Clean Water Advisory Committee, these funds are used for projects related to wildlife habitat protection, recreation, neighborhood connectivity, and clean water initiatives.

https://www.cityofboise.org/departments/parks-and-recreation/open-space/boise-city-open-space-and-clean-water-advisory-committee/

Recreational Road & Bridge Fund

The 1993 session of the Idaho legislature passed HB 185 which authorized the IDPR to administer 0.44 percent of State gas tax revenues to "be used solely to develop, construct, maintain and repair roads, bridges and parking areas within and leading to parks and recreation areas of the state." The typical grant funding level for the program is approximately $300,000 annually. Currently all road and bridge applications are reviewed by IDPR staff and recommendations are presented to the Idaho Park and Recreation Board for final approval.

For more information: https://parksandrecreation.idaho.gov/grants-and-funding/recreational-road-bridge/

General Fund

The Mayor and City Council can allocate general funds to programs and services in any area as needed. General fund dollars are used to support Boise services including police, fire, parks, and can be used in planning, community development and administrative support services.

Idaho Users Revenue Fund

These funds are collected by the state through motor fuel taxes and license fees and are distributed annually to all governmental units responsible for roadway maintenance in the State of Idaho. Distributions are based on a formula that includes population and number of roadway miles in the jurisdiction. This is the primary source for ongoing roadway maintenance and rehabilitation in many local communities.

Vehicle Registration Fees

Vehicle registration fees, which ITD collects on behalf of counties and highway districts, are distributed to each organization to fund transportation improvement projects.

Impact Fees

Impact fees are imposed by a local government on new or proposed development projects to pay for all or a portion of the costs of providing public services to the development. Boise can set impact fee rates for new developments to help pay for needed infrastructure and services, including fire, wastewater, streets, parks, police, and water. Impact fees do not often pay for the full cost of improving the transportation system, but they can be combined with other sources to fund projects.

Local Improvement Districts

A local improvement district (LID) is one avenue for the public to share the cost of transportation infrastructure improvements and other types of public utility improvements, such as sewer and water lines. Property owners agree to form LIDs when the benefits from the improvements outweigh the costs. Oftentimes, property owners in a LID pay an amount proportional to the benefits they receive for the property that is owned. Bonds are sold to cover improvement costs, and payments are made through property assessments with a long-term payment plan, up to 20 years, and relatively low interest rates. The project costs are divided between each of the property owners in the district based on lot front footage, area of lot, benefits derived, or a combination thereof.

Annual Set-Aside for Pathways

Pathways are critical to the transportation system of the City. Boise may consider creating a set-aside in the City's annual budget specifically for pathway maintenance and improvements. While new construction will likely need larger funding sources, this set-aside funding can be used to sustain proper maintenance practices and implement smaller projects, including supporting infrastructure and amenities mentioned in Chapter 4.

WORKING WITH COMMUNITY PARTNERS

Turning the vision of this plan into a reality cannot be done without coordination and collaboration with various stakeholders and partners in the community, from grass-roots advocacy groups to adjacent municipalities and public agencies. Several agencies and organizations whose partnership is critical to the success of this vision have been discussed in previous sections of the plan. This section outlines how other community partnerships might be able to aid in the implementation of the recommendations of this plan.

ORGANIZING ADVOCACY EFFORTS

Boise and the surrounding Treasure Valley has a number of advocacy groups and non-profit organizations that are supportive of pathway development, some of which have been advocating for the development of plans such as this across the Valley. They include:

- Treasure Valley Cycling Alliance (TVCA)
- Sierra Club Idaho Chapter and associated Canals Connect Communities Coalition (CCCC)
- Boise Bike Boulevard Coalition (BBBC)
- Boise Bicycle Project
- Idaho Bike Walk Alliance
- Treasure Valley Safe Routes to School (SRTS)
- Idaho Conservation League
- Land Trust of the Treasure Valley

While all of these groups advocate for pathway development and have made progress in promoting pathways across the Valley, the region lacks a single organization that is solely focused on pathways. The creation of a pathways-focused organization could serve a number of roles in the development of Boise's (and the region's) pathway network. These include:

- Serve as a 501c3 fundraising arm to raise money to fill the gaps in public funding for planning, design, and construction of new pathways and amenities
- Advocate for state or local funding
- Coordinate events and clean-ups along the pathway system
- Coordinate regional connectivity as individual cities develop and implement pathway plans
- Work with land managers and property owners such as irrigation districts to secure pathway access

Numerous examples of pathway-focused non-profits exist throughout the country, including:

- The Indy Greenways Foundation, Indianapolis, IN
- Friends of Pathways, Teton County, WY
- Teton Valley Trails and Pathways, Teton County, ID
- Get Outdoors Nevada, Las Vegas, NV

Identifying an existing non-profit organization that has the resources to house a non-profit pathway program may be a near-term option until a non-profit dedicated to pathways is established.

GROUPS FOR SPECIFIC PATHWAYS

In addition to the development of a broad pathways non-profit organization for the region, groups specific to a certain pathway can also drive forward some of the initiatives of this plan. A local example is the Foundation for Ada-Canyon Trails Systems (FACTS), whose primary focus and efforts revolve around extending the Boise River Greenbelt to the Snake River confluence. These groups serve a similar function as the examples already mentioned, but focus solely on an individual facility or corridor. Several examples of "Friends of..." groups exist around the country, including:

- High Line Canal Conservancy, Denver, Co
- Treeline Conservancy, Ann Arbor, MI
- Friends of CV Link, Coachella Valley, CA

Because the sole focus of FACTS is closing gaps and extending the Greenbelt, the Boise area lacks non-profit efforts and fundraising for improvements to the Greenbelt and maintaining it as Treasure Valley's signature pathway amenity.

APPENDIX A

Previous Planning Efforts

THE HISTORY OF PATHWAYS IN BOISE

This section provides a "look backwards" at planning efforts in the Treasure Valley to give the reader an understanding of where Boise started and where it is today regarding pathway development.

OVERVIEW

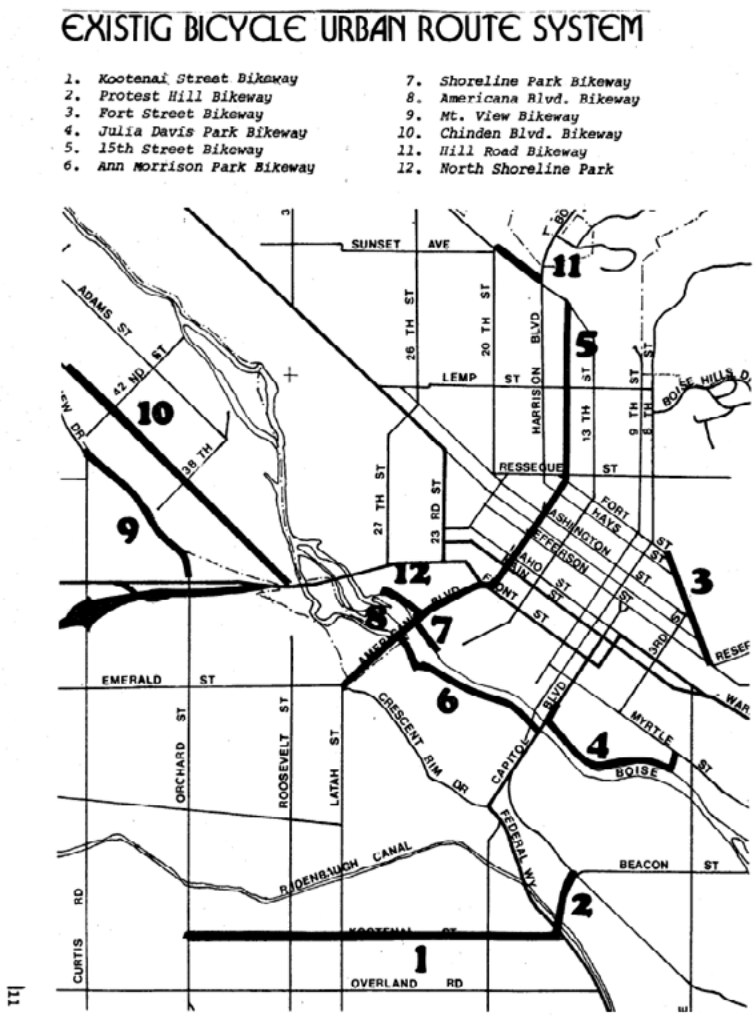
Treasure Valley pathway planning stretches back nearly 50 years. Prescient and visionary planners knew that a successful pathway system would lead to a vibrant metropolitan area. In those early years, planners embraced the ideas of the regionalist movement, in which planning across jurisdictions achieved greater efficiency and reduced local conflicts. Pathway planning fit well into the regionalist mold.

Specifically, leaders in the Treasure Valley have eyed the potential for canal and rail pathways since the 1970s. In the Treasure Valley, the county, cities, and other agencies joined together and formed the valley's first regional planning organization: the Ada Council of Governments (ACOG). The organization envisioned bridging the gap between conflicting urban plans and bringing jurisdictions together to plan collaboratively. ACOG included the City of Boise, Ada County, the Idaho Transportation Department, and the newly created Ada County Highway District, among others. ACOG's existence represented a recognition that certain planning functions like transportation and air quality required ignoring man-made boundaries, and that efficient and effective outcomes for both depended upon regional cooperation.

Facing lines at the gas stations and a crippling energy crisis, transportation planners looked at ways to encourage alternative transportation during this era. As a body, they slowly recognized that effective mobility networks constituted more than simply roads for cars, and they began to design pedestrian and bike pathways alongside the plans for cars and streets. A map produced in one of the early plans showed innovative thinking would be necessary, since only 10.6 miles of bicycle accommodation existed on corridors throughout the valley (see map on following page).

The Treasure Valley's earliest plans related to pathway development, then, included the 1971 Boise Bikeway Plan, the 1976 Urban Bicycle Route System Master Plan and the 1975 Boise Bikeway Plan. Common themes in these included:

- The concept that bicycles were a form of transportation as well as recreation. "Bicycles are non-polluting and for some people, the only means of transportation." (1976 Urban Bicycle Route Plan, 1)
- The importance of providing connectivity and integration between Class I paths (entirely separate from roads); Class II lanes (separated use within a roadway); and Class III shared roads in order to facilitate the ability to get from one place to another; and
- The significance of safety, both in terms of bike/auto separation as well as fencing along proposed canal and/or railroad pathways. "More physical barriers are needed between the bicyclist and automobiles." (1976 plan, 3)



Existing bicycle network from the 1976 Urban Bicycle Route System Master Plan.

ACOG's innovative approach to transportation planning during the 1970s was complementary to the City of Boise's vision, which included the recently adopted Greenbelt Plan. Its first phase had been completed in 1975, which occurred simultaneous to completion of the 1975 Boise Bikeway Plan. The following year, ACOG completed its Urban Bicycle System Master Plan. Since the 1970s, Boise has implemented many of the Class II and Class III bikeways shown on the 1976 plan. It has also continued to extend the Greenbelt, which today stretches 25 miles along both sides of the Boise River and is the primary bicycle and pedestrian pathway providing connectivity from the far western end of Ada County through the entire City of Boise and east to Lucky Peak Reservoir. Many of the routes identified in the earliest planning documents have come to fruition today.

OPPORTUNITIES, THEN AND NOW

Today's Boise is a vastly different metropolis than the city of just 50 years ago. Boise is largely built out today, and opportunities to find large swaths of open space for significant (long, unbroken) pathway corridors are no longer as ample as they once were. Yet as time has passed, the concept of connectivity – bringing varied alternative transportation options together – has become more pronounced, as has the desire to link pathways to the valley's recreational amenities such as parks and trails. These corridors' historic and cultural value provides another opportunity to draw people to them through the erection of signage and other interpretative efforts alongside developed pathways. While planners have identified canals and rail beds as pathway opportunities for many decades, those corridors – along with street/highway ROW – represent some of the only remaining prospects to create pathways long enough to meander through and across neighborhoods and other boundaries.

The Greenbelt is one such pathway that was imagined at a particular moment in time – the 1960s – when existing industrial

uses along the Boise River were falling out of favor and new environmental laws made it increasingly challenging for them to remain in those locations and pollute the river. In the moment between industrial riverbank development of the early and mid-twentieth century and the time when the city embraced the river as an amenity in the 1970s, the Greenbelt vision was born, ultimately providing miles of public access to the urban water body and exceeding most other western urban pathways.

Moments like those that inspire the Greenbelt are rare, and today, greenfield development is less common and urban redevelopment and infill more prevalent. Thus, today's opportunities and challenges are different. More than ever, Boise's canal, rail, and street corridors represent some of the last remaining opportunities for continuous, connected pathways. Fortunately, the regional vision for pathways as a means of moving people has remained consistent over nearly 50 years of planning. While individual jurisdictions such as the City of Boise, Ada County, and the Ada County Highway District have authored and adopted plans to guide their specific governing body, the overall vision for a regional system has only strengthened with the passage of time.

CANAL CORRIDORS

The canal system throughout the city of Boise is historic, dating back to the 19th century and credited with the growth and success of the Boise Valley. Its serpentine network is hard to avoid regardless of which neighborhood you're investigating. The south side of the river features three main systems. The larger two have large feeder canals known as the New York Canal and the Ridenbaugh Canal, which divert water via diversion dams on the far eastern end of the valley – below Lucky Peak Dam and Ada County's Barber Park, respectively. The third south-side system diverts water through the Settlers Canal at Ann Morrison Park. On the north side of the river, farmlands are fed by the two main canals of the Farmers Union Ditch Company: the Farmers Union ditch and the Boise Valley Canal. These carry water through 26 miles of north-side land to Star, Idaho. There is also a much smaller system called the Boise City Canal, which traverses established neighborhoods like the North End. Despite its name, this is not a municipally owned canal.

Stemming off the large feeder canals, many smaller ditches referred to as "laterals" carry water to smaller subdivisions of land, creating an intricate web of waterways which crisscross the valley floor. The New York, Ridenbaugh, and Settlers Canal systems snake their way south and west across dozens of miles all the way to Nampa and Caldwell, traversing established Boise neighborhoods such as the southeast, South Boise, and Central Bench areas. The New York, which is located furthest south of the three canals, also travels through newly developing parts of the city such as Southwest Boise, where there is currently an absence of pathways. On the north side of the river, the Farmers Union Canal Company manages the Farmers Union and Boise Valley Canals, divert water in the middle of the city, with diversion infrastructure located at Esther Simplot Park. These canals traverse the valley's north side as they deliver water to the western edge of Boise and into Eagle and Star.

Many of the earliest bicycle and pedestrian plans urged the city to leverage this system of canals to add more Class I pathways by using existing rights-of-way. Plans written by varying agencies over several decades demonstrate striking consistency regarding the specific canals identified as presenting opportunities for connectivity to the rest of the pathway network. These canals are recognized as having the potential to serve as additions to Boise's existing recreational amenities as well as providing alternative commuting options. However, for the most part, Boise has yet to leverage this existing network.

Other interests in implementation of canal pathways have centered on heritage preservation, recreation and amenity, and open space/parks. When canals crossed or paralleled a historic resource like the Oregon Trail, plans often addressed the multiple resources together.

RAIL CORRIDORS

The presence of historic rail lines in some of Boise's neighborhoods has given rise to efforts aimed at adapting them into planning efforts. The Oregon Short Line – which is now the Union Pacific – has run along the bench since the 1920s. Some documents, such as the 1999 Vista Vision Neighborhood Plan, recognize that these features have been barriers to movement rather than facilitating connectivity. Such plans have proposed developing the rail right-of-way thoughtfully to remove the barrier and provide an amenity. Railroad rights of way, therefore, have been a target of interest when planning for pathways, and historic plans have consistently referenced the rail corridors as connection options. Many references to these ideas can be found in discussions related to linear parks and open spaces. The most recent plan to focus on the rail corridor was the COMPASS 2019 Rail with Trail Feasibility and Probable Cost Study.

Because the primary right of way belongs to the Union Pacific Railroad, which runs on the south side of the Boise River along what locals call "the bench," related neighborhoods have included visions for use in their plans.

Examples of support for rail paths can be found in:

1976 Urban Bicycle Route System Master Plan

"The existence of a network of canals and segments of railroad tracks through the Boise Metropolitan Area, provides an excellent opportunity to separate bicycles from motor vehicle traffic." (15)

1999 Vista Vision Neighborhood Plan

"The Vista Neighborhood is considered deficient in neighborhood parks…opportunities to provide park area exist in the form of…managed use of linear open space uses along the …Union Pacific Railroad rights-of-ways." (2-23)

2007 Ada County Park and Open Space Master Plan

"Linear parks are areas that following elongated corridors and generally contain trails that may be located in the vicinity of river and stream corridors, or along other linear features such as roads, railroad grades, utility corridors and irrigation canals… These may be paved or unpaved and connect existing trails, public lands and existing communities." p. 6-5.

STREET AND HIGHWAY CORRIDORS

Throughout the history of pathway planning, it has been imperative to work with entities who manage and maintain street and highway rights of way. Jurisdictions outside of Boise, including Garden City and the Ada County Highway District (ACHD), have developed their own plans that support pathways within the existing street network. Such support can be found in Garden City's 2009 Circulation Network Plan ("reduced block sizes and increase[d] roadway network increases the ease of pedestrian and bicycle travel, particularly near the greenbelt," p. 5), ACHD's Central Bench Neighborhood Pedestrian and Bicycle Plan ("Many of these attractors [locations where people are likely to walk and bike to]…are located along major roads…further underscoring the need to develop and prioritize improvements for bicycle and pedestrian users on these routes…" p. 19), and ACHD's Roadway to Bikeways Plan, updated in 2018, which, in addition to on-street bikeways, provides recommendations and guidance for separated pathways adjacent to some of the Valley's major roadways.

EXISTING PLANS SUPPORTING A PATHWAY NETWORK			
Named Recommendations	**Year**	**Author/Plan**	**Neighborhood**
Farmers Lateral	1976	ACOG/Urban Bicycle Route System Master Plan (east/west from Phillippi to Cole)	Central Bench
	2004	City of Boise Parks and Recreation Comprehensive Plan	Not Specified
	2019	Central Bench Neighborhood Plan	Central Bench
"Cassia Park Canal"	1976	ACOG/Urban Bicycle Route System Master Plan (north/south Rust Lateral to the Ridenbaugh to Farmers, along Garden Street)	Central Bench
	2019	Central Bench Neighborhood Plan (north of Cassia Park)	Central Bench
Ridenbaugh Canal	1976	ACOG/Urban Bicycle Route System Master Plan (Protest Rd. to Eckert Rd.)	Southeast
	1993	City of Boise/Potential Public Preservation Sites (Bergeson/Gekeler to Rose Hill)	Southeast/Central Bench
	2001	Oregon Trail Parkway Plan (east of Law Avenue)	Southeast
	2019	Central Bench Neighborhood Plan	Central Bench
Settler's Canal	1976	ACOG/Urban Bicycle Route System Master Plan	Central Bench/West Bench
	1993	City of Boise/Potential Public Preservation Sites	Central Bench/West Bench
Bubb Canal/Kid's Creek	1993	City of Boise/Potential Public Preservation Sites	Central Bench/West Bench
New York Canal	1976	ACOG/Urban Bicycle Route System Master Plan (Holcomb to Lake Hazel)	Southeast/Central and West Bench/ Southwest
	1993	City of Boise/Potential Public Preservation Sites	Valley-wide
	1993	Ada County Ridge-to-Rivers Pathway Plan	Valley-wide
	1999	City of Boise/Vista Neighborhood Plan	Central Bench
	2004	City of Boise Parks and Recreation Comprehensive Plan	Southeast, Southwest
	2011	Blueprint Boise	Southwest, Ten Mile Creek
	2016	Syringa Valley Specific Plan (within planning area only)	Southwest
Five Mile Creek	1993	City of Boise/Potential Public Preservation Sites	Southwest
Eight Mile Creek	1993	City of Boise/Potential Public Preservation Sites	Southwest
	2011	Blueprint Boise	Southwest

Named Recommendations	Year	Author/Plan	Neighborhood
Paris Lateral	1993	City of Boise/Potential Public Preservation Sites	Southwest
Farmer's Union	2004	City of Boise Parks and Recreation Comprehensive Plan	Northwest
	2020	North West Boise Neighborhood Plan	Northwest
Ten-Mile Feeder	2004	City of Boise Parks and Recreation Comprehensive Plan	Southwest
Rust Lateral	2019	Central Bench Neighborhood Plan	Central Bench
Electric Light Switch Lateral	2019	Central Bench Neighborhood Plan (north of Overland)	Central Bench
Spoil Banks Canal	2020	North West Boise Neighborhood Plan	Northwest
Boise Valley Irrigation Canal Lateral No. 34	2020	North West Boise Neighborhood Plan	Northwest
Union Pacific Rail with Trail from Nampa to Boise	2019	Compass Rail with Trail Feasibility and Probable Cost Study	
Several Level 3 Bikeway Recommendations, which may include separated pathways	2018	ACHD Roadways to Bikeways Plan	

EXISTING PLAN SUPPORT FOR PATHWAY DEVELOPMENT

As seen on the previous pages in the *Existing Plans Supporting a Pathway Network* table, many of today's existing plans support and encourage the development of a pathway network, while other policies provide general support for cutting down on automobile reliance and improving connectivity. The following discussion divides those plans into three categories: general plans, regional vision plans, and neighborhood-specific plans. The first type is the broadest, while neighborhood plans are the most specific and detailed. Three themes predominated in a review of all three plan types, from the earliest years to the most recent: safety, connectivity, and the concept of multi-modal planning.

- Safety: each plan that addresses pathways in the valley expresses safety concerns, particularly related to ensuring pathway separation from automobiles, and safe routes to school.
- Connectivity: each plan that addresses pathways in the valley asserts goals and objectives related to connectivity, aiming to provide a mix of Class II and Class III connections and routes for people aiming to get from one place to another.
- Multi-modal: each plan has recognized that all forms of transportation need to be represented and need to be safe.

In addition to these three key values, there was also strong support for recognizing the cultural and historical value of the valley's irrigation and agricultural history as well as pioneer movement across the Oregon Trail. The desire to merge a pathway system with these cultural values has been suggested in many of these plans.

PLAN TYPE: GENERAL PLANS

The concept of "activity centers" emerged in the years after 2010, when the City of Boise adopted its current comprehensive plan known as Blueprint Boise. Blueprint Boise is designed around the concept of activity and neighborhood centers and much of the document is aimed at providing connections between these locations to move citizens safely to the places they need to go. In other words, the city expressly states its goal to provide safe alternative pathways between people's destinations, whether work, retail establishments, or community gathering locations.

The four primary documents which guide policy for pathway development in Boise are:

- Blueprint Boise (BB, 2010)
- Boise Parks and Recreation Comprehensive Plan (BPRCP, 2004)
- Transportation Action Plan (TAP, 2016)
- Ridge to Rivers (R2R, 1993, with updates in 2016)

These four existing general plans work well together for the support of a connected pathway network that provides alternative transportation connectivity as well as better access to recreational amenities throughout the city. Using these guiding policies, neighborhoods and other jurisdictions have crafted more plans for specific geographic areas in the valley, and those plans are outlined in the next section below. Taken together, the plans provide a clearly articulated vision for pathways throughout Boise.

OVERARCHING THEMES AND GOALS

The following general principles and goals guide policy throughout the city and clearly facilitate the development of a connected pathway system throughout the City of Boise.

Connect Communities

- Make meaningful connections to destinations (activity centers).
    - BB, Principle #4: "...expand the city's non-motorized transportation options."
    - Investment in expansion of bicycle and pedestrian facilities;
        - Development of a street network that interconnects and distributes vehicles, bicycles, and pedestrian traffic to multiple streets;
        - Establishment of a connectivity measure on development applications;
        - Enhance pedestrian and bicycling connectivity and comfort through the design of pathways that are "well lit, secure, and with convenient connections between destinations." (2-52)
        - TAP: "Move 2: Walk and Bike to the Store."
        - Add pedestrian improvements within ¼ mile of activity centers;
        - Implement traffic calming and access management within walk-sheds of activity centers.
- Establish better development requirements for street and pedestrian connectivity.
    - TAP: Partner with property owners and tenants to enhance the design and experience of activity centers.
    - BB: Implement pathway design that results in pathways that are "well lit, secure, and with convenient connections between destinations" (2-52)
    - BB: Close gaps in existing bike/pedestrian infrastructure. (2-53)

Enable Active Lifestyles

- Encourage development which is oriented towards transit and active transportation corridors:
    - BB, Goal 14.1: "Acquire diverse networks of paths and trails by dedicating or exchanging land, using Foothills Levy funding, clustering development in exchange for density transfers, or by other development bonuses."
- Promotion of development patterns containing high-intensity activity centers/nodes.
    - BB, Principle GDP-C.1: Recommends that new development be planned along corridors to encourage pedestrian and bicycle activity and facilitate access to existing and planned transit. (3-49)
- Encourage high-density development and walkable communities
    - BB: Encourage high-density residential development as part of new activity centers and the revitalization of existing centers. (2-35)
- Revise policies and ordinance to be friendly to active living.
    - BPRCP: "Encourage developers to provide pathways through proposed developments, where such improvements would provide needed links between neighborhoods; public tails, and pathways;" etc. (36)

Preserve and Connect to Nature

- Utilize canals to connect people to amenities.
    - BB: Protect Access to and Promote Use of the City's Canal System. (2-18)
    - BB: Provide trails and pathways that are designed for single or multiple types of users and continue to work with irrigation districts to provide multi-use pathways along canals. (2-85)
    - BPRCP: Implement a system of canal trails through preserving and managing identified canal trail corridors. (34)
- Improve access to Greenbelt.
    - BB: "Make connections between Barber Valley trails, new developments, and existing developments, as well as the Greenbelt." (BV-10)
    - BB: "Extend the Greenbelt west of Orchard to provide a connection to the Boise Towne Square Mall." (CB-10)
- Implement a system of canal trails.
    - BB: "Continue to expand the network of trails and bike paths…exploring opportunities for trails that parallel the canals." (CB-10)
- Continue work to acquire land rights.
    - BPRCP: "Continue to work with developers, private landowners, and other ownership interests to acquire underlying land rights on identified sections" of various canals. (34)

Provide Choices (overlaps with Connect Communities and Enable Active Lifestyles)

- Focus on multi-modal infrastructure and policy.
    - TAP: "…resources should be allocated on critical maintenance needs, improving multi-modal connectivity, and serving all street users including pedestrians, cyclists and transit users." (19)
    - R2R: "Increase multi-modal access to trailheads." (45)
- Promote equity.
    - TAP: "Metrics that go beyond [Level of Service] and are tied to Boise's mobility values will align with other goals of the City, including…equity." (68)
- Expand non-motorized options.
    - BB: "In order to support the more compact, pedestrian, and transit-supportive pattern of development the community desires, streets must be designed and built to facilitate walking, biking, and transit ridership." (5-6/7)
- Implement a system of shared use paths.
    - TAP: "Buffered bike lanes or shared use paths are two potential treatments that would increase cyclist comfort on suburban arterial roads." (47)

Develop Partnerships

- Work with canal companies, legislators, etc. to address liability issues along existing rights of way.
    - BB: Provide trails and pathways that are designed for single or multiple types of users and continue to work with irrigation districts to provide multi-use pathways along canals. (2-85)
    - BPRCP: "Work with area canal companies, legislators, and the Bureau of Reclamation to address liability issues." (35)

PLAN TYPE: REGIONAL PLANS

Since the 1970s, there has been a valley-wide recognition that collaborative planning on pathways across the valley will lead to a more cohesive and valuable outcome for valley citizens. The following plans recognize the importance of planning beyond the municipal boundaries of Boise.

- Master Plan Urban Bicycle Route System for the Boise Metropolitan Area (UBRS, ACOG, 1976)
- Ridge to Rivers (R2R, Boise, 1993, update in 2016)
- Potential Public Preservation Sites (PPPS, Boise, 1993)
- Oregon Trail Parkway Plan (OTPP, Boise, 2001)
- Garden City Circulation Network Plan (GCCNP, 2009)
- Boise River Trails Plan (BRTP, Boise River Trails Coalition, 2009)
- Roadway to Bikeways Plan (R2BP, ACHD, 2009, updated in 2018)
- Rails with Trails Feasibility and Probable Cost Study (RWTF, Compass, 2019)

Here, we provide some specific guidance from an ACHD plan that provides regional guidance. Additionally, the table below provides details of support for multiple pathways that are drawn from the various regional plans identified here.

OVERARCHING THEMES AND GOALS

Several of the regional plans discussed in this section support the goals and principles identified in the General Plans section above. Additionally, the following themes can be located in the regionally focused plans and also provide support for development of a connected pathway system.

Create Safe Opportunities for Multiple Means of Travel

- UBRS: “Emphasis is placed on providing service to the commuter and recreational bicyclist and separating bicyclists and motor vehicles whenever possible for safety.” (1)
- UBRS: “Fencing would be required in many areas and utilization of right-of-ways would involve liability agreements and the obtaining of easements from property owners, irrigation districts, and the Union Pacific Railroad.” (15)
- R2BP: Create protected bike lanes that can accommodate wider range of ages and abilities.
- R2BP: “envisions an interconnected bicycle network that connects local neighborhoods, schools, public facilities, business districts and environmental features.” (2009, ES-1)

Create Connectivity

- UBRS: “With this multi-modal concept, automobiles, bus transit, pedestrian facilities, and bicycles are all considered as elements of one single transportation system. (1)
- R2BP: Connect local neighborhoods, schools, public facilities, business districts, and environmental features.

Create Pathways Usable for Transportation

- UBRS: Develop pathways not just for recreation, but also for transportation: “bicycles are non-polluting and for some people, the only means of transportation.” (1)
- R2BP: “Complete and maintain a bicycle facility network that maximizes safety, provides connectivity, and supports the bicycle as a viable transportation option among the residents of Ada County and its six cities.” (2018, 2)

PLAN TYPE: NEIGHBORHOOD OR SUB-AREA FOCUS PLANS

Since the creation of the earliest 1976 ACOG Bikeway Plan, the city has experienced tremendous growth. While formerly rural areas urbanized and became populated, citizens have increasingly recognized the value of the canal system and other rights of way for providing amenities to neighborhoods throughout the city. As a result, many neighborhoods have looked to these resources to anchor their neighborhood visions.

Boise adopted its neighborhood program in the 1980s to give citizens a greater voice in city operations. The city encouraged each registered neighborhood association to formulate a planning document that it then adopted as part of the Comprehensive Plan. Area-specific plans have therefore come from both the neighborhood planning process as well as from ACHD, which has provided several area-specific plans as a follow up to its 2009 Roadway to Bikeways plan. Many neighborhood efforts include a component related to canal pathways that targets specific canals and laterals they believe would make excellent trails, while ACHD’s area-specific plans focus on sharing the street network. The table below provides named recommended pathways, the various plans which have supported them in the past, and the neighborhood(s) the plans address.

NEIGHBORHOOD PLANS OR SUB-AREA PLANS

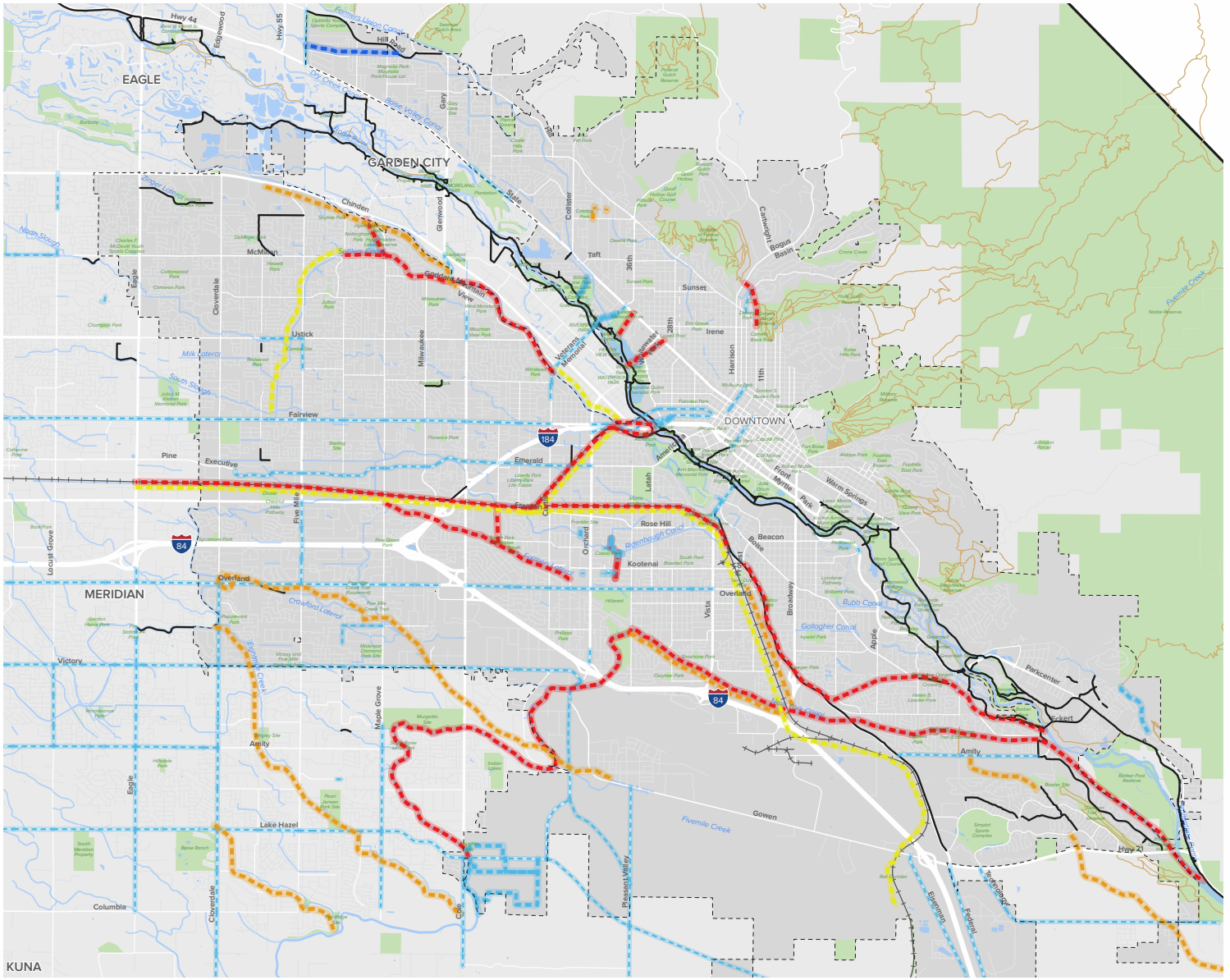
- Whitewater & VMP Neighborhood, Bicycle & Pedestrian Plan (ACHD, 2019)
- Boise Central Bench Neighborhood Pedestrian and Bicycle Plan (ACHD, 2012)
- Gateway East Urban Renewal Plan (Capital City Development Corporation, 2018)
- Pioneer Corridor Plan (Boise, 2001)
- Sycamore Neighborhood Plan (1998)
- Vista Vision Neighborhood Plan (1999)
- West Valley Community Center Plan (2002)
- Barber Valley Specific Plan (2007)
- Depot Bench Neighborhood Plan (2007)
- Syringa Valley Specific Plan (2016)
- Harris Ranch Specific Plan (2019)
- Central Bench Neighborhood Plan (2019)
- North West Neighborhood Plan (2020)

The *Existing Plans Supporting a Pathway Network* table above identifies the specific canal rights of way that have been identified over time as offering great connectivity and/or recreational amenity. The table uses the neighborhood designations from Boise’s current comprehensive plan, Blueprint Boise.

MAP A.1

PREVIOUSLY PLANNED PATHWAYS

Boise Pathways Master Plan



PREVIOUSLY PLANNED PATHWAYS THAT HAVE NOT BEEN IMPLEMENTED

YEAR PLANNED

- 1975 - 1976
- 1990s
- 2000s
- 2010s
- 2020
- ACHD Planned Level 3 (2018)*

**Level 3 bikeways are defined as protected bike lanes, raised bike lanes, cycle tracks, or multi-use pathways*

BASEMAP LAYERS

- Existing Pathways
- Natural surface trail
- Canal
- Railroad
- Boise City Limits
- Ada County
- Parks and Open Space
- Water Bodies

Source: City of Boise; Ada County
Date: January 2021

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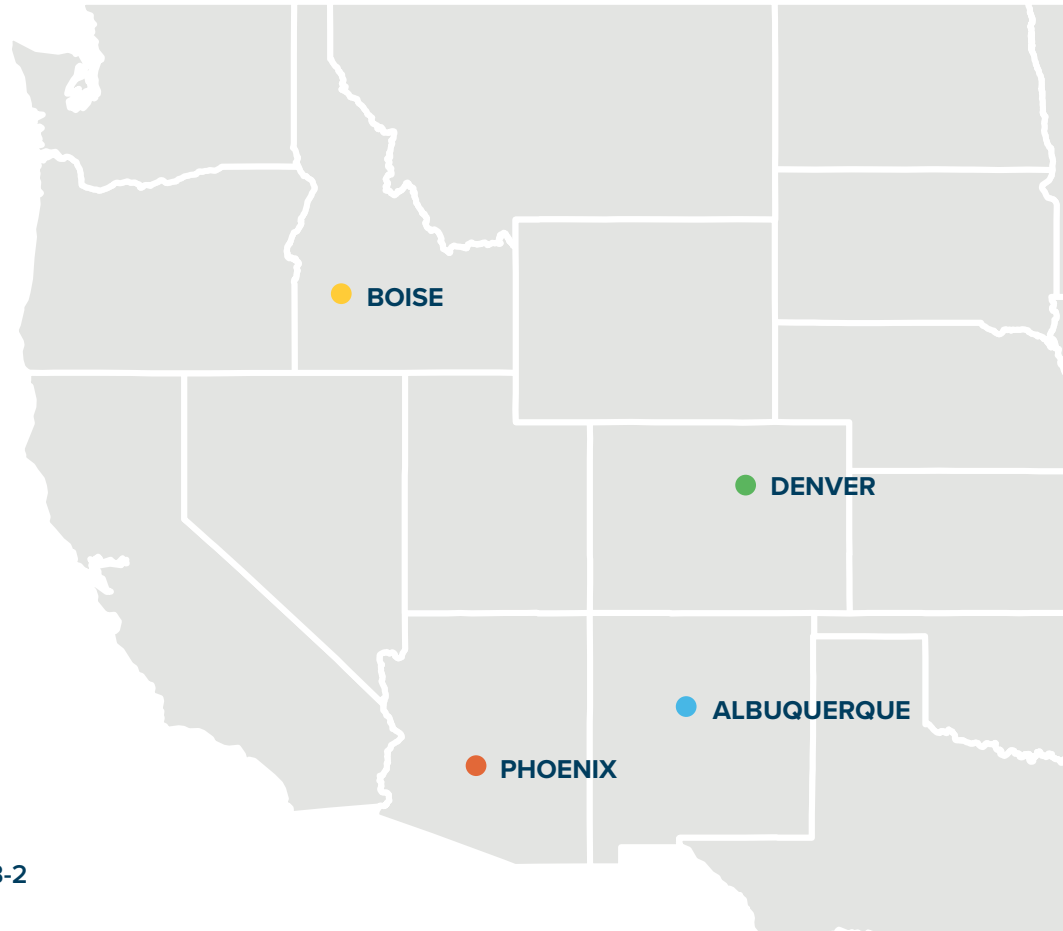
APPENDIX B

Lessons Learned from Other Cities

HOW DOES BOISE COMPARE?

WHO DOES PATHWAYS WELL?

Appendix B compares Boise's pathway system to three other U.S. cities: Denver, Albuquerque, and Phoenix. While demographic and geographic differences may exclude these cities from being considered peer cities to Boise, they have demonstrated success in implementing pathways, especially along their urban waterways. Snapshots of each city on the following pages illustrate the coverage and density of their active transportation networks, rates of active commuting, and population proximity to pathways. Contacts from each city were then interviewed to understand what lessons could be learned and applied to the context of Boise.



ACTIVE TRANSPORTATION NETWORK COVERAGE & DENSITY

Simple network maps for each city illustrate scale, density, and coverage of their respective active transportation networks, including off-street and on-street facilities. Some cities have notable pathway connectivity to downtown, and some display broad coverage across the geographical footprint of the city.

RATES OF ACTIVE TRANSPORTATION

The League of American Bicyclists provided a 2017 report on rates of active travel to work (walking and biking) for the 50 largest cities in the United States, compiled from American Community Survey (ACS) data. ACS commuter data doesn't paint the entire picture of biking and walking in a city; for example, it doesn't include recreational trips or trips to school, the grocery store, etc. However, these rates give a general sense of active transportation participation in each city.

PERCENTAGE OF A CITY'S POPULATION LIVING WITHIN HALF A MILE OF A PATHWAY

This analysis compares each city's pathway network by looking at what percent of the population lives within a half-mile of a pathway.

As noted previously, this analysis provides a general baseline understanding of network coverage and proximity "as the crow flies", and does not equate to accessibility.

Denver, Albuquerque, and Phoenix all have adopted plans that include significant off-street pathway recommendations. The Boise Pathways Master Plan is the first plan since 1976 to focus on pathways at a citywide scale in Boise.

Cherry Creek Trail in Denver, CO

Source: greatruns.com

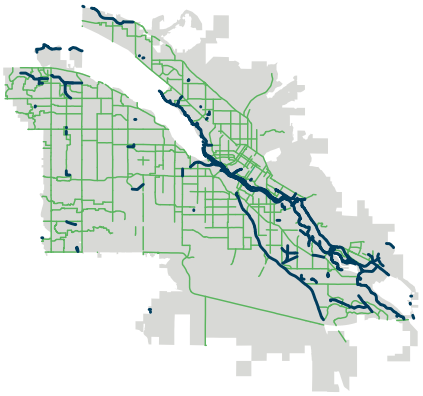
North Diversion Chanel Trail in Albuquerque, NM

Source: Albuquerque Journal

The Grand Canal Trail in Phoenix, AZ

Source: phoenix.gov

BOISE

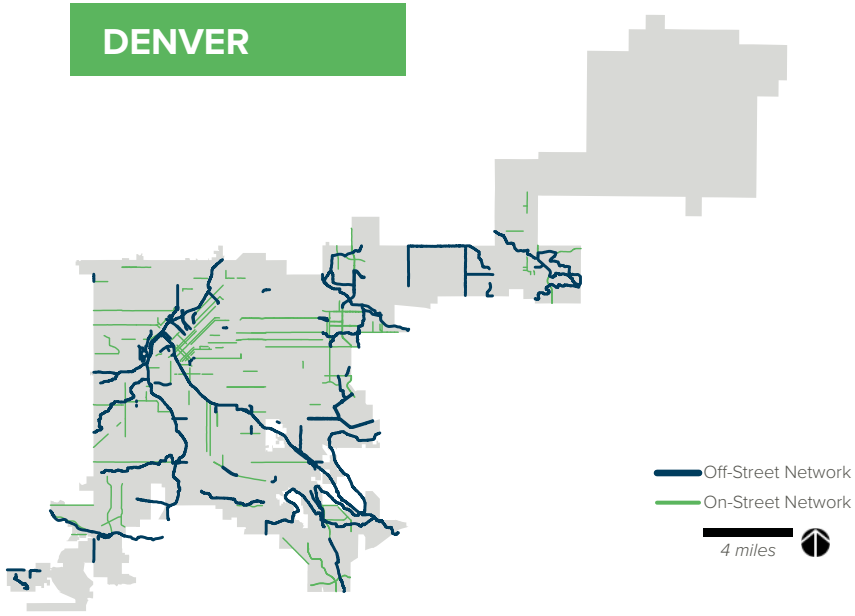


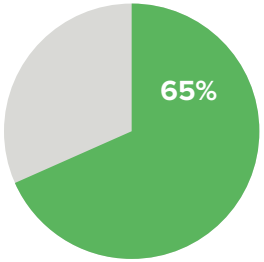
Percentage of Boise's population living within a 1/2 mile of the pathway system

4.2%

of Boise commuters bike or walk to work

DENVER



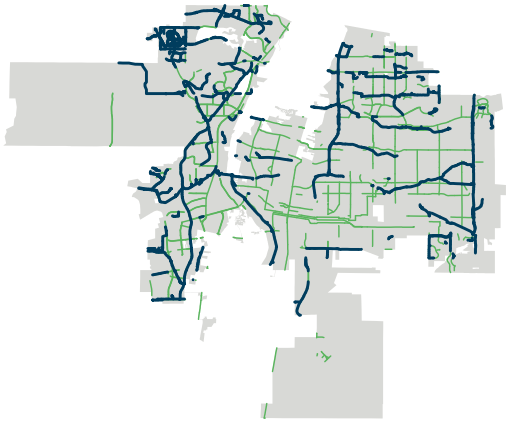


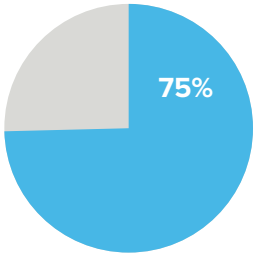
Percentage of Denver's population living within a 1/2 mile of the pathway system

6.6%

of Denver commuters bike or walk to work

ALBUQUERQUE





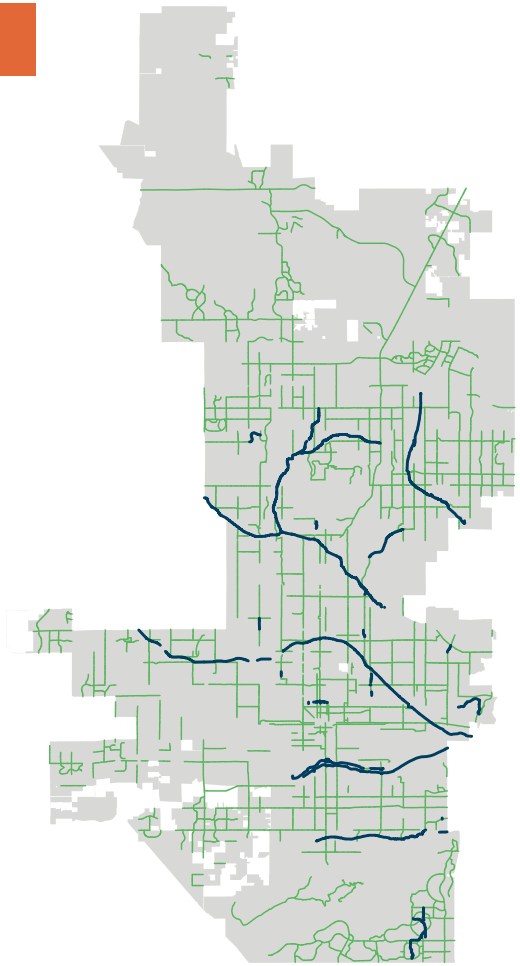
Percentage of Albuquerque's population living within a 1/2 mile of the pathway system

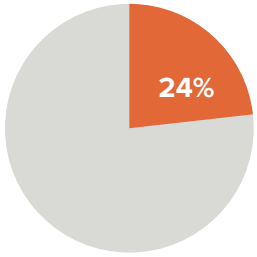
3.2%

of Albuquerque commuters bike or walk to work

Off-Street Network
On-Street Network
4 miles

PHOENIX





Percentage of Phoenix's population living within a 1/2 mile of the pathway system

2.4%

of Phoenix commuters bike or walk to work

LESSONS LEARNED

INTERVIEW HIGHLIGHTS

In the early stages of the planning process, phone interviews were held with city staff from Denver, Albuquerque, and Phoenix to learn about pathway implementation successes and strategies, particularly for pathways along canals or drainage channels. The following highlights came from these interviews.

PARTNERSHIPS

Some of the interviewed cities have relied heavily on partnerships with other public agencies, as well as advocacy groups, to plan, design, and build new pathways. Denver has an established non-profit called the High Line Canal Conservancy (HLCC) that acts as a stewardship and investment catalyst for the High Line Canal corridor. Both planning and construction efforts have been spearheaded by the HLCC.

Denver also partners very closely the local flood district, who manages all waterways in Denver. The districts mill levy funding is used for trail implementation and has a separate allotment for trail maintenance.

Advocacy groups in Phoenix were influential in getting the city's Grand Canal Trail master planning process off the ground in 2014. It has since been built. Additionally, the City of Phoenix, which has an extensive canal pathway network, works closely with the Salt River Project (SRP), who operates and maintains all canals in the region. The City of Phoenix employs various strategies in order to be equal partners in the implementation of pathways along canals. Some examples include:

- All canal paths have been licensed to the City of Phoenix in the form of a prescriptive use easement, traffic control easements
- The City of Phoenix is 100% responsible for pathway operations, including cleanup and graffiti
- The City maintains vegetation and landscaping along the canal
- Liability and lawsuits gets passed onto the City's Parks and Recreation department

FUNDING STRATEGIES

The City of Albuquerque has a ¼ cent infrastructure tax and around 1.5 million of it is set aside yearly for trail maintenance and new trails. Some trails have received state or federal funding, depending on the project type. City Council set aside money is also used, although this is a rarer form of funding. Some bequests are given to the Parks and Recreation Department, but not usually enough to fund a pathway and are more often used to improve existing trails or add amenities.

The City of Denver employs a variety of funding strategies, including:

- Dedicated sales tax to parks and rec
- Ballot initiatives to increase taxes for the local flood district levy (which pays for pathways within waterway corridors) and other pathway initiatives

INTERVIEW HIGHLIGHTS, *CONT.*

- General fund dollars in overall city budget
- Partnerships with private development; many of Denver's urban pathways are being built by developers thanks to zoning code that requires developers to deed over 10% to parks if 10 AC or more is being developed and requires park dedication
- Grants: 6.4 million through TIP; 1-3 million a year received for trail updates and new trails

The City of Phoenix has relied primarily on the following for pathway funding:

- Federal RAISE Grants (formerly TIGER and BUILD)
- The SRP (canal operator) has an Aesthetic Fund, which requires a city match, which is used to beatify existing corridors and add amenities and art
- TAP funds
- The local MPO has an assistance program they use for feasibility and design funding

OTHER HIGHLIGHTS

- The City of Denver works hard to manage the image of trails and the public perception of their safety. Instead of framing pathways as commuter routes or trails, they sell them as parks and greenways that beautify the neighborhood
- Denver has a camping ban on park lands as well as urban rangers to mitigate sheltering along pathways
- City of Denver has a snow removal and buffer mowing program for all their pathways
- City of Denver has the ability to use eminent domain for land within floodplains to implement pathways
- Majority of Denver's pathways fall on City-owned land
- While Phoenix is a great example of a canal pathway network, keep in mind that their canals are federally owned and operated, which requires that public access be allowed
- Both Phoenix and Albuquerque have found success with waterway operators in selling the idea of "eyes on the street", and have seen a documented improvement in crime and safety as pathways get implemented
- City of Phoenix does not typically include fences or vertical barriers between pathway and canal. Argument for this is that fences detract from beauty of the corridor and the user experience is better. Argument against is Phoenix tends to see more canal drownings than Idaho.
- City of Phoenix has implemented more lighting along pathways, which has resulted in less crime and higher safety along pathway corridors

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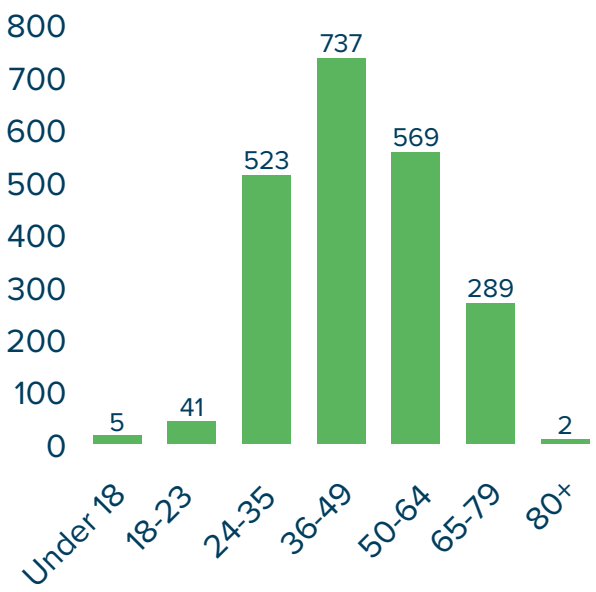
APPENDIX C

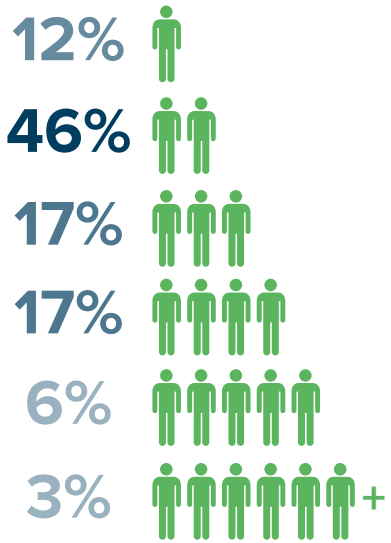
Survey #1 Demographics Summary

SURVEY 1: MARCH-APRIL 2021

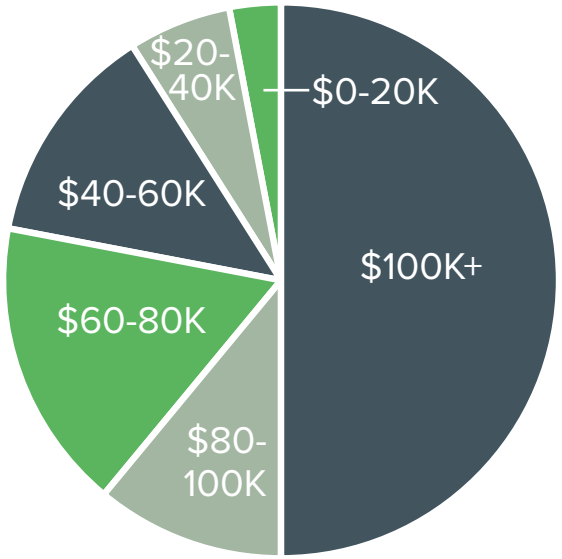
AGE OF RESPONDENTS



HOUSEHOLD SIZE



HOUSEHOLD INCOME



RESPONDENTS ZIP CODES

Survey responses came from all over the Treasure Valley, with most responses coming from people living in the North End/ Downtown area and Southeast Boise. Map C.1 illustrates survey responses by zip code.

RELATION TO BOISE

57% Live in Boise

34% Work in Boise

8% Visit Often

HOUSEHOLD DESCRIPTION

37% Two + adults *without* children living at home, under 65

36% Two + adults *with* children living at home

13% Single/two adults over 65

9% Single adult under 65

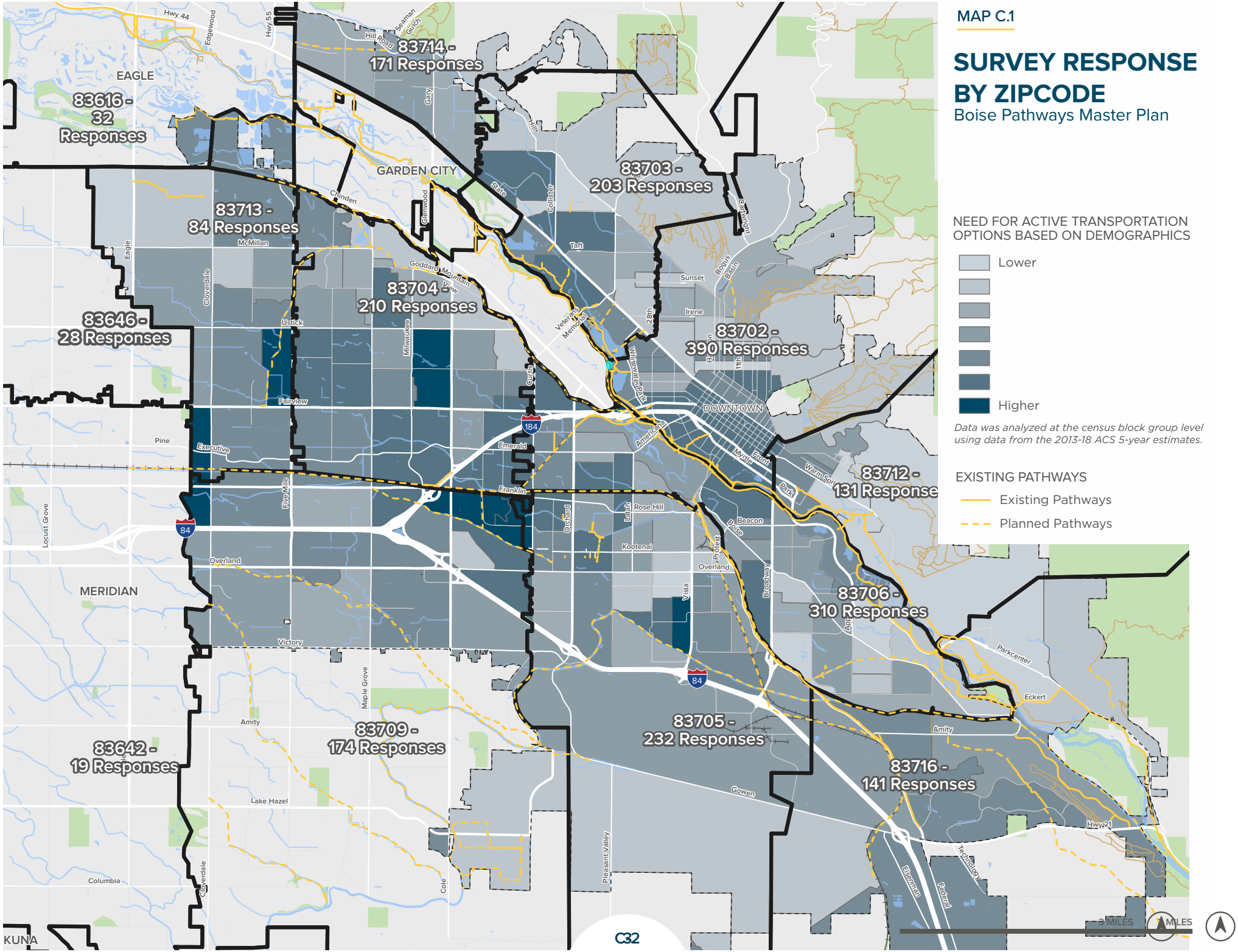
3% Single adult with children living at home

3% Other

MAP C.1

SURVEY RESPONSE BY ZIPCODE

Boise Pathways Master Plan



NEED FOR ACTIVE TRANSPORTATION OPTIONS BASED ON DEMOGRAPHICS

- Lower
- Higher

Data was analyzed at the census block group level using data from the 2013-18 ACS 5-year estimates.

EXISTING PATHWAYS

- Existing Pathways
- Planned Pathways

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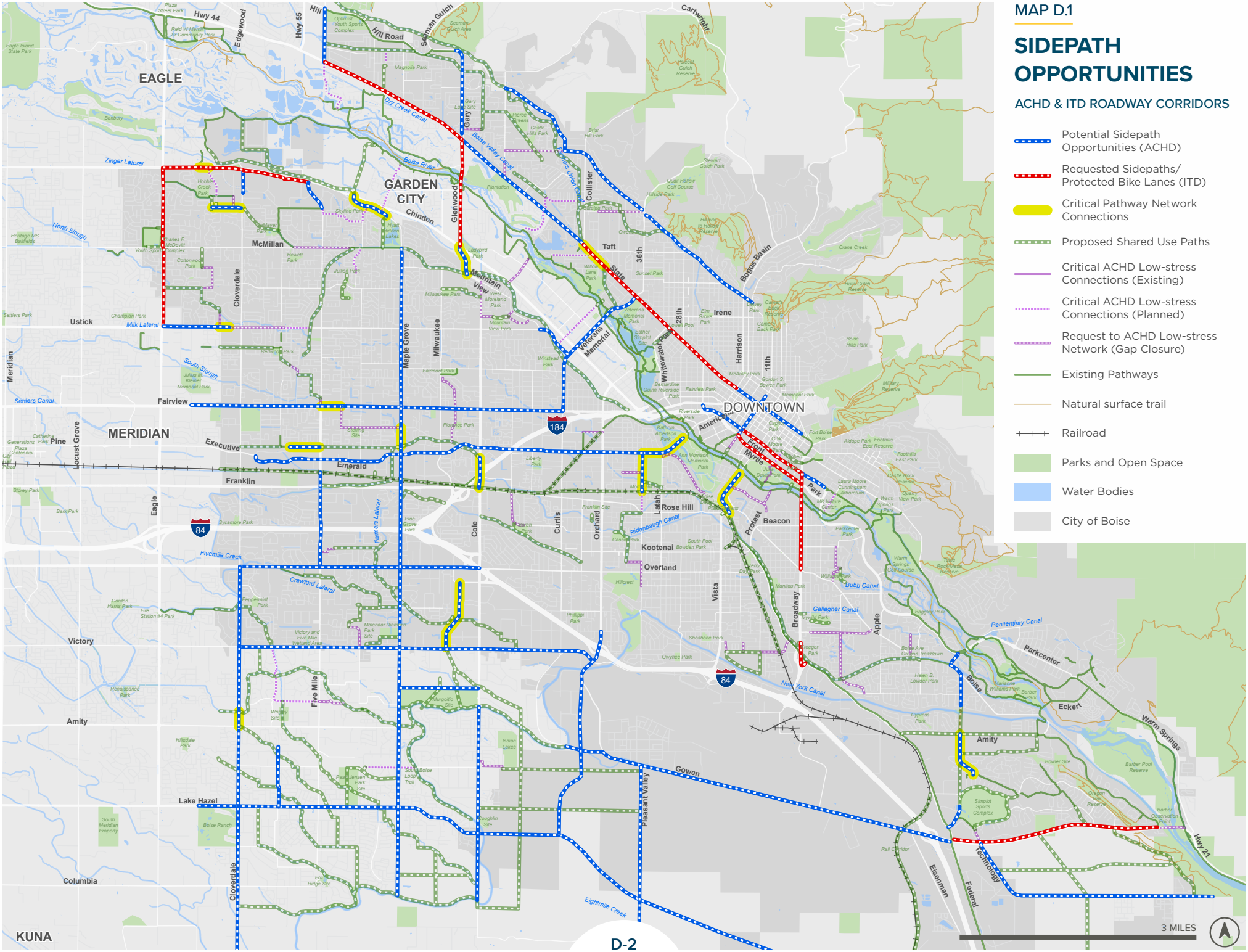
APPENDIX D

Sidepath Opportunities Map



MAP D.1

SIDEPATH OPPORTUNITIES

ACHD & ITD ROADWAY CORRIDORS

- Potential Sidepath Opportunities (ACHD)
- Requested Sidepaths/ Protected Bike Lanes (ITD)
- Critical Pathway Network Connections
- Proposed Shared Use Paths
- Critical ACHD Low-stress Connections (Existing)
- Critical ACHD Low-stress Connections (Planned)
- Request to ACHD Low-stress Network (Gap Closure)
- Existing Pathways
- Natural surface trail
- Railroad
- Parks and Open Space
- Water Bodies
- City of Boise

APPENDIX E

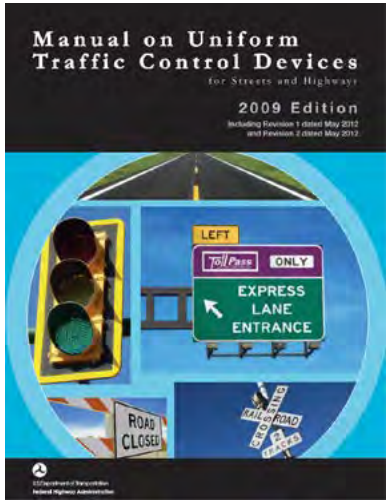
Design Guidelines

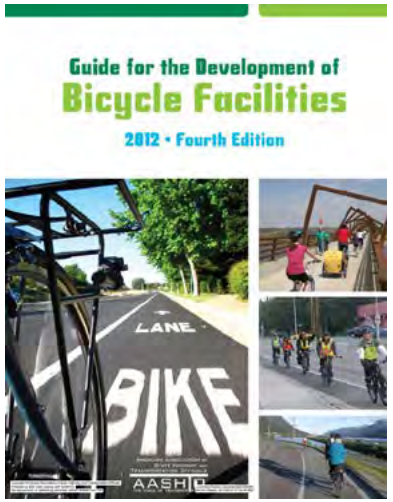
GUIDANCE BASIS

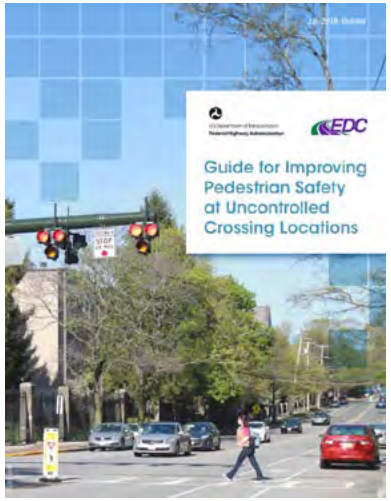
The pathway design guidelines in this plan are based on national standards and industry best practices, adapted to the context of Boise.

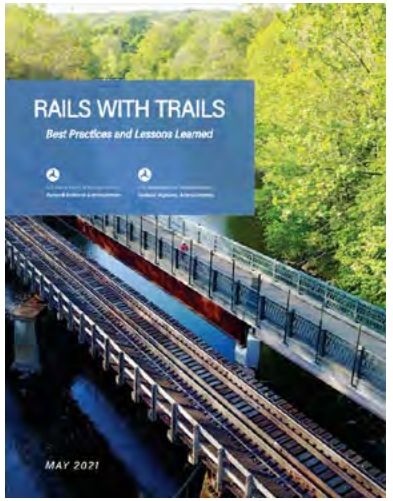
NATIONAL GUIDANCE

- The Federal Highway Administration (FHWA) ***Manual on Uniform Traffic Control Devices (MUTCD)*** defines the standards used by road managers nationwide to install and maintain traffic control devices on all public streets, highways, bikeways, and private roads open to public travel. The MUTCD is the primary source for guidance on lane striping requirements, signal warrants, recommended signage, and pavement markings.
- The American Association of State Highway and Transportation Officials (AASHTO) ***Guide for the Development of Bicycle Facilities*** (2012) provides specific guidance on dimensions, use, and layout of each type of bicycle facility.
- The FHWA ***Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations*** (2018) provides guidance to support the installation of countermeasures at uncontrolled pedestrian crossing locations, and local policy development associated with these countermeasures.
- The FHWA ***Rails with Trails: Best Practices and Lessons Learned*** (2021) provides guidances on effective practices for each phase of a rail-with-trail project, including development, design, construction, operation, and maintenance.









PATHWAY USERS

Boise's pathways should be designed for users of all ages and abilities. A wide range of people and modes can be found on existing pathways today, and each experience level and mode requires unique design considerations for making pathways safe and enjoyable for everyone who uses them. The table at right outlines various pathway user types and factors that may influence pathway design.

PEOPLE WITH DISABILITIES

The term "people with disabilities" includes individuals with physical or cognitive impairment, as well as those with hearing or visual limitations. According to the Centers for Disease Control and Prevention (CDC), in 2016, one out of every four Americans had a disability that limits their mobility.

Additionally, nearly everyone will experience a disability at some point in their life, whether through injury, aging, or other circumstances. Trails that are physically separated from motor vehicle traffic provide a safe and comfortable place for people with disabilities to get from place to place.

ANTICIPATING CHANGES IN TRANSPORTATION TECHNOLOGY AND SERVICES

Technology is quickly changing the way people travel. Mobile devices are making it easier to check transit status in real-time, call a ride sharing service, or access a bike or scooter share system. They will also create opportunities to integrate modes, making it easier to use more than one mode to complete a trip. Additionally, shared autonomous vehicles (SAVs) vehicles may soon be a regular part of travel options for individuals and transit services. New technologies could be used to expand travel options and reduce vehicle trips in the surrounding communities by utilizing Boise's pathway system.

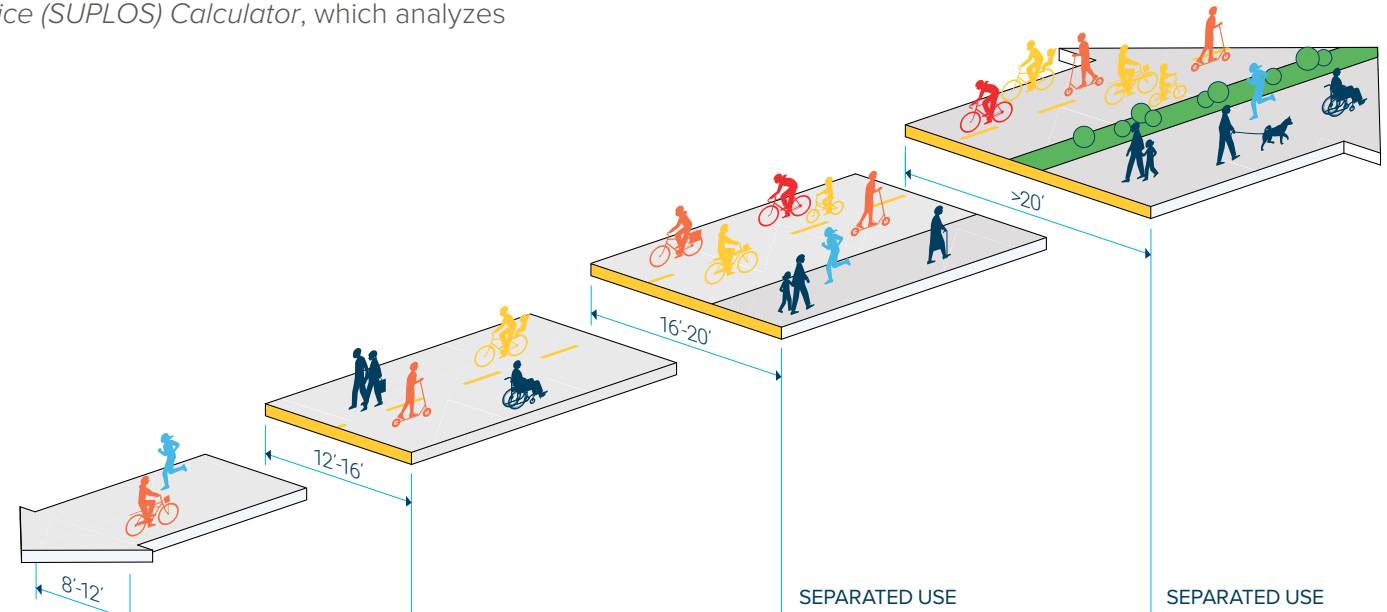
USER TYPE	SPEED OF TRAVEL	CONSIDERATIONS
WALKERS	1 to 3 mph	• Need wider areas for traveling in groups or walking dogs • Comfortable on sidewalks and paths that are grade separated from vehicles and fast active users
WHEELCHAIR USERS	1 to 3 mph (non-motorized) 3-5 mph (motorized)	• Comfortable on sidewalks and paths that are grade separated from vehicles and fast cyclists
EQUESTRIANS	3 to 8 mph (trot)	• Prefer a soft surface tread separated from people riding bicycles
RUNNERS	5 to 9 mph	• Prefer off-street paths with consistent lighting • Fast runners may prefer to share space with cyclists during periods of high pedestrian traffic
CASUAL AND NEW CYCLISTS	6 to 12 mph	• Prefer riding on off-street facilities • Compared to experienced cyclists, casual cyclists are more likely to utilize rest areas
E-BIKE USERS	16 to 20 mph	• Most prefer fewer crossings, separated paths, and room to pass slower cyclists • Opportunities for shared mobility docking stations with charging stations
E-SCOOTER USERS	Up to 20 mph	• Stand-up and seated versions, e-skateboards, hoverboards, balance board • Access to on-street corrals, racks in the furnishing zones, shared mobility parking zones
EXPERIENCED CYCLISTS	12 to 25 mph	• Very experienced cyclists may choose to use roadways over paths • Most prefer fewer crossings, separated paths, and room to pass slower cyclists

PATHWAY WIDTH & USER SEPARATION

In order to properly plan for and serve different pathway users, it is important to first understand potential user demand and expected use of the pathway. Understanding potential user demand helps guide design decisions about pathway width and the potential need for separation of users. For example, segments of pathways that have particularly high user demand may require a wider, user-separated facility than segments with lower demand in order to provide a high level of service and comfort for a wide variety of pathway users.

Measuring the Level of Service (LOS) of a pathway can be done by using the Federal Highway Administration's *Shared-Use Path Level of Service (SUPLOS) Calculator*, which analyzes the interplay between path width and user demand. The tool enables planners and designers to understand the current level of service of a pathway given its current use, as well as its ability to serve users in the future if user demand were to increase. Separating users on the path will always provide a higher level of service, and is considered to be an appropriate design option for areas with high demand.

FHWA SUPLOS Calculator: https://www.fhwa.dot.gov/publications/research/safety/pedbike/05138/05138.pdf



DETERMINING DEMAND FOR NEW PATHWAYS

The FHWA SUPLOS Calculator is a helpful tool for quantifying demand of existing pathways where user counts can be collected. For new/future pathways were user counts are unknown, projects should undergo a latent demand analysis during the planning and design phases. Latent demand can be estimated using one or a combination of the following:

- Data from comparable pathways in surrounding regions
- Evaluation of changes in access to populations and jobs
- Local commute mode splits and their relationship to the National Household Travel Survey
- Origin-destination data for understanding changes in net trips
- Anticipated user types based on trip purposes and built context of the pathway

DETERMINING APPROPRIATE PATHWAY WIDTH

Appropriate pathway widths are determined by several quantitative and qualitative factors, and professional judgement should be used on a case-by-case basis. Factors included and not included in the FHWA SUPLOS Calculator include:

- **Available right-of-way:** In many cases, constrained corridors limit how wide a pathway can be and optimal widths may be difficult to achieve.
- **Reported user conflicts (for existing pathways):** Conflicts between different pathway users traveling at varying speeds is an indication that the pathway is too narrow or does not provide separation between user types.
- **Surrounding context:** Pathways that provide access to several destinations in more urban contexts attract more people and a wider variety of user types, requiring more pathway width.
- **Expected user & mode types:** Pedestrians, joggers, adult cyclists, children on bikes, people on skateboards, and people on other devices such as e-scooters all differ in travel behavior and speed. A wider variety of user types and modes requires more pathway width.
- **Desire for destination pathway:** Some pathways that are intended to serve as a destination or signature facility may require a more generous width than the FHWA SUPLOS Calculator recommends to provide a more substantial experience.

PATHWAY MATERIALS

TRAIL SURFACE

The majority of the pathway system is likely to be either a concrete or asphalt surface with natural surface or crushed aggregate shoulders. However, environmental agencies may require a permeable surface for constrained portions of the trail that are along river/ creek channels or near sensitive habitat. Additionally, the City may desire to leave some pathways unpaved to accommodate equestrian users.

Asphalt vs. Concrete

Asphalt requires lower upfront costs, but has a shorter life expectancy and, depending on the location, requires more maintenance than concrete. When concrete is used, saw-cut joints - not tooled joints - should be used. Saw-cut joints provide a smoother and safer experience for people on wheels. This is particularly noticeable with smaller wheels, such as those on roller blades or skateboards.

Pavement Markings

Pavement markings can be used to delineate space, provide wayfinding information, and establish an identity or brand for the pathway. Dashed centerlines are not necessary on lower-volume pathways, but may help organize two-directional flow where there is more demand. Wayfinding and branding markings may be incorporated with decals, thermoplastic, paint, stamped or sandblasted pavement, or embedded metal.

Preferred Options

IMAGE	MATERIAL	PROS	CONS
	**ASPHALT** *preferred outside floodplain*	• Relatively inexpensive • Low maintenance • Smoother surface	• 20+ year life expectancy • Tendency to buckle after time/from tree roots, creating bumps and ruts that pool water. Particularly likely if near irrigation systems
	**CONCRETE** *preferred within floodplain*	• Durable • Long lasting • Resilient to flooding	• Expensive • Cracks are difficult to repair • 35+ year life expectancy

Alternatives

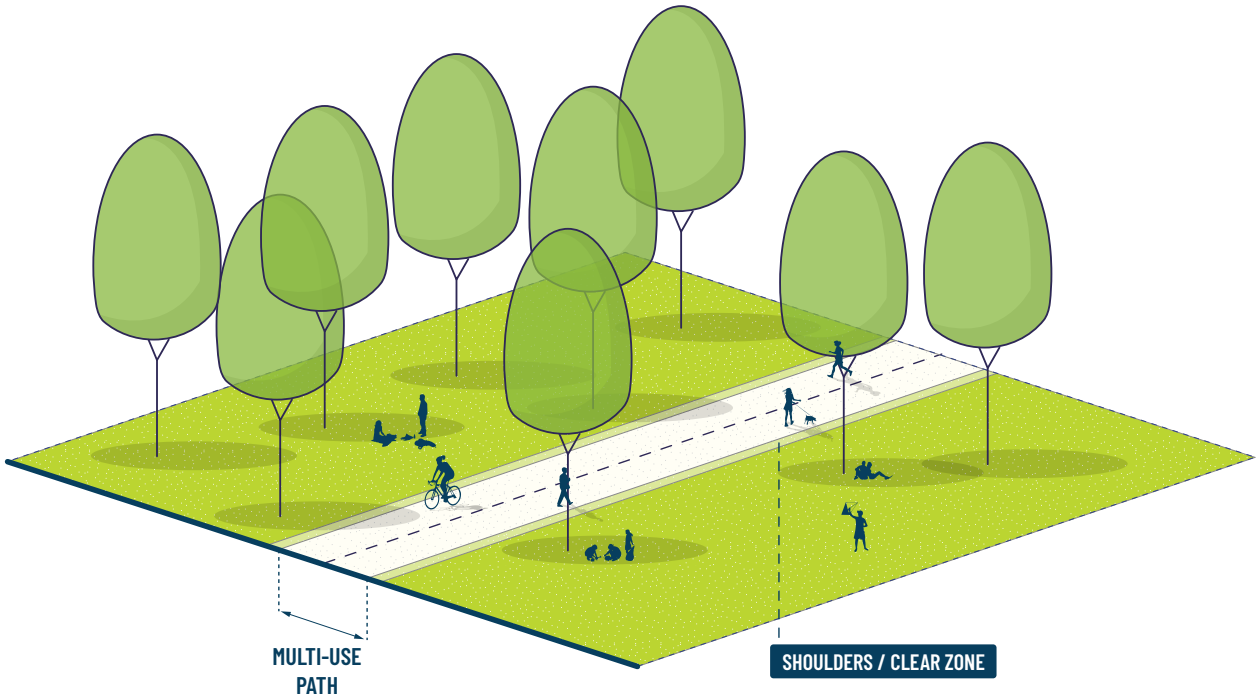
IMAGE	MATERIAL	PROS	CONS
	**PERVIOUS CONCRETE**	• Provides smooth surface for people bicycling while being highly permeable	• Not as strong as conventional concrete • Relatively expensive • Requires maintenance to maintain permeability • 10 to 15-year life expectancy
	**NATURAL SURFACE OR CRUSHED AGGREGATE**	• Preferred by some user types • Color blends well with surrounding landscape	• Limits most users on wheels • Requires regular maintenance • 5 to 10-year life expectancy

OPEN SPACE

A multi-use pathway running through an open space provides ample opportunity for recreation and connection through a community. Open space multi-use pathway designs vary depending on factors such as the grade of the land, size and amount of vegetation present, and proximity to waterways, structures, and other elements.

TYPICAL APPLICATION

Pathways in open spaces are generally accessed by a wide variety of users, including walkers, runners, recreational bicyclists, bicycle commuters, non-motorized mobility vehicle users, families, children, and older individuals. As such, they should be designed with this variety in mind.



Real World Examples

Left: DeMeyer Park Pathway

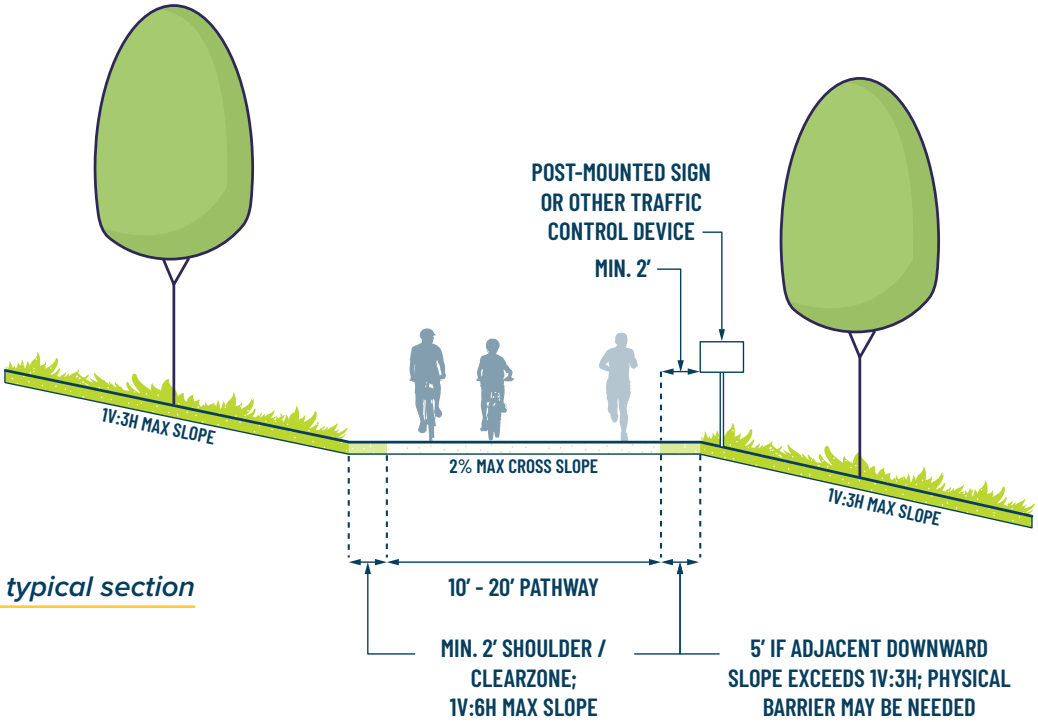
Middle: Atlanta Beltline in Atlanta, GA

Right: Razorback Greenway in Springdale, AR

Boise, ID

Atlanta, GA

Springdale, AR



Open space typical section

Design guidelines are based on AASHTO, Guide for the Development of Bicycle Facilities (2012)

DESIGN GUIDELINES

Width: A demand analysis, combined with the use of FHWA's SUPLOS Calculator, should be conducted to determine appropriate widths. 10-12' is a typical default pathway width, and 8' width is acceptable only in constrained conditions and for short distances (AASHTO Bike Guide Section 5.2.1).

Shoulder / Clear Zone: Minimum 2' graded area (maximum 1V:6H slope) should be provided for clearance from landscaping or other vertical elements such as fences, light poles, sign posts, etc.; recommend aggregate or turf grass to prevent weeds from spilling onto pathway.

Vertical Clearance: 8' minimum, 10' typical.

Slope: Pathway slopes should be designed at 5% (greater slope is permitted, but should be limited, see AASHTO); Pathway cross slope should not exceed 2%.

Physical Barrier: If the land beyond the shoulder/clear zone has a slope exceeding 3:1, a physical barrier may need to be added.

Other Design Criteria: With the great variety of users on open space pathways, amenities such as benches, trash and recycling receptacles, bike racks, and appropriate lighting should be included along pathways.

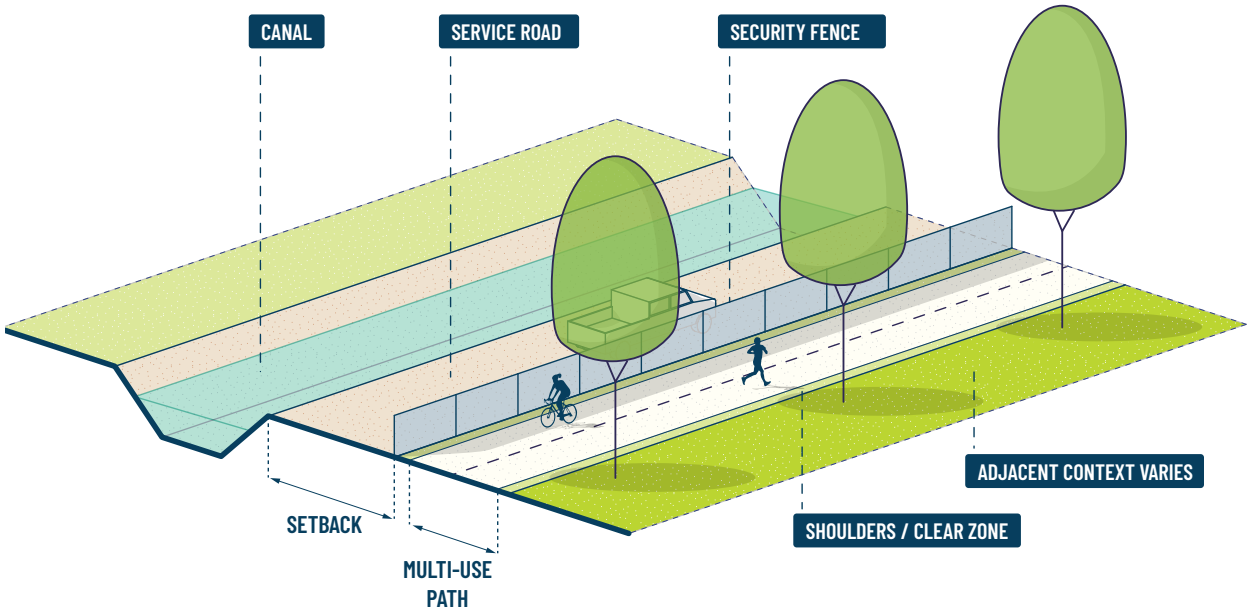
Pathway design should comply with all AASHTO requirements for shared use paths related to design speed, sight distances, stopping distances, and grades.

CANAL CORRIDOR

Canals provide great opportunities to develop new pathway systems and close existing pathway network gaps. With their separation from moving vehicles, canal corridors create a comfortable, flat trail environment.

TYPICAL APPLICATION

Pathways can be considered along canal corridors where there is separation between the pathway and slopes steeper than 3:1. In some cases, fencing may be needed to keep pathway users on the designated path. While it is not desirable to have a pathway between two fences for long distances for safety reasons, short distances of a pathway between fences can be made more welcoming by implementing creative fencing designs.



Real World Examples

Left: Ridenbaugh Canal Pathway in Meridian, ID

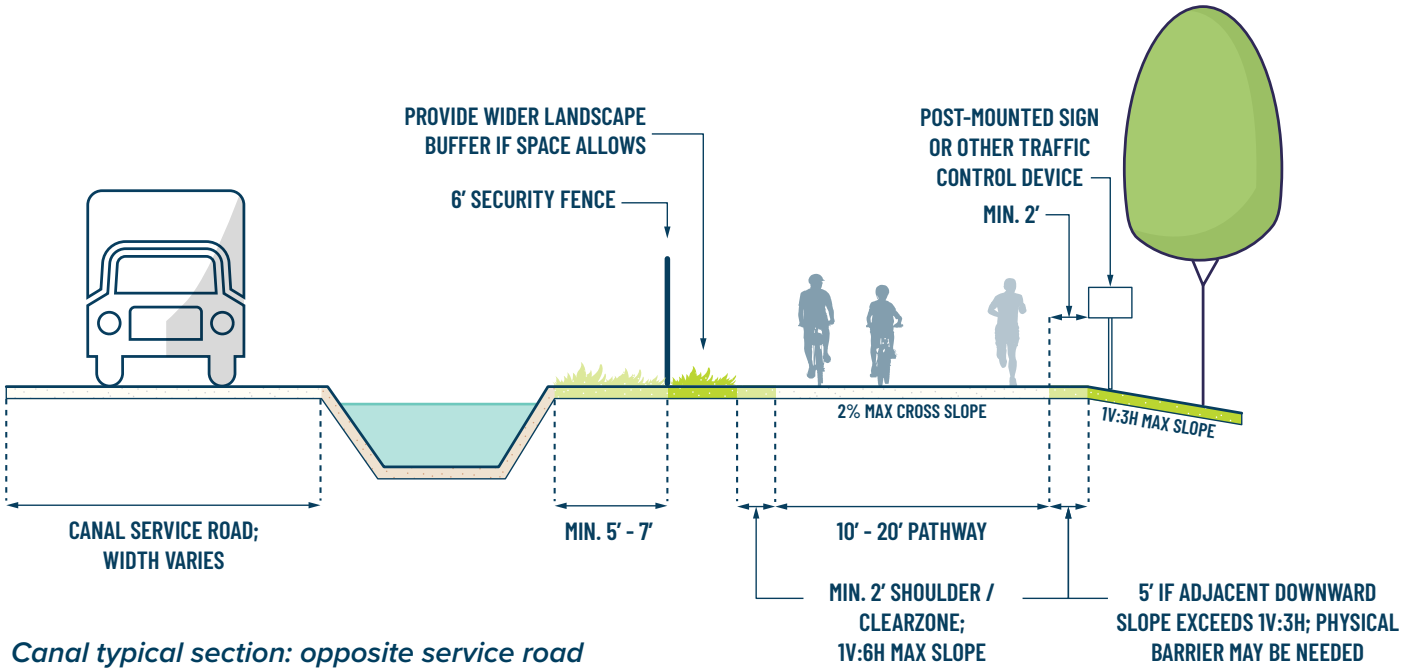
Middle: Grand Canal Trail in Phoenix, AZ (source: phoenix.gov)

Right: San Gabriel River Trail in Long Beach, CA

Meridian, ID

Phoenix, AZ

Long Beach, CA



Canal typical section: opposite service road

Design guidelines are based on AASHTO, Guide for the Development of Bicycle Facilities (2012)

DESIGN GUIDELINES

Width: A demand analysis, combined with the use of FHWA's SUPLOS Calculator, should be conducted to determine appropriate widths. 10-12' is a typical default pathway width, and 8' width is acceptable only in constrained conditions and for short distances (AASHTO Bike Guide Section 5.2.1).

Shoulder / Clear Zone: Minimum 2' graded area (maximum 1V:6H slope) should be provided for clearance from vegetation or other vertical elements such as fences, light poles, sign posts, etc.; recommend aggregate or turf grass to prevent weeds from spilling onto pathway.

Vertical Clearance: 8' minimum, 10' typical.

Slope: Pathway slopes should be designed at 5% (greater slope is permitted, but should be limited, see AASHTO); Pathway cross slope should not exceed 2%.

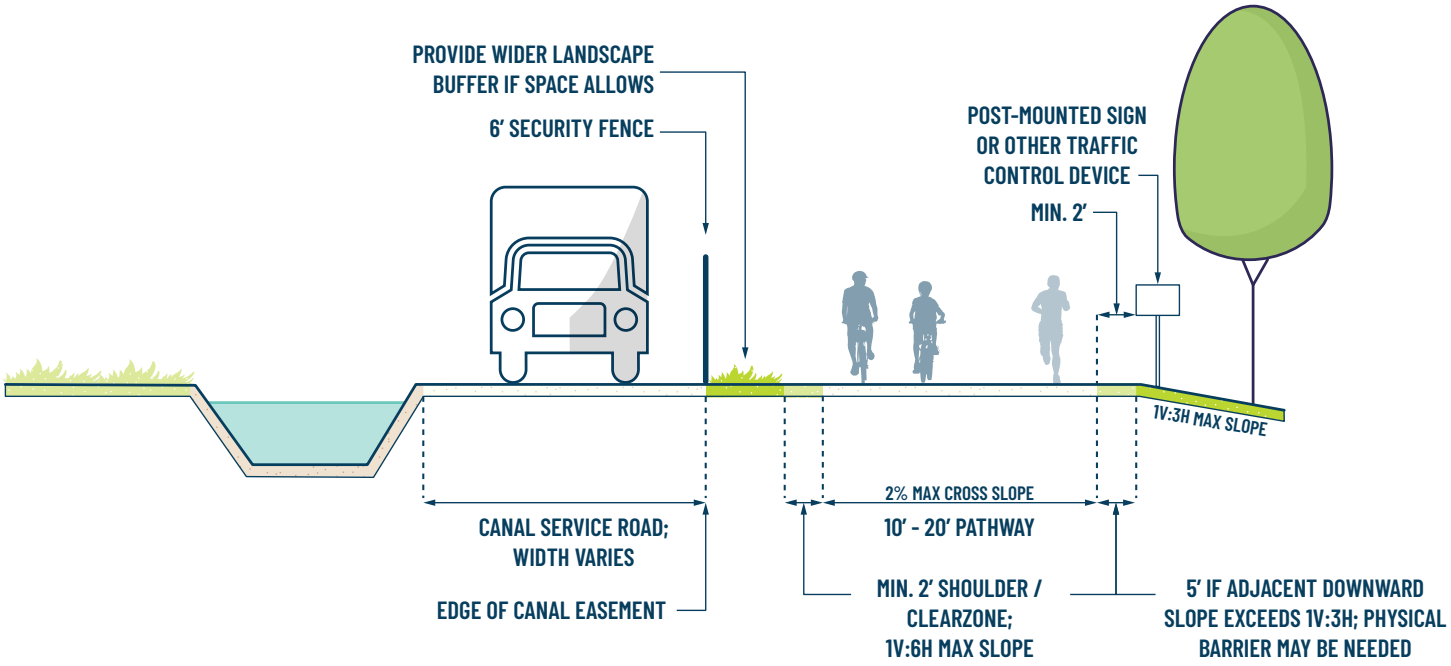
Physical Barrier: If a pathway is adjacent to slopes steeper than 3:1, wider separation should be considered. A 5-foot separation from the edge of the pathway to the top of slope is recommended in this situation. Where a slope of 2:1 or greater exists within 5 feet of a pathway and the vertical drop is greater than 4 feet, a physical barrier (dense shrubbery, railing, or chain link fence) should be placed along the top of the slope (AASHTO Bike Guide p.5-5).

Other Design Criteria:

Public access to flood control channels or canals may be undesirable due to hazardous materials, deep water or swift current, steep, slippery slopes. Pathway access may be prohibited during canal maintenance activities and inclement weather.

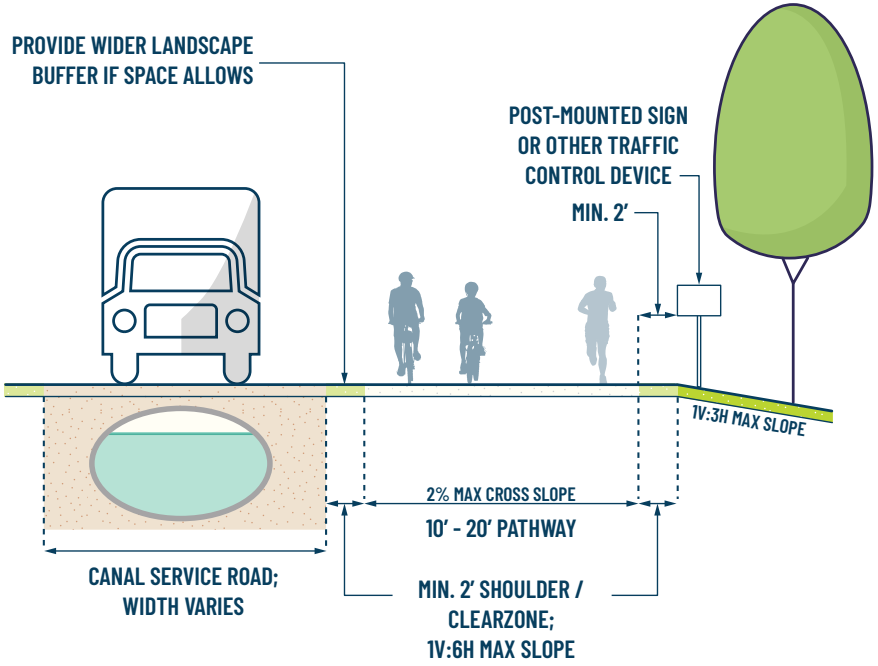
Pathway design should comply with all AASHTO requirements for shared use paths related to design speed, sight distances, stopping distances, and grades.

CANAL CORRIDOR, *CONT.*



Canal typical section: service road side

CANAL CORRIDOR, *CONT.*



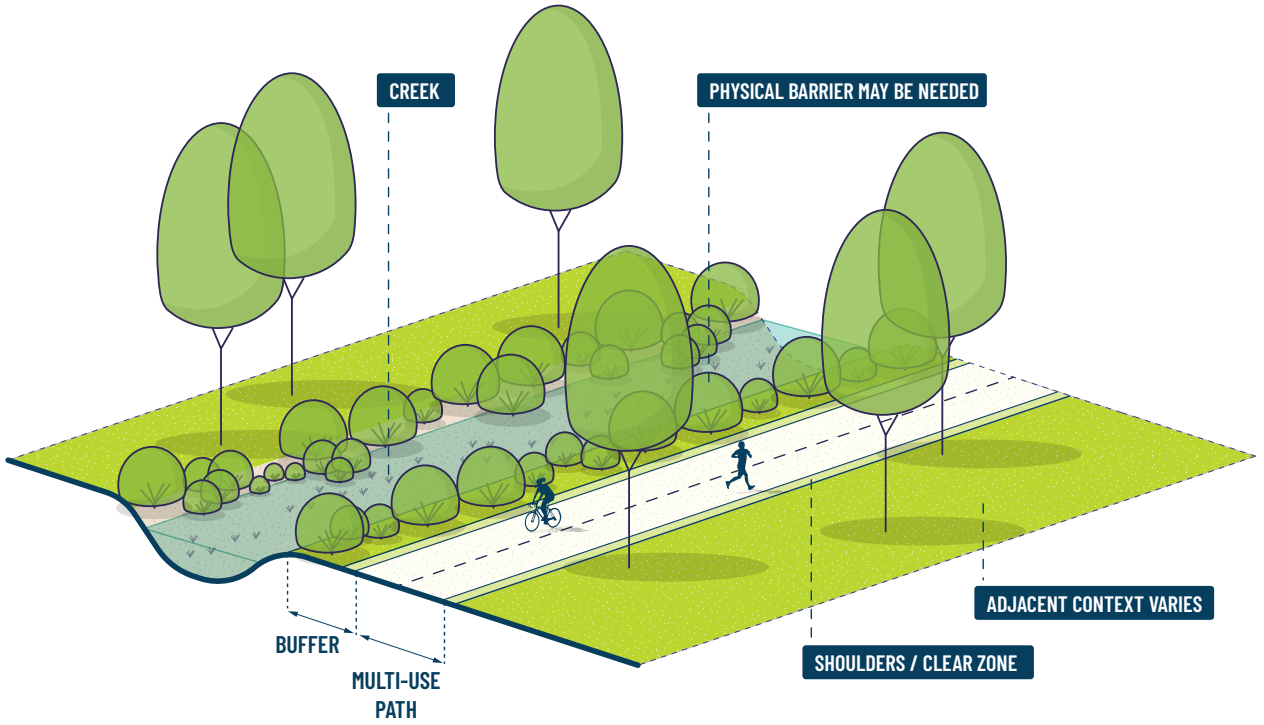
Canal typical section: piped canal with service road on top

RIPARIAN CORRIDOR

Pathways running along a riparian corridor offer scenic views, access to natural areas, and connections to additional recreational opportunities.

TYPICAL APPLICATION

Pathways along riparian corridors should provide plenty of separation between the path and waterway. Where width allows, riparian landscaping should be included. If the slope from the path to waterway exceeds 3:1, a fence or other physical barrier should be installed.



Real World Examples

Left: Boise River Greenbelt in Boise, ID

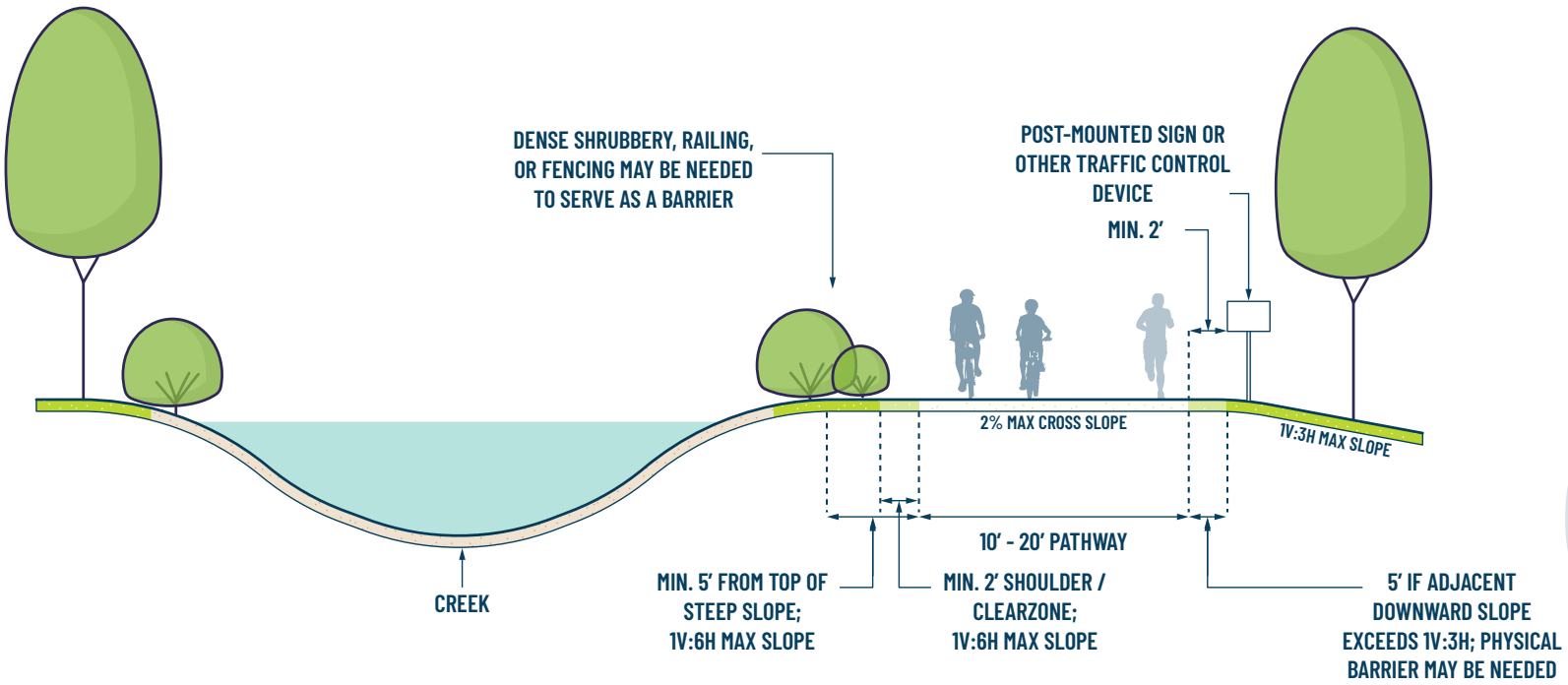
Middle: Victorville Mojave Riverwalk in Victorville, CA

Right: Fivemile Creek Pathway in Meridian, ID

Boise, ID

VIctorville, CA

Meridian, ID



Design guidelines are based on AASHTO, Guide for the Development of Bicycle Facilities (2012)

DESIGN GUIDELINES

***Width*:** A demand analysis, combined with the use of FHWA's SUPLOS Calculator, should be conducted to determine appropriate widths. 10-12' is a typical default pathway width, and 8' width is acceptable only in constrained conditions and for short distances (AASHTO Bike Guide Section 5.2.1).

***Shoulder / Clear Zone*:** Minimum 2' graded area (maximum 1V:6H slope) should be provided for clearance from landscaping or other vertical elements such as fences, light poles, sign posts, etc.; recommend aggregate or turf grass to prevent weeds from spilling onto pathway.

***Vertical Clearance*:** 8' minimum, 10' typical.

***Slope*:** Pathway slopes should be designed at 5% (greater slope is permitted, but should be limited, see AASHTO); Pathway cross slope should not exceed 2%.

Environmental Considerations: Pathways within environmentally sensitive areas should be designed to minimize impacts during construction and once in use. Alignment should avoid significant waterways, mature tree stands, sensitive habitat areas and ecosystems, or endangered or significant flora and fauna areas, staying 30' outside of these conditions when possible.

Where pathway construction must run through sensitive areas, sustainable construction materials and methods must be used to make up for the negative impacts. The design of the pathway should not detract from the natural landscape, but rather should enhance and blend in to the area.

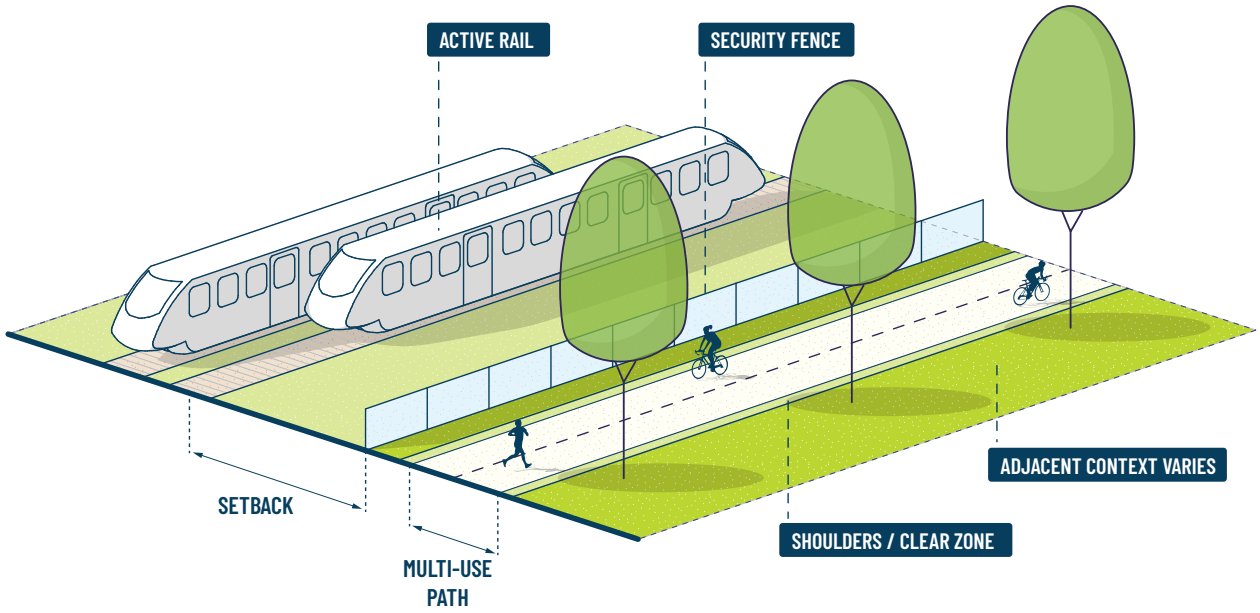
***Other Design Criteria*:** Pathway design should comply with all AASHTO requirements for shared use paths related to design speed, sight distances, stopping distances, and grades.

ACTIVE RAIL CORRIDOR

A multi-use pathway that runs along an active railroad is referred to as a rail-with-trail. Rail-with-trail designs vary widely, depending on factors such as requirements for setbacks from trains, the frequency and speed of rail service, and the presence of at-grade crossings.

TYPICAL APPLICATION

Many rail-with-trail facilities have segments of trail that are within thirty feet of active railroad tracks. In some cases, space needs to be preserved for future planned freight, transit, or commuter rail service. In other cases, limited right-of-way width, inadequate setbacks, concerns about safety/trespassing, and numerous crossings may affect a project's feasibility.



Real World Examples

Left: LYNX Blue Line (light rail) Rail-with-Trail in Charlotte, NC

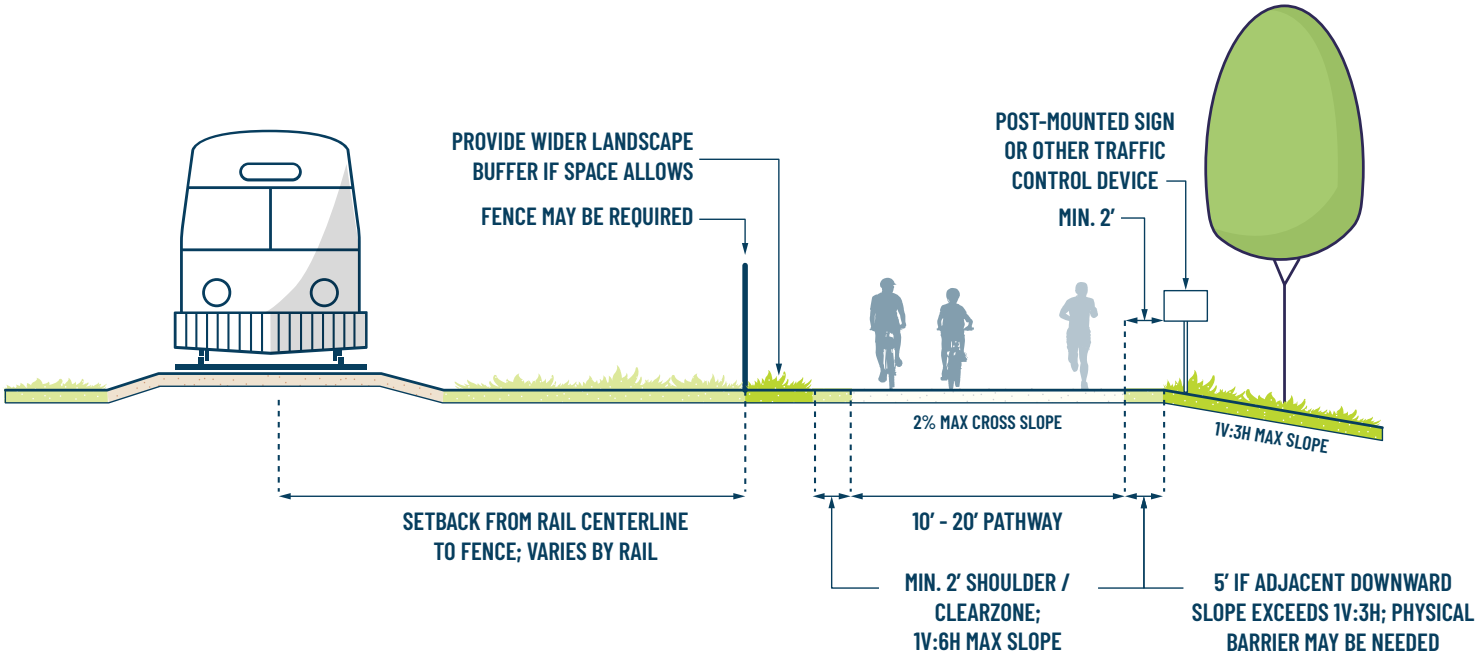
Middle: Northstar (commuter rail) Rail-with-Trail in Minneapolis, MN

Right: Maybrook Trailway at Lake Tonetta along Metro North Rail's Beacon Line (Freight), in Southeast, NY

Charlotte, NC

Minneapolis, MN

Southeast, NY



Design guidelines are based on AASHTO, Guide for the Development of Bicycle Facilities (2012) and FHWA, Rails-with-Trails: Lessons Learned (2002)

DESIGN GUIDELINES

Width: A demand analysis, combined with the use of FHWA's SUPLOS Calculator, should be conducted to determine appropriate widths. 10-12' is a typical default pathway width, and 8' width is acceptable only in constrained conditions and for short distances (AASHTO Bike Guide Section 5.2.1).

Shoulder / Clear Zone: Minimum 2' graded area (maximum 1V:6H slope) should be provided for clearance from landscaping or other vertical elements such as fences, light poles, sign posts, etc.; recommend aggregate or turf grass to prevent weeds from spilling onto pathway.

Vertical Clearance: 8' minimum, 10' typical.

Slope: Pathway slopes should be designed at 5% (greater slope is permitted, but should be limited, see AASHTO); Pathway cross slope should not exceed 2%.

Rail Setback: The FHWA Rails-with-Trails document provides no consensus on an appropriate setback distance between the paved edge of a pathway and the centerline of the closest active rail track. Setbacks from active rail lines will vary depending on the speed, and frequency of trains, topography, sight distances, available right-of-way, and rail operator standards (FHWA 2002).

Security Fence: If required, fencing should be a minimum of 5 feet in height with higher fencing considered next to sensitive areas such as switching yards.

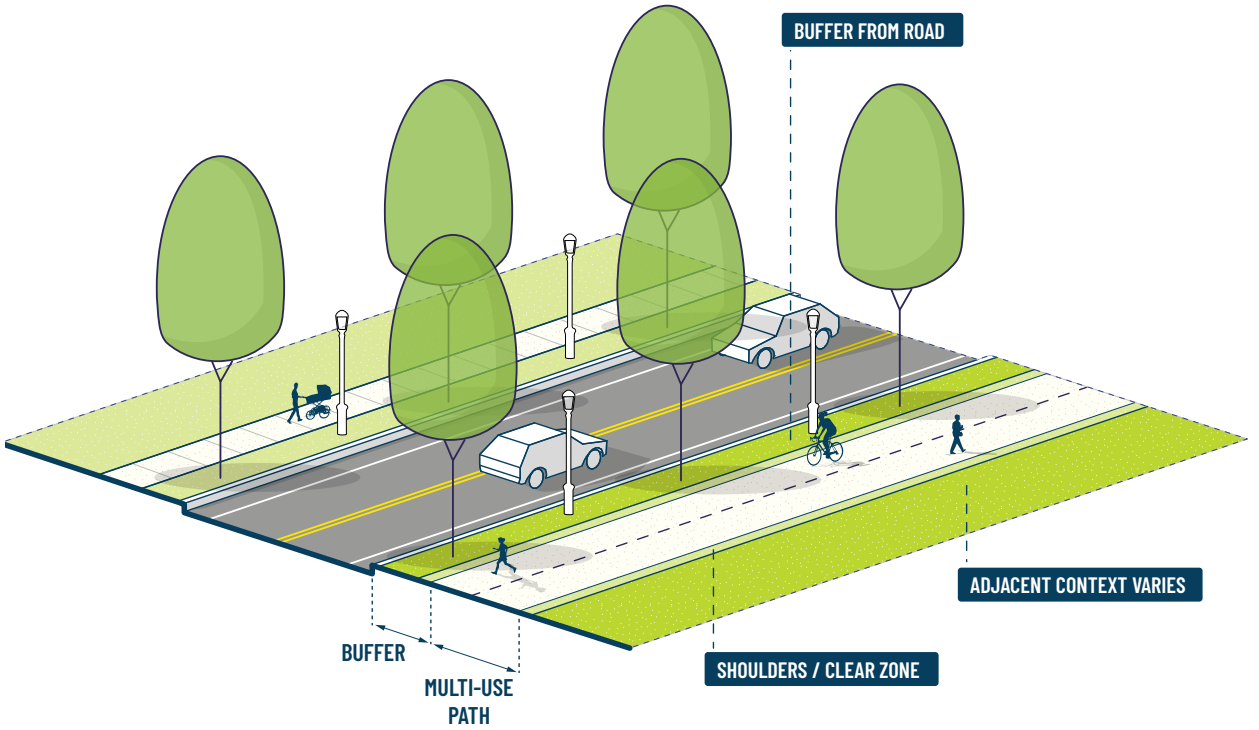
Other Design Criteria: Pathway design should comply with all AASHTO requirements for shared use paths related to design speed, sight distances, stopping distances, and grades.

ROADWAY CORRIDOR

Pathways are often located alongside roadway corridors to serve as both recreational and utilitarian routes. While this placement poses unique pathway challenges, such as driveway crossings and close proximity to moving vehicles, these pathways create direct and important routes through the community.

TYPICAL APPLICATION

When pathways run alongside a roadway corridor, standard multi-use pathway characteristics should be maintained in order to reinforce the continuity of the pathway and create a distinction between sidewalks and other nearby facilities. Buffer space of at least 5' between the roadway and pathway can include smaller vegetation, light and utility poles, and other physical barriers. A buffer must be at least 8' wide to accommodate trees.



Real World Examples

Left: Federal Way in Boise, ID

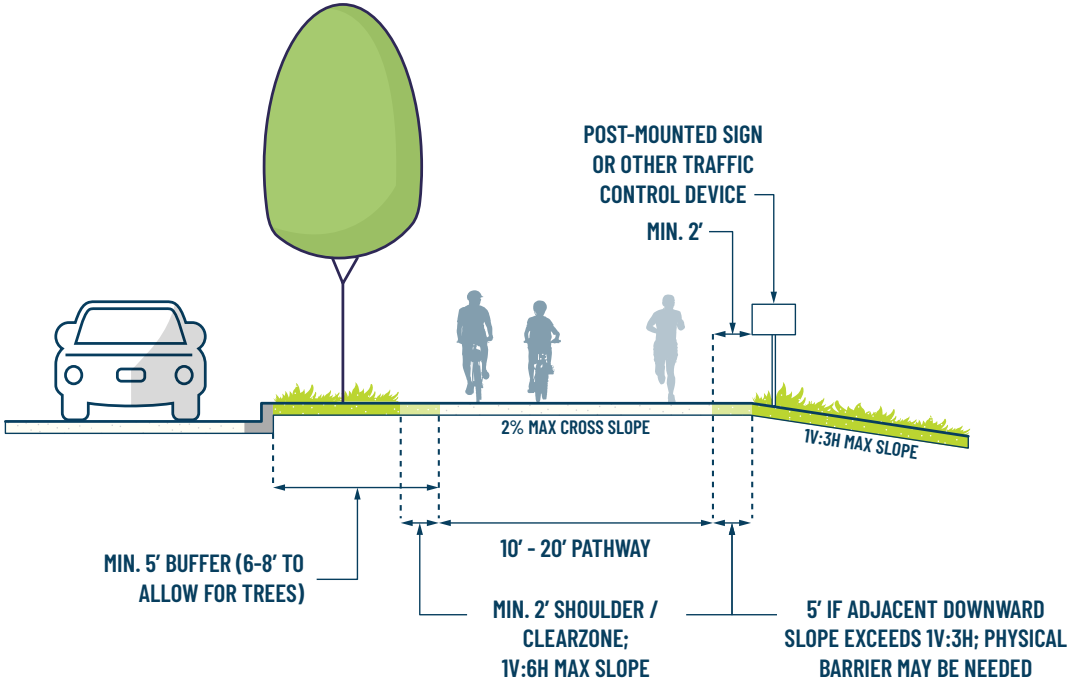
Middle: Chinden Blvd in Boise, ID

Right: Indianapolis Cultural Trail in Indianapolis, IN

Boise, ID

Boise, ID

Indianapolis, IN



Design guidelines are based on AASHTO, Guide for the Development of Bicycle Facilities (2012)

DESIGN GUIDELINES

***Width*:** A demand analysis, combined with the use of FHWA's SUPLOS Calculator, should be conducted to determine appropriate widths. 10-12' is a typical default pathway width, and 8' width is acceptable only in constrained conditions and for short distances (AASHTO Bike Guide Section 5.2.1).

Buffer: A wide separation should be provided between the pathway and adjacent roadway. The buffer is measured from the face of curb (if present) or the edge of the paved roadway, and should not be less than 8'. Paved shoulders do not count towards the overall buffer width. Greater separation is desirable along high-speed roadways. In either case, if proper separation is not achievable, a physical barrier or railing should be provided.

***Shoulder / Clear Zone*:** Minimum 2' graded area (maximum 1V:6H slope) should be provided for clearance from landscaping or other vertical elements such as streetscape amenities, light poles, sign posts, etc.; recommend aggregate or turf grass to prevent weeds from spilling onto pathway.

***Vertical Clearance*:** 8' minimum, 10' typical.

***Slope*:** Pathway slopes should be designed at 5% (greater slope is permitted, but should be limited, see AASHTO); Pathway cross slope should not exceed 2%.

***Other Design Criteria*:** Pathway design should comply with all AASHTO requirements for shared use paths related to design speed, sight distances, stopping distances, and grades. See AASHTO p. 5-8 for roadway corridor conflict considerations.

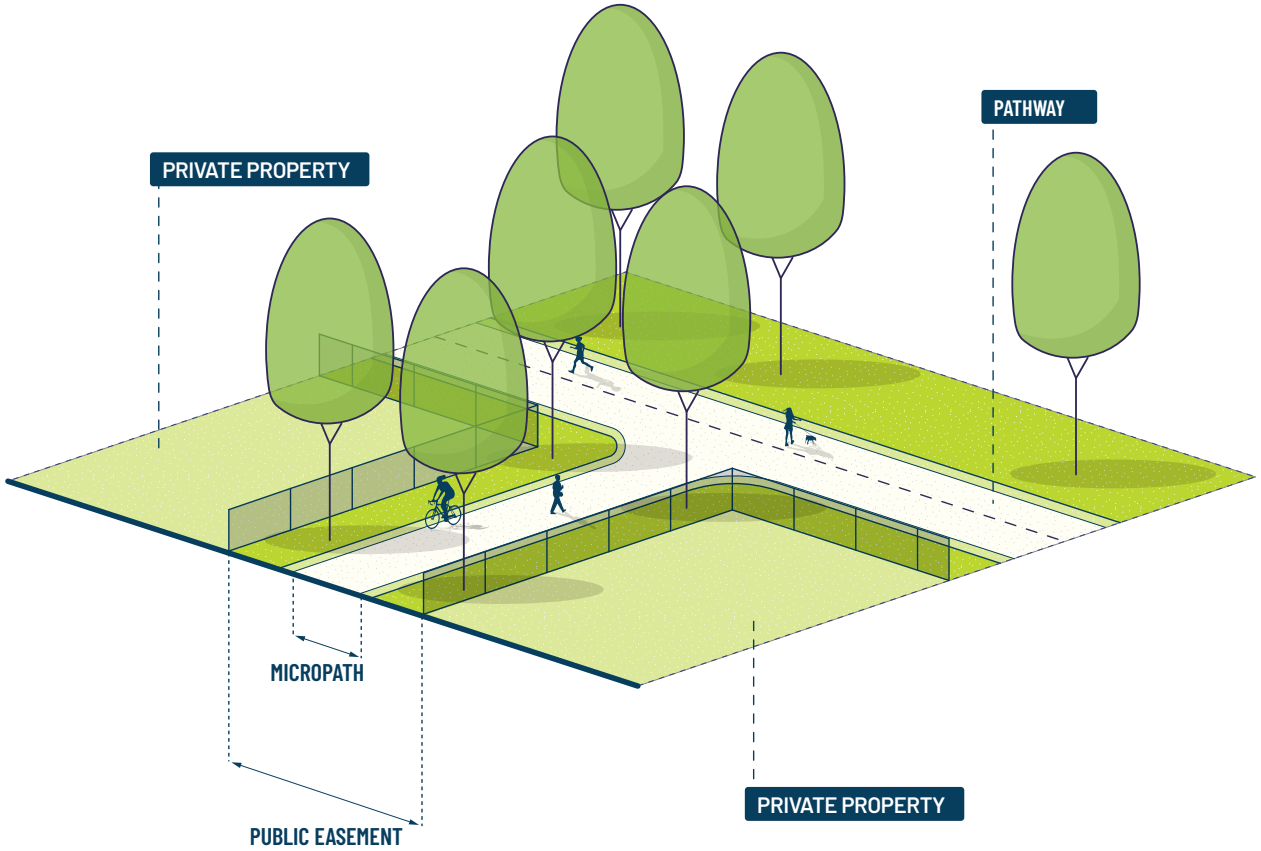
Signage: Wayfinding or other informational signage, if located within buffer between roadway and pathway, should be mounted at 7' from pathway to bottom of sign and 2' from the side of the pathway (see MUTCD).

NEIGHBORHOOD ACCESS PATHS

Neighborhood access pathways (also referred to as micropaths) are paved pathway connections between two roads or to existing and planned public pathways located within or adjacent to a neighborhood. They should be maintained as public easements and designed in a way that communicates access to a public pathway.

TYPICAL APPLICATION

In new developments, neighborhood access paths should be constructed no less frequently than every 900 feet along the adjacent pathway corridor. The design and construction of these connections should maintain visibility to the micropath and provide enough room for shade trees and landscaping that is consistent with CPTED principles to maintain sight lines.



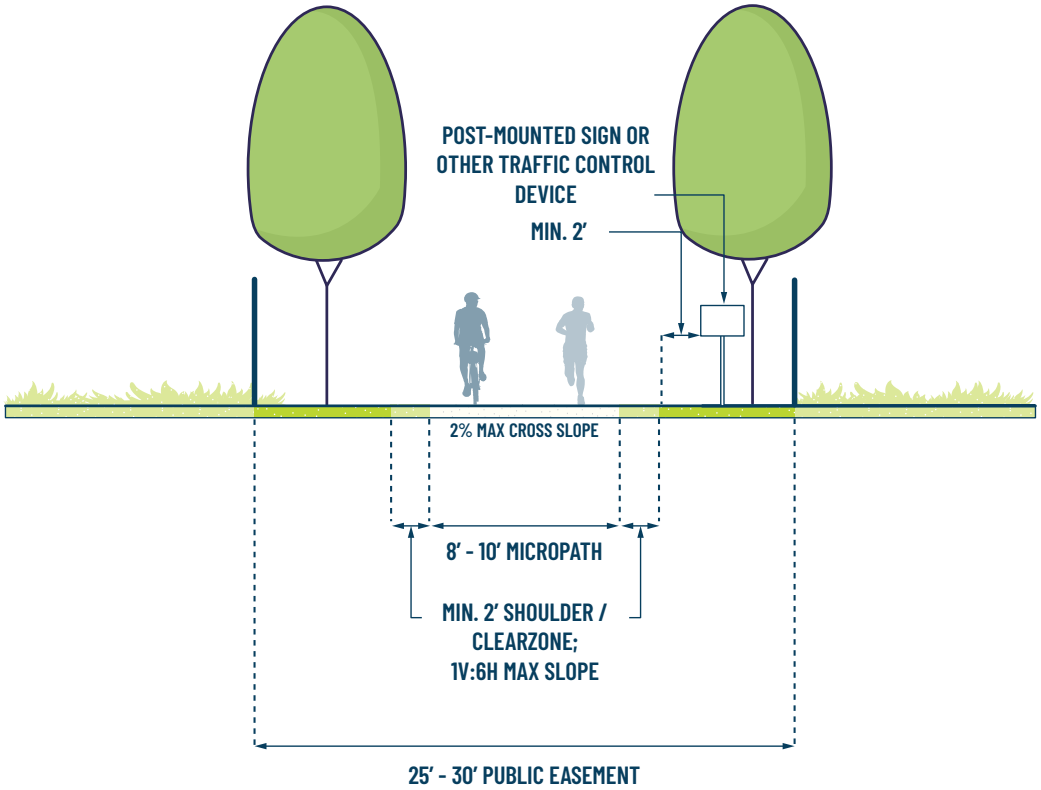
Real World Examples

Left: DeMeyer Park access path in Boise, ID

Middle: Greenbelt access path in Garden City, ID

Boise, ID

Garden City, ID



Design guidelines are based on AASHTO, Guide for the Development of Bicycle Facilities (2012)

DESIGN GUIDELINES

***Width*:** 8-10' is the typical width; wider in high-traffic areas.

***Shoulder / Clear Zone*:** Minimum 2' graded area (maximum 1V:6H slope) should be provided for clearance from landscaping or other vertical elements such as fences, light poles, sign posts, etc.; recommend aggregate or turf grass to prevent weeds from spilling onto access path.

***Vertical Clearance*:** 8' minimum, 10' typical.

***Slope*:** Access path slopes should be designed at 5% (greater slope is permitted, but should be limited, see AASHTO); Access path cross slope should not exceed 2%.

Easement Width: A 25-30' easement with public access; easements should be wide enough to allow for medium- to large-maturing trees and landscaping on both sides of the access path.

***Other Design Criteria*:** For access paths longer than 200 feet, the easement width should be wider for user comfort in congruence with principles of Crime Prevention Through Environmental Design (CPTED).

APPENDIX F

Table of Recommendations

Category	Recommendation	Page
Pathways Adjacent to Roadways	Collaborate with ACHD to evaluate the RLS Network, prioritizing routes that fill pathway gaps, and ensuring best practice standards for comfort are implemented, especially when closing gaps in the pathway network Coordinate with ACHD to extend sidepath connections along roadway corridors where feasible (See Map D.1 in Appendix D)	60
Bicycle Parking	Update standards for minimum bicycle parking rates for new development	67
	Install bicycle parking at pathway and foothill trailheads and along pathways as needed	
Wayfinding & Branding	Develop a pathways wayfinding and branding plan	67
	Include wayfinding in the planning, design, and cost estimating for new pathways	
Trailheads and Rest Areas	Consider the inclusion of trailheads and rest areas during the design of new pathways	68
Green Infrastructure	Include landscaping and tree requirements and guidance in the design and construction of new pathways	69
Lighting	Reevaluate lighting policies when City of Boise Pathways Master Plan is updated	69
Unique Branding and Storytelling	Develop a unique branding and storytelling strategy for the Boise River Greenbelt in addition to general pathway wayfinding elements used throughout the network	71
Access Evaluation	Conduct an evaluation to identify new and improved Greenbelt access points	71
Demand and Widths Evaluation	Conduct an evaluation of Greenbelt demand and widths to identify widening and separation needs	73

Dedicated Pathways Program	Coordinating programs previously mentioned in Chapter 5	83
	Pathway planning and prioritization	
	Design review for new pathways	
	Relationship building and coordination with partners (e.g., ACHD, irrigation districts, etc.), underlying land owners, and neighbors	
	Coordinating the maintenance program	
	Tracking and recording the issuance and requirement of easements	
	Pursuing funding for the pathway program and construction of new pathways	
	Manage League of American Bicyclists Bicycle Friendly Community applications and incorporate feedback	
Working with Community partners	Treasure Valley Cycling Alliance (TVCA)	103
	Sierra Club Idaho Chapter and associated Canals Connect Communities Coalition (CCCC)	
	Boise Bike Boulevard Coalition (BBBC)	
	Boise Bicycle Project	
	Idaho Bike Walk Alliance	
	Treasure Valley Safe Routes to School (SRTS)	
	Idaho Conservation League	
	Land Trust of the Treasure Valley	

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APPENDIX G

Priority Project Concept Sheets

CONCEPT DEVELOPMENT

This section explores concepts for three projects identified as being ready for design or feasibility study. The contents of these concept sheets are intended to help develop future scopes of work for design and engineering services, and give the City a head start on understanding the opportunities, constraints, and planning level costs associated with implementing the project. This section contains concept sheets for the following projects:

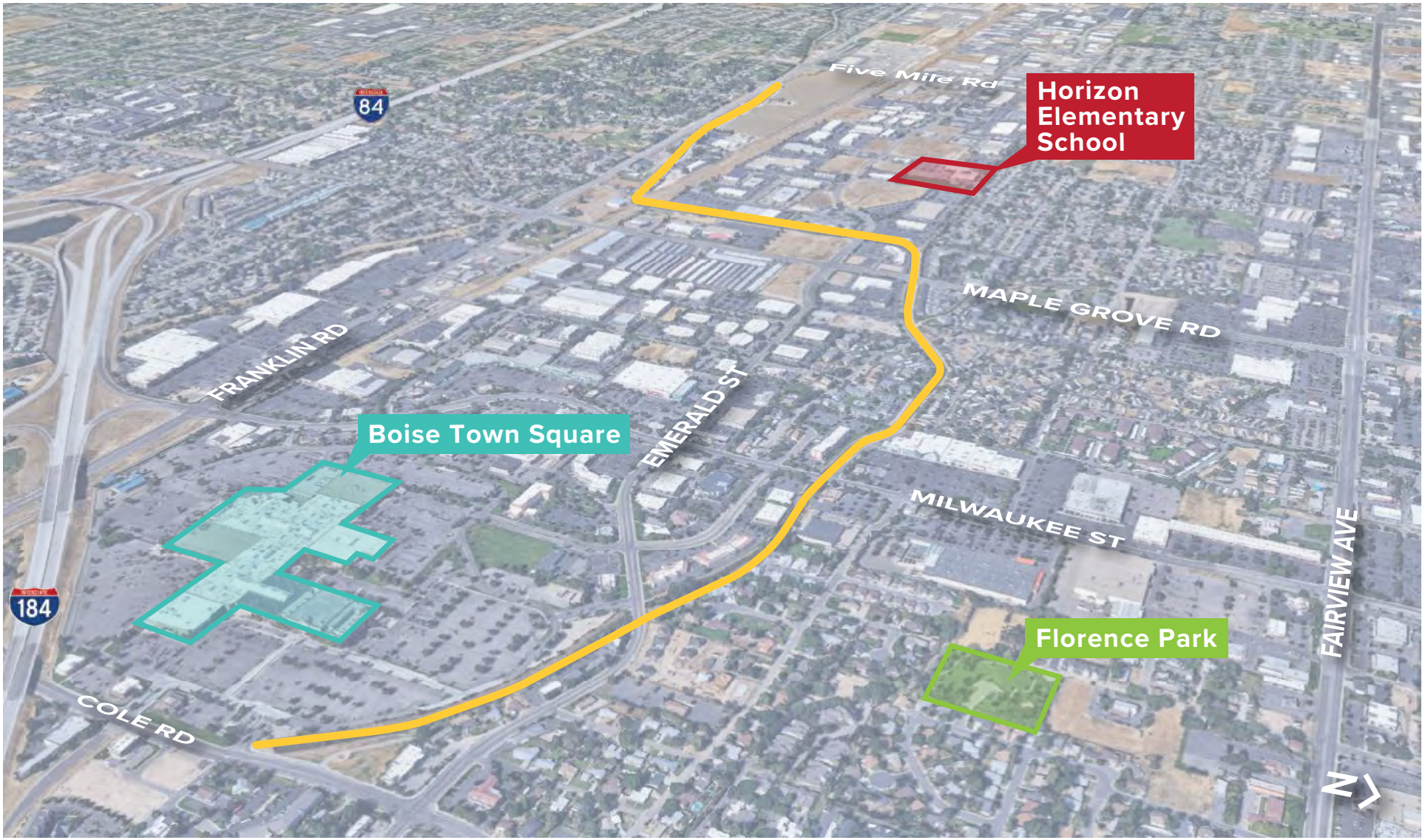
- Ridenbaugh Canal pathway from Five Mile Rd to Cole Rd
- Milk Lateral pathway from Sharon Ave to Five Mile Rd
- Tuttle Lateral pathway from Milwaukee St to Cole Rd

These projects were chosen for concept exploration based on several factors, including:

- Higher scores in the goal-based and feasibility evaluations (See Chapter 6)
- Potential precedent for working with multiple agency partners (Ridenbaugh Canal pathway)
- Opportunities to explore numerous cross sections and varying contexts
- Potential precedent for coordinating with multiple private property owners (Milk Lateral pathway)
- Majority of corridor is on City-owned property (Tuttle Lateral pathway)

RIDENBAUGH CANAL

From Five Mile Rd to Cole Rd



PROJECT DESCRIPTION

The proposed Ridenbaugh Canal pathway from Five Mile Rd to Cole Rd is roughly 2.5 miles in length. It links together several commercial destinations, including the Boise Towne Square Mall, as well as potential future development areas. The Ridenbaugh Canal is operated by the Nampa & Meridian Irrigation District, who operates under a prescriptive use easement, and has rights to the land within that easement.

ESTIMATED COST: $4.25 MILLION

BENEFITS

Connects to major destinations

The Ridenbaugh Canal pathway would connect to the Boise Towne Square Mall, as well as other major retailers, employers, and areas of future development.

Precedent for future canal adjacent pathways

Successful implementation along a major canal such as the Ridenbaugh Canal would give the City and other involved agencies confidence in future efforts along canals.

Falls in an area identified as high-need

The demographics analysis showed that this are would benefit from more active transportation choices. The area currently lacks access to pathways.

Formalizes existing use of the corridor

People already use the canal service roads for recreation and transportation. This project would formalize and organize use and improve safety.

KEY CONSIDERATIONS

Limited space along some segments

Some segments of the corridor cannot accommodate the preferred setbacks identified by NMID without impacting adjacent properties. This could lead to multiple on-street detours and a fragmented pathway experience as well as potential impacts to adjacent properties.

Crossing the railroad

Coordination with Union Pacific Railroad has not taken place to determine the likelihood of achieving an at-grade crossing of the railroad.

THE CORRIDOR AT A GLANCE

Looking West: Franklin Rd

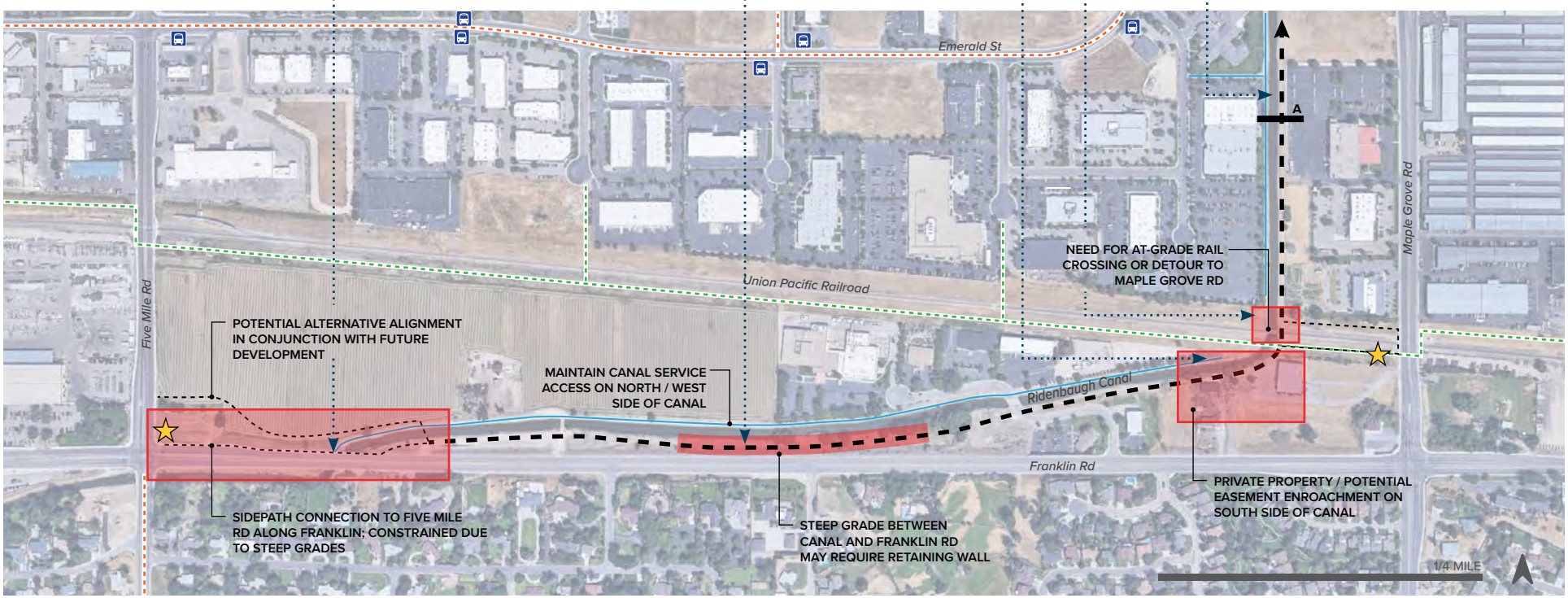
Looking East: Steep slopes between Franklin and the canal

Looking SW: Private property conflicts

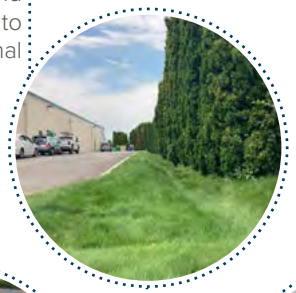
Looking South: Railroad crossing

Looking South: ±28' from canal to private properties

- Original alignment
- Alternative alignment
- Planned pathway
- Planned sidepath
- Planned bikeway (critical RLS)
- Planned bikeway (RLS)
- Canal service access
- VRT frequent service route
- Cross section (See pg. G-8)
- Mid-block crossing
- VRT bus stop
- Potential trailhead/rest area



Looking West: Steep slopes and drainage next to canal



Looking West: Potential land acquisition opportunity

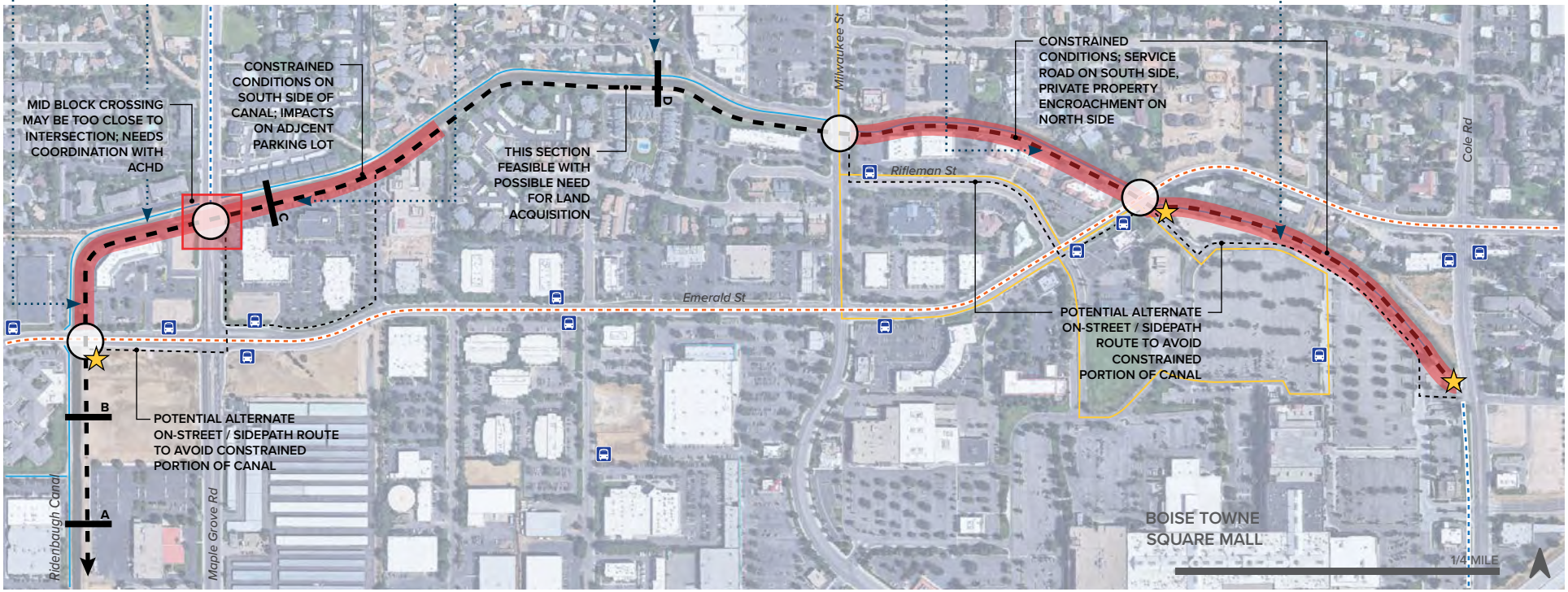
Looking West: ±20-30' from canal to fence; service road on south side

Looking South: Private property conflicts

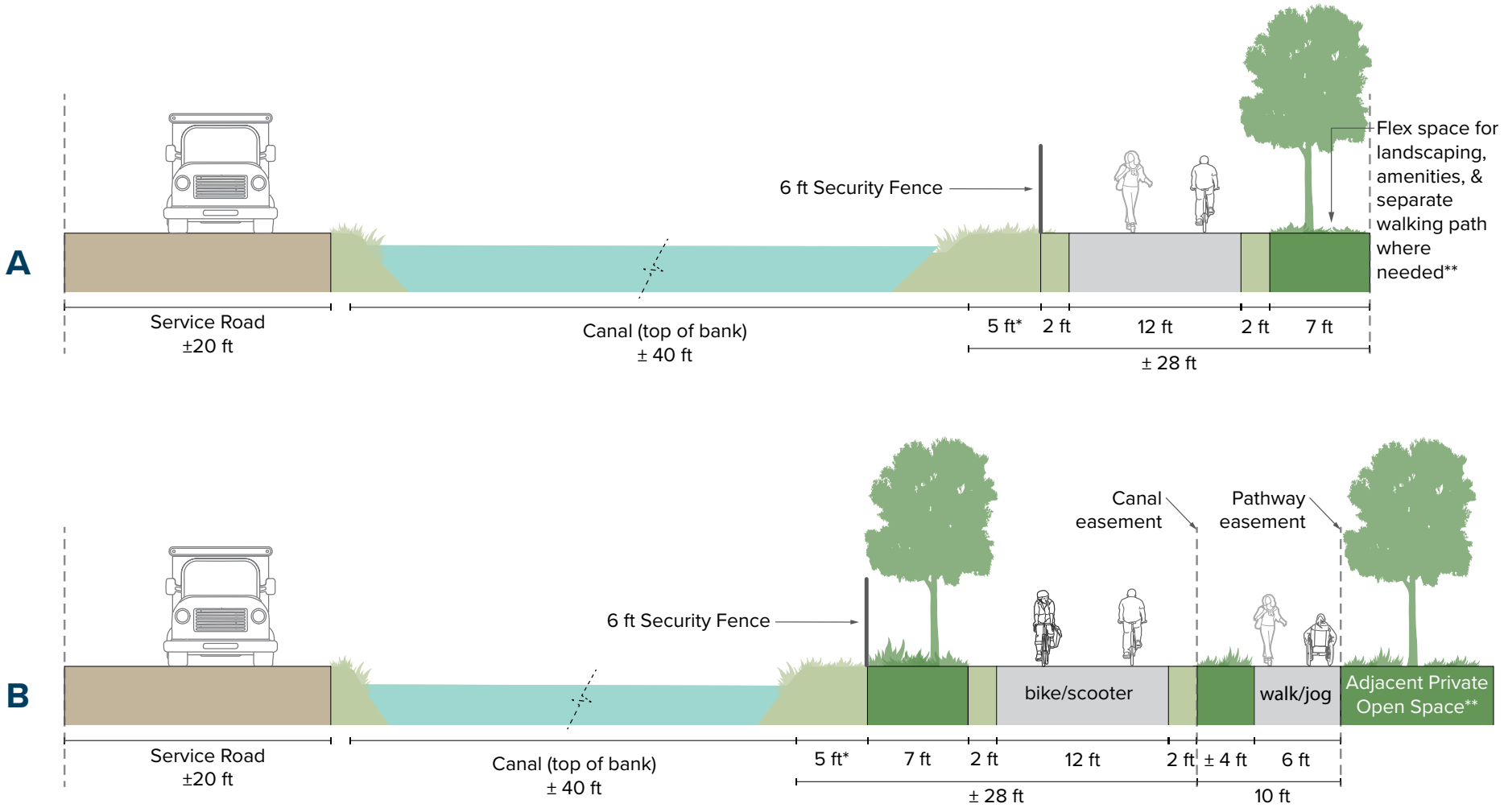
Looking West: private property conflicts

Looking West: Service road on south side; private property conflicts

- Original alignment
- Alternative alignment
- Planned pathway
- Planned sidepath
- Planned bikeway (critical RLS)
- Planned bikeway (RLS)
- Canal service access
- VRT frequent service route
- Cross section (See pg. G-8)
- Mid-block crossing
- VRT bus stop
- Potential trailhead/rest area



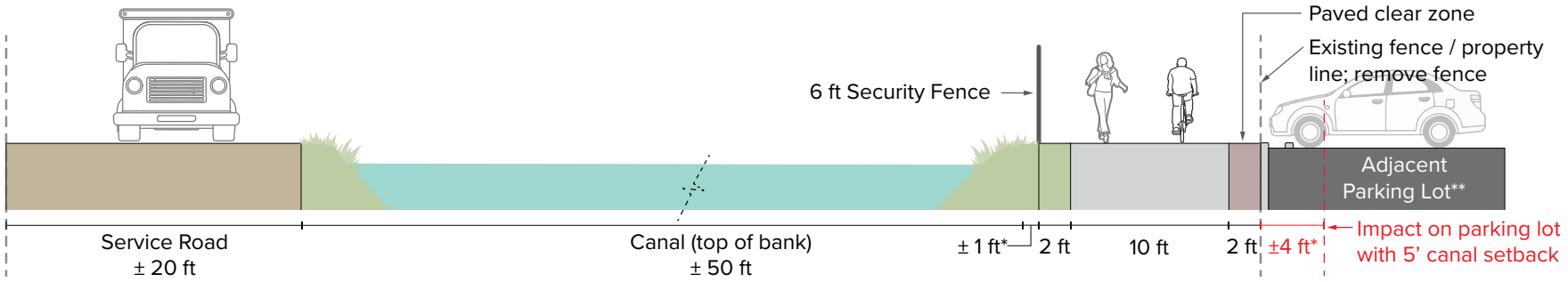
TYPICAL CROSS SECTIONS (See maps on pages G-6 and G-7 for cross section locations)



* Consider reducing canal setback to a) allow more space for landscaping and amenities, b) increase pathway width, c) reduce weed maintenance along canal, and/or d) reduce impacts on adjacent properties / need for land acquisition; coordinate with NMID and adjacent property owners
** Coordinate with adjacent property owners to maintain public access to pathway and incoporate amenities and landscaping adjacent to pathway

TYPICAL CROSS SECTIONS *CONT.* (See maps G-7 for cross section locations)

C



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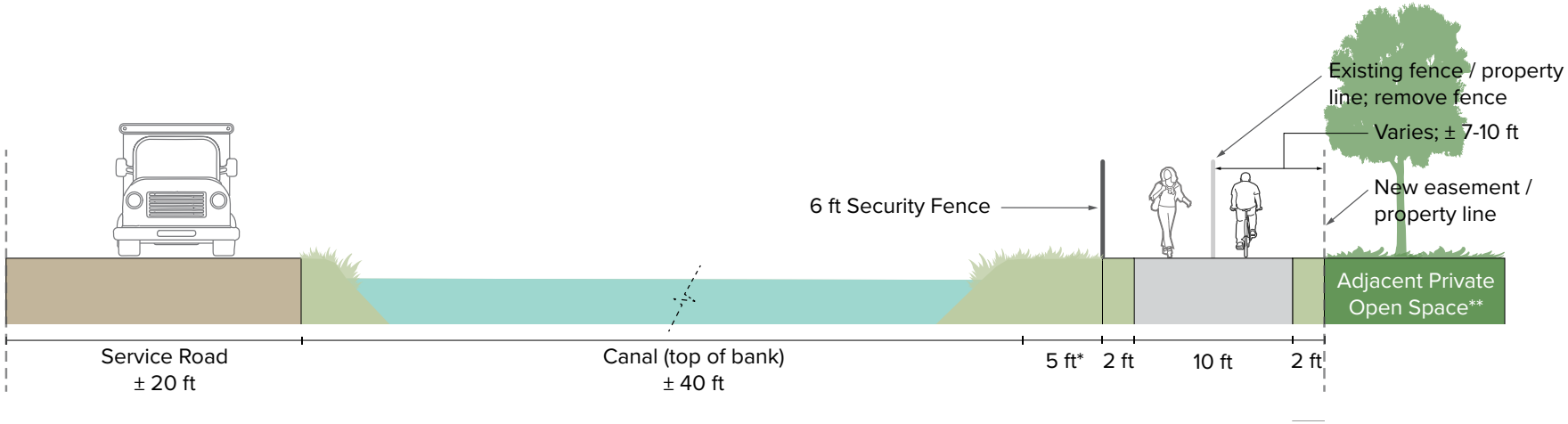


* Consider reducing canal setback to a) allow more space for landscaping and amenities, b) increase pathway width, c) reduce weed maintenance along canal, and/or d) reduce impacts on adjacent properties / need for land acquisition; coordinate with NMID and adjacent property owners
** Coordinate with adjacent property owners to maintain public access to pathway and incoporate amenities and landscaping adjacent to pathway

DESIGN AND IMPLEMENTATION APPROACH

Pathway Width & Material

Based on the project area's surrounding context, it is anticipated that a pathway in this corridor would see medium to high levels of use. Ideally, a minimum pathway width of 14 feet, with intermittent locations of user separation at strategic locations (e.g. high traffic fronting land uses), would be installed. However, due to physical constraints and limited space, 10-12 feet is recommended to reduce impacts on adjacent properties and to increase the feasibility of the project. The pathway material should be concrete with saw cut (not tooled) joints. Center dashed striping may be used to organize pathway traffic.

Supporting Elements and Amenities

Locations and design of pathway amenities along the corridor should be included in the scope of work for future design and engineering services. Pathway amenities should include:

Wayfinding: The City's branded wayfinding signage* should be incorporated along the corridor, including access signage at formalized entry points, decision signs where the pathway intersects with other bicycle or pedestrian routes, turn signs where detours are necessary, and confirmation signs. Both post-mounted signs and pavement markings should be explored for wayfinding and branding.

*It is recommended that a cohesive wayfinding and signage system be established for use along all of Boise's pathways; in the interim, standard bicycle signage as found in Chapter 9 of the Manual on Uniform Traffic Control Devices (MUTCD) should be used.

Bicycle Parking: Bicycle parking is most effective near storefronts and other building entries; however, any trailheads or programmed open space that falls adjacent to the pathway may warrant bike parking within the pathway corridor. See the Boise Pathways Master Plan for guidance on bicycle parking rates, rack selection, and rack placement.

Trailheads & Rest Areas: Potential locations for trailheads and rest areas are identified on the maps on pages G-6 and G-7. Exact locations and site configurations should be determined during the design process. The scale and programming of each location may vary. Future developments should consider incorporating trailheads and rest areas into site plans where the development fronts the pathway.

On-street Detours

As indicated on the project maps, some segments along the corridor may require on-street detours due to feasibility issues along the canal. Exploration of on-street design alternatives, together with ACHD coordination, should be included in the scope of work for future design of this pathway. The goal should be to maintain a high comfort experience that doesn't discourage people from using the pathway corridor.

Potential Street Crossings

To complete the preferred alignment of the pathway, mid-block street crossings would need to be installed at Emerald St, Maple Grove Rd, Milwaukee St, and then again at Emerald St near Boise Towne Square Mall. These are discussed below. For more information regarding mid-block crossings, see Chapter 4 of the Boise Pathways Master Plan.

Emerald St near Maple Grove Rd: RRFB with center median refuge island. Note: this crossing may not be necessary if a continuation of the pathway between Emerald St and Maple Grove Rd is not chosen as the preferred alignment.

Maple Grove Rd: Needs further traffic analysis and coordination with ACHD. The crossing location is only 500' from the intersection of Emerald St. and would likely require a hybrid beacon, which may not be acceptable so close to a fully signalized intersection. Note: this crossing may not be necessary if a continuation of the pathway between Emerald St and Maple Grove Rd is not chosen as the preferred alignment.

Milwaukee St: Hybrid beacon or RRFB with center median refuge; needs further traffic analysis

Emerald St near Boise Towne Square Mall: RRFB with center median refuge that prohibits Emerald St west bound left turns into Mall parking lot; needs further traffic analysis

Railroad Crossing

Further communication is needed with Union Pacific Railroad to determine if an at-grade rail crossing is acceptable at this location. An at-grade crossing would be the desired option, but a short detour to Maple Grove Rd along the south side of the railroad and then the north side of the railroad to cross at Maple Grove Rd would be the alternative. In this case, the sidewalk and concrete flange at Maple Grove would need to be widened.

Proximity to the Canal

The preferred cross section identified in conversations with NMID includes a 5' setback from the top of the canal bank to the security fence. This is primarily due to concerns about canal bank erosion and maintaining the structural integrity of the fence. Coordination with NMID should be done to find solutions for decreasing this dimension. The City may consider incorporating concrete reinforcement of the bank of the canal to allow for smaller setbacks and more room for the pathway itself. This consideration is not included in the overall cost estimates for this project but should be determined in the design and engineering phase.

Using the Service Road

NMID has expressed a desire to keep pathways separate from canal service roads. In some cases, however, a pathway connection along the canal is not possible without a) piping the canal or b) paving the service road to function both as canal service access and a public access pathway. Paving the service road along certain sections of the Ridenbaugh Canal pathway would allow for a more continuous pathway facility and significantly reduce costs. Considerations would need to be made for security fences and canal access points.

COST ESTIMATE BREAKDOWN

Planning level cost estimates for the design and construction of the project are outlined below. These estimates are intended to be used as a guide for future design RFP development and should be refined with current unit costs and any changes that result from the design and engineering process prior to publishing construction bids advertisements or grant applications.

Cross Section		Length (LF)	Unit Cost ($/LF)	Section Cost	Notes
A		4,880	$ 170	$ 829,600	12' path w/ 2' shoulders
B		1,650	$ 200	$ 330,000	12' path, 2' shoulders, 6' foot path
C		5,150	$ 210	$ 1,081,500	10' path, 2' soft shoulder, 2' hard shoulder w/ curb
D		1,750	$ 170	$ 297,500	10' path w/ 2' shoulders
Total		**13,430**	$ 189	**$ 2,538,600**	
	miles	2.54	**weighted avg**		

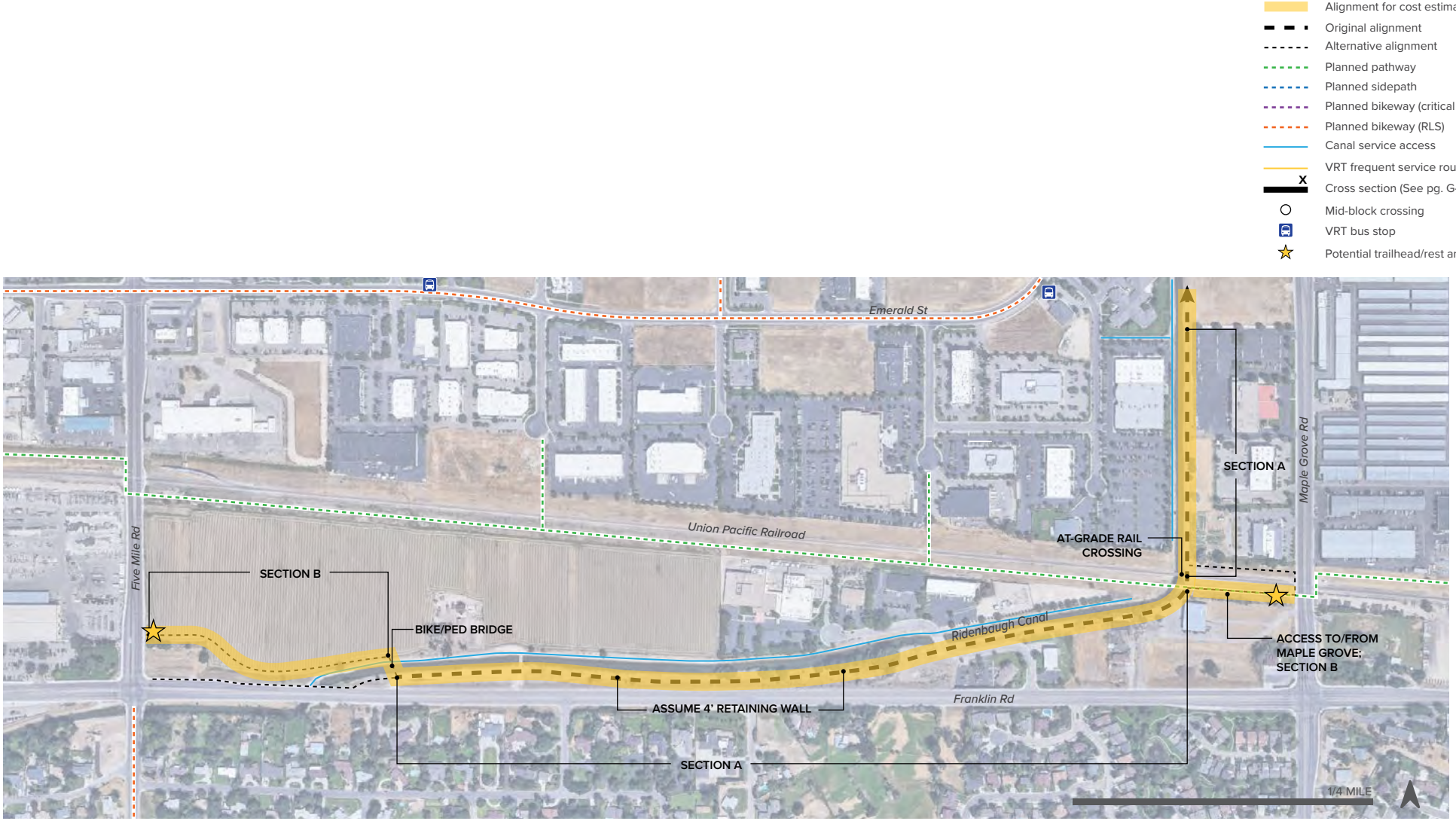
Misc	Unit	Unit Cost	Quantity	Total	
RRFB crossing	EA	$ 50,000	2	$ 100,000	
Wayfinding	EA	$ 400	20	$ 8,139	assumes 8 signs/mile
Bike/Ped Bridge	LF	$ 3,000	100	$ 300,000	
4' retaining wall	SF	$ 50	4,000	$ 200,000	4' high, 1000' long
Easement/acquisition	SF	TBD	14,000	TBD	Section D; assumes 8'
				$ 608,139	

Subtotal		**$ 3,146,739**
Engineering & Design	10%	$ 314,674
Contingencies	25%	$ 786,685
Project Total		**$ 4,248,098**

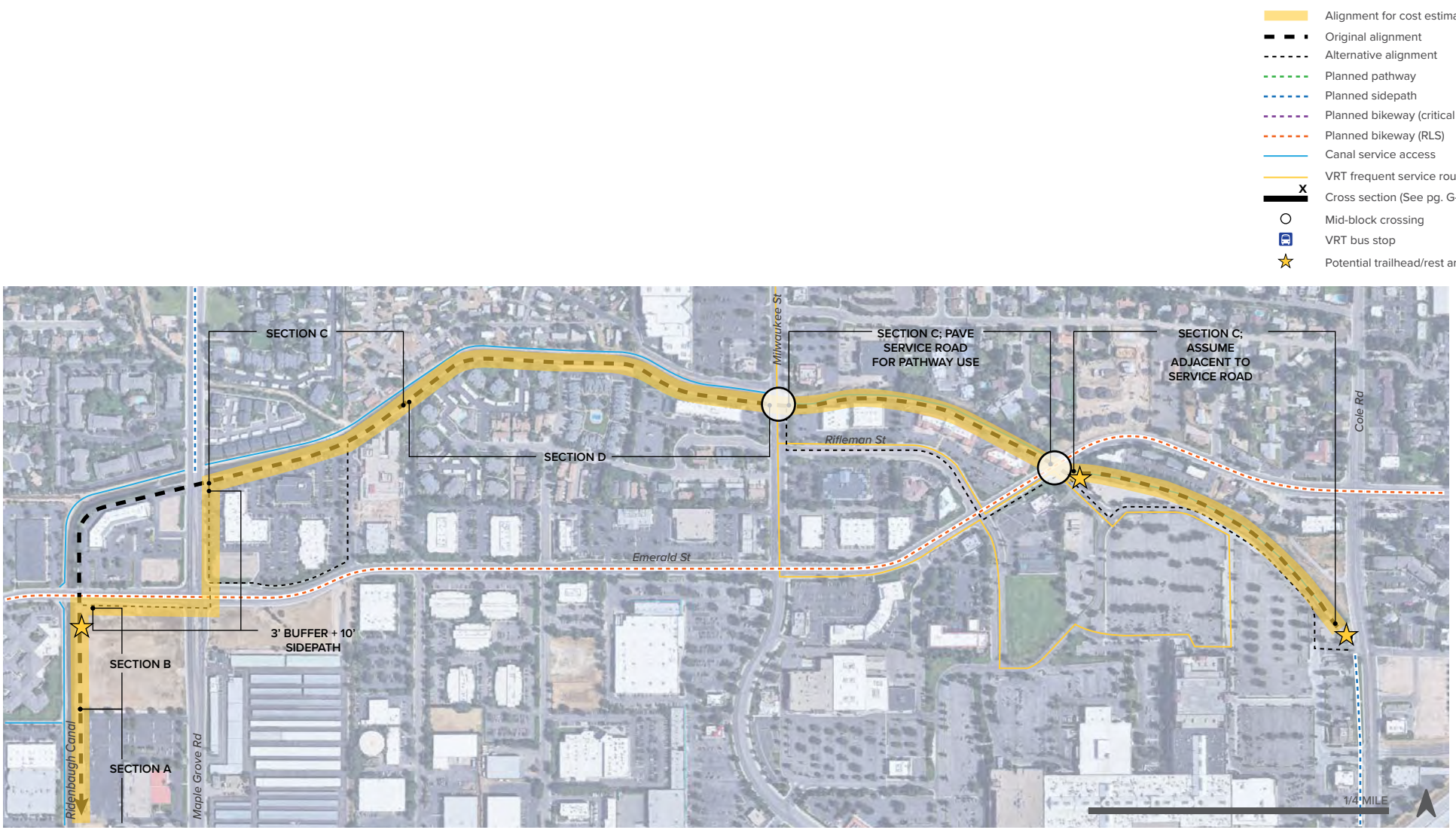
COST ESTIMATE ASSUMPTIONS

See Maps on G-14 and G-15 for assumed alignment. The above cost estimate does not account for property acquisition (although estimated SF is provided), trailhead design and construction (if applicable), utility relocation, or landscaping beyond lawn seeding the 2' pathway shoulder. This is due to the variance in real estate costs and unknown programming and design elements associated with trail heads (e.g., number of parking spaces, amenities, etc.) and landscaping. These costs should be established during design and factored into total construction costs.

ALIGNMENT FOR COST ESTIMATING PURPOSES



ALIGNMENT FOR COST ESTIMATING PURPOSES



MILK & COLLIS LATERALS

from Sharon Ave to Five Mile Rd

PROJECT DESCRIPTION

The proposed Milk and Collis Laterals pathway from Sharon Ave to Five Mile Rd is roughly 1.8 miles in length. It weaves through residential neighborhoods, extending connections to Ustick Elementary, Redwood Park, and everyday needs around the intersection of Five Mile and Fairview. The Ridenbaugh Canal is operated by the Nampa & Meridian Irrigation District, who operates under a prescriptive use easement, and has rights to the land within that easement.

ESTIMATED COST: $4.8 MILLION

BENEFITS

Expands safe routes to school

This project would create safe connections to/from Ustick Elementary to the east side of Colverdale Rd.

Precedent for pathways along canal laterals

This project would give the City experience in working with agencies along smaller canal laterals where piping canals may be more feasible, creating a win-win scenario for both NMID and the community.

Connects to daily needs

This project would make walking and biking to destinations at the intersection of Five Mile and Fairview safer and more enjoyable. Destinations include banks, pharmacy, thrift stores, restaurants, and other shopping locations.

KEY CONSIDERATIONS

Underlying land ownership

For the majority of the corridor, multiple private residential property lines extend all the way to the center of the canal. While NMID legally has a right to the corridor through their prescriptive use easement, some private encroachments on the easement are present and coordination with adjacent neighbors will need to be included in future efforts.

Collis Lateral is secluded

The Collis Lateral easement is narrow (± 30') with few openings and access points. Additionally, the corridor is not visible from most adjacent properties due to opaque fencing. These factors decrease feelings of safety along the corridor.

Piping canal laterals

Some segments of the corridor would require piping canal laterals to avoid impacts to mature trees or adjacent properties. This could significantly increase project costs.

THE CORRIDOR AT A GLANCE

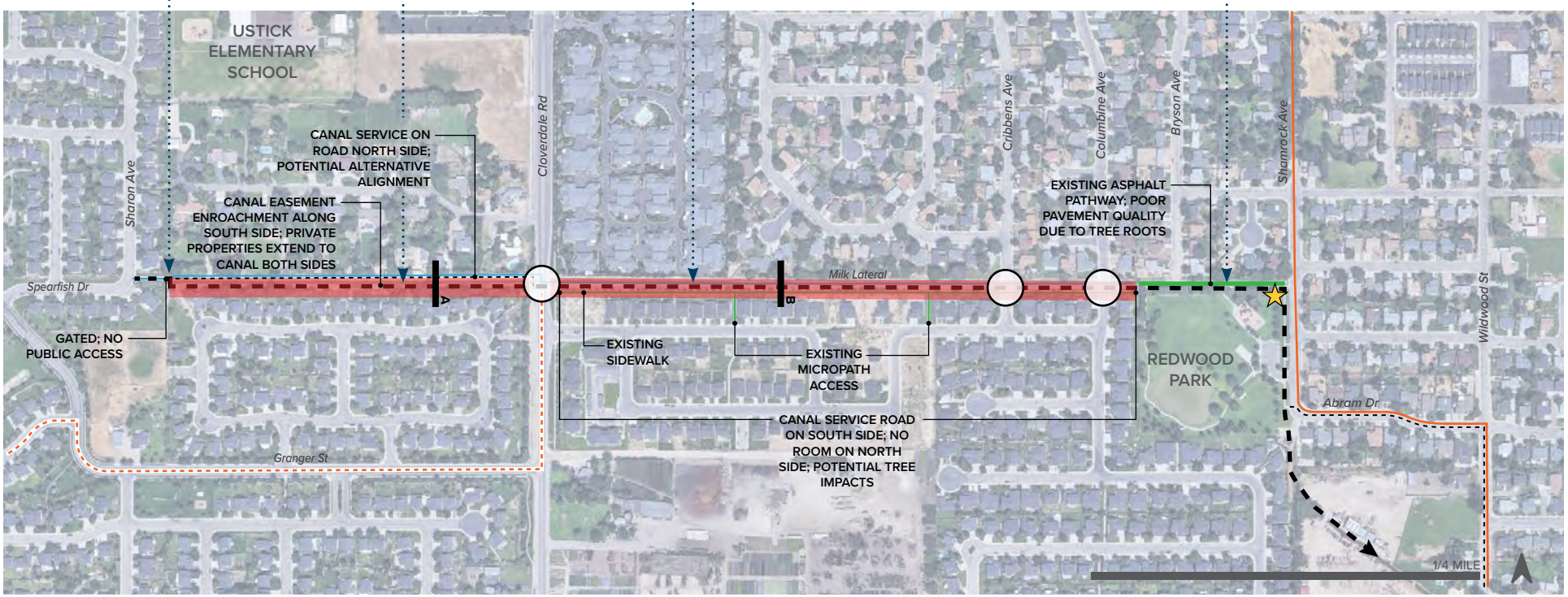
Looking West: Access to/from Sharon Ave

Looking East: Easement encroachment

Looking East: Service road on south side

Existing pathway through Redwood Park: tree root damage

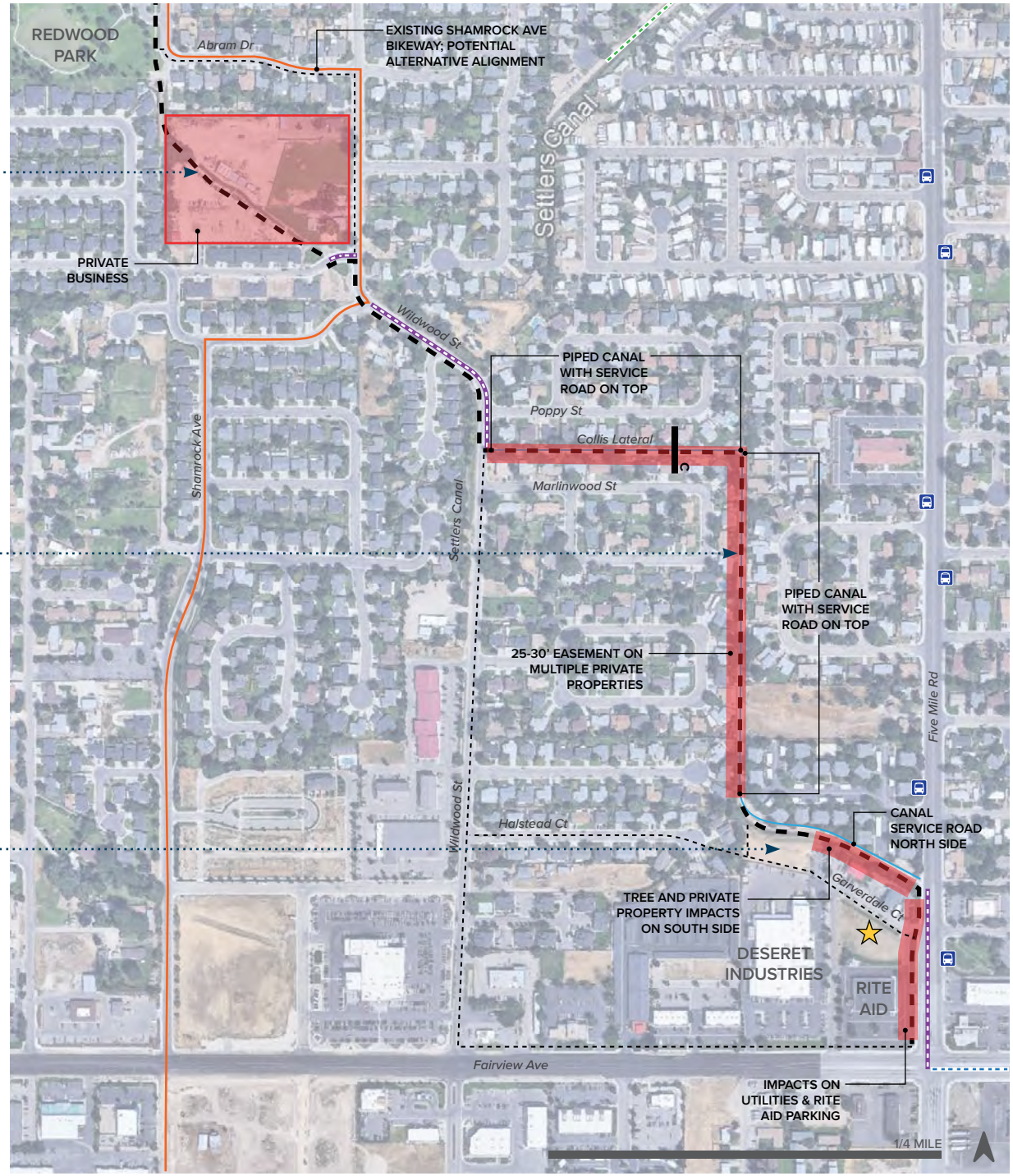
- Original alignment
- Alternative alignment
- Existing pathway
- Planned pathway
- Planned sidepath
- Planned bikeway (RLS request)
- Existing bikeway (RLS)
- Planned bikeway (RLS)
- Canal service access
- Cross section (See pg. G-8)
- Mid-block crossing
- VRT bus stop
- Potential trailhead/rest area



Looking South: private business operations

Looking North: easement encroachment

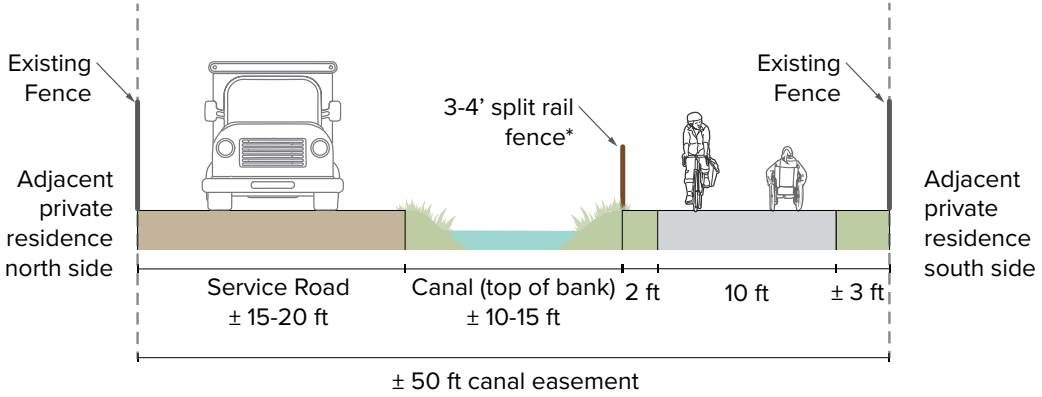
Looking West: private business operations



- Original alignment
- Alternative alignment
- Existing pathway
- Planned pathway
- Planned sidepath
- Planned bikeway (RLS request)
- Existing bikeway (RLS)
- Planned bikeway (RLS)
- Canal service access
- Cross section (See pg. G-8)
- Mid-block crossing
- VRT bus stop
- Potential trailhead/rest area

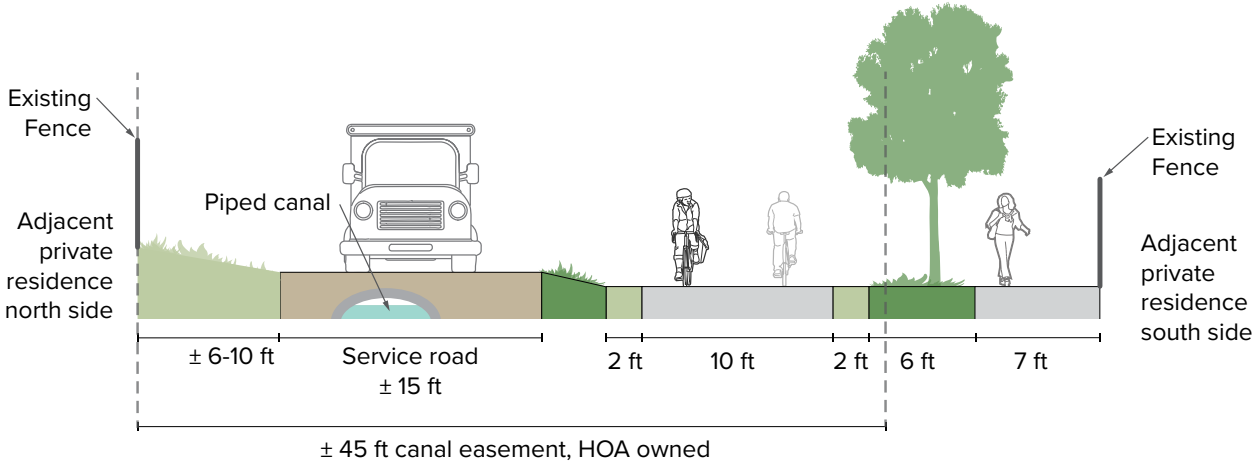
TYPICAL CROSS SECTIONS (See map on pages G-18 for cross section locations)

A



- This section would require enforcing the existing canal easement to remove encroachments such as sheds, gardens, etc.
- Alternatives: pipe canal or pave service road to allow pathway use

B

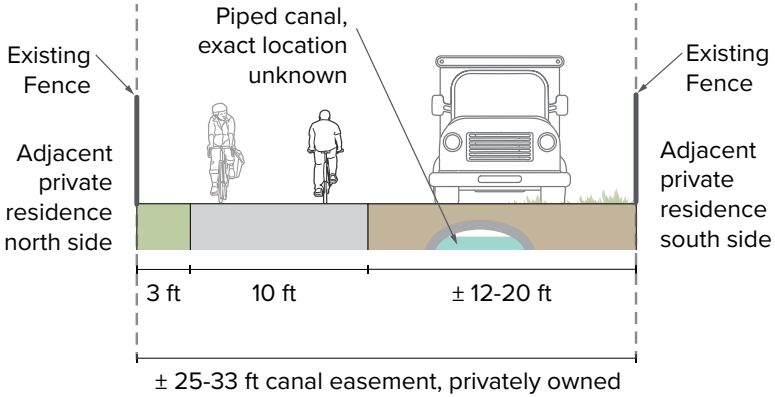


- Alternative: leave canal open, reduce service road to 12', and remove existing trees and sidewalk to allow for a 10-12' pathway with landscaped shoulders

* Coordinate with NMID to allow 3-4' decorative, transparent fence near top of canal bank (minimize required setback); the lateral is narrow, shallow, and slow flowing and is currently accessed by private residences as evidenced by easement encroachment, gates from private backyards, and foot bridges

TYPICAL CROSS SECTIONS *CONT.* (See map G-19 for cross section locations)

C



- Exact location of piped canal to be verified; aerials suggest a slight offset to one side based on access vault locations

* Coordinate with NMID to allow 3-4' decorative, transparent fence near top of canal bank (minimize required setback); the lateral is narrow, shallow, and slow flowing and is currently accessed by private residences as evidenced by easement encroachment, gates from private backyards, and foot bridges

DESIGN AND IMPLEMENTATION APPROACH

Pathway Width & Material

Based on the project area's surrounding context, it is anticipated that a pathway in this corridor would see low to medium levels of use. A minimum pathway width of 10 feet is recommended to reduce impacts on adjacent properties and to increase the feasibility of the project. The pathway material should be concrete with saw cut (not tooled) joints. Center dashed striping may be used to organize pathway traffic.

Supporting Elements and Amenities

Locations and design of pathway amenities along the corridor should be included in the scope of work for future design and engineering services. Pathway amenities should include:

Wayfinding: The City's branded wayfinding signage* should be incorporated along the corridor, including access signage at formalized entry points, decision signs where the pathway intersects with other bicycle or pedestrian routes, turn signs where detours are necessary, and confirmation signs. Both post-mounted signs and pavement markings should be explored for wayfinding and branding.

*It is recommended that a cohesive wayfinding and signage system be established for use along all of Boise's pathways; in the interim, standard bicycle signage as found in Chapter 9 of the Manual on Uniform Traffic Control Devices (MUTCD) should be used.

Bicycle Parking: Ample bicycle parking should be provided at Redwood Park in conjunction with any enhancements related to a trailhead or rest area. See the Boise Pathways Master Plan for guidance on bicycle parking rates, rack selection, and rack placement.

Trailheads & Rest Areas: Potential locations for trailheads and rest areas are identified on the maps on pages G-18 and G-19. Exact locations and site configurations should be determined during the design process. The scale and programming of each location may vary. Future developments should consider incorporating trailheads and rest areas into site plans where the development fronts the pathway.

On-street Detours

As indicated on the project maps, the Shamrock Ave bikeway is recommended as a critical connection where a pathway along the canal is less feasible. Exploration of on-street design alternatives, together with ACHD coordination, should be included in the scope of work for future design of this pathway. The goal should be to maintain a high comfort experience that doesn't discourage people from using the pathway corridor.

Potential Street Crossings

To complete the preferred alignment of the pathway, mid-block street crossings would need to be installed at Cloverdale Rd, Cribbens Ave, and Columbine Ave. These are discussed below. For more information regarding mid-block crossings, see Chapter 4 of the Boise Pathways Master Plan.

Cloverdale Rd: RRFB with center median refuge island. Incorporate "z-crossing" refuge island to improve sight lines and align pathways on both sides of the street.

Cribbens Ave: Marked crosswalk with pedestrian warning signage should be sufficient based on anticipated traffic volumes and speeds. Consider a raised crossing to prioritize pathway users and calm vehicular traffic.

Columbine Ave: Marked crosswalk with pedestrian warning signage should be sufficient based on anticipated traffic volumes and speeds. Consider a raised crossing to prioritize pathway users and calm vehicular traffic.

Piping the Canal

A portion of the Collis Lateral is already piped today. The Collis and Milk Laterals are lower flow canals, and it may be feasible from a cost perspective to pipe them in order to accommodate a better pathway facility. Piping canals is beneficial to canal operators (e.g. decreased water loss and vegetation maintenance) and can eliminate safety concerns.

Using the Service Road

NMID has expressed a desire to keep pathways separate from canal service roads. In some cases, however, a pathway connection along the canal is not possible without a) piping the canal or b) paving the service road to function both as canal service access and a public access pathway. Paving the service road along certain sections of the Milk ad Collis Laterals pathway would allow for a more continuous pathway facility and significantly reduce costs. Considerations would need to be made for security fences and canal access points.

COST ESTIMATE BREAKDOWN

Planning level cost estimates for the design and construction of the project are outlined below. These estimates are intended to be used as a guide for future design RFP development and should be refined with current unit costs and any changes that result from the design and engineering process prior to publishing construction bids advertisements or grant applications.

Section	Length (LF)	Unit Cost ($/LF)	Section Cost	Notes
A	1280	$ 150	$ 192,000	10' path, 2' shoulder, 3' shoulder
B	2100	$ 150	$ 315,000	10' path, 2' shoulders
C	4000	$ 130	$ 520,000	10' path, 3' shoulder
Total	**7380**		**$ 1,027,000**	

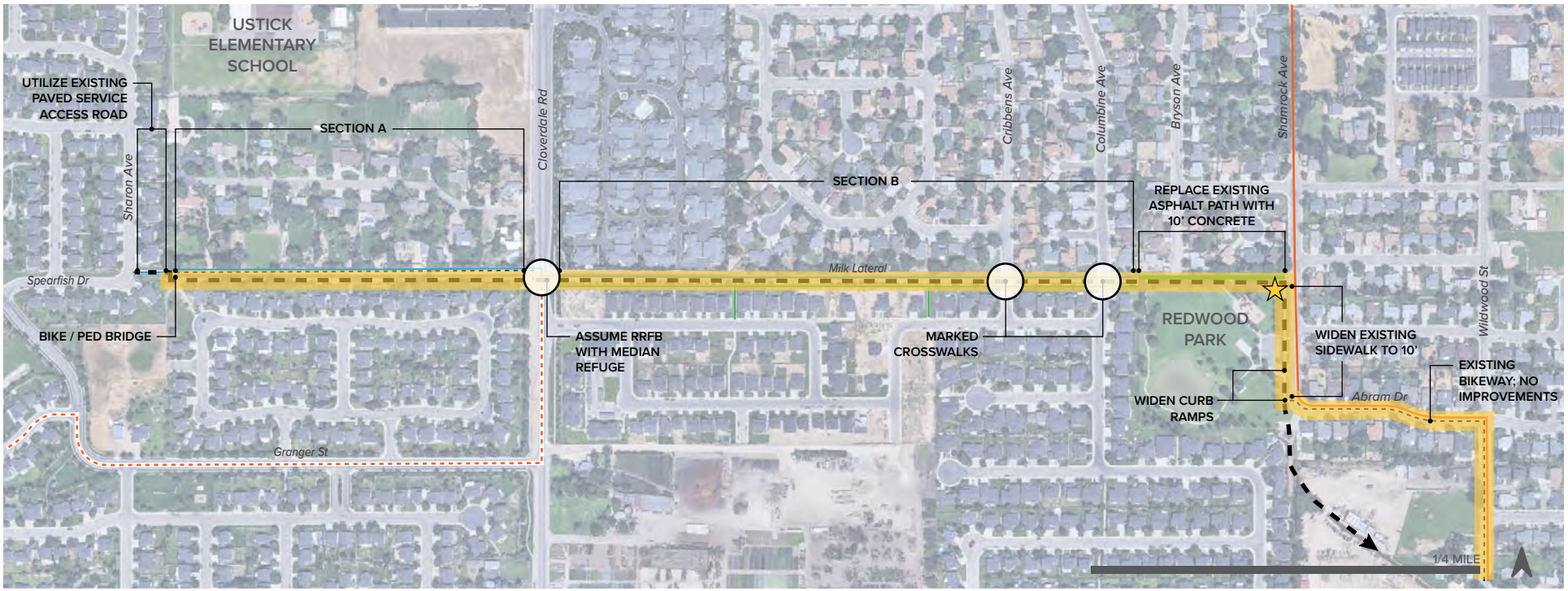
Misc	Unit	Unit Cost	Quantity	Total	
pipe canal	LF	$ 1,000	2500	$ 2,500,000	assumes 36" pipe, per email 12/3
Marked crosswalks	EA	$ 10,000	2	$ 20,000	
Signs/Sharrows	LF	$ 5	750	$ 3,750	
RRFB crossing	EA	$ 50,000	1	$ 50,000	
Wayfinding	EA	$ 400	11	$ 4,473	assumes 8 signs/mile
				$ 2,578,223	

Subtotal		**$ 3,605,223**
Engineering & Design	10%	$ 360,522
Contingencies	25%	$ 901,306
Project Total		**$ 4,867,051**

COST ESTIMATE ASSUMPTIONS

See Maps on G-26 and G-27 for assumed alignment. The above cost estimate does not account for trailhead design and construction (if applicable), utility relocation, or landscaping beyond lawn seeding the 2' pathway shoulder. This is due to unknown programming and design elements associated with trail heads (e.g., number of parking spaces, amenities, etc.) and landscaping. These costs should be established during design and factored into total construction costs. This estimate assumes piping certain sections of the canal laterals, and can be significantly reduced if an agreement can be reached to pave the canal service road and allow shared use.

ALIGNMENT FOR COST ESTIMATING PURPOSES



ALIGNMENT FOR COST ESTIMATING PURPOSES

- Alignment for cost estimate
- Original alignment
- Alternative alignment
- Existing pathway
- Planned pathway
- Planned sidepath
- Planned bikeway (RLS request)
- Existing bikeway (RLS)
- Planned bikeway (RLS)
- Canal service access
- Cross section (See pg. G-8)
- Mid-block crossing
- VRT bus stop
- Potential trailhead/rest area

TUTTLE LATERAL

from Milwaukee St to Cole Rd

PROJECT DESCRIPTION

The proposed Tuttle Lateral pathway from Milwaukee St to Cole Rd is roughly 1/2 mile in length and falls on City of Boise and Boise School District owned land. It creates safer connections to Capital High School, Milwaukee Park, and Spaulding Ranch. The Tuttle Lateral is operated by the Nampa & Meridian Irrigation District. The City is currently preparing plans for the Spaulding Ranch site to become a publicly accessible agricultural production area.

ESTIMATED COST: $774,070

BENEFITS

Expands safe routes to school

This project would improve access for Capital High students, faculty, and staff to surrounding neighborhoods and parks and shopping centers.

Precedent for pathways along canal laterals

This project would give the City experience in working with agencies along smaller canal laterals where piping canals may be more feasible/appropriate, creating a win-win scenario for both NMID and the community.

City-owned land

This project falls primarily on City of Boise Parks and Recreation owned land, as well as open space included on Boise School District property (Capital High School).

KEY CONSIDERATIONS

Pathway termini

This pathway segment terminates at Milwaukee St and Cole Rd, where limited opportunities for low-stress connections exist. This impacts the ability for residents of varying ages and abilities to utilize the pathway for transportation needs beyond the project area.

Headgate & pinch point

At the corner where Capital High's campus and Spaulding Ranch meet, limited space exists between private property fences to maintain the preferred cross section; irrigation headgates are also found at this location. Coordination with adjacent property owners and NMID may be needed.

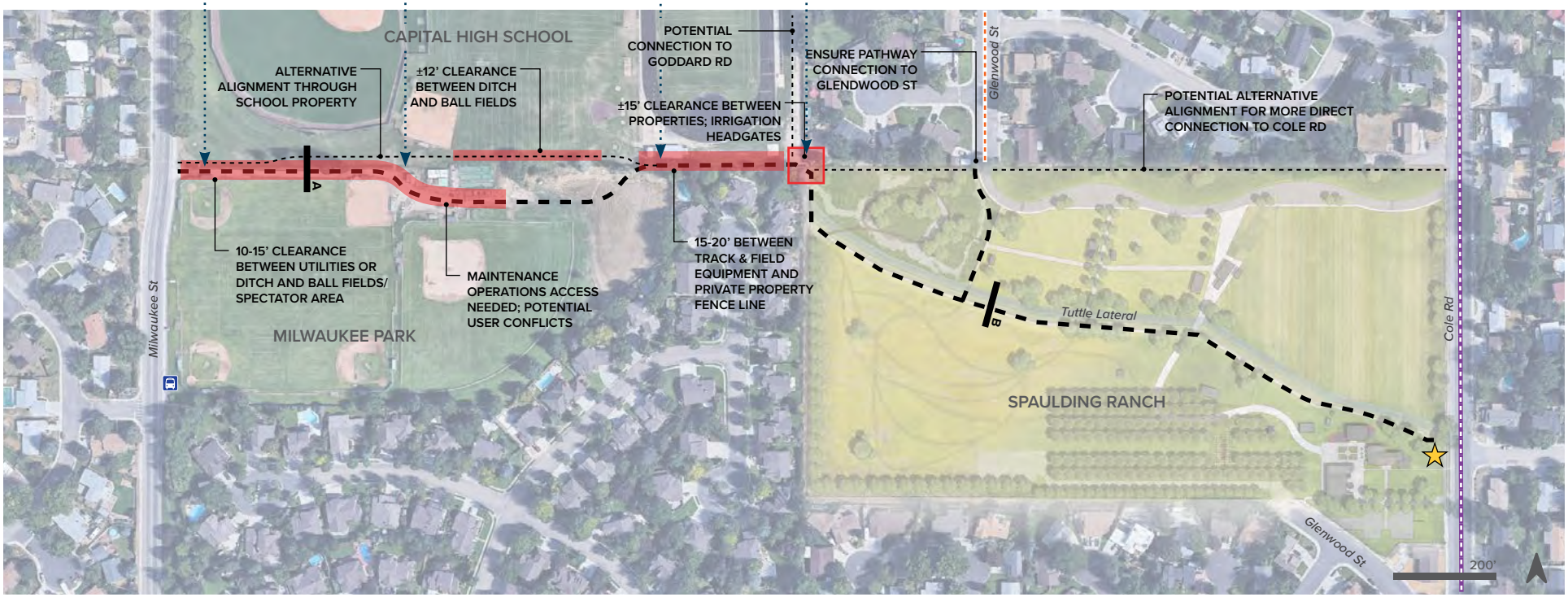
THE CORRIDOR AT A GLANCE

Looking West: Constrained widths

Looking West: Conflicts with maintenance access

Looking West: limited clearance from Capital High track & field equipment

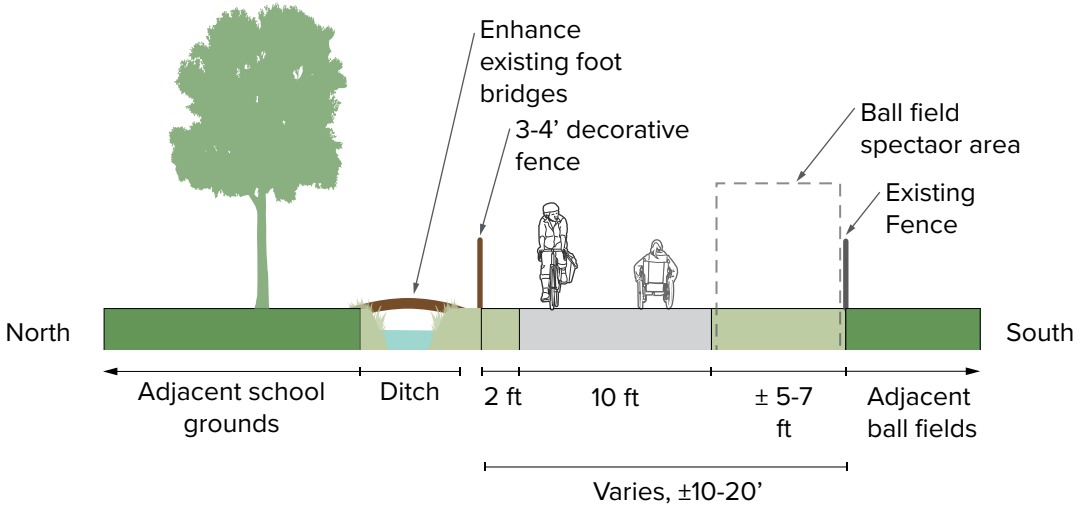
Looking NW: ±15' clearance between properties; head gates



- Original alignment
- Alternative alignment
- Planned bikeway (RLS request)
- Planned bikeway (RLS)
- Cross section (See pg. G-8)
- Mid-block crossing
- VRT bus stop
- Potential trailhead/rest area

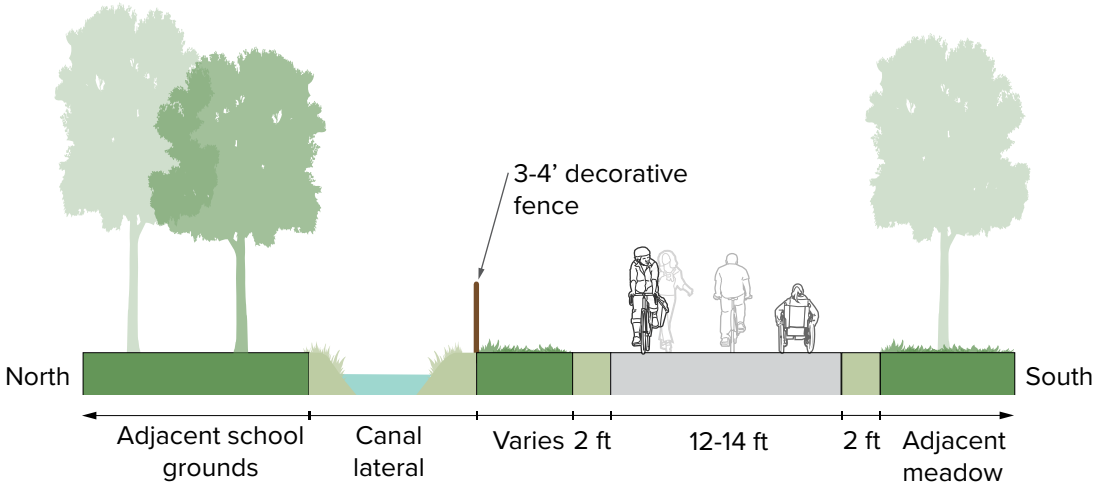
TYPICAL CROSS SECTIONS

A



- Conflicts between pathway users and baseball spectators should be anticipated and mitigated by encouraging cyclists to slow down
- Alternative: utilize school district property on north side of irrigation ditch

B



- Alternative: provide separate walking (6-8') and biking (10') pathways

DESIGN AND IMPLEMENTATION APPROACH

Pathway Width & Material

Based on the project area's surrounding context, it is anticipated that a pathway in this corridor would see medium to high levels of local use and low to medium levels of use by people traveling through (due to the short length and lack of connecting high comfort facilities on either end). A minimum pathway width of 10 feet is recommended through Milwaukee Park to reduce impacts on adjacent properties and to increase the feasibility of the project. More flexibility exists through Spaulding Ranch and a pathway width of 12-14 feet should be used. The pathway material should be concrete with saw cut (not tooled) joints. Center dashed striping may be used to organize pathway traffic.

Supporting Elements and Amenities

Locations and design of pathway amenities along the corridor should be included in the scope of work for future design and engineering services. Pathway amenities should include:

Wayfinding: The City's branded wayfinding signage* should be incorporated along the corridor, including access signage at formalized entry points, decision signs where the pathway intersects with other bicycle or pedestrian routes, turn signs where detours are necessary, and confirmation signs. Both post-mounted signs and pavement markings should be explored for wayfinding and branding.

*It is recommended that a cohesive wayfinding and signage system be established for use along all of Boise's pathways; in the interim, standard bicycle signage as found in Chapter 9 of the Manual on Uniform Traffic Control Devices (MUTCD) should be used.

Bicycle Parking: Bicycle parking along the pathway itself is not included in this concept or cost estimate, but ample bicycle parking should be provided within Milwaukee Park and Spaulding Ranch near building entrances or gathering areas. See the Boise Pathways Master Plan for guidance on bicycle parking rates, rack selection, and rack placement.

Trailheads & Rest Areas: A trailhead or gateway feature is recommended in Spaulding Ranch where the pathway meets Cole Rd.

Connecting to Goddard Road

A connection to Goddard Rd along the eastern boundary of Capital High School's campus should be explored during the design phase of the project as an alternate or additional alignment. This would expand the pathway network, connecting to the future Goddard Rd pathway along Settlers Canal.

COST ESTIMATE BREAKDOWN

Planning level cost estimates for the design and construction of the project are outlined below. These estimates are intended to be used as a guide for future design RFP development and should be refined with current unit costs and any changes that result from the design and engineering process prior to publishing construction bids advertisements or grant applications.

Section	Length (LF)	Unit Cost ($/LF)	Section Cost	Notes
A	1610	$ 150	$ 241,500	10' path, 2' shoulder
B	1500	$ 170	$ 255,000	12-14' path, 2' shoulders
Total	**3110**		**$ 496,500**	

Misc	Unit	Unit Cost	Quantity	Total	
Enhanced foot bridges	EA	$ 25,000	3	$ 75,000	10-20' canal crossings
Wayfinding	EA	$ 400	5	$ 1,885	assumes 8 signs/mile
Easement/Acquisition	SF	TBD	5250	TBD	15' easement for 350 LF
				$ 76,885	

Subtotal		**$ 573,385**
Engineering & Design	10%	$ 57,338
Contingencies	25%	$ 143,346
Project Total		**$ 774,070**

COST ESTIMATE ASSUMPTIONS

See Map on G-35 for assumed alignment. The above cost estimate does not account for property acquisition (although estimated SF is provided), trailhead design and construction (if applicable), utility relocation (e.g., canal headgate and utility pole relocation), or landscaping beyond lawn seeding the 2' pathway shoulder. This is due to the variance in real estate costs and unknown programming and design elements associated with trail heads (e.g., number of parking spaces, amenities, etc.) and landscaping. These costs should be established during design and factored into total construction costs.

ALIGNMENT FOR COST ESTIMATING PURPOSES