Active Transportation

Active transportation—mainly biking and walking—relies primarily on human energy. The goal for active transportation planning in the Treasure Valley is to provide safe, comfortable, and convenient infrastructure to allow residents access to places that are important to them without getting in a car. In addition to providing access, active transportation investments also afford environmental,[1] health,[2] economic,[3] and quality of life benefits.

The Complete Network Policy[4] discusses bicycle and pedestrian modes, including safety and other considerations, identified pathways, and primary and secondary bicycle corridors. The policy also addresses the relationships and sometimes conflicting needs among different travel modes. For example, sidewalks and bicycle facilities along transit routes can provide safe and comfortable first- and last-mile connections to transit stops or stations, but can also be a source of conflict among modes.[5] The facilities should be designed to reduce conflicts with other modes to ensure the safety of all users, especially those who are most vulnerable (e.g., pedestrians, bicyclists).

ACTIVE TRANSPORTATION AND CIM 2050 GOAL

CIM 2050 was developed to address four goal areas,[6] each with specific objectives. Appropriate planning for active transportation in the region is key to realizing the individual objectives to support each of the goal areas.

Goal Area	Active Transportation-Related Objectives
 **Safety** is a vital consideration for active transportation. It is imperative to provide safe accommodations for bicyclists and pedestrians, the most vulnerable network users.	• Provide a **safe** transportation system for all users, especially the network's most vulnerable users.
 **Economic Vitality** is complementary to active transportation. Studies show a variety of economic benefits are positively correlated with an increase in active transportation.	• Provide for a **reliable** transportation system to ensure all users can count on consistent travel times for all modes. • Promote transportation improvements and scenic byways that support the Treasure Valley as a regional hub for **travel and tourism**.

Goal Area	Active Transportation-Related Objectives
 **Convenience** is an important aspect of active transportation and can be improved if human-powered transport is made easily accessible to all.	• Reduce **congestion** with cost-effective solutions to improve **efficiency** of the transportation system. • Develop a transportation system with high **connectivity** that preserves capacity of the regional system and encourages walk and bike trips.
 **Quality of Life** is closely linked to active transportation, as it bolsters mental and physical health, serves as an environmentally considerate means of transportation, and provides options for those who can't or don't drive.	• Provide **equitable** access to safe, affordable, and reliable transportation options. • Develop and implement a regional vision and transportation system that enhance **public health**. • Develop and implement a regional vision and transportation system that protect and preserve the natural **environment**.

TRACKING SUPPLY AND DEMAND

To support these goals, COMPASS collects and analyzes multiple types of bicycle and pedestrian data and shares those data with agencies, organizations, and developers to help plan projects that increase the number and quality of active transportation opportunities in the Treasure Valley.

Supply

Bike Walk Compass

The Bike Walk Compass[7] is an interactive map that portrays existing and planned regional bicycle and pedestrian facilities. The planned facilities reflect bicycle/pedestrian plans from agencies across the Treasure Valley. The interactive map is updated frequently to reflect changes to on-the-ground infrastructure and local plans. COMPASS employs information from the Bike Walk Compass in its development review process,[8] which provides feedback to decision makers regarding how proposed developments align with *Communities in Motion* goals.

Data Bike

In 2018, COMPASS applied for, and received, a Technology Transfer grant from the Federal Highway Administration to develop a measurement tool to generate quantitative pavement condition data for pathways and other off-street facilities in Ada and Canyon Counties. The COMPASS Data Bike (Figure 1) was purchased and outfitted with this funding and was fully functional for testing in 2020.[9] Data collection began in 2021. These data are used to identify and prioritize pathway maintenance needs.

The data collected by the COMPASS Data Bike is intended to complement field inspections performed by local agency staff and is not meant to replace thorough physical inspections. The primary metric reported from the data bike is trail roughness; other measures toward a holistic assessment of trail condition include 360-degree images of the deployment area, pavement-condition imagery, and a standardized score reflecting pavement condition rating (i.e., International Roughness Index) (Figure 2).

Figure 1. The COMPASS Data Bike was funded through a Technology Transfer grant from the Federal Highway Administration.

Figure 2. The COMPASS Data Bike measures roughness on paved pathways to help identify and prioritize pathway maintenance needs.

Demand

COMPASS' counter program provides data on the "demand" side of the equation—to what extent pathways are used, and when.

COMPASS manages 16 permanent bicycle/pedestrian counters on offroad pathways around the Treasure Valley (Figure 3) in addition to 41 portable counters, which are used on trails and roads, and at intersections. These portable counters capture information about small areas for short periods of time before being moved elsewhere. When several portable counters are used together, they can measure all the bicycle and pedestrian movements at an entire intersection at one time. The counter program is an important tool in transportation planning, as it provides information about how people get from place to place without the use of cars. It also helps identify where pathways, sidewalks, bike routes, and bike lanes are most needed in the Treasure Valley.

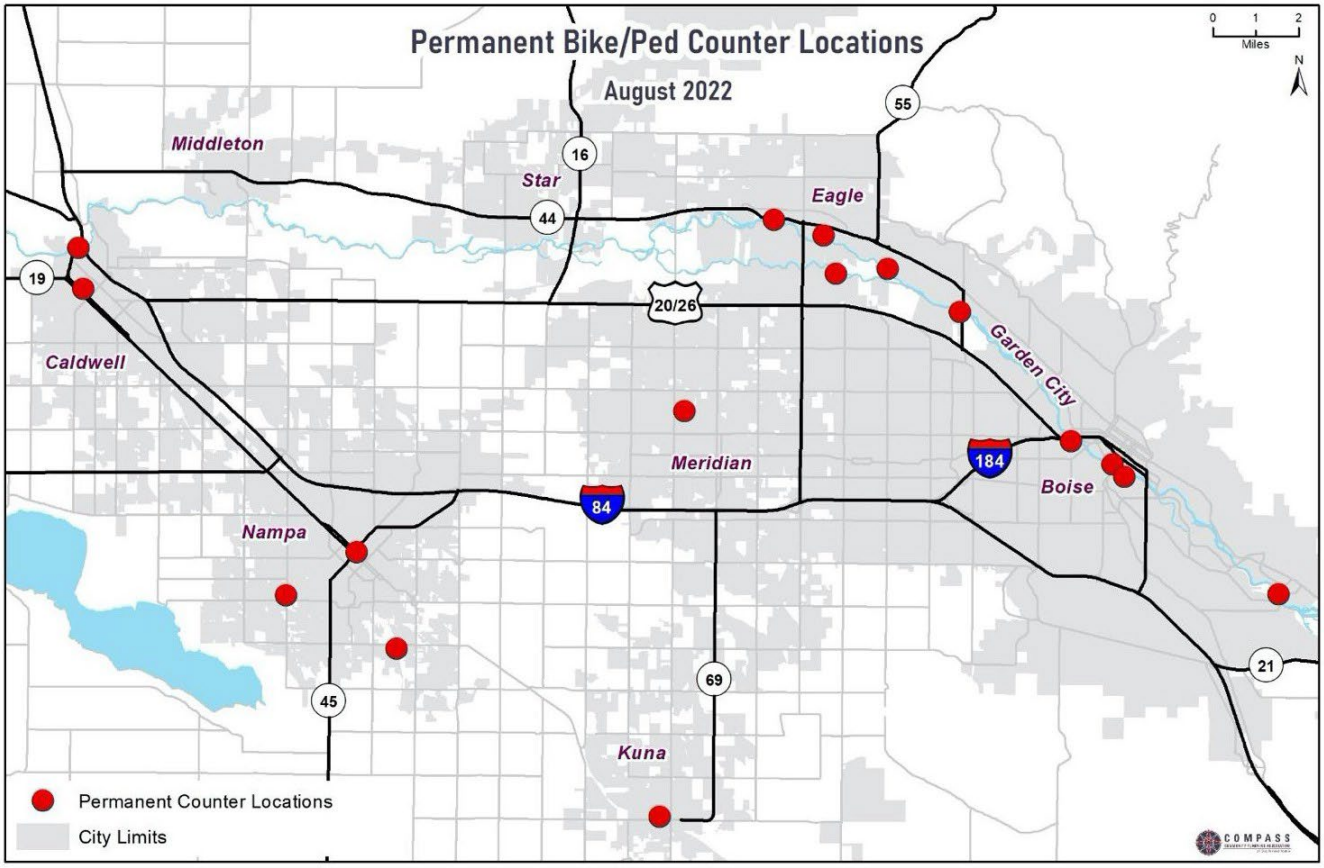

Figure 3. COMPASS manages 16 permanent bicycle/pedestrian counters.

Since the program began in June 2015, over 18 million cyclists and pedestrians have been counted on the Treasure Valley's pathways, sidewalks, and streets. The permanent counters provide year-round, long-term data that show trends on the pathway systems. These data help planners identify different types of uses and users. For example, high use on weekends indicates recreational use, while high use on weekdays is more indicative of commuter use. Year-round data (Figure 4) can reveal seasonal peaks and valleys, as well as spikes and dips related to special events, holidays, or even extreme weather. The data are versatile and can be organized into a variety of time bins for analysis (Figure 5). Data from the permanent counters are posted on the COMPASS website.[10]

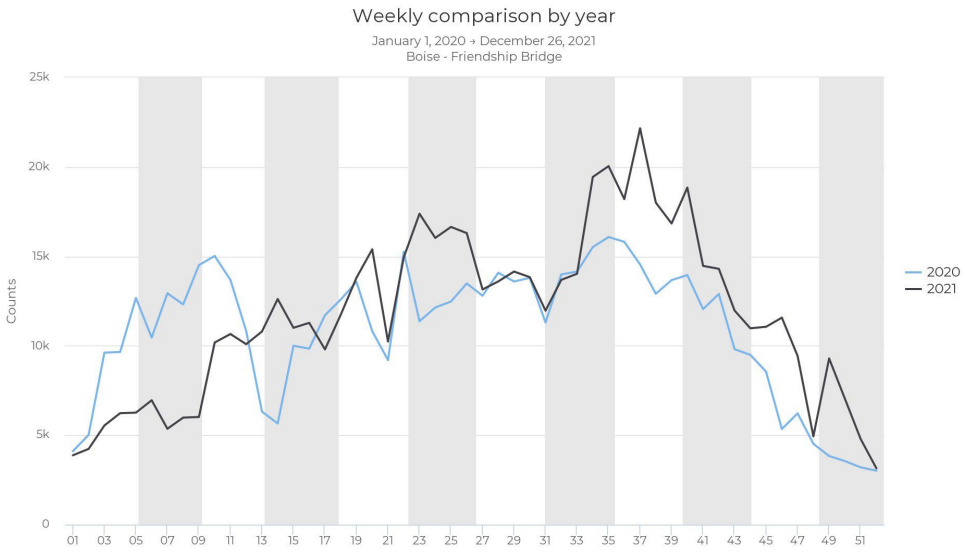

Figure 4. Annual bicycle and pedestrian data illustrate annual trends and anomalies, such as the sharp decrease in the 13th week of 2020, which reflects the cancellation of classes at nearby Boise State University due to the COVID-19 pandemic.

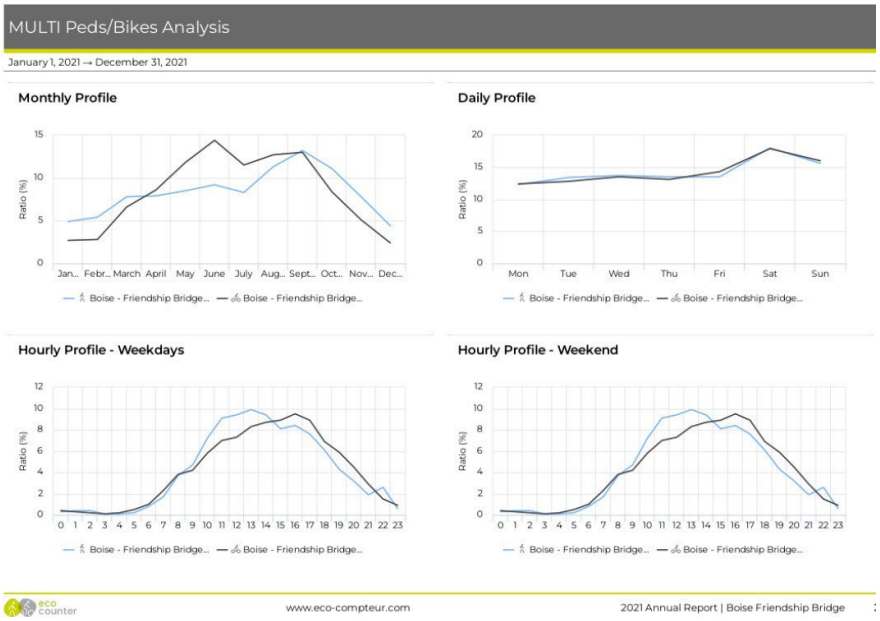

Figure 5. Permanent bicycle/pedestrian count data can be organized into a variety of time bins for different analyses.

2050 REGIONAL PATHWAYS AND BIKEWAYS PRIORITIES

Since 2019, COMPASS staff have worked with the Active Transportation Workgroup[11] to develop the CIM 2050 pathways plan—a valley-wide off-street connectivity plan for bicyclists and pedestrians that prioritizes unfunded segments for implementation.

COMPASS, with its Active Transportation Workgroup, examined several data sets to identify needed pathway corridors and segments for prioritization, focusing on those that were not funded or planned. The data included existing routes and conditions, crash data, crowdsourced bicycle/pedestrian data sets, demographic trends, public transportation routes, unbuilt segments, and priority corridors identified in Communities in Motion 2040 2.0.[12] Combined, the identified network accounts for almost 500 miles of pathways and trails (Figure 6).

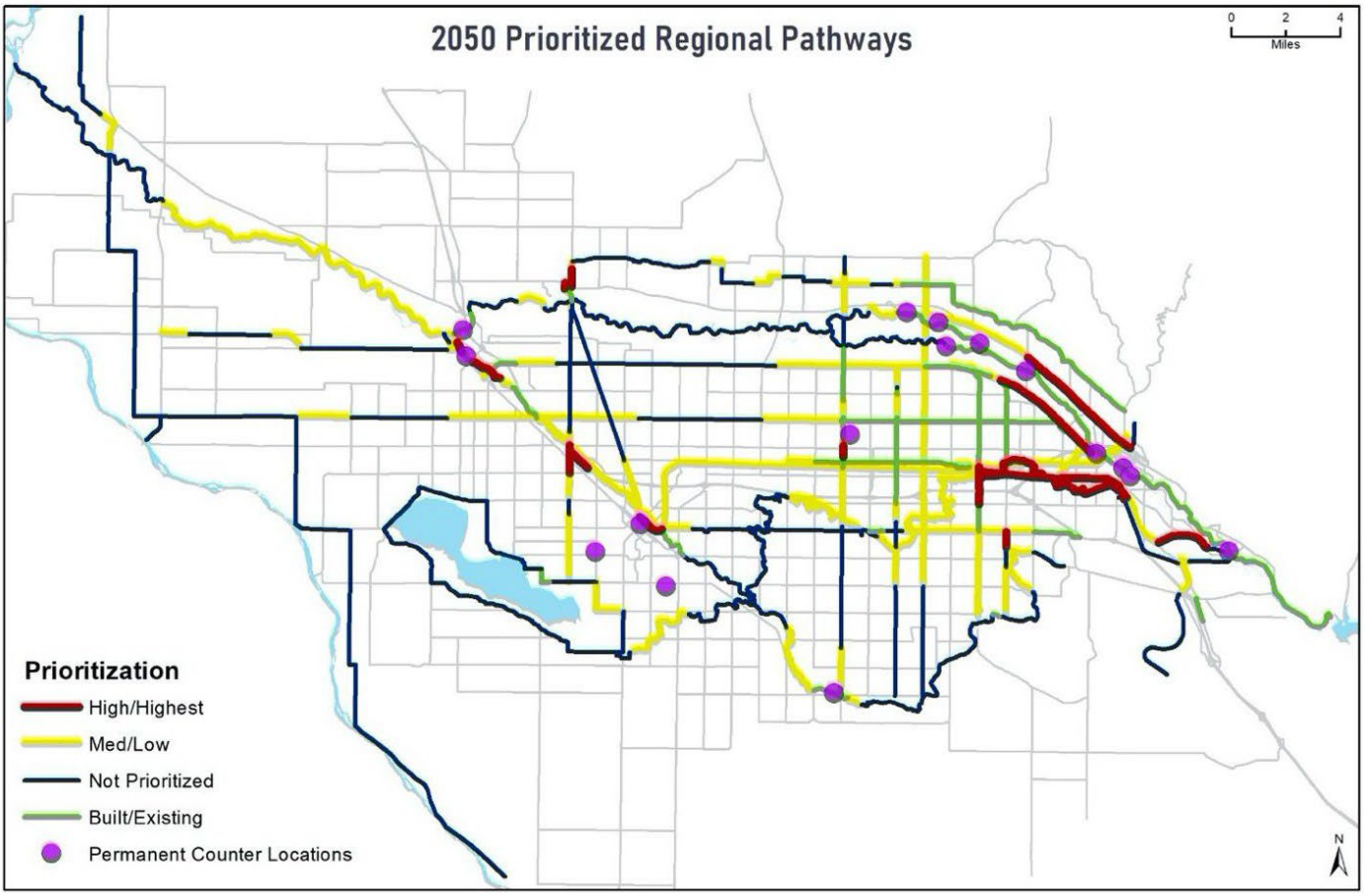

Figure 6. Nearly 500 miles of pathways and trails were initially identified as regional priorities.

Pathway Prioritization Process

Once the initial unplanned/unfunded pathway segments were identified, they were further prioritized using a four-step process (Figure 7) based on proximity, equity, connectivity, and parcel ownership.

The "proximity" factor placed a high priority on projects close to places that could generate bicycle and pedestrian traffic, including

- employment centers,
- schools,
- transit stops,
- groceries,
- libraries,
- recreation,
- healthcare,
- housing/neighborhoods,
- existing pathways, and
- other key designations.

Figure 7. The pathway prioritization process was used to further prioritize initially identified pathway priorities.

At the time of this prioritization process, COMPASS was in the midst of developing an equity index,[13] but it was not yet complete. As the ability to access jobs and transit without a car is of particular importance to underserved individuals, access to employment and transit was re-assessed at a finer scale to provide a proxy for measuring equity. Destinations within a quarter mile of the segment were deemed accessible. Future analyses will use COMPASS' equity index.

The proximity and equity data were used to provide a "first-blush" list of highest-priority pathway segments.

The workgroup then evaluated the potential for improved connections using a “walkshed” analysis (Figure 8).

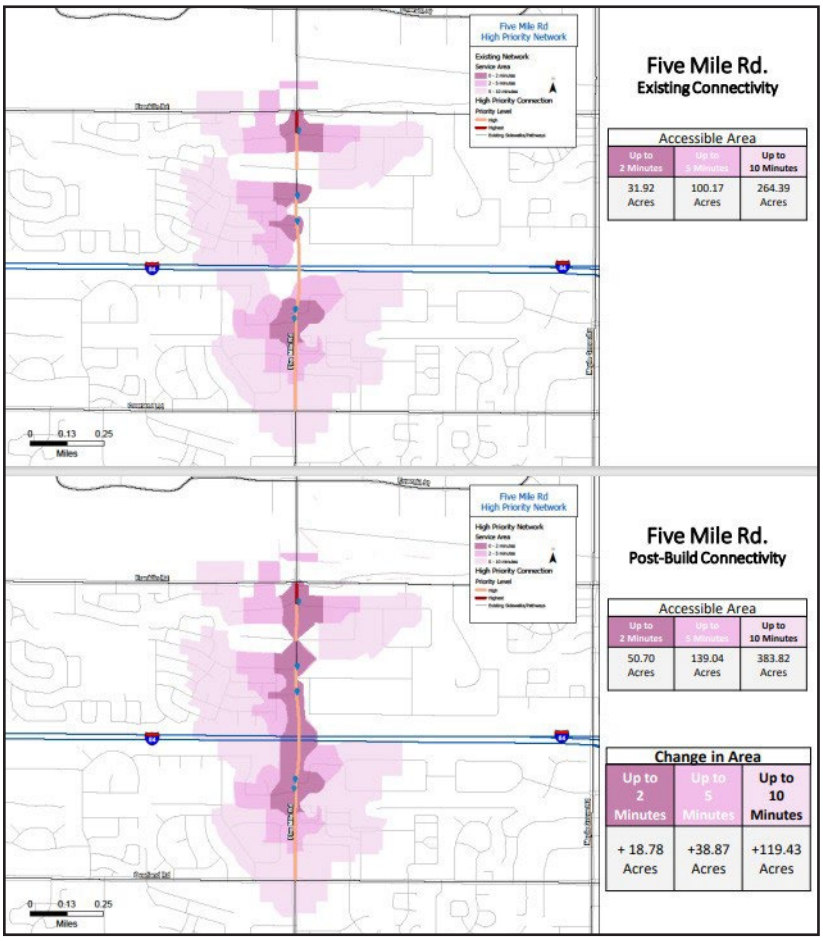

Figure 8. A sample walkshed analysis demonstrates “before and after” differences in areas walkable within 2, 5, and 10 minutes based on proposed improvements.

The prioritization process[14] also included a qualitative review of these analyses. For example, if segment “A” showed a walkshed improvement of 10 acres greater than segment “B,” quantitative data would imply that the former option is better. The qualitative review looked at connectivity *to what* and *for whom* to put greater emphasis on improved connections to key destinations, such as schools, and/or for vulnerable or underserved users.

Finally, parcel ownership was reviewed, including if segments were within or near city- or county-owned parcels. Ownership by municipalities could make it easier to build identified segments.

Through this process, 13 pathway segments were determined to be the highest priorities and were approved by the COMPASS Board of Directors as the unfunded regional pathway priorities for CIM 2050 (Table 1). The estimated cost is based on an average pathway cost-per-mile of $900,000 and does not include the purchase of land/right-of-way.

Table 1. Unfunded Priority Pathway Segments

Segment Name	Description	Cost Estimate
Chinden Boulevard (Boise/ Garden City)	Construct 4.3 miles of new pathway between Maple Grove Road and Fairview Avenue	$3,834,000
Five Mile Road (Boise)	Construct 0.8 miles of new pathway between Emerald Street and Overland Road	$756,000
Middleton Road (South) (Nampa)	Construct 2.5 miles of new pathway between State Highway 55 (Karcher Road) and Chacartegui Lane (south to north) and Chacartegui Lane to State Highway 55 (Karcher Road) (west to east, along rail)	$2,205,000
Middleton Road (North) (Middleton)	Construct 0.8 miles of new pathway between Boise Street and Main Street (section 1 | south to north) and Main Street to Triumph Drive (section 2 | south to north)	$747,000
Indian Creek Pathway (Caldwell)	Construct 1.6 miles of new pathway between Centennial Way and Arthur Street, (section 1 | south to north) and 11th Avenue/ Archer Street to Sparrow Avenue (section 2 | west to east)	$1,431,000
Linder Road (Meridian)	Construct 0.4 miles of new pathway between Washington Street and West Emerald Falls Drive	$342,000
Maple Grove Road (Boise)	Construct 0.5 miles of new pathway between Victory Road and Aquarius Street	$486,000
Rail with Trail Boise Spur (North) (Boise)	Construct 3.9 miles of new pathway between Five Mile Road and Orchard Street	$3,537,000
Rail with Trail Boise Spur (South) (Boise)	Construct 2.9 miles of new pathway between North Hartman Street and Kootenai Street	$2,637,000
Rail with Trail Nampa Spur (Nampa)	Construct 1 mile of new pathway between 9th Avenue North and 3rd Street North	$927,000
Ridenbaugh Canal (East) (Boise)	Construct 2.6 miles of new pathway between Gekeler Lane and East Park River Drive	$2,376,000
Ridenbaugh Canal (West) (Boise)	Construct 5.8 miles of new pathway between Five Mile Road and Kootenai Street/Protest Street	$5,211,000
State Street (Garden City/ Boise)	Construct 5.0 miles of new pathway between State Highway 44 (Glenwood Street)/Gary Lane and 11th Street	$4,500,000
Total Unfunded Regional Pathway Top Priority Projects		$28,989,000

Cost per mile used to estimate costs: $900,000

RAILS WITH TRAILS

Rails with trails are similar to, but distinguished from, their counterpart, “rails to trails.” The former is a title given to pathways developed adjacent to or within an active rail corridor, while the later refers to rail corridors that have been abandoned and converted to trails. Both types provide opportunities for bolstering networks that are safe, separated, and convenient.

COMPASS’ Rails with Trails Feasibility and Probable Cost Study[15] was completed in September 2019 to identify a feasible route along the Boise Cutoff rail corridor, provide examples of trail design (cross-sections) and crossing treatments at roads, quantify probable costs of trail development, and identify barriers associated with trail development. This study will help prepare the region to negotiate with the Union Pacific Railroad on a potential future rail with trail pathway, develop a preferred right of way alignment and design, and secure funding. In 2021, COMPASS produced a *Rail with Trail Progress Report*[16] that details the progress and developments that have taken place since rails with trails have been studied in the region. The full rail-with-trail network is included in the 2050 regional pathway network and three rail-with-trail segments are included in the highest-priority 2050 segment list.

FUTURE NEEDS AND CONSIDERATIONS

Micromobility options, such as e-scooters and bike-share programs, are growing rapidly as new technologies assist with their deployment and ease of use. These technologies can augment traditional bike and pedestrian modes to address first- and last-mile needs or serve as alternatives to single-occupancy vehicles for short trips (e.g., groceries). However, they are not without their growing pains. The addition of these technologies into existing traffic on pathways, bike lanes, and sidewalks can lead to congestion-related conflicts or even collisions. Assuming micromobility technologies continue to grow and gain in popularity, they should be included in future active transportation planning efforts or planned for as their own distinct mode.

CONCLUSION

As the valley continues to grow, so too do the number of active transportation network users. These volumes infer many things, but most of all they demonstrate that people value the ability to navigate their communities without a car. Implementing this plan will help provide safe, comfortable, and convenient facilities for cyclists and pedestrians now and to 2050 to transform the areas we live, work, and play into communities that are cherished and loved for years to come.

ENDNOTES

1 Assessing the economic benefits of active transport policy pathways: Opportunities from a local perspective, Transportation Research Interdisciplinary Perspectives, www.sciencedirect.com/science/article/pii/S2590198221001615

2 Active Transportation: Relationship to public health, US Department of Transportation, www.transportation.gov/mission/health/active-transportation - :~:text=Benefits of active transportation,as diabetes and cardiovascular disease

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9 2020 Data Bike Pilot Report, COMPASS, www.compassidaho.org/documents/prodserv/reports/2020PilotReport.pdf

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11 Active Transportation Workgroup, https://compassidaho.org/workgroups/#ATWG

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13 Environment, CIM 2050, https://compassidaho.maps.arcgis.com/apps/instant/portfolio/index.html?appid=6c1eebca233d49c4935825136f338fac

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