

ROGUE VALLEY ACTIVE TRANSPORTATION PLAN

Date	June 4, 2020
To	Mike Kuntz, Jackson County Jenna Marmon, ODOT
From	Matthew Bell, Nick Gross and Susan Wright Kittelson & Associates, Inc.
Project	Rogue Valley Active Transportation Plan
Subject	Final Prioritization Process

Introduction

Prioritizing pedestrian and bicycle improvement projects is an important part of the planning process for the Rogue Valley Active Transportation Plan (ATP). A prioritized list of needs will help the agencies involved determine which locations to allocate money to first, when available. This memorandum presents the prioritization process that has been used to prioritize needs for the Rogue Valley ATP. This memorandum includes information on the factors and variables used in the prioritization process, and a preliminary result of the initial prioritization process outcome.

Prioritization Process

The National Cooperative Highway Research Program (NCHRP) report 803, Pedestrian and Bicycle Transportation along Existing Roads – ActiveTrans Priority Tool Guidebook, provides a methodology for prioritizing pedestrian and bicycle facilities. The methodology was adapted for use in the Rogue Valley Active Transportation Plan (ATP) as described below.

The methodology follows a two-phase, ten-step process: Phase 1 (Scoping) involves steps 1-6 in which the purpose of the prioritization process is established, factors and variables are selected, weights are established, and data availability and technical resources are assessed; this phase is often iterative as agencies may find a need to substitute factors and/or variables if there is a lack of data. Phase 2 (Prioritization) involves steps 7-10 in which data is organized, scaling is applied, and prioritization scores are calculated; this phase may also be iterative as agencies, advisory committees, and the general public provide feedback on the outcome of the process.

Factors and Variables

Factors are the categories used to express community or agency values considered in the prioritization process and contain groups of variables with similar characteristics. The NCHRP methodology includes nine factors commonly used by agencies across the country that are particularly suited for prioritization of pedestrian and bicycle transportation improvements. Five factors were selected for the prioritization process that closely align with the goals and objectives of the ATP. Variables are the characteristics of roadways and intersections that can be measured and organized under each factor. Additional information on the factors and variables included in the prioritization process is provided below.

Safety

The Safety factor will address **Goal 1: Safe and Secure**. This factor considers the crash history of a roadway segment or intersection. The Safety factor is evaluated primarily in terms of reported crashes and the severity of reported crashes. Roadway characteristics play a significant role in determining where crashes occur in a community. Therefore, as agencies consider priorities for improvements at different locations, it is important to assess crash history. The variable(s) included in the prioritization process under Safety include:

- ▶ **Total Crashes** – This variable refers to the total number of ped/bike-related crashes that were reported along a roadway segment or at an intersection over the five-year study period. It is determined based on information obtained from ODOT. Roadway segments or intersections with a higher number of total ped/bike-related crashes score higher than roadway segments or intersections with a lower number.
- ▶ **Total Fatal and Severe Crashes** – This variable refers to the total number of bike/ped-related fatal and severe injury crashes (Injury A) reported along a roadway segment or at an intersection over the five-year study period. It is determined based on information obtained from ODOT. Roadway segments or intersections with a higher number of bike/ped-related fatal or severe injury crashes score higher than roadway segments or intersections with a lower number.

Existing Conditions

The Existing Conditions factor will address **Goal 3: Attractive and Appealing**. This factor considers the physical and operational characteristics of a roadway segment or intersection, such as the number and width of travel lanes, presence and width of shoulders/bike lanes and sidewalks, traffic volumes, travel speeds, and others. The variable(s) included in the prioritization process under Existing Conditions include:

- ▶ **Level of Traffic Stress** – Level of Traffic Stress (LTS) is a rating system assigned to roadway segments to indicate the “traffic stress” they impose on pedestrians and bicyclists. The ratings are determined by the physical and operational characteristics of the roadway segments, such as traffic volumes, travel speeds, and presence (and width) of pedestrian and bicycle facilities. There are four levels of traffic stress, ranging from LTS 1 (little traffic stress) to LTS 4 (high traffic stress). A roadway segment that is rated LTS 1 generally has low traffic volumes and travel speeds and is suitable for all pedestrians and bicyclists, including children. A roadway segment that is rated LTS 4 generally has high traffic volumes and travel speeds and is perceived as unsafe by most adults. Per discussions with the project team LTS 2 is the intended target for the RVATP system. Roadway segments with high levels of traffic stress will be scored higher than roadway segments or intersections with low levels of traffic stress.
- ▶ **Potential Barriers** – Potential barriers were identified based on community input received from the online interactive mapping exercise, input from the Technical Advisory Committee (TAC) and Community Advisory Committee (CAC), as well as a planning level assessment of all Regional and Connector Routes that cross each other (intersections). Projects located along segments or passing through intersections identified as a potential barrier will score higher than projects without potential barriers. The number and presence of potential barriers will be assessed as a weighted variable; projects that address more potential barriers will score higher.

Connectivity

The Connectivity factor will address **Goal 2: Connected and Accessible**. This factor accounts for the degree to which a project will allow residents to travel comfortably and continuously throughout their community. Connectivity is a relevant factor when prioritizing projects on existing roadways, such as wider shoulders, bike lanes, or sidewalks, particularly when the project fills a gap in an existing facility. The variables included in the prioritization process under Connectivity include:

- ▶ **Employment and Housing Served** – Employment and household densities vary throughout the RVMPO area; however, the highest densities occur within the urban unincorporated and incorporated communities. Projects that serve areas with higher employment and/ household density will score higher than projects with lower densities.
- ▶ **Distance Between Nodes/Destinations** – Several of the routes identified in the ATP as regional routes are long and provide connections between communities. Others are shorter and provide connections within communities. Projects that complete shorter routes that are more likely to be served by walking and biking will score higher than longer routes.
- ▶ **Access to Transit** – Routes that provide direct access to an existing transit route or future transit route will score higher than projects that do not provide direct access to transit.
- ▶ **Fills in a gap in an existing facility or network** – There are numerous gaps in the pedestrian and bicycle networks along City, County, and ODOT facilities. Projects that fill gaps and help extend the connected low-stress network will score higher than projects that do not.
- ▶ **Connects to an existing regional facility or activity center** – Several of the projects identified in the prioritized project list will provide direct connections to existing regional transportation facilities, such as the Bear Creek and Rogue River Greenway Trails and/or activity centers. Projects that provide these connections will score higher than projects that do not.

Equity

The Equity factor will address **Goal 4: Community Vitality**. This factor represents the degree to which improvements are distributed evenly to all groups within a community, particularly those who are dependent on alternative forms of transportation. Taking equity into account can help agencies ensure that improvements serve the needs of all transportation system users. The variables included in the prioritization process under Equity include:

- ▶ **Number of Households with No Vehicle Access** – This variable refers to the number of households within the area surrounding a project with no vehicle access and is determined based on Census data. Projects located within areas with a higher number of households with no vehicle access will score higher than projects located within areas with a lower number of households.
- ▶ **Number of Households in Poverty** – This variable refers to the number of households within the area surrounding a project in poverty and is determined based on Census data. Projects located within areas with a higher number of households in poverty will score higher than projects located within areas with a lower number of households.

Opportunity

The Opportunity factor provides the closest possible connection to address **Goal 5: Regional Collaboration**. This factor quantifies the ability of an agency to take advantage of resources that can support project implementation. These resources may be financial or political. They are important to consider because they save time and money when implementing pedestrian or bicycle projects. For example, financial opportunities include whether or not a proposed improvement is eligible for grant

funding, can draw from a dedicated funding source (or multiple funding sources), can be incorporated into a scheduled roadway reconstruction or resurfacing project, or can be provided by private developers through development requirements/agreements. The variable(s) included in the prioritization process under Opportunity include:

- ▶ **Multi-jurisdictional Routes** – Several of the routes identified in the ATP as regional routes are under the jurisdiction of the County or ODOT but located within one of the incorporated cities. These routes provide opportunities for multi-jurisdictional coordination and cooperation. Multi-jurisdictional routes will score higher than non multi-jurisdictional routes.

Scaling Variables

There are many different methods for scaling the factors and variables in the prioritization process, each of which can have a significant impact on the outcome. The scaling methods used in this prioritization process include the following:

- ▶ **Binary** – this method is applied to variables that result in a yes or no; either something exists (yes) or does not exist (no);
- ▶ **Proportionate Scaling** – this method is applied to variables with a range of potential values and no significant outliers. Variables with a higher value receives a higher score.
- ▶ **Inverse Proportionate Scaling** – this method is similar to proportionate scaling; however, in this method low values receive a higher score than high values.

Table 1 summarizes the factors and variables included in the prioritization process along with how they were scaled.

Table 1: Project Prioritization – Factors and Variables

Factor	Variable	Scale Type	Scale
Safety	Total Crashes	Quantile Scaling (4)	Highest = 10, Lowest = 0
Existing Conditions	Level of Traffic Stress	Proportionate	Highest = 10, Lowest = 0
	Potential Barriers	Proportionate	Highest = 10, Lowest = 0
Connectivity	Employment and Housing Served	Quantile Scaling (10)	Highest = 10, Lowest = 0
	Distance between Nodes/ Destinations	Inverse Quantile Scaling (10)	Highest = 10, Lowest = 0
	Access to Transit	Proportionate	Highest = 10, Lowest = 0
	Fills in a gap (Ped)	Quantile Scaling (10)	Highest = 10, Lowest = 0
	Fills in a gap (Bike)	Quantile Scaling (10)	Highest = 10, Lowest = 0
	Connects to an existing facility	Proportionate	Highest = 10, Lowest = 0
Equity	Households with no Vehicle Access	Quantile Scaling (10)	Highest = 10, Lowest = 0
	Household in Poverty	Quantile Scaling (10)	Highest = 10, Lowest = 0
Opportunity	Multi-Jurisdictional Route	Proportionate	Highest = 10, Lowest = 0

Weighting Factors

Weights are numbers used to indicate the relative importance of different factors based on community values. The draft Prioritization Process weighted all factors evenly based on the number of variables included within each factor. For example, Safety had two variables scored at 10 with a weight of 2 whereas Opportunity and Existing Conditions each had one variable scored at 10 with a weight of 4; all totaling 40 for Highest Score by Factor.

Based on input received from the TAC and CAC weights to certain variables were adjusted based on their importance. For example, variables listed under Existing Conditions, Connectivity, and Equity were increased whereas Opportunity was decreased. Safety was originally broken into two variables: Total Crashes and Total Fatal and Severe Crashes. In an effort to increase the importance of Safety, these two variables were combined to receive a single increase value to Highest Score by Variable for Safety.

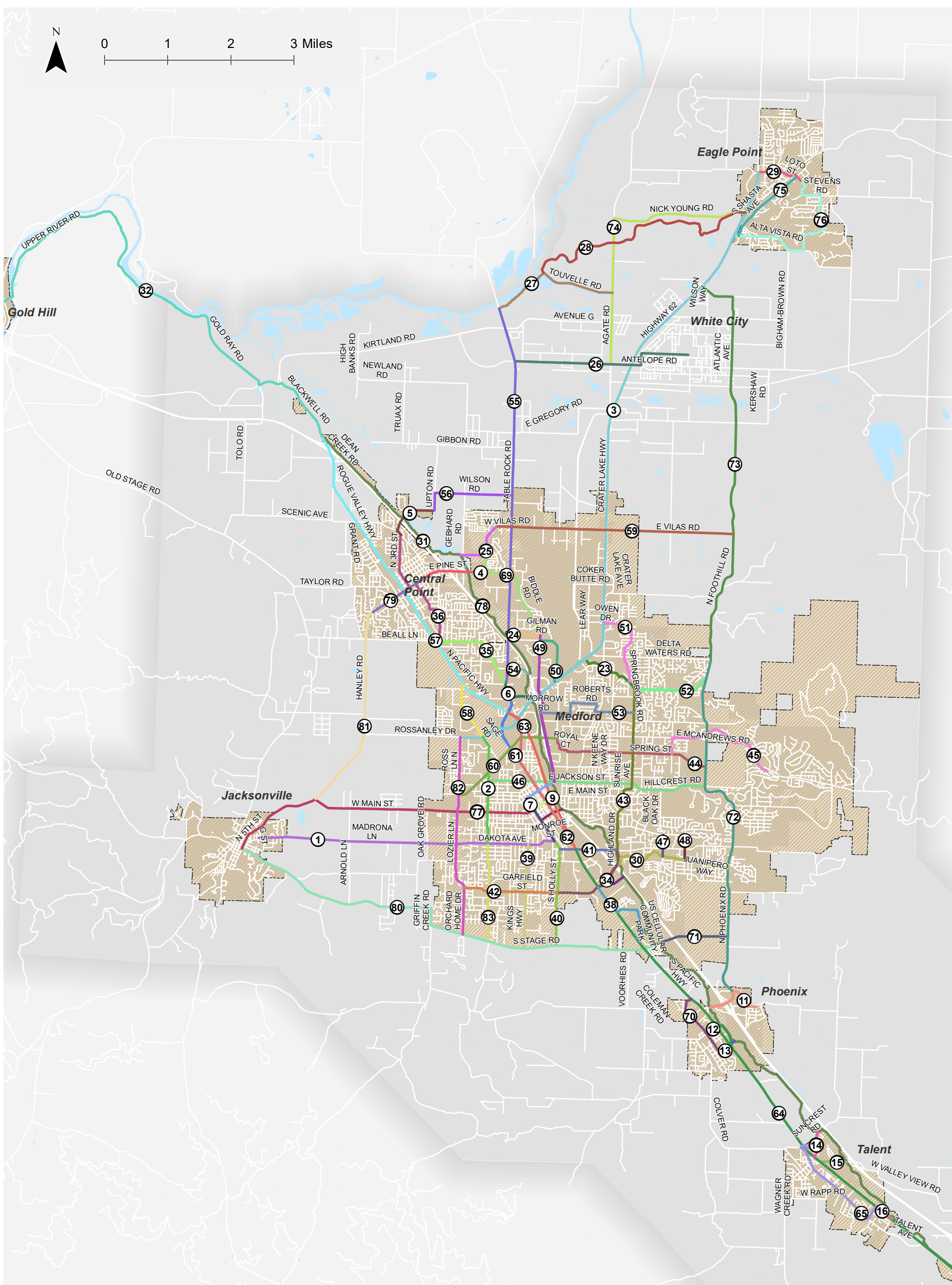
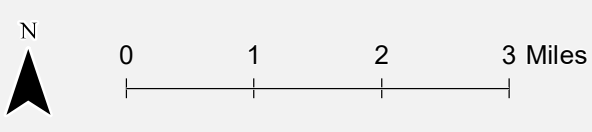
When the prioritization process is implemented, the unweighted factor score will be multiplied by the weight number to determine the weighted factor score. Table 2 identifies weights for each factor based on input received from the TAC and CAC.

Table 2: Project Prioritization – Weights

Factor	Variable	Maximum Scale (Score)	Weight	Highest Score by Variable	Highest Score by Factor
Safety	Total Crashes	10	3	30	30
Existing Conditions	Level of Traffic Stress	10	2.5	25	50
	Potential Barriers	10	2.5	25	
Connectivity	Employment and Housing Served	10	1	10	50
	Distance between Nodes/ Destinations	10	1	10	
	Access to Transit	10	1	10	
	Fills in a gap	10	1	10	
	Connects to an existing facility	10	1	10	
Equity	Households with no Vehicle Access	10	2.5	25	50
	Household in Poverty	10	2.5	25	
Opportunity	Multi-Jurisdictional Route	10	2	20	20

Summary

The information provided in this memorandum has been reviewed and refined by the project team, the project advisory committees, and the general public. Figure 1 and Table 3 – Table 4 summarizes the results of the results of the NCHRP 803 Prioritization Process applied to an initial list of potential segmented projects within the Rogue Valley Active Transportation Plan study area.



Legend

- Project ID
- Urban Growth Boundaries
- Rogue Valley MPO

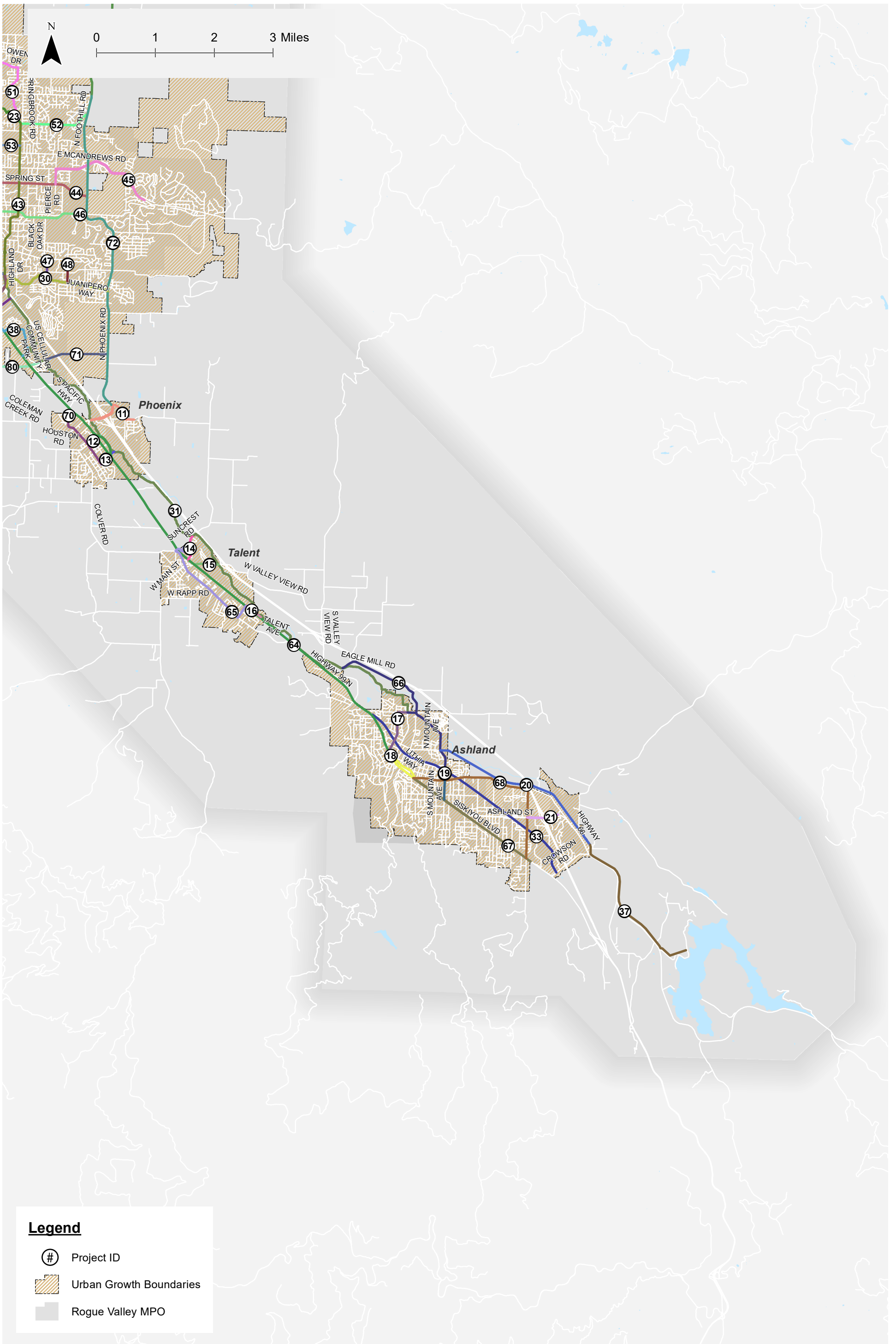


Table 3: Prioritization Process Results – Regional Routes

Regional Routes		
ID	Location	Evaluation Score
1	Jacksonville to Medford (Madrona Ln)	235.1
2	N Columbus Ave (Rossanley Dr to Dakota Ave)	220.0
3	OR62 (N Ross Ln to White City)	321.0
4	W Pine St (7th Street to Hamrick Rd)	262.5
5	Upton Rd Over I-5 Central Point	164.7
6	Table Rock Rd - Berrydale Ave to BCG	275.8
7	S Holly Street (E 4th St to Monroe St)	152.9
8	E 4th St (S Holly Street to Greenway)	246.5
9	E Main St (Greenway to S Holly St)	267.3
10	W 10th St (S Holly Street to Greenway)	247.5
11	Fern Valley Rd Interchange	120.3
12	W 4th (N Rose St to Greenway) Phoenix	221.7
13	Oak St (S Rose St to Greenway)	175.0
14	Clearview Dr - Suncrest Rd (OR99 to Greenway)	176.2
15	W Valley View Rd (OR99 to Greenway)	232.6
16	Creel Road Separated Path Talent	95.0
17	W Nevada Street - N Laurel St Ashland	132.9
18	E Main Street - C Street Couplet Ashland	232.8
19	S Mountain Ave (E Main St to Siskiyou Blvd)	234.8
20	E Hersey St Multi-use Path Extension Ashland	78.7
21	Ashland St (Tolman Creek Rd to Oak Knoll Dr)	223.4
22	Center Drive Multi-use Path Extension Medford	205.0
23	Temple Dr Multi-use Path Medford	112.9
24	Biddle Rd - Gilman Rd to Table Rock Rd to BCG Medford	155.2
25	Hamrick Rd - Beebe Rd to Greenway Medford	144.6
26	Antelope Rd (Table Rock Rd to Elementary School) White City	153.0
27	Touvelle Rd Multi-use Path White City	138.9
28	Little Butte Creek Multi-use Path Eagle Point	95.2
29	Linn Rd - Loto St (OR99 to Tabor Ave) Eagle Point	227.9
30	Larson Creek Greenway (BCG to N Phoenix Rd)	137.4
31	Bear Creek Greenway Middle (Blackwell Rd to W Nevada Street)	235.0
32	Bear Creek Greenway North to Gold Hill	106.4
33	Bear Creek Greenway South (Ashland Central Bike Path)	118.5
34	Garfield St (S Holly St to E Barnett Rd) Medford	246.7
35	Beall Ln - Merrimann Rd	218.1
36	Central Point North-South Connection (10th St to Beall Ln)	190.7
37	Future Ashland Greenway Extension	152.2
38	OR99 (Garfield St to North Lowry to Existing Trail) Medford	261.3

Table 4: Prioritization Process Results – Connector Routes

Connector Routes		
ID	Location	Evaluation Score
39	Kings Hwy (Dakota St to S Stage Rd) Medford	169.2
40	S Holly St (Monroe St to S Stage Rd) Medford	127.6
41	W Barnett Rd (S Holly St to Highland Dr Medford	295.5
42	Cunningham Ave - S Gardfield (S Columbus Ave to S Holly St)	169.2
43	Springbrook Rd - Highland Dr (Cedar Links Dr to E Barnett Rd)	192.1
44	Spring St (E McAndrews Rd to N Foothill Rd)	259.3
45	Brookdale Ave - E McAndrews Rd Medford	99.9
46	W Jackson St Hillcrest Rd (N Columbus Ave to N Foothill Rd)	252.7
47	Black Oak Dr (Siskiyou Blvd to Larson Creek Greenway) Medford	216.7
48	Murphy Rd (Siskiyou Blvd to Larson Creek Greenway) Medford	173.3
49	Biddle Rd (Gilman Rd to E Jackson St) Medford	284.2
50	Lawnsdale Rd - Bullock Rd (Biddle to OR62) Medford	204.7
51	Owen Dr - Springbrook Rd (OR62 to Temple Dr Multi-use Path)	157.0
52	Cedar Links Dr (Springbrook Rd to Foothill Rd) Medford	124.4
53	Morrow Rd - Roberts Rd - Brookhurst St (Biddle Rd to Springbrook) Medford	264.6
54	Midway Rd (Table Rock Rd to BCG) Medford	213.3
55	Table Rock Road (Kirtland Rd to Merriman Rd)	260.8
56	Upton Rd - Wilson Rd Central Point	173.3
57	Rogue Valley Hwy (Blackwell Rd to N Central Ave)	244.6
58	Sage Rd (Rogue Valley Hwy to Rossanley Dr) Medford	277.4
59	Vilas Rd (Table Rock Rd to N Foothill Rd)	147.9
60	McAndrews Rd Ross Ln to Poplar Dr Medford	345.9
61	Table Rock Rd (Berrydale Ave to Central Ave) Medford	319.9
62	Court St - N Central Ave (Table Rock Rd to Riverside Ave) Medford	312.8
63	Riverside Ave (Table Rock Rd to E Barnett Rd) Medford	318.7
64	OR99 (E Barnett Rd to Ashland)	331.8
65	Talent Ave and Autum Ridge Road Talent	225.7
66	Eagle Mill Rd - Mountain Ave (BCG to Central Bike Path) Ashland	175.3
67	Siskiyou Blvd (Downtown Ashland to Tolman Creek Rd)	236.6
68	E Main St - Tolman Creek Rd (Siskiyou Blvd to Siskiyou Blvd) Ashland	218.4
69	Hamrock Rd - Biddle Rd (Beebe Rd to Airport) Medford	233.3
70	N Rose St (OR99 to Oak St) Phoenix	182.6
71	S Stage Rd Extension (BCG to N Phoenix Rd) S Medford	116.1
72	N Phoenix Rd (Delta Waters Rd to Phoenix) Medford	189.0
73	N Foothill Rd (White City to Delta Waters Dr)	210.1
74	Nick Young Rd - Agate Rd (OR62 to Touvelle Rd)	137.0
75	S Shasta Ave (E Main St to Alta Vista Rd) Eagle Point	174.4
76	Alta Vista Rd - Robert Tremt Jones Jr Blvd - Stevens Rd - E Main Eagle Point	148.7
77	W Main St (S Holly St to Hanley Rd to Jacksonville) Medford	305.3
78	Ped-Bike Bridge Over I-5 Central Point	173.3
79	W Pine St (Rachel Drive to 7th Street)	289.9
80	S Stage Rd (Jacksonville to S Medford)	189.9
81	Hanley Rd (W Pine St to W W Main St)	112.1
82	Lozier Ln - Orchard Home Dr (Rossanley Dr to S Stage Rd) W Medford	188.6
83	S Columbus Ave (Dakota St to S Stage Rd) Medford	215.1