2020

Bicycle & Pedestrian Plan

Rapid City Area MPO

Rapid City Metropolitan Area Bike and Pedestrian Master Plan Update

Rapid City Area Metropolitan Planning Organization

August 2020

HDR

RAPID CITY AREA Metropolitan Planning Organization

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Abbreviations

AASHTO – American Association of State Highway and Transportation Officials

ACS – American Community Survey

ADA – Americans with Disabilities Act

BAC – Bicycle Advisory Committee

BNA – Bicycle Network Analysis

FHWA – Federal Highway Administration

GIS – Geographic Information System

HAWK – High Intensity Activated Crosswalk

ITE – Institute of Transportation Engineers

LAB – League of American Bicyclists

LOS – Level of Service

LPI – Leading Pedestrian Interval

LRTP – Long Range Transportation Plan

LTS – Level of Traffic Stress

MPO – Metropolitan Planning Organization

MTP – Metropolitan Transportation Plan

MUTCD – Manual on Uniform Traffic Control Devices

NACTO – North American City Transportation Officials

PHB – Pedestrian Hybrid Beacon

RCAMPO – Rapid City Area Metropolitan Planning Organization

RRFB – Rectangular Rapid Flashing Beacon

STBG-TA – Surface Transportation Block Grant Program funding for Transportation Alternatives

TA – Transportation Alternatives Program

TAZ – Traffic Analysis Zone

VMT – Vehicle Miles Traveled

YOE – Year of Expenditure

Executive Summary

Introduction

The Rapid City Area Metropolitan Planning Organization (RCAMPO) is the transportation policy-making organization that provides a comprehensive, cooperative, and continuing program of transportation planning in the Rapid City, SD urbanized area. The RCAMPO consists of representatives from local jurisdictions and transportation authorities that work together to produce plans for all aspects of transportation, including highways, transit, bicycle, pedestrian, public participation, and agency coordination. Federal funding for transportation projects and programs in the region are channeled through the RCAMPO.

The 2020 Bicycle and Pedestrian Plan provides an update to previous adopted plans, including the 2011 Bicycle and Pedestrian Master Plan and the bicycle and pedestrian-related information included in the RapidTRIP 2040 Long Range Transportation Plan Update from 2015. The 2020 Bicycle and Pedestrian Plan, including a list of fiscally constrained projects, is incorporated into Rapid Trip 2045, the Rapid City Metropolitan Transportation Plan (MTP), to create a long range comprehensive transportation plan for the region.

Bicycle and Pedestrian Plan Process

The primary focus of the Bicycle and Pedestrian Plan is on identifying and prioritizing improvements to the bicycle and pedestrian network. However, the plan also provides guidance on policies and strategies to help make the Rapid City area more conducive for and friendly to people walking and riding bikes. The Plan reviews and enhances the 2011 Bicycle and Pedestrian Master Plan goals and objectives; details the existing bicycle and pedestrian network and performance; identifies future network opportunities, and evaluates and prioritizes recommended projects and strategies for implementation. The Plan also documents public involvement efforts and comments that helped shape the Plan and its recommendations.

The overall evaluation of the proposed bicycle and pedestrian networks was based on review and consideration of several analyses intended to help guide the implementation of more complete, connected, and comfortable facilities for people of all ages and abilities. The analyses included the following:

- Level of traffic stress – this is a way to assess the relative comfort level of different types of streets and bicycle facilities, with an aim to allow a wide variety of users to feel comfortable riding a bike. Less stressful facilities focus on providing a greater level of separation from motor vehicle traffic, or routes on low speed, low volume streets.
- Equity – an analysis to evaluate the locations where people are more likely to walk or ride a bike for transportation based on concentrations of specific socioeconomic and demographic factors. More emphasis to improve facilities and conditions for bicycling and walking was placed in these areas.
- Demand – relative levels of bicycle and pedestrian demand across the region were determined based on projected population and employment totals in 2045, as well as proximity to key destinations such as parks, schools, transit stops, and activity centers.

A set of criteria was established for the Plan to score and prioritize the full list of project needs in order to determine the most important projects to be advanced into the fiscally constrained plan.

The criteria were heavily tied to the listed analyses, as well as to other factors such as connectivity, safety, and estimated project costs. The available funding for the fiscally constrained plan is based on the estimated total federal funds available through the MTP horizon year of 2045 from the Surface Transportation Block Grant Program funding for Transportation Alternatives (STBG-TA), or just "TA". The RCAMPO and partner agencies are encouraged to aggressively seek funding beyond that historically obtained through the TA program in order to implement a greater number of the recommended projects more quickly. It is also recommended to incorporate bicycle and pedestrian facilities and treatments into as many other projects as possible. Examples include resurfacing, restoration, or rehabilitation projects, which can often include restriping to incorporate bicycle facilities or marked crosswalks, as well as more substantial improvements like sidewalks. In addition, all new or expanded roadways should incorporate the appropriate bicycle and pedestrian facilities. The Plan provides guidance on a range of facility types and treatments, as well as providing references to relevant appropriate design guidance documents.

While the primary focus of the Plan is on the Engineering aspect of identifying and prioritizing bicycle and pedestrian facility improvements, the Plan also recognizes that a community cannot truly become bicycle and pedestrian friendly without addressing five other E's: Equity, Education, Enforcement, Encouragement, and Evaluation and Planning. As such, strategies and recommendations are provided for each of the other E's, in addition to Engineering.

Plan Elements

The 2020 Bicycle and Pedestrian Plan analyzes and evaluates the bicycle and pedestrian network within the Rapid City Metropolitan Planning Area boundaries, and provides a vision for identified improvements and strategies. This Plan is divided into six sections, as listed below:

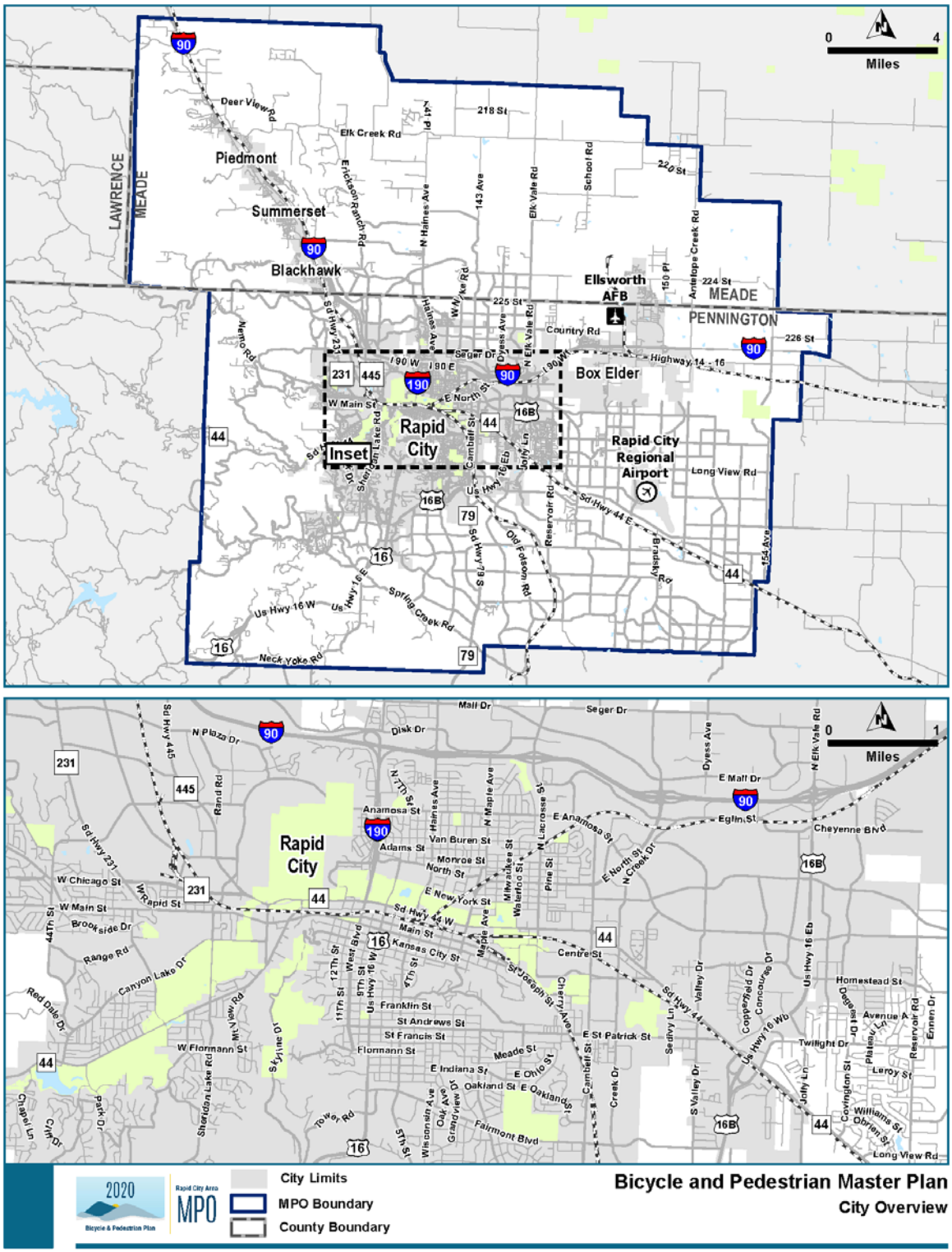
1. Existing Conditions
2. Bicycle and Pedestrian Network Analysis
3. Public Involvement
4. Recommendations
5. Strategies
6. Implementation Plan

Section 1: Existing Conditions

The Rapid City Area Metropolitan Planning Organization (RCAMPO) 2020 Bicycle and Pedestrian Plan provides an update to the adopted 2011 Bicycle and Pedestrian Master Plan and the bicycle and pedestrian-related information in the RapidTRIP 2040 Long Range Transportation Plan Update, 2015. This update includes a review and assessment of the previous plans to determine which projects have been completed, as well as update goals and objectives as needed, determine if any changes are needed to previously identified planned projects, and identify any new bicycle and pedestrian needs in the MPO area.

A map of the Rapid City area with the city limits and the MPO Boundary is shown in **Figure 1**.

Figure 1: Rapid City Overview



Existing Plans and Studies

Several plans and studies were reviewed as part of this plan update, including the Rapid City Area 2011 Bicycle and Pedestrian Master Plan, the RapidTRIP 2040 Long Range Transportation Plan Update (LRTP), 2015, the East Rapid City Traffic & Corridor Analysis Study, and the South Dakota School of Mines & Technology Campus Master Plan.

Rapid City Bicycle and Pedestrian Master Plan 2011

The Rapid City Area Bicycle and Pedestrian Master Plan 2011 built upon past and on-going bicycle and pedestrian efforts by RCAMPO and the City of Rapid City. The Bicycle and Pedestrian Master Plan was adopted as part of the Rapid City Comprehensive Plan.

The document envisioned a 20-year plan for completing the system of walkways, bikeways, and shared-use paths, including the following specific facility recommendations:

- 5.25 miles of City sidewalk projects
- 43.5 miles of sidewalk projects in the three-mile planning area
- 6.22 miles of shoulder bikeways
- 7.17 miles of bike lane restriping
- 25.88 of shared lane markings
- 18.01 miles of signed shared roadways
- 7.78 of bike lanes requiring construction
- 8.37 miles of extensions to the Leonard “Swanny” Swanson Memorial Pathway
- 11.52 miles of bike lanes on future roadways
- 19.01 miles of sidepaths

Vision, Goals, and Objectives

The plan’s stated vision is: *Rapid City will enhance transportation choices by developing a network of on-street and off-street bicycle and pedestrian facilities that provide connections to destinations throughout the city*. **Table 1: Master Plan 2011, Goals and Objectives** provides the plan’s goals, objectives, actions, and benchmarks, as well as the current status and progress made toward completing the identified actions.

Table 1: Master Plan 2011, Goals and Objectives

Objective	Action	Benchmark	Status/Progress
Goal 1. Support bicycling and walking as viable transportation modes in Rapid City.			
1.1 Implement the Rapid City Area Bicycle and Pedestrian Master Plan facility recommendations to provide bicycling and walking routes to key destinations.	1. Complete the high priority bikeway network and sidewalk gap projects in the next five years (2011 – 2015).	Miles of new bikeways and sidewalks completed; percentage of high priority projects identified in the Bicycle and Pedestrian Master Plan completed.	Completed 8 of 39 (20.5%) of high priority bikeway projects, totaling 5.65 miles; Completed 5 of 10 (50%) of the top City sidewalk projects, totaling 2.41 miles.
	2. Complete the medium-priority projects within the next 20 years (2011 – 2030).	Miles of new bikeways and sidewalks completed; percentage of medium priority projects identified in the Bicycle and Pedestrian Master Plan completed.	Completed 4 of 34 (11.8%) of medium priority bikeway projects, totaling 5.65 miles; Completed 5 of 10 (50%) of the top City sidewalk projects, totaling 2.41 miles.
1.2. Seek new funding sources and strategies to reduce the financial impact on the City.	1. In the case where grant requirements or construction as part of another project make construction of a lower priority project possible or required by law, pursue funding for that project regardless of priority.	Proportion of roadway restriping, reconstruction, and construction projects that include bicycle and/or pedestrian improvements.	Some roadway projects include bike/ped components; No specific statistics available on the proportion that include bike/ped improvements.
	2. Seek new funding sources and strategies to reduce the financial impact on the City.	Number of grants applied for; amount of grant funding acquired.	Live Well Black Hills has submitted grant applications before - a successful application was for 3 bike repair stations; No specific information available on number of grants or total funding acquired.
1.3. Improve bicyclists' and pedestrians' safety	1. Minimize disruption to bicycle and pedestrian travel	Development of guidelines/policies for providing bicycle and	No progress to date.

Objective	Action	Benchmark	Status/Progress
and comfort by accommodating these modes during construction or facility repair activities.	by providing alternate routes during construction or repair activities.	pedestrian access through or around construction zones.	
Goal 2. Promote bicycling and walking in the Rapid City area by improving awareness of bicycle and pedestrian facilities and opportunities.			
2.1 Improve public awareness of the on-street bicycle network and presence of bicyclists.	1. Install signs along all local and regional bikeways to assist with wayfinding and to increase awareness of bicyclists by motorists.	Development of a wayfinding signage plan; number of signs installed.	There has been an ongoing effort related to wayfinding, although it is not complete, and has been focused primarily on pedestrians; No information available on the number of signs installed.
	2. Make bicycling and walking resources available through the City of Rapid City website.	Development of web content on the City of Rapid City's website providing information about walking and bicycling; frequency of page views.	MPO doesn't have much control over City website, but can put more bike/ped-focused information on the MPO website.
	3. Increase action by law enforcement officers in regards to bicycle- and pedestrian- related violations by motorists, bicyclists, and pedestrians.	Number of informational warnings and citations issued related to bicyclists or pedestrians; number of crashes involving bicyclists or pedestrians.	No information available on informational warnings & citations; Total crashes involving bicyclists or pedestrians was 221 for the five-year period from 2014-2018, including 11 fatalities.
	4. Promote the availability of bicycle racks on RapidRide buses.	Development of web content on the RapidRide website providing information on how to use bike racks on the buses.	RapidRide website has video on use of bike racks on front page.
2.2. Support education and encouragement efforts in the region.	1. Apply to become a Bicycle Friendly Community (BFC) through the League of American	Completed BFC application; goal of initial recognition at the bronze level with a target of obtaining	Application submitted in 2014, City received Honorable Mention, which fell short of the initial Bronze level recognition.

Objective	Action	Benchmark	Status/Progress
	Bicyclists' award program.	gold level recognition.	
	2. Convene a standing Bicycle Advisory Committee (BAC) to focus on Plan implementation and obtaining funding for bicycle and pedestrian projects and programs.	Appointment of a BAC; at least four meetings each year.	MPO does not have a BAC; however, there are some bicycle / pedestrian focused representatives on other MPO committees.
Goal 3. Integrate bicycle and pedestrian planning into Rapid City's Planning Processes.			
3.1. Institutionalize bicycle and pedestrian planning into Rapid City Growth Management's work plan and Engineering department plans.	1. Review and update the Bicycle and Pedestrian Master Plan project and program priorities every five years.	Revised project priorities list every five years.	MPO MTP is updated every five years; Current Bike/Ped Plan (2020) is an update to the 2011 Plan.
	2. Revise the street criteria manual to include consideration of bicycles based on road classification.	Updated street design criteria manual; appropriate bicycle and pedestrian access provided in new developments as specified in this plan.	Criteria manual not under MPO control and has not specifically been updated to address bike/ped needs or concerns.
3.2. Require inclusion of bicyclists and pedestrians in citywide planning efforts.	1. Adopt a Complete Streets policy to consider the needs of pedestrians and bicyclists in new development and roadway reconstruction.	Adopted Complete Streets policy	A Complete Streets policy has not been adopted to date.

RapidTRIP 2040 Long Range Transportation Plan Update, 2015

The RapidTRIP 2040 LRTP Update was a comprehensive study of the transportation network with an emphasis on transportation modes for vehicles, bicycles, pedestrians, and transit. The document identified the transportation needs plan for the region, anticipated future funding availability, and established the fiscally constrained plan for the region over the next 25 years. The plan was adopted in 2015.

The RapidTRIP 2040 Update provided a list of bicycle and pedestrians needs within Rapid City. Bicycle needs were categorized as:

- Bike Lanes
- Crossing (improved crossing of a barrier, such as a major roadway)
- Off-Street Path (pathway not on the street, such as a bike or shared-use path)
- Shared Lanes (signed and/or sharrow-striped roadway as being a bicycle route)
- Signed Shoulder Bikeway (wide shoulder signed as a bicycle route)

All pedestrian needs were sidewalk additions. Shared use paths that accommodated both bicyclists and pedestrians were listed as “Off-Street Path” in the report.

RapidTRIP 2040 Goals and Objectives

The RCAMPO goals and objectives were utilized to develop performance measure goal areas. These performance measure goal areas allowed the RCAMPO to see the impact of the implemented changes. The goals from the RapidTRIP 2040 LRTP Update have not changed significantly in the 2045 LRTP Update. The 2040 performance categories, goals, objectives, and performance measures are shown in **Table 2**.

Table 2: Performance Measure Goal Areas

Performance Area	Goal	Objective	Performance Measure(s)
Safety	A safe transportation system for motorized and non-motorized users.	Reduce fatal and injury crash rates for all modes.	1: Change in severe crashes per 100 million vehicle miles traveled (VMT) 2: Change in all crashes per 100 million vehicle miles traveled (VMT)
System Preservation	A well maintained transportation system.	Maintain the existing transportation system in a high quality and effective manner.	1: Percent roadway pavement in good condition 2: Percent roadway pavement in poor condition
Multi-Modal Mobility and Accessibility	A multimodal transportation system that provides access for all.	Improve the availability and quality of transportation options.	1: Annual transit ridership 2: Mode split 3: Miles of bicycle and pedestrian facilities
System Operations	An efficient and reliable transportation system.	Minimize travel times, travel costs, and congestion.	1: Vehicle delay per capita 2: VMT per capita
Economic Vitality	An accessible and integrated transportation system that support economic vitality.	Provide adequate transportation facilities to support economic development.	1: Housing and transportation costs
Environmental Sustainability	A transportation system that preserves the environmental, social,	Minimize impact on the environment.	1: VMT per capita

Performance Area	Goal	Objective	Performance Measure(s)
	and cultural resources of the community.		
Project Delivery	Regional collaboration in transportation planning.	Facilitate coordination between regional projects to reduce project delay.	1: Number of project delays in previous planning period due to deficient agency coordination

East Rapid City Traffic & Corridor Analysis Study

The East Rapid City Traffic & Corridor Analysis Study was conducted in 2018 and 2019 by the RCAMPO. The purpose of the study was to compete analysis, alternatives development, and provide recommendations for potential infrastructure improvements along portions of East North Street, Omaha Street/Highway 44, and Cambell Street. This study provided opportunities for stakeholders and the public to provide feedback and input on potential infrastructure improvements through the use of public meetings, through the project website and through written comments mailed or emailed to the project manager.

The study described the existing multimodal network as having little consistency and gaps in the sidewalk network, with specific facility details for Cambell Street, Omaha Street/SD 44, and East North Street. There were six reported pedestrian crashes in the study area, four on East North Street, one of which was a fatality.

The only dedicated bicycle facilities in the study area are a shared-use path along Anamosa Street and the eastern portion of the Leonard “Swanny” Swanson Memorial Pathway. This pathway crosses under both Cambell Street and Omaha Street, and connects many locations in the northern portion of Rapid City. Cambell Street and Omaha Street sidewalks to the bicycle path, but there are no dedicated bicycle facilities along these roadways. Four bicycle crashes were reported in the study area.

Two programmed improvements were noted involving pedestrian and bicycle facilities including a new shared use path on the east side of Cambell Street from Rocker Drive to Omaha Street, scheduled for 2021, and a new shared use path on the north side of Omaha Street from LaCrosse Street to Covington Street, scheduled for 2022. The recommendations from the study included corridor-type improvements, intersection improvements, and future roadway improvements. The following specific multimodal improvements were recommended:

- Omaha Street / SD 44, from LaCrosse Street to Saint Patrick Street – add shared use path to the existing five-lane roadway section, short term project (and noted that it overlaps with the programmed shared use path along Omaha Street)
- Cambell Street, from Saint Patrick Street to East North Street – add sidewalk and shared use path to the existing five lane roadway section, mid-term project
- East North Street, from Cambell Street to Eglin Street – add sidewalk and shared use path to the existing five-lane roadway section, mid-term project, can be built as development fills in along East North Street in the future
- Pedestrian and bicycle facilities should be included on future roadways as they develop

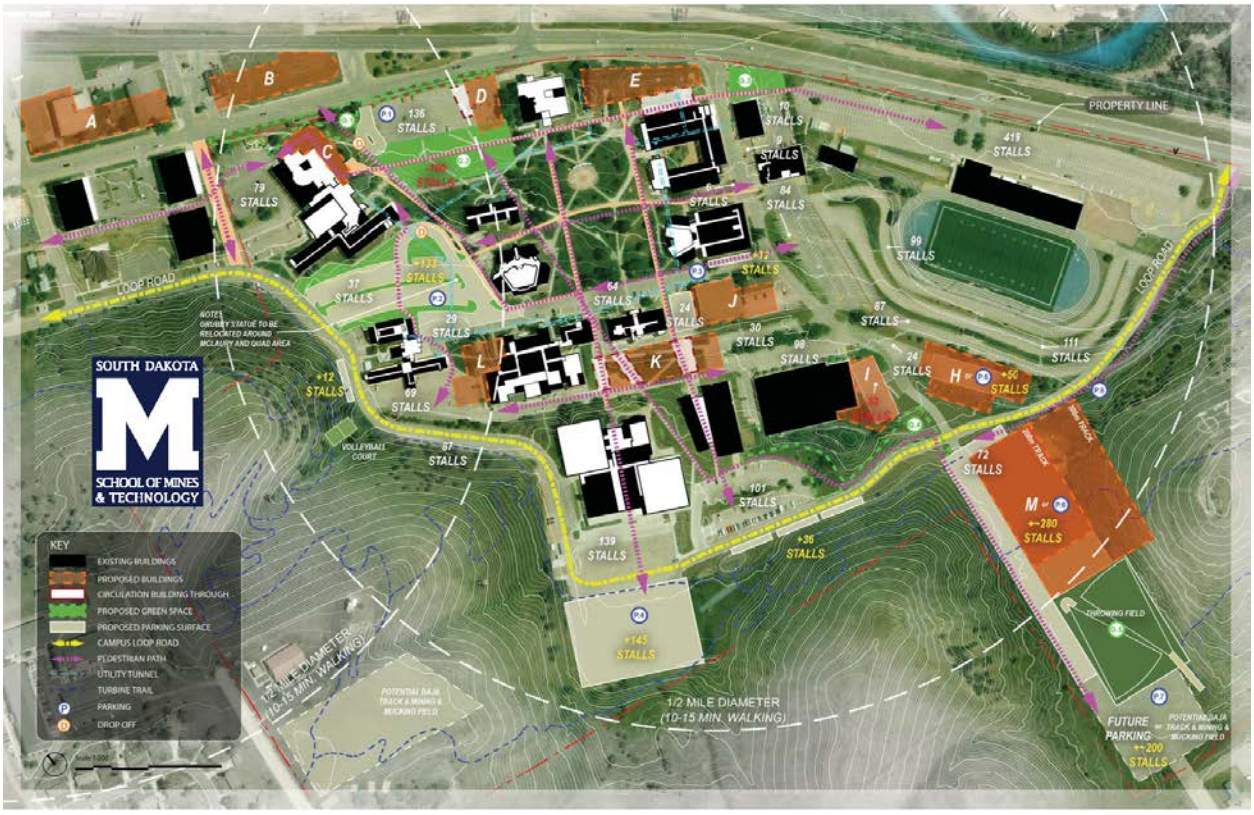
South Dakota School of Mines & Technology Campus Master Plan

The South Dakota School of Mines & Technology Campus Master Plan was updated in 2019 by the South Dakota School of Mines & Technology. The Campus Master Plan specifically referenced bicycle and pedestrian infrastructure to improve circulation. Improvements included:

- Rework pedestrian routes to reinforce major axes through the campus
- Improve connections to City bike paths
- Provide contiguous interior/exterior transition spaces that cut through buildings along major public thoroughfares
- Create waypoints of visual interest that reinforce the aesthetic of a technology school
- Provide pedestrian-scale design elements that create a positive sense of campus community along St. Joseph Street

Figure 2 shows the bicycle and pedestrian circulation map developed by the school.

Figure 2: South Dakota School of Mines & Technology Campus Master Plan - Bicycle and Pedestrian Circulation Map



People for Bikes: Bicycle Network Analysis

People for Bikes is a nonprofit organization which includes both an industry coalition of bicycling suppliers and retailers, as well as a charitable foundation.

The Bicycle Network Analysis (BNA) was developed to determine how well a community's bicycle network connects people with the places that they want to go safely and comfortably. BNA is calculated through a series of criteria, including people, opportunity, core services, shopping, recreation and transit. People for Bikes utilizes U.S. Census population data to determine how well a bike connects you to the people around you. Opportunity measures job data from the U.S. Census, as well as locations of K-12 schools, vocational and technical colleges, and higher education institutions to evaluate how easily these opportunities are available by bike. Core Services look at basic needs such as locations to food and health care services, such as doctors, hospitals, grocery stores and social services. Shopping looks at retail districts and how well they are connected by bike. Access to nearby parks and community centers, as well as off-street bike paths and trails by bicycle make up the recreation criteria. Finally, transit looks at combining biking with bus, subway, streetcar, light rail, or any other form of public transportation in an area, and how the transit hubs connect to the areas around them.

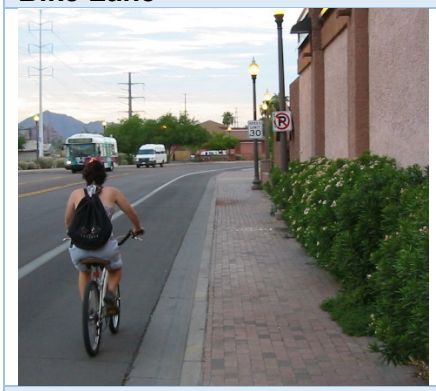
Rapid City has a BNA score of 33 out of a possible score of 100. Scores closer to 100 indicate a better environment for biking to grow and thrive. An increase of 20 points in a community's BNA score suggests a doubling of cycling activity will occur. A score of 50 builds the necessary momentum for behavior change programs to thrive.

Existing Bicycle and Pedestrian Network

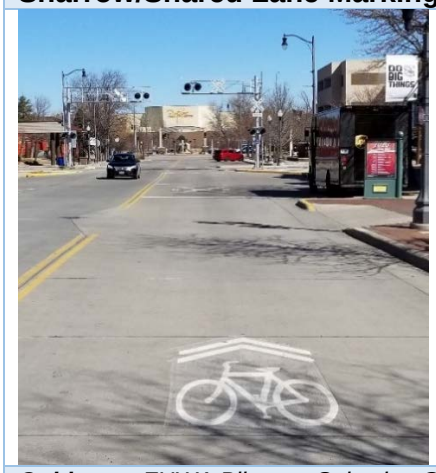
Existing Bicycle and Pedestrian Facility Types

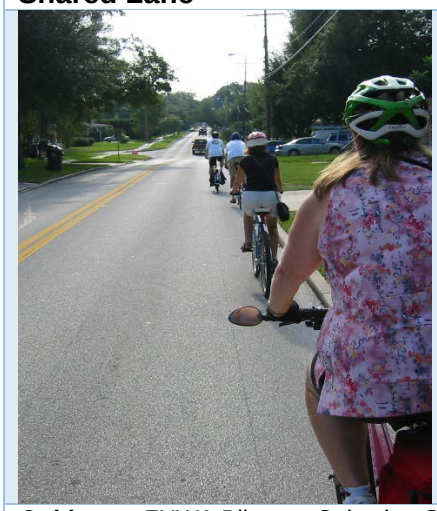
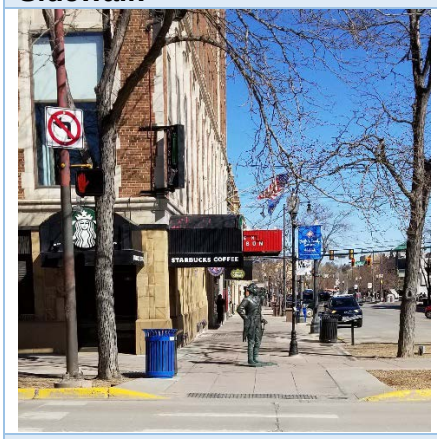
The existing bicycle and pedestrian network includes a variety of bicycle and pedestrian facility types, including sidewalks, paved shoulder bikeways, dedicated bicycle lanes, separated bikeways, shared lanes (which may include shared lane markings or "sharrows", or simply be signed as bike routes), and trails. **Table 3** describes the existing bicycle and pedestrian facility types.

Table 3: Existing Bicycle and Pedestrian Facility Types

Facility Type	Description	Key Factors
Bike Lane		
	• Portion of the street designated for preferential use by bicyclists. • One-way facilities that typically carry bicycle traffic in the same direction. • Used in location with limited right-of-way, lower travel speeds volume.	• Provide dedicated space for bicyclists to ride separated from vehicular traffic. • Reduces stress caused by acceleration and operating speed differentials between bicyclists and motorists. • Approved for use within Manual On Uniform Traffic Control Devices (MUTCD).
Guidance: *Federal Highway Administration (FHWA) Bikeway Selection Guide, National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide*		

Facility Type	Description	Key Factors
Paved Shoulder Bikeway		
	• Portion of the roadway contiguous with the traveled way that accommodates stopped vehicles, emergency use, and lateral support of subbase, base, and surface courses. • Often used by bicyclists.	• When paved shoulders are continuous, they act essentially the same in terms of operations as bike lanes. • A key safety factor is the presence and design of rumble strips, which can present a crash hazard or render a shoulder unrideable for bicyclists.
Guidance: *FHWA Bikeway Selection Guide, American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities*		
Trail (Shared-Use Path, Bike Path, Side Path)		
	• Physically separated from motorized traffic by an open space or barrier within the right-of-way or within an independent right-of-way. • Designed typically for two-way pedestrian and bicycle traffic. • Often run parallel to roadways, following alignment through natural areas and parks and along corridors with limited crossings like waterfronts, creeks, and current/former railroad lines.	• Provides low-stress environment for bicycling and pedestrian activity away from roadway traffic. • Can serve as arterials of the active transportation system for urban and suburban communities. • Compared with other facility types, can be the most expensive to construct.
Guidance: *AASHTO Guide for the Development of Bicycle Facilities; FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts; NACTO Urban Street Design Guide*		

Facility Type	Description	Key Factors
Separated Bikeway (Cycle Track / Protected Bikeway)		
	• Physically separated lane for bicycles using a vertical element within a buffer area such as bollards, parked vehicles, raised curbs, or landscaping/planters. • Used in locations where physical protection and separation is required to improve bicyclist comfort. • Also known as a cycle track or protected bikeway.	• Physical barrier provides added level of separation between travel lane and bicyclist, increasing bicyclist comfort and attracting a wider range of users. • Combines the user experience of a separated path with the on-street infrastructure of a conventional bike lane.
Guidance: *FHWA Bikeway Selection Guide, FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts, FHWA Separated Bike Lane Planning & Design Guide, NACTO Urban Bikeway Design Guide*		
Sharrow/Shared Lane Marking		
	• Marking alerts road users to the lateral position bicyclists are likely to occupy within the traveled way to be most visible to drivers and to help avoid conflicts with parked cars. • Used in locations to connect adjacent bicycle facilities and along neighborhood bikeways. • Can provide wayfinding guidance for bicyclists.	• Provide guidance to bicyclists and motorists in situations where separate bicycle facilities are not provided. • Encourage safer passing practices (including changing lanes, if necessary). • Encourages bicyclists to ride outside of the parked vehicle door zone. • Approved for use within MUTCD.
Guidance: *FHWA Bikeway Selection Guide, NACTO Urban Bikeway Design Guide*		

Facility Type	Description	Key Factors
Shared Lane		
	• A lane that is open to bicycle and motor vehicle traffic. • May include signs indicating potential bicycle use or provide bicycle routing and/or wayfinding. • Can include wide outside lanes / wide curb lanes.	• Bicyclist comfort and safety varies widely based on traffic operating speeds and volumes. • Lack of bikeway can reduce the predictability of a bicyclist's operating location. • Best on minor roads with low volumes and low speeds. • Can provide an alternative route to busier streets or highways. • May be circuitous, inconvenient, or discontinuous.
Guidance: *FHWA Bikeway Selection Guide, AASHTO Guide for the Development of Bicycle Facilities*		
Sidewalk		
	• Continuous, paved walkway along the side of a road. • Typically provided on all curbed roadways. • Sidewalk width varies by context classification, normally five feet wide. • Sidewalk grade typically mirrors roadway profile.	• Ideal to provide on both sides of roadway to optimize convenience for pedestrians, although some environments may be exempt or challenging due to available right-of-way. • Focus sidewalk connections in major residential areas and activity generators including schools, recreation centers, libraries, transit areas, and other pedestrian heavy locations.
Guidance: *FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts*		

Since bike lanes and paved shoulder bikeways are similar, these two categories have been combined on existing facilities maps and in the reported statistics, and are shown as "bike lanes". Similarly, all types of paved trails, including multi-use trails, shared use paths, bike paths, and sidepaths, are combined together in this plan update as "trails".

The majority of the bicycle facilities within the RCAMPO boundary are paved trails (47.1 miles). Bike lanes, including paved shoulder bikeways, are the second most common bicycle facility in the Rapid City area with a total of 27.0 miles. Finally, there is 0.3 miles of separated bikeways and 1.8 miles of sharrow/shared lanes, resulting in a total of 76.2 miles of existing bicycle network. The total miles of existing bicycle facilities by type are shown in **Table 4**.

Table 4: Existing Bicycle Facilities and Length

Facility Type	Length (in miles)
Bike Lane / Paved Shoulder Bikeway	27.0
Separated Bikeway	0.3
Sharrow/Shared Lane	1.8
Trail	47.1
Total Existing Mileage	**76.2**

The current sidewalk network within the RCAMPO boundaries consists of 128.3 miles of arterial and collector roads with sidewalk on at least one side of the road. There are 84.8 miles of arterial and collector roads with sidewalk on both sides of the roadway, while 43.5 miles of road have sidewalk on one side of the road. The existing bicycle network can be seen in **Figure 3** and the existing sidewalk network can be seen in **Figure 4**.

Despite all of the recreational opportunities for bicyclists within the Black Hills region, bicycling is the least utilized method of commuting to work in the Rapid City Area. According to American Community Survey (ACS) data for 2017, only 0.4% of residents commute to work via bicycling. Pedestrians made up 3.7% of work commuters, and transit riders made up 0.6% of work commuters.

Figure 3: Existing Bicycle Network

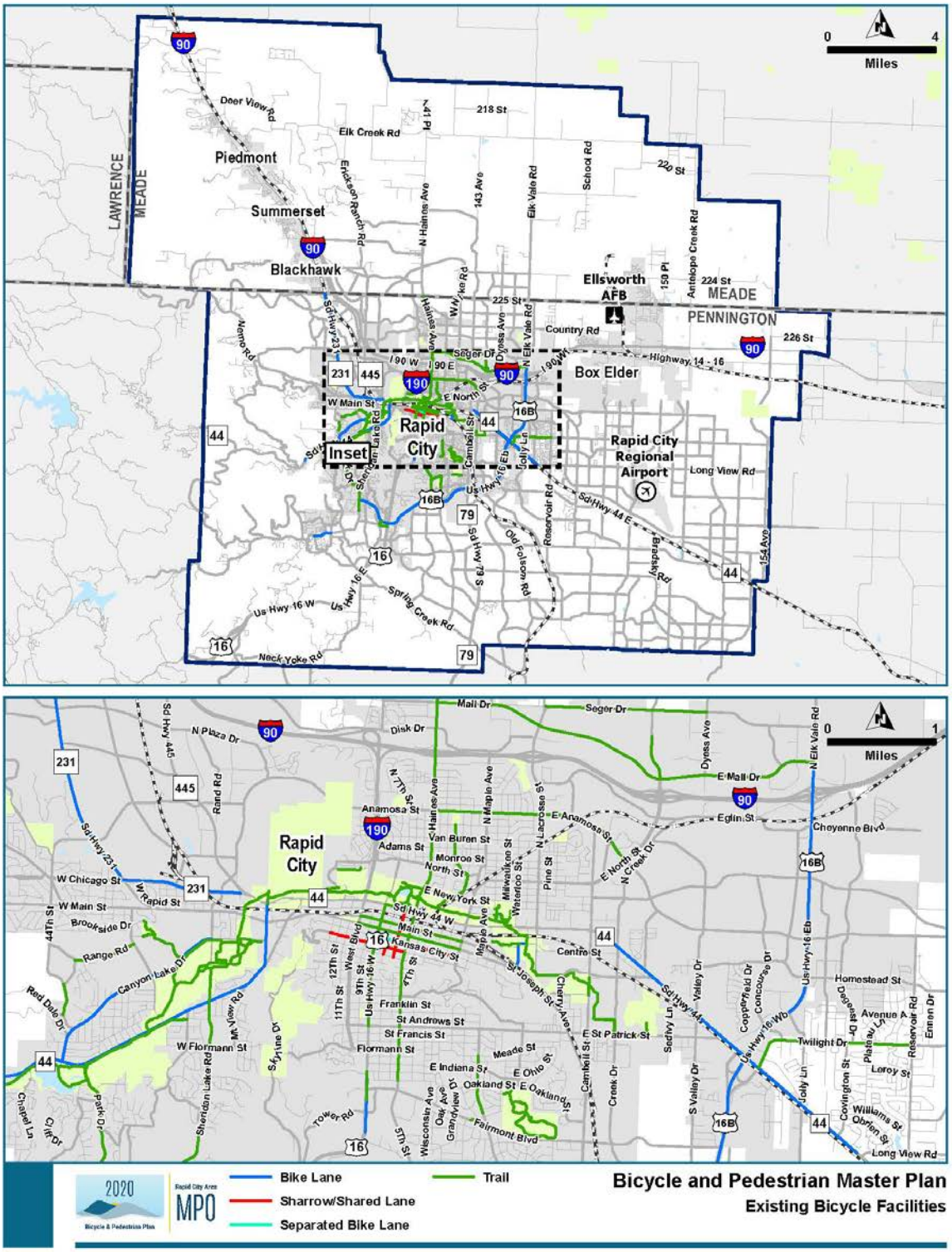
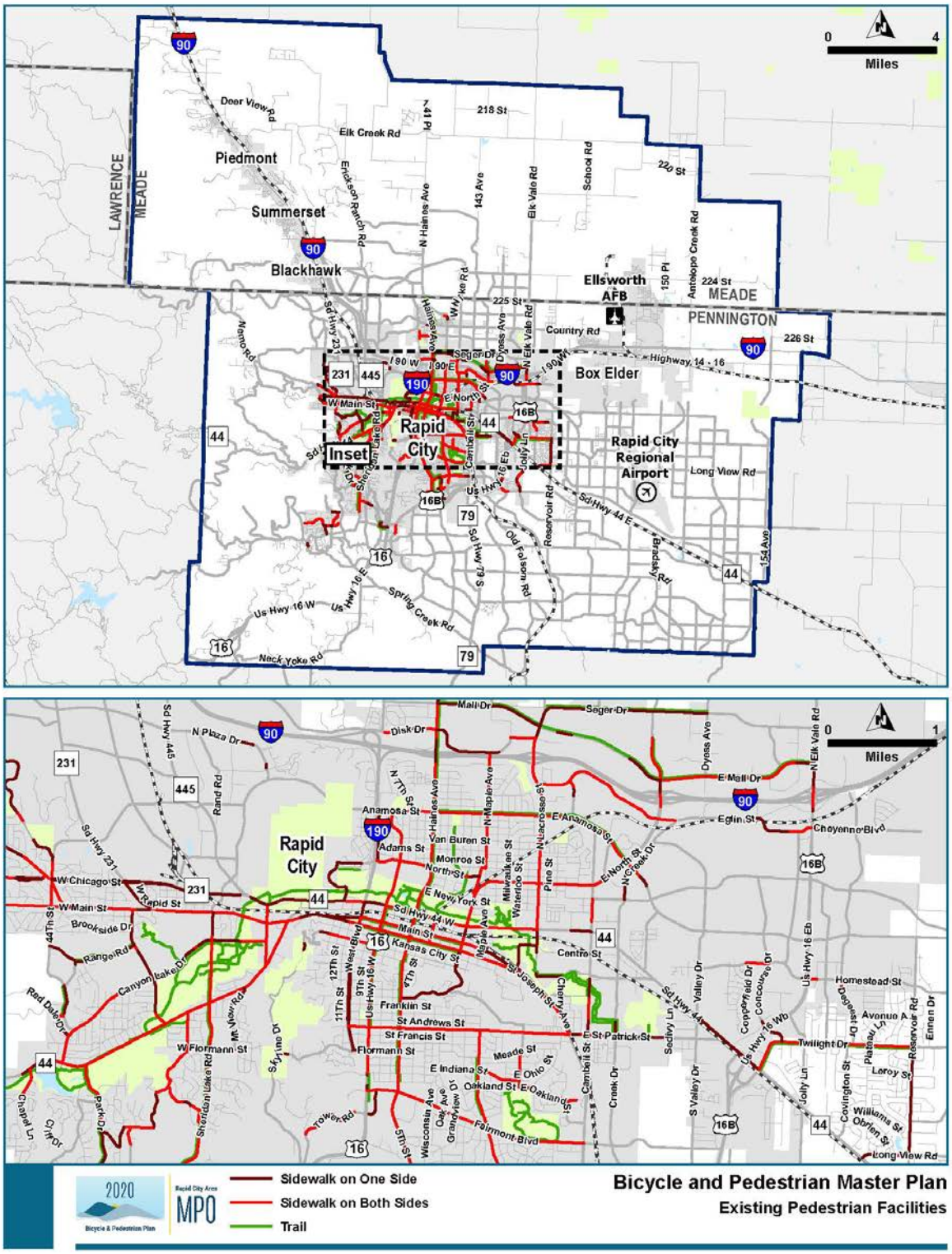


Figure 4: Existing Pedestrian Network



Section 2: Bicycle and Pedestrian Network Analysis

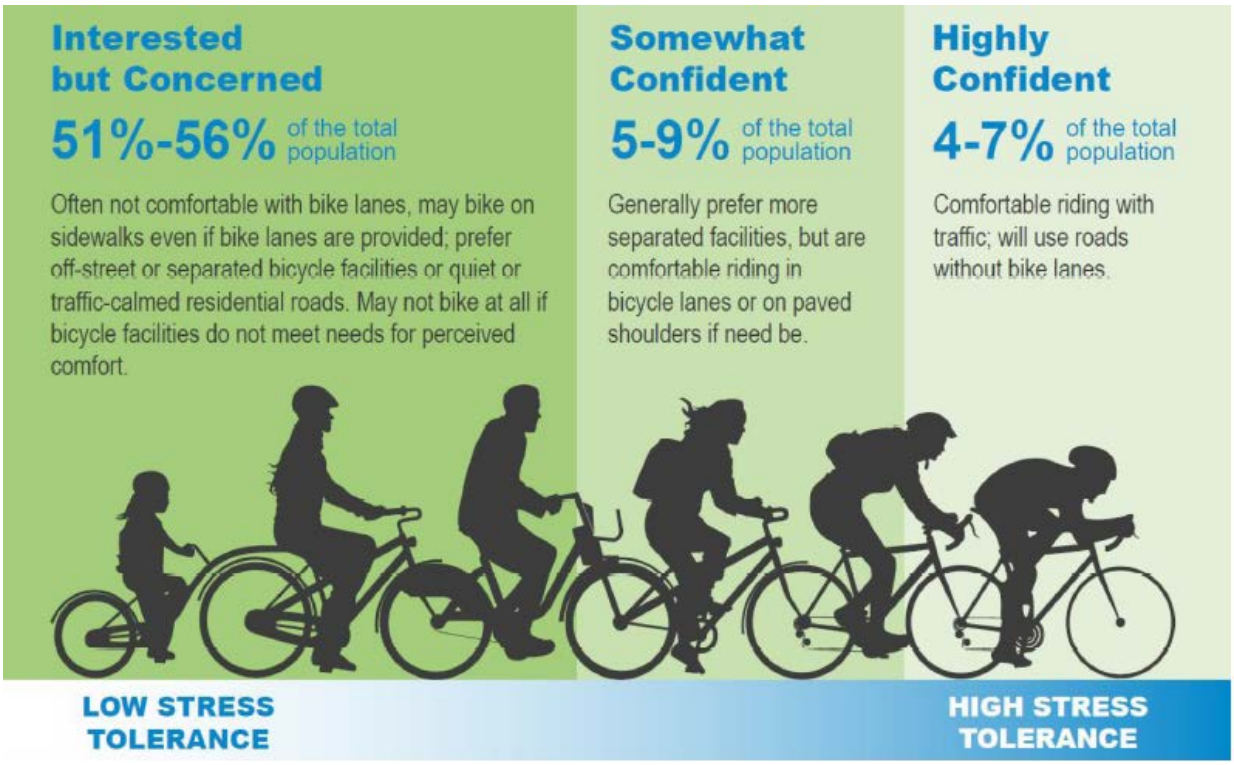
Improvements to the bicycle and pedestrian networks will be prioritized in high demand areas. Pedestrian improvements will be focused on filling sidewalk gaps, while bicycle improvements are intended to support a network of low-stress corridors. To help inform specific improvements to the bicycle and pedestrian network, a series of analyses was undertaken, including level of traffic stress, equity, and bicycle and pedestrian demand.

Level of Traffic Stress

Bicycle and pedestrian Level of Service (LOS) are measures that have been used in many communities to determine the suitability of bicycle and pedestrian facilities in a shared roadway environment. However, this method has limitations in terms of the types of facilities it covers (does not directly account for sharrows, separated bikeways, or shared-use paths) and is also typically not applied to local streets where traffic count data isn't usually available. It also requires a substantial amount of data related to traffic and street cross sections that is also not usually available.

An alternative approach is Level of Traffic Stress (LTS), which provides a comprehensive evaluation of a street network's stressfulness corresponding to different user profiles, providing a way to map the bicycle network according to which populations they serve rather than just according to facility type. LTS is determined based on various traffic and geometric factors, but primarily the bicycle facility type, number of lanes on the street, and the posted speed of the street. LTS also accounts for different bicycle user types and their specific needs and preferences, including those categorized as "interested but concerned" that can make up as much as 60% of the general population and require separated facilities or low speed, low volume neighborhood streets in order to feel comfortable riding a bicycle. These user types, which are referenced in the 2019 FHWA *Bikeway Selection Guide*, are shown in **Figure 5**, along with brief descriptions of each type. **Table 5** provides a summary of the four LTS levels, and their corresponding suitability for different types of bicyclists.

Figure 5: FHWA Bicycle Design User Profiles



SOURCE: 2019 FHWA *BIKEWAY SELECTION GUIDE*

Table 5: Level of Traffic Stress User Descriptions

LTS LEVEL	1	2	3	4
Bicyclist Type Accommodation	*All Ages & Abilities*	*Interested but Concerned*	*Somewhat Confident*	*Highly Confident*
Traffic	*Low Speed, Low Volume*	*Low/Moderate Speed, Low Volume*	*Moderate/High Speed & Volume*	*High Speed, High Volume*
Traffic Separation	*Strong Separation, Little Interaction*	*Separation w/ Higher Speeds*	*Close Proximity, Med/ High Interaction*	*Close Proximity, Heavy Interaction*
Crossings	*Simple*	*Easy for Adults*	*Longer Distances*	*Longer Distances, Intimidating*

An LTS analysis was completed for all roadways within the RCAMPO boundaries. All separated bike lanes, sidepaths, and trails are considered LTS level 1. Streets with bike lanes or paved shoulders can be classified from LTS level 1 to level 4 based on the number of lanes per direction and the posted speed. Other mixed traffic streets without designated facilities can also be classified from LTS level 1 to level 4 based on the number of lanes per direction, the facility

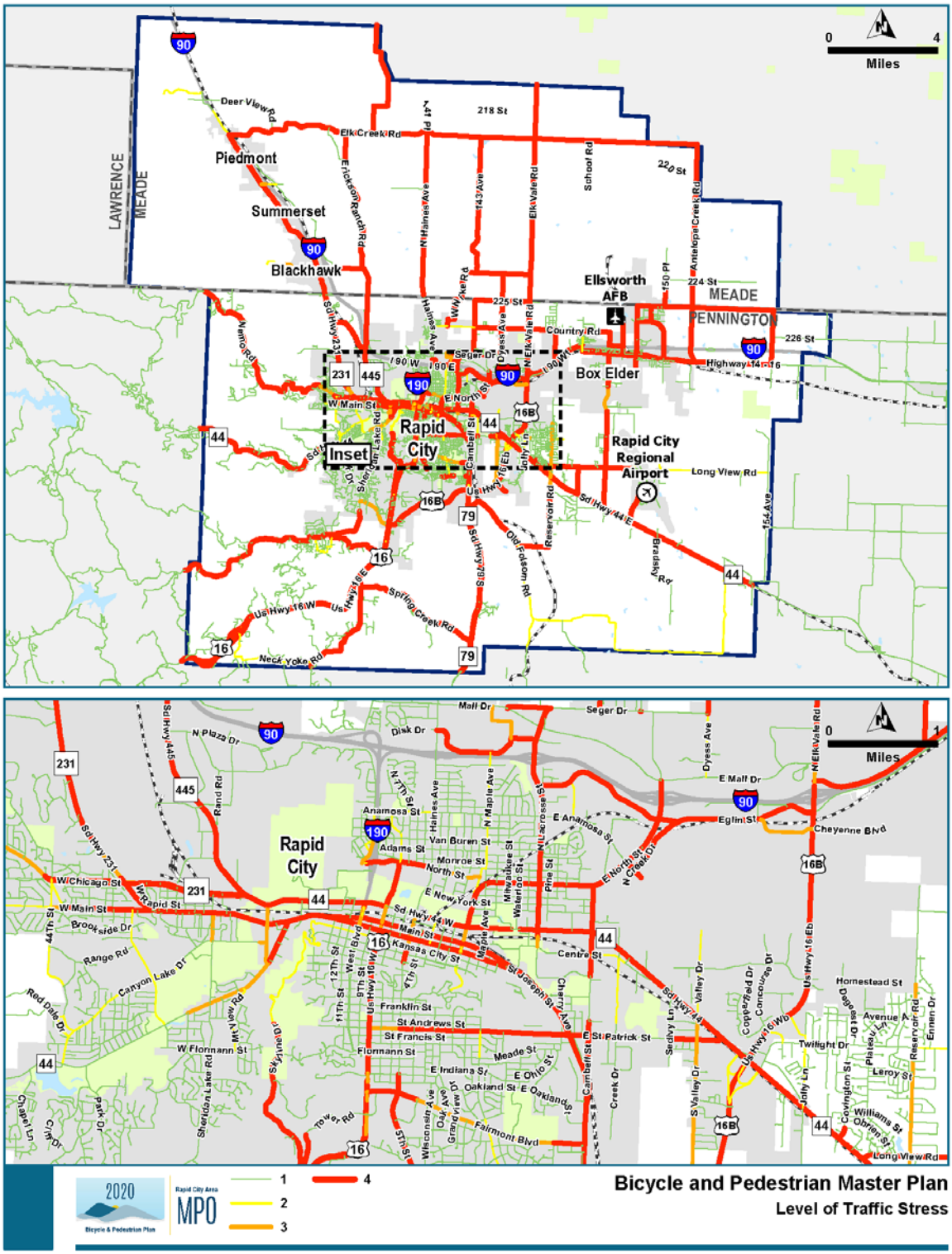
type/functional classification, and the posted speed. Based on the available data, several simplifying assumptions were made to complete the analysis, including the following:

- On streets with on-street parking, these parking lanes were not considered
- On streets with bike lanes or paved shoulders, the widths of these facilities were not considered, only whether they were present
- The presence of raised medians was not considered
- The blockage of bicycle lanes was not considered
- All streets classified as local streets were assumed to have one lane per direction

Figure 6 shows LTS on all streets, including local streets, within the Rapid City MPO boundaries. As indicated in **Table 5**, facilities classified as LTS level 1 or 2 are considered low stress, while facilities classified as LTS level 3 or 4 are considered high stress. As shown in **Figure 6**, most of the region's major roadways are high stress, while low stress streets are typically limited to local neighborhood streets and minor collector roadways.

The LTS analysis provides opportunities to identify potential alternative corridors to target for bicycle improvements, either to route around higher stress streets, or to specifically target improvements on higher stress streets that connect low-stress routes and facilities. Improvements on roadway segments with higher LTS levels would be targeted to reduce the LTS to lower levels – this could be done in several ways, such as by providing a bicycle facility with more separation from traffic (separated bike lanes or a side path), reducing the number of lanes on a street (right sizing or "road diet"), or by reducing the posted speed (potentially in conjunction with other measures such as traffic calming).

Figure 6: Rapid City Level of Traffic Stress Map



Equity Analysis

People who rely on walking, bicycling, and transit to access jobs and meet every day needs often live in areas that are the least supportive of active transportation modes. Such areas are often characterized by sidewalk networks that have gaps or are in poor condition, infrequent transit service and/or absence of safe bicycle facilities. The health, safety, mobility, and economy of a community is compromised when its residents are not provided with viable mobility choices. Developing bicycle and pedestrian networks that serve all areas of the MPO region, including areas that have a high density of historically under-served populations and relatively few bicycle and pedestrian facilities, is important to the development of this plan.

To better understand the needs of communities most affected by the lack of access to active transportation options, an equity analysis was conducted based on their demographic attributes. The analysis also considered the spatial relationship of underserved areas to existing bicycle and pedestrian facility networks. This section provides an overview of this analysis that resulted in a geographic equity score that helped to identify areas where people would be more likely to walk or ride a bicycle, to meet their daily transportation needs.

Equity Analysis Methodology

The Equity Analysis included an evaluation of six 2016 American Community Survey (ACS) socio-economic factors, based on census block group data, and was the same data used in the RCAMPO Transit Feasibility Study in April 2018. The data used includes:

- Population below poverty level
- Minority population
- Limited English proficiency
- Population age 65 or above
- Population age 18 or below
- Zero-vehicle households

The analysis used a threshold for each of the six factors, so that those census block groups that had a greater value than the regional mean value for any given indicator was given a score of one (1). The scores for the individual categories were then summed across the six socio-economic indicators to generate a composite equity score. For example, if a census block has an above average number of people below poverty level and an above average number of people 65 years of age or older, the census block group was given a score of two (2). The composite equity score range has a possible high score of six (6), indicating above average values for each of the socioeconomic indicators, and a minimum possible low equity score of zero (0), which would indicate no above average values. Individual maps for each socio-economic indicator are located in **Appendix A**.

The composite equity map was then overlaid with the existing network of bicycle facilities (bike lanes, trails, and signed/marked bike routes), and overlaid separately with the existing network of pedestrian facilities (sidewalks and trails), to determine areas of low service. For both the bicycle and pedestrian analysis, the facility service level was calculated by dividing the total mileage of bicycle or pedestrian facilities in a census block group by the number of square miles in the census block group (e.g., bicycle facility miles/square miles). Block groups with a

population density less than 1 person per acre were excluded from the analysis. Block groups in the lowest quartile (lowest 25%) were considered to be “low service areas.”

The results of the equity analysis combined with the assessment of low service areas within the MPO boundary highlight areas where improvements to the bicycle or pedestrian network would benefit underserved populations. **Figure 7** represents a schematic diagram of the equity analysis framework that used six socioeconomic factors to derive a composite equity score, and then overlaid the existing bicycle/pedestrian facilities to help determine where areas of high composite equity score overlapped with areas of low bicycle or pedestrian service within the Rapid City area.

Figure 8 shows the composite equity analysis. Darker areas on the composite map signify locations with concentrated socio-economic indicators

Figure 7: Rapid City Equity Analysis Framework

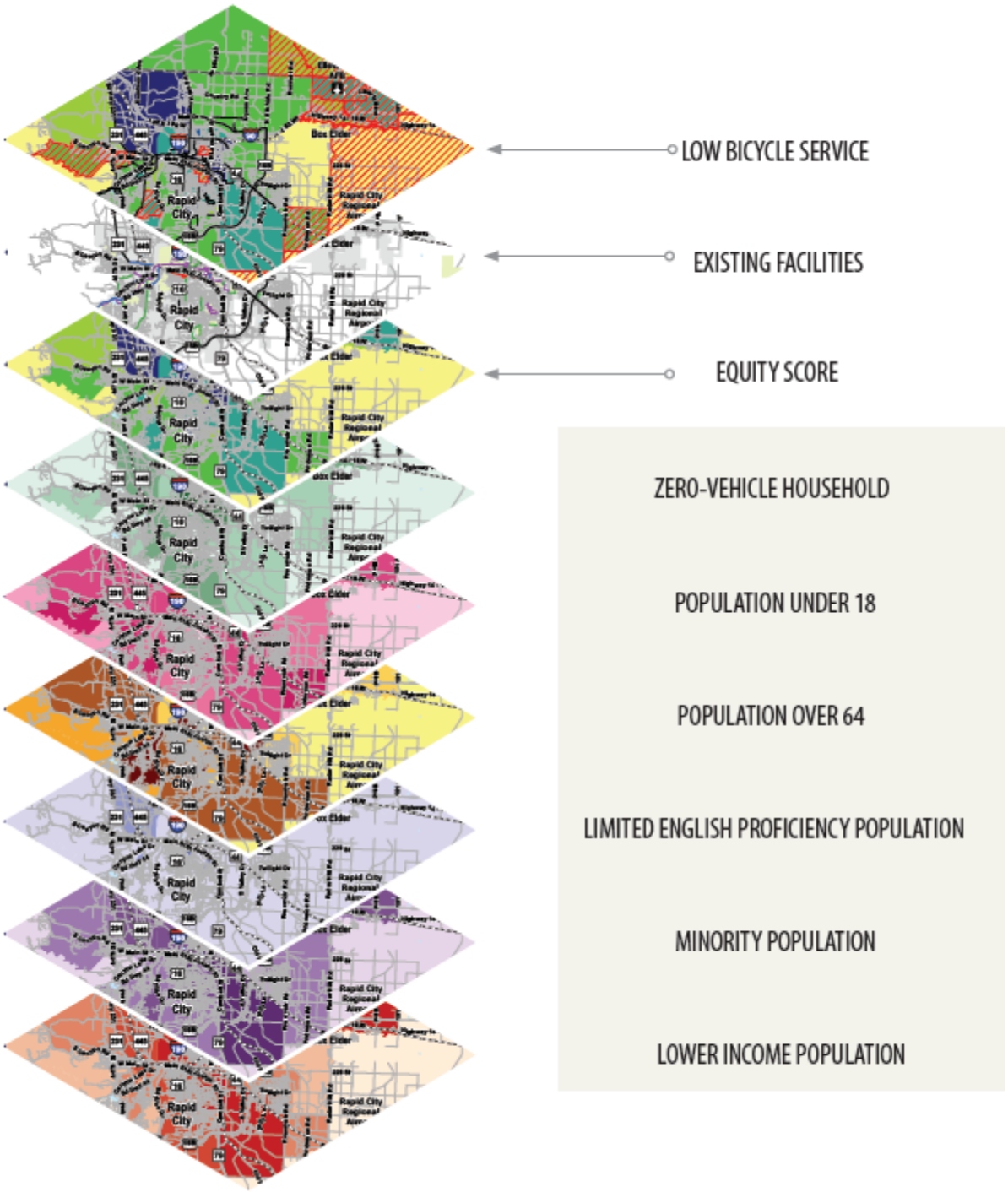
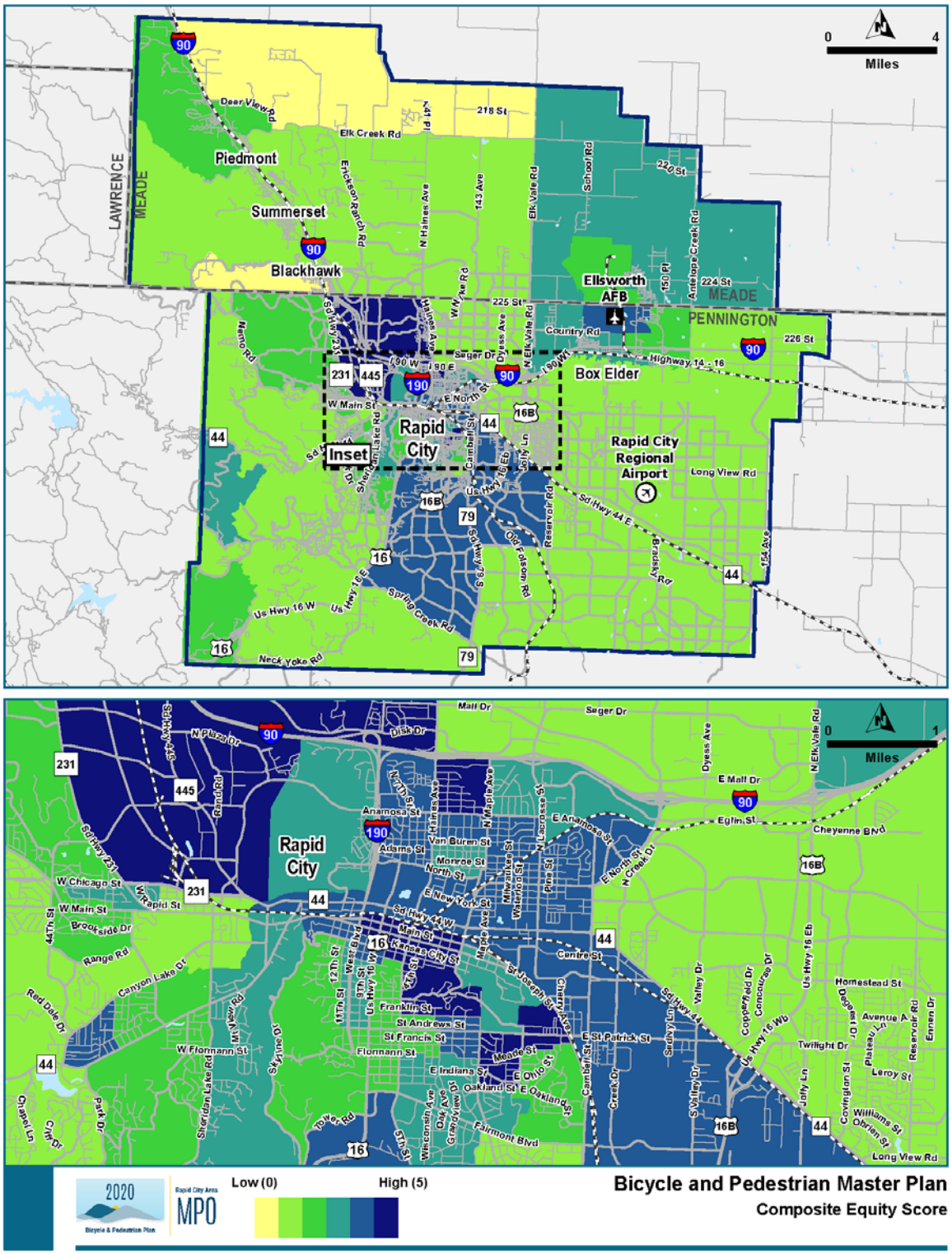


Figure 8: Composite Equity Score



Equity Score and Low Bicycle/Pedestrian Service Areas

Figure 9 and **Figure 10** show the results of combining the equity score data and the existing bicycle and pedestrian facilities data revealing the areas of low bicycle service and low pedestrian service in the Rapid City Area, respectively. As noted previously for **Figure 8**, areas with higher equity scores are noted with darker colors. The low service areas are highlighted on the map by red hatched markings. Efforts should be focused on areas where low service areas and concentrated high composite equity scores overlap. These are areas on the map shown in darker colors that also have red hatched markings. They identify concentrations of the most vulnerable user populations and where improvements should be prioritized to enhance and provide equitable mobility access.

In general, the areas identified as having low bicycle or pedestrians service are typically on the outer portions of the MPO area. This is unsurprising as the existing facilities are located more in the urban areas, and less so in rural areas. There are a few pockets of low bicycle service located closer to downtown. In reviewing Figures 9 and 10, it is noted that the areas with higher composite equity scores generally don't overlap with the identified areas of low bicycle and pedestrian service, so the areas of concern from an equity standpoint are generally not underrepresented in terms of the miles of bicycle or pedestrian facilities provided.

Figure 9: Low Bicycle Service

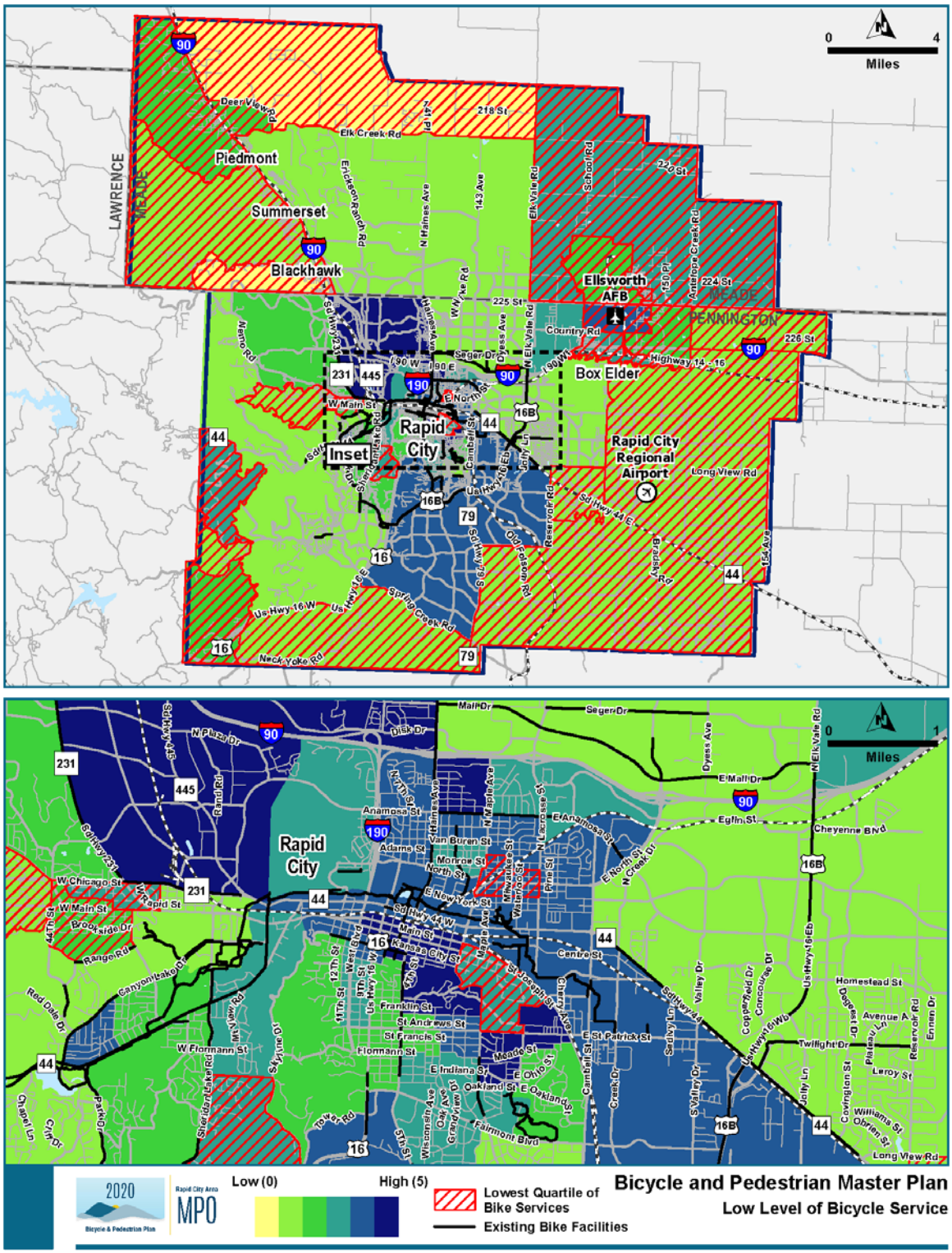
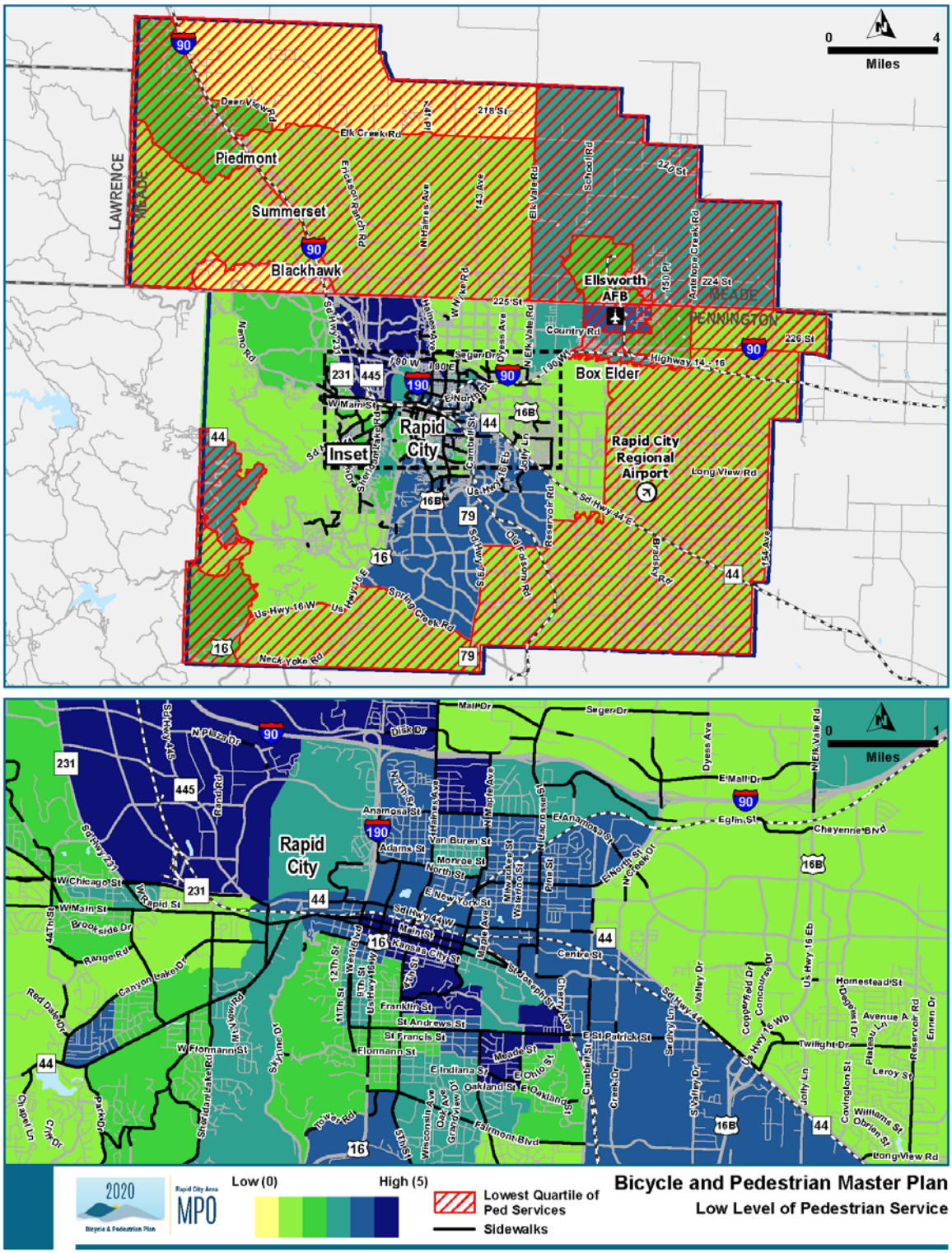


Figure 10: Low Pedestrian Service



Bicycle and Pedestrian Demand

An analysis of relative levels of bicycle and pedestrian demand within the MPO area was conducted utilizing criteria corresponding to the proximity of bicyclists and walkers to various key destinations, projected population and employment density data, and socioeconomic data. This data identified populations with a higher propensity to make trips by walking or bicycling. It should be noted that the demand analysis did not consider existing "on the ground" bicycle and pedestrian conditions or facilities.

The rationale for each demand category and corresponding scoring is explained as follows:

- **Proximity to Key Destinations.** This demand category reflected a graduated scoring criteria that gave more points for bicyclists and pedestrians in closer proximity to destinations, accounting for the fact that people have different tolerances for how far they are willing to walk or ride a bicycle to their destination. Graduated demand scoring was applied to the areas around colleges and universities, public schools, parks, libraries, cultural centers, activity centers, and bus stops. The highest scores were given for the closest proximity of bicyclists and pedestrians to each destination (within one-quarter mile for pedestrians and one-half mile for bicyclists), decreasing to lower scores for bicyclists and pedestrians who were further away from destinations (capped at one mile for pedestrians and two miles for bicyclists). **Table 6** summarizes the graduated demand scoring for each type of destination.
- **Population and Employment Density.** The basis for the second demand category was the socioeconomic data for year 2045 from the RCAMPO regional travel demand model for the traffic analysis zones (TAZ) within the MPO area. The demand analysis reflected the anticipated and forecasted growth up to 2045. There were two specific elements included in the scoring for this category: population + employment density and employment to population ratio, which are described as follows:
    - **Population + Employment Density.** This measure is based on summing the population and employment totals for each TAZ and dividing by the acreage of the TAZ to calculate the density. It should be noted that this exercise did not include the subtraction of any non-developable acreage within an individual TAZ. Areas with higher population and employment densities are generally reflective of development patterns that are more conducive to bicycling or walking. **Table 7** summarizes the points given to each TAZ area based on the computed densities among the TAZs within the MPO boundaries. The points are based roughly on dividing the TAZ rankings into quintiles. The TAZs ranked highest in terms of density (in the first quintile) received the highest score.
    - **Employment to Population Ratio.** This measure is based on the ratio of total employment divided by total population in each TAZ. Those TAZs with a balance of employment and population within a single zone represent areas more likely to have bicycling and walking trips due to the proximity of complimentary land uses within shorter distances of each other – distances that are more conducive to bicycling and walking. **Table 7** summarizes the points given to each TAZ area based on the computed ratios among the TAZs within the MPO area. As with density, the points are based roughly on dividing the rankings into quintiles. However for this ratio, the values in the middle (third) quintile are given the highest score, as these are the TAZs with the best balance between total population and total employment. Therefore these areas are more likely to have the most short-distance trips between

complimentary land uses. The first and fifth quintile represent the areas that are most unbalanced. These areas have either a very high ratio (reflecting mostly employment with little to no residential) or a very low ratio (mostly residential with little to no employment).

- **Composite Equity Score.** The third demand category is based on the tabulated composite equity score based on the methodology discussed previously. An increase in the overall demand scoring for this category corresponds with increases in the composite equity score, as shown in **Table 8**. This reflects the higher bicycle and pedestrian demand typically associated with areas having above average values across multiple socioeconomic indicators.

Table 6: Demand Scoring - Proximity to Key Destinations

	Bicycle Demand Scoring Score by Bike Distance (mi)				Pedestrian Demand Scoring Score by Bike Distance (mi)			
Destination	**0.50**	**1.00**	**1.50**	**2.00**	**0.25**	**0.50**	**0.75**	**1.00**
College/University	15	10	5	1	15	10	5	1
Parks	10	5	1	0	10	5	1	0
School (Public)	10	5	1	0	10	5	1	0
Civic Center	10	5	1	0	10	5	1	0
Bus/Transit Route Stop	10	5	1	0	10	5	1	0

Table 7: Demand Scoring - Population and Employment Density Data

	Bike/Ped Demand Scoring Scoring by TAZ Quintile				
Data	**Q1**	**Q2**	**Q3**	**Q4**	**Q5**
Population + Employment Density	10	7	5	3	1
Employment / Population Ratio	1	3	5	3	1

Table 8: Demand Scoring - Composite Equity Score

	Bike/Ped Demand Scoring Composite Equity Score						
Data	**0**	**1**	**2**	**3**	**4**	**5**	**6**
Composite Equity Score*	0	0	3	6	9	12	15

*EACH POINT REPRESENTS A BLOCK GROUP BELOW THE CITYWIDE AVERAGE

The map shown in **Figure 11** illustrates the results of the demand analysis for bicyclists. **Figure 12** shows the results for pedestrians. Areas with darker colors are projected to have higher levels of demand.

It should be noted that this demand evaluation only considers transportation trips being made to destinations, and does not consider recreational trips such as leisure rides or jogs/walks that do not involve traveling to and from a destination.

Figure 11: Bicycle Demand

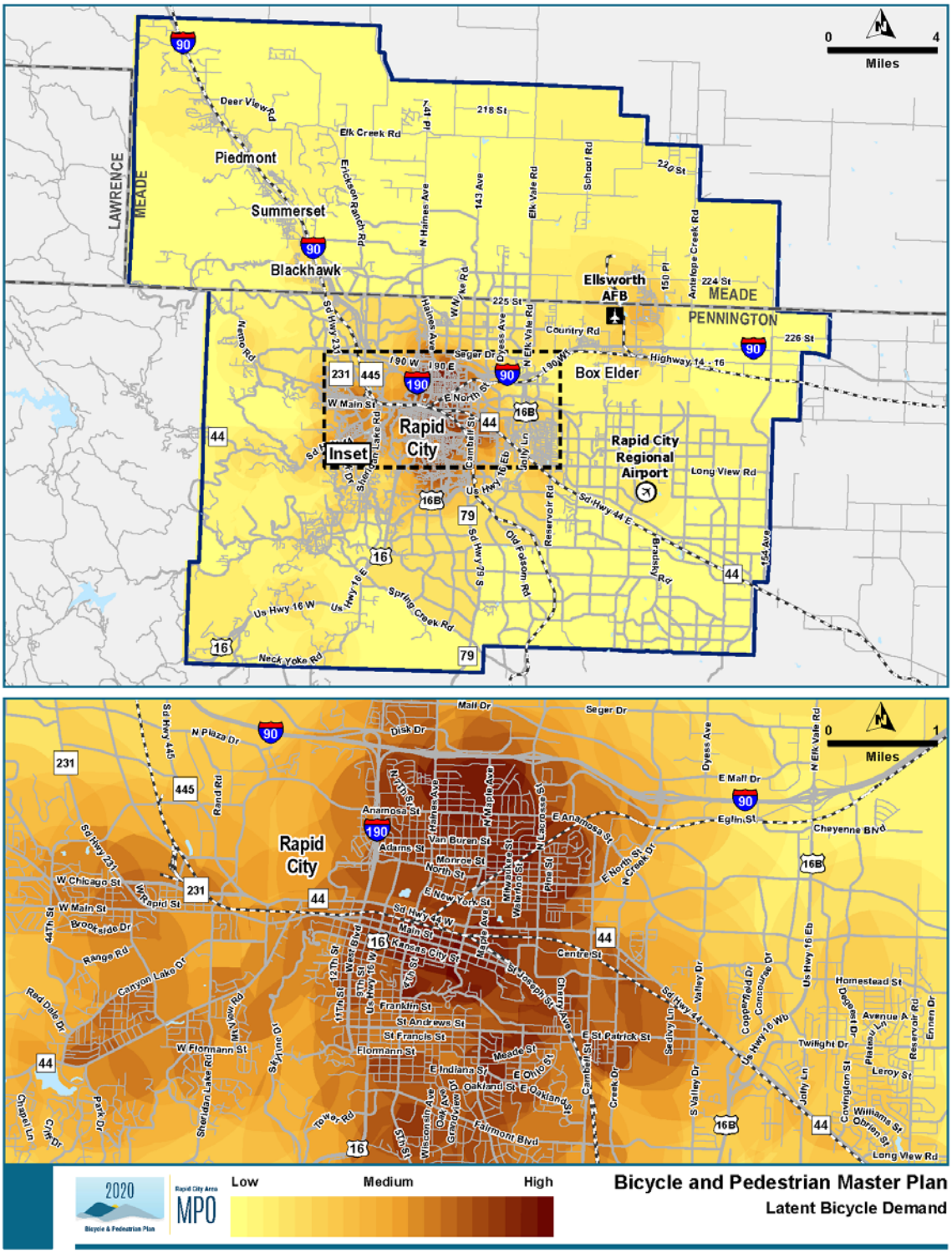
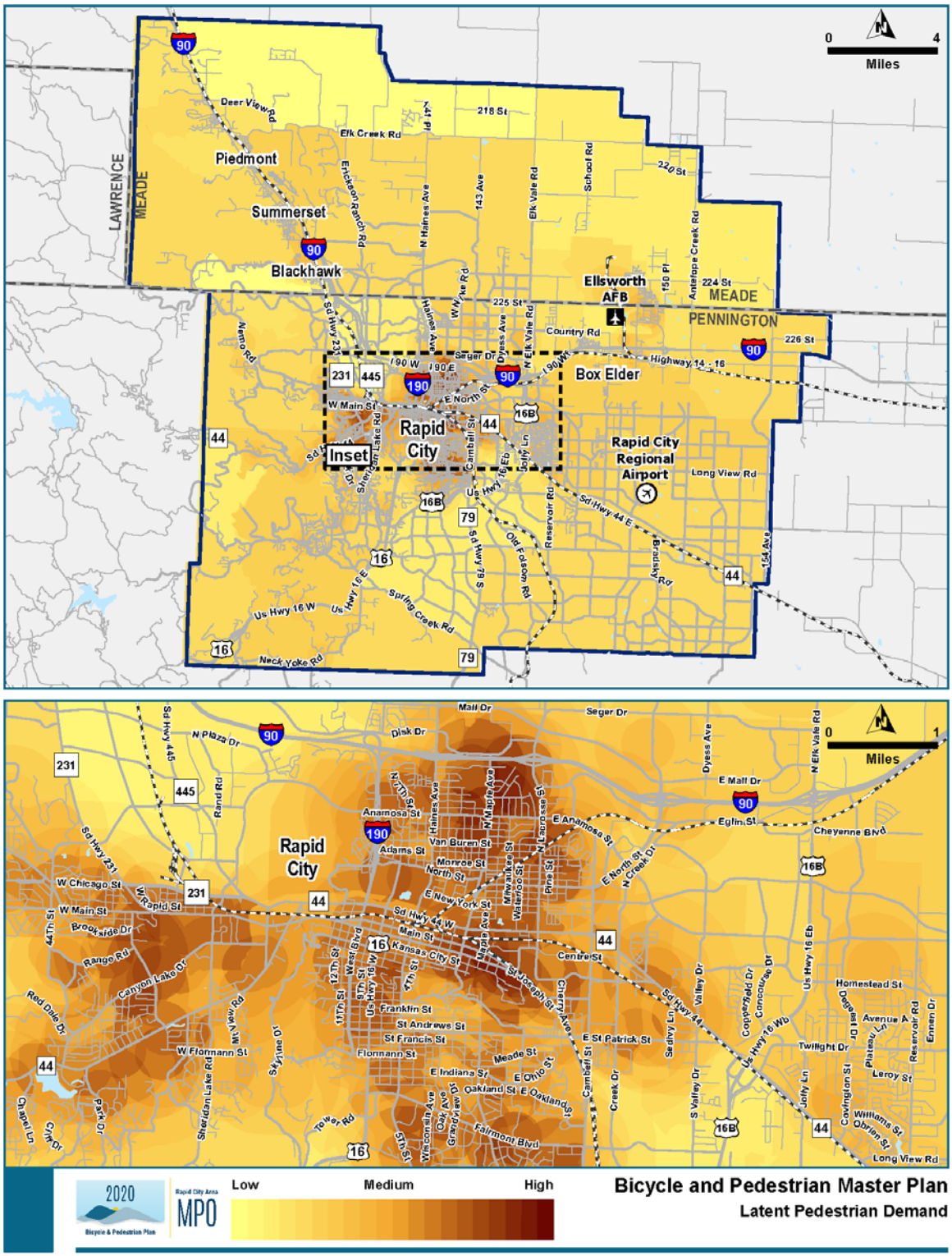


Figure 12: Pedestrian Demand



Section 3: Public Involvement

Public involvement for the Bicycle and Pedestrian Master Plan Update was conducted concurrently with the RCAMPO Metropolitan Transportation Plan (MTP), and included three public meetings.

Public Meeting #1

The first public meeting was held on October 29, 2019 from 4:00pm to 5:45pm at the Rapid City City Hall Council Chambers. The purpose of the first public meeting was to present an overview of the RCAMPO MTP, along with the Bicycle and Pedestrian Plan Update, and gather feedback from the public and stakeholders. The public meeting was held in an open house style format, and was advertised through local newspapers, the project website, the MPO website, email flyers, and through a Facebook event page. There were approximately 60 people in attendance.

A presentation was given to attendees on the details and scope of the project, and reviewed the existing analysis that had been completed. The presentation can be seen in **Appendix B**. Maps and markers were provided to attendees following the presentation, in order to gain feedback on the existing and future transportation system needs.

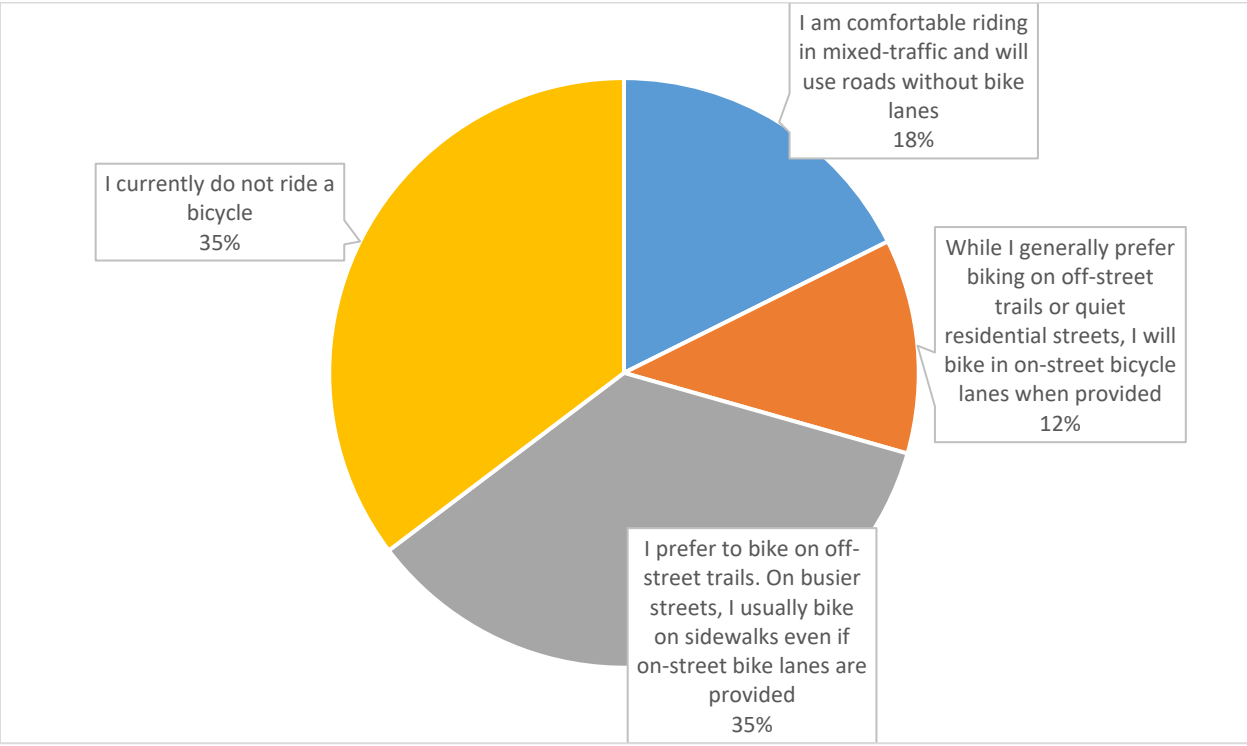
Public comments were taken in various forms, such as through the submission of a comment form, map markups, email, and on the project website. Specific bicycle and pedestrian concerns were given regarding Highway 16/16B/Catron Boulevard intersection, the Highway 16/Neck Yoke Road intersection, and intersections near the South Dakota School of Mines campus. The initial public comment period extended after the public meeting through November 15, 2019. Public comments from this meeting can also be found in **Appendix B**.

Public Meeting #2

The second public meeting was conducted virtually due to the COVID-19 pandemic, and was facilitated using an ArcGIS online story map. This online story map allowed the public to review and comment on transportation alternatives and improvements identified through the 2045 planning horizon in the Rapid City area as part of the MTP and Bicycle and Pedestrian Plan Update. Feedback on the Bicycle and Pedestrian Plan Update was collected through the online story map via a survey and an interactive comment map that allowed attendees to add suggested improvements to the proposed bicycle and pedestrian network and add comments. The ArcGIS online story map was available for public feedback from April 20, 2020 until May 1, 2020. Public feedback from the ArcGIS online story map can be found in **Appendix C.**

The bicycle and pedestrian survey included in the story map was meant to gauge attendees' experience riding a bicycle or walking around the Rapid City area, how they felt about the existing networks, and the most important kinds of improvements. Supplemental documents were linked in the story map that described potential bikeway, pedestrian, and crossing treatments and facilities to help attendees understand the range of potential improvements that could be implemented in the Rapid City area. From the survey, attendees were able to rank how comfortable they felt bicycling along the existing Rapid City bicycle network, seen in **Figure 13**.

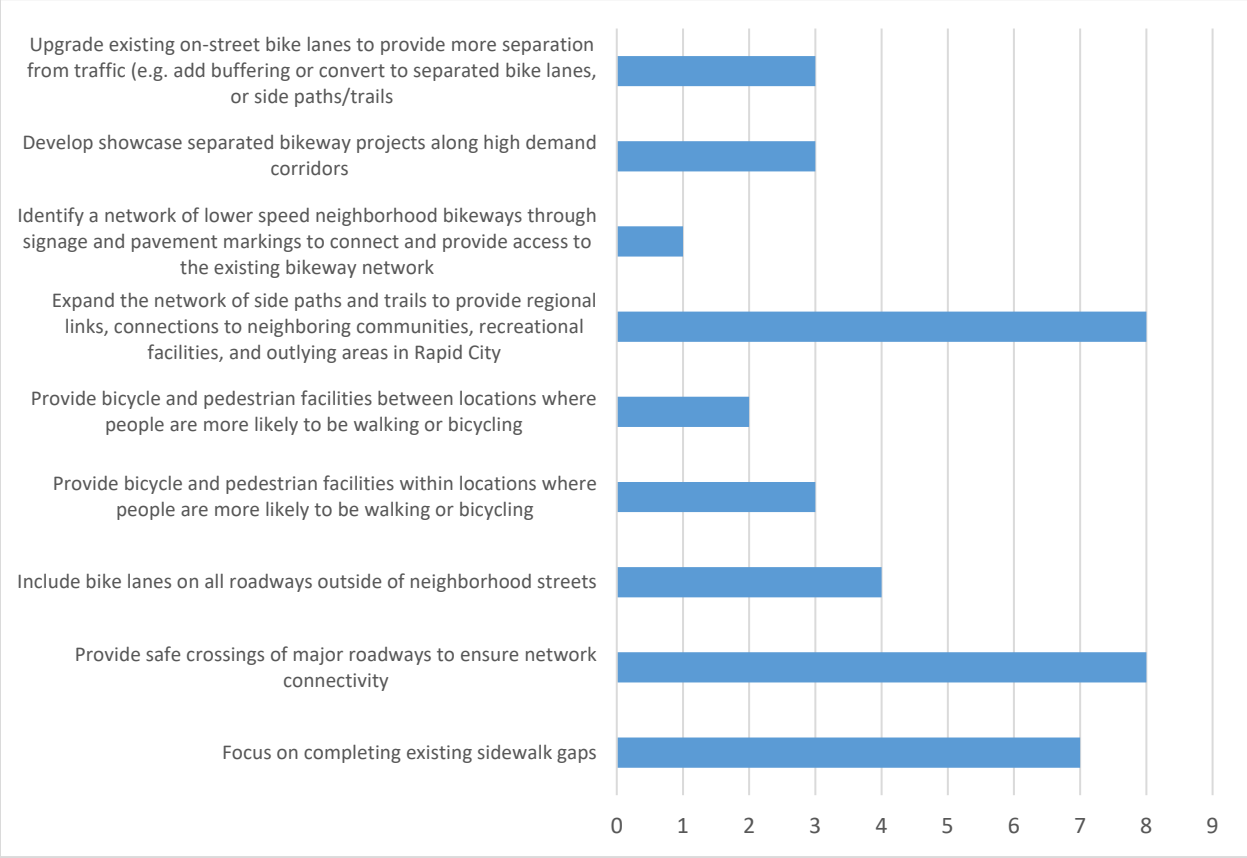
Figure 13: Survey Results - How would you describe your approach to bicycling?



This question allows a comparison with national bicycle user type percentages, as shown previously in **Figure 5**. As shown in **Figure 13**, a higher percentage of the survey respondents were identified as either highly confident bicyclists (18%) or somewhat confident bicyclists (12%), as compared to the national averages (4 to 7% and 5 to 9%, respectively). However, a smaller percentage of survey respondents were identified as “interested but concerned” (35%) as compared to the national average (51 to 56%). The percentage of respondents who do not ride a bicycle (35%) is very similar to what has been observed nationally (typically around 33%).

Figure 14 shows the total responses for another survey question that asks which approaches would most improve the bicycle and pedestrian network. This question was included to help guide the prioritization of bicycle and pedestrian projects. As shown, the top three responses included providing safe crossings (8 responses), expanding the network of trails (8 responses), and completing sidewalk gaps (7 responses).

Figure 14: Survey Results - Which of the following approaches do you believe would most improve the bicycle and pedestrian network?



The complete list of survey questions and public responses are included in **Appendix D**.

Public Meeting #3

The third public meeting was also conducted virtually in an online format, using a similar story map to that used in Public Meeting #2, but also was accompanied by narration and audio. The proposed bicycle and pedestrian needs plan and the projects included in the draft fiscally constrained plan were presented in the story map. Additionally, the factors used in developing the proposed bicycle and pedestrian network, such as comfort, equity, destinations & demand, and safety, were also included in the story map to provide a greater understanding of the process,. The online meeting materials were available for public feedback from July 6 to July 17, 2020. A summary of Public Meeting #3 is included in **Appendix E**.

Section 4: Recommendations

Vision, Goals, and Objectives

The vision, goals, and objectives from the 2011 Bicycle and Pedestrian Master Plan are proposed to largely be maintained for this update, with only minor revisions. The plan vision is: ***Rapid City will enhance transportation choices by developing a network of safe and comfortable on-street and off-street bicycle and pedestrian facilities that provide connections to destinations throughout the city*.** The updated goals, objectives, actions, and benchmarks are shown in **Table 9**. The vision, goals, and objectives are generally consistent with those from the RapidTRIP 2045 MTP.

Table 9: Plan Goals, Objectives, Actions, and Benchmarks

Objective	Action	Benchmark
Goal 1. Support bicycling and walking as viable transportation modes in Rapid City.		
1.1 Implement the Rapid City Area Bicycle and Pedestrian Master Plan facility recommendations to provide bicycling and walking routes to key destinations.	1. Complete the high priority bikeway network and sidewalk projects during the project horizon (2020 – 2045).	Miles of new bikeways and sidewalks completed; percentage of high priority projects identified in the Bicycle and Pedestrian Master Plan completed.
	2. Complete as many of the medium and low priority projects during the project horizon (2025 – 2045).	Miles of new bikeways and sidewalks completed; percentage of medium priority projects identified in the Bicycle and Pedestrian Master Plan completed.
1.2. Seek every possible opportunity to incorporate bicycle and pedestrian facilities and treatments as part of other projects, and pursue additional funding sources to accelerate bicycle and pedestrian project implementation.	1. Incorporate appropriate bicycle and pedestrian facilities and treatments into other projects.	Proportion of roadway restriping, reconstruction, and construction projects that include bicycle and/or pedestrian improvements.
	2. Aggressively seek new funding sources to dramatically increase the implementation of new bicycle and pedestrian projects.	Number of grants applied for; amount of grant funding acquired.
1.3. Improve bicyclists' and pedestrians' safety and comfort by accommodating these modes during construction or facility repair activities.	1. Minimize disruption to bicycle and pedestrian travel by providing alternate routes during construction or repair activities.	Development of guidelines/policies for providing bicycle and pedestrian access through or around construction zones.

Objective	Action	Benchmark
Goal 2. Promote bicycling and walking in the Rapid City area by improving awareness of bicycle and pedestrian facilities and opportunities.		
2.1 Improve public awareness of the on-street bicycle network and presence of bicyclists.	1. Install signs along all local and regional bikeways to assist with wayfinding and to increase awareness of bicyclists by motorists.	Development of a wayfinding signage plan; number of signs installed.
	2. Make bicycling and walking resources available through the City of Rapid City website.	Development of web content on the City of Rapid City's website providing information about walking and bicycling; frequency of page views.
	3. Reduce the number of crashes involving bicyclists or pedestrians, including serious injury and fatal crashes	Number of crashes and fatalities involving bicyclists or pedestrians. Number of informational campaigns related to bicycle and pedestrian safety.
	4. Promote the availability of bicycle racks on RapidRide buses.	Development of web content on the RapidRide website providing information on how to use bike racks on the buses.
2.2. Support education and encouragement efforts in the region.	1. Re-apply to become a Bicycle Friendly Community (BFC) through the League of American Bicyclists' award program after focusing on implementing additional recommended 6 E strategies	Completed BFC application; goal of initial recognition at the bronze level with a target of obtaining eventual gold level recognition.
	2. Convene a standing Bicycle & Pedestrian Advisory Committee (BPAC) to focus on Plan implementation and obtaining funding for bicycle and pedestrian projects and programs.	Appointment of a BPAC; at least four meetings each year.
Goal 3. Integrate bicycle and pedestrian planning into Rapid City's Planning Processes.		
3.1. Institutionalize bicycle and pedestrian planning into Rapid City Growth Management's work plan and Engineering department plans.	1. Review and update the Bicycle and Pedestrian Master Plan project and program priorities every five years.	Revised project priorities list every five years.
	2. Revise the street criteria manual to include consideration of bicycles based on road classification.	Updated street design criteria manual; appropriate bicycle and pedestrian access provided in new developments as specified in this plan.
3.2. Require inclusion of bicyclists and pedestrians in citywide planning efforts.	1. Adopt a Complete Streets policy to consider the needs of pedestrians and bicyclists in new development and roadway reconstruction and include specific implementation actions.	Adopted Complete Streets policy that is focused on implementation.

Project Evaluation and Prioritization Criteria

The project evaluation and prioritization criteria were developed to fit within a series of plan themes that match closely with the plan vision, goals, and objectives, as well as public feedback and analysis methods employed. Each potential bicycle or pedestrian project was evaluated based on the criteria under the three primary themes of System Safety and Connectivity, Demand and Accessibility, and Regional Benefit to obtain a Project Priority Score, which ranged from 0 to 300 points. After estimating a project cost based on developed per mile facility costs, each project was assessed for relative benefit/cost ratio, as well as its presence in previous plans or overlaps with other projects, to provide a Cost Effectiveness Score, which ranged from 0 to 100 points. Total project scores could therefore range from 0 to 400 points. After being scored, the projects were divided into high, medium, or low priority, with high priority representing the highest third of project scores, medium priority representing the middle third of project scores, and low priority representing the lowest third of project scores.

The bicycle project evaluation and prioritization criteria can be found in **Table 10**. Separate lists of proposed on-street and off-street bicycle projects were evaluated using this set of criteria. The only difference between on-street and off-street projects was the demand score for off-street projects represents the average weighted demand score for the bicycle and pedestrian modes since off-street projects typically serve both modes.

The pedestrian network prioritization and evaluation criteria is very similar to that for the bicycle network with only a few minor differences, and is shown in **Table 11**. This set of criteria was used to evaluate potential sidewalk projects.

Table 10: Bicycle Project Evaluation and Prioritization Criteria

Theme	Evaluation Criteria	Score
System Safety & Connectivity	Project completes a gap in the existing network by connecting two or more existing facilities	50
	Project addresses a location of two or more bicycle crashes	25
	Project provides a critical regional link due to limited street connectivity, or provides a crossing of a major barrier (e.g. railroad, a facility of 6 or more lanes, or at an unsignalized location of 4 or more lanes).	25
Bicycle Demand & Accessibility	Average weighted bicycle demand score over the project length, normalized on a scale from 0 - 50	0 - 50
	Project is within, or provides direct access to, an area with a high composite equity score (3 or higher)	10
	Project is within, or provides direct access to, an area with the lowest quartile of bicycle services	15
	Project is within an equity target area (equity score 3-5) and lowest quartile of bicycle services	25
Regional Benefit	Project is located along a transit corridor (City Trolley, Rapid Bus)	50
	Project provides a direct connection to, or an extension of, a recreational facility / destination (e.g. parks, riding trails)	50
	Project Priority Score:	**0 – 300**
Relative Benefit / Cost	Ratio of the Project Priority Score to the estimated project cost (in millions $), normalized on a scale from 0 - 50	0 - 50
Project History	Project identified as a high priority in the RapidTRIP 2040 LRTP Update	15
	Project identified as a high priority in the 2011 Bicycle & Pedestrian Plan	15
Project Synergy	Project coincides with a priority roadway or sidewalk project in the 2045 MTP	20
	Cost Effectiveness Score:	**0 – 100**
	TOTAL PROJECT SCORE:	**0 – 400**

Table 11: Pedestrian Project Evaluation and Prioritization Criteria

Theme	Evaluation Criteria	Score
System Safety & Connectivity	Project completes a gap in the existing network by connecting two or more existing sidewalks	50
	Project addresses a location of a fatality of a person walking	25
	Distance between signalized crossings	> ½ mile: 25 ¼ - ½ mile: 15 ¼ - 1/8 mile: 5
Pedestrian Demand & Accessibility	Average weighted pedestrian demand score over the project length normalized on a scale from 0 - 50	0 to 50
	Project is within, or provides direct access to, an area with a high composite equity score (3 or higher)	25
	Presence of an existing physical demand path	25
Regional Benefit	Project is located along a transit corridor (City Trolley, Rapid Bus)	50
	Functional classification of the adjacent roadway	Arterial: 50 Collector: 25
	Project Priority Score:	**0 – 300**
Relative Benefit / Cost	Ratio of the Project Priority Score to the estimated project cost (in millions $), normalized on a scale from 0 - 50	0 to 50 possible points
Project History	Project identified as a high priority in the RapidTRIP 2040 LRTP Update	15
	Project identified as a high priority in the 2011 Bicycle & Pedestrian Plan	15
Project Synergy	Project coincides with a priority roadway or bike project in the 2045 MTP	10
	Cost Effectiveness Score:	**0 – 100**
	TOTAL PROJECT SCORE:	**0 – 400**

It should be noted that potential crossing improvements were also evaluated using the pedestrian evaluation and prioritization criteria. Notes on the application for crossings included the following:

- The points under Pedestrian Demand and Accessibility for physical demand path were given if the proposed crossing connects directly to a location with no existing sidewalk but an obvious worn path.
- Relative project cost was used in place of relative benefit / cost ratio. Due to the wide variability in potential cost for crossing improvements, relative project cost was assigned as low (simple projects with elements such as signal timing and striping including rectangular rapid flashing beacons, worth 50 points); medium (projects involving more costly new or improved infrastructure such as intersection improvements or pedestrian hybrid beacons); and high (grade-separated crossings).

Proposed Projects

The list of proposed projects includes planned bicycle and pedestrian projects from the Rapid City Area Bicycle and Pedestrian Master Plan 2011 and RapidTRIP 2040 LRTP Update that were not completed. The previous list of bicycle projects was evaluated to determine whether the proposed facility type was optimal to encourage a wider potential range of bicycle users

based on the characteristics of the street. In some cases, the proposed facility type was changed to provide a greater level of separation from motor vehicle traffic. Additional projects were identified based on the analyses described earlier in this report, as well as from input received from stakeholders and the public.

Generalized centerline mile costs for various facility type improvements in year 2020 dollars are shown in **Table 12**, with more detailed estimates provided in **Appendix F**. These costs were applied to the list of proposed improvements. Due to the specific nature and widely varying costs for potential crossing improvements, no specific costs were developed for these improvements.

Table 12: Centerline Mile Costs for Bicycle and Pedestrian Improvements

Facility Type	Cost per Mile (2020 $)	Assumptions
Bike Lane	$150,000	Buffered bike lanes are always preferred; assumes cost for buffered bike lanes
Buffered Bike Lane	$150,000	
Separated Bikeway	$1,010,000	Average of costs for street-level and sidewalk-level separated bike lanes costs
Shared Lane	$90,000	Assumes neighborhood bikeway with wayfinding and traffic calming
Multi-Use Trail	$1,200,000	Assumes 12-ft concrete multi-use trail
Sidewalk, Both Sides	$740,000	Assumes 6-ft sidewalk on both sides of street
Sidewalk, One Side	$370,000	Assumes 6-ft sidewalk on one side of street

The complete list of proposed projects for on-street bicycle facilities can be found in **Table 13**, and the complete list of proposed off-street trail projects can be found in **Table 14**. Sidewalk projects are located in **Table 15**, with crossing enhancement projects listed in **Table 16**. A complete list of the proposed projects with scoring based on application of the evaluation and prioritization criteria can be found in **Appendix G**.

The proposed bicycle network can be seen in **Figure 15**. The proposed pedestrian network is shown in **Figure 16**. As with the existing conditions figures, trails are shown on both the bicycle and pedestrian figures since they serve both modes.

Table 13: Proposed On-Street Bicycle Network Projects

PROJECT ID	ROUTE	EXTENT	LENGTH MILES	FINAL_FACILITY_TYPE	Total Score	Priority Level	Estimated Project Cost
P081	Milwaukee St	Crestwood Drive - E New York Street	1.00	Shared Lane	373.5	High	$ 90,000
P082	N Maple Ave/E Philadelphia St	Leonard "Swanny" Swanson - Cambell Street	1.17	Shared Lane	339.5	High	$ 105,000
P524	Mt. Rushmore Rd	North Street - Omaha Street	0.44	Buffered Bike Lane	326.0	High	$ 65,000
P561	St. Joseph St	West Boulevard - University Loop	1.60	Separated Bikeway	318.5	High	$ 1,621,000
P504	North St	West Boulevard N - N 1st Street	0.87	Buffered Bike Lane	317.0	High	$ 130,000
P573	N Lacrosse Street	Mall Drive - Railway Trail	1.98	Separated Bikeway	310.0	High	$ 2,003,000
P458	5th St	Omaha St - Columbus St	0.45	Separated Bikeway	308.5	High	$ 458,000
P383	Mt. Rushmore Rd	Main Street - Omaha Street	0.16	Separated Bikeway	299.0	High	$ 157,000
P384	Apolda St	Mt Rushmore Road - 6th Street	0.19	Shared Lane	292.0	High	$ 17,000
P078	E Fairlane Dr	Elm Avenue - Robbinsdale Park	0.25	Shared Lane	282.0	High	$ 22,000
P085	N Maple Ave	Disk Drive - Anamosa Street	0.57	Buffered Bike Lane	279.0	High	$ 86,000
P522	Franklin Ave/Belleview Dr/E St Andrew St	West Boulevard - 5th Street	0.55	Shared Lane	277.0	High	$ 49,000
P521	Van Buren St	Allen Avenue - Milwaukee Street	0.99	Shared Lane	276.0	High	$ 89,000
P454	W Main St	Soo San Road - West Boulevard	2.14	Separated Bikeway	271.5	High	$ 2,160,000
P095	West Blvd	Leonard "Swanny" Swanson - Flormann Street	1.18	Shared Lane	269.5	High	$ 106,000
P411	Cathedral Dr/Fairmont Blvd	Mount Rushmore Road - Cambell St	2.09	Separated Bikeway	265.0	High	$ 2,115,000
P579	E Main St	East Boulevard - 330 ft E of University Loop	0.71	Separated Bikeway	263.0	High	$ 713,000
P525	Soo San Rd	SD 44 (Jackson Boulevard) - Brookside Drive	1.00	Buffered Bike Lane	256.5	High	$ 149,000
P397	Silver St / Philadelphia St	Executive Drive - Silver Street	0.47	Buffered Bike Lane	255.5	High	$ 70,000
P470	Jackson Blvd	Mountain View Road - W Main Street	0.48	Separated Bikeway	243.5	High	$ 482,000
P376	Rapid St / 3rd st	5th Street - Omaha Street	0.27	Bike Lane	243.0	High	$ 40,000
P514	N Spruce St	Meadowlark Road - E Philadelphia Street	0.50	Shared Lane	231.5	High	$ 45,000
P520	Allen Ave	Van Buren Street - North Street	0.51	Shared Lane	230.5	High	$ 46,000
P503	Minuteman Dr / Lindbergh Ave	Anamosa Street - Haines Avenue	0.62	Shared Lane	229.5	High	$ 56,000
P090	Reservoir Rd/Longview Road	Twilight Drive - E HIghway 44	1.48	Buffered Bike Lane	229.0	High	$ 221,000
P398	W Chicago St	N 44th Street - Sturgis Road	0.67	Buffered Bike Lane	229.0	High	$ 100,000
P530	Quincy St	West Street - East Boulevard	0.49	Shared Lane	225.5	High	$ 44,000
P092	W South St	Soo San Road - Leonard "Swanny" Swanson	0.11	Shared Lane	225.0	High	$ 10,000
P506	East Blvd	Quincy Street - Signal Drive	0.37	Buffered Bike Lane	222.0	High	$ 55,000
P513	Parkview Dr	E Minnesota St - E Centennial St	0.13	Shared Lane	222.0	High	$ 12,000
P510	E Kansas City St	East Boulevard - SD School of Mines & Technology	0.67	Shared Lane	218.5	High	$ 60,000
P523	Meade St/E Indiana Street	5th St - Hawthorne Avenue	1.23	Shared Lane	215.5	High	$ 111,000
P516	West Blvd	Silver Street - Anamosa Street	0.37	Bike Lane	216.0	High	$ 55,000
P452	Raider Rd	44th Street - Hillsview Drive	0.55	Shared Lane	214.5	High	$ 49,000
P362	Black Hills Blvd	Catron Boulevard - E Stumer Road	0.12	Bike Lane	211.0	High	$ 19,000
P044	Nordby Lane	W Saint Louis Street - W Main Street	0.19	Shared Lane	210.0	High	$ 18,000
P136	Soo San Rd	Brookside Drive - W Main Street	0.16	Buffered Bike Lane	208.5	High	$ 23,000
P498	Alta Vista Dr/Anaconda Rd	East of City View Drive - E Fairmont Boulevard	1.68	Shared Lane	206.5	High	$ 151,000
P091	Covington St	Twilight Drive - E HIghway 44	0.88	Shared Lane	203.5	High	$ 79,000
P061	Silver St	Anamosa Street - West Boulevard	0.61	Shared Lane	203.0	High	$ 54,000
P075	E Centennial St/Locust St	Parkview Drive - E Fairmont Boulevard	0.82	Shared Lane	200.5	High	$ 74,000
P098	Anamosa St	Commerce Road - Silver Street	1.29	Shared Lane	195.0	High	$ 116,000
P582	E Main St N	Steele Ave - Existing Off Street Trail	0.06	Separated Bikeway	193.5	High	$ 61,000
P041	Hillsview Dr	W Saint Patrick Street - Canyon Lake Road	0.46	Buffered Bike Lane	190.5	High	$ 68,000
P207	Sturgis Rd	W Main Street - 255 ft North of W Chicago Street	0.41	Separated Bikeway	183.5	High	$ 415,000
P578	W Chicago St	1,760 Berry Pines Drive - Mountain View Road	3.30	Separated Bikeway	182.5	Medium	$ 3,337,000
P576	E Saint Patrick St	Elm Avenue - Hawthorne Avenue	0.40	Separated Bikeway	178.0	Medium	$ 405,000
P538	Cambell St	970 ft N of E St Patrick Street - E St James Street	0.17	Separated Bikeway	177.0	Medium	$ 174,000

Table 13: Proposed On-Street Bicycle Network Projects

PROJECT ID	ROUTE	EXTENT	LENGTH MILES	FINAL_FACILITY_TYPE	Total Score	Priority Level	Estimated Project Cost
P415	E Oakland St	Hawthorne Avenue - Cambell Street	0.82	Shared Lane	174.5	Medium	$ 74,000
P358	Triple Crown Dr	E Catron Boulevard - E Minnesota Street	0.69	Bike Lane	174.0	Medium	$ 103,000
P367	SD 445 (Deadwood Ave)	W Chicago Street - N Plaza Drive	1.73	Separated Bikeway	172.0	Medium	$ 1,748,000
P502	Prairie Ave	Saint Patrick Street - E Indiana Street	0.35	Shared Lane	172.0	Medium	$ 31,000
P577	Mountain View Rd	Jackson Boulevard - W Omaha Street	0.57	Separated Bikeway	172.0	Medium	$ 575,000
P497	Oak Ave	E Indiana Street - Colorado Street	0.62	Shared Lane	168.5	Medium	$ 55,000
P505	Bunker Dr	Sagewood Street - Disk Drive/I-90	0.86	Shared Lane	167.5	Medium	$ 78,000
P386	City Springs Rd	Galena Drive - Sturgis Road	1.77	Bike Lane	164.0	Medium	$ 266,000
P268	S Canyon Rd	100 ft W of Berry Boulevard - N 44th Street	0.96	Buffered Bike Lane	163.5	Medium	$ 145,000
P501	9th St	Flormann Street - Quincy Street	1.00	Shared Lane	161.5	Medium	$ 90,000
P368	E North St	Anamosa Street - E Mall Drive	0.87	Separated Bikeway	161.5	Medium	$ 877,000
P499	Flormann St/Meade Street	West Boulevard - 5th Street	0.50	Shared Lane	157.5	Medium	$ 45,000
P528	W Flormann St	Argyle Street - Mountain View Road	0.63	Shared Lane	158.0	Medium	$ 56,000
P066	Red Cloud St	Northridge Drive - Mall Drive	0.63	Shared Lane	153.5	Medium	$ 57,000
P412	Creek Dr	E Saint Patrick Street - Fairmont Boulevard	1.02	Shared Lane	151.0	Medium	$ 92,000
P509	Valley Dr	Anamosa Street - Fairmont Street	2.02	Buffered Bike Lane	151.0	Medium	$ 303,000
P580	Saint Patrick St	West Boulevard - 6th Street	0.40	Buffered Bike Lane	151.0	Medium	$ 60,000
P352	N 40th St	W Chicago - north end of N 40thSt	0.18	Bike Lane	150.5	Medium	$ 27,000
P537	Cambell St	E St Patrick Street - 970 ft N of E St Patrick Street	0.18	Separated Bikeway	148.5	Medium	$ 186,000
P547	N La Crosse St	E Mall Drive - Seger Drive	0.21	Buffered Bike Lane	148.5	Medium	$ 32,000
P529	N 44th St / City Springs Rd	W Chicago Street - Gelena Drive	0.67	Bike Lane	147.5	Medium	$ 100,000
P451	44th St	W Chicago Street - Raider Road	1.06	Buffered Bike Lane	143.0	Medium	$ 159,000
P031	Highway 16 Service Rd	Skyline Drive/Tower Road - Catron Boulevard	1.99	Shared Lane	143.0	Medium	$ 179,000
P037	W Main St	44th Street - Soo San Drive	0.76	Separated Bikeway	141.0	Medium	$ 764,000
P500	St. Patrick St	5th Street - Elm Avenue	0.74	Separated Bikeway	139.0	Medium	$ 749,000
P512	Cambell St Service Rd	Richland Drive - E Fairmont Boulevard	0.38	Bike Lane	138.0	Medium	$ 57,000
P496	Harmony Heights Lane	Plaza Boulevard - Anamosa Street	1.72	Bike Lane	137.0	Medium	$ 258,000
P564	Villa Dr / Briggs St	N Ellsworth Road - Briggs Street	0.33	Bike Lane	136.5	Medium	$ 49,000
P542	Douglas Middle School	Patriot Drive - 225th Street	0.40	Buffered Bike Lane	130.5	Medium	$ 60,000
P178	N Elk Vale Rd	E Mall Drive - Country Road	1.43	Separated Bikeway	130.5	Medium	$ 1,446,000
P363	West Blvd	North Street - Anamosa Street	0.46	Separated Bikeway	129.5	Medium	$ 464,000
P381	Tower Rd	Liberty Boulevard - Patriot Drive	0.17	Buffered Bike Lane	123.0	Medium	$ 26,000
P572	Disk Drive	Maple Avenue - N La Crosse Street	0.23	Separated Bikeway	120.5	Medium	$ 234,000
P414	Cambell St	Bridgeview Drive - E Catron Boulevard	0.19	Separated Bikeway	119.5	Medium	$ 190,000
P371	West Blvd	W Omaha Street - North Street	0.41	Separated Bikeway	117.0	Medium	$ 410,000
P543	Douglas Middle School	N Ellsworth Road - Tower Road	0.50	Separated Bikeway	116.0	Medium	$ 508,000
P372	Liberty Blvd	N Ellsworth Road - Tower Road	0.51	Separated Bikeway	115.0	Medium	$ 517,000
P035	Sheridan Lake Rd	Wildwood Drive - Muirfield Drive	1.63	Separated Bikeway	109.5	Medium	$ 1,647,000
P374	N Plaza Dr	Sturgis Road - Deadwood Avenue N	1.01	Bike Lane	109.5	Medium	$ 151,000
P382	Tower Rd	225th Street - 224th Street	1.03	Bike Lane	109.0	Medium	$ 154,000
P540	Cheyenne Blvd	N Cambell Street - N Elk Vale Road	2.56	Separated Bikeway	104.5	Medium	$ 2,590,000
P551	S Ellsworth Rd	S Ellsworth Rd - County Highway	0.74	Separated Bikeway	103.0	Low	$ 742,000
P491	Anamosa St	E North St - N Creek Dr	0.09	Buffered Bike Lane	103.5	Low	$ 14,000
P391	Seger Dr	E Mall Drive - 75 ft East of Freeland Avenue	0.38	Separated Bikeway	102.0	Low	$ 379,000
P396	W Chicago St	San Marco Boulevard - S Canyon Rd	0.35	Shared Lane	101.5	Low	$ 32,000
P552	San Marco Blvd	W Chicago Street - S Canyon Road	0.31	Shared Lane	98.0	Low	$ 28,000
P370	Ellsworth Rd	Liberty Boulevard - 225th Street	0.58	Separated Bikeway	94.5	Low	$ 583,000
P267	San Marco Blvd	City Springs Road - W Chicago Street	0.36	Shared Lane	93.5	Low	$ 33,000

Table 13: Proposed On-Street Bicycle Network Projects

PROJECT ID	ROUTE	EXTENT	LENGTH MILES	FINAL_FACILITY_TYPE	Total Score	Priority Level	Estimated Project Cost
P366	County Hwy 1416	West Gate Road - S Ellsworth Road	2.00	Buffered Bike Lane	91.0	Low	$ 301,000
P438	Sagewood St/Northridge Dr	Bunker Drive - Haines Ave	0.56	Shared Lane	90.0	Low	$ 51,000
P273	Nemo Rd	1,770 ft W of Berry Boulevard - 100 ft W of Berry Boulevard	0.31	Buffered Bike Lane	86.5	Low	$ 47,000
P369	Ellsworth Rd	Highway 14-16 - Liberty Boulevard	1.26	Separated Bikeway	85.0	Low	$ 1,272,000
P531	Country Rd	N Elk Vale Road - Highway 14-16	2.76	Buffered Bike Lane	85.5	Low	$ 414,000
P557	SD 79 (Cambell St) / Cambell St	E Cantron Boulevard - Swanson Memorial Pathway Extension	0.58	Separated Bikeway	82.0	Low	$ 587,000
P439	Commerce Rd/Lien St	Railroad - Rand Road	0.81	Shared Lane	81.0	Low	$ 73,000
P073	Minnesota St	Elk Vale Rd - Daly Court	1.49	Bike Lane	77.0	Low	$ 224,000
P489	Jolly Lane	Daly Court - E Highway 44	0.93	Shared Lane	75.0	Low	$ 84,000
P550	Old Folsom Rd	5,780 ft S of Antelope Creek Road - 1,490 ft E of Ser Road	6.27	Bike Lane	74.0	Low	$ 941,000
P549	Neck Yoke Rd	Pine Grove Road - S Highway 16	5.30	Separated Bikeway	70.0	Low	$ 5,348,000
P560	Spring Creek Rd	Neck Yoke Road - 3,820 ft E of S Highway 79	5.56	Separated Bikeway	70.0	Low	$ 5,612,000
P548	N Plaza Dr	Deadwood Avenue - Harmony Heights Lane	1.08	Bike Lane	68.5	Low	$ 162,000
P515	Mickelson Dr	E Anamosa Street - E HIghway 44	0.65	Bike Lane	68.0	Low	$ 98,000
P249	Dunsmore Rd	Moon Meadows Drive - Sheridan Lake Road	0.14	Buffered Bike Lane	65.0	Low	$ 21,000
P054	Flormann St/Meade Street	West Boulevard - 5th Street	0.76	Shared Lane	65.5	Low	$ 68,000
P373	Liberty Blvd	Highway 14-16 - Tower Road	1.64	Separated Bikeway	63.0	Low	$ 1,654,000
P448	Jackson Blvd	Nameless Cave Road - Trout Court	0.34	Separated Bikeway	62.5	Low	$ 347,000
P394	Radar Hill Rd	SD 44 - 229th Street	3.49	Separated Bikeway	59.0	Low	$ 3,524,000
P575	W Highway 44	800 ft E of Lindsay Road - Nameless Cave Road	4.39	Separated Bikeway	57.5	Low	$ 4,435,000
P519	Degeest Dr	Homestead Street - Twilight Drive	0.64	Shared Lane	55.5	Low	$ 57,000
P379	S Valley Dr	E Minnesota Street - Fairmont Street	0.66	Buffered Bike Lane	55.0	Low	$ 99,000
P001	Airport Rd	Airport - North of E Highway 44	1.30	Separated Bikeway	53.5	Low	$ 1,308,000
P535	225th St	Tower Road - 150th PI	0.50	Separated Bikeway	53.0	Low	$ 507,000
P282	Nemo Rd	Wide View Drive - 1,770 ft W of Berry Boulevard	0.76	Buffered Bike Lane	52.5	Low	$ 115,000
P508	Concourse St	Elk Vale Rd - Anamosa Street	0.94	Bike Lane	52.0	Low	$ 141,000
P558	SD 79 (Cambell St) / Cambell St	1,355 ft S of E Cantron Boulevard - E Cantron Boulevard	0.26	Separated Bikeway	51.5	Low	$ 260,000
P375	Radar Hill Rd	229th Street - County Highway	2.26	Buffered Bike Lane	40.0	Low	$ 339,000
P169	Country Rd	Haines Avenue - N Elk Vale Road	3.50	Buffered Bike Lane	38.5	Low	$ 525,000
P395	Rockerville Rd	Pine Grove Road - S Highway 16	2.89	Bike Lane	37.0	Low	$ 434,000
P541	Cimarron alignment	N Ellsworth Road - Liberty Boulevard	1.02	Bike Lane	36.0	Low	$ 154,000
P554	SD 44	830 ft E of St Germaine Road - S Airport Road	5.21	Bike Lane	34.5	Low	$ 782,000
P559	Sheridan Lake Rd	3,100 ft W of Burgess Road - Albertta Drive	5.85	Separated Bikeway	32.0	Low	$ 5,906,000
P533	Moon Meadows Dr	Dunsmore Road - E Cantron Boulevard	2.27	Buffered Bike Lane	30.5	Low	$ 341,000
P536	225th St	150th PI - 154th Avenue	4.01	Separated Bikeway	30.5	Low	$ 4,050,000
P392	143rd Ave	Seger Drive - Country Road	1.00	Separated Bikeway	25.0	Low	$ 1,012,000
P377	Haven St	Covington Street - Twilight Drive	0.74	Bike Lane	24.0	Low	$ 111,000
P393	Dyess Ave and Seger Dr	Seger Drive - Country Road	1.01	Separated Bikeway	21.0	Low	$ 1,016,000
P380	Long View Rd	Reservoir Road - 154th Avenue	8.68	Bike Lane	20.0	Low	$ 1,302,000

Table 14: Proposed Off-Street Bicycle Network Projects

PROJECT ID	FACILITY TYPE	ROUTE	EXTENT	LENGTH MILES	Total Score	Priority Level	Estimated Project Cost
P463	Side Path	Anamosa St	Silver Street - Haines Avenue	0.66	248	High	$ 796,000
P400	Side Path	5th St	Cleveland Street - Texas Street	0.88	228	High	$ 1,056,000
P419	Side Path	E St. Patrick St/Highway 44	Existing Side Path - Twilight Drive	1.14	219.5	High	$ 1,372,000
P034	Side Path	Parkview Dr	Parkview Park - 5th Street	0.30	209	High	$ 363,000
P325	Side Path	Elm Ave	E Saint Patrick Street - Meade St	0.25	204	High	$ 301,000
P122	Side Path	Argyle St	Jackson Boulevard - W Flormann Street	0.21	201	High	$ 258,000
P431	Side Path	Cambell St	Rocker Drive - Omaha St	0.23	199	High	$ 270,000
P534	Shared-Use Path	Founders Park Dr	220 ft N of Executive Drive - 780 ft N of Executive Drive	0.11	193	High	$ 130,000
P235	Shared-Use Path	West Blvd	St Joseph Street - Leonard Swanson Memorial Pathway	0.35	169	High	$ 414,000
P409	Shared-Use Path	Minnesota St	Minnesota Street Park - Cambell Street	0.23	167.5	High	$ 276,000
P106	Side Path	E Minnesota St	Parkview Drive- Odde Drive	0.46	162.5	High	$ 556,000
P570	Bike Path	Jackson Boulevard	Cliffside Park - Existing Trail	0.75	161.5	High	$ 902,000
P239	Railway Trail	Connection to Rapid City path system	1st Street - 1,480 ft E of West Gate Road	6.14	160	High	$ 7,365,000
P192	Railway Trail	Railway Trail	1st Street - Cambell Street	1.32	159	Medium	$ 1,582,000
P583	Shared-Use Path	S Highway 16	Catron Blvd - 530' south of Cathedral Drive	3.03	159	Medium	$ 3,636,000
P056	Side Path	Maple Avenue	Haines Avenue - Disk Drive	0.89	154	Medium	$ 1,064,000
P544	Shared-Use Path	Hawthorne Ave	Meade Street - Main St	0.34	154	Medium	$ 404,000
P354	Side Path	Elm Ave	Utah Street - Field View Drive	1.04	148.5	Medium	$ 1,253,000
P421	Side Path	Concourse Dr	Elk Vale Road - Twilight Drive	0.21	148.5	Medium	$ 253,000
P556	Shared-Use Path	SD 44	Twilight Drive - Long View Road	1.21	148	Medium	$ 1,446,000
P424	Shared-Use Path	SD 44	Twilight Drive - Cambell Street	1.89	140.5	Medium	$ 2,271,000
P581	Shared-Use Path	Cambell St	E Oakland St - St. Patrick St	0.82	134.5	Medium	$ 984,000
P071	Shared-Use Path	SDSMT Connector	Meade Street - Main St	0.84	130.5	Medium	$ 1,008,000
P441	Railway Trail	2nd St	150 ft S of Rapid Street - Omaha Street	0.07	130.5	Medium	$ 78,000
P241	Shared-Use Path	Off Street Trail	Fairmont Boulevard - E St. Patrick Street	1.38	124.5	Medium	$ 1,656,000
P053	Shared-Use Path	St. Cloud St extension	5th St - Hawthorne Avenue	1.32	107	Medium	$ 1,581,000
P240	Shared-Use Path	Off Street Trail	Valley Dr - Jolly Ln	3.52	98.5	Low	$ 4,223,000
P089	Side Path	Maple Ave	Mall Drive - Disk Drive	0.47	90.5	Low	$ 559,000
P242	Shared-Use Path	Swanson Memorial Pathway Extension	Cambell Street - Fairmont Blvd	0.78	90.5	Low	$ 934,000
P294	Shared-Use Path	Off Street Trail	SD 231 (Omaha St) - N Plaza Drive	1.74	89	Low	$ 2,092,000
P571	Side Path	Disk Drive	Bunker Dr - Haines Avenue	0.51	83.5	Low	$ 611,000
P546	Shared-Use Path	Swanson Memorial Pathway Extension	Elk Vale Road - E Minnesota Street	0.62	76.5	Low	$ 743,000
P422	Shared-Use Path	SD 44	Long View Road - Airport Road	4.02	68.5	Low	$ 4,821,000
P204	Railway Trail	SD 231 (W Chicago St)	W Chicago Street - Lien Street	0.95	52.5	Low	$ 1,138,000
P262	Shared-Use Path	Swanson Memorial Pathway Extension	S Highway 16 - Elk Vale Road	5.04	52	Low	$ 6,048,000
P244	Shared-Use Path	Off Street Trail	Northern Loop	0.20	51.5	Low	$ 240,000
P545	Shared-Use Path	Swanson Memorial Pathway Extension	Minnesota Street - Fairmont Boulevard	0.57	49	Low	$ 688,000
P264	Shared-Use Path	Off Street Trail	Rapid Creek / Wally Byam - Connection to Rapid City Path System	3.40	32.5	Low	$ 4,085,000
P202	Railway Trail	SD 231 (Sturgis Rd) / Universal Dr	Lien Street - Merritt Road	3.45	28.5	Low	$ 4,134,000
P243	Shared-Use Path	Off Street Trail	Swanson Memorial Pathway Extension - S Valley Drive	0.85	27.5	Low	$ 1,025,000

Table 14: Proposed Off-Street Bicycle Network Projects

PROJECT ID	FACILITY TYPE	ROUTE	EXTENT	LENGTH MILES	Total Score	Priority Level	Estimated Project Cost
Future Roadway Projects - Fiscally Constrained Plan							
P047	Future Facililty on New Road	Philadelphia St	E Anamosa Street - Homestead Street	1.50			
P390	Future Facililty on New Road	Seger Dr	E Mall Drive - N Elk Vale Road	1.61			
P405	Future Facililty on New Road	Elm Ave	Field View Drive - E Catron Boulevard	0.58			
P490	Future Facililty on New Road	Anamosa St	Mickelson Drive - Valley Drive	0.41			
P492	Future Facililty on New Road	Anamosa St	Valley Drive - US 16 (Elk Vale Road)	1.00			
P493	Future Facililty on New Road	Anamosa St	US 16 (Elk Vale Road) - N Reservoir Road	1.01			
P518	Future Facililty on New Road	Fairmont Blvd	Creek Drive - S Valley Drive	0.79			
P574	Future Facililty on New Road	Fairmont Blvd	Cambell St - Creek Drive	0.26			
P584	Future Facililty on New Road	Turbine Dr	E Anamosa St - Philadelphia St	0.55			
P585	Future Facililty on New Road	5th St Extension	Catron Blvd - South Growth Area	0.51			
P586	Future Facililty on New Road	Valley Dr	Philadelphia St - Creek Dr	0.75			
P587	Future Facililty on New Road	Valley Dr	E Anamosa St - Philadelphia St	0.37			
P588	Future Facililty on New Road	Concourse Dr	E Anamosa St - Philadelphia St	0.54			
P589	Future Facililty on New Road	Turbine Dr	Philadelphia St - Eglin St	0.43			
P590	Future Facililty on New Road	Degeest Dr	Cheyene Blvd - Anamosa St	0.99			
P591	Future Facililty on New Road	Creek Dr	Elk Vale Rd - Minnesota St	0.50			
P592	Future Facililty on New Road	South Growth Area	US-16 - South Growth Area	0.74			
P593	Future Facililty on New Road	South Growth Area	Catron Dr - South Growth Area	0.52			
P594	Future Facililty on New Road	5th St Extension	Swanson Memorial Pathway - South Growth Area	0.73			
P595	Future Facililty on New Road	South Growth Area	5th St Extension - South Growth Area	0.49			
P597	Future Facililty on New Road	Les Hollers Rd	Catron Blvd - New Rd	0.55			
P598	Future Facililty on New Road	Les Hollers Rd	New Rd - Sheridan Lake Rd	0.52			
P599	Future Facililty on New Road	Minnesota St	Cambell St - Elk Vale Rd	1.12			
P600	Future Facililty on New Road	Anamosa St	N Creek Dr - Mickelson Dr	0.46			

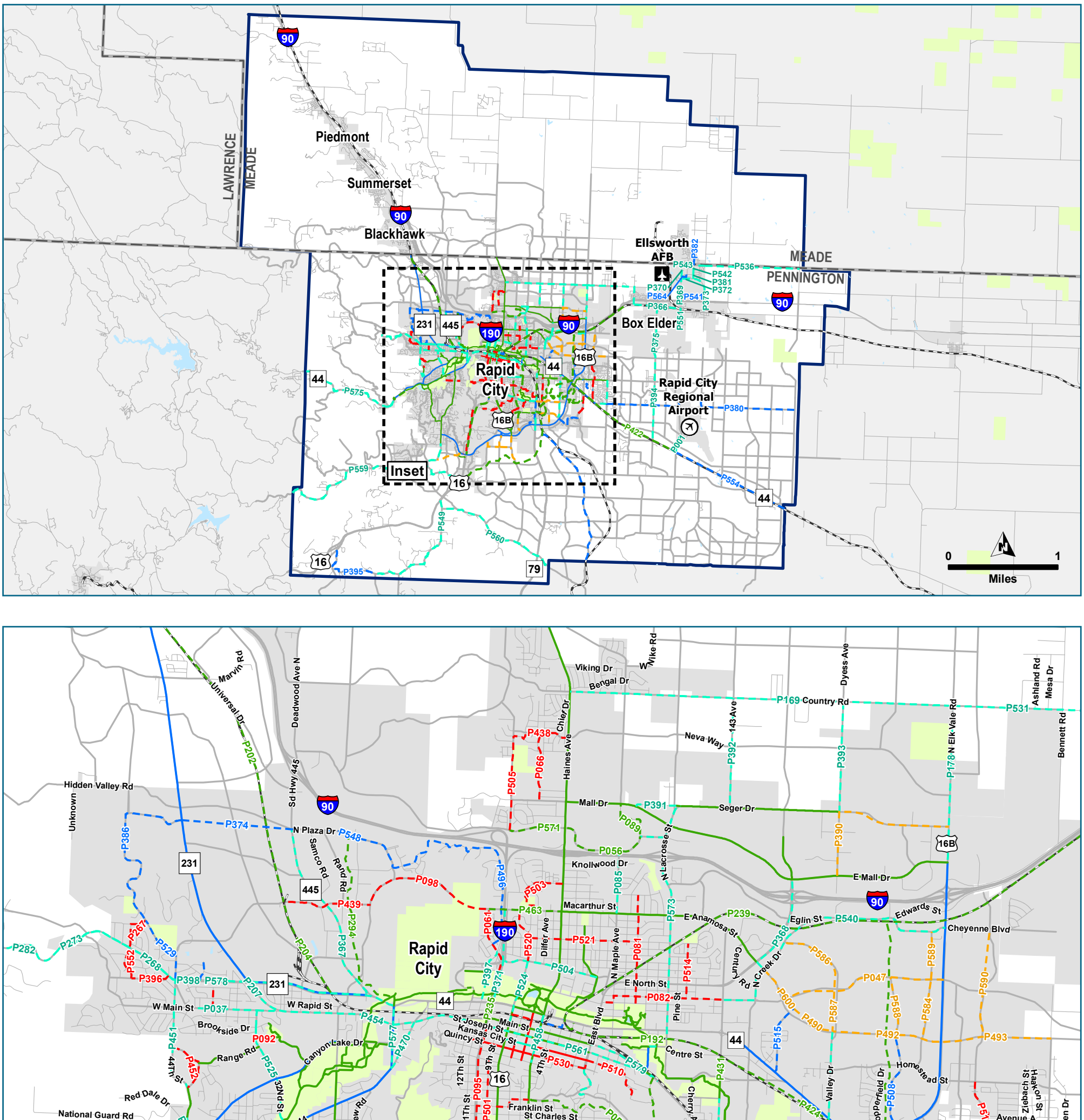
Specific bicycle and pedestrian facilities are assumed to be included on new roadways (Future Facility on New Road), but the appropriate facilites are to be determined at the time of project development. Projects on these future roadways were not scored, and their costs are assumed to be part of the total roadway cost.

Table 15: Proposed Sidewalk Network Projects

Project ID	RoadName	Extents	Status	Sides	Side of Street	Length (Miles)	Total Score	Priority Level	Estimated Project Cost
2143	Cambell St	E St. Patrick St - E St. Charles St	Planned	One Side	East	0.13	337.0	High	$ 48,000
2140	Omaha St	I-190 - Mt. Rushmore Rd	Programmed	One Side	North	0.20	317.0	High	$ 73,000
2145	W Omaha St	Mountain View Rd - 12th St	Planned	One Side	North	0.69	310.0	High	$ 255,000
1562	East Blvd	CR Rail Systems - Rapid St	Planned	One Side	East	0.04	299.0	High	$ 15,000
2180	North St	N 1st St - East Blvd N	Planned	One Side	South	0.11	287.0	High	$ 41,000
2166	W Main St	Cross St - Highway 44	Planned	One Side	North	0.56	285.0	High	$ 207,000
2177	North St	Wood Ave - N 2nd St	Planned	One Side	South	0.18	280.0	High	$ 68,000
2184	E Main St	Maple Ave - Steele Ave	Planned	One Side	North	0.35	275.0	High	$ 130,000
2141	Cambell St	Rocker Dr - Centre St	Planned	One Side	West	0.23	274.0	High	$ 85,000
2153	E Omaha St	Lacrosse St - Poplar Ave	Programmed	Both Sides	Both	0.31	270.0	High	$ 231,000
2147	Deadwood Ave	W Chicago St - N Plaza Dr	Planned	Both Sides	Both	1.81	269.0	High	$ 1,336,000
1670	Cambell St	E St. James St - Rocker Dr	Planned	One Side	West	0.16	264.0	High	$ 59,000
1499	E Saint Patrick St	E St. Joseph St - Cherry Ave	Planned	Both Sides	Both	0.03	261.0	High	$ 23,000
1661	Cambell St	E Centre St - Jess St	Planned	Both Sides	Both	0.30	260.0	High	$ 223,000
1656	N Cambell St	E Philadelphia St - E North St	Planned	Both Sides	Both	0.13	257.0	High	$ 94,000
2162	Apolda St	Mt Rushmore Rd - 6th St	Planned	Both Sides	Both	0.19	232.0	High	$ 140,000
2204	Disk Dr	Haines Ave - 0.09 Miles East of N Maple Ave	Planned	One Side	South	0.71	226.0	Medium	$ 261,000
1846	E North St	Eglin St - I-90 Enterance	Planned	Both Sides	Both	0.11	226.0	Medium	$ 82,000
2144	E Omaha St	N Cambell St - Valley Dr	Programmed	Both Sides	Both	1.26	220.0	Medium	$ 932,000
1799	N Maple Ave	0.09 Miles East of N Maple Ave - Mall Drive	Planned	Both Sides	Both	0.64	217.0	Medium	$ 477,000
2161	Tower Rd	0.03 Miles North of Don Williams Dr - 0.05 Miles South of 225th St	Planned	One Side	West	0.06	210.0	Medium	$ 23,000
2092	E Highway 44	Twilight Dr - Jolly Ln	Programmed	Both Sides	Both	0.53	208.0	Medium	$ 390,000
2149	Haines Ave	Mall Dr - Viking Dr	Planned	One Side	East	1.23	206.0	Medium	$ 456,000
2203	E North St	I-90 Entrance - E Mall Dr	Planned	One Side	West	0.11	202.0	Medium	$ 41,000
2155	Reservoir Rd	Long View Rd - Twilight Dr	Programmed	One Side	East	1.01	199.0	Medium	$ 374,000
2213	3rd St	0.01 Mile South of Rapid St - 0.01 Mile North of Rapid St	Planned	Both Sides	Both	0.02	197.0	Medium	$ 11,000
2199	N Elk Vale Rd	Beale St - I-90 Entrance	Planned	One Side	West	0.05	185.0	Medium	$ 17,000
2209	E Saint Patrick St	Cherry Ave - Riley Ave	Planned	One Side	North	0.14	182.0	Medium	$ 54,000
0755	Catron Blvd	Belgarde Blvd - 5th St	Planned	Both Sides	Both	5.46	181.0	Medium	$ 4,039,000
2182	Sheridan Lake Rd	Hazel Ave - 0.02 Miles South of W Main St	Planned	One Side	East	0.13	176.0	Medium	$ 47,000
2183	Sheridan Lake Rd	0.03 Miles North of Canyon Lake Dr - Hazel Ave	Planned	One Side	East	0.08	175.0	Medium	$ 29,000
2214	City Springs Rd	City Springs Ct - Galena Dr	Planned	One Side	West	0.20	172.0	Medium	$ 74,000
2154	E Omaha St	Poplar Ave - Cambell St	Programmed	One Side	South	0.19	168.0	Medium	$ 69,000
2151	N La Crosse St	E Mall Dr - Seger Dr	Programmed	One Side	West	0.19	167.0	Medium	$ 70,000
2160	225 St	0.14 Miles East of Briggs St - 0.01 Mile West of Tower Rd	Planned	One Side	South	0.12	155.0	Low	$ 43,000
2158	Liberty Rd	N Elsworth Rd - Highway 14-16	Planned	Both Sides	Both	2.15	148.0	Low	$ 1,591,000
0480	Mountain View Rd	W Flormann St - Arrow St	Planned	Both Sides	Both	0.30	146.0	Low	$ 226,000
0579	Sheridan Lake Rd	Muirfield Dr - Wildwood Dr	Planned	Both Sides	Both	1.78	124.0	Low	$ 1,316,000
2150	Jackson Blvd	Dark Canyon Rd - Cleghorn Canyon Rd	Planned	Both Sides	Both	1.07	120.0	Low	$ 791,000
2010	N Elk Vale Rd	Eglin St - Beale St	Planned	Both Sides	Both	0.15	114.0	Low	$ 113,000
2159	Tower Rd	225th St - 224th St	Planned	One Side	East	1.03	112.0	Low	$ 379,000
1865	Eglin St	N Creek Dr - Lowry Ln	Planned	Both Sides	Both	0.76	109.0	Low	$ 563,000
2157	225 St	Radial Ln - 150th Ave	Planned	One Side	North	0.35	101.0	Low	$ 129,000
2205	Muirfield Dr	Sheridan Lake Rd - 0.06 Miles North of Portrush Rd	Planned	One Side	East	0.36	99.0	Low	$ 132,000
2163	Villa Dr	N Elsworth Rd - Briggs St	Planned	Both Sides	Both	0.33	96.0	Low	$ 243,000
2131	Portrush Rd		Planned	Both Sides	Both	0.03	90.0	Low	$ 22,000
2156	Reservoir Rd	Twilight Dr - Avenue A	Programmed	Both Sides	Both	0.28	89.0	Low	$ 205,000
0214	Jackson Blvd	Cleghorn Canyon Rd - 0.08 Miles West of Chapel Ln	Planned	Both Sides	Both	0.42	89.0	Low	$ 308,000
1227	Danchristy Ln	Catron Blvd - Enchantment Rd	Planned	Both Sides	Both	0.08	68.0	Low	$ 62,000
2152	Reservoir Rd	Lamb Rd - Long View Rd	Programmed	Both Sides	Both	3.01	61.0	Low	$ 2,224,000
2200	Eglin St	Lowry Ln - 0.08 Miles West of N Turbine Dr	Planned	One Side	North	0.58	50.0	Low	$ 216,000

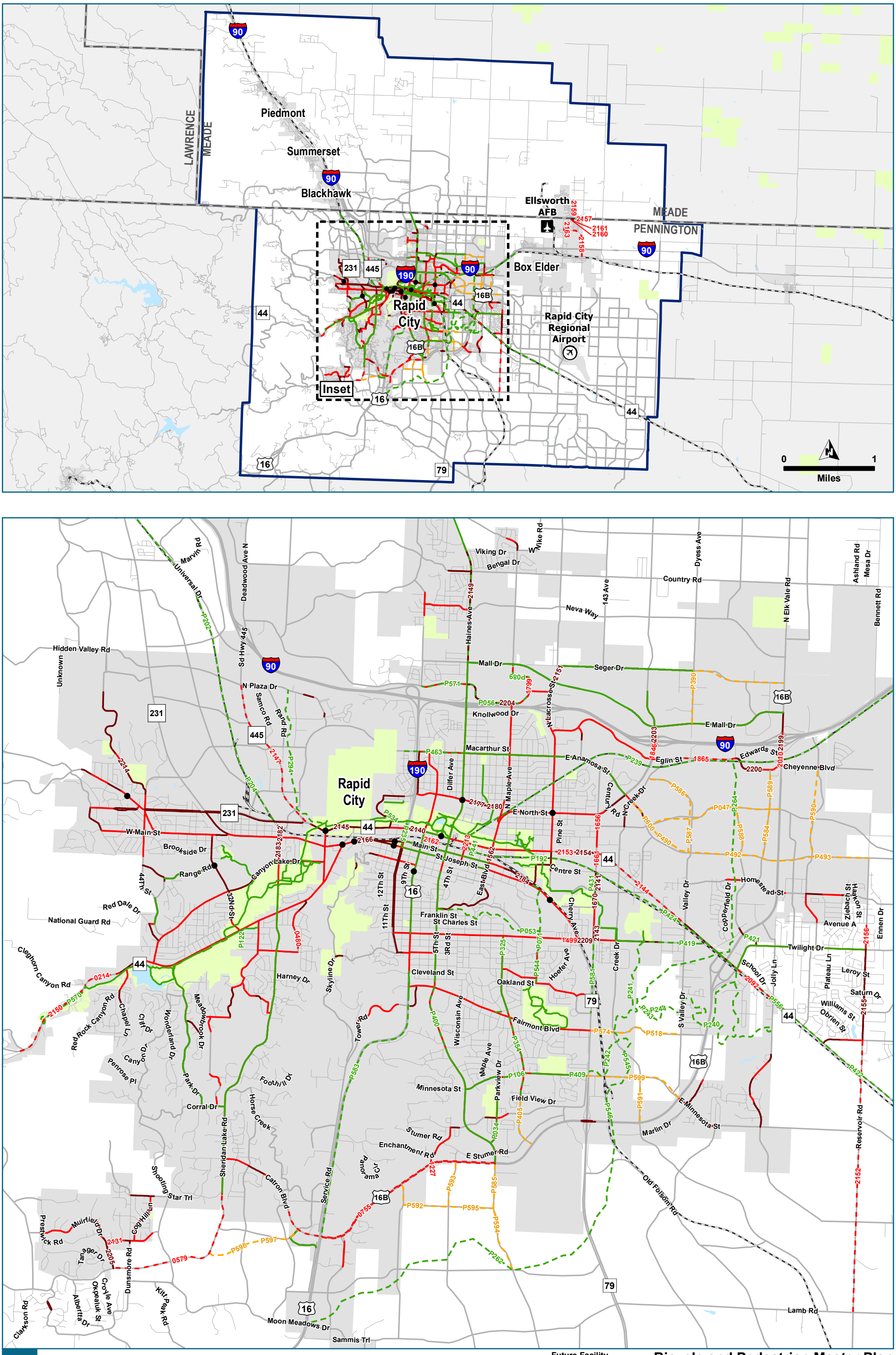
Table 16: Proposed Crossing Enhancement Projects

ID	E/W Street	N/S Street	Existing Road Section	Existing Traffic Control	Recommended Project Type	General Cost Level	Total Score
C08	E North St	N LaCrosse St	5L (both streets)	Signal	Signal modification (minor)	Low	341.5
C05	Columbus Ave	Mt. Rushmore Rd	5L (N/S), 3L (E/W)	Signal	Signal modification (minor)	Low	293.0
C16	North St	Haines Ave	5L (both streets)	Signal	Signal modification (minor)	Low	285.0
C01	E Main St	Steele Ave	4L divided	Stop (side street)	Major crossing (PHB)	Med	270.0
C02	E Main St	Stadium Ln	5L	None	Future study	Low	261.5
C06	St. Joseph St	11th St	3L one-way EB	Stop (side street)	Major crossing (PHB)	Med	250.0
C14	W Main St	11th St	3L one-way WB	Stop (side street)	Major crossing (PHB)	Med	243.0
C17	Range Rd	Soo San Dr	3L (both streets)	Stop (all way)	Crosswalks	Low	240.0
C09	W Main St	Jackson Blvd	5L	Signal	Intersection improvements	Med	236.5
C10	Omaha St	Mountain View Rd	5L (both streets)	Signal	Intersection improvements	Med	226.5
C07	Omaha St	6th St	6L divided	Signal	Grade-separated crossing	High	216.5
C11	Omaha St	Cross St	5L	Stop (side street)	Major crossing (PHB)	Med	173.0
C15	S Canyon Rd	Capitol St	2L undivided w/ parking lanes	Stop (side street)	Minor crossing (RRFB)	Low	170.0
C13	Omaha St	11th St	6L divided (median, no opening)	Stop (side street)	None	N/A	253.0
C04	Omaha St	Canal St	5L	Stop (side street)	None	N/A	233.0
C12	W Main St	Cross St	6L undivided	Stop (side street)	None	N/A	230.0



Bicycle and Pedestrian Master Plan

Figure15: Proposed Bicycle Network



Bicycle and Pedestrian Master Plan

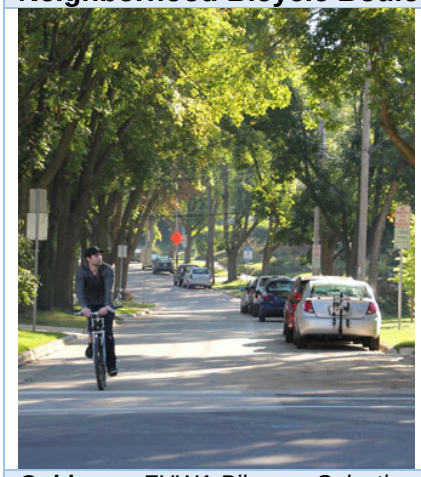
Figure 16: Proposed Pedestrian Network

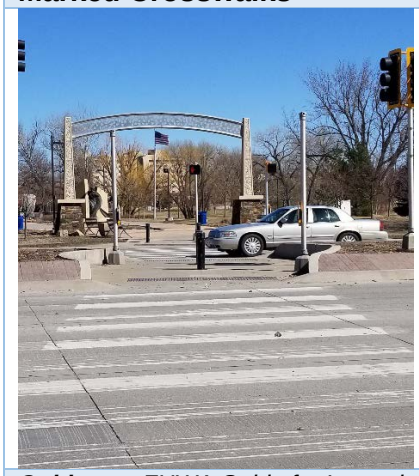
Section 5: Strategies

Bicycle, Pedestrian, and Crossing Treatment Facility Types

The existing bicycle and pedestrian facility types in the Rapid City area were described in the Existing Conditions section of the report. Moving forward there are other potential facility types and crossing treatments that should be considered for implementation as part of the proposed projects in the Rapid City Bicycle and Pedestrian Master Plan Update. Descriptions of these facility types and treatments were referenced as part of the second public meeting to help attendees understand the range of potential improvements that could be considered in the bicycle and pedestrian network. Descriptions of these potential facility types and treatments are presented in **Table 17**.

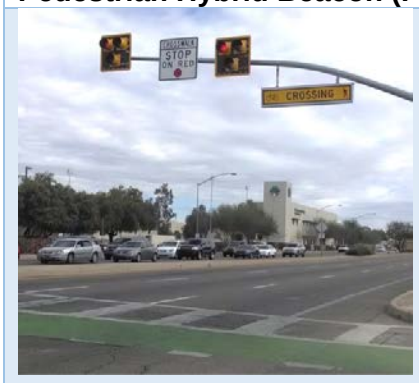
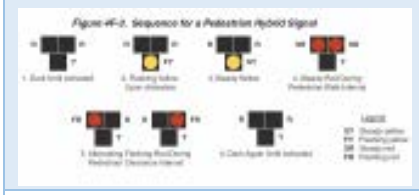
Table 17: Additional Bicycle and Pedestrian Facility Types and Crossing Treatments

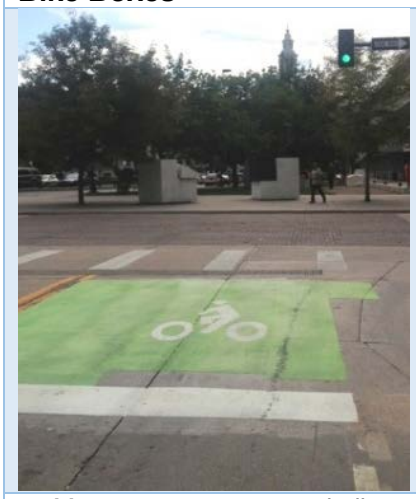
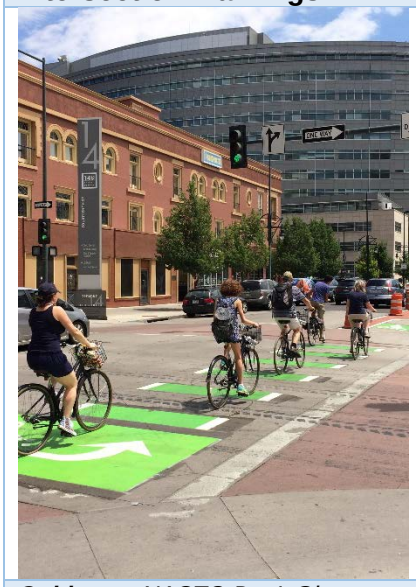
Treatment	Description	Key Factors
Neighborhood Bicycle Boulevards		
	• Low traffic volume and low speed streets that are designated to give bicyclists priority. • Use signs, pavement markings and traffic calming measures to discourage through trips by motor vehicles and provide bicyclists with enhanced crossing of arterial streets. • Typically applied along low-volume, low-speed residential streets to define multimodal priority and wayfinding.	• Provide bicyclists of all abilities with low stress route. • Enhanced safety due to reduced exposure to moving traffic. • Provide enhanced wayfinding. • Approved for use within Manual on Uniform Traffic Control Devices (MUTCD).
Guidance: *FHWA Bikeway Selection Guide, FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts, National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide*		
Buffered Bike Lane		
	• Created by painting a flush buffer zone between a bike lane and the adjacent travel lane. • Buffers may also be provided between bike lanes and parking lanes to demarcate the door zone and discourage bicyclists from riding closely next to parked vehicles. • Used in locations where separation between active travel lanes and/or parked cars is needed.	• Provides a warning for motorists and bicyclists that the street is multi-purpose • Buffered bike lanes increase the riding comfort for bicyclists as they increase separation from vehicular traffic and/or parked vehicles. • Approved for use within MUTCD.
Guidance: *FHWA Bikeway Selection Guide, NACTO Urban Bikeway Design Guide, Florida Department of Transportation (FDOT) Design Manual (FDM)*		

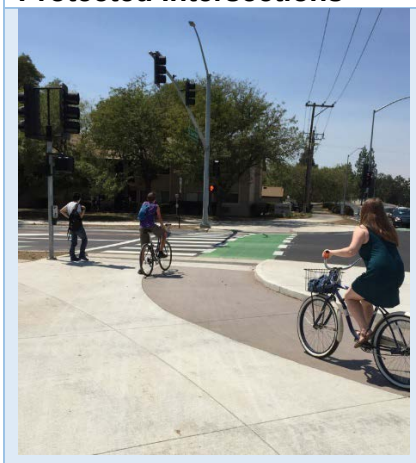
Treatment	Description	Key Factors
Marked Crosswalks		
	• Pavement markings used to designate locations for pedestrians to cross the street. • Typically used at signalized all-way stop-controlled intersections, and midblock crossing locations. • Designated pedestrian crossings should be considered at locations with pedestrian volumes greater than 20 miles per hour and/or with high vehicle-pedestrian collisions.	• Can provide a false sense of security, especially at uncontrolled crossings; consider installing additional improvements to reduce vehicle speeds, shorten the crossing distance, or increase the likelihood of motorists stopping and yielding. • Cannot utilize colors or patterns that result in driver confusion regarding intended purpose of crosswalk.
Guidance: *FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations, FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts, NACTO Urban Street Design Guide*		
High-Visibility Signs & Markings		
	• High-visibility colored signs are posted at crossings to increase driver awareness of the pedestrian crossing and regulatory (state law) requirements. • Typically applied at unsignalized and signalized locations where pedestrian or bicycle movements need to be emphasized.	• Beneficial in areas where drivers might not expect a pedestrian crossing or where a higher level of driver attention is required due to potential pedestrian and bicycle conflicts.
Guidance: *FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations*		
Curb Extensions / Bulbouts		
	• Consists of an extension of the sidewalk space into the street, narrowing the street at a pedestrian crossing. • Considered at intersection and midblock locations where there is high crossing activity, and no travel lane conflicts. • Typical application in locations with on-street parking.	• Shortens the crossing distance, decreasing pedestrian exposure time. • Provides opportunity to increase the sidewalk space. • Improves pedestrian visibility. • Lowers vehicle turning speeds. • Allows for traffic control and warning devices to be placed closer to travel lane. • Provides opportunity to store and treat stormwater runoff. • Often involves an on-street parking trade-off.
Guidance: *FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations, Institute of Transportation Engineers (ITE) Implementing Context Sensitive Design on Multimodal Thoroughfares, FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts, NACTO Urban Street Design, NACTO Urban Bikeway Design Guide*		

Treatment	Description	Key Factors
Median Islands		
	• Raised islands in the center of a street, separating opposing lanes of traffic with cutouts for pedestrian access along the pedestrian route, providing a refuge area for people crossing a street. • Used in locations on single lane or multi-lane streets where there is a defined midblock crossing desire line or at intersections.	• This measure allows pedestrians to cross the street in two stages, focusing on each direction of traffic separately. • The refuge provides pedestrians with a better view of oncoming traffic as well as allowing drivers to see pedestrians more easily. • It can also split up a multi-lane road and act as a supplement to other pedestrian facility treatments.
Guidance: *FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations, ITE Implementing Context Sensitive Design on Multimodal Thoroughfares, FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts, NACTO Urban Street Design Guide, NACTO Urban Bikeway Design Guide*		
Raised Crosswalks		
 	• Speed tables outfitted with crosswalk markings and signage to facilitate pedestrian crossings. Located crosswalks to provide pedestrians with a level street crossing. • Applied in locations where modal hierarchy is desired to promote better bicycling and pedestrian yielding compliance by drivers.	• Provide safer crossing for pedestrians. • Channelize pedestrians to an enhanced crossing. • Slow vehicular travel speeds. • Improve pedestrian visibility and accessibility.
Guidance: *FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations, NACTO Urban Bikeway Design Guide*		

Treatment	Description	Key Factors
Raised Crosswalk at Channelized Right Turn		
	• Marked crosswalks that are raised to slow driver turning speed and increase yielding compliance. • Tighter angles in right turn channelization make crossing pedestrians more visible, slow down right turning vehicles, and make turns easier for drivers (don't have to turn their head as far to check for gaps in traffic). • Used in locations with high bicycle/pedestrian activity combined with higher speed right turning vehicular traffic.	• Provide safety advantage to pedestrians with demonstrated increased yielding by drivers. • Slows driver turning speeds.
Guidance: *ITE Implementing Context Sensitive Design on Multimodal Thoroughfares, FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts*		
Rectangular Rapid Flash Beacons (RRFB)		
	• Rapid flashing LED strobe lights post-mounted in between a pedestrian or trail crossing warning sign and down arrow sign. • The beacons may be push-button activated or activated with passive pedestrian detection. • Typically applied on two-lane or four-lane streets where there is defined midblock crossing desire line and meets established evaluation criteria.	• Increased driver yielding compliance. • Solar panels reduce energy costs associated with the device. • Wireless capabilities reduces installation cost.
Guidance: *FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts, NACTO Urban Bikeway Design Guide*		

Treatment	Description	Key Factors
Pedestrian Hybrid Beacon (PHB) / High Intensity Activated Crosswalk (HAWK)		
 	• Pedestrian-actuated beacon that is a combination of a beacon flasher and a traffic control signal. • When actuated, the beacon displays a yellow (warning) indication, followed by a solid red. • During pedestrian clearance, the driver sees a flashing red "wig-wag" pattern until the clearance interval has ended and the signal goes dark. • Can be considered along higher speed multi-lane streets where increased driver visibility of multimodal crossing is desired and meets established evaluation criteria.	• Reduces pedestrian-vehicle conflicts and increases driver compliance with yielding to pedestrians. • Reduces vehicle delay when compared to standard pedestrian traffic signal.
Guidance: *NACTO Urban Bikeway Design Guide, FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts, NACTO Urban Bikeway Design Guide*		
Grade-Separated Crossing		
	• Pedestrian and bicyclist-only overpass or underpass over or under a street or topographical barrier. • Provides complete separation of pedestrians and bicyclists from motor vehicle traffic, normally where no other pedestrian facility is available. • Typically applied in locations with defined pedestrian or bicycle line that extends across a major barrier.	• Allow for uninterrupted flow of pedestrian movement separate from vehicular traffic. • Underpass configuration can reduce energy expenditure for bicyclists by spanning existing topography. • Eliminates conflict between pedestrians, bicyclists, and moving traffic.
Guidance: *AASHTO Guide for the Development of Bicycle Facilities; ITE Transportation Planning Handbook: Bicycle and Pedestrian Facilities*		

Treatment	Description	Key Factors
Bike Boxes		
	• Applied in locations with high volumes of bicyclists where there may be right or left turning conflicts with vehicles. • Also applied in conjunction with red signal indication where there is a desire for bicyclists to transition from one side of the street to the other at signalized intersections.	• Provides dedicated space at the intersection for bicyclists, improving visibility to drivers during a red signal indication. • Brings bicyclists to the front of the queue, prioritizing bicycle traffic. • Does not benefit bicyclists approaching on a green signal indication. • Bicycle boxes require formal request and approval from FHWA to use under current interim approval.
Guidance: *FHWA Separated Bike Lane Planning and Design Guide, NACTO Urban Bikeway Design Guide*		
Intersection Markings		
	• Consists of using green and white colored pavement markings at conflict points such as at the start of right turn lanes adjacent to bike lanes, or additional bike symbols such as turn queue boxes within the intersection. • Increase the visibility of bicyclists to drivers, identify areas of potential conflict, and provide guidance to bicyclists on their intended alignment through the intersection. • Typically applied to high ease-of-use facilities and at high conflict locations.	• Increases visibility of bicyclists. • Raises driver and bicyclist awareness of conflict areas. • Increases driver yielding behavior. • Increases bicyclists comfort level. • Two-Stage Bicycle Turn Boxes require formal request and approval from FHWA to use under current interim approval.
Guidance: *NACTO Don't Give up at the Intersection, Designing All Ages and Abilities Bicycle Crossings, FHWA Separated Bike Lane Planning and Design Guide, NACTO Urban Bikeway Design Guide*		

Treatment	Description	Key Factors
Protected Intersections		
	• Intersection design that provides separated space for pedestrians and bicyclists through an intersection. • Typically applied at the intersection of two protected bike lanes or in locations where additional intersection protection is desired.	• Protected intersections reduce the potential for people on bicycles to mix with vehicular traffic at the intersection, providing a continuous low-stress facility when combined with protected bike lanes. • Combines multiple treatments in one intersection (reduced curb radii, intersection markings, and protected bike lanes). • Enhances right-turning driver's visibility between the bikeway and the adjacent lane, which provide better visibility and more space for vehicles to wait and yield to people on bikes. • Works better with larger setbacks between the bikeway and adjacent lane, which provide better visibility and more space for vehicles to wait and yield to people on bikes. • Challenging to implement at intersections with large volumes of turning trucks. • Approved for use within MUTCD.
Guidance: *NACTO Don't Give up at the Intersection, Designing All Ages and Abilities Bicycle Crossings, FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts*		
Wayfinding Signs		
	• Posting a series of pedestrian and bicycle wayfinding signs that orient pedestrians and bicyclists to destinations. • Used along bikeways and pedestrian walking corridors to identify destinations and travel times and distances.	• Encourages more walking and bike trips by providing people with a reference point to a destination.
Guidance: *NACTO Urban Bikeway Design Guide*		

Treatment	Description	Key Factors
Bicycle Signals		
	• Dedicated signal head for bicyclists. • Used in locations with separated bicycle facilities.	• Provides ability to provide separated signal phase for bicyclists when desired for enhanced safety or non-traditional signal operations. • Past national studies have shown an increase in compliance with signal indication. • Bicycle Signals require formal request and approval from FHWA to use under current interim approval.
Guidance: *NACTO Don't Give up at the Intersection, Designing All Ages and Abilities Bicycle Crossings, FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts, FHWA Separated Bike Lane Planning and Design Guide, NACTO Urban Bikeway Design Guide*		
Leading Pedestrian / Bicycle Intervals		
	• Traffic signal timing that provides pedestrians / bicyclists with a few seconds head start prior to motor vehicles on the parallel street being given the green light. • Typically applied in locations with high pedestrian / bicyclist conflicts with turning vehicles or vulnerable pedestrian populations.	• Increases pedestrian / bicyclist visibility for turning vehicles and driver yielding compliance for pedestrians. • Helps reduce conflicts between turning vehicles and pedestrians / bicyclists.
Guidance: *NACTO Don't Give up at the Intersection, Designing All Ages and Abilities Bicycle Crossings, ITE Implementing Context Sensitive Design on Multimodal Thoroughfares, FHWA Achieving Multimodal Networks, Applying Design Flexibility & Reducing Conflicts, FHWA Separated Bike Lane Planning and Design Guide, NACTO Urban Street Design Guide*		

The Six “E” Approach

A comprehensive bicycle and pedestrian plan must go beyond simply identifying facility improvement projects, but must also address strategies in several other key areas to build a more bicycle and pedestrian friendly community. A model program that comprehensively addresses multiple elements was developed by the League of American Bicyclists (LAB). LAB is an organization that represents bicyclists to create safer roads, stronger communities, and a “Bicycle Friendly America” through education, advocacy, and promotion.

The essential elements of a Bicycle Friendly America, as defined LAB are made up of “six E’s”. Addressing key strategies in the each of the six E’s can also be applied to making communities more pedestrian friendly as well. The six E’s and the LAB bicycle-related descriptions are as follows:

- Engineering: Create safe and convenient places to ride and park
- Education: Giving people of all ages and abilities the skills and confidence to ride
- Encouragement: Creating a strong bike culture that welcomes and celebrates bicycling
- Enforcement: Ensuring safe roads for all users
- Evaluation & Planning: Planning for bicycling as a safe and viable transportation option
- Equity: Equity, diversity, and inclusion are essential to truly achieve a vision of a bicycle friendly community for everyone, and all elements should be viewed through this lens

Enforcement, Equity, Diversity and Inclusion

To protect marginalized and historically excluded populations, the follow nine equity variables should be considered during bicycle and pedestrian planning:

1. Racial/ethnic equity
2. Language equity
3. Geography/spatial equity
4. Process/participation equity
5. Physical ability equity
6. Income equity
7. Gender equity
8. Culture equity
9. Mode equity

Through the lens of equity, LAB recognizes that police enforcement does not always make everyone, particularly Black people, safer. As of summer 2020, LAB is conducting an anti-racist evaluation of the Enforcement element, and is considering completely removing it from the 6 E's program. Until more holistic recommendations are complete, LAB has removed the "Enforcement" section for the 2020 Bicycle Friendly America applications. While this Plan continues to include Enforcement recommendations, future implementation of these recommendations should be carefully considered based on discussions with local law enforcement and community representatives.

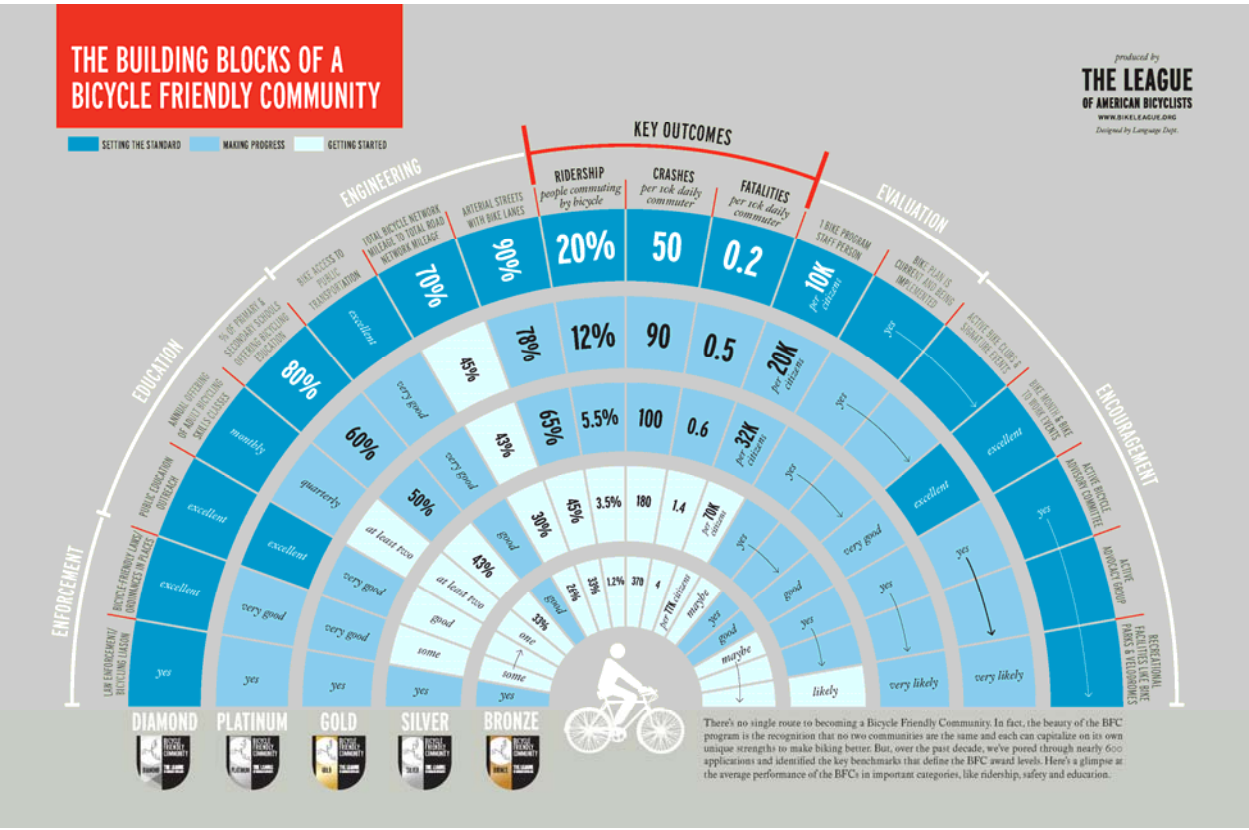
Bicycle Friendly Community Report Card

To measure how bicycle-friendly a state or community is, LAB created the Bicycle Friendly State and Community Report Cards. These report cards identify key metrics related to what they call the Building Blocks of a Bicycle Friendly Community. There are 10 Building Blocks that appear on the report card, including:

1. High Speed Roads with Bicycle Facilities
2. Total Bicycle Network mileage to Total Road Network Mileage
3. Bicycle Education in Schools
4. Share of Transportation Budget Spent on Bicycling
5. Bike Month and Bike to Work Events
6. Active Bicycle Advocacy Group
7. Active Bicycle Advisory Committee
8. Bicycle Friendly Laws & Ordinances
9. Bike Plan is Current and is Being Implemented
10. Bike Program Staff to Population

Figure 17 shows a comprehensive infographic of the Bicycle Friendly Community Report Card standards in congruence with the Six “E” Approach.

Figure 17: Bicycle Friendly Community Infographic



Currently, South Dakota is ranked #40 out of 50 states for being bicycle friendly in the Bicycle Friendly State Report Card.

In 2014, Rapid City completed a Bicycle Friendly Community application, accomplishing one of the 2011 Bicycle and Pedestrian Master Plan benchmarks. They received an honorable mention designation, which fell short of the initial bronze level goal identified in the 2011 Master Plan. To improve bicycling throughout the Rapid City community and achieve the bronze level designation, LAB provided the following key steps:

1. Appoint an official Bicycle Advisory Committee.
2. Appoint a staff member Bicycle & Pedestrian Coordinator or create a new position.
3. Adopt a Complete Streets policy and offer implementation guidance.
4. Continue to increase the amount of high-quality bicycle parking at popular destinations throughout the community, particularly downtown.
5. Continue to expand the bike network and to increase network connectivity through the use of different types of bike lanes and cycle tracks. Arterial roads such as Fairmont Boulevard, Main Street, and St. Joseph Street are the backbone of your

transportation network and often there are no safer alternative routes for people on bikes to access stores and places of employment.

6. Bicycle safety education should be a routine part of primary and secondary education, and schools and the surrounding neighborhoods should be particularly safe and convenient for biking and walking. Work with your local bicycle groups or interested parents to expand the existing Safe Routes to Schools programs at all schools.
7. Pass ordinances as well as support and enforce laws that protect cyclists.

It is recommended that Rapid City work towards these seven steps and to re-apply for the League of American Bicyclist's Bicycle Friendly Community designation once progress can be documented.

In addition to these key 7 steps, additional recommended strategies related to each of these E's are summarized in **Table 18**.

Table 18: Recommendations for Bicycle Friendly Community

E	Action	Details
Engineering	Designate Paved Shoulders as Bike Lanes	Designate paved shoulders as bike lanes with signs and markings, where applicable, and incorporate improvements at intersections such as bike lane "keyholes" between through lanes and right turn lanes
Engineering	Add or Widen Paved Shoulders	Seek opportunities to add paved shoulders to roadways with rural sections where they currently do not exist to better accommodate bicyclists and pedestrians. For roadways with paved shoulders, the appropriate width should be assessed based on factors such as posted speed and traffic volume. Shoulders can be often be added as part of resurfacing, rehabilitation, or restoration projects. If rumble strips are present, they should be at the edge of the paved surface to maximize the usable width of the shoulder by bicyclists. The FHWA *Bikeway Selection Guide* provides additional guidance on the review and implementation of paved shoulders.
Engineering	Sidewalk and Trail Maintenance	Complete periodic reviews of sidewalk and trail surface quality, and implement a consistent schedule for maintenance and repair
Engineering	Bike/Ped Facility and Treatment Incorporation in Other Projects	Look for every opportunity to incorporate bicycle and pedestrian facilities or treatments as part of other area projects, including resurfacing or roadway construction projects. Sidewalk maintenance can be included with other plans such as ADA barrier mitigation.
Engineering	Wayfinding / Signage	Add more wayfinding and signage along city bicycle facilities and shared use paths to direct bicyclists and pedestrians to destinations and connecting routes

E	Action	Details
Engineering	Snow Clearing & Sweeping	Develop a new policy or review existing policy for snow clearing along bicycle and pedestrian facilities, including recommended development of a hierarchy to prioritize snow clearing on highly utilized commuter routes and regional routes. Establish a regular schedule for sweeping on-street bicycle facilities to keep them clear of glass and other debris.
Education	Community Newsletter	Include a regular blurb about bicycle and pedestrian safety with a goal of 2-4 messages per year
Education	Education seminars at bicycle shops	Host education and safety seminars for bicyclists; promote to city employees and residents
Education	Bicycle education pamphlets	Distribute pamphlets at events to provide an easy to understand and cost-effective method of conveying safe cycling concepts to the public
Education	Update City Website	Update the city website to better showcase and highlight the work being done to advance bicycling throughout the city
Encouragement	Bicycle Wayfinding	Complete final planning and design projects with wayfinding signs; target routes and locations for immediate implementation
Encouragement	Community Bike Rides / Bike to Work events	Host regular community bike rides / events (monthly or quarterly)
Enforcement	Educate police officers on traffic laws that apply to bicyclists	Focus on motorist laws that put bicyclists and pedestrian at risk, such as passing laws and yielding at crosswalks
Evaluation & Planning	Work with public transit to coordinate bicycling & pedestrian improvements	Enhance the bicycle and pedestrian connectivity around transit stops, and provide bicycle racks at major transit stops/stations
Evaluation & Planning	Allocate funding to high priority locations and low-income and minority communities.	High priority locations include those with high composite equity scores, particularly where those areas overlap with identified low bicycle and/or pedestrian service areas (see **Figure 9** and **Figure 10**).
Evaluation & Planning	Complete the LAB Bicycle Friendly Community Application	Document progress towards the seven key steps identified by the LAB following the 2014 application submittal, along with progress towards other Plan recommendations, and re-apply for Bicycle Friendly Community designation
Equity	Improve language equity	Foster more equitable treatment of diverse languages in the public sphere, communications and marketing, and planning processes

E	Action	Details
Equity	Improve racial and ethnic equity and safety	Continue to monitor the latest guidance and incorporate recommendations from the LAB, Safe Routes to School, and the Vision Zero Network regarding the safety and inclusion of racial and ethnic minorities
Equity	Improve process equity	Encourage the full and fair participation of low-income and minority communities in the transportation decision-making process
Equity	Improve ability equity	Document and increase mobility and access for the elderly and persons with disability
Equity	Improve gender equity	Engage with women to deepen understanding of behavior and usage differences to improve overall access and mobility
Equity	Improve cultural equity	Engage with foreign-born populations to deepen understanding of behavior and usage differences to improve overall access and mobility
Equity	Improve income equity	Partner and collaborate with local non-profit organization to provide bicycles to low-income and minority residents
Equity	Modal equity	Increase citywide investments in bicycle and pedestrian infrastructure and maintenance, focusing on traditionally underserved and low-service areas

Section 6: Implementation Plan

The list of proposed projects defines long-term desired connections using the ideal level of separation based on traffic volumes and posted speeds at the time of the Bicycle and Pedestrian Plan update. However, it does not represent projects based on a corridor-level feasibility or constructability review.

A project specific feasibility review should be completed as specific network segments are identified for advancement, whether as a stand-alone bicycle and/or pedestrian project, or part of other capital improvements. The intent of the feasibility review is to confirm the specific facility type and proposed concept, based on the following steps:

1. Determine if there is a more preferable alternative route to satisfy the connectivity need. Key principles of route selection include:
    - Connectivity: Route connects to the overall bicycle and pedestrian network and to destinations
    - Wayfinding: Route is easy to follow
    - Safety: Conflicts with motor vehicles are limited
    - Directness: Bicycling and walking distances and stops are minimized
    - Livability: Route directs bicyclists and pedestrians through green spaces and promotes economic prosperity
2. Identify potential fatal flaws to implementation. Route should limit negative impacts to private properties, utilities, traffic operations, on-street parking, freight, transit and other potential conflicts.
3. Confirm and refine the preferred bicycle and/or pedestrian facility type based on the corridor typical section, taking into consideration available right-of-way, lane widths and sidewalk locations. For on-street bicycle lane projects, this includes the potential incorporation and width of a striped buffer between the bike lane and adjacent travel lane – a buffered bike lane is preferred compared to an unbuffered, conventional bike lane. For separated bike lanes or shared use paths, this includes a determination of multi-use versus exclusive bicycle use; sidewalk-level versus street-level; one-way versus two-way operations; facility width; and buffer type and width. In some cases, it may be desirable to provide a greater level of separation versus what is identified in the proposed plan. It may also be necessary to change an on-street bicycle facility to a shared-use off-street facility due to specific corridor considerations; for example, proposed separated bike lanes could be changed to a multi-use trail depending on the existing street configuration, geometric and traffic characteristics, and available right-of-way. Refer to FHWA's *Bikeway Selection Guide* for additional guidance on selecting appropriate bikeway facilities, widths, and other features and treatments.
4. Identify potential locations for specific bicycle and pedestrian design treatments, such as at intersections or crossings. Additional bicycle, pedestrian and crossing treatments, as previously identified in **Table 3** and **Table 17** should be considered during subsequent phases of planning and design for all new or improved bicycle or pedestrian projects to maximum user comfort and safety.

Efforts should be made to incorporate bicycle and pedestrian improvements as part of other projects. Maintenance projects involving street resurfacing or reconstruction should incorporate

bicycle improvements, particularly those that involve simple restriping changes. It may be possible to also add pedestrian elements to these types of projects such as filling sidewalk gaps, adding crossing treatments, or making retrofits for ADA compliance.

All new roadways should also include appropriate bicycle and pedestrian facilities and crossing treatments, based on the context of the area the roadway will be constructed in. While all urban (and many rural) collector and arterial roadways, should include sidewalks on both sides of the roadway, the specific dimensions may vary based on context. For example, areas adjacent to schools or other locations of potential higher usage should provide wider sidewalks. The appropriate bicycle facility should be based on factors such as the anticipated traffic volumes and speeds as noted in FHWA's *Bicycle Selection Guide*. For future planned roadways, it is most appropriate to identify specific bicycle facilities once more information is known about the corridor and initial corridor planning has begun.

Fiscally Constrained Plan

The financial analysis completed as part of RapidTRIP 2045 MTP provided an overview of the historic funding levels for the various transportation improvements in the RCAMPO region, including federal, state, and local funding sources. There are currently no local funding sources used in the RCAMPO area for bicycle and pedestrian projects, other than for Americans with Disabilities Act (ADA) retrofit projects, which are typically limited to intersections. Project funding for stand-alone bicycle or pedestrian projects in the fiscally constrained plan is assumed to be limited to federal funds provided through the Surface Transportation Block Grant Program funding for Transportation Alternatives (STBG-TA), or just "Transportation Alternatives" (TA). This program is designed to provide federal monies for projects that provide "transportation alternatives" such as pedestrian and bicycle facilities, recreational trails, safe routes to schools, historic preservation, and environmental mitigation. TA funds are typically funded with an 80% federal and 20% state or local share.

Based on the financial analysis in the MTP, $2.19 million in TA funding is projected from 2024 to 2045. This value is based on the average annual historic TA funding obtained by the MPO, with an escalation factor of 1.5 percent per year, representing the 80% federal funding share. To add additional resolution to the fiscally constrained plan, the mid-term period (2026-2035) was broken down into near phase (2026-2030) and far phase (2031-2035). The MTP promotes all projects currently in the 2020-2023 TIP into the MTP, thus funding and project phasing for the remaining MTP projects starts in 2024, with a short-term period defined for 2024-2025.

High priority bicycle and pedestrian projects that can be completed as stand-alone projects were included in the fiscally constrained plan up to the projected available TA funding total for each time period (short-term 2024-2025; mid-term near 2026-2030; mid-term far 2031-2035; and long-term 2036-2045). These projects consisted of a combination of on-street bicycle facilities, trails, and sidewalks. The list of stand-alone bicycle and pedestrian projects included in the fiscally constrained plan for each of the specific time periods can be found in **Table 19**. Project costs were escalated from year 2020 dollars to year of expenditure dollars based on a 2 percent per year escalation rate. A summary is also provided of the anticipated available federal TA funds and expenditures per period; as shown, there is small residual available amount of less than $15,000 through 2045.

Table 19: Fiscally Constrained Plan Project List

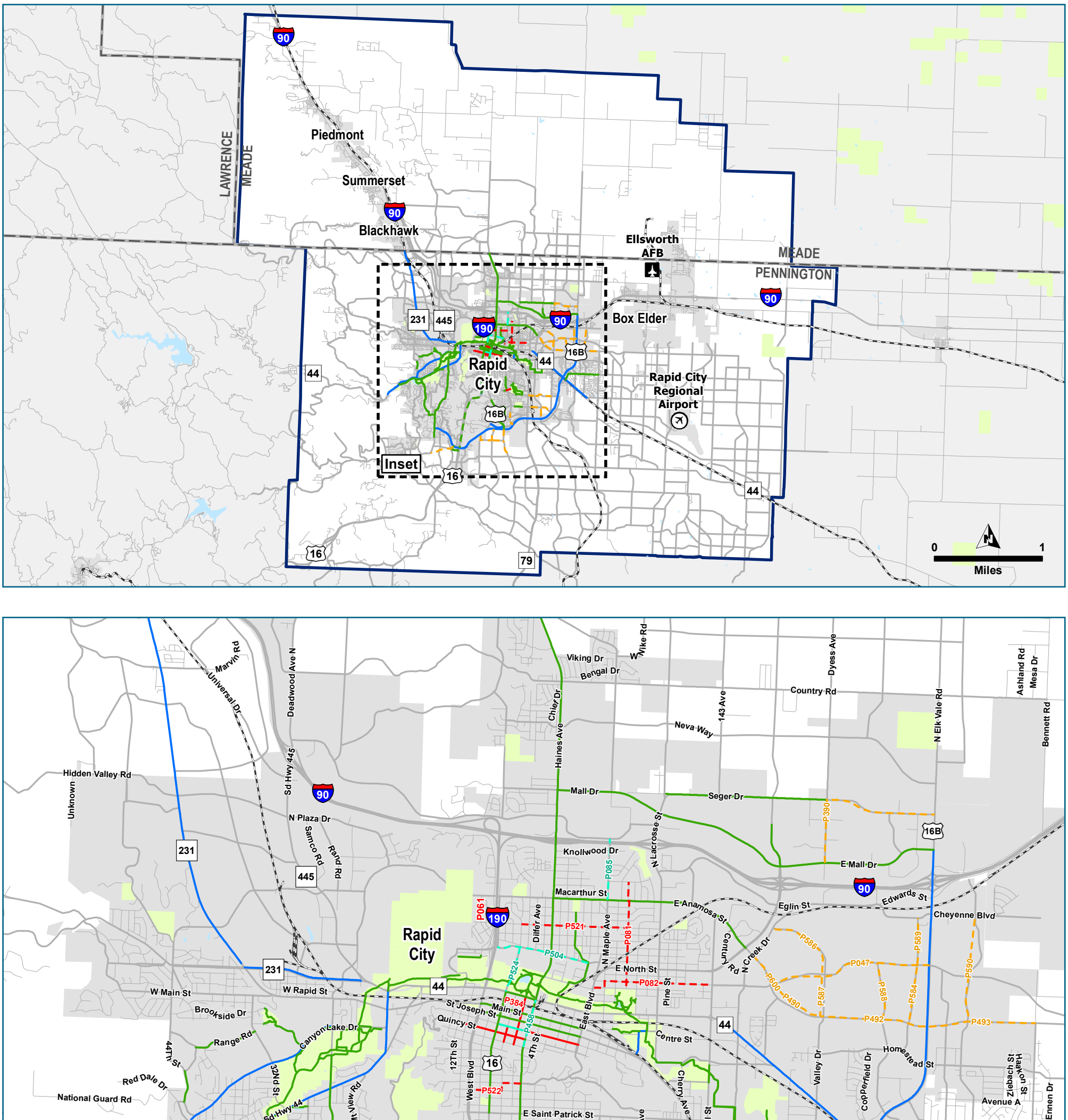
Project ID	Corridor	Limits	Length (mi)	Improvement Type	Total Score	Priority Level	Funding Period	Years	Cost (2020 $)	Cost (YOE $)	Federal Share (YOE $)	Non-Federal Share (YOE $)
P081	Milwaukee St	Crestwood Drive - E New York Street	1.00	Shared Lane	373.5	High	Short Term	2024-2025	$ 90,000	$ 98,000	$ 78,400	$ 19,600
2143	Cambell St	E St. Patrick St - E St. Charles St	0.13	Sidewalk, One Side	337.0	High	Short Term	2024-2025	$ 48,000	$ 52,000	$ 41,600	$ 10,400
1562	East Blvd	CR Rail Systems - Rapid St	0.04	Sidewalk, One Side	299.0	High	Short Term	2024-2025	$ 15,000	$ 16,000	$ 12,800	$ 3,200
2180	North St	N 1st St - East Blvd N	0.11	Sidewalk, One Side	287.0	High	Short Term	2024-2025	$ 41,000	$ 45,000	$ 36,000	$ 9,000
P082	N Maple Ave/E Philadelphia St	Leonard "Swanny" Swanson - Cambell Street	1.17	Shared Lane	339.5	High	Mid Term (Near)	2026-2030	$ 105,000	$ 123,000	$ 98,400	$ 24,600
P524	Mt. Rushmore Rd	North Street - Omaha Street	0.44	Buffered Bike Lane	326.0	High	Mid Term (Near)	2026-2030	$ 65,000	$ 76,000	$ 60,800	$ 15,200
2145	W Omaha St	Mountain View Rd - 12th St	0.69	Sidewalk, One Side	310.0	High	Mid Term (Near)	2026-2030	$ 255,000	$ 299,000	$ 239,200	$ 59,800
P384	Apolda St	Mt Rushmore Road - 6th Street	0.19	Shared Lane	292.0	High	Mid Term (Near)	2026-2030	$ 17,000	$ 20,000	$ 16,000	$ 4,000
1499	E Saint Patrick St	E St. Joseph St - Cherry Ave	0.03	Sidewalk, Both Sides	261.0	High	Mid Term (Near)	2026-2030	$ 23,000	$ 27,000	$ 21,600	$ 5,400
P504	North St	West Boulevard N - N 1st Street	0.87	Buffered Bike Lane	317.0	High	Mid Term (Far)	2031-2035	$ 130,000	$ 168,000	$ 134,400	$ 33,600
2166	W Main St	Cross St - Highway 44	0.56	Sidewalk, One Side	285.0	High	Mid Term (Far)	2031-2035	$ 207,000	$ 268,000	$ 214,400	$ 53,600
P078	E Fairlane Dr	Elm Avenue - Robbinsdale Park	0.25	Shared Lane	282.0	High	Mid Term (Far)	2031-2035	$ 22,000	$ 28,000	$ 22,400	$ 5,600
2177	North St	Wood Ave - N 2nd St	0.18	Sidewalk, One Side	280.0	High	Mid Term (Far)	2031-2035	$ 68,000	$ 88,000	$ 70,400	$ 17,600
P522	Franklin Ave/Belleview Dr/E St Andrew St	West Boulevard - 5th Street	0.55	Shared Lane	277.0	High	Mid Term (Far)	2031-2035	$ 49,000	$ 63,000	$ 50,400	$ 12,600
P458	5th St	Omaha St - Columbus St	0.45	Separated Bikeway	308.5	High	Long Term	2036-2045	$ 458,000	$ 687,000	$ 549,600	$ 137,400
P085	N Maple Ave	Disk Drive - Anamosa Street	0.57	Buffered Bike Lane	279.0	High	Long Term	2036-2045	$ 86,000	$ 129,000	$ 103,200	$ 25,800
P521	Van Buren St	Allen Avenue - Milwaukee Street	0.99	Shared Lane	276.0	High	Long Term	2036-2045	$ 89,000	$ 134,000	$ 107,200	$ 26,800
2184	E Main St	Maple Ave - Steele Ave	0.35	Sidewalk, One Side	275.0	High	Long Term	2036-2045	$ 130,000	$ 195,000	$ 156,000	$ 39,000
1670	Cambell St	E St. James St - Rocker Dr	0.16	Sidewalk, One Side	264.0	High	Long Term	2036-2045	$ 59,000	$ 89,000	$ 71,200	$ 17,800
2161	Tower Rd	0.03 Miles North of Don Williams Dr - 0.05 Miles South of 225th St	0.06	Sidewalk, One Side	210.0	Medium	Long Term	2036-2045	$ 23,000	$ 35,000	$ 28,000	$ 7,000
2203	E North St	I-90 Entrance - E Mall Dr	0.11	Sidewalk, One Side	202.0	Medium	Long Term	2036-2045	$ 41,000	$ 62,000	$ 49,600	$ 12,400
2213	3rd St	0.01 Mile South of Rapid St - 0.01 Mile North of Rapid St	0.02	Sidewalk, Both Sides	197.0	Medium	Long Term	2036-2045	$ 11,000	$ 17,000	$ 13,600	$ 3,400
TOTAL			**8.92**						**$ 2,032,000**	**$ 2,719,000**	**$ 2,175,200**	**$ 543,800**

Funding Period	Years	Available Federal Funds (TAP)	Available Federal Funds + Carryover	Total Federal Share (YOE $)	Remain/ Carryover
Short Term	2024-2025	$ 170,770	$ 170,770	$ 168,800	$ 1,970
Mid Term (Near)	2026-2030	$ 449,850	$ 451,821	$ 436,000	$ 15,821
Mid Term (Far)	2031-2035	$ 484,616	$ 500,437	$ 492,000	$ 8,437
Long Term	2036-2045	$ 1,084,487	$ 1,092,924	$ 1,078,400	$ 14,524
Total		**$ 2,189,724**		**$ 2,175,200**	**$ 14,524**

In addition to the stand-alone bicycle and pedestrian project list shown in **Table 19**, all identified new roadway corridor projects from the MTP fiscally constrained plan are also included in the bicycle and pedestrian fiscally constrained plan. It is recommended that bicycle and pedestrian facilities be included as components of these future roadway projects. The specific bicycle and pedestrian facility types should be determined at the time of the roadway project development. It is also assumed that the costs for new roadways will include the appropriate bicycle and pedestrian facilities as a component of the total costs, and as such, the bicycle and pedestrian element costs for those roadway projects were not included as part of this fiscally constrained plan. Finally, in one case, a proposed trail project along Highway 16 is included in the fiscally constrained plan as it is being included as part of a roadway capacity improvement in the MTP fiscally constrained plan. The bicycle and pedestrian components are again assumed to be part of that larger roadway project and therefore no costs are assumed in this fiscally constrained plan. A list of the new roadway corridor projects and roadway capacity improvement projects that include bicycle and pedestrian components are shown in **Table 20**. The fiscally constrained bicycle and pedestrian project maps are shown in **Figure 18** and **Figure 19**, respectively.

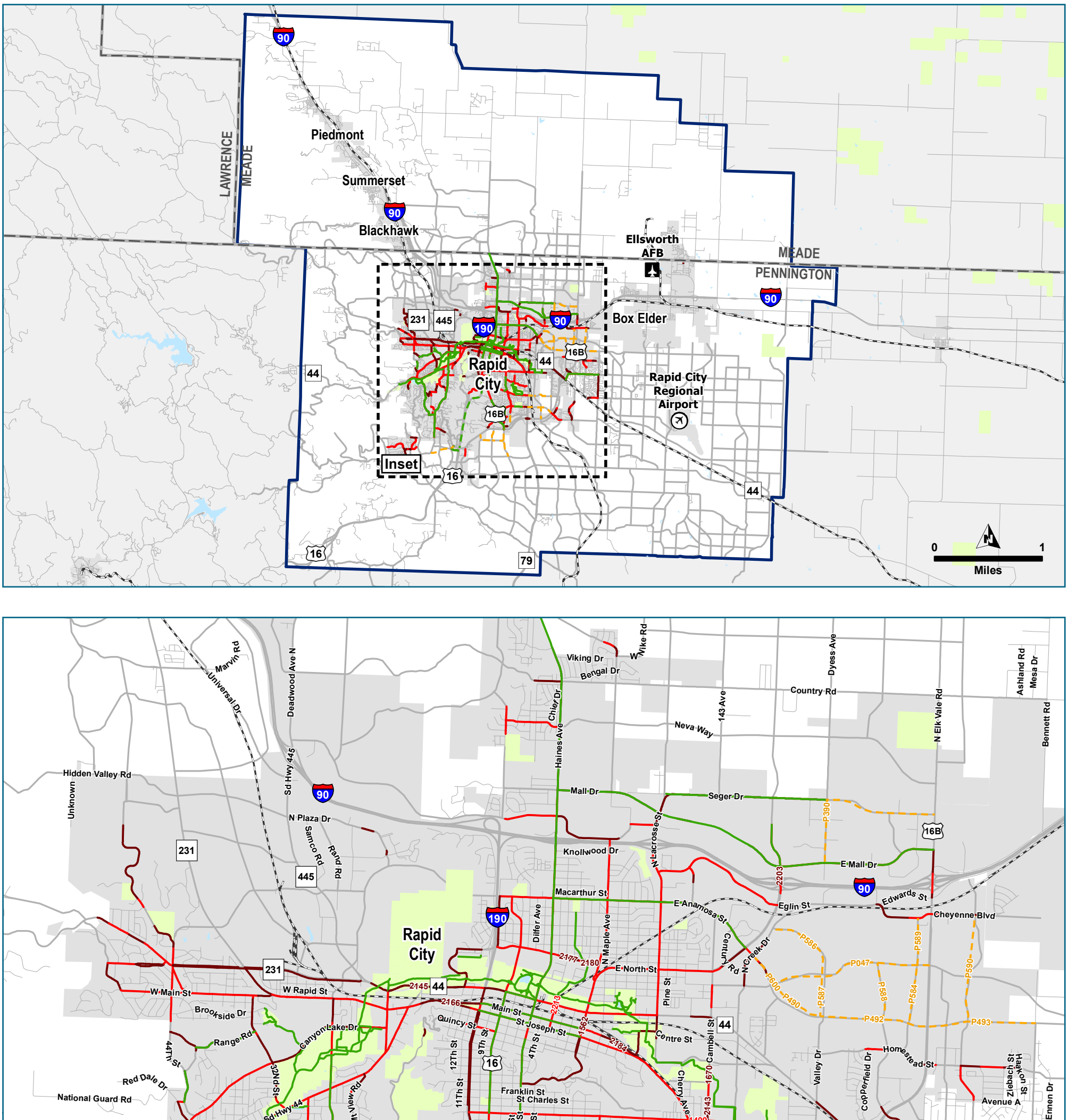
Table 20: Roadway Capacity Improvement and New Roadway Projects with Bicycle and Pedestrian Elements

PROJECT ID	FACILITY TYPE	ROUTE	EXTENT	LENGTH MILES
P583	Shared-Use Path; Capacity Improvement	S Highway 16	Catron Blvd - 530' south of Cathedral Drive	3.03
P047	Future Facililty on New Road	Philadelphia St	E Anamosa Street - Homestead Street	1.50
P390	Future Facililty on New Road	Seger Dr	E Mall Drive - N Elk Vale Road	1.61
P405	Future Facililty on New Road	Elm Ave	Field View Drive - E Catron Boulevard	0.58
P490	Future Facililty on New Road	Anamosa St	Mickelson Drive - Valley Drive	0.41
P492	Future Facililty on New Road	Anamosa St	Valley Drive - US 16 (Elk Vale Road)	1.00
P493	Future Facililty on New Road	Anamosa St	US 16 (Elk Vale Road) - N Reservoir Road	1.01
P518	Future Facililty on New Road	Fairmont Blvd	Creek Drive - S Valley Drive	0.79
P574	Future Facililty on New Road	Fairmont Blvd	Cambell St - Creek Drive	0.26
P584	Future Facililty on New Road	Turbine Dr	E Anamosa St - Philadelphia St	0.55
P585	Future Facililty on New Road	5th St Extension	Catron Blvd - South Growth Area	0.51
P586	Future Facililty on New Road	Valley Dr	Philadelphia St - Creek Dr	0.75
P587	Future Facililty on New Road	Valley Dr	E Anamosa St - Philadelphia St	0.37
P588	Future Facililty on New Road	Concourse Dr	E Anamosa St - Philadelphia St	0.54
P589	Future Facililty on New Road	Turbine Dr	Philadelphia St - Eglin St	0.43
P590	Future Facililty on New Road	Degeest Dr	Cheyene Blvd - Anamosa St	0.99
P591	Future Facililty on New Road	Creek Dr	Elk Vale Rd - Minnesota St	0.50
P592	Future Facililty on New Road	South Growth Area	US-16 - South Growth Area	0.74
P593	Future Facililty on New Road	South Growth Area	Catron Dr - South Growth Area	0.52
P594	Future Facililty on New Road	5th St Extension	Swanson Memorial Pathway - South Growth Area	0.73
P595	Future Facililty on New Road	South Growth Area	5th St Extension - South Growth Area	0.49
P597	Future Facililty on New Road	Les Hollers Rd	Catron Blvd - New Rd	0.55
P598	Future Facililty on New Road	Les Hollers Rd	New Rd - Sheridan Lake Rd	0.52
P599	Future Facililty on New Road	Minnesota St	Cambell St - Elk Vale Rd	1.12
P600	Future Facililty on New Road	Anamosa St	N Creek Dr - Mickelson Dr	0.46



Bicycle and Pedestrian Master Plan

Figure 18: Proposed Bicycle Network - Fiscally Constrained Plan

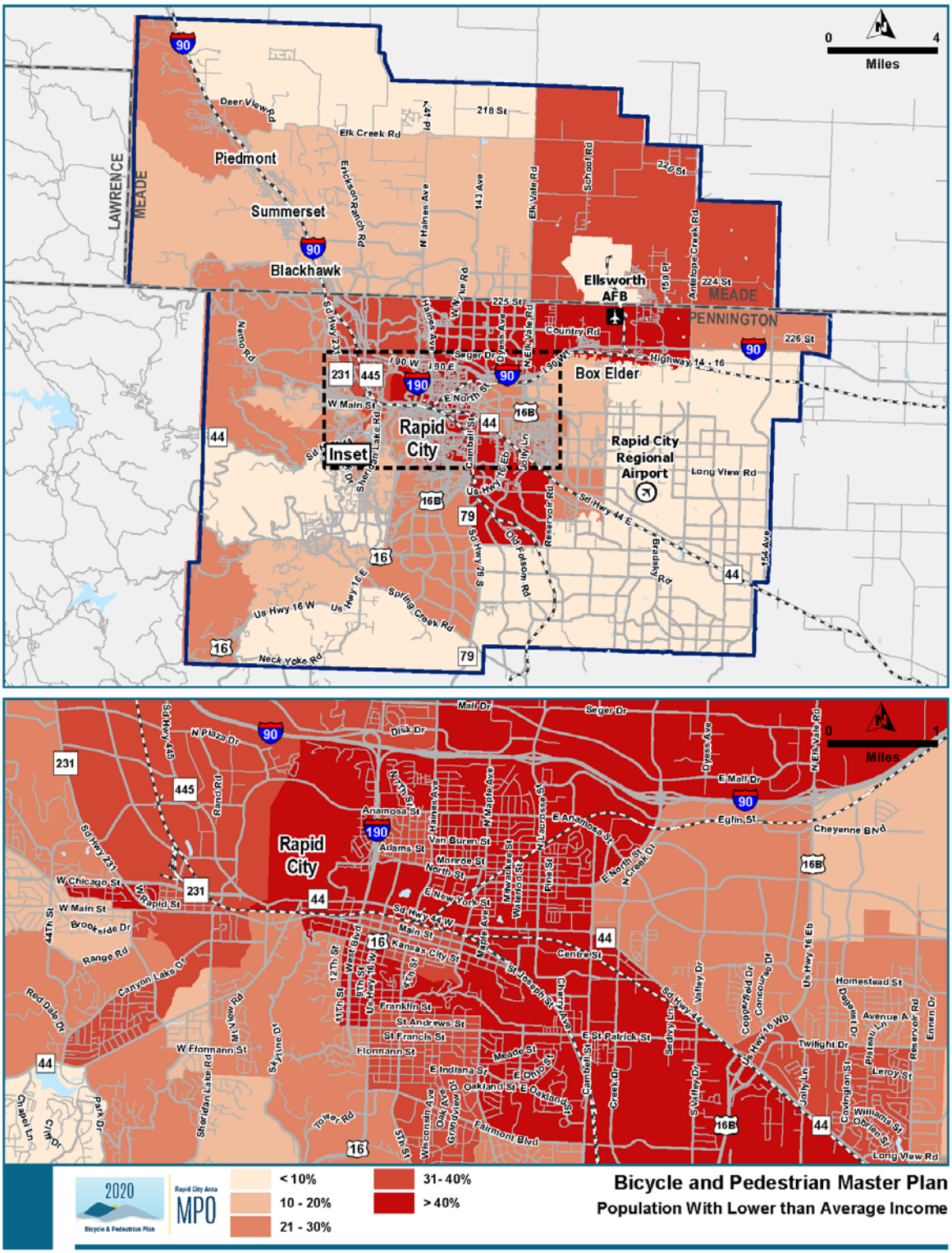


Bicycle and Pedestrian Master Plan

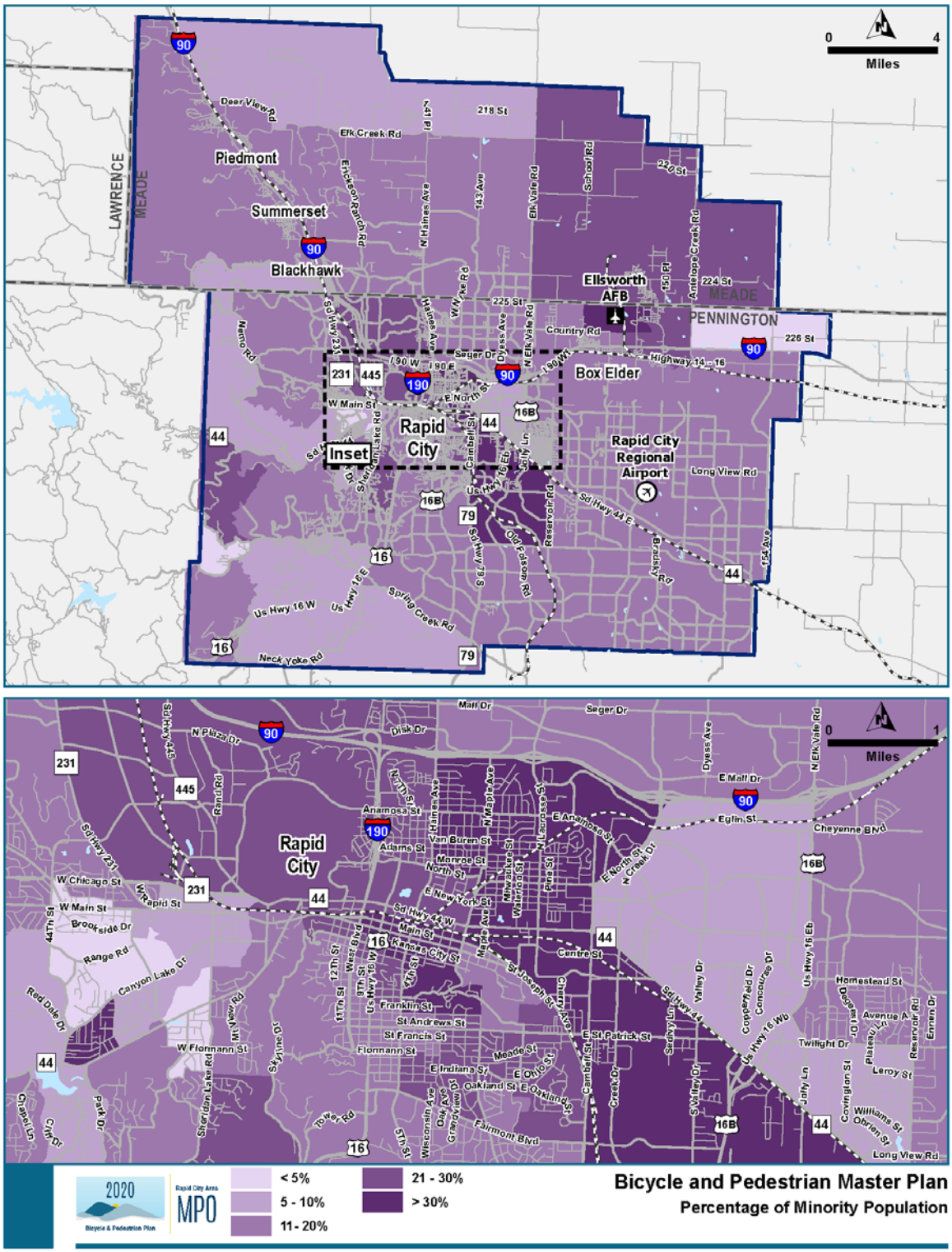
Figure 19: Proposed Pedestrian Network - Fiscally Constrained Plan

Appendix A: Equity Analysis Maps

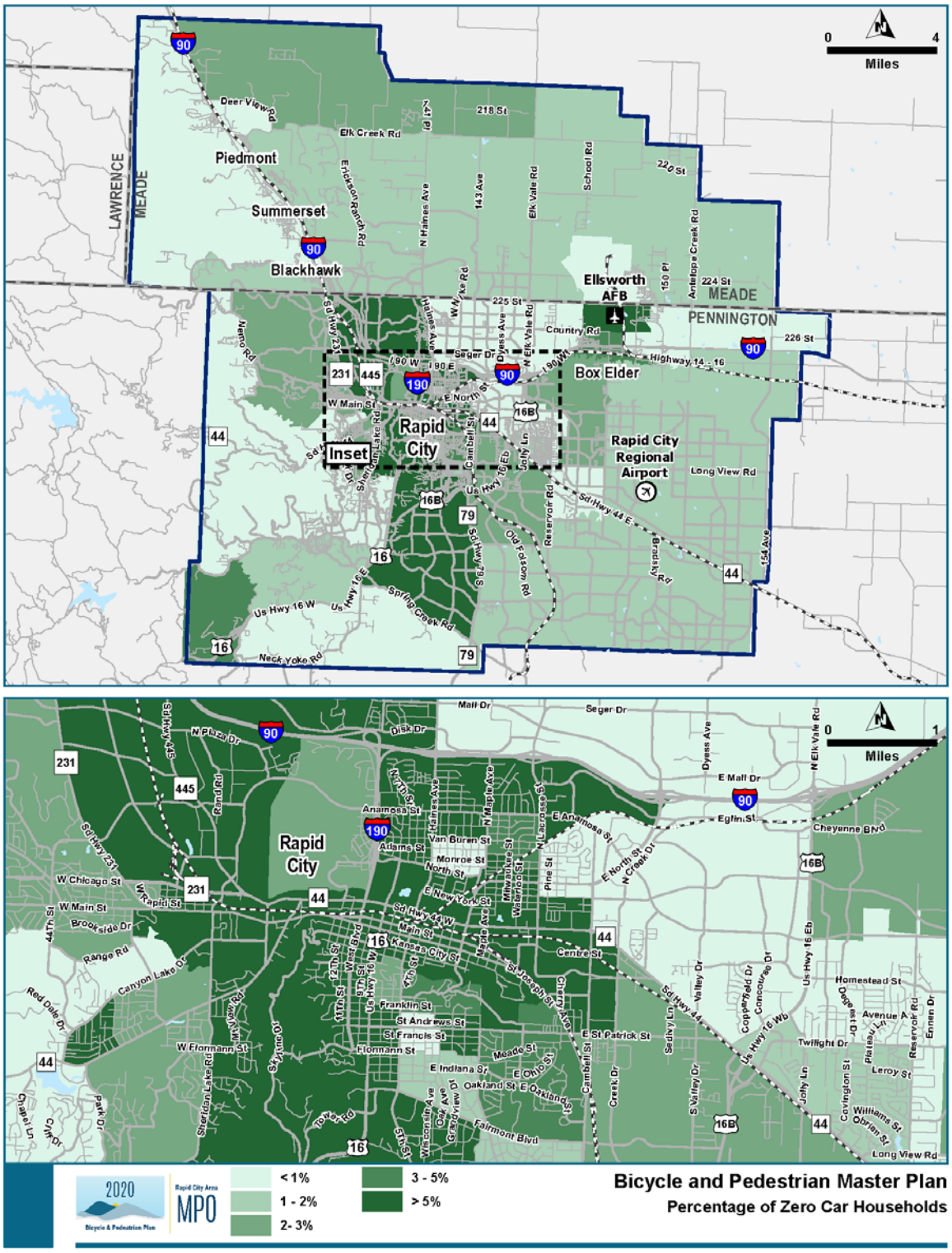
Population with Lower than Average Income



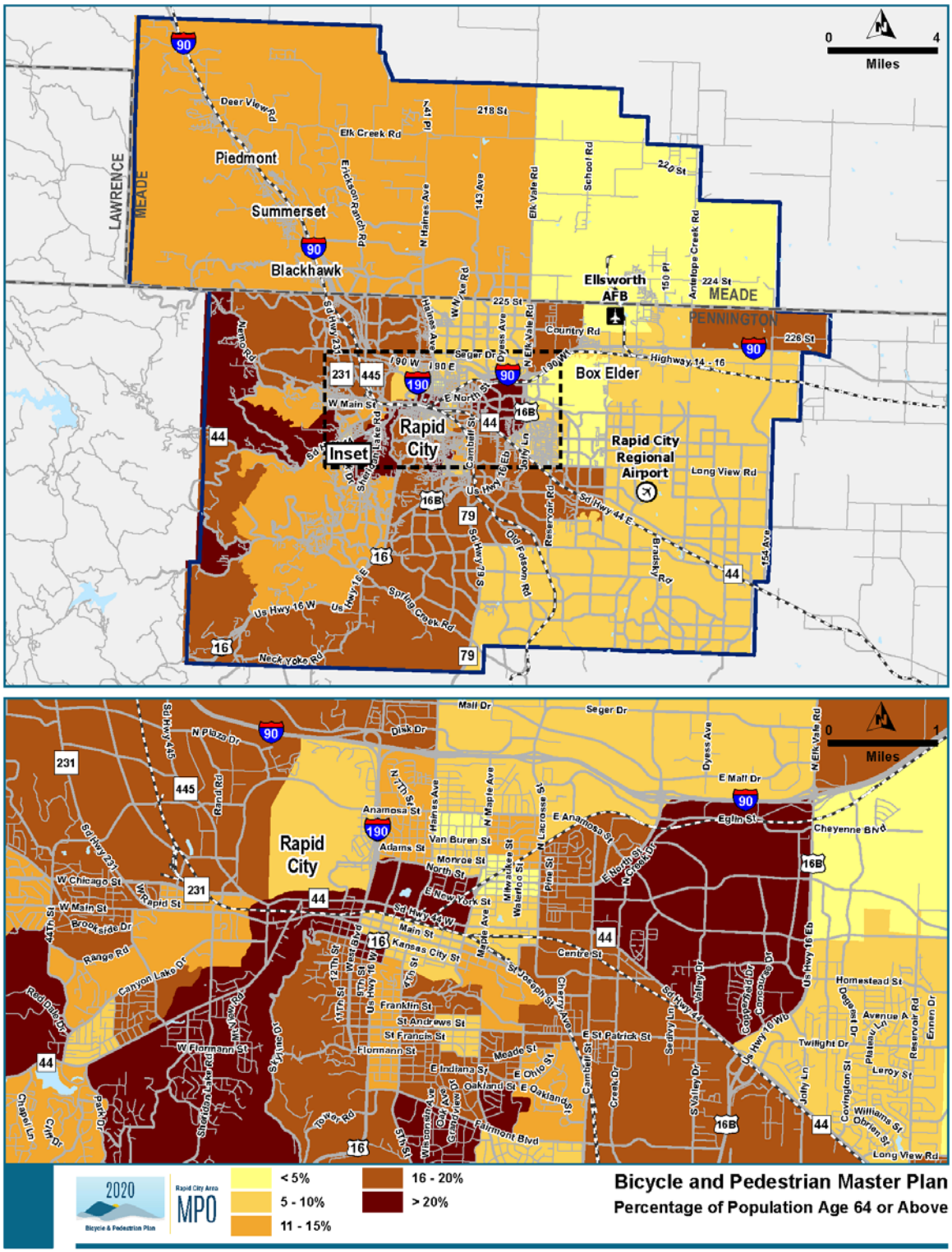
Percentage of Minority Population



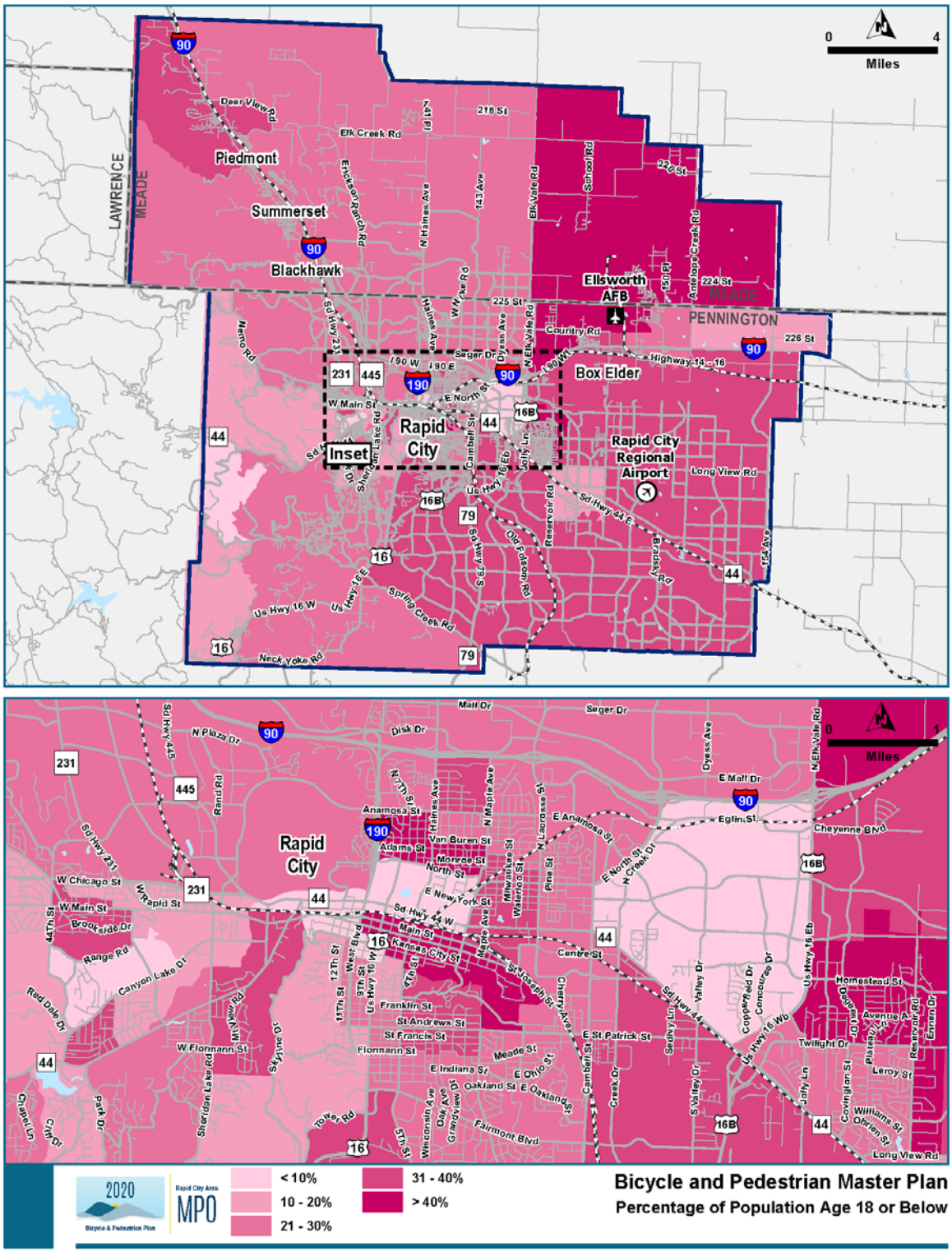
Percentage of Zero Car Households



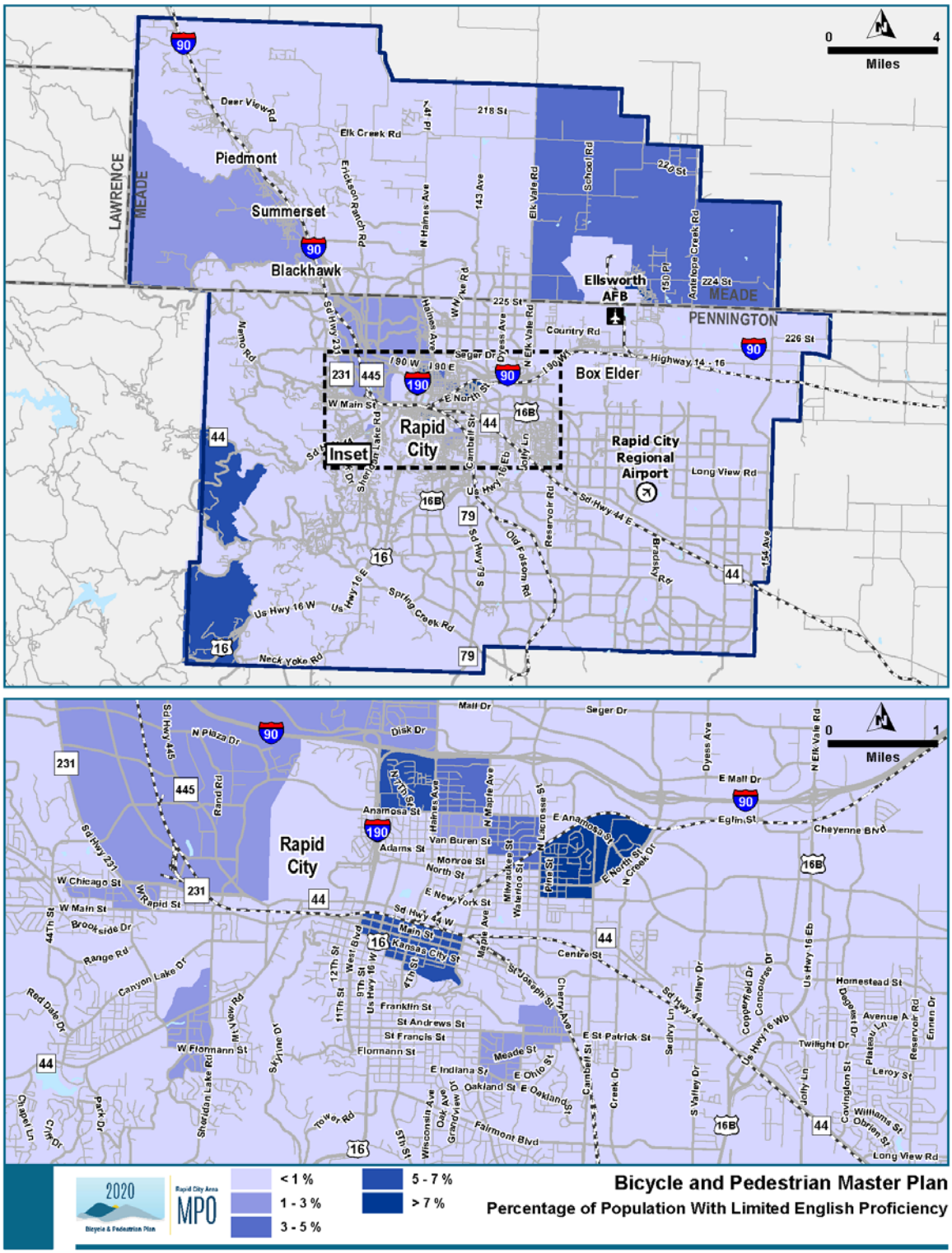
Percentage of Population Age 64 or Above



Percentage of Population Age 18 or Below



Percentage of Population with Limited English Proficiency



Appendix B: Public Meeting #1 Presentation and Comments

Public Meeting - Open House No.1 Meeting Summary

October 29, 2019

Rapid City Area MPO Metropolitan Transportation Plan & Bicycle/Pedestrian Plan Update

Rapid City Area MPO

November 21, 2019

Table of Contents

Public Meeting/Open House No. 1 Overview

Meeting Details

Date: Tuesday, October 29, 2019

Time: 4:00 PM to 5:45 PM

Location: Rapid City Council Chambers, City Hall
300 6th Street, Rapid City, SD 57701

Advertisements: Rapid City Journal (10/16/19 and 10/19/19), Native Sun News (10/16/19), project website, MPO website, and Facebook Event post. Additionally, a meeting flyer was emailed to RCAMPO Stakeholders.

The project team hosted a public meeting/open house for the Rapid City Area MPO Metropolitan Transportation Plan (MTP) and Bicycle/Pedestrian Plan Update to present an overview of the project and gather feedback from the public and stakeholders. Approximately 47 attendees signed in for the meeting, including members of the consultant team, City staff, FHWA, and SDDOT staff. It is estimated approximately 15 additional attendees also attended the meeting, however entered through a second entrance after the presentation was underway and did not sign in. An attendance sheet for the public meeting/open house can be found in Appendix A.

A brief presentation was provided to present the details and scope of the project and review the existing analysis completed to date. A copy of the presentation is included in Appendix B. Following the presentation an interactive maps and markers exercise was conducted to gain public feedback on the existing and future transportation system needs. Comments from the public could be provided in multiple forms, including submission of a comment form, notes attached to the maps/markers exercise, email, or via the project website. Written comments received via comment cards, emails, and website submissions are noted in the Written Comments section of the meeting summary. Notes/suggestions provided via the maps/markers exercise have been consolidated and summarized in a table for reference.

In general, discussions focused on transit and bicycle and pedestrian issues/needs. Concerns were also presented regarding the Highway 16/16B/Catron Boulevard intersection, Highway 16/Neck Yoke Road intersection, and intersections near the South Dakota School of Mines campus.

Project Website

www.rapidtrip2045.com

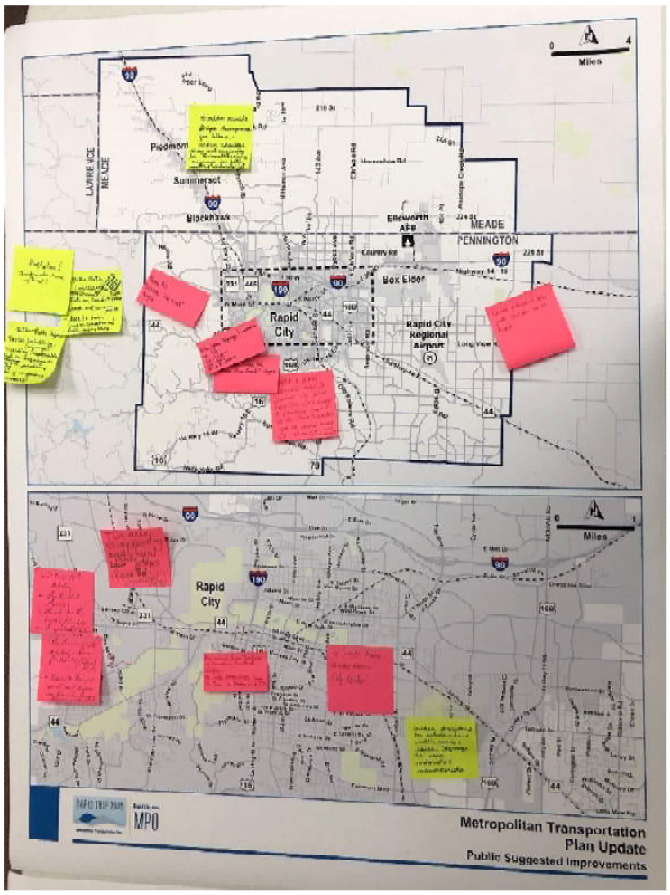
Written Comments

The written comment period associated with Public Meeting/Open House No. 1 began the evening of the meeting/open house and lasted through November 15, 2019. A total of four comment cards were received. Additionally, a type-written comment was received, multiple text messages to the MPO as well as an email submission. Two comments were also received via the project website. The written comments are attached in Appendix C.

In summary, the written comments focused on bicycle/pathway connections, traffic calming near the South Dakota School of Mines campus, improved transit/public transportation routes/stops, and a request to coordinate planning efforts with a proposed project located near Canyon Lake Drive/Soo San Drive.

Project website comments pertained to bike/pedestrian count methods, bike lane signing suggestions, bike/ped crossing suggestions, public meeting displays, and suggestions relating to bus stops and how they tie to pedestrian accessibility.

The maps and markers exercise generated approximately 56 comments/suggestions. A table summary of the comments associated with the maps/markers exercise is also included in Appendix C.



Appendix A – Sign-in Sheets

Sign – In Sheet

Subject:	**Rapid City Area Metropolitan Transportation Plan and Bike-Pedestrian Plan Update**
Meeting:	Public Information Meeting and Open House
Date:	Tuesday, October 29, 2019
Meeting Location:	City of Rapid City Community Room

Please print clearly. Thank you.

	NAME/REPRESENTING	ADDRESS	BEST CONTACT PHONE	E-MAIL
1	CJ Means / GPTCHB Oyate Health Ctr	3200 Canyon Lake Dr	605-355-2405	cj.means@gptchb.org
2	Chuck Henrie	405 N Cleveland St	605 415 2963	Hen56@outlook.com
3	Mark Hoines	116 E. Dakota Ave	605-776-1010	mark.hoines@dot.gov
4	Sarah Gilkerson	700 E. Broadway	605.773.3093	Sarah.gilkerson@state.sd.us
5	Dustin Hamilton	703 Main St.	605-791-6103	dustin.hamilton@hdrinc.com
6	Julie Godbe	4930 Ireland Pl RC, SD	605-209-5886	juliegodbe@gmail.com
7	Deanna Becket	1008 Willmington Somerset	605-390-6965	deanna@rcymca.org
8	Paul Bains	1844 Lombardy Dr	605-877-4145	Paul.Sams@rwsd.com
9	Willis Sutliff	4819 Steamboat	605 718-0359	dr.w.sutliff@gmail.com
10	Rob Pettigrew	1203 ST Cloud	939-9940	PettigrewRob@gmail.com
11	Kelly Hlavec	3602 Ponderosa Road	343-4550	Khlavec@bhws.com
12	Dennis Berg	3775 Cambell	355-3707	Dennis.Berg@k12.sd.us
13	Jason Lambert	405 Founders Park	480-0619	jlambert2@regionalhealth.org
14	Richard Schmeier	3700 Sturgis Rd	342-4105	rschmeier@fmgeng.meer.ng.com
15	Chris Hunt	3008 Stockade	970-901-5120	CShunt@gmail.com
16	Bill Kopp	15567 Hy 14A	430-2182	
17	Julie Kopp	"	"	
18	Bill Evans			
19	Ritchie Nordstrom			
20	Eltina Three Stars	2611 Elderberry Blvd	605-858-5881	eltina.threestars@gptchb.org

Sign – In Sheet

Subject:	**Rapid City Area Metropolitan Transportation Plan and Bike-Pedestrian Plan Update**
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Meeting Location:	City of Rapid City Community Room

Please print clearly. Thank you.

	NAME/REPRESENTING	ADDRESS	BEST CONTACT PHONE	E-MAIL
1	Gloria Pluimer	730 E. Watertown Street	gpluimer@lcdcbh.org	641-3108
2	Corinne Perkins	2040 W. Main Street	605.348.8010	corinne.perkins@adeccona.com
3	Rachel Caesar	3418 Nicklaus Ct		rachel.l.caesar@gmail.com
4	Ted Johnson	300 Sixth St Rapid City SD	605-394-4154	Tedrjohnson@rcgov.org
5	Kumar Vemswamy	625 9th St Rapid City SD		
6	Brad Haupt	5015 Longhorn CT	605 381-2065	bhaupt@RegionalHealth.org
7	JAY ERICKSON	226 48th Rapid City SD	605-431-9536	jerickson@rushmore.com
8	Andrea Serna	514 Mt. Rushmore Rd	718-6204	aserna@bhws.com
9	Michael Huot	3001 Stockade Dr	585-831-6922	mwhuot@gmail.com
10	Lysann Zeller	912 9th St., #6	605-209-6797	lysann@hotmail.com
11	Ellen Erickson	703 Main St. RC, SD 57701	605-791-6100	ellen.erickson@hdrinc.com
12	Jasin Carbee	HDR Omaha		
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Sign – In Sheet

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	NAME/REPRESENTING	ADDRESS	BEST CONTACT PHONE	E-MAIL
1	Carrie Dirr / BHWC	3650 Range Rd.	605.718.6209	cdirr@bhws.com
2	Teri Schmidt	9135 Emerald Rdg Rd.	281-222-9829	schmidtsinscotland@yahoo.com
3	Stephenie Rittberger	730 E. Watertown St	605-440-0034 cell 605-394-5120 wk	srittberger@dcbh.org
4	Melissa Hurley	619 Fairlawn Dr.	605-840-5002	melissa.hurley2@geappliances.com
5	Melissa Petersen (Parks + Rec)	3905 Pointe West Pl #332	605-391-0749	
6	MATT Schumacher	3712 Locust St.	605-391-5638	schu5638@hotmail.com
7	Ken Young Rapid City	300 6th St.		City
8	James Lovericky	23950 S Rockerville Rd	605 431 3640	james.lovericky@gmail
9	LUCAS HAAN	2402 JANET	605 389 1361	lucas.haan@gmail.com
10	Jerilyn Roberts	501 E Saint Joseph	605-393-7345	jerilyn.roberts@sdsmt.edu
11	Kelli Aarstad	10A Glendale Lane	605-881-3385	
12	Garth Wadsworth	10A Glendale Lane	605 641 0961	
13	GRANT SERNA	24510 Juniper Rd Hermosa	605 718-4068	
14	STACIA SLOWEY	1103 12th st	605 791 6109	stacia.slowey@hdrinc.com
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Sign – In Sheet

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	NAME/REPRESENTING	ADDRESS	BEST CONTACT PHONE	E-MAIL
1	Kent Penney / KLJ	330 Knollwood	605.721.5553	kent.penney@kljeng.com
2				
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Appendix B – Presentation

RAPID TRIP 2045

Metropolitan Transportation Plan

Rapid City Area MPO

PUBLIC MEETING / OPEN HOUSE #1

October 29, 2019

HDR

RAPID CITY AREA Metropolitan Planning Organization

South Dakota DOT

U.S. Department of Transportation Federal Highway Administration

PURPOSE OF THE MEETING

- Involve the public in the planning process
  - Brief Presentation to explain project followed by interactive discussion
- Provide a Project Overview
  - Background
  - Project Scope
  - Project Schedule
- Gather Input and Feedback on Future Transportation Needs for Rapid City Area

PROJECT TEAM

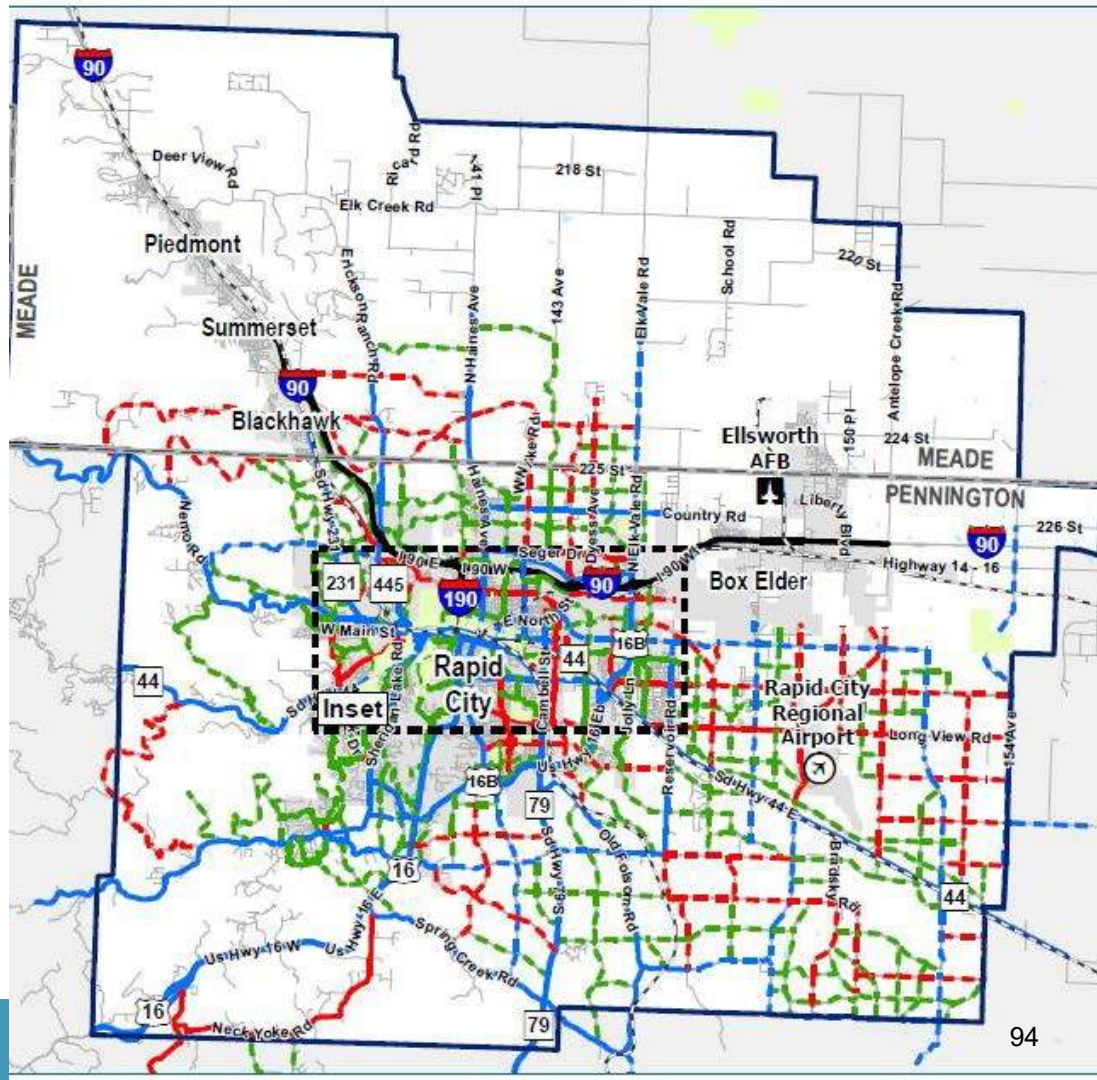
Kip Harrington
RCAMPO Project Manager

Dustin Hamilton, PE
Consultant (HDR) Project Manager

- Rapid City MPO Staff
- SDDOT Staff
- Study Consultant

BACKGROUND INFORMATION

- Metropolitan Transportation Plan (MTP) - Formerly known as Long Range Transportation Plan
- MPOs must update every five years
  - Plan to accomplish transportation goals
- Includes all modes of travel
  - Highway, Bicycle, Pedestrian, Transit, Freight
- Projects must be in the MTP to be included in Transportation Improvement Program (TIP)
- Must be fiscally constrained
- Promotes regional performance measures and targets
- This MTP targets goals, strategies, etc. for the year 2045 planning horizon

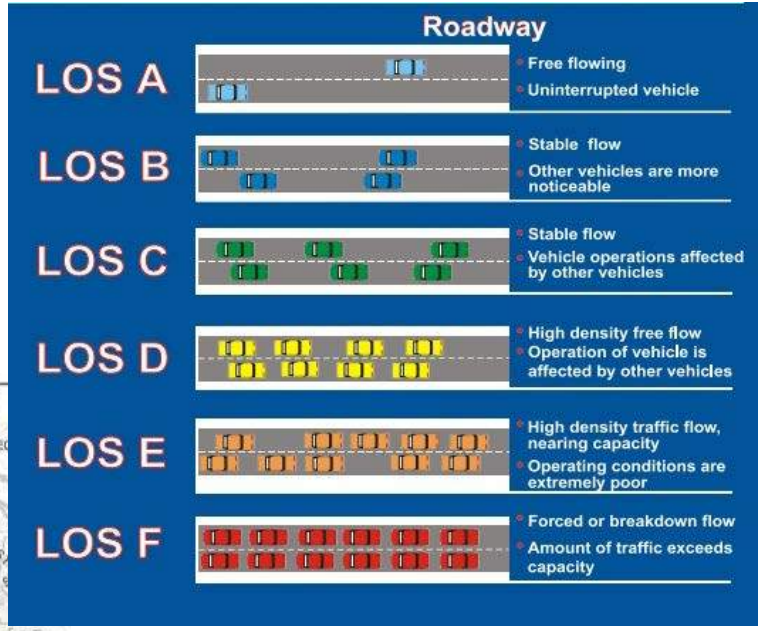


PROJECT SCOPE/TASKS

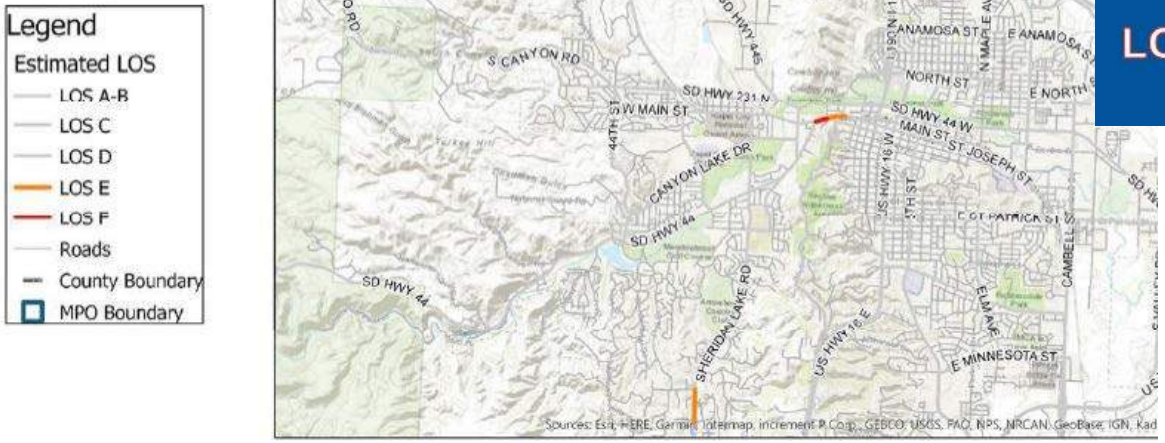
- Travel Demand Model Development and Validation
- Existing System Review (Capacity, Safety, multi-modal)
- Year 2045 Transportation Needs Plan and Fiscally Constrained Plan
- Major Street Plan Update
- Bicycle and Pedestrian Plan Update

MTP – PLANNING LEVEL TRAFFIC OPERATIONS

- Looks at existing segment traffic volumes and compares to capacity of facility

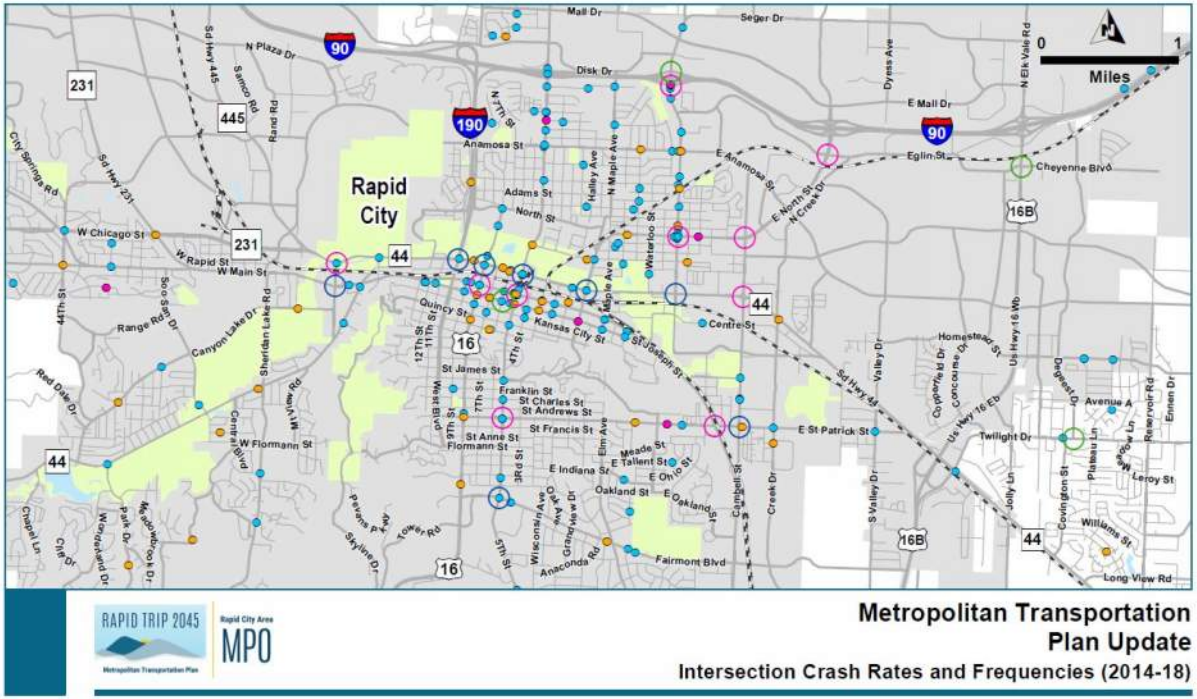


Rapid City MPO
Existing Peak Period
Traffic Operations



MTP – EXISTING SAFETY ANALYSIS

- Looks at prior five years of crash data (2014 -2018)
  - Identified top frequency and crash rate intersections



MTP – MULTI-MODAL

- Planning Level Review of: transit/bus, air, freight

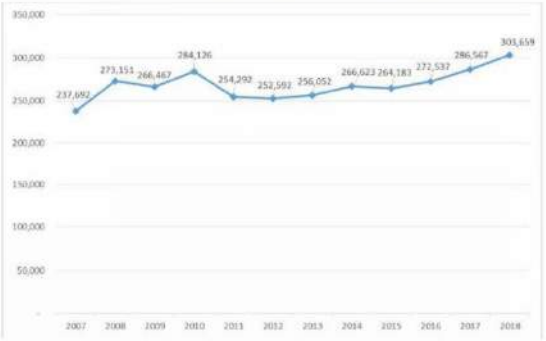
Table 8: Fixed Route Operating Statistics, Rapid Transit[5]

Measure	2013	2014	2015	2016	2017
Passenger Trips	304,599	287,623	291,206	295,060	348,210
Revenue Hours	20,328	19,490	19,452	19,755	21,043
Revenue Miles	294,439	294,080	290,101	289,699	289,031
Operating Expense	941,516	986,199	1,009,286	988,280	997,384
Passenger Revenue	239,430	251,235	229,542	226,710	174,897

Table 9: Demand Response Service Operating Statistics, Rapid Transit

Measure	2013	2014	2015	2016	2017
Passenger Trips	83,572	79,261	84,594	87,280	87,409
Revenue Hours	25,785	25,750	25,655	22,148	22,056
Revenue Miles	279,165	247,369	268,521	271,425	269,557
Operating Expense	1,061,779	1,112,051	1,115,526	1,107,993	1,042,327
Passenger Revenue	187,160	176,674	192,552	207,756	203,037

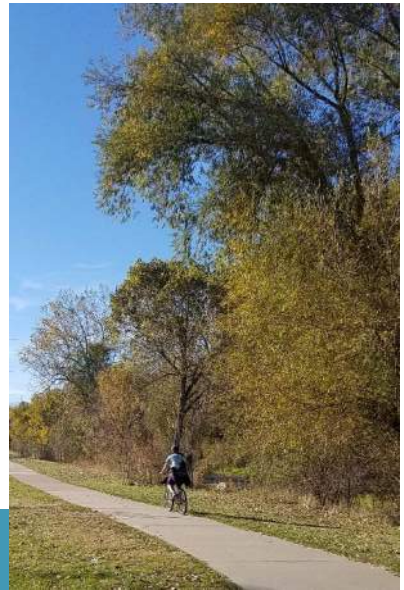
Figure 11: Annual Enplanements for the Rapid City Regional Airport, 2007-2018[7]



[6]Seasonal flights to Newark, NJ, Los Angeles, CA, and San Francisco, CA
[7] Federal Aviation Administration, Air Carrier Activity Information System (ACAIS) data

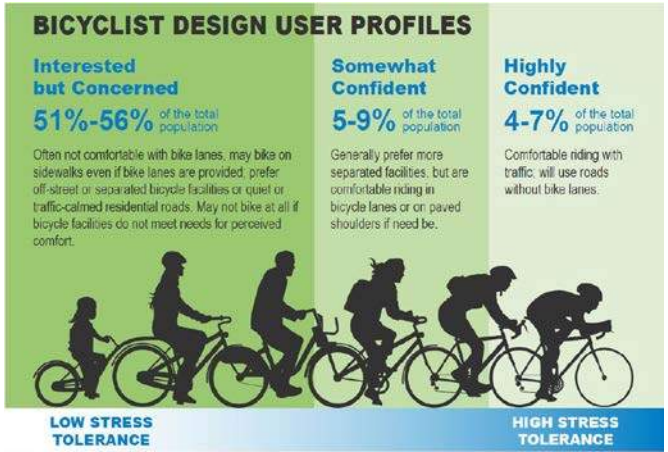
BIKE/PEDESTRIAN PLAN UPDATE

- Assessment of 2011 Plan Progress
- Level of Traffic Stress (LTS)
- Equity Analysis
- Bike/Ped. Demand Analysis
- Network Planning Methods

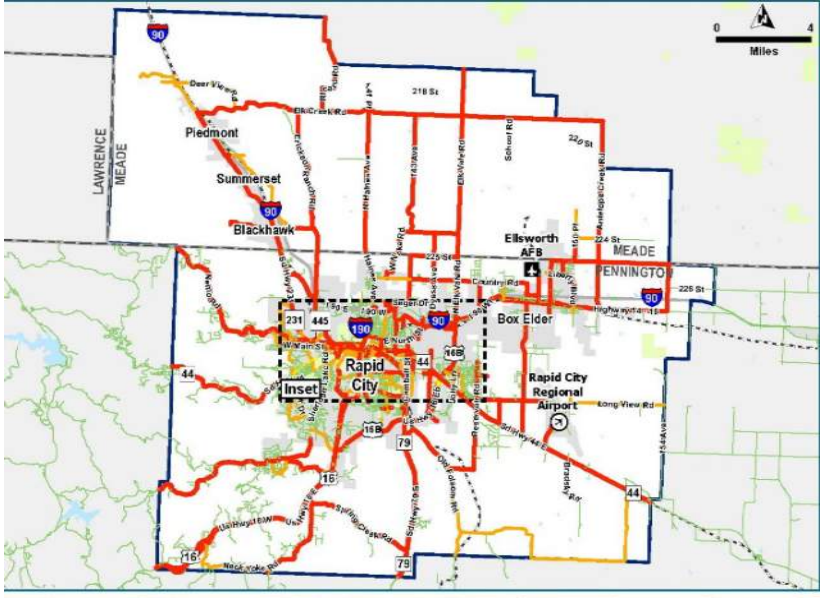


BICYCLE LEVEL OF TRAFFIC STRESS

1. All Ages & Abilities
2. Interested but Concerned
3. Somewhat Confident
4. Highly Confident

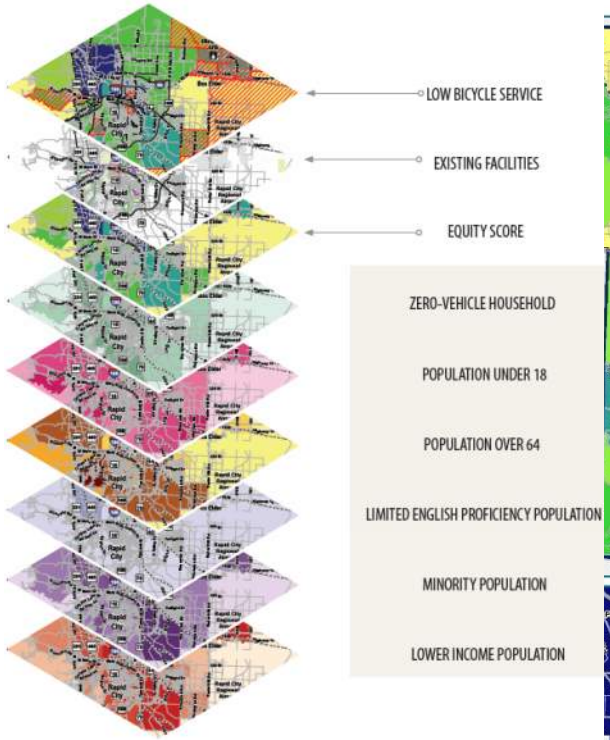


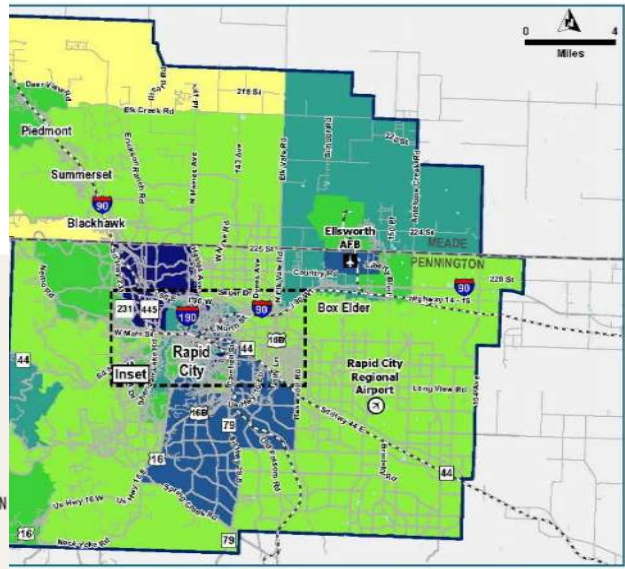
Source: FHWA Bicycle Facility Selection Guide

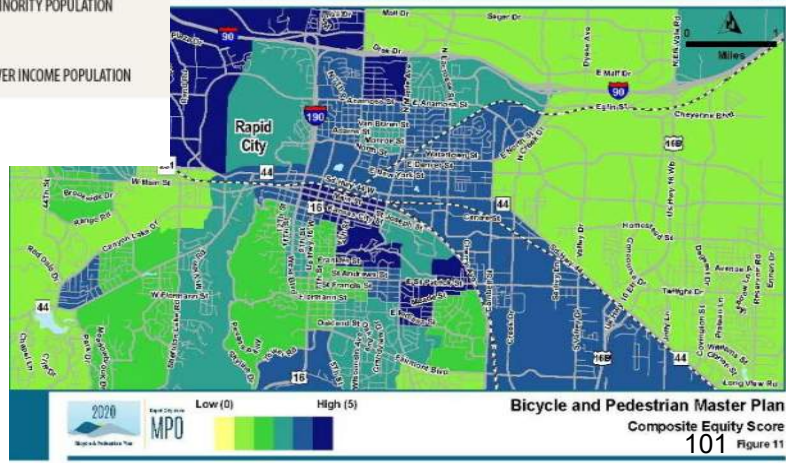


EQUITY ANALYSIS

- Spatial Analysis of Key Demographic Patterns
- Compile Resulting Maps to Develop Overall Equity Scores for Areas within MPO
- Use Equity Scores Maps and Existing Facilities to Identify Areas of Low Bicycle Service
- Darker areas on composite map signify locations with concentrated socio-economic indicators



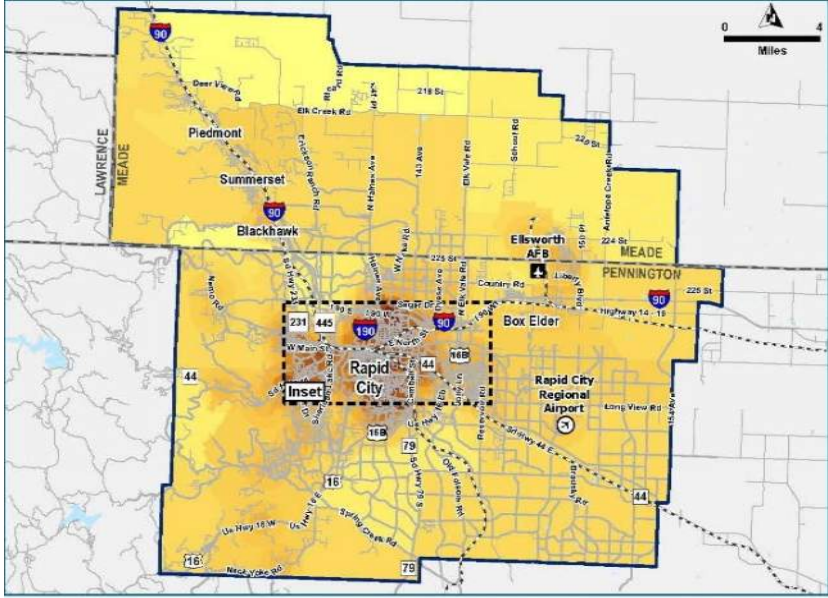


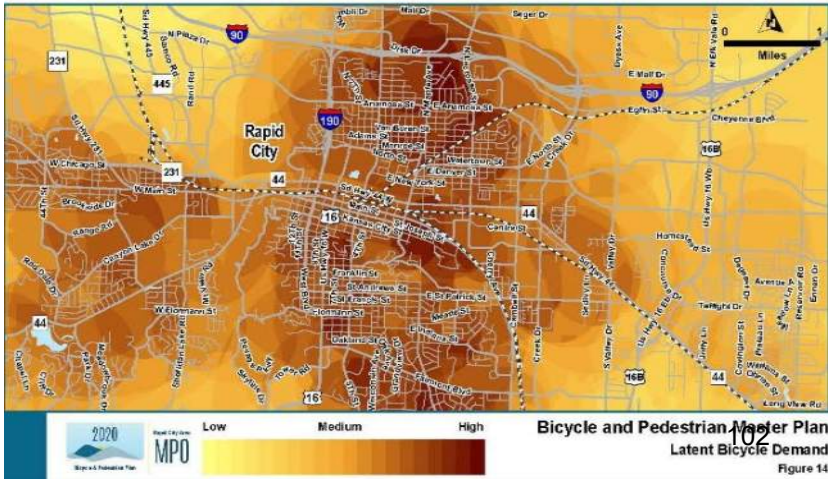


BIKE/PEDESTRIAN DEMAND ANALYSIS

- Three Components:
  - Population + employment density & employment / population ratio
  - Proximity to key destinations & typical walk & bike trip lengths
  - Composite equity score (census block)

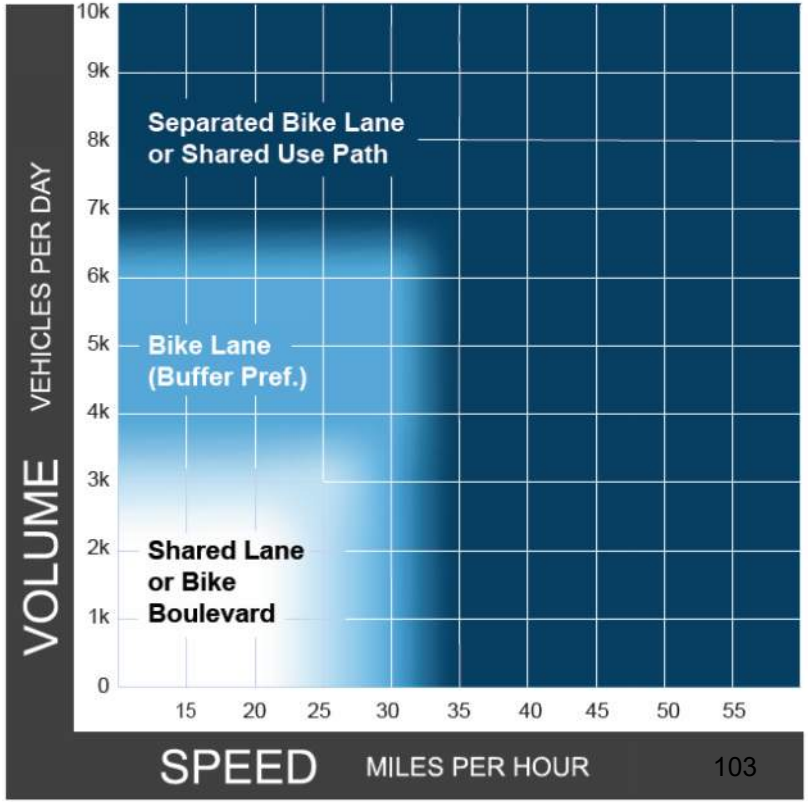
Facility Type	Length
Bike Lane	9.68
Bike Path	16.42
Cycle Track	0.28
Shared Lane	1.79
Shoulder Bikeway	18.47
Side Path	26.33
Total Existing Mileage	72.97





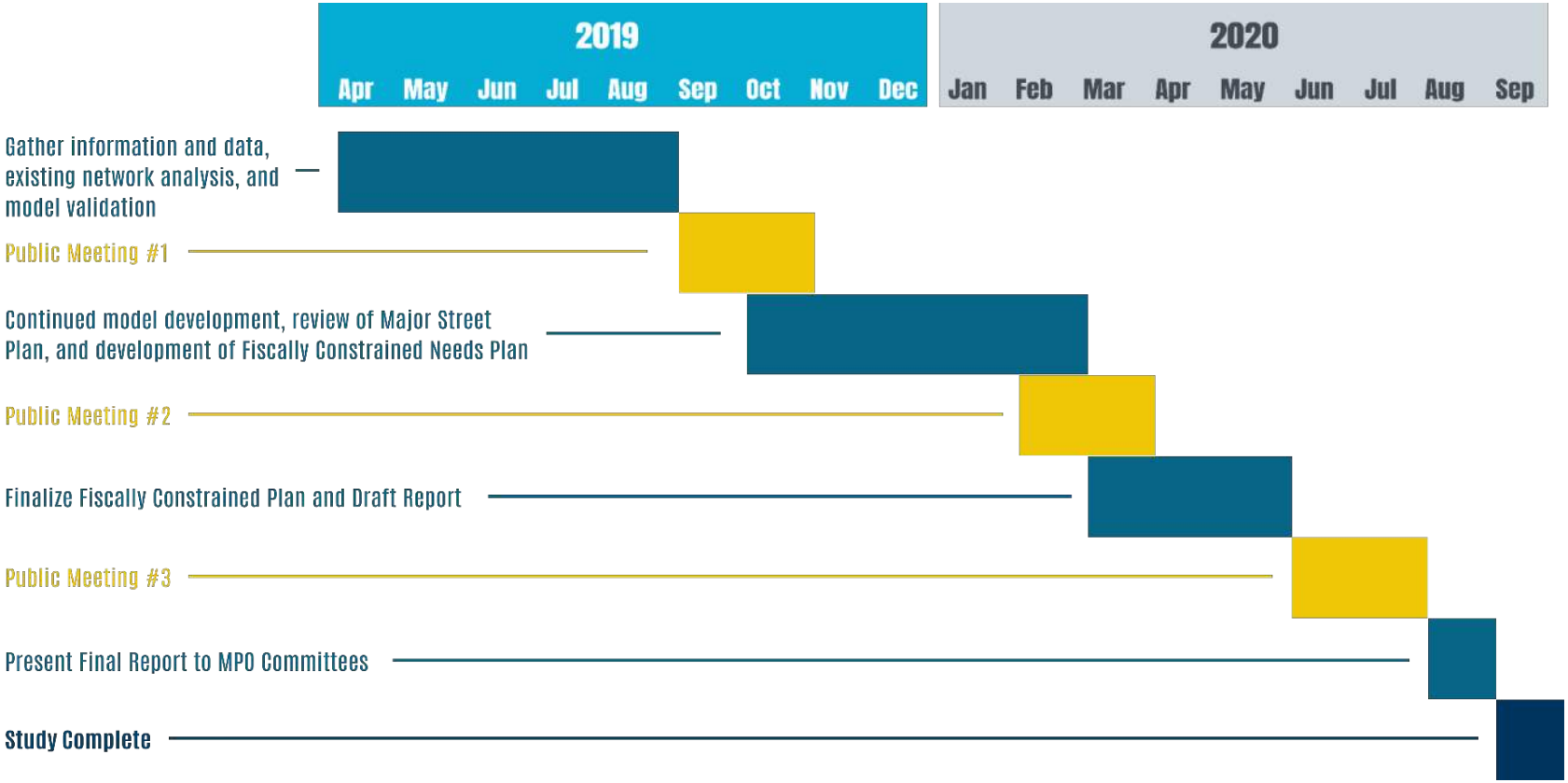
BIKE/PEDESTRIAN NETWORK PLANNING

- Review 2011 Plan projects – keep, remove, modify
- FHWA Bicycle Facility Selection Guide
  - Separated facilities at low volumes and speeds
  - Latest industry standard; AASHTO update will also contain same chart
- Identify / close network gaps
- Focus on low-stress facilities and crossings



Source: FHWA Bicycle Facility Selection Guide

PROJECT SCHEDULE



OPEN HOUSE GOALS

Public Participation

- Gather your input and ideas to shape the future transportation network and needs in Rapid City Area for the next 25 years
- Provide your ideas through:
  - Maps/Markers Exercise
  - Comment Sheets
  - Project Website: www.rapidtrip2045.com

THANK YOU!

Your attendance and input is appreciated!

- We look forward to seeing you at the next meeting next spring!

Follow the project at:

- www.rapidtrip2045.com

RAPID TRIP 2045

Metropolitan Transportation Plan

Rapid City Area MPO

HDR

RAPID CITY AREA Metropolitan Planning Organization

U.S. Department of Transportation
Federal Highway Administration

South Dakota DOT
Connecting South Dakota and the Nation

Appendix C – Public Comments

RAPID TRIP 2045
Metropolitan Transportation Plan

Rapid City Area MPO

PUBLIC COMMENT SHEET

RAPID CITY AREA MPO METROPOLITAN TRANSPORTATION PLAN

Your suggestions and comments are important to the Metropolitan Transportation Plan planning process. Please feel free to provide your comments regarding the overall Metropolitan Transportation and Bike and Pedestrian Plans. Some of the issues under review include the Major Street Plan, improvements and needs for the transportation/bicycle/pedestrian networks, multi-modal systems including transit, air, freight/rail, and other transportation related issues for the year 2045 planning horizon. Please send your written comments by mail, email, website, or fax until November 15, 2019 and address your comments to:

HDR Engineering, Inc.
Attn: Dustin Hamilton
703 Main Street, Suite 200
Rapid City, SD 57701

Phone: 605.791.6103
Fax: 605.791.6161
email: dustin.hamilton@hdrinc.com
website: www.rapidtrip2045.com

I work for Black Hills Works. We have a location off of Deadwood which houses 80-100 ppl w/ Developmt Disabilities. We also have folks working just off of Deadwood Ave. in the Valley. Currently there is no public transportation to either. We are hoping the city change the rules to accomodate these areas.

There is also very limited public transportation on the weekends to folks who work in all areas.

We appreciate all you do!

(Optional)
Participant information

(Name) Kelly Hoover
(Address) Black Hills Works | Black Hills AFCU
(Phone) 605-343-4550
(Email) KHoover@BHWS.com

RAPID TRIP 2045
Metropolitan Transportation Plan

Rapid City Area MPO

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Fax: 605.791.6161
email: dustin.hamilton@hdrinc.com
website: www.rapidtrip2045.com

- kudos to Parks Dept for maintaining bike path
1. like to have under pass so bikes don't cross auto traffic on main path.
2. Need plans for a bike loop around down town & a bike loop around entire city like Sioux Falls has
3. Tie a bike path to centenial trail up HW 44
4. Tie bike path to Mickelson Trail from centenial trail.
5. Use railroad bed to Kadoka & chamberlain
6. Good bike path (for bikes) from Mines to downtown & tie into main bike path.

(Optional)
Participant information

(Name) Willis Sutliff
(Address) 4819 Streamside Rd.
(Phone) 605 718 0559
(Email dr.w.sutliff@gmail.com

RAPID TRIP 2045

Metropolitan Transportation Plan

Rapid City Area

MPO

PUBLIC COMMENT SHEET

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Phone: 605.791.6103
Fax: 605.791.6161
email: dustin.hamilton@hdrinc.com
website: www.rapidtrip2045.com

At Western South Dakota CAA at 1844 Lombardy Dr. we have a large population of people without transportation. More access to bus stops on St. Patrick near Creek will be a great improvement for people coming to our center, we serve over 5,000 people yearly.

(Optional)
Participant information

(Name) ______
(Address) ______
(Phone) ______
(Email ______

RAPID TRIP 2045
Metropolitan Transportation Plan

Rapid City Area MPO

PUBLIC COMMENT SHEET

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Fax: 605.791.6161
email: dustin.hamilton@hdrinc.com
website: www.rapidtrip2045.com

SDSM+T just recently completed a ~10 yr master plan. Growth is planned to the west of campus. There is a need to calm traffic past campus to provide a safe environment for students, staff + faculty. Birch + St Joseph and Steele + Saint Joseph are both extremely dangerous ~~crossings~~ intersections. We have had an individual hit on a bike at Birch + St. Joseph + multiple close calls.

- We also would like to see better biking connections from campus to the bike path + through campus.
- Public transportation availability at a more frequent service level is also a need for students
- Our master plan looks at a connection from St Patrick to St. Joseph. This could also be a biking connection w/ the road.

(Optional)
Participant information

(Name) Jerilyn Roberts - South Dakota School of Mines + Technology
(Address) 501 East Saint Joseph Street RC, SD 57701
(Phone) 605-393-7345
(Email) jerilyn.roberts@sdsmt.edu

Transportation Committee Statement

As the Rapid City community continues to grow there is a desperate need for our public transportation to grow with it. It has been multiple years since our public bus routes have been analyzed and extended. For some people, public transportation is the only reliable option for transportation. Could you imagine only being able to work in a certain area of town or visit certain areas of town because the bus doesn't go that way or doesn't stop anywhere near there. Also, image finding a really great job that will allow you to provide for you and your family but it's not feasible because you aren't able to drive or can't afford to drive and there isn't a bus stop within a mile or two.

The public transportation system is meant for the public to be able to get around Rapid City but with our current routes it is very limited. Limited routes affect people's way of life, their world of work and it also the businesses that strive to employ them. Some of Rapid City's largest employers are struggling finding quality workers, not because there isn't any workers out there but because there isn't enough workers that have reliable transportation to get to and from work each day. These businesses don't sit on a bus route, but with the size of their business a different location would almost be impossible.

There are several businesses impacted daily by the lack of transportation to the growing east side of town. It has been a staffing challenge for these businesses since there is not an option for employees to take the bus. As the Rapid City community grows and will continue to grow over the next several years, it's in the best interest of the Rapid City community to allow the public transportation to grow with it. There is a lot of cost, we get it and it's not going to be a flawless process, but it is a true need. Based on this need, a group of businesses came together to form a Transportation Committee. Our Committee has been in contact with Lisa Modrick, Ritchie Nordstrom, Kay Urban, Rich Sagen and Megan Gould.

Businesses in our community who joined our Transportation Committee and are impacted by the current bus system:

- Advance Services, Inc. (ASI)
- Fenske Media
- Synchrony Financial
- Open Bible Church
- Rapid City Community Impact
- Chris-Bro Hospitality (Several Locations)
- Granite Automotive
- Black Hills State University Rapid City Campus
- Qwest
- Great Plains Tribal Chairman's Health Board
- RPM and Associates
- My Place Rapid City

- Kids Kastle
- Adecco Staffing
- People Ready
- Black Hills Knowledge Network
- Goodwill of the Great Plains
- Kelly Services
- Liv Hospitality (Several Locations)
- Triple Crown Hotels
- H-S Precision
- Pioneer Credit
- McKie Automotive
- Rushmore Honda
- MDU
- Cambria Hotel and Suites
- Sleep Inn & Suites
- Rapid City Community Work Center
- Little Nest Preschool
- Western South Dakota Community Action
- Comfort Suites
- Rural American Initiative

The data collected from the businesses in 2018 calculated 100 employees/volunteers impacted by the bus system.

Melissa Hurley
ASI-Human Resource Manager
P: 605-388-4046
C: 605-415-6639
Melissa.hurley2@geappliances.com

Project Website Comments

Comment #1
10/25/2019 10:31:22
coachtschetter@gmail.com
Rob Tschetter

Good morning, I live in dark canyon, we have dozens of bike riders and runners daily running in the canyon. It's a great thing! The problem is to get to dark canyon they have to run against traffic on hwy 44 for about 1/4 mile on a dangerous curve. If the city would continue the bike path to the mouth of dark canyon it would be much safer. I see the Stevens cross country team run down there all the time. I cringe knowing they had to run near that hwy when a bike path on the other side of the guardrail could easily be created.

Thanks

Comment #2
10/30/2019 14:33:56
ghwadsworth1@gmail.com
Garth Wadsworth

Hi,

I want to preface this by saying that I missed the first several minutes of the introduction and some of my concerns may have been addressed already.

My first concern is with the methods used to measure the usage of bike lanes and paths and the conclusions drawn from them. It was my understanding that pedestrian and bike counts would be used as a metric for prioritizing investments new bike lanes and paths. Bike and pedestrian counts are insufficient measures alone. An equivalent to VMT is needed to fully interpret the use of a bike lane or path as well as the reduction in traffic congestion. An individual who commutes 10 miles by bike has the same effective use as 10 individuals who commute 1 mile each. The commuter riding 10 miles would be drastically underestimated by the current methods used to count users/ridership.

There are a number of apps that could be used to estimate bike and pedestrian miles traveled but they would be, at best, proxies.

There are a few corridors that would benefit greatly from small improvements. Simple signage and just a few feet of separated bike lanes would drastically improve safety.

The Jackson blvd bike lane needs to be extending from Mountain View Rd to Main. The road is plenty wide, even with the street parking. The street parking seems underused however should be surveyed to get numbers. The intersection of Jackson and W Main is a total nightmare but would require serious investments to fix. There is also no safe path to cross from W Main to Omaha, Cross st, or W Rapid St. Using Halley Park between Main and St. Joes would require significant improvements in access to the park from the Jackson-W Main intersection.

There seems to be the perception that the bike path is a suitable alternative to separated bike lanes for bike commuting. It's not. The bike path is a great recreational amenity, however, is not a useful means of transportation. The underpasses are either flooded (April - June) or iced over (October - March) which leaves an incredibly short commuting season. Bike lanes on the road are a cost effective means of reducing VMTs and will avoid the troubles of the bike path without increasing maintenance needs.

Final comment; I feel that the decision to use the future road plan maps for the public meetings created unnecessary confusion and distracted from a grounded conjversation.

I'd be happy to discuss things further and clarify anything if needed,

Thanks

Garth

Comment #3
11/6/2019 15:22:27
ghwadsworth1@gmail.com
Garth Hudson Wadsworth

I think the bus stops need to be revisited as a part of a pedestrian-oriented, multi-modal system. The physical bus stops themselves are severely lacking. They need to be more than a little sign next to a busy street.

It seems that 'accessibility' to bus transit was measured by the distance to a bus stop and the means to improve access was to increase the number of stops with little consideration for the accessibility or usability of the added stops themselves. The number of bus stops should be condensed and the accessibility of each stop should be improved by making stops a focal point of pedestrian plans.

Hamilton, Dustin

From: Harrington Kip <Kip.Harrington@rcgov.org>
Sent: Wednesday, October 30, 2019 1:51 PM
To: Hamilton, Dustin
Subject: Additional public input

I have received more input via text and facebook messenger as follows:

Shoulders on Spring Creek Road to allow for safer bicycle travel.

I feel that there is an urgent need for a crosswalk at the corner of South Canyon Road and Capital Street. There is heavy pedestrian traffic, especially Pinedale students/families as there is no public transportation beyond N 44th Street. I also want to point out the walking path "shortcut" that connects South Canyon to Wilderness Park. I apologize I didn't raise these concerns at the meeting, but I just saw that this group existed on the news.

An attendee voiced concerns about LOS on Park Drive and thought the LOS identified on the map was incorrect.

Kip Harrington
Planner III
Long Range Planning
Rapid City Community Development
300 6th Street
Rapid City SD 57701
(605) 394-4120
kip.harrington@rcgov.org

Hamilton, Dustin

From: CJ Means <cj.means@gptchb.org>
Sent: Thursday, October 31, 2019 7:48 AM
To: Hamilton, Dustin
Cc: Bernie Long; Jerilyn Church
Subject: RC Transportation Meeting (Oct 29th)

Good Morning Dustin (HDR Engineering Inc.),

It was nice meeting you and your staff at the RC Transportation meeting on October 29th. As I mentioned during the meeting, the Great Plains Tribal Chairman's Health Board (GPTCHB) / Oyate Health Center (OHC) along with the Indian Health Service (IHS) are in the final design phase and starting the pre-construction phase this fall of the new health care facility on the old Sioux San Campus. The tentative date of breaking ground for construction is the Spring of 2020, which will affect access to the old Sioux San Campus. We would like to sit down and have a table discussion soon to talk about any adverse effects this may cause for the OHC and IHS patients / staff along with any potential encumbrances for the public and surrounding schools during construction.

We can visit about the logistics during our visit.

Please let me know when we can visit.

Respectfully,

Cecil (CJ) Means II, BS, MHA
Director of Facilities & Support Services
Oyate Health Center / Great Plains Tribal Chairmen's Health Board
3200 Canyon Lake Drive
Rapid City, SD 57703
cj.means@gptchb.2
(P) 605.355-2405, (C) 605.200-0001

Hamilton, Dustin

From: Horton Patsy <Patsy.Horton@rcgov.org>
Sent: Thursday, October 31, 2019 10:54 AM
To: 'cj.means@gptchb.org'
Cc: 'bernie.long@gptchb.org'; 'jerilyn.church@gptchb.org'; Fisher Vicki; Young Ken; Harrington Kip; Brennan Kelly; Solon Brad; Hamilton, Dustin
Subject: RC Transportation Meeting (Oct 29th)

Mr. Means –

Thank you so much for participating in the Metropolitan Transportation Plan open house on October 29th. Dustin Hamilton from HDR, Inc. shared your email with me and I wanted to reach out to you in reference to your construction plans. We are excited about the new health care facility on the Sioux San Campus and the opportunity to visit with you and your staff about the plans for that facility.

We have worked with other public agencies in reviewing site plans before the building permit is issued and construction starts. This allows the city's Development Review Team to provide the agency with courtesy review comments from the various disciplines involved with site development. In the past we have found that a courtesy review of the proposed site plan and building plans, in many instances, reduces or eliminates redesign/reconstruction to address such things as handicap accessibility, fire protection, access locations, bus routing/stop accessibility, etc. This would also provide a sort of "laundry list" of items for you and your development team to consider to enhance your facility design and/or layout.

After we have had the opportunity to look at your plans, I can then schedule time for you to visit with the Development Review Team as you had suggested in your email to Dustin.

Additionally, as Kelly mentioned to you at the Open House, early next year we are also starting the Transit Development Plan update. We have already added your contact information to our stakeholder list so that you and your staff can participate in those discussions.

Thank you again Mr. Means for allowing our Development Review Team the opportunity to provide comments on your site plan/building plans. We look forward to visiting with you in the near future.

Patsy Horton, Manager
Long Range Planning Division
Department of Community Development
City of Rapid City
300 Sixth Street
Rapid City, South Dakota 57701
(605) 394-4120 fax: (605) 394-6636
patsy.horton@rcgov.org

Notable quote:

It is easier to do a job right than to explain why you didn't.
President Martin Van Buren

From: CJ Means [mailto:cj.means@gptchb.org]
Sent: Thursday, October 31, 2019 7:48 AM
To: Hamilton, Dustin <Dustin.Hamilton@hdrinc.com>
Cc: Bernie Long <bernie.long@gptchb.org>; Jerilyn Church <jerilyn.church@gptchb.org>
Subject: RC Transportation Meeting (Oct 29th)

Good Morning Dustin (HDR Engineering Inc.),

It was nice meeting you and your staff at the RC Transportation meeting on October 29th. As I mentioned during the meeting, the Great Plains Tribal Chairman's Health Board (GPTCHB) / Oyate Health Center (OHC) along with the Indian Health Service (IHS) are in the final design phase and starting the pre-construction phase this fall of the new health care facility on the old Sioux San Campus. The tentative date of breaking ground for construction is the Spring of 2020, which will affect access to the old Sioux San Campus. We would like to sit down and have a table discussion soon to talk about any adverse effects this may cause for the OHC and IHS patients / staff along with any potential encumbrances for the public and surrounding schools during construction.

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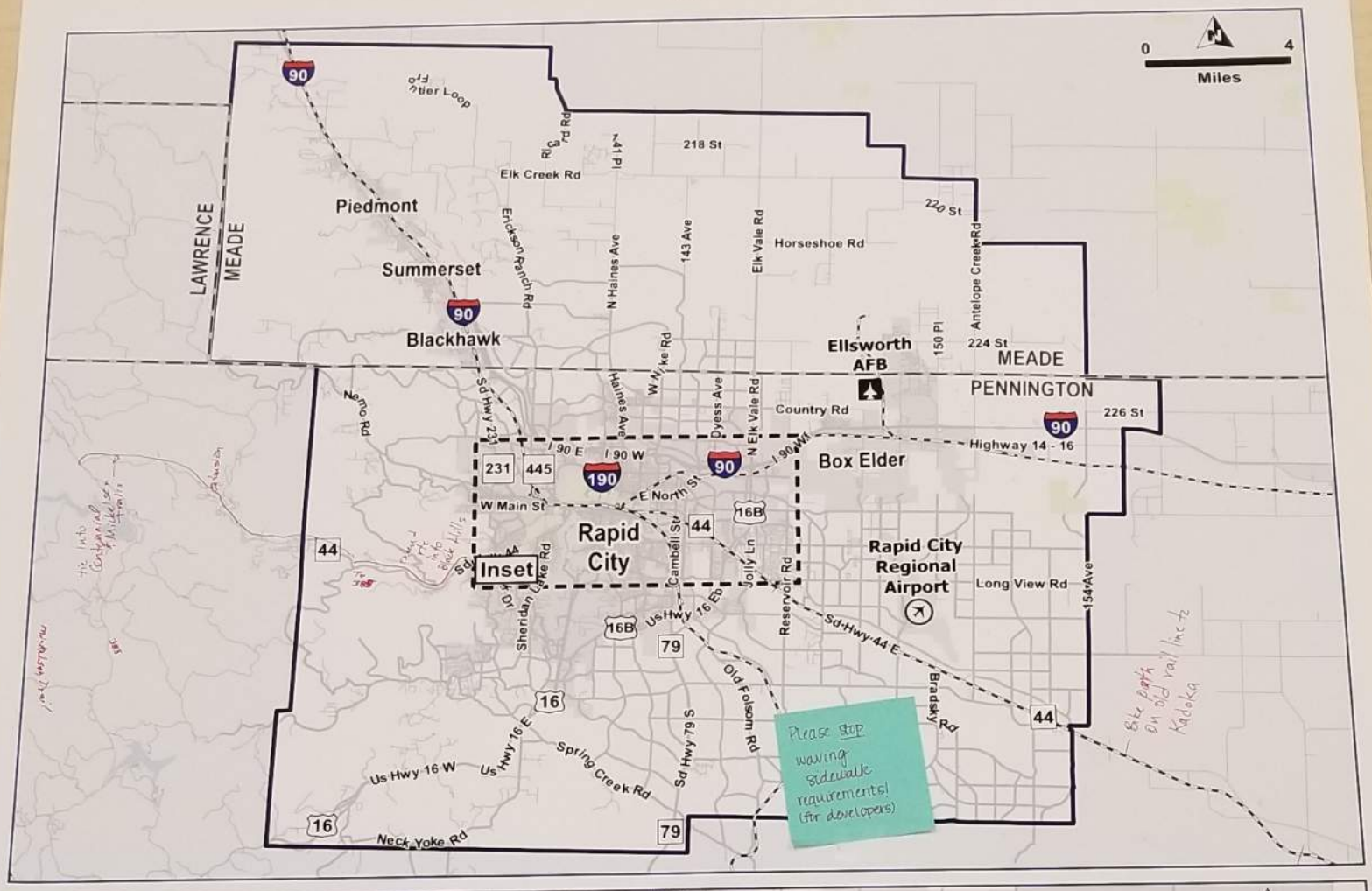
Please let me know when we can visit.

Respectfully,

Cecil (CJ) Means II, BS, MHA
Director of Facilities & Support Services
Oyate Health Center / Great Plains Tribal Chairmen's Health Board
3200 Canyon Lake Drive
Rapid City, SD 57703
cj.means@gptchb.2
(P) 605.355-2405, (C) 605.200-0001

Comment #	Rapid City Location (if applicable)	Comment	Note
			MAP #1
1	NA	Bike Path around entire town/Loop	Red writing
2	NA	Please stop waiving sidewalk requirements for developers	Teal sticky note
3	Highway 44 to 385	Extend route in the Black Hills (out Hwy 44 to meet with 385) tie into Centennial Trail near pactola	Red writing
4		Bike path on old rail line to Kadoka	Red writing
5	North Elk Vale Area	Need a bus route along 44 and up to the industrial park on Elk Vale	Teal sticky note
6	Copperfield Dr and Concourse Drive near Elk Vale/Hwy 44	Bus Service (circled Copperfield/Concourse Drive)	Purple highlighter
7	Jolly Lane/Homestead/Reservoir Rd/Hwy 44	EMS (Jolly Lane/Homestead/Reservoir Rd/Hwy 44)	Red writing
8	Jolly Lane/Homestead/Reservoir Rd/Hwy 44	Safe routes to school Bike Loop?	Red writing
9	Fairmont/Sheridan Lake Rd/Knollwood Dr. Future Trail Loop/Sedivy Lane/Creek Drive	City Loop	Red writing
10		(Bike Trail to) Western Dakota Tech	Red writing
11		Bike Trail Connecting WDT and School of Mines	Red writing
12		Bike Trail connecting Mt. View area to West Main and Hwy 44	Red writing
13		Loop around M. Hill base (?)	Red writing
14	North Street/Hanes Area	Make safe crossing (North Street/Haines)	Red writing
			MAP #2
15	MPO Area Map	Bike Route around City	Fluorescent yellow sticky note
16	SDSMT	SDSMT Comment - safety concern for traffic flow on Ste. Joe - need to slow down	Fluorescent yellow sticky note
17	SDSMT	SDSMT Comment - Connect to bike path (Jerilyn Roberts 605.393.7395)	Fluorescent yellow sticky note
18		Intersections at Birch and St. Joe and Steele and St. Joe	Fluorescent yellow sticky note
19	Hwy 16/Neck Yoke	Highway 16 at Neck Yoke: (a) Deceleration lane on Hwy 16 North bound at Neck Yoke (b) Access lane from Neck Yok on to Hwy 16 (c) Deaccel lane south bound into Reptile Gardens (d) Stoplight at Hwy 16 and Neck Yoke	Fluorescent yellow sticky notes
20		Transportation to Western Dakota Technical Institute	Fluorescent yellow sticky notes
21		Bus transportation to Great Plains Tribal, Chairman's Health Board, BH State University Center	Fluorescent yellow sticky notes
22		Need for public transportation to Feeding South Dakota - 40 lb. of food average, no stop right there.	Fluorescent yellow sticky notes
23		Need for public transportation after 6PM	Fluorescent yellow sticky notes
24			**MAP #3**
25	Hwy 44 at Magic Canyon	At Hwy 44 and Magic Canyon Road the shoulder disappears going NE. There is a lot of bike traffic that this poses a danger to. It is a small section that seems like it could be fixed relatively easy.	Fluorescent yellow sticky note/green pen
26		"Build This" - highlighted Namless Cave Road to Nemo Road	Green highlighter on map
27		"Build This" - highlighted Falling Rock from Hwy 44 to Sheridan Lake Road	Green highlighter on map
28	North Elk Vale Soccer Fields	Sidewalks in soccer field and Cabela's area	Fluorescent yellow sticky note/Orange Highlighter
29		Need better shoulders on Nemo and Sheridan Lake Road	Fluorescent yellow sticky note/green pen
30	Gap (Hwy 44)	Gap is dangerous. No room on roadway and sidewalk is poor and business with Granite frequently blocks the sidewalk	Fluorescent yellow sticky note/red pen
31	Deadwood Ave/N. Plaza Drive	Sidewalks and bike on North Plaza and Deadwood Ave. Families are walking on road/streets	Fluorescent yellow sticky note/red pen/ Orange Highlighter on Plaza Drive/Deadwood Ave.
32	Range Road/Soo San	Complete 3-way stop crosswalks (including curbouts) at Range Road and Soo San Drive by West Middle School	Fluorescent yellow sticky note/green pen
33	Sheridan Lake Rd	Bike lane out Sheridan Lake Road - dangerous and demand	Fluorescent yellow sticky note/red pen
			MAP #4
34		Shoulder rumble strips dangerous for bikes. Wider shoulders may not originally be $ constraining.	
35		Signage for both motorists and non motorists	Yellow sticky note/blue writing
36	Bike Path	Bike Path Signs. Better labelling (signage) marking responsible department on signage to encourage reporting problems. Lots of confusing disconnects	Yellow sticky note/blue writing
37		Bike path courtesy: - enforcement or catch people being good and coast; - pets on leash; leash not across path; able to hear (not on headphones); polite signaling;	Yellow sticky note/blue writing
38	Nemo Road	Potholes - infrastructure upkeep!	Yellow sticky note/blue writing
39	Sheridan Lake Road	Nemo Road - "Share the road" signs	Pink sticky note
40	Highway 44	Sheridan Lake Rd "Share the road" signs	Pink sticky note
41	5th Street/Downtown	Bike lane signage and separators on 44 (44 & Chapel, 44 & Park, 44 & Sheridan)	Pink sticky note/blue pen
42		Need a user-friendly way to connect the new Frisbee golf course at Lacroix links to the downtown areas.	
43		5th Street headed north is scary and not family (bike) friendly	Pink sticky note/red pen
		Create dedicated bike path spur into north rapid	Pink sticky note/red pen
		Reroute trains away from City Center	Pink sticky note

44		Widen shoulders on substandard width roads and lanes. Signage to warn motorists and non motorists	Yellow sticky note/blue writing
45	St. Joe/5th and 6th.	No access from Jackson to downtown south of Omaha. No safe connections from St. Joe to Omaha West of Fifth	Pink Note/red writing. Red arrows pointing north from St Joe across Omaha, at 5th and 6th
46	Deadwood Ave Area	This area is expanding (circled Deadwood/Rand Area). Need fixed bus route/stops Rand Road and Deadwood Ave.	Pink sticky note
47	Canyon Lake Drive/Soo San Drive.	About 200 feet to building; controlled access; need traffic signs/lights on Canyon Lake and Soo San; No cross walk marking for patient/school kids; transit buses will not come on Sioux San property; Patients walk up hill.	Pink sticky note
48			
49			**Existing and Proposed Bicycle Facilities Map**
50		Extend Bike Path to Raider Park (near Stevens High)	Red writing on board
51		Tie in bike path from Plaza Drive to M-Hill	Purple highlighter
52		Bike path along Deadwood Avenue	Purple highlighter
53		Bike path to the downtown YMCA	Purple highlighter
54		Better crossing at Mt. View and Omaha	Purple highlighter
55		Bike access to Lakota Homes	Purple highlighter
56		Underpass on Canyon Lake Drive from Mary Hall Park to ball fields	Purple highlighter

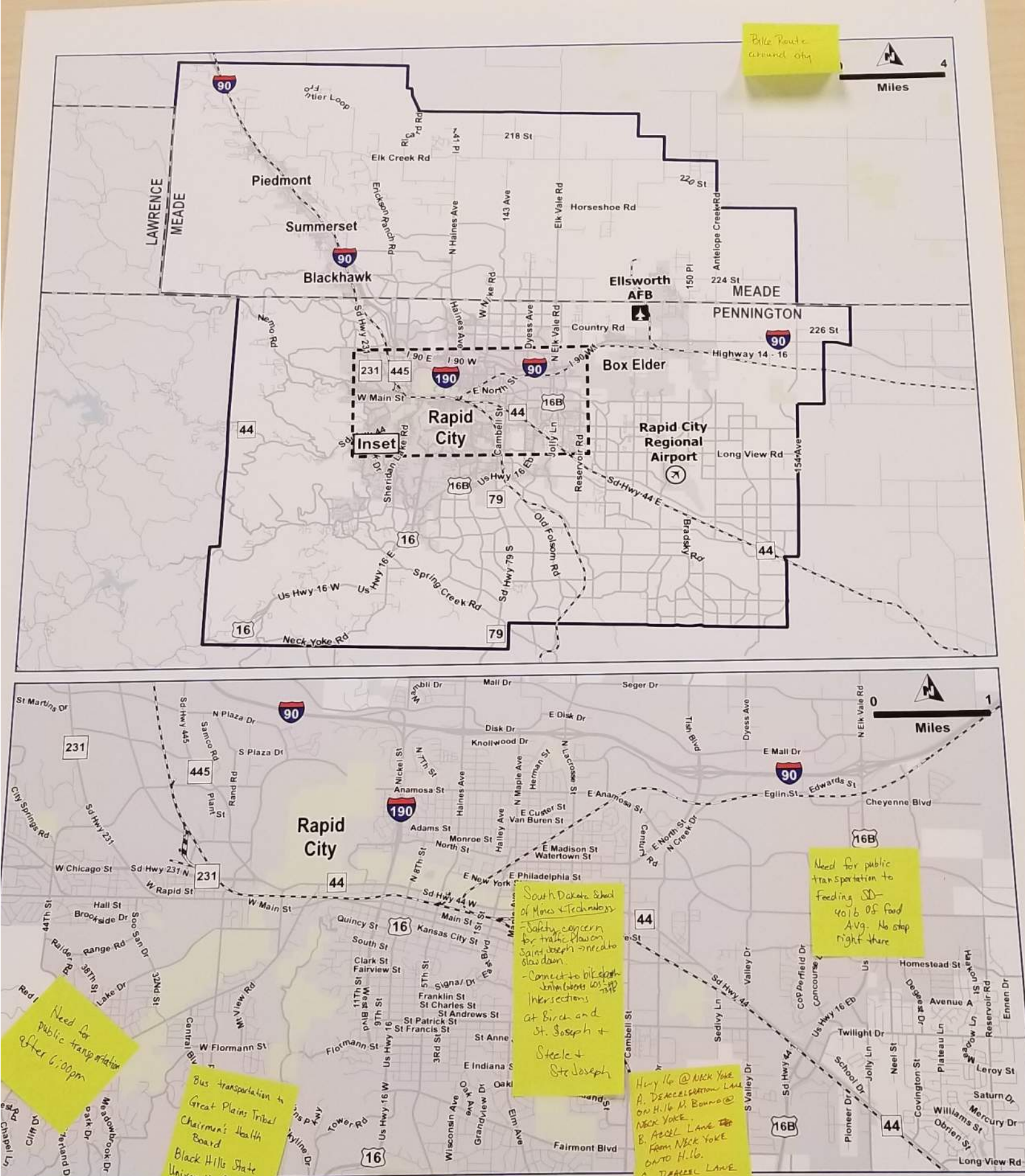


RAPID TRIP 2045 Metropolitan Transportation Plan

Rapid City Area MPO

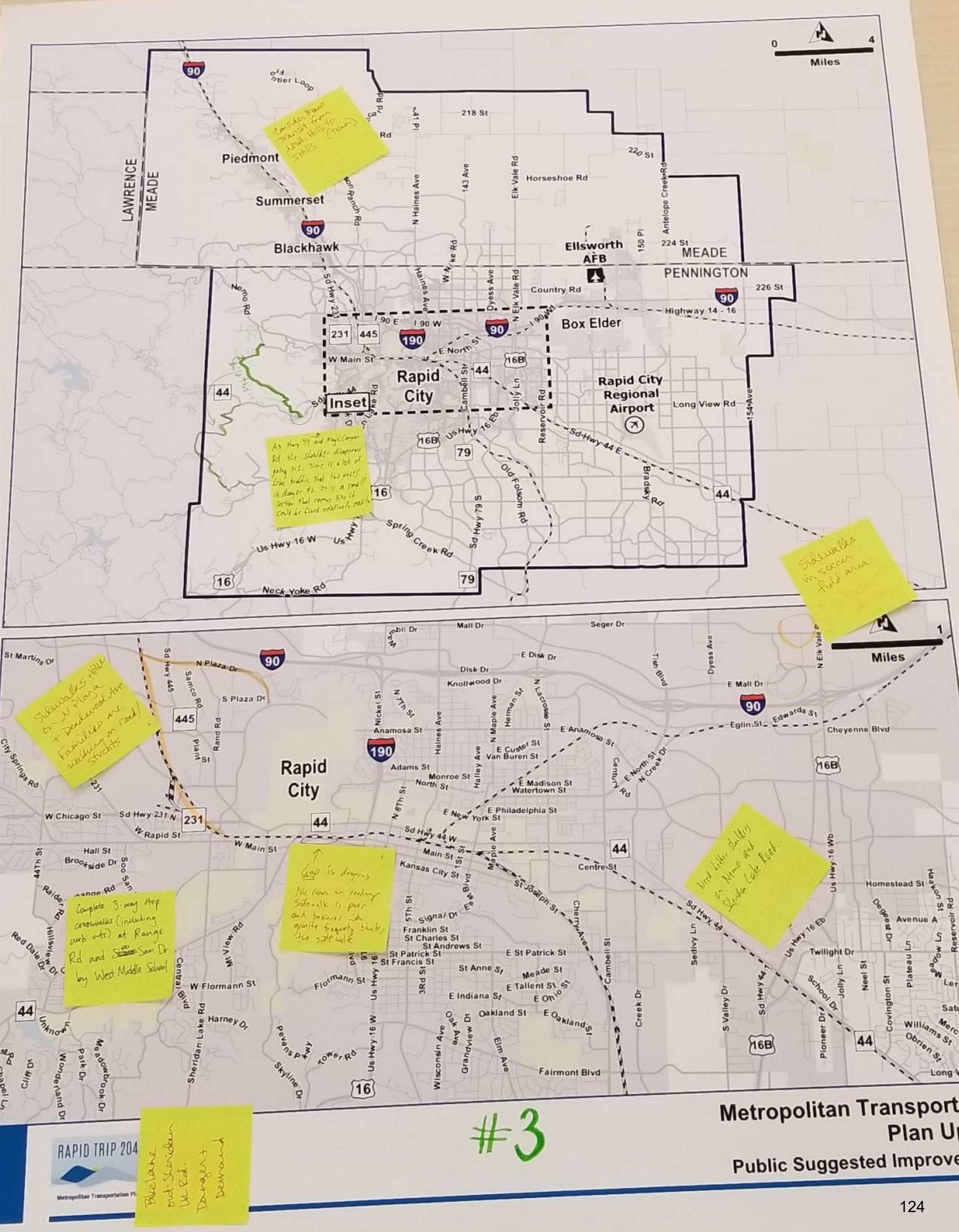
#1

Metropolitan Transportati
Plan Upda
Public Suggested Improveme

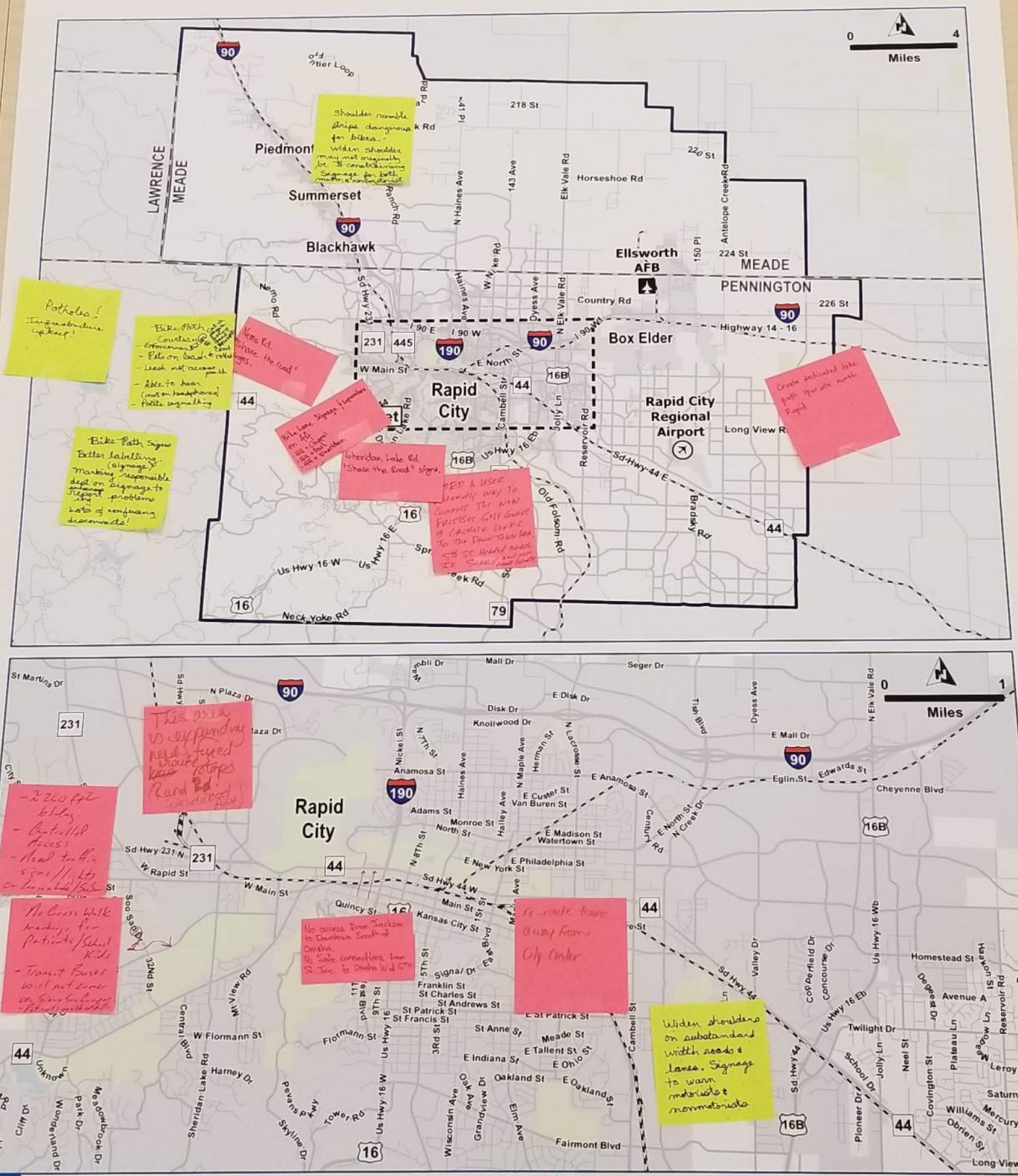


RAPID TRIP 2045
Metropolitan Transportation Plan
Rapid City Area MPO

Metropolitan Transportatio
Plan Upda
Public Suggested Improvemen



Miles
LAWRENCE
MEADE
Piedmont
Summerset
Blackhawk
Ellsworth AFB
MEADE
PENNINGTON
Box Elder
Rapid City
Inset
Rapid City Regional Airport
Sidewalks in soccer field area
Rapid City
Gap is dangerous
Need better shoulders on Nemo and Sheridan Lake Road.
Complete 3-way stop crosswalks (including curb cuts) at Range Rd and San Dr by West Middle School
Bike lane out Sheridan Lk Rd. Danger + Demand
#3
RAPID TRIP 204
Metropolitan Transport
Plan Up
Public Suggested Improve



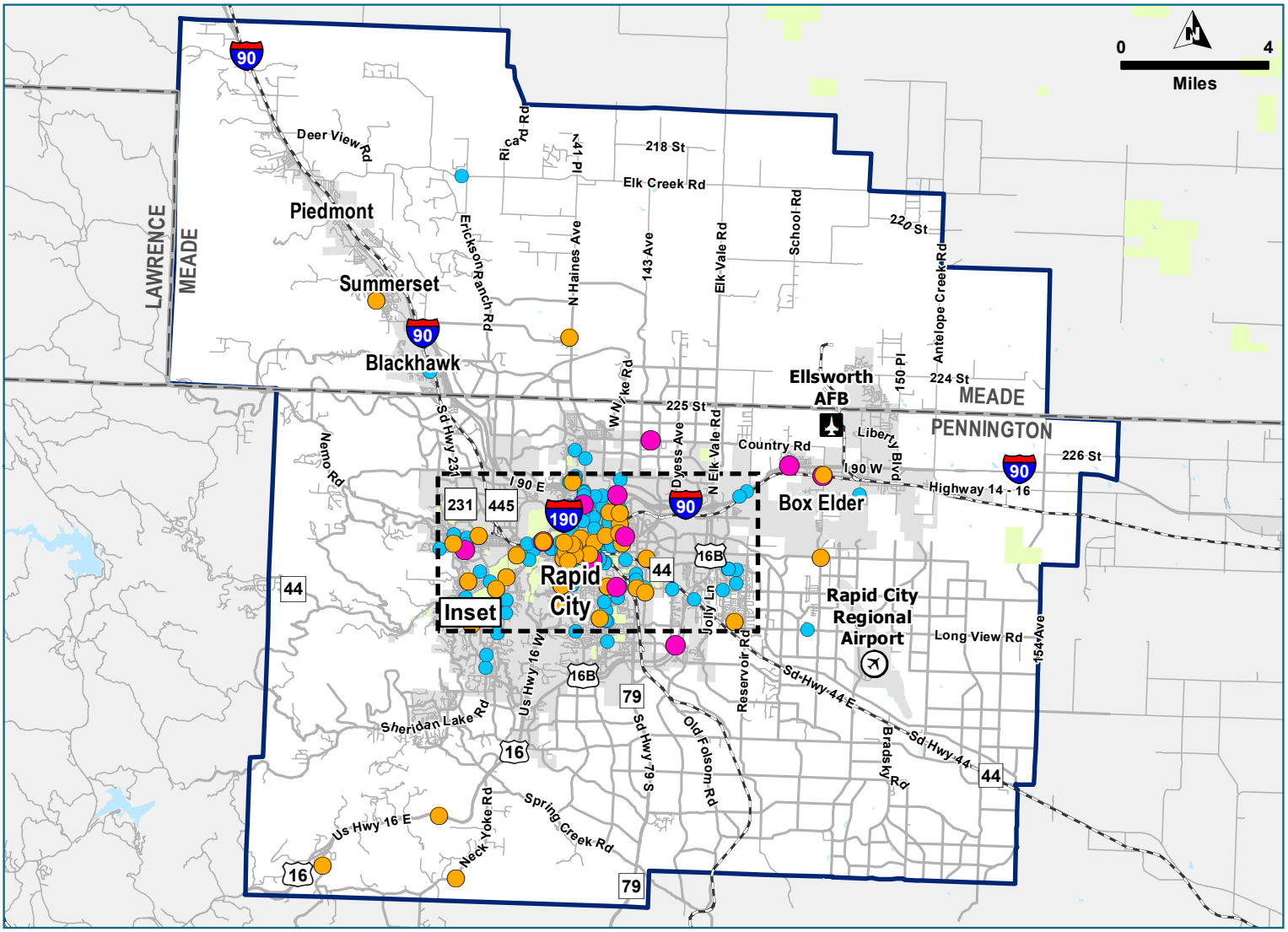
#4

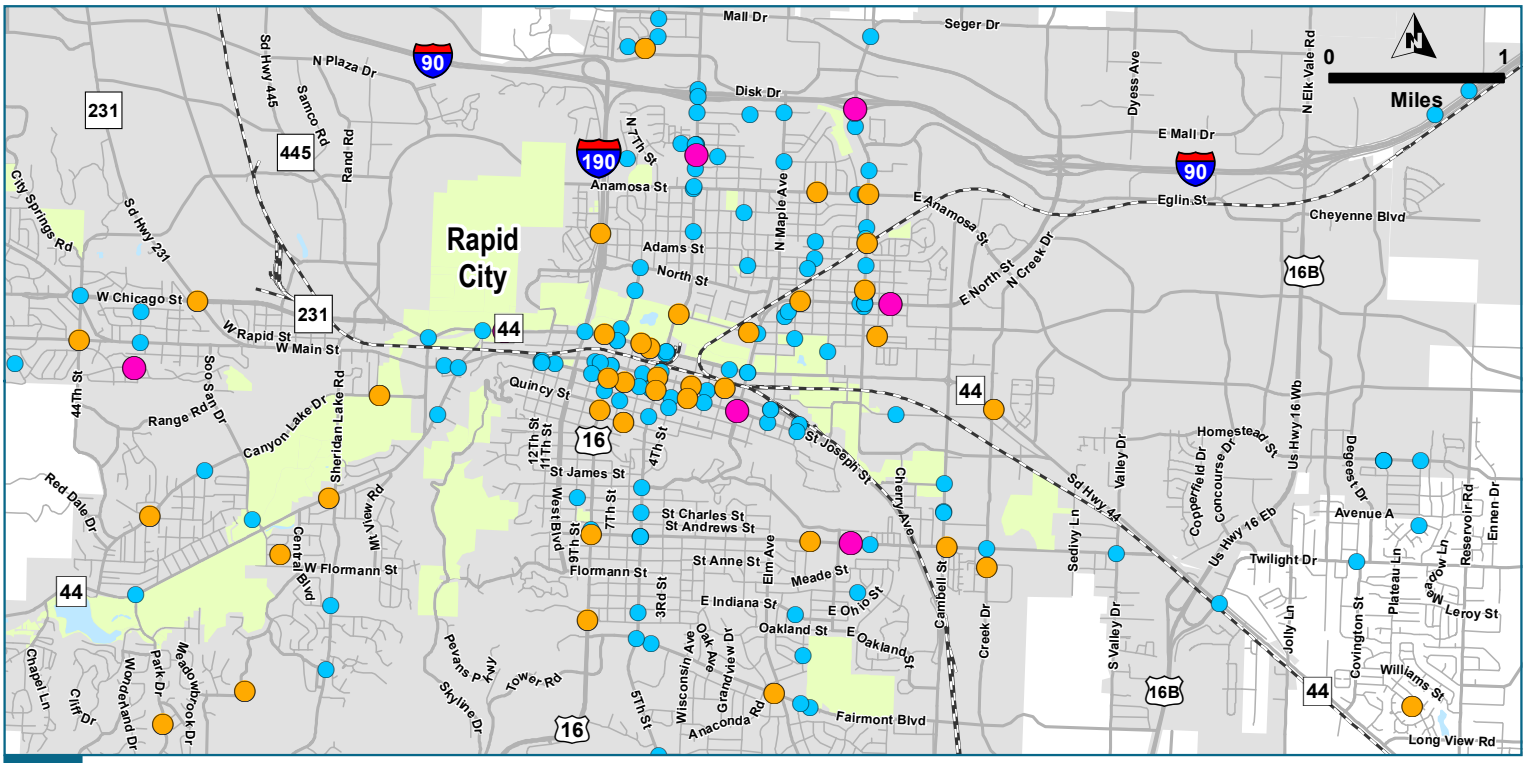
RAPID TRIP 2045 Metropolitan Transportation Plan

Rapid City Area MPO

Metropolitan Transportatio
Plan Updat
Public Suggested Improvemen

Appendix D – Meeting Displays





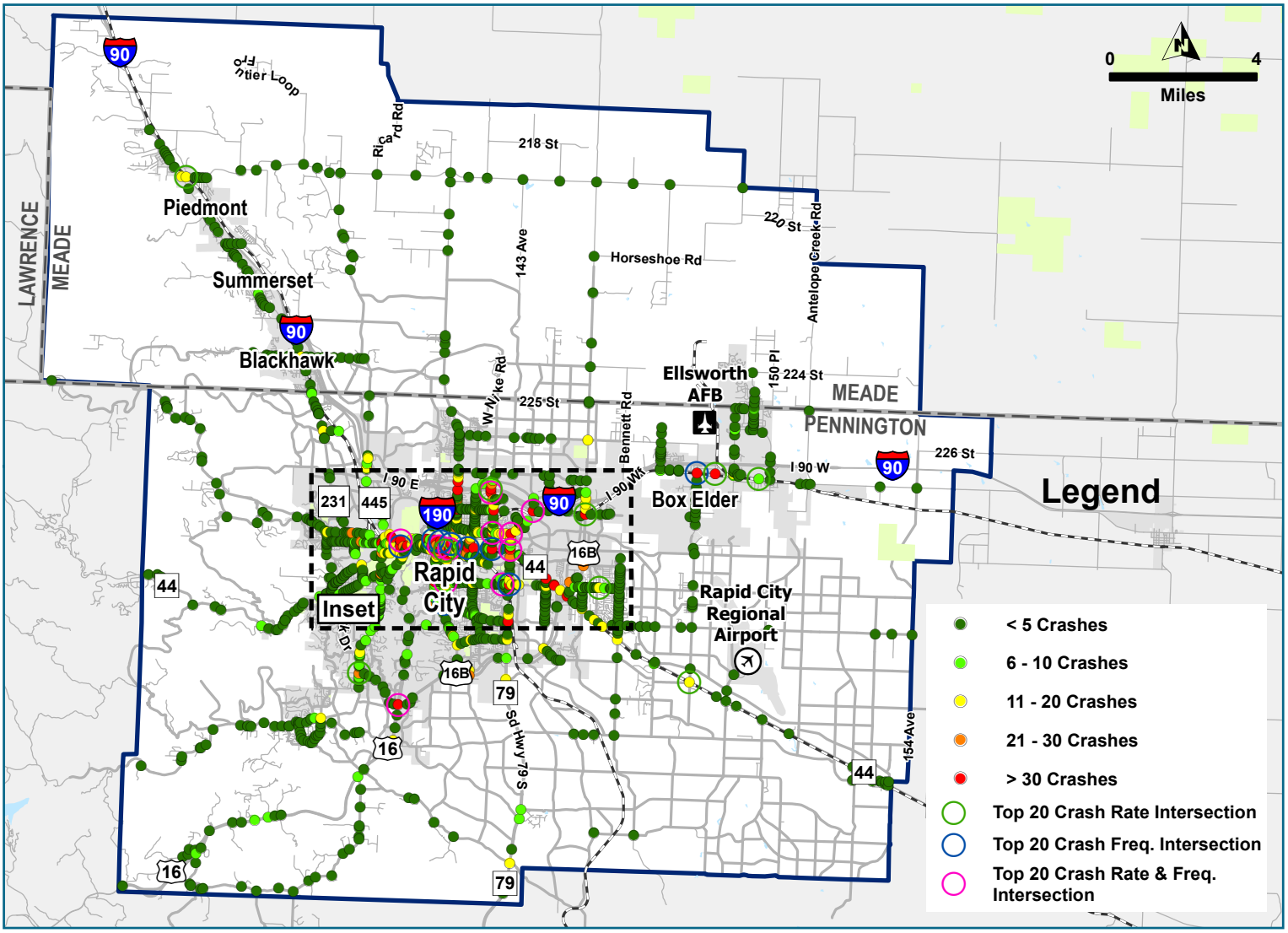
RAPID TRIP 2045 Metropolitan Transportation Plan

Rapid City Area MPO

- Fatal Crash (11)
- Incapacitating Crash (47)
- Non-incapacitating Crash (163)

Metropolitan Transportation Plan Update

Bicycle and Pedestrian Crashes (2014-18)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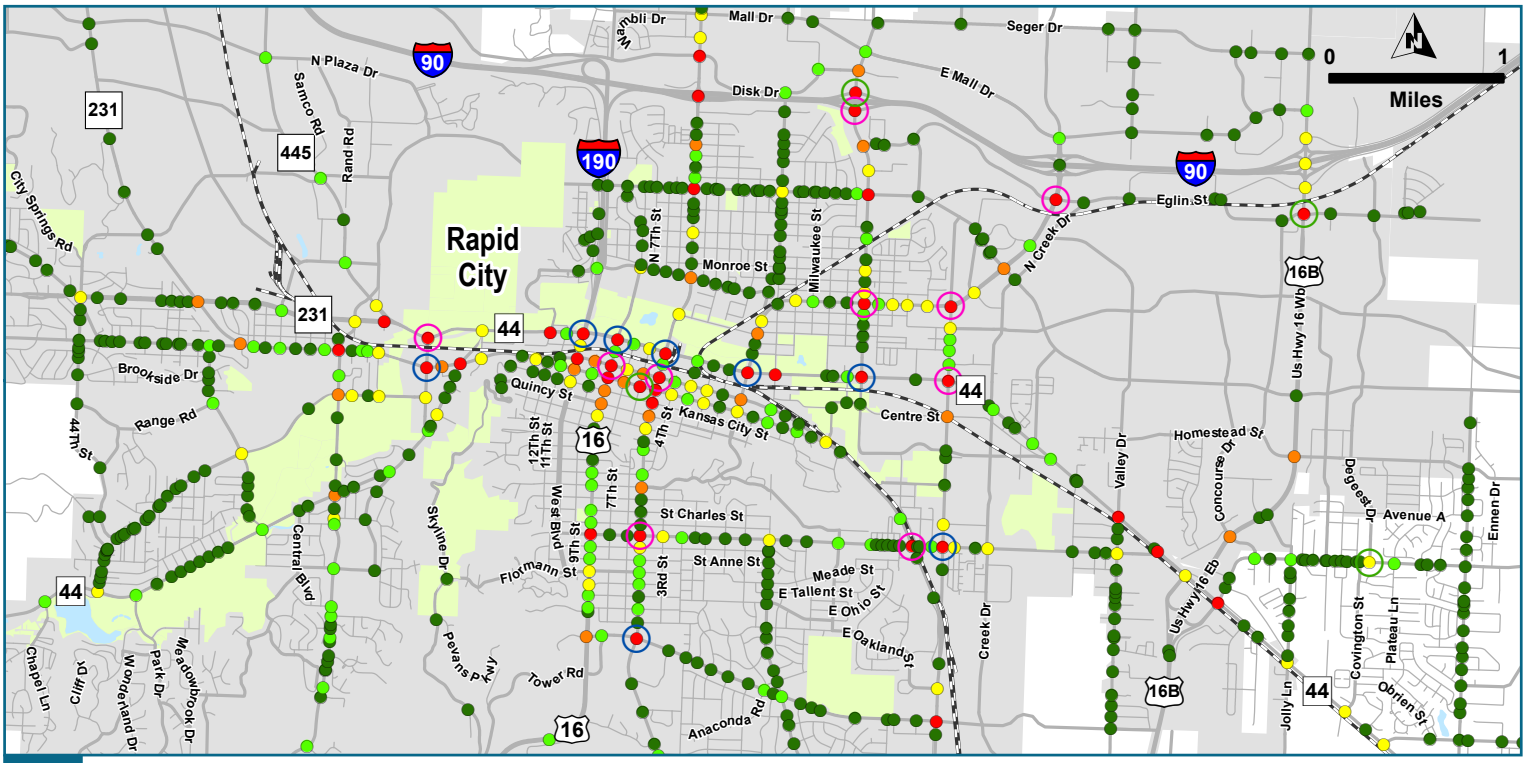
Piedmont
Summerset
Blackhawk
Ellsworth AFB
Box Elder
Rapid City
Inset
Rapid City Regional Airport
218 St
220 St
224 St
225 St
226 St
Horseshoe Rd
143 Ave
Antelope Creek Rd
W Nike Rd
Bennett Rd
150 Pl
I 90 E
I 90 W
I 90 WB
Legend
< 5 Crashes
6 - 10 Crashes
11 - 20 Crashes
21 - 30 Crashes
> 30 Crashes
Top 20 Crash Rate Intersection
Top 20 Crash Freq. Intersection
Top 20 Crash Rate & Freq. Intersection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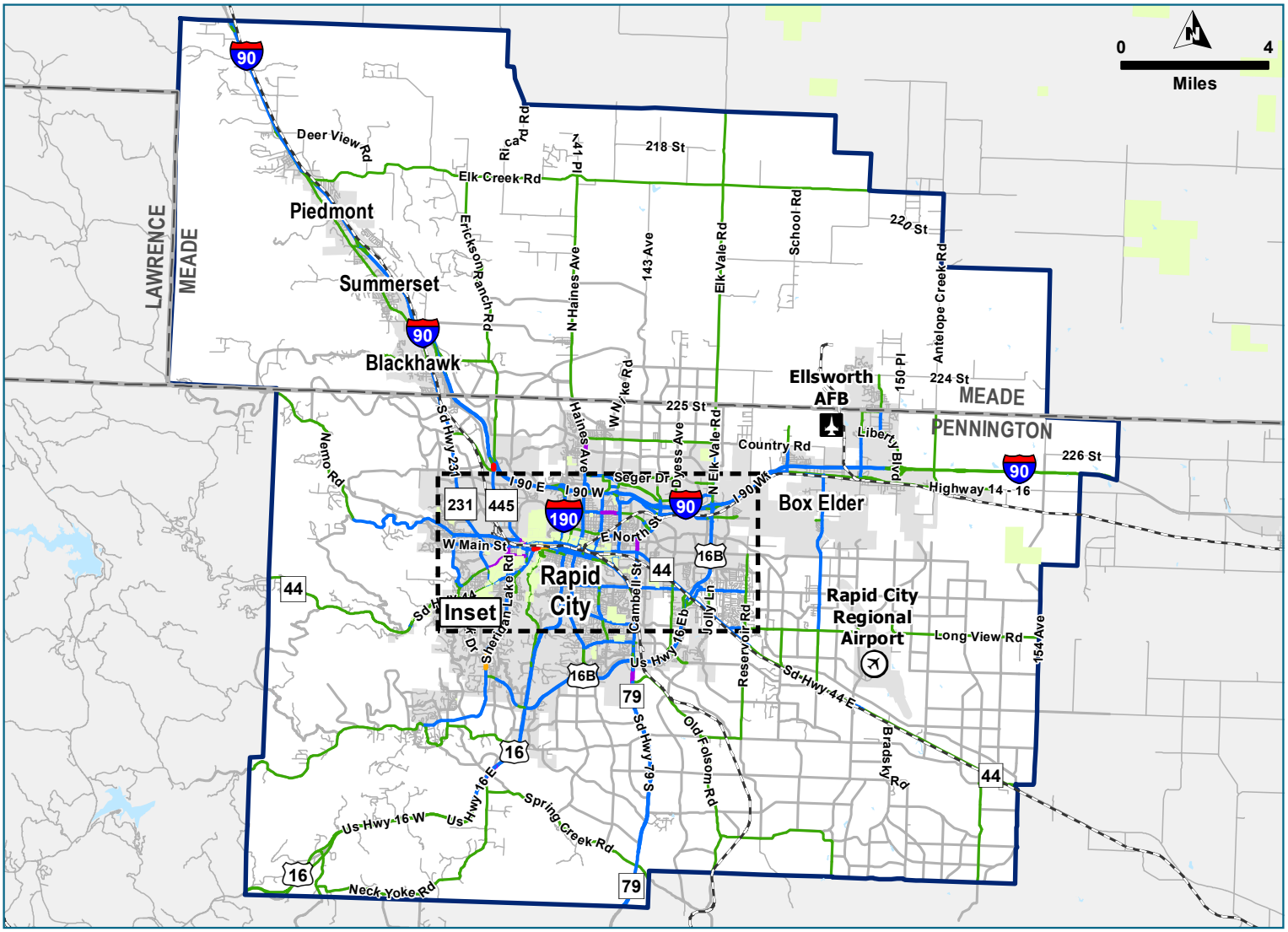
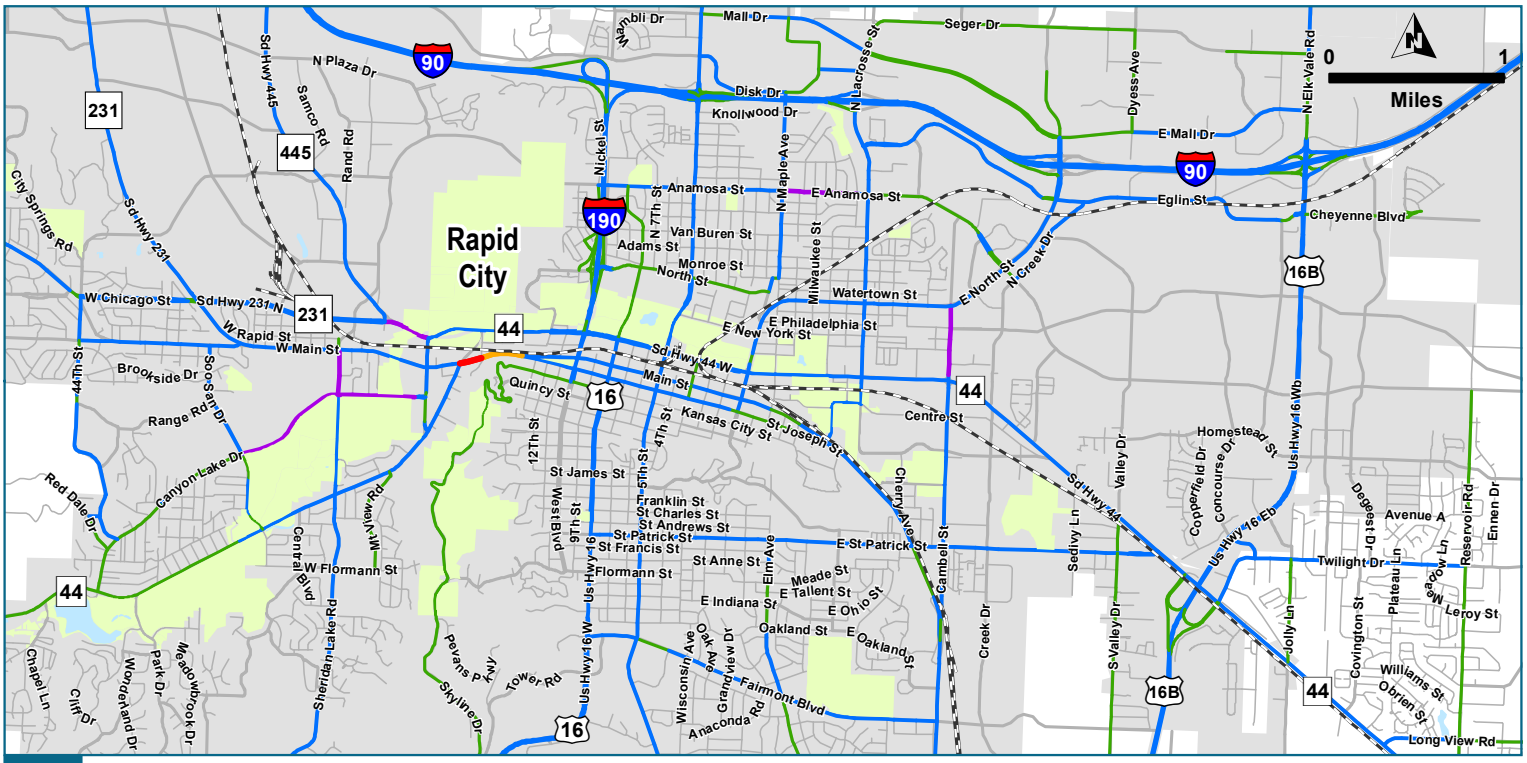
Rapid City
N Plaza Dr
Samco Rd
Rand Rd
City Springs Rd
Brookside Dr
Range Rd
44Th St
Central Blvd
Chapel Ln
Cliff Dr
Meadowbrook Dr
Park Dr
Wonderland Dr
Skyline Dr
Pevats Pkwy
Tower Rd
Anaconda Rd
Florimann St
West Blvd
St Charles St
St Anne St
Quincy St
Kansas City St
Centre St
Monroe St
Milwaukee St
N 7th St
7Th St
9Th St
11Th St
12Th St
3rd St
4Th St
Meade St
E Tallent St
E Ohio St
E Oakland St
Creek Dr
Valley Dr
Homestead St
Concourse Dr
Degeest Dr
Avenue A
Ennen Dr
Covington St
Plateau Ln
Obrien St
Jolly Ln
Us Hwy 16 Eb
Us Hwy 16 Wb
N Creek Dr
Eglin St
Seger Dr
E Mall Dr
Mall Dr
Disk Dr
W Mall Dr





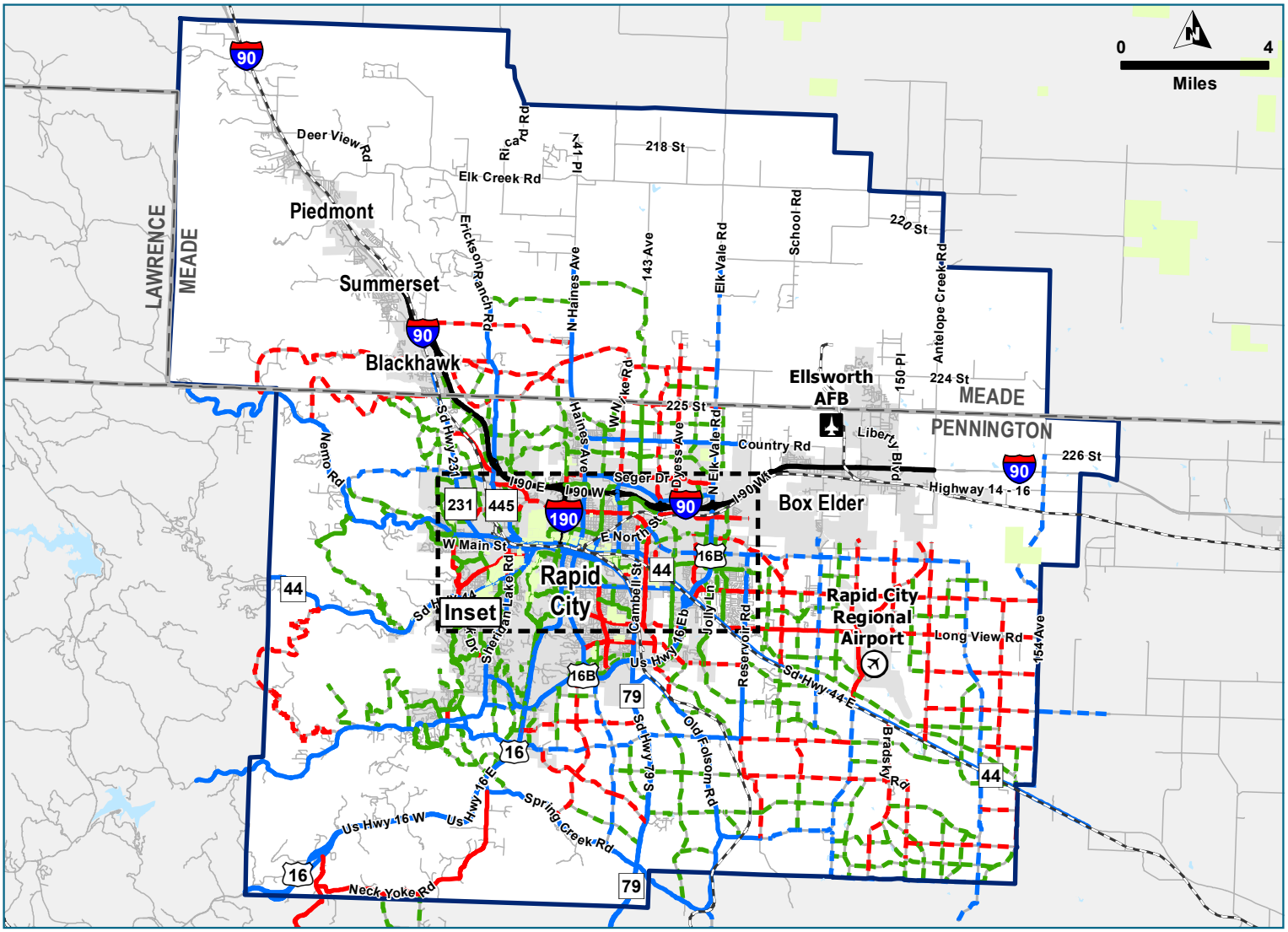
LOA A/B
LOS C
LOS D
LOS E
LOS F

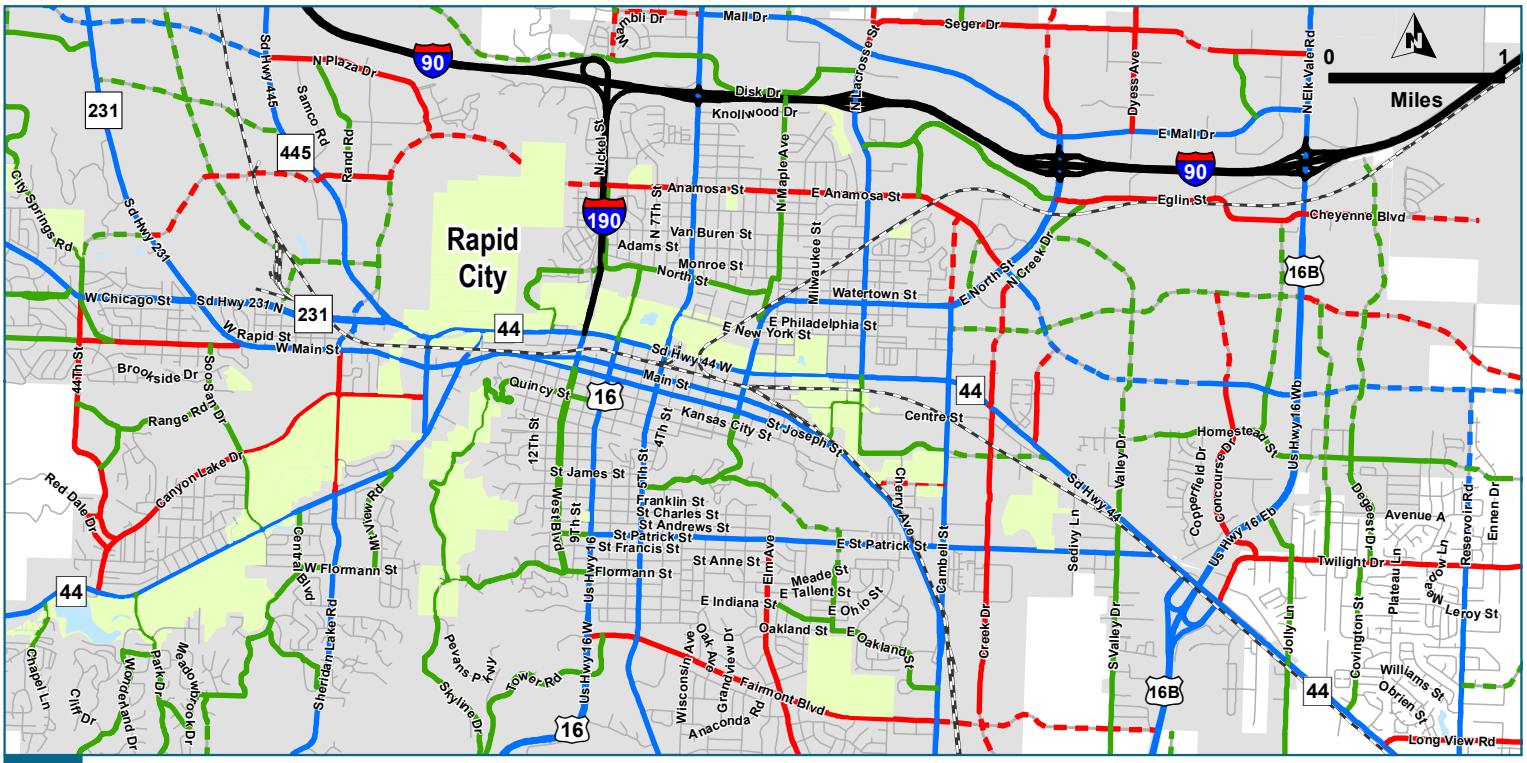
RAPID TRIP 2045 Metropolitan Transportation Plan

Rapid City Area MPO

Metropolitan Transportation Plan Update

Level of Service





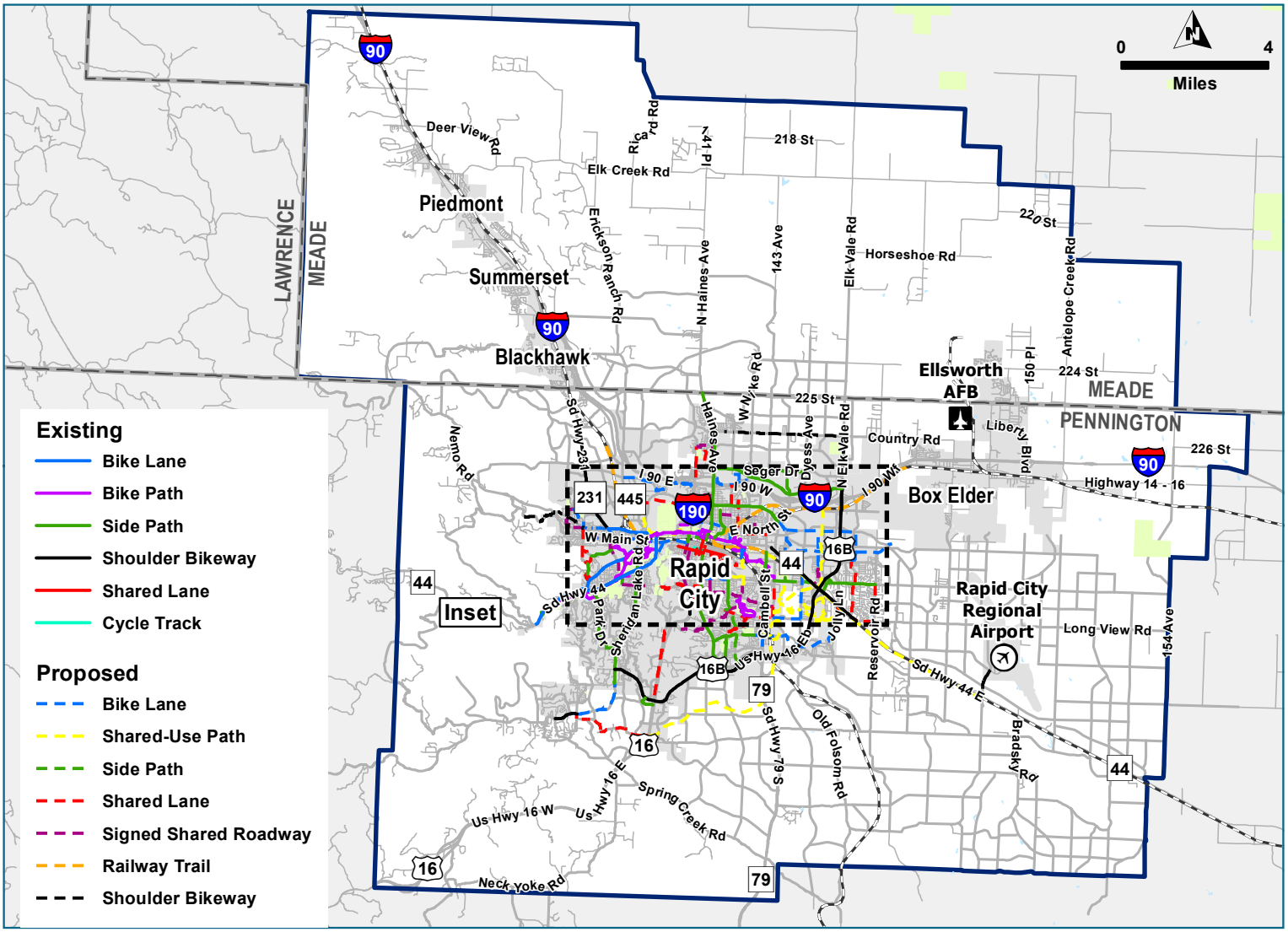
RAPID TRIP 2045 Metropolitan Transportation Plan

Rapid City Area MPO

- Interstate Highway
- Principal Arterial
- Proposed Principal Arterial
- Minor Arterial
- Proposed Minor Arterial
- Collector
- Proposed Collector

Metropolitan Transportation Plan Update

Major Street Plan


Existing
Bike Lane
Bike Path
Side Path
Shoulder Bikeway
Shared Lane
Cycle Track
Proposed
Bike Lane
Shared-Use Path
Side Path
Shared Lane
Signed Shared Roadway
Railway Trail
Shoulder Bikeway
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4
Miles
LAWRENCE
MEADE
PENNINGTON
Piedmont
Summerset
Blackhawk
Ellsworth AFB
Box Elder
Rapid City
Rapid City Regional Airport
Inset
Deer View Rd
Elk Creek Rd
Erickson Ranch Rd
N Haines Ave
143 Ave
Elk Vale Rd
Horseshoe Rd
Antelope Creek Rd
218 St
220 St
224 St
225 St
226 St
150 Pl
Sd Hwy 231
Nemo Rd
Haines Ave
W Nyke Rd
Dyess Ave
N Elk Vale Rd
Country Rd
Liberty Blvd
Highway 14 - 16
I 90 E
I 90 W
I 90 Wb
Seger Dr
E North St
W Main St
Sheridan Lake Rd
Park Dr
Sd Hwy 44
Cambell St
Jolly Ln
Reservoir Rd
Long View Rd
154 Ave
Us Hwy 16 E
Us Hwy 16 W
Spring Creek Rd
Sd Hwy 79 S
Old Folsom Rd
Bradsky Rd
Sd Hwy 44 E
Neck Yoke Rd
231
445
190
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16
16B
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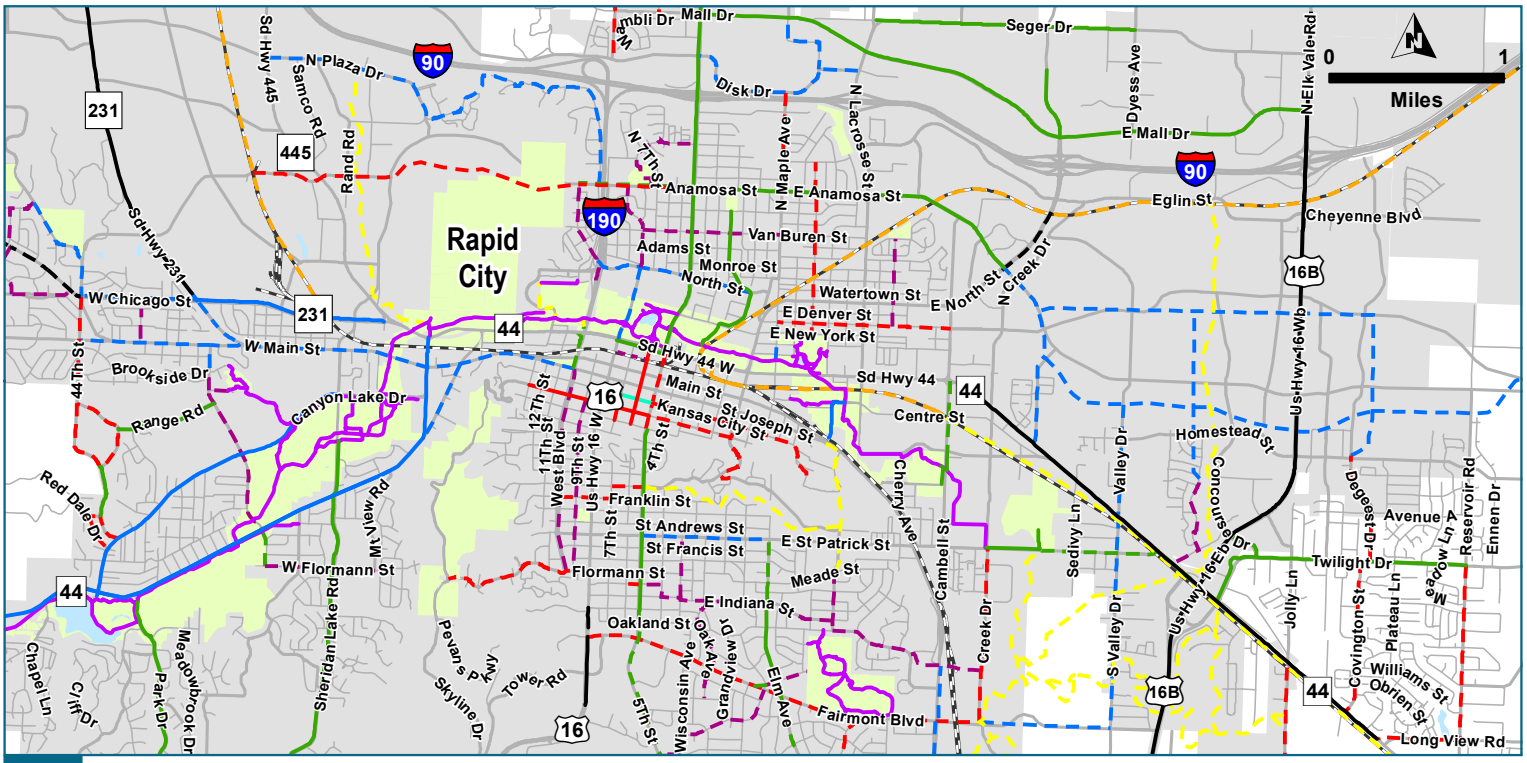
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Miles
Rapid City
Sd Hwy 231
Sd Hwy 445
Samco Rd
Rand Rd
N Plaza Dr
Mall Dr
Seger Dr
Disk Dr
N Maple Ave
N Lacrosse St
N 7Th St
Anamosa St
E Anamosa St
Van Buren St
Adams St
Monroe St
North St
Watertown St
E North St
N Creek Dr
E Denver St
E New York St
Sd Hwy 44 W
Sd Hwy 44
Main St
St Joseph St
Kansas City St
Centre St
E Mall Dr
Eglin St
Cheyenne Blvd
N Elk Vale Rd
Us Hwy 16 Wb
W Chicago St
W Main St
44 Th St
Brookside Dr
Range Rd
Canyon Lake Dr
Red Dale Dr
Mt View Rd
W Flormann St
Flormann St
Franklin St
St Andrews St
St Francis St
E St Patrick St
Meade St
E Indiana St
Oakland St
Oak Ave
Grandview Dr
Elm Ave
Fairmont Blvd
Tower Rd
Skyline Dr
Pevans Pky
Sheridan Lake Rd
Meadowbrook Dr
Park Dr
Cliff Dr
Chapel Ln
West Blvd
11Th St
9Th St
7Th St
5Th St
Us Hwy 16 W
Cherry Ave
Cambell St
Creek Dr
Sedivy Ln
S Valley Dr
Valley Dr
Homestead St
Concourse Dr
Degeest Dr
Twilight Dr
Avenue A
Reservoir Rd
Ennen Dr
Meadow Ln
Jolly Ln
Plateau Ln
Covington St
Williams St
Obrien St
Long View Rd
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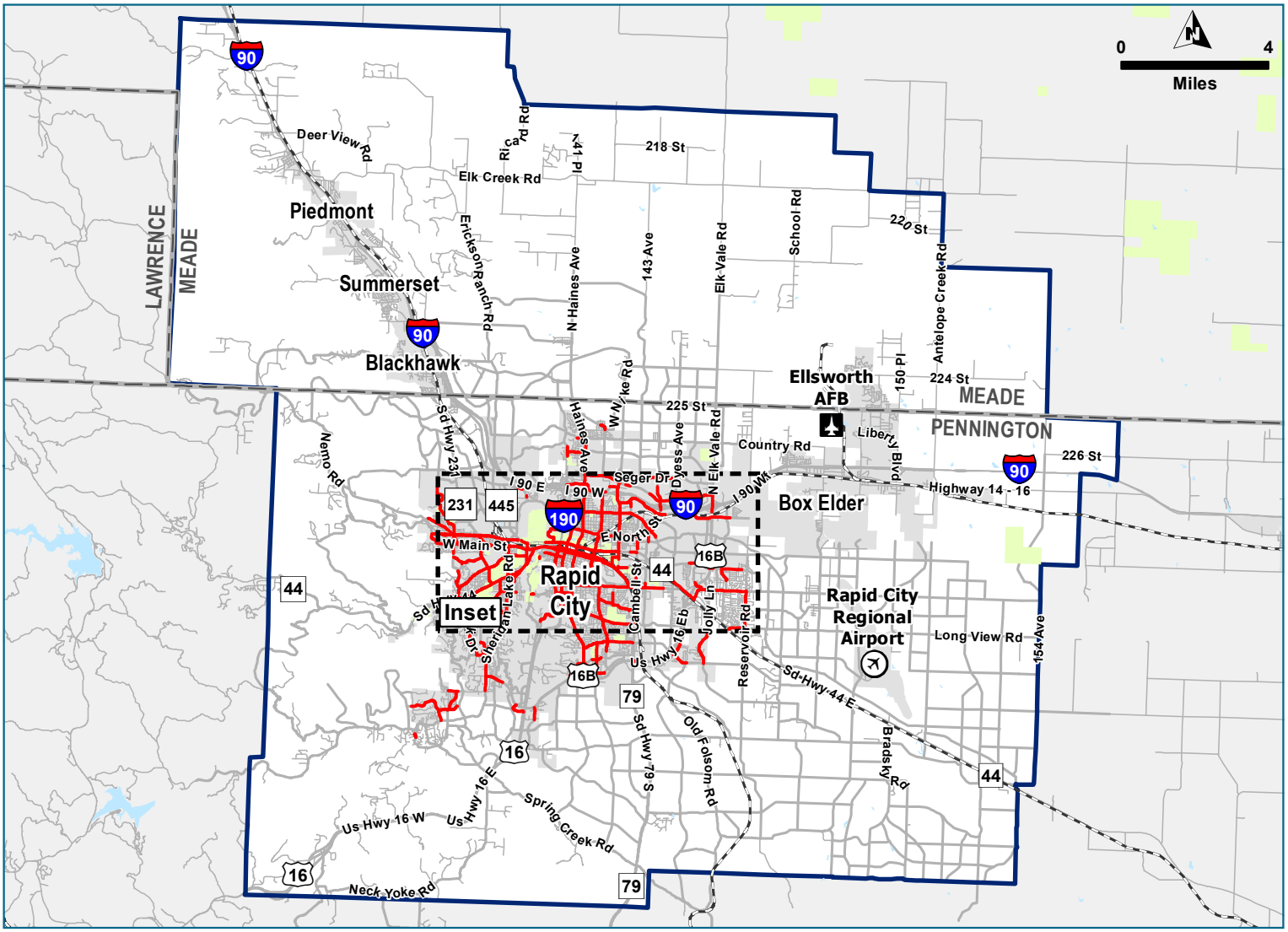
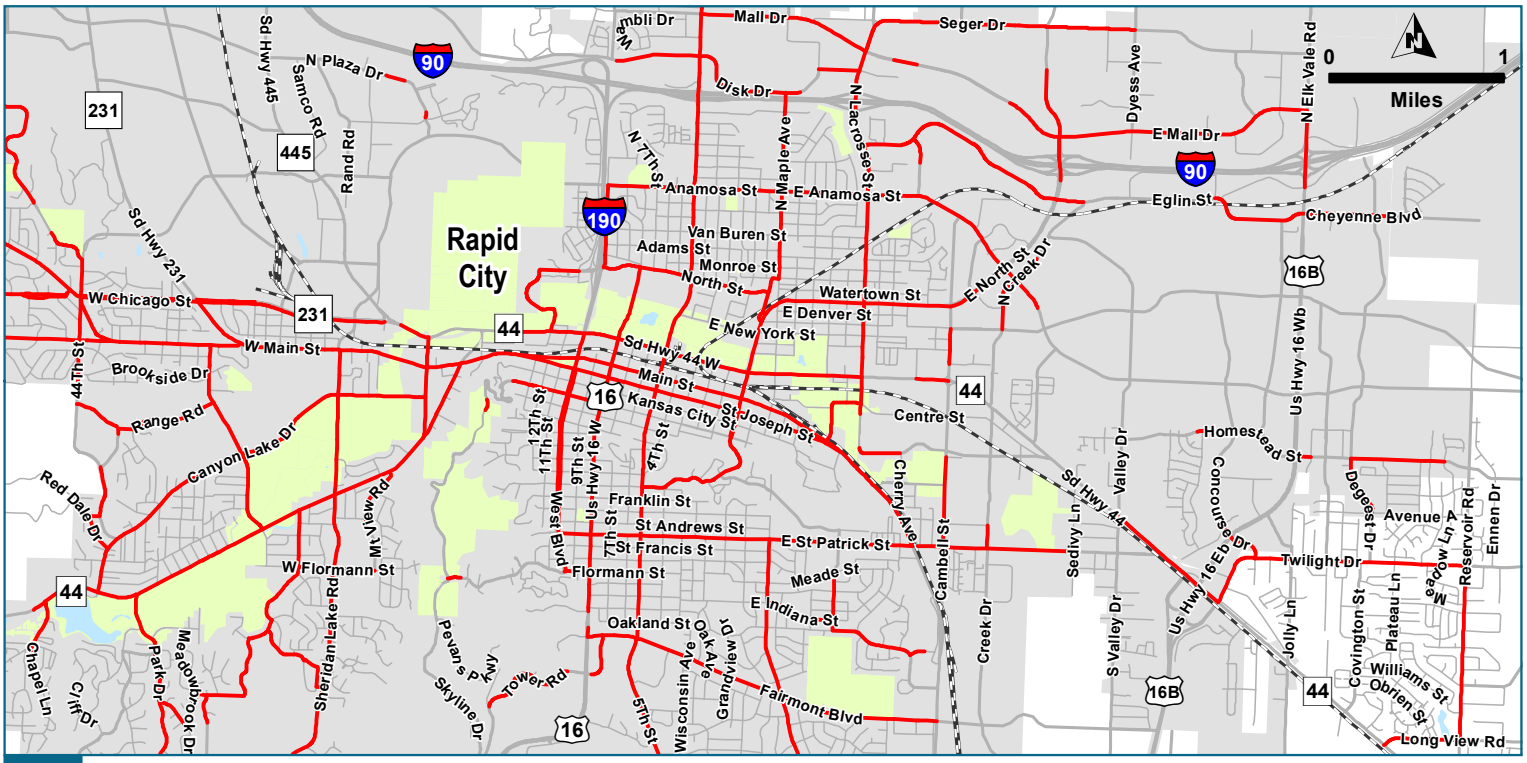
16
16B





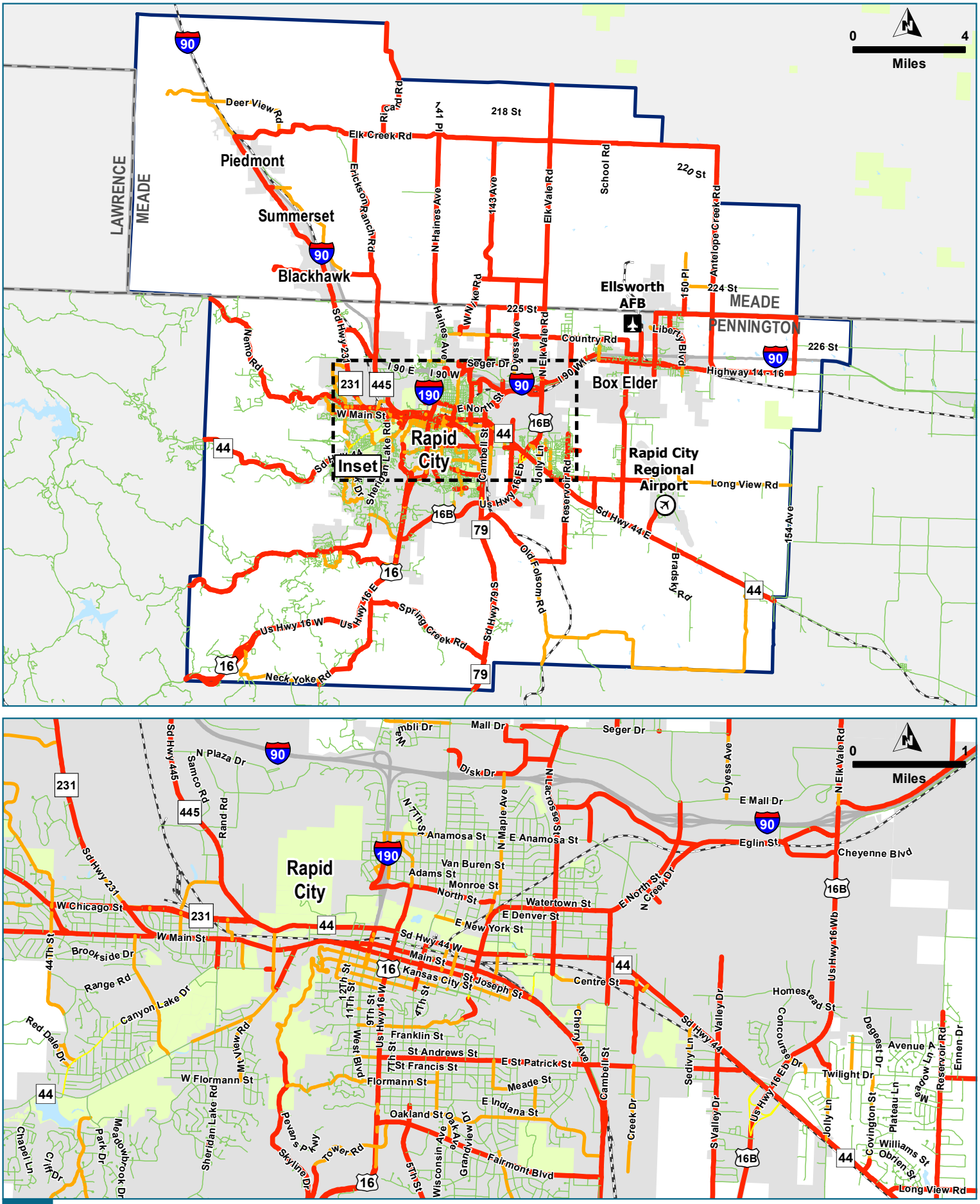
2020 Bicycle & Pedestrian Plan

Rapid City Area MPO

Sidewalks

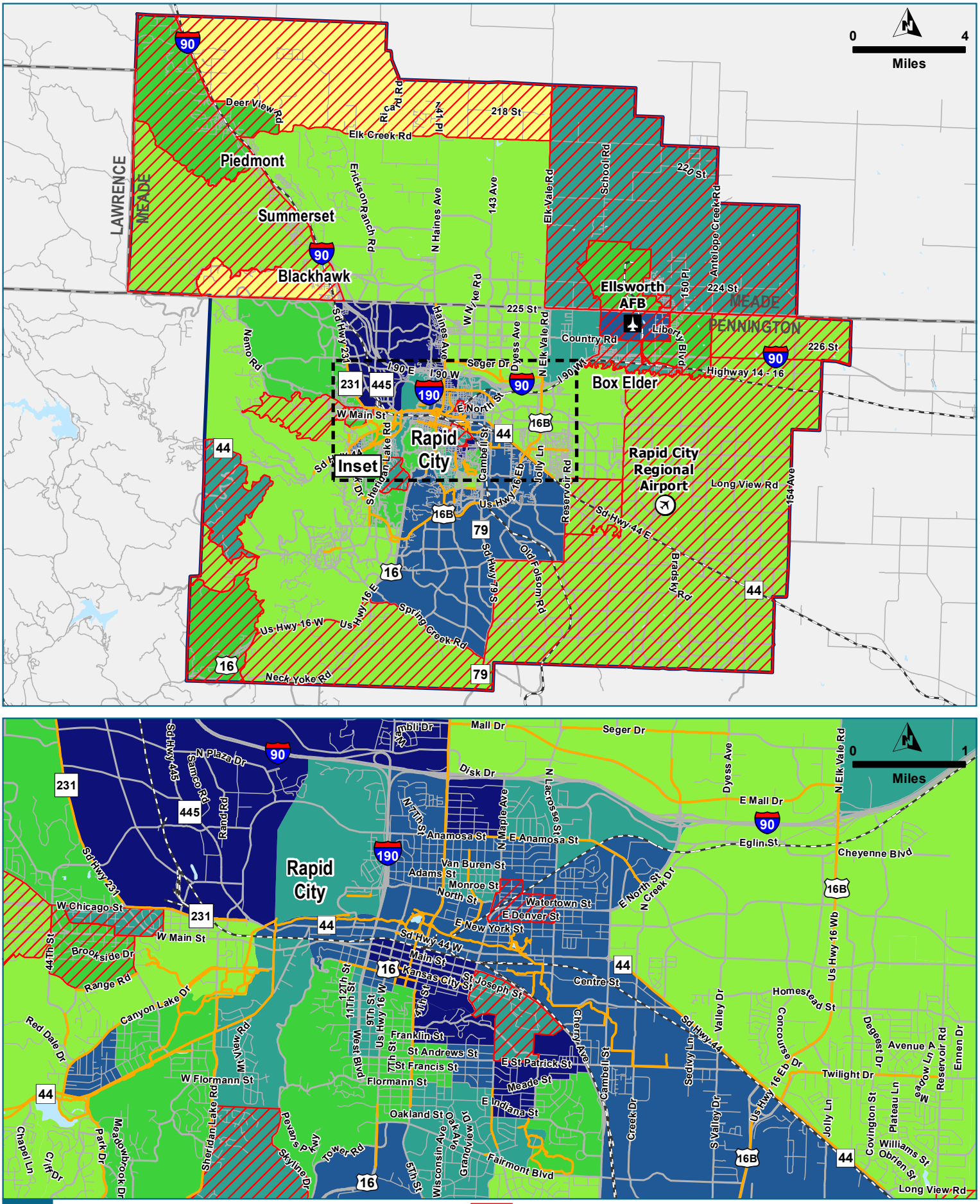
Bicycle and Pedestrian Master Plan

Existing Pedestrian Facilities



Bicycle and Pedestrian Master Plan

Level of Traffic Stress



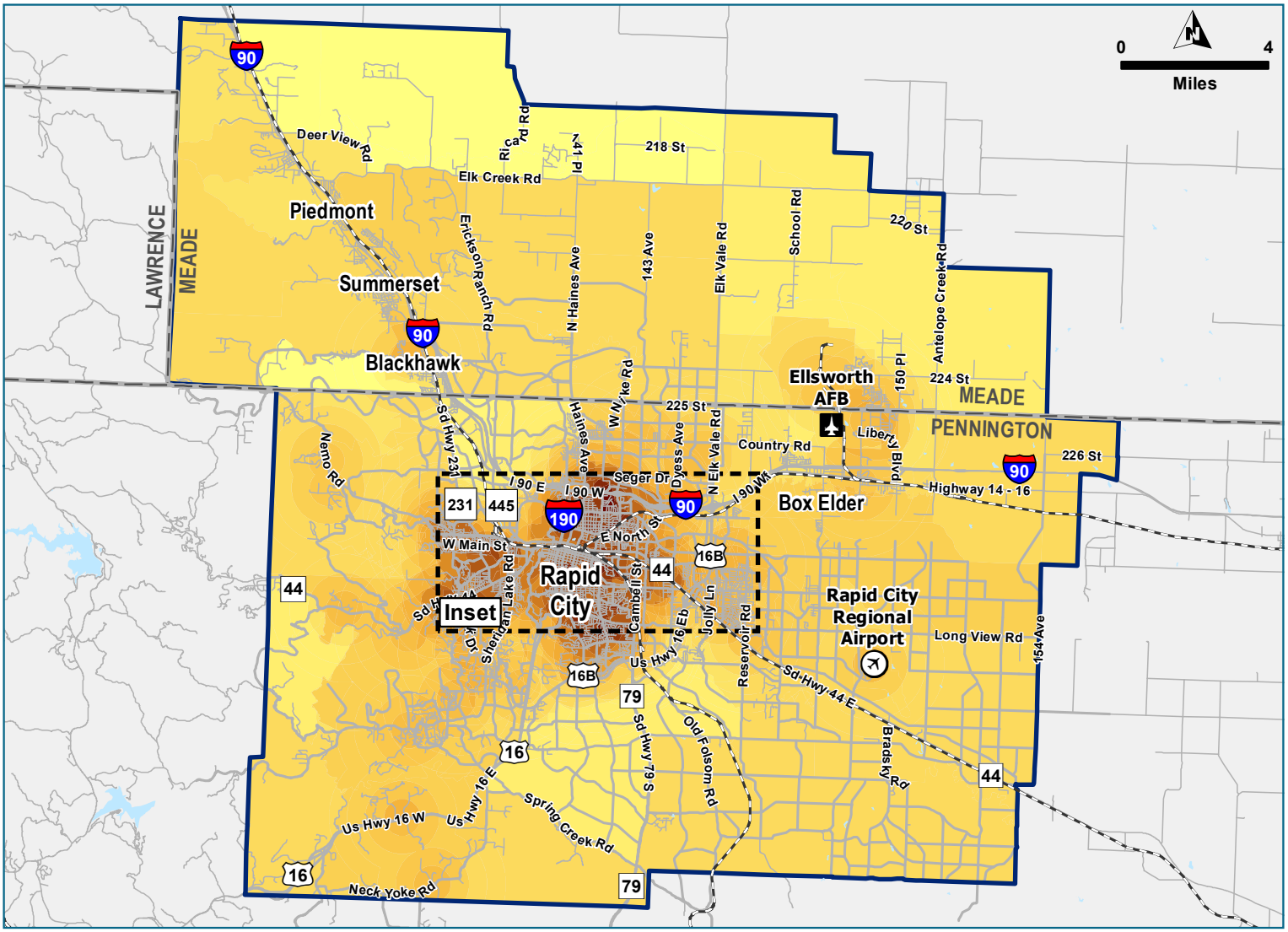
Low (0) Equity Score High (5)

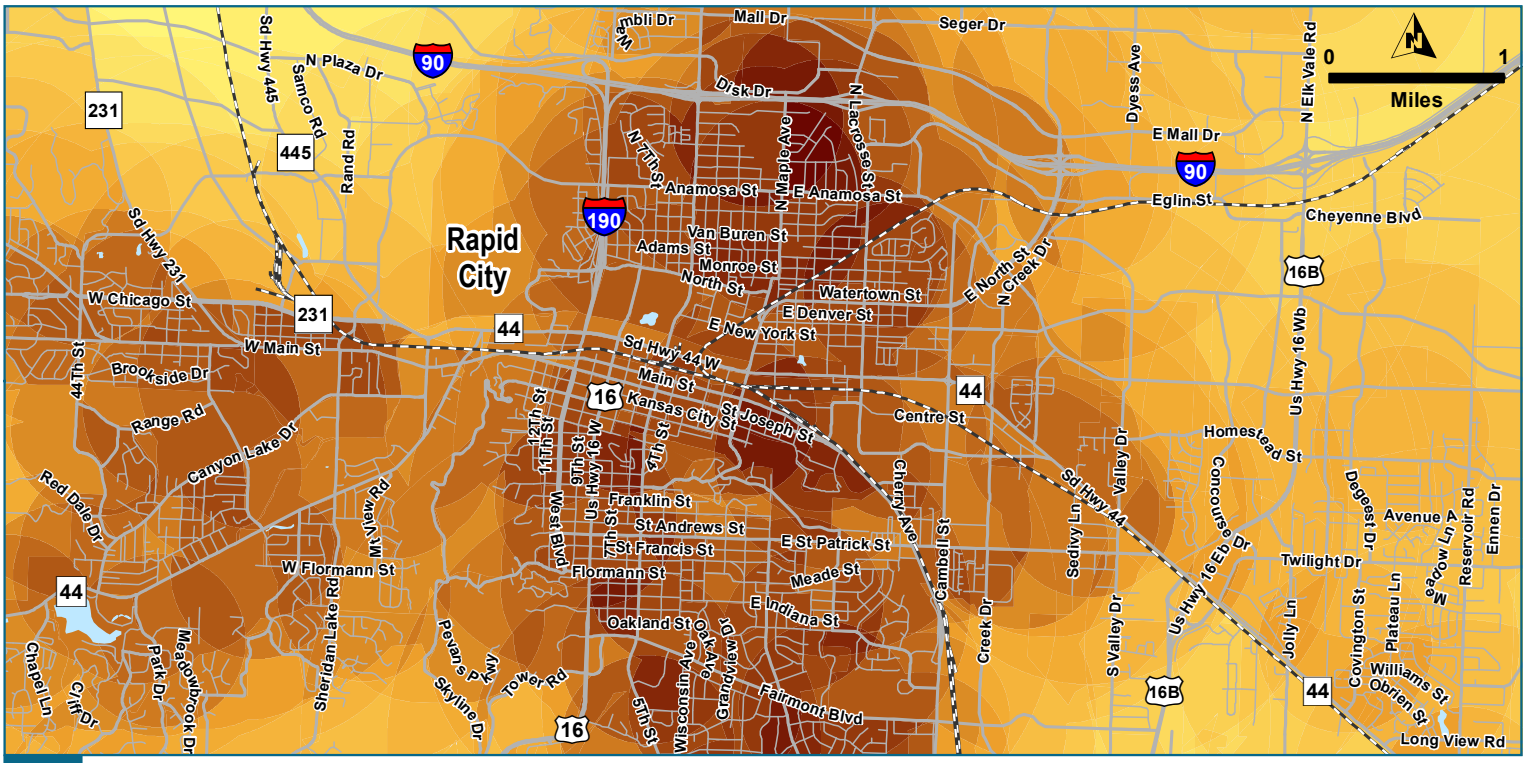
Low Bike Services

Existing Bike Facilities

Bicycle and Pedestrian Master Plan

Composite Equity Score and Low Level of Bicycle Service





2020 Bicycle & Pedestrian Plan

Rapid City Area MPO

Low — Medium — High

Bicycle and Pedestrian Master Plan

Latent Bicycle Demand

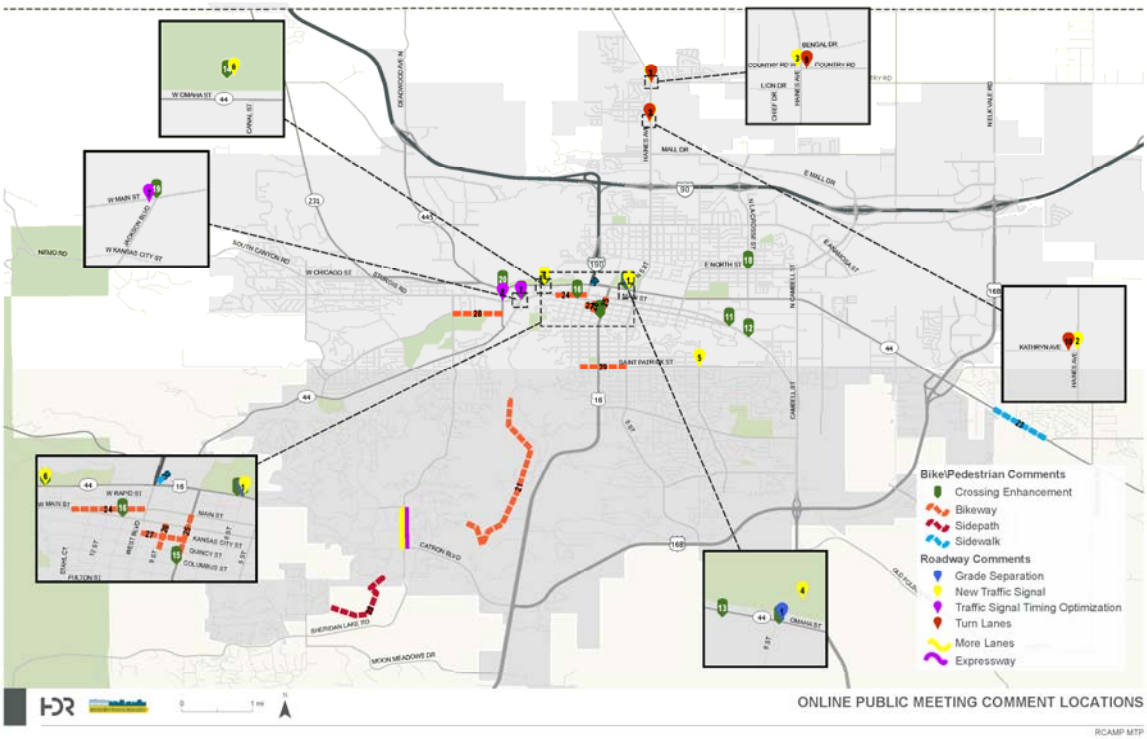
Appendix C: Public Meeting #2 ArcGIS Story Map Results

Public Meeting #2 Comments

Map ID	Type	Comment
1	Grade Separation	A pedestrian bridge here would be a safer alternative to current crossing.
4	New Traffic Signal	All new signals that are installed need to be accessible Pedestrian Signal for the visually imparted.
11	Crossing Enhancement	Difficult crossing viewing distance/multiple lanes.
12	Crossing Enhancement	Difficult pedestrian/bike crossing – viewing distance/multiple lanes – during events.
13	Crossing Enhancement	Accessible Pedestrian Signals or a handicap accessible bridge are needed her.
14	Crossing Enhancement	Need a safe way for pedestrians and bicyclists to cross Omaha here.
15	Crossing Enhancement	It would be nice (and presumably safer and less confusing for all involved) if the pedestrian walk signals automatically changed with the green light, rather than having to push the button.
16	Crossing Enhancement	It can be difficult to cross 3 lanes of traffic here and Main Street. Crosswalk markings or pedestrian signage might be helpful.
17	Crossing Enhancement	This crossing is really important for keeping the community connected and providing a safe way for pedestrians and bicyclists to cross Omaha… please keep it!
18	Crossing Enhancement	The pedestrian signals should automatically coordinate with the traffic lights so pedestrians have the right-of-way when the light turns green. There are a lot of pedestrians that cross here and they have to wait if they don't push the button in time.
19	Crossing Enhancement	Need a pedestrian signal and safe way to cross here. Hopefully this is planned as part of the reconstruction project.
20	Crossing Enhancement	A safer pedestrian/bicycle crossing is needed here. I've almost been hit by vehicles multiple times even though I had the walk signal.
21	Bikeway	Would be nice to have a bikeway from Autumn Hills to the Skyline trail system. This would provide a beautiful connection through the woods and views of the blackhills.
22	Sidepath	Alternate path for bicycles instead of Sheridan Lake Road.
23	Sidewalk	Sidewalk along Hwy 44 should continue to at least Covington or Long View.
24	Bikeway	Cycle track needed on Main St as well for westbound bicycle traffic.
25	Bikeway	It would be ideal to connect all of the existing/proposed bike lanes, etc. to create a more complete bicycle network.

Map ID	Type	Comment
26	Bikeway	It would be ideal to connect all of the existing/proposed bike lanes, etc. to create a more complete bicycle network.
27	Bikeway	It would be ideal to connect all of the existing/proposed bike lanes, etc. to create a more complete bicycle network. Bicycle infrastructure connecting to the YMCA is especially needed.
28	Bikeway	It would be ideal to connect all of the existing/proposed bike lanes, etc. to create a more complete bicycle network.
29	Bikeway	This bike lane should connect to Mt. Rushmore Road at a minimum, but West Blvd would be ideal. It makes no sense to stop it at 5th Street.
30	Sidewalk	Would be good to have a sidewalk connecting the intersection to the bike path here in case the bike path is flooded under the bridge.

Public Meeting #2 Comment Map



Appendix D: Public Meeting #2 Survey Questions and Responses

In total, there were 17 responses to the survey. Some questions in the survey were left blank by the public, resulting in less than 17 responses. These responses will be noted in the corresponding question.

Question 1:

How would you describe your approach to bicycling?

a) I am comfortable riding in mixed-traffic and will use roads without bike lanes

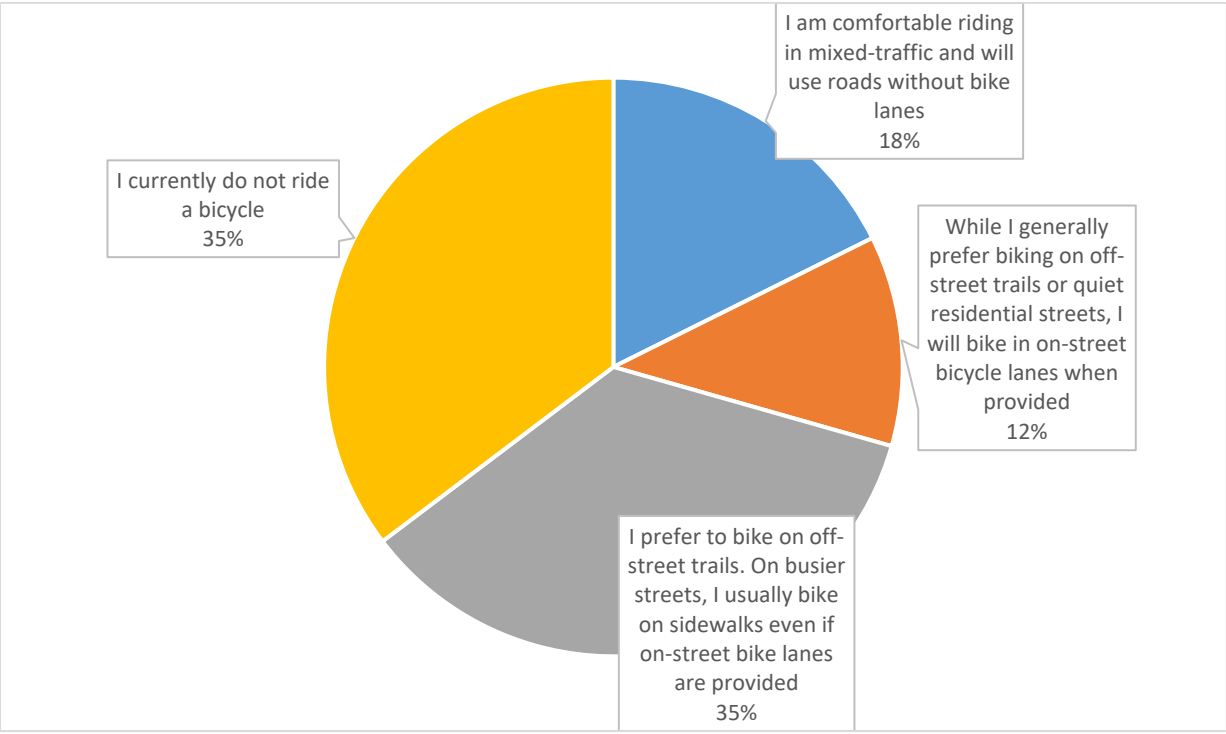
b) While I generally prefer biking on off-street trails or quiet residential streets, I will bike in on-street bicycle lanes when provided

c) I prefer to bike on off-street trails. On busier streets, I usually bike on sidewalks even if on-street bike lanes are provided

d) I currently do not ride a bicycle

This question was answered by 17 participants. Three participants said that they feel “I am comfortable riding in mixed-traffic and will use roads without bike lanes”. Two people responded with “While I generally prefer biking on off-street trails or quiet residential streets, I will bike in on-street bicycle lanes when provided”. Six people said “I prefer to bike on off-street trails. On busier streets, I usually bike on sidewalks even if on-street bike lanes are provided”, and another six people said “I currently do not ride a bicycle”.

How would you describe your approach to bicycling?



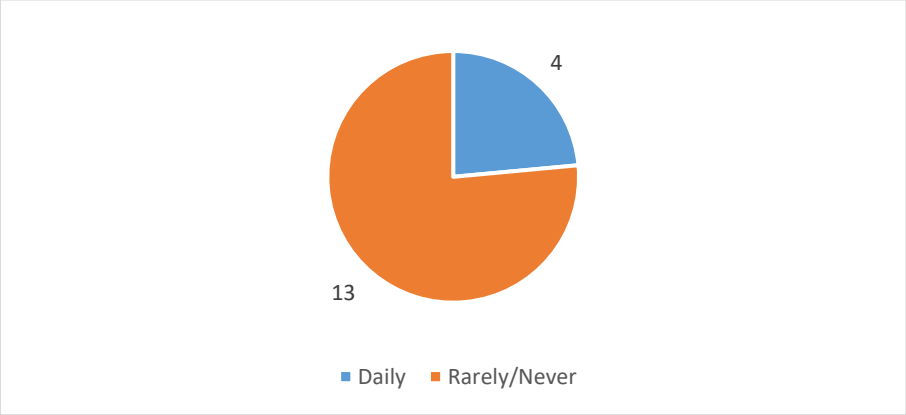
Question 2:

How frequently do you walk to work or school?:

Daily | At Least Once a Week | At Least Once a Month | Rarely/Never

There were 17 responses in total, with 4 people saying “Daily”, and 13 people saying “Rarely/Never”.

How frequently do you walk to work or school?



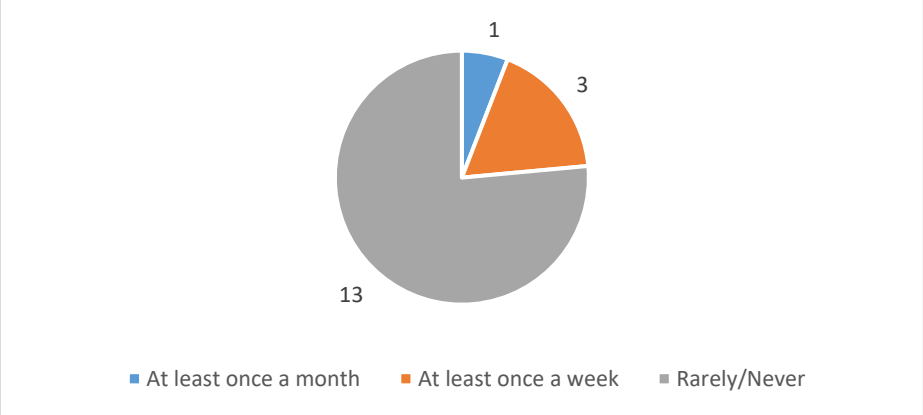
Question 3:

How frequently do you bike to work or school?:

Daily | At Least Once a Week | At Least Once a Month | Rarely/Never

There was 1 response for “At least once a month”, followed by 3 people saying “At least once a week”, and 13 people saying “Rarely/Never”.

How frequently do you bike to work or school?



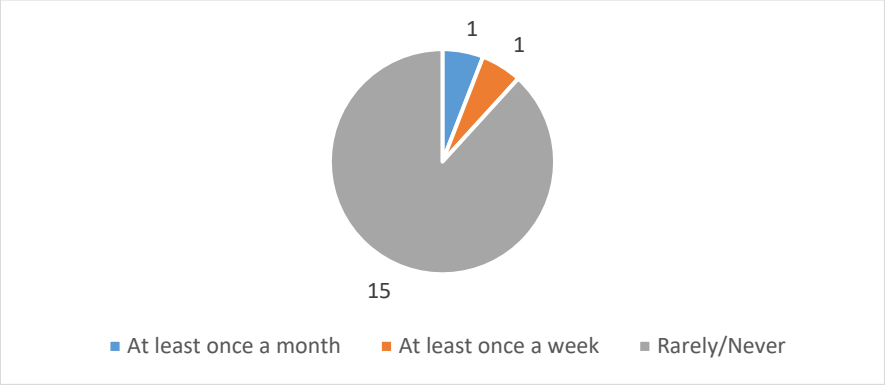
Question 4:

How frequently do you walk to or from a transit stop?:

Daily | At Least Once a Week | At Least Once a Month | Rarely/Never

One person responded with “At least once a month”, one person said “At least once a week”, and 15 people responded with “Rarely/Never”.

How frequently do you walk to or from a transit stop?



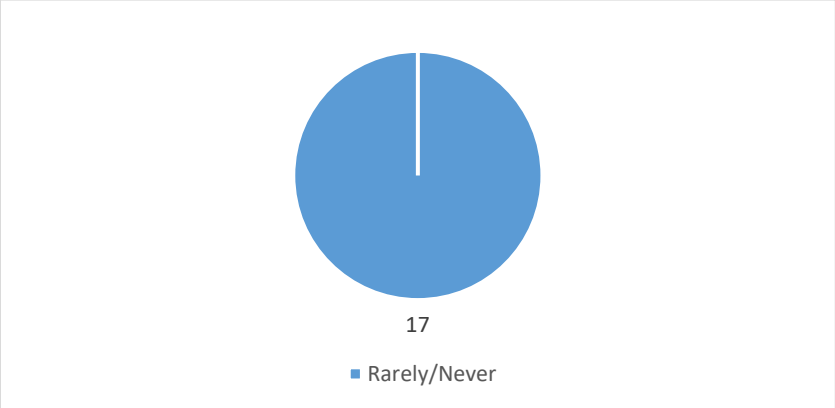
Question 5:

How frequently do you bike to or from a transit stop?:

Daily | At Least Once a Week | At Least Once a Month | Rarely/Never

All 17 participants in the survey responded with “Rarely/Never”.

How frequently do you bike to or from a transit stop?



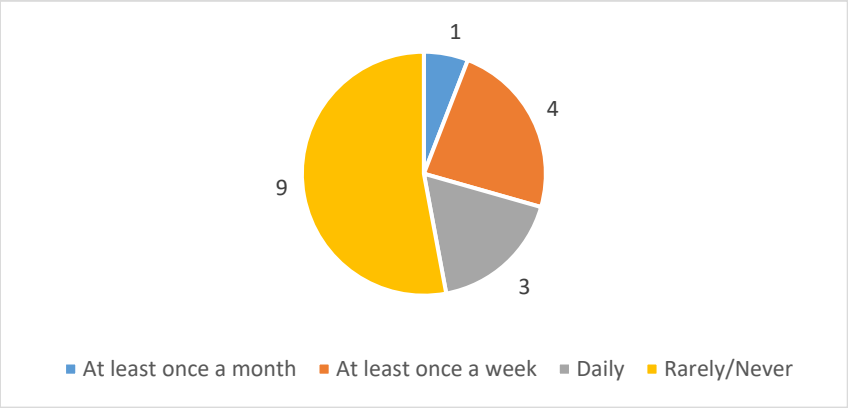
Question 6:

How frequently do you walk to shopping, out to eat, or run errands?:

Daily | At Least Once a Week | At Least Once a Month | Rarely/Never

One person responded with “At least once a month”. Four people said “At least once a week”, with three people saying “Daily”, and nine people saying “Rarely/Never”.

How frequently do you walk to shopping, out to eat, or run errands?



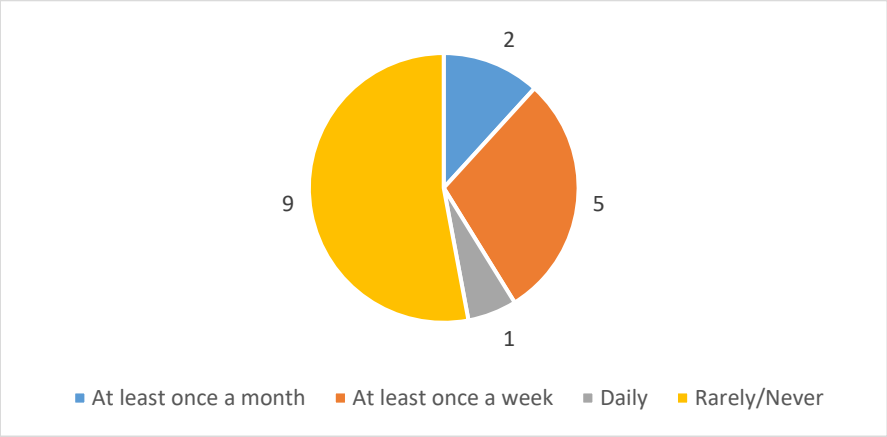
Question 7:

How frequently do you bike to shopping, out to eat, or run errands?:

Daily | At Least Once a Week | At Least Once a Month | Rarely/Never

Two people responded to the question with “At least once a month”, with five people saying “At least once a week”. One person said that they ride “Daily”, and nine people said “Rarely/Never”.

How frequently do you bike to shopping, out to eat, or run errands?



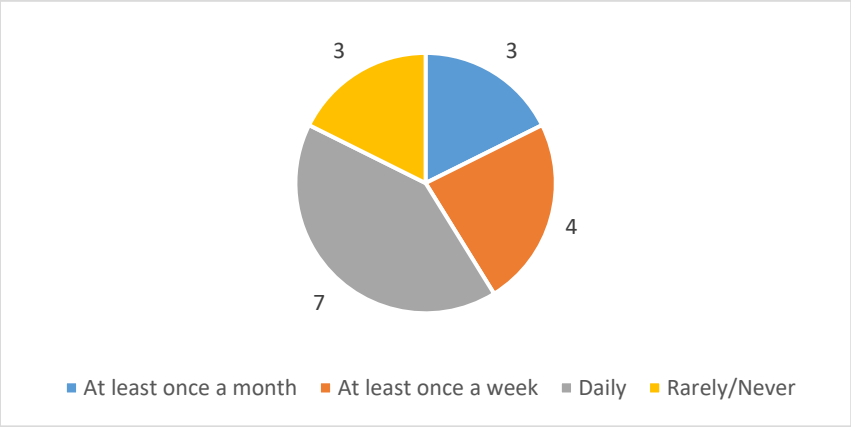
Question 8:

How frequently do you walk to Exercise/Recreate?:

Daily | At Least Once a Week | At Least Once a Month | Rarely/Never

Three people responded with “At least once a month”, four people said “At least once a week”, seven people said “Daily”, and three people said “Rarely/Never”.

How frequently do you walk to exercise/recreate?



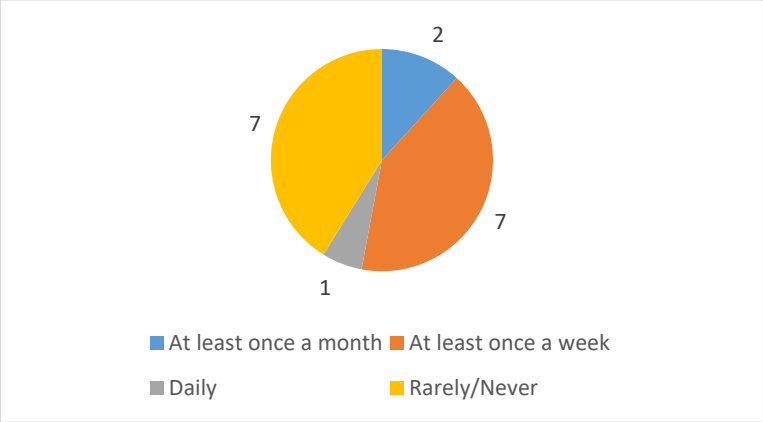
Question 9:

How frequently do you bike to Exercise/Recreate?:

Daily | At Least Once a Week | At Least Once a Month | Rarely/Never

Two people responded to the question with “At least once a month”, seven people said “At least once a week”. One person rides their bike to exercise/recreate “Daily”, and seven people said “Rarely/Never”.

How frequently do you bike to exercise/recreate?



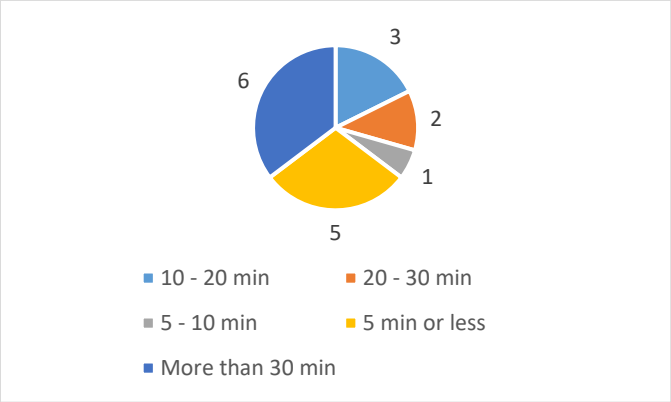
Question 10:

How long are/ you generally willing to walk to reach your destination?

5 min or less | 5 - 10 min | 10 - 20 min | 20 - 30 min | More than 30 min

Five people said they are willing to walk “5 min or less”, one person said “5 – 10 min”, three people said 10 – 20 minutes, and two people said 20 – 30 minutes. Six participants said that they were willing to walk “More than 30 min” to reach their destination.

How long are you generally willing to walk to reach your destination?



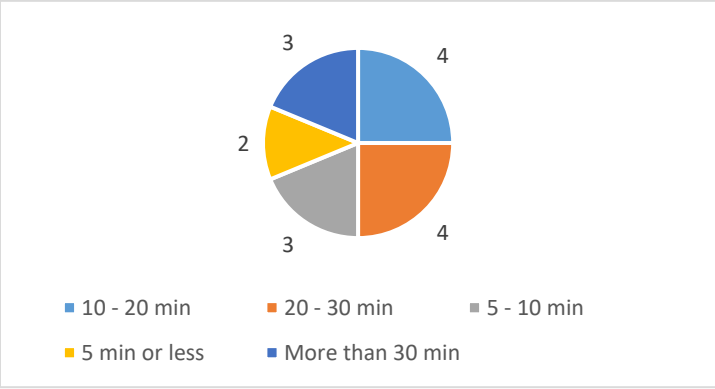
Question 11:

How long are you generally willing to bike to reach your destination?

5 min or less | 5 - 10 min | 10 - 20 min | 20 - 30 min | More than 30 min

Four people said they are willing to bike “10 – 20 min” to reach their destination, with another four people saying “20 – 30 min”. Three people said “5 – 10 min”, and two people said “5 min or less”. Finally, three people said “More than 30 min”, for a total of 16 responses.

How long are you generally willing to bike to reach your destination?



Question 12:

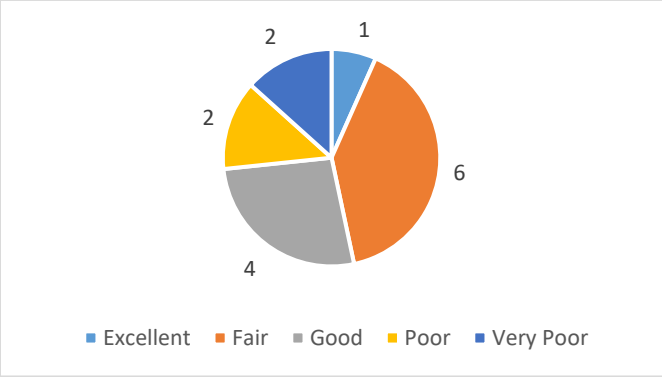
Question 12 is in regards to the existing bicycle network in the Rapid City area.

How would you describe the quality of Rapid City's existing bicycle network?

Very poor | Poor | Fair | Good | Excellent

One person answered with "Excellent", while four people said "Good", six people saying the network is "Fair", two people saying "Poor", and another two people saying "Very Poor". In total, 15 people responded.

How would you describe the quality of Rapid City's existing bicycle network?



Question 13:

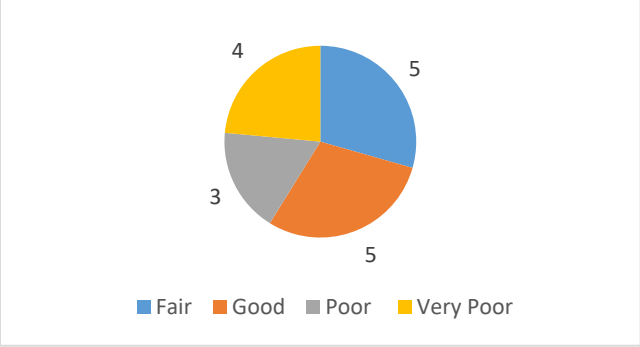
Question 13 asked participants about Rapid City's existing pedestrian network.

How would you describe the quality of Rapid City's existing pedestrian network?

Very poor | Poor | Fair | Good | Excellent

Five people responded with "Good", and another five people said the network was "Fair". Three participants said "Poor", and four people said the network was "Very Poor", for a total of 17 responses.

How would you describe the quality of Rapid City's existing pedestrian network?



Question 14:

Which of the following approaches do you believe would most improve the bicycle and pedestrian network? (select up to 3)

a) Focus on completing existing sidewalk gaps

b) Provide safe crossings of major roadways to ensure network connectivity

c) Include bike lanes on all roadways outside of neighborhood streets

d) Provide bicycle and pedestrian facilities within locations where people are more likely to be walking or bicycling

e) Provide bicycle and pedestrian facilities between locations where people are more likely to be walking or bicycling

f) Expand the network of side paths and trails to provide regional links, connections to neighboring communities, recreational facilities, and outlying areas in Rapid City

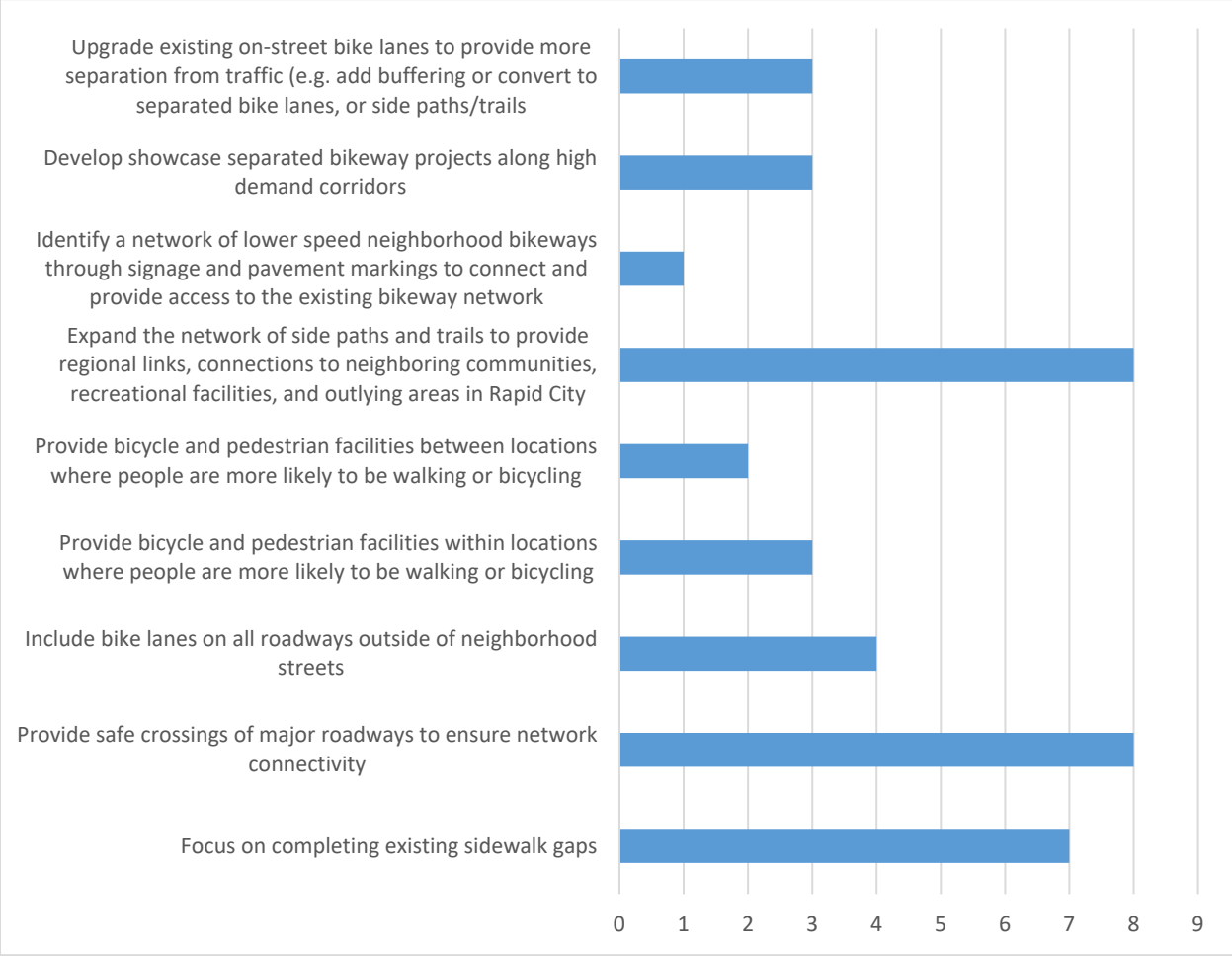
g) Identify a network of lower speed neighborhood bikeways through signage and pavement markings to connect and provide access to the existing bikeway network

h) Develop showcase separated bikeway projects along high demand corridors

i) Upgrade existing on-street bike lanes to provide more separation from traffic (e.g. add buffering or convert to separated bike lanes, or side paths/trails)

Since attendees were able to pick up to 3 responses, there was a total of 39 responses. The two most popular responses were to “expand the network of side paths and trails to provide regional links, connections to neighboring communities, recreational facilities, and outlying areas in Rapid City”, and “Provide safe crossings of major roadways to ensure network connectivity”.

Which of the following approaches do you believe would most improve the bicycle and pedestrian network?



Appendix E: Public Meeting #3 On-line Meeting Summary

Public Meeting No. 3 On-line Meeting Summary

July 6 - July 16, 2020

Rapid City Area MPO Metropolitan Transportation Plan & Bicycle/Pedestrian Plan Update

Rapid City Area MPO

July 17, 2020

Table of Contents

Public Meeting # 3 Overview

Meeting Details

Date: July 6th – July 16th, 2020

Location: Online Meeting Hosted at www.rapidtrip2045.com

Overview: Because of continued limitations placed upon public gatherings by the CDC, it was required that the on-line meeting format be used for Public Meeting No. 3 instead of in-person format. The on-line meeting and project information was open for review and public comment from Monday July 6th through Thursday July 16th, 2020.

Advertisements: Rapid City Journal (6/27/20 and 7/1/20), Native Sun News (6/24/20 and 7/1/20), project website, MPO website, and City press release.

On-line meeting information: The project team hosted an on-line public meeting for the Rapid City Area MPO Metropolitan Transportation Plan (MTP) and Bicycle/Pedestrian Plan Update to present the project findings and DRAFT reports for the MTP and Bicycle and Pedestrian Plan updates and gather feedback from the public and stakeholders.

Attendance: Based on the information received from project website traffic, the following data was collected:

- Page views total: 142
  - Mobile: 52
  - Desktop: 89
  - Tablet: 1
- Average time on page: 3:25
- Sessions by acquisition:
  - Direct/Google: 124
  - Facebook 16
  - Referral: 2 (referrals from rapidcityareampo.org)

Project Website

www.rapidtrip2045.com/onlinemeeting.html
The online public meeting took the attendees through a 5 step process with videos and interactive maps, including:

1. Welcome & Intro
    a. Purpose of Meeting (video)
    b. Rapid Trip 2045 MTP Overview/Background (video)
2. Analysis & Growth
    a. Existing System Performance and Future Growth (video)
    b. Household Growth, Job Growth, and Estimated Traffic Flow (interactive map)
3. MTP Findings & Needs
    a. Study Methodologies and Themes (video)
    b. Major Street Plan, Needs Plan, and Fiscally Constrained Plan (interactive map)
    c. A Multi-Modal Rapid City (video)
4. Bicycle & Pedestrian Plan
    a. Overview, Methodologies, and Themes (video)
    b. Bicycle and Pedestrian Fiscally Constrained Projects (interactive map)
5. In Conclusion
    a. Next Steps (video)
    b. DRAFT Document Review (links to DRAFT MTP and Bike/Ped Plans)
    c. Comments (via website)
    d. Comments (other modes)

Comment Summary

Participants were able to make general comments with regard to the DRAFT documents or with regard to the project as a whole. Comments were received through the On-line Public Meeting Link, through the General Project Website Comment/Contact page, and submitted by email. A compilation of the meeting comments is included in Appendix A.

There were 45 comments received. Comments were mostly general in nature and mainly focused on bicycle and pedestrian issues/needs. The Deadwood Avenue corridor was mentioned by several respondents as needing bicycle/pedestrian improvements. There were also comments on connecting outlying developments (i.e. Rapid Valley/Red Rock area) to the pathway network. Comments with regard to the street/road network were submitted on Jackson Boulevard and East Signal Drive. One comment was received on transit/dial-a-ride service. A few respondents mentioned sustainability as a priority.

Appendix A – Comments

No.	Comments Direct From Public Meeting No. 3 Comment Link
1	EXCUSE me but how is this a public meeting? Am I missing something?!?
2	I propose more circular, or one way patterns to the bike and pedestrian routes throughout Rapid City. Circular/one way trails are always more popular vs. trails which you must back track. More CONNNECTIVITY, essentially to all of the existing and proposed walk/bike trails. They could be concentric rings around/throughout the city of varying lengths, purposefully (one could start training on a 3k route and move up to 5k, 10k, and so on). To visualize this point, aerially, they could essentially resemble the Olympic logo whereby all of the circular trails of varying lengths throughout Rapid City all meet at the same point (downtown, founders park, etc.). I think this could be adapted pretty easily with existing routes with adding some connectivity IOT enhance the existing randomness of the bike/pedestrian plan.
3	It appears that the extension of Jackson Blvd from West Main to Omaha Street is nowhere to be found. Wasn't that project a top priority of the City not to long ago?
4	Need bicycle path linkage to all area schools. Also to area athletic facilities. Also YMCA, public library, public transportation stops and hubs. Construct new roads only if they include bicycle pathways, preferably separated.
5	Hi Rapid City Officials, I feel that an immediate need for safe bike/pedestrian travel on Deadwood Avenue should be addressed the sooner the quicker. Either an east side sidewalk P2147 or the proposed P294 trail that would link this entire area to the bike path giving the Industrial Area workers and the Fountain Springs community access to the bike path. I believe firmly that connecting the entire Deadwood Avenue Industrial Area by either a sidewalk or bike trail will not only keep people alive but give this entrance into our city a polished look instead of the hard to travel dirt trails currently available. If I were to point to another trail that could give our city residents access I would point next to the abandon rail line P424 going out to the valley. A safe path to ride bikes or walk into town from the valley would help to connect businesses and people. These trails are the backbone of pedestrian travel in our city!
6	Comment on an East Signal Drive connector road from Elm Avenue on the west to East St. Andrew Street on the east. The Hansen Heights owners are calling for the removal of this East Signal Drive connector road. The short road segment from Hawthorne Avenue to Hansen Heights property line should be retained. The East Signal Drive connector would pose a major detraction to developing Hansen Heights because it presents a physical barrier crossing the property and large added road construction costs. Hansen Heights has been identified as a Federal Opportunity Zone property to encourage development. The city would be encouraging Hansen Heights development by vacating the East Signal Drive road connector from the updated major road plan. The South Dakota School of Mines has done something similar in vacating Hawthorne Avenue from East St. Andrews north through the Gap Area for future development. Sidney A. Hansen
7	In regard to the bike and pedestrian plan update: Improving recreational bicycle travel and practical pedestrian and bicycle commuting would greatly enhance Rapid City. It would have significant quality of life impacts, marketing benefits for tourism, and would also help reduce carbon emissions and local air pollution. This needs to be a higher priority for the city. Progress on former goal 1.1.1 to complete high priority bikeway network and sidewalk gap projects has been insufficient. This should be a higher priority for the city and region moving forward. Simply restating the same goal will not get it done. Goal 2.2.1: Becoming a Bicycle Friendly Community would have huge benefits for employers and others trying to market the area for both new residents and visitors. Goal 3.2: The city needs to adopt a complete streets policy.
8	In regard to the bike and pedestrian plan update: Your proposed bicycle network map shows that Catron Blvd has an existing bike lane. Sure it has a very wide shoulder, but it is not a bike lane. If you are going to call it a bike lane it needs to be painted and signed as such to draw driver attention to the fact that they need to be aware of bicycles and pedestrians on the side of the road. Cambell Street is a great example of a location that would really benefit from more/better sidewalks for walkability.
9	While your MTP lists “Environmental Sustainability and Resiliency” as one of the top six goals, it is obvious that it is not given nearly as much weight as the others. The objectives and metrics listed under this goal only focus on “limiting impacts,” or in other words making future roads less bad. The MTP should go beyond minimizing harm and include plans to use future transportation projects as ways to transition our community to a more sustainable future. The best potential example of this is the electrification of transportation to allow for more renewable, low-carbon fuels. It is well documented that the country is will largely transition to electric vehicles over the course of this plan, and yet it is given no consideration in this plan! There are ways that you can include EV charging infrastructure and other future considerations. In conclusion, sustainability is important to the people of this community and should be included more deeply and widely in all aspects of this MTP.

10	I'm glad that the city is working on improving biking/pedestrian access in the city. I moved to Rapid in 2016 and was really excited to be able to bike/walk to work, only to find that the reality of actually doing that wasn't very possible. As a new biker, I did not feel safe on the streets of Rapid City...even now, I am very hesitant to ride my bike on the streets because of safety concerns on busy roads and by cars not knowing how to treat me (am I a vehicle or a pedestrian). I think that creating more bike lanes is a necessity (I prefer not shared lanes since drivers don't recognize them in the city); I live in the West Blvd area and biking to my job on East North Street is great once I hit the bike path, however, traversing the downtown streets is pretty scary. Additionally, education is going to be key. I know that education is a long term plan, but the citizens of Rapid need to know how to treat bikers and bikers need to know how to treat drivers (honestly).
11	Most cities rely on system of sidewalks and bike paths for non motorized transportation. Rapid City's sidewalks are too deplorable to bike on and unsafe to walk on. I fell on broken sidewalk downtown and city's reaction was not their responsibility. Well if it's not yours, you need to enforce repair and upkeep upon those you do hold responsible. Thank you for your efforts to improve non motorized transportation and recreation in our community.
12	The plan seems to adequately address anticipated demand at the expense of having any imagination into what an innovative and inclusive Rapid City could be. In designing solely to user-driven demand the planners perpetuate the status quo. Pedestrian and cyclist demand remains low because the city is not a very nice place to bike or walk. Thus, more space is dedicated to vehicles as the city continues its low density uninspiring sprawl. Presenting the modes of transportation apart from each other makes it difficult to analyze if the proposed solutions will create enjoyable user experiences for all. Further, there is no mention of any real environmental or sustainability goals that would support the physical and economic well-being of those that live, work, and visit the city for generations to come. Rapid City has the potential to be more than the mediocre locale this plan suggests. It will just take a little bit of ingenuity and truly holistic planning to achieve it.
13	I'm thrilled to see the proposed additions of bike lanes and new trails. I sometimes commute via bike to my office, which is off Deadwood Avenue. The current dirt trail, which is close to the street, is by far the most dangerous part of my ride. Additionally, it can be tough to get around via bike because of limited bike lanes both downtown and from the northern/southern sides of town. Hopefully the new bike lanes and other proposed additions will also improve driver awareness of how to co-habitat roads with cyclists. Looking forward to the expansions!
14	The RC bike path is designed mainly for exercise but does not seem practical for legitimate transportation within the city. In high use areas there should be parallel separate paths for bicycles and pedestrians. Bicycle path and street intersection/crossings are extremely dangerous and should be avoided by using overpasses/underpasses when possible. Bicycle paths in the Black Hills forest areas have high value that would increase with connectivity with city and intercity bike trails. Biked lanes shared with cars are poorly marked.

No.	Name	Comments From Project Website During PM No.3
1	Charon Geigle	I skimmed through the 110 page draft document. Some of it makes sense... some of it takes wading through. If I were to move to Rapid City from Wall I am looking for connectivity to grocery store, library, downtown, and to eastside.... The grocery store element did not seem to be mentioned in the Draft document. Although I do drive, usually to Rapid City for appts, groceries, etc, I am not attracted to live there because I would have to drive all the time and everywhere due to lack of bike and walking infrastructure. And I transport my bike when needed for recreation. Not everyone has a vehicle that accommodates a bike for transport to other places or a bike repair shop for that matter. Self repair bike stations would be appropriate to incorporate in residential areas as well. I would like to see one geographic area of Rapid City fully interconnected rather than a project here and there.
2	Emily Ashley	Hello! Thank you for allowing the opportunity to comment. I work at Strider out off of Deadwood Avenue. It would be nice to get from Strider (or anywhere off of Deadwood Ave) to the bike path safely, be it a sidewalk on Deadwood Ave. or the proposed trail up next to the small stream. Getting to work by bike safely and not in the mud would be awesome! Thanks again!
3	Martin Spahn	A bicycle and pedestrian plan needs to include linkage to all area schools. A good example of how this is done well is Sheridan, WY. Also linked should be area athletic facilities, swimming pools, as well as community facilities such as YMCA, library, and the downtown area. Doing this will functionally integrate pedestrians and bicyclists in everyday life activities and errands, which will reduce our need for and dependence on motor vehicles, which will free up city space for communal use. Also: we need a safe and user-friendly crossing over Omaha Street, somewhere between Mountain View and Founders Park Drive. A bridge for pedestrians and bicyclists would work. Whenever new roads are built, they should be required to include separate bicyle/pedestrian pathways. Does anybody else see a need for motor vehicle driver education about pedestrians and bicyclists? The notion that we have to slow down and wait with our cars, if we cannot assure safe lateral passing distance at safe passing speed, seems to be missing for some of our drivers. Any plans for electric vehicle charging infrastucture going forward (public stations, multiple)? Lastly, I cannot enter any comments in the comment box (Provide Your Comments); it remains nunfunctional for me, despite using all different browsers recommended. It erases whatever I write midway into the first line.....
4	Susan Marcks	Hello, I noticed in the Rapid City Journal that they were discussing the future development of biking and pedestrian plans in Rapid City. I have written requests in the past, with no response or updates - but will try to see if I can be heard here too. Deadwood Avenue DESPERATELY needs a sidewalk. There are several bikers and pedestrians there on a daily basis that are in danger. The road is too busy to ride on and the rutted out grassy area beside the road is extremely dangerous, hard to ride on, not maintained, it really is just an accident waiting to happen. In fact, twice in the last 6 years, I have had two different co-workers struck by cars on their bikes when trying to ride on the road. Thankfully no one has been seriously injured... yet. A sidewalk on the east side of deadwood ave can potentially save lives. Thanks for your consideration on this very long awaited, and overdue upgrade to our city. Susan Marcks
5	Julie Godbe	Please mitigate the narrow shoulder rumble strips as a safety hazard for cyclists. Wide (continuous) shoulder repair and requirement would make the narrow shoulder rumble strips less dangerous. (e.g. Hwy 385 and south Haines Ave.) In using SDPS accident statistics to guide safety planning, please note that there is inequity for cyclists because cycling statistics are not counted unless there's a death or a car is involved and there is over $1000 damage. So safety engineers need to think outside the motorist-centric statistic box on this and be proactive for cyclists instead of marveling at the STILL rising ped/cycling statistics. It's bad! I attended the October 2019 ped/cycling planning meeting and ineffectively communicated my concern for narrow shoulder rumble strip on a post-it note. The 2019 state highway safety plan for more shoulder rumble strips is disturbing!
6	James Chastain	There is a need to connect the city bike path on the east to the designated bike path along Twilight Dr and the sidewalk on the north side of SD Hwy 44. This would require adding about 1/2 mile of wide sidewalk along E Saint Patrick St to SD Hwy 44. Thank you
7	Ann Hilton	I would like to ride my bike from the valley into town. Is this going to be in the plans?
8	Bobby Sundby	Would really like to see the bike path extended up towards fountain Springs golf course area. Thank you
9	James Fuhrmann	There is no sense to add to the bike path if the Parks Dept. and Police are going to use it as a freeway. I ride the path daily and over 35% is broke up. This damage isn't from bikes. The bike path can't be maintained with that kind of abuse. I have seen water trucks, skid steers, pickups, trucks with cut down trees on them not to mention the ambulances. The Parks Dept. says they have to use it to get to garbage pickup. Maybe more thought should be put into the location of the garbage can location.
10	Sara Odden	I would like to see a connection to the bike path from the Red Rock Meadows/Red Rock Estates/Red Rock Village/High Pointe Ranch/Countryside Subdivisions. I wonder if a path connection along the Shooting Star Trail ROW from Wildwood/Sheridan Lake Road to Poppy Trail would be good for consideration. These neighborhoods have no connection to the trails and this may be beneficial and a good use of the existing section line ROW that will likely never become a thru street.
11	Josh Tjeerdsma	I would like to give my input regarding bicycle transportation infrastructure. I have commuted to work in Rapid City by bicycle for the last 20 years. I have traveled a lot with my job and have noticed that all major metropolitan areas have been rapidly expanded their bike lane infrastructure to make cycling more safe and efficient. It seems that most cities include bike lanes in all new road construction. I have been disappointed seeing road projects in the area being completed without bike lanes. I feel like we are falling behind the rest of the country in this area. I feel like cycling and pedestrian infrastructure is a major attraction to people moving to a new town. I know that once a large road project is completed it wont be redone for a long time, so it seems important to plan for the future. I have also been hit by a car while riding and had numerous close calls in Rapid City. My children also use bicycles as a way to travel around the city, and it frightens me knowing how dangerous it is here. I would ask that the local government take more consideration of alternative modes of transportation for the future of our city and safety. As a side note, I also feel the city is focusing too much energy in the Civic Center corridor when it seems like our issues lie elsewhere. During the tourist season and off season there seems to be a lot more activity and congestion around outdoor areas like Hanson Larson park than the Civic Center. I hope the city is taking that into consideration with the new Omaha street construction. Please don't let our beautiful city fall behind by focusing too much energy and tax dollars in the wrong places. Thanks for your time. Josh Tjeerdsma
12	Sage Harkin	Kota news took too long to present the project! I've never owned a car. * My concerns were always these: - There's no pedestrian signs/lights/crosswalk on the I-90 & Jackson Blvd intersection. - Sidewalk needed on W. Main at least from West St. to Cross St. - Traffic signs, etc. are haphazardly placed "in the middle of sidewalks" all over Rushmore Rd, and a few other places. Stupid! - E. St. Patrick has storm water grates on the street that can trap bike tires as they are parallel to traffic flow! - A hike & bike tunnel through Skyline would be a blessing over long trip around it! * Paths well made are on S. 5th St., S. Sheridan Lake Rd., and downtown, though those need repainting. ~ Thank You

13	Conor McMahon	As a regular cyclist, for both recreation and transportation I would love to provide feedback on the Bike Plan. But a 110 page plan with no abstract is very unapproachable. I can tell you that having lived in several cities all of the country, Rapid feels way behind in its bike infrastructure. The bike path is great, but what is really needed are real bikes lanes on major streets. Not painting a bike in the road and calling it a bike lane. Drivers in this city are very hostile to cyclists. We need physical barriers separating bike lines. I see a huge issue with people trying to bike from the west and SW side of the city, through the gap, to work or recreate downtown. There is no way to do this safely right now. Riding on West Main Street through the gap literally makes me fear for my life. The alternatives is riding on that sidewalk. This might be the worst maintained sidewalk in Rapid City. I have wrecked my bike just do to huge uneven spots in the pavement. This sidewalk is also heavily used by pedestrians so I hate riding on it but its the only "safe" option. In short, IMHO, the two biggest priorities should be a safe, physically separated bike path on west main through the gap, and 2)installing physical barriers to create a dedicated bike lanes in downtown rapid. I'm also going to say that it seems like residents on the north and east side use bicycles for transportation out of necessity due to economic conditions. So please dont just put all the money into the west side of town, distribute it equally among all residents. Thanks for your work on this and have a great day.
14	Tom Blue	The Canyon Lake Drive bike lane is rarely used. However when the road was reduced from 4 lanes to 2 lanes (with turning lane), it created a lot of vehicle congestion, especially at high traffic times. I am also a bike rider and would often ride in one of the former vehicle lanes. It worked fine. Please remove the bike lane, re-stripe to 4 lanes, and make the outside lanes a shared vehicle/bike lane for the occasional bike rider. There's just too much vehicle travel on that road for only 1 lane in each direction. Thank you.
15	Stacy Torneten	I would like to recommend crossing lights in high speed areas. As an example Viking & Haines intersection. Traffic will not stop if you are at the crosswalk. in many cases speed is an issue people heading north are picking up speed as they head out or those coming down off the hill are going faster than the posted limit. The other issue with this specific intersection is if you slow down to let someone cross the cars behind will pass you. this becomes a dangerous situation for pedestrians or bicycles, this area has grown tremendously with more children. Thank you.
16	Matt	Rapid City needs more room on most if not all major roads for bicycle commuters. Most streets if there is commuter the vehicles are in your hip pocket when they pass. Meaning they have to slow down or enter the other lane to pass the bicycle, making it more stressful for the driver, and the rider, as well as all traffic. The more this happens to a driver the more often they get frustrated with the biking community and less likely they are to show them respect. I was even clipped a few weeks ago at the corner of St. Patrick, and St. Joesph while biking because people didn't care, the other cars behind that person didn't even stop to see if I was ok, just kept driving. Is there a location to view the 2011 bicycle and pedestrian plan to see what it all entails from 9 years ago?
17	Jessica Oliveto	There is A TON of foot/bike traffic on S Canyon RD. The speed limit is 35 mph, which seems too high for a 2 lane residential road. There are also pedestrians crossing the road multiple times a day near 4532 S Canyon Road. A crosswalk and Capital and S Cayon is desperately needed.
18	Steve Flanery	I have ridden my bicycle for 15 miles a day since April. I leave my home in west Rapid City and hop on the bike path from Canyon Lake to downtown. I ride a combination of bike path/city streets and dirt trails on Hanson-Larsen and Skyline Park. This town is not bike friendly, too many distracted and angry vehicle drivers on city streets and walkers on the bike path. Once the pandemic subsides, I believe the bike traffic will not substantially be reduced. Hanson-Larsen does is not supported by tax revenue and we need more public/private partnerships and collaborations to meet the demand of the cycling public. Make no mistake about it, world class trail riding like we have at Hanson-Larsen is economic development and attracts many visitors who like to spend money. We need to be known as a bike friendly community and we had better get with the program!
19	Gregory Josten	Moon Meadows Road is in need of a bicycle/pedestrian path. The road is experiencing increasing use by bicyclists, walkers, and runners. However, much of the road has no shoulder forcing people either into the ditch or on the pavement. Passing forces motorists into the oncoming traffic lane along a road with many sharp curves and hills. The best solution is a paved path that parallels the road. Gravel will not be acceptable because cyclists with thin-tired road bikes will not ride on gravel. I'm afraid it's just a matter of time before current conditions result in an accident causing someone to get seriously injured or killed. Thank you for the opportunity to provide input!
20	James	Keep the damn bikes off the road and on the sidewalk where they belong.
21	Eric Henrickson	Please develop areas outside of the couple blocks of downtown that we have. As previously stated, the Deadwood Avenue area is full of people that would love to commute without a car (many of my coworkers live on the west side) but there are simply no safe ways to do that today. I live at the top of West Chicago and was excited to see a sidewalk as part of the plans when the road was being redone a couple of years ago. Of course, it wound up being on the wrong side of the road and not actually connecting to anything. Seriously! ?! Maybe two more blocks and it could have connected to the bike path. Very short sighted. I would also add that compared to many other dedicated pedestrian transport networks, our bike path is laughably narrow. On a day with more traffic you can do nothing but ride/walk single file, which may be fine for commuting but completely defeats the purpose for most leisurely users. I have four young kids, keeping them all in a line as we use the bikpath/sidewalks is difficult at best. Failure to connect more intentionally to the newly remodeled Baken Park and Canal Street business centers would be another huge miss. Speaking of shopping, how in the world did we manage to completely isolate the Rushmore Crossing Mall from all viable forms of pedestrian traffic? The only way to get there is via car, which is a major pain given how the parking lots are layed out. For those brave enough to risk riding their bike, there are no accommodations once you arrive. I realize our outdoor season can be limited here, but during the times we are able to use it, our pedestrian system is stressed to the max. There are other states with similar climates doing a much better job of this than we are right now.
22	Rod Pettigrew	I use the bike path as a commuter on my bike to work everyday. I mean everyday, thru snow, ice, rain and wind. Overall, I believe we have a great biking system. I live on St Cloud Street west of West Blvd and I work at Flooring America out by Menard's. Everyday about 6:00 AM I head down 11th Street to Kansas City over to 6th, across Omaha at the Promenade, take the bike path to Roosevelt Park and then zig zag on streets to Kmart, cross Campbell and eventually end up where I work. Yes it would be great to have a bike path from point A to point B, bike lanes all over town, a underground or overpass at Omaha, but all of this cost money. As you know, Rapid City is not the bike riding capital of anything. It is growing but has a long way to go. Here are my thoughts: Rapid City automobile drivers have NO respect for bike riders, NONE. Can not tell you how many times I have been flipped off, honked at, cars coming as close as they can. I am one of the few who follows the rules of the road while riding my bike. Soy, not only should there money invested in however the system needs to be improve, it also needs money invested in a very aggressive campaign in educating the public about bikes on the road. I know the existing infrastructure limits what can be and can not be done at a reasonable cost. It would certainly be great if all streets had a bike lane or bike markings. Certainly not all streets but maybe create a bike map that could get one from here to there with bike lanes or bike markings. I have biked along the bike lane on Jackson and really do not feel comfortable. Cars just speed by to close and there is not room for error. Like previously mentioned, I cross Omaha at the Promenade early in the morning and between 4;00 and 6:00 PM everyday. I really do not see the need for a change with what is there. Yea, I sometimes need to wait, I think it is ok to have traffic slow down and stop, makes Omaha safer. I know planners goal is to get cars down main corridors as fast as they can. I believe get them to a main corridor but there is nothing wrong with making them stop for pedestrians and bikes. I have been confused and disappointed by an offer I made last year. The bike markings on Kansas City Street and 6th Street have been worn and weathered away. I believe these are important. I called and talked with some department head last year who was in charge of over seeing the bike markings. My question was, what is the cost to do 1 marking. Once I would know the cost, I would do simple math and explained I was willing to pay out of my own pocket to have as many repainted as possible at NO cost to the city. FREE, I would pay labor and material. They turned me down on my offer, still can not figure that out. The markings on the road should make drivers of cars more aware that bikes use the lane. The bike path is great, the only issue I have is the volume of some of our less fortunate who are often in desperate condition. I know of people who do not use the bike path from the Civic Ctr east because of this. They feel unsafe. I guess I use the bike path often enough that I recognize them and maybe they recognize me as a lonely bike rider. Do not know if any of this helps, just my .02 worth.
23	Edna Steinberg	City Springs Road sidewalks: From end of 44th Street there is approx 2 blocks of no sidewalk on either side of the street. Also no sidewalk to Elizabeth - Seton School. St Martins Village has added 50 twin homes since 2013, of these at least 22 in the last two years. Plus an apartment and a nursing home since 2013 Lots of walkers, not just residents, go by our house every day, winter or summer. School kids ride their bikes to school also. Drivers do not go 25 mph. There are 26 signs in just the SMV area on City Springs Road

24	Maria Thouron	I just have a couple of comments about bike/pedestrian access here in Rapid City. While I love the bike trail we have, more trails/offshoots would be very welcome. My husband and I used to live in Lincoln, NE, and at the time neither of us owned a car--we were able to commute via bicycle everywhere we went because their trail system covered the city so well. That is sadly not the case here. For example, we live north of the Civic Center, and our daughter's daycare is by Pinedale Elementary. There is no good, safe route for us to bike from our house to that neighbor hood, even though getting from our house onto the trail is relatively easy. Our previous daycare was located north of Rapid, on Steeler Lane, and while there is an excellent wide sidewalk leading out to that area, it is a loud and stressful ride next to such a busy road. Since there is still a lot of undeveloped land north of town, why not put a trail in that doesn't follow the road so closely? Biking out to Rushmore Crossing is also problematic, since it is on sidewalks with many road crossings (and bicyclists are technically supposed to walk their bikes through every single road crossing). There is also a sad lack of acceptable sidewalks, especially in North Rapid. One of the most obvious deficiencies, along East Blvd next to the former Prairie Market, has finally been remedied, but there are still many sidewalks in North Rapid that are in poor repair and have no access ramps, making them very difficult for those on bikes, with strollers, or in wheelchairs to use. Is there a way to revitalize some of these sidewalks and, at the minimum, put access ramps in? Thank you for working on this!
25	Chris Matusiak	I like to ride thru town but the conditions of the roads are terrible. They need to re-asphault the downtown side roads like 4th st, 9th, etc. The bike lanes on the sidewalks around Quincy & Kansas City st are ok but could use more signage. We could use more designated lanes for bikes only. Not everyone goes where the bike path runs.
26	Bill Cantalope	there actually is no place to ride bikes downtown, the side walks are tight and the diagonal parking makes it impossible to ride on the streets in certain places. It would be nice to build a walk/bike way across Chicago Street. Allowing restaurants to have table space on the sidewalks make it difficult to ride. I guess reduce the speed limit and mark out a bike lane on the road is one idea, bikes are suppose to follow automobile rules, or place signs around stating Walkers/Bikers Share the space on the side walk, also the city need to have foot patrol down town to protect the tourist.

WRITTEN TESTIMONY
(Please Print or Type)

Concerning the TENTATIVE 2021-2024 ~~SDDOT STATEWIDE TRANSPORTATION IMPROVEMENT PROGRAM (STIP)~~ Rapid City MTP

Please mitigate the narrow shoulder rumble strips as a safety hazard for cyclists. Wide shoulder repair and requirement would make the narrow shoulder rumble strips less dangerous on our tourist-attracting, scenic, windy and hilly narrow 2-lane roads. Eg Hwy 385 & Haines

In using the accident statistics to guide safety planning, please note that there is inequity for cyclists because bike statistics are not collected unless there's a death or a car is involved AND there's more than $1000 damage. So safety engineers need to think outside the "auto-centric" statistic box on this and be pro-active for vulnerable cyclists instead of re-active to inequitable statistics.

I attended the October 2019 planning meeting and ineffectively communicated this concern on a post-it note. The 2019 state highway safety plan for more shoulder rumble strips is disturbing!

NAME: Julie Godbe **DATE:** 7-13-20
ADDRESS: 4930 Ireland Pl
CITY: Rapid City 57702 **STATE:** SD

Written testimony will be included in the meeting record. Comments should be submitted by July ~~28~~ 16, 2020 to:

~~Darin Bergquist, Secretary~~
~~South Dakota Department of Transportation~~
~~700 East Broadway Ave~~
~~Pierre, South Dakota 57501-2586~~

cc Kip Harrington
Transportation Planning
Community Planning & Dev Services
300 6th St RC SD 57701

Or e-mail your comments along with your address to: ~~Levi.Briggs@state.sd.us~~

julie.godbe@gmail.com 394-4120

Hamilton, Dustin

From: Harrington Kip <Kip.Harrington@rcgov.org>
Sent: Tuesday, July 14, 2020 3:59 PM
To: Hamilton, Dustin
Subject: FW: Satisfied caller/Dial-a-Ride

FYI.

Kip Harrington
Planner III
Long Range Planning
Rapid City Department of Community Development
300 6th Street
Rapid City SD 57701
(605) 394-4120
kip.harrington@rcgov.org

From: Shoemaker Darrell <Darrell.Shoemaker@rcgov.org>
Sent: Tuesday, July 14, 2020 3:58 PM
To: Harrington Kip <Kip.Harrington@rcgov.org>
Cc: Gould Megan <Megan.Gould@rcgov.org>; Tech Dale <Dale.Tech@rcgov.org>
Subject: Satisfied caller/Dial-a-Ride

Took a call from a Phyllis Alexander...phone is 390-0341...

She had seen the media item or the FB item on the online feedback for the transportation plans...

She is 88 years old and wanted to know if any of this involves transportation...I told you were looking at various different reports, and yes transportation/transit is a part of it.

She didn't know how to do the online feedback but wanted us to know that she uses Dial-a-Ride several times to go to the Regional Sports Center and to other doctors...and she has NEVER had a bad experience with Dial-a-Ride...she commends the drivers and they are always usually on time give or take...she doesn't want to see any changes in the system...it's great for older folks...and demanded her voice be heard. I told her I would share both with the folks taking feedback but also the Rapid Transit folks...she was glad I would do that and said again, Dial-a-Ride is wonderful.

There you have it...glad to get such calls....

Thank you,

Darrell W. Shoemaker | Communications Coordinator
T: 605.721.6686 | M: 605.939.8551
E: Darrell.Shoemaker@rcgov.org
W: www.rcgov.org

July 14, 2020

Bike/Pedestrian Plan Update Thoughts and Comments
Rapidtrip2045.com

Based on the foundational statement in the plan of:

> Proposed projects from the 2011 plan will be evaluated to determine if they should be maintained as-is or be modified or removed. Modified or additional projects will be based on evaluation of LTS, equity, bike and ped demand, existing and proposed bike/ped networks, identified network gaps, connections to facilities and destinations, and public input with a specific focus on low-stress facilities and streets.

I believe it is time for Rapid City to go to the next level for bicycle safety and accessibility. We have an opportunity to create a world class biking community. We already have many of the necessary facilities and support systems in place. We should ask the question, "What kind of community are we?", when it comes to a bicycle and pedestrian friendly atmosphere.

When I was in college at the South Dakota School of Mines and Technology many people including myself were active bicyclists. Many of my classmates commuted (weather permitting) from their homes to campus. My friends and I would often spend weekends riding through town, up highway 44, and back to campus.

I have waited years to finally have a job where I can ride my bike to work. Riding through our city over the last few months as a commuter, and over the past few years as recreational biker I have learned a great deal.

In Rapid City it appears there are four types of riders:

- Casual/Leisure
  - These are your families and the occasional riders you see on the bike path.
- Recreational
  - These people cross over from riding the bike path to enjoying the Hansen-Larson and the skyline drive paths.
- Commuter/Student
  - This demographic provides us with the greatest opportunity for expansion. These riders are challenged by the disjointed, obstacle laden, traffic interference system currently in place. These riders also must leave the safety of our primary system and travel streets and sidewalks to reach their destination.
- Competitive/Advanced
  - These riders are primarily seen in the streets and on our single track paths on M Hill and the Skyline Drive systems. They will continue to ride with traffic. They must be allowed to do so, however, anything we can do to make their ride safer must be done.

Each of these have their place in the system and require differing, yet shared facilities to accommodate everyone.

There are some fairly simple things we can do without much effort or expense to aid our journey to being a full circle bicycle friendly community.

1. Connections
    a. Look at bike paths the same way we look at roadways, with main routes and then feeders connecting to destinations
    b. Look at means to get the Casual/Leisure riders to the bike paths.
    c. Find out where our active bikers (and potential bikers) would like to go – and go there.

2. Destinations
    a. Downtown
    b. Parks System
    c. SDSMT
    d. Western Dakota Vo-tech
    e. Grocery/shopping
    f. Neighborhoods
    g. Parking friendly facilities at destinations (Secure)

3. Design
    a. Stop being an afterthought – It seems like we design the roadway and then as an afterthought throw the bike way on somewhere.
    b. Grades: many places on our bike path system have steep grades and even grade breaks where we transition from very flat to steep instantly.
    c. Curve limitations: some of the curves are too tight and prohibit a smooth pass through. Bikers often must slow down and sometimes even dismount if there are other riders or pedestrians.
    d. Limitation of obstacles: see safety below
    e. Markings: many places our bikeways cross streets or parking lots and there are not clear markings leaving the riders and runners to fend for themselves against traffic.
    f. Visibility: (for both the cyclist and the vehicles). Many locations where the bike path crosses traffic it is challenging to see cars or bikes.
    g. Bottom line – there should be design criteria for the bikeways the same as we have for roadways.

4. Safety
    a. Assess our current system with regards to safety, in some places the bike way is the most convenient place to put power poles, signs, fire hydrants, and many other obstacles to a smooth clear safe ride.
    b. Look specifically at obstacles, crossings, visibility

5. Events
    a. Sponsor events (When the Covid-19 pandemic subsides and permits the opportunity)
    b. Promote bicycle ridership through ad campaigns, local businesses, and news stories.

To delve into the design aspect a little more: we should look at a graduated path improvements. To build a concrete path to access everything is very cost prohibitive. I suggest we take an approach whereas there are differing levels of service.

A basic level dedicated bikeway could be a crushed fines paths similar to the Michelson Trail or the City of Deadwood path. The crushed fines path has been used very successfully as a multiuse path in major cities such as Denver and Austin Texas. This would be good option to improve the existing path connecting to Western Dakota Vo-tech. The crushed fines path is also a cost effective way to determine effectiveness and provide a base moving to a higher level of service.

The second level could be an asphalt surface. These work very well for a more traveled all weather pathway. An example of a great asphalt path is at Angostura Reservoir. The SD State Parks have gradually continued to extend the path and is a popular path for visitors and it provides connections to their facilities.

The third level is the concrete paths such as we have through the city. These are more expensive but also provide a higher level of service. The concrete paths should be incorporated into street projects to provide our connections whenever feasible.

The challenging task is to commit funding to the goal.

Hamilton, Dustin

From: Nancy Jordan <jordantimes5@hotmail.com>
Sent: Wednesday, July 15, 2020 9:45 AM
To: Hamilton, Dustin
Subject: Re: Contact for MTP Comments

re. mpo2045 study

As discussed, our systems will not allow us to comment on mpo software.

Comments

1. Does this current plan consider the impact of the global pandemic which started in October of 2019. If not, should this be stated in assumptions.
2. I am still confused about the impact of the whooping Crane migration route. Has the bat and crane background work been done to justify the two routes from North Haines Ave east north of Box Elder creek? The one route runs closer to the nesting grounds than the existing road.
3. Figure 8-1. legend references MTP inconsistences. This plan appears to show four different roads across our property. A corridor study was completed. Were the results not accepted by all government agency's? The road which was studied next to Box Elder creek did not make the final consideration due to flood plain. it now exists on this plan.
4. Figure 9-3. project 158. This project appears to be the old connecting road from before the $250,000 corridor study. Was this route reselected? No project number for corridor study route.
5. Figure 9. Flood plain map. Please verify flood plain for Box Elder creek.

Thank you.
Stay Safe.

Jon Jordan

From: Hamilton, Dustin <Dustin.Hamilton@hdrinc.com>
Sent: Wednesday, July 15, 2020 8:08 AM
To: jordantimes5@hotmail.com <jordantimes5@hotmail.com>
Subject: Contact for MTP Comments

Contact information for comments on RCAMPO MTP.

Dustin Hamilton, PE
Transportation Business Group Manager

HDR
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16th July 2020

Kip Harrington
Planner III
Long Range Planning
Rapid City Department of Community Development
300 6th Street
Rapid City SD 57701
(605) 394-4120
kip.harrington@rcgov.org

Dear Mr. Harrington,

First of all, I would like to thank all that have been a part of developing the 2045 plan for bicycle and pedestrian travel and for the opportunity to provide comments. I will address the plan from a bicyclist's perspective, and specifically one that is an avid cyclist and daily commuter.

I do not agree with how the miles of existing bicycle infrastructure is tabulated. For example the "existing trail" on Sheridan Lake Rd from Jackson to Catron is just a large sidewalk with multiple driveways and entrances to businesses. This street sees high traffic volumes at high speeds of 35 MPH and greater and therefore introduces a high stress scenario. As a result of this scenario there are low amounts of commuters from this area. The same logic can be applied to 5th Street and other areas around the city and I fear that these areas over inflate the true state of infrastructure available to cyclists.

After thorough review of the plan I can support the recommended facility types and locations based on priority. In fact, one can imagine that I am excited to see the recommendation to add 97 miles of bike infrastructure for the high and medium priorities and potentially gain 17 miles in new construction facilities. However, the fiscally constrained plan achieves only a minute fraction of the recommended plan.

The fiscally constrained plan only adds 4.59 miles of cycling infrastructure over 25 years. To put this in perspective, by the time my kids have kids, bicycle infrastructure will not be any better than they are today. Furthermore, to my understanding, the fiscally constrained miles are only achieved if funding is awarded through grants and the city is able to provide 20% of the project cost. I am concerned that there is no set funding or line item within the city budget for expansion of the cycling infrastructure. Without set funding to back the initiative of making commuting by bike a viable option in Rapid City we will never progress.

At this time we need to invest in the infrastructure for cyclists to make cyclists feel safer and to make travel more convenient. If we can do this, it will attract more and more commuters and reduce the load on the vehicle traffic plans.

Sincerely,

Lucas Haan

Appendix F: Generalized Centerline Mile Costs for Bicycle and Pedestrian Improvements

Rapid City Area MPO Bicycle & Pedestrian Plan

Sidewalk-Level One-Way Separated Bike Lanes Cost per Mile

Description	Unit	Quantity	Unit Price	Total
MOBILIZATION	LS	1	10%	$ 52,047.40
MAINTENANCE OF TRAFFIC	LS	1	6%	$ 31,228.44
PREVENTION, CONTROL & ABATEMENT OF EROSION & WATER POLLUTION	LS	1	$ 30,000.00	$ 30,000.00
CLEARING & GRUBBING	LS	1	$ 70,000.00	$ 70,000.00
TYPE B STABILIZATION (MIN. LBR 40) (12")	SY	5900	$ 10.00	$ 59,000.00
OPTIONAL BASE GROUP 02	SY	5900	$ 20.00	$ 118,000.00
ASPHALTIC CONC. FRICTION COURSE TRAFFIC C, (FC-9.5.5) (INCL. TACK COAT)	TN	700	$ 160.00	$ 112,000.00
CONCRETE SIDEWALK, 4"	SF	4500	$ 5.60	$ 25,200.00
CONCRETE SIDEWALK, 6"	SF	360	$ 8.25	$ 2,970.00
LANDSCAPE COMPLETE- SMALL PLANTS	LS	1	$ 50,000.00	$ 50,000.00
SINGLE POST SIGN, F&I GM, <12 SF	AS	30	$ 100.00	$ 3,000.00
COLD APPLIED PLASTIC PAVEMENT MARKING, MESSAGE	EA	40	$ 56.00	$ 2,240.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, MESSAGE	EA	40	$ 55.60	$ 2,224.00
COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW	EA	40	$ 223.00	$ 8,920.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW	EA	40	$ 223.00	$ 8,920.00
RAISED SPEED TABLE	EA	7	$ 4,000.00	$ 28,000.00
CONTINGENCY			10%	$ 60,374.98
CEI			10%	$ 60,374.98
DESIGN			12%	$ 72,449.98
TOTAL				**$ 796,949.79**

Assumptions:

No street milling & resurfacing assumed
No adjustments of roadway width or existing curb & gutter
No driveways assumed to be replaced
Five (5) intersections per mile assumed
Four (4) curb cut ramps to be replaced at each intersection (2 SY per ramp)
Four (4) wayfinding signs per intersection with one (1) sign assumed between each intersection
Existing sidewalks to remain with only spot replacements required
Bicycle messages and arrow pavement markings included on separated bike lanes
Raised speed tables included for side streets; no raised speed tables proposed for driveways

Rapid City Area MPO Bicycle & Pedestrian Plan

On-Street Two-Way Separated Bike Lanes Cost per Mile

Description	Unit	Quantity	Unit Price	Total
MOBILIZATION	LS	1	10%	$ 79,006.00
MAINTENANCE OF TRAFFIC	LS	1	$ 60,000.00	$ 60,000.00
PREVENTION, CONTROL & ABATEMENT OF EROSION & WATER POLLUTION	LS	1	$ 40,000.00	$ 40,000.00
CLEARING & GRUBBING	LS	1	$ 10,000.00	$ 10,000.00
MILLING EXISTING ASPHALT PAVEMENT (1" AVG. DEPTH)	SY	18800	$ 3.00	$ 56,400.00
ASPHALTIC CONC. FRICTION COURSE TRAFFIC C, (FC-9.5.5) (INCL. TACK COAT)	TN	1100	$ 160.00	$ 176,000.00
TRAFFIC SEPARATOR CONCRETE-TYPE I, 3' WIDE	LF	3168	$ 60.00	$ 190,080.00
CONCRETE SIDEWALK, 6"	SF	360	$ 8.25	$ 2,970.00
LANDSCAPE COMPLETE- SMALL PLANTS	LS	1	$ 50,000.00	$ 50,000.00
SINGLE POST SIGN, F&I GM, <12 SF	AS	30	$ 100.00	$ 3,000.00
RETRO-REFLECTIVE/RAISED PAVEMENT MARKERS	EA	600	$ 6.00	$ 3,600.00
PAINTED PAVEMENT MARKINGS, STANDARD, YELLOW, ISLAND NOSE	SF	100	$ 4.00	$ 400.00
PAINTED PAVEMENT MARKINGS, FINAL SURFACE	LS	1	$ 5,000.00	$ 5,000.00
COLD APPLIED PLASTIC PAVEMENT MARKING, WHITE, SOLID, 8"	LF	10560	$ 6.70	$ 70,752.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING 8"	LF	10560	$ 1.70	$ 17,952.00
COLD APPLIED PLASTIC PAVEMENT MARKING, WHITE, SOLID, 24"	LF	100	$ 22.50	$ 2,250.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING 24"	LF	100	$ 5.00	$ 500.00
COLD APPLIED PLASTIC PAVEMENT MARKING, WHITE, MESSAGE	EA	60	$ 56.00	$ 3,360.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, MESSAGE	EA	60	$ 55.60	$ 3,336.00
COLD APPLIED PLASTIC PAVEMENT MARKING, WHITE, ARROW	EA	40	$ 223.00	$ 8,920.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW	EA	40	$ 223.00	$ 8,920.00
COLD APPLIED PLASTIC PAVEMENT MARKING, YELLOW, SOLID, 8"	LF	10560	$ 6.70	$ 70,752.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING 8"	LF	10560	$ 1.70	$ 17,952.00
COLD APPLIED PLASTIC PAVEMENT MARKING, GREEN, SOLID, 24"	LF	360	$ 22.50	$ 8,100.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING 24"	LF	360	$ 5.00	$ 1,800.00
STAMPED ASPHALT	SF	6336	$ 6.00	$ 38,016.00
CONTINGENCY			10%	$ 92,906.60
CEI			10%	$ 92,906.60
DESIGN			12%	$ 111,487.92
TOTAL				**$ 1,226,367.12**

Assumptions:

Milling & resurfacing provided on 1-inch mill & overlay

No adjustments of roadway width or existing curb & gutter

No driveways assumed to be replaced

Five (5) intersections per mile assumed

Four (4) curb cut ramps to be replaced at each intersection (2 SY per ramp)

Four (4) wayfinding signs per intersection with one (1) sign assumed between each intersection

Existing sidewalks to remain, no improvements

Physical traffic separator assumed between travel lane and separated bike lane (concrete, 3-ft wide) over 60% of the distance per mile; the balance of the distance is assumed as stamped/colored asphalt

Rapid City Area MPO Bicycle & Pedestrian Plan

Multi-Use Trail Cost per Mile

Description	Unit	Quantity	Unit Price	Total
MOBILIZATION	LS	1	10%	$ 78,642.79
MAINTENANCE OF TRAFFIC	LS	1	6%	$ 47,185.67
PREVENTION, CONTROL & ABATEMENT OF EROSION & WATER POLLUTION	LS	1	$ 50,000.00	$ 50,000.00
CLEARING & GRUBBING	AC	3.9	$ 11,000.00	$ 42,900.00
TYPE B STABILIZATION (MIN. LBR 40) (12")	SY	7100	$ 10.00	$ 71,000.00
OPTIONAL BASE GROUP 02	SY	7100	$ 20.00	$ 142,000.00
ASPHALTIC CONC. FRICTION COURSE TRAFFIC C, (FC-9.5.5) (INCL. TACK COAT)	TN	800	$ 160.00	$ 128,000.00
DRAINAGE STRUCTURES	EA	20	$ 6,000.00	$ 120,000.00
CONCRETE SIDEWALK, 4"	SF	4500	$ 5.60	$ 25,200.00
CONCRETE SIDEWALK, 6"	SF	16110	$ 8.25	$ 132,907.50
LANDSCAPE COMPLETE- SMALL PLANTS	LS	1	$ 50,000.00	$ 50,000.00
SINGLE POST SIGN, F&I GM, <12 SF	AS	40	$ 100.00	$ 4,000.00
COLD APPLIED PLASTIC PAVEMENT MARKING, WHITE, SOLID, 24"	LF	60	$ 22.50	$ 1,350.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING 24"	LF	60	$ 5.00	$ 300.00
COLD APPLIED PLASTIC PAVEMENT MARKING, YELLOW, SOLID, 8"	LF	1056	$ 6.70	$ 7,075.20
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING 8"	LF	1056	$ 1.70	$ 1,795.20
COLD APPLIED PLASTIC PAVEMENT MARKING, GREEN, SOLID, 24"	LF	360	$ 22.50	$ 8,100.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING 24"	LF	360	$ 5.00	$ 1,800.00
CONTINGENCY			10%	$ 91,225.64
CEI			10%	$ 91,225.64
DESIGN			12%	$ 109,470.76
TOTAL				**$ 1,204,178.40**

Assumptions:

No street milling & resurfacing assumed
No adjustments of roadway width or existing curb & gutter
Trail width is 12 feet
One (1) drainage structure/block/side of the street is anticipated to be added or adjusted
Five (5) intersections per mile assumed
Four (4) curb cut ramps to be replaced at each intersection (2 SY per ramp)
Four (4) wayfinding signs per intersection with one (1) sign assumed between each intersection
Seventy (70) driveways per mile are required to be reconstructed to meet ADA requirements
Existing sidewalk on the side of the multi-use trail to be removed

Rapid City Area MPO Bicycle & Pedestrian Plan

Buffered Bike Lanes Cost per Mile

Description	Unit	Quantity	Unit Price	Total
MOBILIZATION	LS	1	$ 4,000.00	$ 4,000.00
MAINTENANCE OF TRAFFIC	LS	1	$ 3,000.00	$ 3,000.00
PREVENTION, CONTROL & ABATEMENT OF EROSION & WATER POLLUTION	LS	1	$ 2,000.00	$ 2,000.00
CLEARING & GRUBBING	LS	1	$ 1,000.00	$ 1,000.00
HYDRO BLASTING (PAV'T MARKING REMOVAL)	SY	600	$ 20.00	$ 12,000.00
COLD APPLIED PLASTIC PAVEMENT MARKING, WHITE, SOLID, 8"	LF	10560	$ 6.70	$ 70,752.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING 8"	LF	10560	$ 1.70	$ 17,952.00
COLD APPLIED PLASTIC PAVEMENT MARKING, WHITE, MESSAGE	EA	10	$ 56.00	$ 560.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, MESSAGE	EA	10	$ 55.60	$ 556.00
COLD APPLIED PLASTIC PAVEMENT MARKING, WHITE, ARROW	EA	10	$ 223.00	$ 2,230.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, ARROW	EA	10	$ 223.00	$ 2,230.00
CONTINGENCY			10%	$ 11,628.00
CEI			10%	$ 11,628.00
DESIGN			12%	$ 13,953.60
TOTAL				**$ 153,489.60**

Assumptions:

No street milling & resurfacing assumed

No adjustments of roadway width or existing curb & gutter

Conflicting markings to be removed by hydro-blasting

Rapid City Area MPO Bicycle & Pedestrian Plan

Shared Lane Cost per Mile (Neighborhood Bikeway w/ wayfinding & traffic calming)

Description	Unit	Quantity	Unit Price	Total
MOBILIZATION	LS	1	$ 7,000.00	$ 7,000.00
MAINTENANCE OF TRAFFIC	LS	1	$ 5,000.00	$ 5,000.00
PREVENTION, CONTROL & ABATEMENT OF EROSION & WATER POLLUTION	LS	1	$ 5,000.00	$ 5,000.00
CLEARING & GRUBBING	LS	1	$ 5,000.00	$ 5,000.00
SINGLE POST SIGN, F&I GM, <12 SF	AS	36	$ 100.00	$ 3,600.00
COLD APPLIED PLASTIC PAVEMENT MARKING, WHITE, MESSAGE	EA	20	$ 56.00	$ 1,120.00
GROOVING FOR COLD APPLIED PLASTIC PAVEMENT MARKING, MESSAGE	EA	20	$ 55.60	$ 1,112.00
RAISED SPEED TABLE	EA	10	$ 4,000.00	$ 40,000.00
CONTINGENCY			10%	$ 6,783.20
CEI			10%	$ 6,783.20
DESIGN			12%	$ 8,139.84
TOTAL				**$ 89,538.24**

Assumptions:

No street milling & resurfacing assumed

No adjustments of roadway width or existing curb & gutter

Ten (10) raised speed tables or speed cushions assumed per mile

Assumes placement of ten (10) sharrow markings per mile per direction

Assumes wayfinding / route signs in both directions

Rapid City Area MPO Bicycle & Pedestrian Plan

Sidewalk Cost per Mile

Description	Unit	Quantity	Unit Price	Total
MOBILIZATION	LS	1	10%	$ 24,837.80
MAINTENANCE OF TRAFFIC	LS	1	2%	$ 4,967.56
PREVENTION, CONTROL & ABATEMENT OF EROSION & WATER POLLUTION	LS	1	$ 25,000.00	$ 25,000.00
CLEARING & GRUBBING	AC	1.25	$ 11,000.00	$ 13,750.00
CONCRETE SIDEWALK, 4"	SF	23760	$ 5.60	$ 133,056.00
CONCRETE SIDEWALK, 6"	SF	7920	$ 8.25	$ 65,340.00
TYPE 1 DETECTABLE WARNINGS	SF	288	$ 39.00	$ 11,232.00
CONTINGENCY			10%	$ 27,818.34
CEI			10%	$ 27,818.34
DESIGN			12%	$ 33,382.00
TOTAL				**$ 367,202.04**

Assumptions:

Assume 6' sidewalk on one side of the street; overall cost doubled for sidewalks on both sides

No changes to section or drainage

Appendix G: Proposed Bicycle and Pedestrian Projects and Scoring

Rapid City Area MPO 2020 Bicycle/Pedestrian Plan - Proposed On-Street Bicycle Network Projects

PROJECT ID	ROUTE	EXTENT	LENGTH MILES	FINAL_FACILITY_TYPE	Connects 2+ Existing Facilities (50)	2+ Bike Crashes (25)	Critical Regional Link (25)	Bike Demand Score (0-50)	High Equity Score Area (3 or higher) (10)	Lowest Quartile of Bike Service (15)	High Equity & Low Bike Service (25)	Transit corridor (50)	Connection to Park/Rec Facility (50)	Relative Benefit/Cost Score (0-50)	Priority in 2040 LRTP (15)	Priority in 2011 Bike/Ped Plan (15)	Coincides with Roadway or Sidewalk Need (20)	Total Score	Priority Level	Estimated Project Cost	Comments / Notes
P081	Milwaukee St	Crestwood Drive - E New York Street	1.00	Shared Lane	50	25	25	48.5	10	15	25	50	50	45	15	15	0	373.5	High	$ 90,000	
P082	N Maple Ave/E Philadelphia St	Leonard "Swanny" Swanson - Cambell Street	1.17	Shared Lane	50	0	25	43.5	10	15	25	50	50	41	15	15	0	339.5	High	$ 105,000	
P524	Mt. Rushmore Rd	North Street - Omaha Street	0.44	Buffered Bike Lane	50	25	25	39.5	10	0	0	50	50	46.5	15	15	0	326.0	High	$ 65,000	Potential road diet (reduce to 3 lanes)
P561	St. Joseph St	West Boulevard - University Loop	1.60	Separated Bikeway	50	25	0	47.0	10	15	25	50	50	16.5	15	15	0	318.5	High	$ 1,621,000	Potential road diet (reduce to 2 lanes eastbound)
P504	North St	West Boulevard N - N 1st Street	0.87	Buffered Bike Lane	50	0	25	45.0	10	0	0	50	50	37	15	15	20	317.0	High	$ 130,000	
P573	N Lacrosse Street	Mall Drive - Railway Trail	1.98	Separated Bikeway	50	25	25	44.5	10	15	25	50	50	15.5	0	0	0	310.0	High	$ 2,003,000	
P458	5th St	Omaha St - Columbus St	0.45	Separated Bikeway	50	0	25	48.0	10	0	0	50	50	25.5	15	15	20	308.5	High	$ 458,000	5th/Omaha intersection at LOS D/E in 2045 (6th St Study)
P383	Mt. Rushmore Rd	Main Street - Omaha Street	0.16	Separated Bikeway	50	0	25	44.0	10	0	0	50	50	35	15	0	20	299.0	High	$ 157,000	
P384	Apolda St	Mt Rushmore Road - 6th Street	0.19	Shared Lane	50	0	0	43.0	10	15	25	50	0	49	15	15	20	292.0	High	$ 17,000	
P078	E Fairlane Dr	Elm Avenue - Robbinsdale Park	0.25	Shared Lane	50	0	0	43.5	10	0	0	50	50	48.5	15	15	0	282.0	High	$ 22,000	
P085	N Maple Ave	Disk Drive - Anamosa Street	0.57	Buffered Bike Lane	50	0	0	49.0	10	0	0	50	50	40	15	15	0	279.0	High	$ 86,000	
P522	Franklin Ave/Belleview Dr/E St Andrew St	West Boulevard - 5th Street	0.55	Shared Lane	50	0	0	40.0	10	0	0	50	50	47	15	15	0	277.0	High	$ 49,000	
P521	Van Buren St	Allen Avenue - Milwaukee Street	0.99	Shared Lane	50	0	0	46.5	10	0	0	50	50	39.5	15	15	0	276.0	High	$ 89,000	
P454	W Main St	Soo San Road - West Boulevard	2.14	Separated Bikeway	50	25	25	30.0	10	15	25	50	0	11.5	15	15	0	271.5	High	$ 2,160,000	
P095	West Blvd	Leonard "Swanny" Swanson - Flormann Street	1.18	Shared Lane	50	0	0	41.0	10	0	0	50	50	38.5	15	15	0	269.5	High	$ 106,000	
P411	Cathedral Dr/Fairmont Blvd	Mount Rushmore Road - Cambell St	2.09	Separated Bikeway	50	25	0	39.0	10	0	0	50	50	11	15	15	0	265.0	High	$ 2,115,000	
P579	E Main St	East Boulevard - 330 ft E of University Loop	0.71	Separated Bikeway	50	25	0	47.5	10	15	25	50	0	20.5	0	0	20	263.0	High	$ 713,000	
P525	Soo San Rd	SD 44 (Jackson Boulevard) - Brookside Drive	1.00	Buffered Bike Lane	50	0	0	29.0	0	15	0	50	50	32.5	15	15	0	256.5	High	$ 149,000	
P397	Silver St / Philadelphia St	Executive Drive - Silver Street	0.47	Buffered Bike Lane	50	0	0	37.0	10	0	0	50	50	43.5	15	0	0	255.5	High	$ 70,000	
P470	Jackson Blvd	Mountain View Road - W Main Street	0.48	Separated Bikeway	50	25	25	30.5	10	0	0	50	0	23	15	15	0	243.5	High	$ 482,000	
P376	Rapid St / 3rd st	5th Street - Omaha Street	0.27	Bike Lane	0	0	25	46.0	10	0	0	50	50	47	15	0	0	243.0	High	$ 40,000	
P514	N Spruce St	Meadowlark Road - E Philadelphia Street	0.50	Shared Lane	0	0	0	45.5	10	0	0	50	50	46	15	15	0	231.5	High	$ 45,000	
P520	Allen Ave	Van Buren Street - North Street	0.51	Shared Lane	0	0	0	45.0	10	0	0	50	50	45.5	15	15	0	230.5	High	$ 46,000	
P503	Minuteman Dr / Lindbergh Ave	Anamosa Street - Haines Avenue	0.62	Shared Lane	0	0	0	46.5	10	0	0	50	50	43	15	15	0	229.5	High	$ 56,000	
P090	Reservoir Rd/Longview Road	Twilight Drive - E Highway 44	1.48	Buffered Bike Lane	50	0	25	11.5	0	15	0	50	0	27.5	15	15	20	229.0	High	$ 221,000	
P398	W Chicago St	N 44th Street - Sturgis Road	0.67	Buffered Bike Lane	50	0	0	29.5	0	15	0	50	0	34.5	15	15	20	229.0	High	$ 100,000	
P530	Quincy St	West Street - East Boulevard	0.49	Shared Lane	0	0	0	50.0	10	15	25	50	0	45.5	15	15	0	225.5	High	$ 44,000	
P092	W South St	Soo San Road - Leonard "Swanny" Swanson	0.11	Shared Lane	0	0	0	30.0	0	15	0	50	50	50	15	15	0	225.0	High	$ 10,000	
P506	East Blvd	Quincy Street - Signal Drive	0.37	Buffered Bike Lane	0	0	0	49.5	10	15	25	50	0	42.5	15	15	0	222.0	High	$ 55,000	
P513	Parkview Dr	E Minnesota St - E Centennial St	0.13	Shared Lane	50	0	0	32.5	10	0	0	50	0	49.5	15	15	0	222.0	High	$ 12,000	
P510	E Kansas City St	East Boulevard - SD School of Mines & Technology	0.67	Shared Lane	0	0	0	48.0	10	15	25	50	0	40.5	15	15	0	218.5	High	$ 60,000	
P523	Meade St/E Indiana Street	5th St - Hawthorne Avenue	1.23	Shared Lane	50	0	0	42.0	10	0	0	50	0	33.5	15	15	0	215.5	High	$ 111,000	
P516	West Blvd	Silver Street - Anamosa Street	0.37	Bike Lane	0	0	0	34.0	10	0	0	50	50	42	15	15	0	216.0	High	$ 55,000	
P452	Raider Rd	44th Street - Hillsview Drive	0.55	Shared Lane	50	0	0	25.5	0	15	0	50	0	44	15	15	0	214.5	High	$ 49,000	
P362	Black Hills Blvd	Catron Boulevard - E Stumer Road	0.12	Bike Lane	50	0	0	23.0	10	0	0	50	0	48	15	15	0	211.0	High	$ 19,000	
P044	Nordby Lane	W Saint Louis Street - W Main Street	0.19	Shared Lane	0	0	0	31.5	10	15	25	50	0	48.5	15	15	0	210.0	High	$ 18,000	
P136	Soo San Rd	Brookside Drive - W Main Street	0.16	Buffered Bike Lane	0	0	0	31.0	10	15	25	50	0	47.5	15	15	0	208.5	High	$ 23,000	
P498	Alta Vista Dr/Anaconda Rd	East of City View Drive - E Fairmont Boulevard	1.68	Shared Lane	50	0	0	37.5	10	0	0	50	0	29	15	15	0	206.5	High	$ 151,000	
P091	Covington St	Twilight Drive - E Highway 44	0.88	Shared Lane	50	0	25	12.0	0	0	0	50	0	36.5	15	15	0	203.5	High	$ 79,000	
P061	Silver St	Anamosa Street - West Boulevard	0.61	Shared Lane	0	0	0	35.5	10	0	0	50	50	42.5	15	0	0	203.0	High	$ 54,000	
P075	E Centennial St/Locust St	Parkview Drive - E Fairmont Boulevard	0.82	Shared Lane	0	0	0	33.0	0	0	0	50	50	37.5	15	15	0	200.5	High	$ 74,000	
P098	Anamosa St	Commerce Road - Silver Street	1.29	Shared Lane	0	0	0	23.5	10	0	0	50	50	31.5	15	15	0	195.0	High	$ 116,000	
P041	Hillsview Dr	W Saint Patrick Street - Canyon Lake Road	0.46	Buffered Bike Lane	50	0	0	22.5	0	0	0	50	0	38	15	15	0	190.5	High	$ 68,000	
P207	Sturgis Rd	W Main Street - 255 ft North of W Chicago Street	0.41	Separated Bikeway	0	25	0	36.5	10	15	25	50	0	22	0	0	0	183.5	High	$ 415,000	
P578	W Chicago St	1,760 Berry Pines Drive - Mountain View Road	3.30	Separated Bikeway	0	0	0	25.5	10	15	25	50	50	7	0	0	0	182.5	Medium	$ 3,337,000	Wide shoulder/bike lanes from Deadwood Ave to Sturgis Road
P576	E Saint Patrick St	Elm Avenue - Hawthorne Avenue	0.40	Separated Bikeway	0	0	0	41.5	10	15	25	50	0	21.5	15	0	0	178.0	Medium	$ 405,000	
P538	Cambell St	970 ft N of E St Patrick Street - E St James Street	0.17	Separated Bikeway	0	0	0	39.0	10	0	0	50	50	28	0	0	0	177.0	Medium	$ 174,000	
P415	E Oakland St	Hawthorne Avenue - Cambell Street	0.82	Shared Lane	0	0	25	34.5	0	0	0	0	50	35	15	15	0	174.5	Medium	$ 74,000	
P358	Triple Crown Dr	E Catron Boulevard - E Minnesota Street	0.69	Bike Lane	0	0	25	28.5	10	0	0	50	0	30.5	15	15	0	174.0	Medium	$ 103,000	
P367	SD 445 (Deadwood Ave)	W Chicago Street - N Plaza Drive	1.73	Separated Bikeway	0	0	0	18.0	10	0	0	50	50	9	15	0	20	172.0	Medium	$ 1,748,000	
P502	Prairie Ave	Saint Patrick Street - E Indiana Street	0.35	Shared Lane	0	0	0	37.5	10	0	0	50	0	44.5	15	15	0	172.0	Medium	$ 31,000	
P577	Mountain View Rd	Jackson Boulevard - W Omaha Street	0.57	Separated Bikeway	50	0	0	27.5	10	0	0	50	0	19.5	0	15	0	172.0	Medium	$ 575,000	Striped wide outside shoulder currently exists
P497	Oak Ave	E Indiana Street - Colorado Street	0.62	Shared Lane	0	0	0	40.5	10	0	0	50	0	38	15	15	0	168.5	Medium	$ 55,000	
P505	Bunker Dr	Sagewood Street - Disk Drive/I-90	0.86	Shared Lane	0	0	0	27.0	10	0	0	0	50	30.5	15	15	20	167.5	Medium	$ 78,000	
P386	City Springs Rd	Galena Drive - Sturgis Road	1.77	Bike Lane	0	0	0	10.5	0	0	0	50	50	23.5	15	15	0	164.0	Medium	$ 266,000	
P268	S Canyon Rd	100 ft W of Berry Boulevard - N 44th Street	0.96	Buffered Bike Lane	0	0	0	21.5	0	15	0	50	0	27	15	15	20	163.5	Medium	$ 145,000	
P501	9th St	Flormann Street - Quincy Street	1.00	Shared Lane	0	0	0	40.5	10	0	0	0	50	31	15	15	0	161.5	Medium	$ 90,000	
P368	E North St	Anamosa Street - E Mall Drive	0.87	Separated Bikeway	50	0	0	20.5	10	0	0	50	0	16	15	0	0	161.5	Medium	$ 877,000	
P499	Flormann St/Meade Street	West Boulevard - 5th Street	0.50	Shared Lane	0	0	0	38.5	0	0	0	50	0	39	15	15	0	157.5	Medium	$ 45,000	
P528	W Flormann St	Argyle Street - Mountain View Road	0.63	Shared Lane	0	0	0	31.5	10	0	0	50	0	36.5	15	15	0	158.0	Medium	$ 56,000	
P066	Red Cloud St	Northridge Drive - Mall Drive	0.63	Shared Lane	0	0	0	28.0	10	0	0	0	50	35.5	15	15	0	153.5	Medium	$ 57,000	
P412	Creek Dr	E Saint Patrick Street - Fairmont Boulevard	1.02	Shared Lane	50	0	0	32.0	10	0	0	0	0	29	15	15	0	151.0	Medium	$ 92,000	
P509	Valley Dr	Anamosa Street - Fairmont Street	2.02	Buffered Bike Lane	50	0	0	21.0	10	0	0	0	0	20	15	15	20	151.0	Medium	$ 303,000	
P580	Saint Patrick St	West Boulevard - 6th Street	0.40	Buffered Bike Lane	0	0	0	35.0	10	0	0	50	0	36	0	0	20	151.0	Medium	$ 60,000	
P352	N 40th St	W Chicago - north end of N 40thSt	0.18	Bike Lane	0	0	0	26.5	0	0	0	50	0	44	15	15	0	150.5	Medium	$ 27,000	
P537	Cambell St	E St Patrick Street - 970 ft N of E St Patrick Street	0.18	Separated Bikeway	0	0	0	42.0	10	0	0	50	0	26.5	0	0	20	148.5	Medium	$ 186,000	
P547	N La Crosse St	E Mall Drive - Seger Drive	0.21	Buffered Bike Lane	50	0	0	24.0	0	0	0	0	0	39.5	15	0	20	148.5	Medium	$ 32,000	
P529	N 44th St / City Springs Rd	W Chicago Street - Gelena Drive	0.67	Bike Lane	0	0	0	24.0	0	15	0	0	50	28.5	15	15	0	147.5	Medium	$ 100,000	
P451	44th St	W Chicago Street - Raider Road	1.06	Buffered Bike Lane	0	0	0	22.0	0	15	0	50	0	26	15	15	0	143.0	Medium	$ 159,000	
P031	Highway 16 Service Rd	Skyline Drive/Tower Road - Catron Boulevard	1.99	Shared Lane	0	0	25	13.0	10	15	25	0	0	25	15	15	0	143.0	Medium	$ 179,000	
P037	W Main St	44th Street - Soo San Drive	0.76	Separated Bikeway	0	0	0	33.0	0	15	0	50	0	13	15	15	0	141.0	Medium	$ 764,000	
P500	St. Patrick St	5th Street - Elm Avenue	0.74	Separated Bikeway	0	0	0	36.0	10	0	0	50	0	13	15	15	0	139.0	Medium	$ 749,000	Potential road diet
P512	Cambell St Service Rd	Richland Drive - E Fairmont Boulevard	0.38	Bike Lane	0	0	0	25.0	0	0	0	50	0	33	15	15	0	138.0	Medium	$ 57,000	
P496	Harmony Heights Lane	Plaza Boulevard - Anamosa Street	1.72	Bike Lane	0	0	0	26.0	10	0	0	0	50	21	15	15	0	137.0	Medium	$ 258,000	
P564	Villa Dr / Briggs St	N Ellsworth Road - Briggs Street	0.33	Bike Lane	0	0	0	18.0	10	15	25	0	0	33.5	15	0	20	136.5	Medium	$ 49,000	
P542	Douglas Middle School	Patriot Drive - 225th Street	0.40	Buffered Bike Lane	0	0	0	15.5	10	15	25	0	0	30	15	0	20	130.5	Medium	$ 60,000	
P178	N Elk Vale Rd	E Mall Drive - Country Road	1.43	Separated Bikeway	50	0	25	7.0	10	0	0	0	0	8.5	15	15	0	130.5	Medium	$ 1,446,000	
P363	West Blvd	North Street - Anamosa Street	0.46	Separated Bikeway	0	0	0	36.0	10	0	0	50	0	18.5	15	0	0	129.5	Medium	$ 464,000	
P381	Tower Rd	Liberty Boulevard - Patriot Drive	0.17	Buffered Bike Lane	0	0	0	16.5	10	15	25	0	0	41.5	15	0	0	123.0	Medium	$ 26,000	
P572	Disk Drive	Maple Avenue - N La Crosse Street	0.23	Separated Bikeway	0	0	0	33.5	0	0	0	50	0	22	15	0	0	120.5	Medium	$ 234,000	
P414	Cambell St	Bridgeview Drive - E Catron Boulevard	0.19	Separated Bikeway	0	0	0	34.5	10	0	0	50	0	25	0	0	0	119.5	Medium	$ 190,000	
P371	West Blvd	W Omaha Street - North Street	0.41	Separated Bikeway	0	0	0	38.0	10	0	0	50	0	19	0	0	0	117.0	Medium	$ 410,000	
P543	Douglas Middle School	N Ellsworth Road - Tower Road	0.50	Separated Bikeway	0	0	0	17.0	10	15	25	0	0	14	15	0	20	116.0	Medium	$ 508,000	
P372	Liberty Blvd	N Ellsworth Road - Tower Road	0.51	Separated Bikeway	0	0	0	16.5	10	15	25	0	0	13.5	15	0	20	115.0	Medium	$ 517,000	
P035	Sheridan Lake Rd	Wildwood Drive - Muirfield Drive	1.63	Separated Bikeway	50	0	0	4.0	0	0	0	0	0	5.5	15	15	20	109.5	Medium	$ 1,647,000	
P374	N Plaza Dr	Sturgis Road - Deadwood Avenue N	1.01	Bike Lane	0	0	0	10.0	10	0	0	50	0	24.5	15	0	0	109.5	Medium	$ 151,000	
P382	Tower Rd	225th Street - 224th Street	1.03	Bike Lane	0	0	0	15.0	10	15	25	0	0	24	0	0	20	109.0	Medium	$ 154,000	
P540	Cheyenne Blvd	N Cambell Street - N Elk Vale Road	2.56	Separated Bikeway	0	0	0	14.0	0	0	0	50	0	5.5	15	0	20	104.5	Medium	$ 2,590,000	
P551	S Ellsworth Rd	S Ellsworth Rd - County Highway	0.74	Separated Bikeway	0	0	0	8.0	10	15	25	0	0	10	15	0	20	103.0	Low	$ 742,000	
P491	Anamosa St	E North St - N Creek Dr	0.09	Buffered Bike Lane	0	0	0	19.5	0	0	0	0	0	34	15	15	20	103.5	Low	$ 14,000	
P391	Seger Dr	E Mall Drive - 75 ft East of Freeland Avenue	0.38	Separated Bikeway	50	0	0	19.5	0	0	0	0	0	17.5	15	0	0	102.0	Low	$ 379,000	
P396	W Chicago St	San Marco Boulevard - S Canyon Rd	0.35	Shared Lane	0	0	0	24.5	0	15	0	0	0	32	15	15	0	101.5	Low	$ 32,000	
P552	San Marco Blvd	W Chicago Street - S Canyon Road	0.31	Shared Lane	0	0	0	21.0	0	15	0	0	0	32	15	15	0	98.0	Low	$ 28,000	
P370	Ellsworth Rd	Liberty Boulevard - 225th Street	0.58	Separated Bikeway	0	0	0	17.5	10	15	25	0	0	12	15	0	0	94.5	Low	$ 583,000	
P267	San Marco Blvd	City Springs Road - W Chicago Street	0.36	Shared Lane	0	0	0	19.0	0	15	0	0	0	29.5	15	15	0	93.5	Low	$ 33,000	

Rapid City Area MPO 2020 Bicycle/Pedestrian Plan - Proposed On-Street Bicycle Network Projects

PROJECT ID	ROUTE	EXTENT	LENGTH MILES	FINAL_FACILITY_TYPE	Connects 2+ Existing Facilities (50)	2+ Bike Crashes (25)	Critical Regional Link (25)	Bike Demand Score (0-50)	High Equity Score Area (3 or higher) (10)	Lowest Quartile of Bike Service (15)	High Equity & Low Bike Service (25)	Transit corridor (50)	Connection to Park/Rec Facility (50)	Relative Benefit/Cost Score (0-50)	Priority in 2040 LRTP (15)	Priority in 2011 Bike/Ped Plan (15)	Coincides with Roadway or Sidewalk Need (20)	Total Score	Priority Level	Estimated Project Cost	Comments / Notes
P366	County Hwy 1416	West Gate Road - S Ellsworth Road	2.00	Buffered Bike Lane	0	0	0	8.5	10	15	25	0	0	17.5	15	0	0	91.0	Low	$ 301,000	
P438	Sagewood St/Northridge Dr	Bunker Drive - Haines Ave	0.56	Shared Lane	0	0	0	22.5	10	0	0	0	0	27.5	15	15	0	90.0	Low	$ 51,000	
P273	Nemo Rd	1,770 ft W of Berry Boulevard - 100 ft W of Berry Boulevard	0.31	Buffered Bike Lane	0	0	0	10.5	0	15	0	0	0	26	15	0	20	86.5	Low	$ 47,000	
P369	Ellsworth Rd	Highway 14-16 - Liberty Boulevard	1.26	Separated Bikeway	0	0	0	13.5	10	15	25	0	0	6.5	15	0	0	85.0	Low	$ 1,272,000	
P531	Country Rd	N Elk Vale Road - Highway 14-16	2.76	Buffered Bike Lane	0	0	0	6.0	10	15	25	0	0	14.5	15	0	0	85.5	Low	$ 414,000	
P557	SD 79 (Cambell St) / Cambell St	E Cantron Boulevard - Swanson Memorial Pathway Extension	0.58	Separated Bikeway	0	0	0	28.5	10	0	0	0	0	8.5	15	0	20	82.0	Low	$ 587,000	
P439	Commerce Rd/Lien St	Railroad - Rand Road	0.81	Shared Lane	0	0	0	18.5	10	0	0	0	0	22.5	15	15	0	81.0	Low	$ 73,000	
P073	Minnesota St	Elk Vale Rd - Daly Court	1.49	Bike Lane	0	0	0	7.5	10	0	0	0	0	9.5	15	15	20	77.0	Low	$ 224,000	
P489	Jolly Lane	Daly Court - E Highway 44	0.93	Shared Lane	0	0	0	14.5	10	0	0	0	0	20.5	15	15	0	75.0	Low	$ 84,000	
P550	Old Folsom Rd	5,780 ft S of Antelope Creek Road - 1,490 ft E of Ser Road	6.27	Bike Lane	0	0	0	1.5	10	15	25	0	0	7.5	15	0	0	74.0	Low	$ 941,000	
P549	Neck Yoke Rd	Pine Grove Road - S Highway 16	5.30	Separated Bikeway	0	0	0	3.0	10	15	25	0	0	2	15	0	0	70.0	Low	$ 5,348,000	
P560	Spring Creek Rd	Neck Yoke Road - 3,820 ft E of S Highway 79	5.56	Separated Bikeway	0	0	0	3.5	10	15	25	0	0	1.5	15	0	0	70.0	Low	$ 5,612,000	
P548	N Plaza Dr	Deadwood Avenue - Harmony Heights Lane	1.08	Bike Lane	0	0	0	13.5	10	0	0	0	0	15	15	15	0	68.5	Low	$ 162,000	
P515	Mickelson Dr	E Anamosa Street - E HIghway 44	0.65	Bike Lane	0	0	0	20.0	0	0	0	0	0	18	15	15	0	68.0	Low	$ 98,000	
P249	Dunsmore Rd	Moon Meadows Drive - Sheridan Lake Road	0.14	Buffered Bike Lane	0	0	0	2.5	0	0	0	0	0	12.5	15	15	20	65.0	Low	$ 21,000	
P054	Flormann St/Meade Street	West Boulevard - 5th Street	0.76	Shared Lane	0	0	0	27.0	0	0	0	0	0	23.5	15	0	0	65.5	Low	$ 68,000	
P373	Liberty Blvd	Highway 14-16 - Tower Road	1.64	Separated Bikeway	0	0	0	9.0	0	15	0	0	0	4	15	0	20	63.0	Low	$ 1,654,000	
P448	Jackson Blvd	Nameless Cave Road - Trout Court	0.34	Separated Bikeway	0	0	0	7.5	0	0	0	0	0	5	15	15	20	62.5	Low	$ 347,000	
P394	Radar Hill Rd	SD 44 - 229th Street	3.49	Separated Bikeway	0	0	25	1.5	0	15	0	0	0	2.5	15	0	0	59.0	Low	$ 3,524,000	
P575	W Highway 44	800 ft E of Lindsay Road - Nameless Cave Road	4.39	Separated Bikeway	0	0	0	4.5	10	15	25	0	0	3	0	0	0	57.5	Low	$ 4,435,000	
P519	Degeest Dr	Homestead Street - Twilight Drive	0.64	Shared Lane	0	0	0	9.5	0	0	0	0	0	16	15	15	0	55.5	Low	$ 57,000	
P379	S Valley Dr	E Minnesota Street - Fairmont Street	0.66	Buffered Bike Lane	0	0	0	11.0	10	0	0	0	0	19	15	0	0	55.0	Low	$ 99,000	
P001	Airport Rd	Airport - North of E Highway 44	1.30	Separated Bikeway	0	0	0	4.5	0	15	0	0	0	4	15	15	0	53.5	Low	$ 1,308,000	
P535	225th St	Tower Road - 150th Pl	0.50	Separated Bikeway	0	0	0	15.0	0	15	0	0	0	8	15	0	0	53.0	Low	$ 507,000	
P282	Nemo Rd	Wide View Drive - 1,770 ft W of Berry Boulevard	0.76	Buffered Bike Lane	0	0	0	5.5	0	15	0	0	0	17	15	0	0	52.5	Low	$ 115,000	
P508	Concourse St	Elk Vale Rd - Anamosa Street	0.94	Bike Lane	0	0	0	12.0	0	0	0	0	0	10	15	15	0	52.0	Low	$ 141,000	
P558	SD 79 (Cambell St) / Cambell St	1,355 ft S of E Cantron Boulevard - E Cantron Boulevard	0.26	Separated Bikeway	0	0	0	16.0	10	0	0	0	0	10.5	15	0	0	51.5	Low	$ 260,000	
P375	Radar Hill Rd	229th Street - County Highway	2.26	Buffered Bike Lane	0	0	0	3.0	0	15	0	0	0	7	15	0	0	40.0	Low	$ 339,000	
P169	Country Rd	Haines Avenue - N Elk Vale Road	3.50	Buffered Bike Lane	0	0	0	6.0	0	0	0	0	0	2.5	15	15	0	38.5	Low	$ 525,000	
P395	Rockerville Rd	Pine Grove Road - S Highway 16	2.89	Bike Lane	0	0	0	1.0	0	15	0	0	0	6	15	0	0	37.0	Low	$ 434,000	
P541	Cimarron alignment	N Ellsworth Road - Liberty Boulevard	1.02	Bike Lane	0	0	0	6.5	0	15	0	0	0	14.5	0	0	0	36.0	Low	$ 154,000	
P554	SD 44	830 ft E of St Germaine Road - S Airport Road	5.21	Bike Lane	0	0	0	0.0	0	15	0	0	0	4.5	15	0	0	34.5	Low	$ 782,000	
P559	Sheridan Lake Rd	3,100 ft W of Burgess Road - Albertta Drive	5.85	Separated Bikeway	0	0	0	2.0	0	15	0	0	0	0	15	0	0	32.0	Low	$ 5,906,000	
P533	Moon Meadows Dr	Dunsmore Road - E Cantron Boulevard	2.27	Buffered Bike Lane	0	0	0	0.5	0	0	0	0	0	0	15	15	0	30.5	Low	$ 341,000	
P536	225th St	150th Pl - 154th Avenue	4.01	Separated Bikeway	0	0	0	0.0	0	15	0	0	0	0.5	15	0	0	30.5	Low	$ 4,050,000	
P392	143rd Ave	Seger Drive - Country Road	1.00	Separated Bikeway	0	0	0	9.0	0	0	0	0	0	1	15	0	0	25.0	Low	$ 1,012,000	
P377	Haven St	Covington Street - Twilight Drive	0.74	Bike Lane	0	0	0	12.5	0	0	0	0	0	11.5	0	0	0	24.0	Low	$ 111,000	
P393	Dyess Ave and Seger Dr	Seger Drive - Country Road	1.01	Separated Bikeway	0	0	0	5.0	0	0	0	0	0	1	15	0	0	21.0	Low	$ 1,016,000	
P380	Long View Rd	Reservoir Road - 154th Avenue	8.68	Bike Lane	0	0	0	1.5	0	15	0	0	0	3.5	0	0	0	20.0	Low	$ 1,302,000	

Rapid City Area MPO 2020 Bicycle/Pedestrian Plan - Proposed Off-Street Bicycle Network Projects

PROJECT ID	FACILITY TYPE	ROUTE	EXTENT	LENGTH MILES	Connects 2+ Existing Facilities (50)	2+ Bike Crashes (25)	Critical Regional Link (25)	Bike Demand Score (0-50)	High Equity Score Area (3 or higher) (10)	Lowest Quartile of Bike Service (15)	High Equity & Low Bike Service (25)	Transit corridor (50)	Connection to Park/Rec Facility (50)	Relative Benefit/Cost Score (0-50)	Phoirty in 2040 LRTP (15)	Priority in 2011 Bike/Ped Plan (15)	Coincides with Roadway or Sidewalk Need (20)	Total Score	Priority Level	Estimated Project Cost	Comment / Notes
P463	Side Path	Anamosa St	Silver Street - Haines Avenue	0.66	0	0	25	46.0	10	0	0	50	50	37	15	15	0	248	High	$ 796,000	
P400	Side Path	5th St	Cleveland Street - Texas Street	0.88	50	0	25	43.5	10	0	0	50	0	34.5	15	0	0	228	High	$ 1,056,000	
P419	Side Path	E St. Patrick St/Highway 44	Existing Side Path - Twilight Drive	1.14	50	0	25	21.5	10	0	0	0	50	33	15	15	0	219.5	High	$ 1,372,000	
P034	Side Path	Parkview Dr	Parkview Park - 5th Street	0.30	50	0	0	25.5	10	0	0	50	0	43.5	15	15	0	209	High	$ 363,000	
P325	Side Path	Elm Ave	E Saint Patrick Street - Meade St	0.25	0	0	25	44.5	10	0	0	50	0	44.5	15	15	0	204	High	$ 301,000	
P122	Side Path	Argyle St	Jackson Boulevard - W Flormann Street	0.21	0	0	25	29.0	10	10	0	0	50	47	15	15	0	201	High	$ 258,000	
P431	Side Path	Cambell St	Rocker Drive - Omaha St	0.23	0	0	25	38.0	10	0	0	50	0	46	15	15	0	199	High	$ 270,000	Programmed TAP project
P534	Shared-Use Path	Founders Park Dr	220 ft N of Executive Drive - 780 ft N of Executive Drive	0.11	50	0	0	33.0	10	0	0	0	50	50	0	0	0	193	High	$ 130,000	
P235	Shared-Use Path	West Blvd	St Joseph Street - Leonard Swanson Memorial Pathway	0.35	0	0	0	41.0	10	0	0	0	50	38	15	15	0	169	High	$ 414,000	
P409	Shared-Use Path	Minnesota St	Minnesota Street Park - Cambell Street	0.23	0	0	0	35.5	10	0	0	50	0	42	15	15	0	167.5	High	$ 276,000	
P106	Side Path	E Minnesota St	Parkview Drive- Odde Drive	0.46	0	0	0	37.0	10	0	0	50	0	35.5	15	15	0	162.5	High	$ 556,000	
P570	Bike Path	Jackson Boulevard	Cliffside Park - Existing Trail	0.75	50	0	25	8.5	0	0	0	0	0	28	15	15	20	161.5	High	$ 902,000	
P239	Railway Trail	Connection to Rapid City path system	1st Street - 1,480 ft E of West Gate Road	6.14	0	0	25	15.0	10	15	25	0	50	5	15	0	0	160	High	$ 7,365,000	
P192	Railway Trail	Railway Trail	1st Street - Cambell Street	1.32	0	0	25	48.5	10	0	0	0	50	25.5	0	0	0	159	Medium	$ 1,582,000	
P583	Shared-Use Path	S Highway 16	Catron Blvd - 530' south of Cathedral Drive	3.03	50	0	0	17.5	10	0	0	50	0	11.5	0	0	20	159	Medium	$ 3,636,000	Included as component of
P056	Side Path	Maple Avenue	Haines Avenue - Disk Drive	0.89	0	0	25	32.0	0	0	0	50	0	32	15	0	0	154	Medium	$ 1,064,000	
P544	Shared-Use Path	Hawthorne Ave	Meade Street - Main St	0.34	0	0	0	39.5	10	0	0	0	50	39.5	15	0	0	154	Medium	$ 404,000	
P354	Side Path	Elm Ave	Utah Street - Field View Drive	1.04	0	0	0	34.5	10	0	0	50	0	24	15	15	0	148.5	Medium	$ 1,253,000	
P421	Side Path	Concourse Dr	Elk Vale Road - Twilight Drive	0.21	50	0	25	2.5	0	0	0	0	0	41	15	15	0	148.5	Medium	$ 253,000	
P556	Shared-Use Path	SD 44	Twilight Drive - Long View Road	1.21	50	0	25	7.5	10	0	0	0	0	20.5	15	0	20	148	Medium	$ 1,446,000	
P424	Shared-Use Path	SD 44	Twilight Drive - Cambell Street	1.89	0	0	25	26.5	10	0	0	0	50	14	15	0	0	140.5	Medium	$ 2,271,000	
P581	Shared-Use Path	Cambell St	E Oakland St - St. Patrick St	0.82	0	0	25	28.0	10	0	0	0	0	21.5	15	15	20	134.5	Medium	$ 984,000	
P071	Shared-Use Path	SDSMT Connector	Meade Street - Main St	0.84	0	0	0	50.0	10	15	25	0	0	30.5	0	0	0	130.5	Medium	$ 1,008,000	
P441	Railway Trail	2nd St	150 ft S of Rapid Street - Omaha Street	0.07	0	0	25	47.0	10	0	0	0	0	48.5	0	0	0	130.5	Medium	$ 78,000	
P241	Shared-Use Path	Off Street Trail	Fairmont Boulevard - E St. Patrick Street	1.38	0	0	25	20.5	10	0	0	0	50	19	0	0	0	124.5	Medium	$ 1,656,000	
P053	Shared-Use Path	St. Cloud St extension	5th St - Hawthorne Avenue	1.32	0	0	0	42.0	10	15	25	0	0	15	0	0	0	107	Medium	$ 1,581,000	
P240	Shared-Use Path	Off Street Trail	Valley Dr - Jolly Ln	3.52	0	0	25	6.0	10	0	0	0	50	7.5	0	0	0	98.5	Low	$ 4,223,000	
P089	Side Path	Maple Ave	Mall Drive - Disk Drive	0.47	0	0	25	24.0	0	0	0	0	0	26.5	15	0	0	90.5	Low	$ 559,000	
P242	Shared-Use Path	Swanson Memorial Pathway Extension	Cambell Street - Fairmont Blvd	0.78	0	0	25	23.0	10	0	0	0	0	17.5	15	0	0	90.5	Low	$ 934,000	
P294	Shared-Use Path	Off Street Trail	SD 231 (Omaha St) - N Plaza Drive	1.74	0	0	0	16.5	10	0	0	0	50	12.5	0	0	0	89	Low	$ 2,092,000	
P571	Side Path	Disk Drive	Bunker Dr - Haines Avenue	0.51	0	0	0	30.5	10	0	0	0	0	23	0	0	20	83.5	Low	$ 611,000	
P546	Shared-Use Path	Swanson Memorial Pathway Extension	Elk Vale Road - E Minnesota Street	0.62	0	0	25	10.0	10	0	0	0	0	16.5	15	0	0	76.5	Low	$ 743,000	
P422	Shared-Use Path	SD 44	Long View Road - Airport Road	4.02	0	0	25	0.0	10	15	0	0	0	3.5	15	0	0	68.5	Low	$ 4,821,000	
P204	Railway Trail	SD 231 (W Chicago St)	W Chicago Street - Lien Street	0.95	0	0	0	19.0	10	0	0	0	0	8.5	15	0	0	52.5	Low	$ 1,138,000	
P262	Shared-Use Path	Swanson Memorial Pathway Extension	S Highway 16 - Elk Vale Road	5.04	0	0	25	1.0	10	0	0	0	0	1	15	0	0	52	Low	$ 6,048,000	
P244	Shared-Use Path	Off Street Trail	Northern Loop	0.20	0	0	0	12.5	10	0	0	0	0	29	0	0	0	51.5	Low	$ 240,000	
P545	Shared-Use Path	Swanson Memorial Pathway Extension	Minnesota Street - Fairmont Boulevard	0.57	0	0	0	14.0	10	0	0	0	0	10	15	0	0	49	Low	$ 688,000	
P264	Shared-Use Path	Off Street Trail	Rapid Creek / Wally Byam - Connection to Rapid City Path System	3.40	0	0	25	5.0	0	0	0	0	0	2.5	0	0	0	32.5	Low	$ 4,085,000	
P202	Railway Trail	SD 231 (Sturgis Rd) / Universal Dr	Lien Street - Merritt Road	3.45	0	0	0	3.5	10	0	0	0	0	0	15	0	0	28.5	Low	$ 4,134,000	
P243	Shared-Use Path	Off Street Trail	Swanson Memorial Pathway Extension - S Valley Drive	0.85	0	0	0	11.5	10	0	0	0	0	6	0	0	0	27.5	Low	$ 1,025,000	
Future Roadway Projects - Fiscally Constrained Plan																					
P047	Future Facility on New Road	Philadelphia St	E Anamosa Street - Homestead Street	1.50																	
P390	Future Facility on New Road	Seger Dr	E Mall Drive - N Elk Vale Road	1.61																	
P405	Future Facility on New Road	Elm Ave	Field View Drive - E Catron Boulevard	0.58																	
P490	Future Facility on New Road	Anamosa St	Mickelson Drive - Valley Drive	0.41																	
P492	Future Facility on New Road	Anamosa St	Valley Drive - US 16 (Elk Vale Road)	1.00																	
P493	Future Facility on New Road	Anamosa St	US 16 (Elk Vale Road) - N Reservoir Road	1.01																	
P518	Future Facility on New Road	Fairmont Blvd	Creek Drive - S Valley Drive	0.79																	
P574	Future Facility on New Road	Fairmont Blvd	Cambell St - Creek Drive	0.26																	
P584	Future Facility on New Road	Turbine Dr	E Anamosa St - Philadelphia St	0.55																	
P585	Future Facility on New Road	5th St Extension	Catron Blvd - South Growth Area	0.51																	
P586	Future Facility on New Road	Valley Dr	Philadelphia St - Creek Dr	0.75																	
P587	Future Facility on New Road	Valley Dr	E Anamosa St - Philadelphia St	0.37																	
P588	Future Facility on New Road	Concourse Dr	E Anamosa St - Philadelphia St	0.54																	
P589	Future Facility on New Road	Turbine Dr	Philadelphia St - Eglin St	0.43																	
P590	Future Facility on New Road	Degeest Dr	Cheyene Blvd - Anamosa St	0.99																	
P591	Future Facility on New Road	Creek Dr	Elk Vale Rd - Minnesota St	0.50																	
P592	Future Facility on New Road	South Growth Area	US-16 - South Growth Area	0.74																	
P593	Future Facility on New Road	South Growth Area	Catron Dr - South Growth Area	0.52																	
P594	Future Facility on New Road	5th St Extension	Swanson Memorial Pathway - South Growth Area	0.73																	
P595	Future Facility on New Road	South Growth Area	5th St Extension - South Growth Area	0.49																	
P597	Future Facility on New Road	Les Hollers Rd	Catron Blvd - New Rd	0.55																	
P598	Future Facility on New Road	Les Hollers Rd	New Rd - Sheridan Lake Rd	0.52																	
P599	Future Facility on New Road	Minnesota St	Cambell St - Elk Vale Rd	1.12																	
P600	Future Facility on New Road	Anamosa St	N Creek Dr - Mickelson Dr	0.46																	

Specific bicycle and pedestrian facilities are assumed to be included on new roadways (Future Facility on New Road), but the appropriate facilites are to be determined at the time of project development. Projects on these future roadways were not scored, and their costs are assumed to be part of the total roadway cost.

Rapid City Area MPO 2020 Bicycle/Pedestrian Plan - Proposed Sidewalk Network Projects

Project ID	RoadName	Extents	Status	Sides	Side of Street	Length (Miles)	Connects 2+ Existing Sidewalks (50)	Fatal Ped Crash (25)	Distance between Signalized Crossings (25/15/5)	Ped Demand Score (0-50)	High Equity Score (3 or higher) (25)	Exisiting Physical Demand Path (25)	Transit Corridor (50)	Roadway Functional Class (50/25)	Relative Benefit/Cost Score (0-50)	Priority in 2040 LRTP (15)	Priority in 2011 Bike/Ped Plan (15)	Coincides with Roadway or Bike Project Need (20)	Total Score	Priority Level	Estimated Project Cost
2143	Cambell St	E St. Patrick St - E St. Charles St	Planned	One Side	East	0.13	50	0	0	43.0	25	25	50	50	44	15	15	20	337.0	High	$ 48,000
2140	Omaha St	I-190 - Mt. Rushmore Rd	Programmed	One Side	North	0.20	50	0	5	41.0	25	25	50	50	41	15	15	0	317.0	High	$ 73,000
2145	W Omaha St	Mountain View Rd - 12th St	Planned	One Side	North	0.69	50	25	0	31.0	25	25	50	50	24	15	15	0	310.0	High	$ 255,000
1562	East Blvd	CR Rail Systems - Rapid St	Planned	One Side	East	0.04	50	0	0	49.0	25	25	50	50	50	0	0	0	299.0	High	$ 15,000
2180	North St	N 1st St - East Blvd N	Planned	One Side	South	0.11	50	0	0	47.0	25	25	50	25	45	0	0	20	287.0	High	$ 41,000
2166	W Main St	Cross St - Highway 44	Planned	One Side	North	0.56	50	0	0	39.0	25	25	50	50	26	0	0	20	285.0	High	$ 207,000
2177	North St	Wood Ave - N 2nd St	Planned	One Side	South	0.18	50	0	0	46.0	25	25	50	25	39	0	0	20	280.0	High	$ 68,000
2184	E Main St	Maple Ave - Steele Ave	Planned	One Side	North	0.35	50	0	0	50.0	25	0	50	50	30	0	0	20	275.0	High	$ 130,000
2141	Cambell St	Rocker Dr - Centre St	Planned	One Side	West	0.23	0	0	0	40.0	25	25	50	50	34	15	15	20	274.0	High	$ 85,000
2153	E Omaha St	Lacrosse St - Poplar Ave	Programmed	Both Sides	Both	0.31	50	0	25	42.0	25	25	0	50	23	15	15	0	270.0	High	$ 231,000
2147	Deadwood Ave	W Chicago St - N Plaza Dr	Planned	Both Sides	Both	1.81	50	25	15	21.0	25	25	0	50	8	15	15	20	269.0	High	$ 1,336,000
1670	Cambell St	E St. James St - Rocker Dr	Planned	One Side	West	0.16	0	0	0	44.0	25	25	50	50	40	15	15	0	264.0	High	$ 59,000
1499	E Saint Patrick St	E St. Joseph St - Cherry Ave	Planned	Both Sides	Both	0.03	50	0	5	33.0	25	0	50	50	48	0	0	0	261.0	High	$ 23,000
1661	Cambell St	E Centre St - Jess St	Planned	Both Sides	Both	0.30	50	0	0	35.0	25	25	50	50	25	0	0	0	260.0	High	$ 223,000
1656	N Cambell St	E Philadelphia St - E North St	Planned	Both Sides	Both	0.13	50	0	0	29.0	25	0	50	50	33	0	0	20	257.0	High	$ 94,000
2162	Apolda St	Mt Rushmore Rd - 6th St	Planned	Both Sides	Both	0.19	50	0	0	45.0	25	0	50	0	27	15	0	20	232.0	High	$ 140,000
2204	Disk Dr	Haines Ave - 0.09 Miles East of N Maple Ave	Planned	One Side	South	0.71	50	0	0	36.0	0	25	50	25	20	0	0	20	226.0	Medium	$ 261,000
1846	E North St	Eglin St - I-90 Enterance	Planned	Both Sides	Both	0.11	50	0	0	24.0	25	25	0	50	32	0	0	20	226.0	Medium	$ 82,000
2144	E Omaha St	N Cambell St - Valley Dr	Programmed	Both Sides	Both	1.26	50	0	25	34.0	25	25	0	50	11	0	0	0	220.0	Medium	$ 932,000
1799	N Maple Ave	0.09 Miles East of N Maple Ave - Mall Drive	Planned	Both Sides	Both	0.64	50	0	0	30.0	0	25	50	25	17	0	0	20	217.0	Medium	$ 477,000
2161	Tower Rd	0.03 Miles North of Don Williams Dr - 0.05 Miles South of 225th St	Planned	One Side	West	0.06	50	0	0	19.0	25	25	0	25	46	0	0	20	210.0	Medium	$ 23,000
2092	E Highway 44	Twilight Dr - Jolly Ln	Programmed	Both Sides	Both	0.53	50	0	5	12.0	0	25	0	50	16	15	15	20	208.0	Medium	$ 390,000
2149	Haines Ave	Mall Dr - Viking Dr	Planned	One Side	East	1.23	50	0	0	17.0	25	0	0	50	14	15	15	20	206.0	Medium	$ 456,000
2203	E North St	I-90 Entrance - E Mall Dr	Planned	One Side	West	0.11	50	0	5	10.0	0	25	0	50	42	0	0	20	202.0	Medium	$ 41,000
2155	Reservoir Rd	Long View Rd - Twilight Dr	Programmed	One Side	East	1.01	50	0	0	9.0	25	0	0	50	15	15	15	20	199.0	Medium	$ 374,000
2213	3rd St	0.01 Mile South of Rapid St - 0.01 Mile North of Rapid St	Planned	Both Sides	Both	0.02	50	0	0	48.0	25	0	0	25	49	0	0	0	197.0	Medium	$ 11,000
2199	N Elk Vale Rd	Beale St - I-90 Entrance	Planned	One Side	West	0.05	50	0	15	3.0	0	0	0	50	47	0	0	20	185.0	Medium	$ 17,000
2209	E Saint Patrick St	Cherry Ave - Riley Ave	Planned	One Side	North	0.14	0	0	0	20.0	25	0	50	50	37	0	0	0	182.0	Medium	$ 54,000
0755	Catron Blvd	Belgarde Blvd - 5th St	Planned	Both Sides	Both	5.46	50	0	15	15.0	25	25	0	50	1	0	0	0	181.0	Medium	$ 4,039,000
2182	Sheridan Lake Rd	Hazel Ave - 0.02 Miles South of W Main St	Planned	One Side	East	0.13	50	0	0	38.0	0	0	0	50	38	0	0	0	176.0	Medium	$ 47,000
2183	Sheridan Lake Rd	0.03 Miles North of Canyon Lake Dr - Hazel Ave	Planned	One Side	East	0.08	50	0	0	32.0	0	0	0	50	43	0	0	0	175.0	Medium	$ 29,000
2214	City Springs Rd	City Springs Ct - Galena Dr	Planned	One Side	West	0.20	50	0	25	23.0	0	25	0	0	29	0	0	20	172.0	Medium	$ 74,000
2154	E Omaha St	Poplar Ave - Cambell St	Programmed	One Side	South	0.19	0	0	0	37.0	25	25	0	50	31	0	0	0	168.0	Medium	$ 69,000
2151	N La Crosse St	E Mall Dr - Seger Dr	Programmed	One Side	West	0.19	50	0	0	14.0	0	0	0	25	28	15	15	20	167.0	Medium	$ 70,000
2160	225 St	0.14 Miles East of Briggs St - 0.01 Mile West of Tower Rd	Planned	One Side	South	0.12	0	0	0	25.0	25	0	0	50	35	0	0	20	155.0	Low	$ 43,000
2158	Liberty Rd	N Elsworth Rd - Highway 14-16	Planned	Both Sides	Both	2.15	0	0	0	11.0	25	25	0	50	2	15	0	20	148.0	Low	$ 1,591,000
0480	Mountain View Rd	W Flormann St - Arrow St	Planned	Both Sides	Both	0.30	50	0	0	28.0	25	0	0	25	18	0	0	0	146.0	Low	$ 226,000
0579	Sheridan Lake Rd	Muirfield Dr - Wildwood Dr	Planned	Both Sides	Both	1.78	50	0	0	1.0	0	0	0	50	3	0	0	20	124.0	Low	$ 1,316,000
2150	Jackson Blvd	Dark Canyon Rd - Cleghorn Canyon Rd	Planned	Both Sides	Both	1.07	0	0	0	16.0	0	0	0	50	4	15	15	20	120.0	Low	$ 791,000
2010	N Elk Vale Rd	Eglin St - Beale St	Planned	Both Sides	Both	0.15	0	0	15	2.0	0	25	0	50	22	0	0	0	114.0	Low	$ 113,000
2159	Tower Rd	225th St - 224th St	Planned	One Side	East	1.03	0	0	0	18.0	25	25	0	0	9	15	0	20	112.0	Low	$ 379,000
1865	Eglin St	N Creek Dr - Lowry Ln	Planned	Both Sides	Both	0.76	50	0	0	8.0	0	0	0	25	6	0	0	20	109.0	Low	$ 563,000
2157	225 St	Radial Ln - 150th Ave	Planned	One Side	North	0.35	0	0	0	13.0	0	25	0	0	13	15	15	20	101.0	Low	$ 129,000
2205	Muirfield Dr	Sheridan Lake Rd - 0.06 Miles North of Portrush Rd	Planned	One Side	East	0.36	50	0	0	5.0	0	0	0	25	19	0	0	0	99.0	Low	$ 132,000
2163	Villa Dr	N Elsworth Rd - Briggs St	Planned	Both Sides	Both	0.33	0	0	0	26.0	25	0	0	0	10	15	0	20	96.0	Low	$ 243,000
2131	Portrush Rd		Planned	Both Sides	Both	0.03	50	0	0	4.0	0	0	0	0	36	0	0	0	90.0	Low	$ 22,000
2156	Reservoir Rd	Twilight Dr - Avenue A	Programmed	Both Sides	Both	0.28	0	0	0	7.0	0	0	0	25	7	15	15	20	89.0	Low	$ 205,000
0214	Jackson Blvd	Cleghorn Canyon Rd - 0.08 Miles West of Chapel Ln	Planned	Both Sides	Both	0.42	0	0	0	27.0	0	0	0	50	12	0	0	0	89.0	Low	$ 308,000
1227	Danchristy Ln	Catron Blvd - Enchantment Rd	Planned	Both Sides	Both	0.08	0	0	0	22.0	25	0	0	0	21	0	0	0	68.0	Low	$ 62,000
2152	Reservoir Rd	Lamb Rd - Long View Rd	Programmed	Both Sides	Both	3.01	0	0	0	6.0	0	0	0	25	0	15	15	0	61.0	Low	$ 2,224,000
2200	Eglin St	Lowry Ln - 0.08 Miles West of N Turbine Dr	Planned	One Side	North	0.58	0	0	0	0.0	0	0	0	25	5	0	0	20	50.0	Low	$ 216,000

Rapid City Area MPO 2020 Bicycle/Pedestrian Plan - Proposed Crossing Enhancement Projects

ID	E/W Street	N/S Street	Existing Road Section	Existing Traffic Control	Crossing Review Notes	Recommended Project Type	General Cost Level	Connects 2+ Existing Sidewalks (50)	Pedestrian Fatality (25)	Distance Between Signalized Crossings (25/15/5)	Ped Demand Score (0 - 50)	Physical Demand Path (25)	High Equity Score (3 or higher) (25)	Functional Classification (50/25)	Transit Corridor (50)	Project Cost (0-50)	Priority in 2015 Plan (15)	Priority in 2011 Plan (15)	Coincides with roadway, bike, or sidewalk project (20)	Total Score
C08	E North St	N LaCrosse St	5L (both streets)	Signal	potential ped recall and/or LPIs	Signal modification (minor)	Low	50	25	25	46.5	0	25	50	50	50	0	0	20	341.5
C05	Columbus Ave	Mt. Rushmore Rd	5L (N/S), 3L (E/W)	Signal	potential ped recall and/or LPIs	Signal modification (minor)	Low	50	0	25	43.0	0	25	50	50	50	0	0	0	293.0
C16	North St	Haines Ave	5L (both streets)	Signal	potential LPIs	Signal modification (minor)	Low	50	0	25	40.0	0	25	25	50	50	0	0	20	285.0
C01	E Main St	Steele Ave	4L divided	Stop (side street)	Existing marked crossing (E leg); upgrade to RRFB/PHB	Major crossing (PHB)	Med	50	0	0	50.0	0	25	50	50	25	0	0	20	270.0
C02	E Main St	Stadium Ln	5L	None	Adjacent to School of Mines stadium; review further for need during events; odd location since there is nothing apparent to cross to at this location on N/E side of street	Future study	Low	50	0	0	36.5	0	25	50	50	50	0	0	0	261.5
C06	St. Joseph St	11th St	3L one-way EB	Stop (side street)	unmarked crossing today; formalize crossing (RRFB/PHB)	Major crossing (PHB)	Med	50	0	0	30.0	0	25	50	50	25	0	0	20	250.0
C14	W Main St	11th St	3L one-way WB	Stop (side street)	unmarked crossing today; formalize crossing (RRFB/PHB)	Major crossing (PHB)	Med	50	0	0	23.0	0	25	50	50	25	0	0	20	243.0
C17	Range Rd	Soo San Dr	3L (both streets)	Stop (all way)	add crosswalks & sidewalk connections across Soo San Dr (N & S approaches)	Crosswalks	Low	50	0	25	20.0	0	0	25	50	50	0	0	20	240.0
C09	W Main St	Jackson Blvd	5L	Signal	no existing ped features or crossing of W Main St - add ped signals & crosswalks (W leg at minimum); consider LPIs	Intersection improvements	Med	50	0	0	16.5	0	25	50	50	25	0	0	20	236.5
C10	Omaha St	Mountain View Rd	5L (both streets)	Signal	potential LPIs & raised crossing for channelized NB right	Intersection improvements	Med	50	0	0	6.5	0	25	50	50	25	0	0	20	226.5
C07	Omaha St	6th St	6L divided	Signal	Recommended for upgrade to grade-separated crossing	Grade-separated crossing	High	50	0	15	26.5	0	25	50	50	0	0	0	0	216.5
C11	Omaha St	Cross St	5L	Stop (side street)	potential PHB; connects to Founders Park	Major crossing (PHB)	Med	0	0	0	3.0	0	25	50	50	25	0	0	20	173.0
C15	S Canyon Rd	Capitol St	2L undivided w/ parking lanes	Stop (side street)	potential RRFBs & curb extensions or median island	Minor crossing (RRFB)	Low	50	0	0	0.0	0	0	50	0	50	0	0	20	170.0
C13	Omaha St	11th St	6L divided (median, no opening)	Stop (side street)	~450' from signalized crossing in either direction - not appropriate location for additional crossing	None	N/A	50	0	25	33.0	0	25	50	50	0	0	0	20	253.0
C04	Omaha St	Canal St	5L	Stop (side street)	Better candidate at C11 (Omaha/Cross); would not do crossings at both locations	None	N/A	50	25	0	13.0	0	25	50	50	0	0	0	20	233.0
C12	W Main St	Cross St	6L undivided	Stop (side street)	~650' from existing signal; better to upgrade crossing at C09 (W Main/Jackson)	None	N/A	50	0	0	10.0	25	25	50	50	0	0	0	20	230.0

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