STATE OF NEVADA
DEPARTMENT OF TRANSPORTATION

CHURCHILL COUNTY Bicycle Plan

PREPARED FOR: CHURCHILL COUNTY
SPONSORED BY: NDOT | JULY 2015

ACKNOWLEDGEMENTS

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- Preston Denney, Churchill County Planning Department
- Jorge Guerrero, Churchill County
- Danny Gleich, Churchill County Parks and Recreation
- Gary Johnson, City of Fallon
- Michael Johnson, Churchill County Planning Department

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LIST OF ACRONYMS

AASHTO	American Association of State Highway and Transportation Officials
FHWA	Federal Highway Administration
GIS	Geographic Information Systems
HSIP	Highway Safety Improvement Program
MAP-21	Moving Ahead for Progress in the 21st Century Act
MPO	Metropolitan Planning Organization
NACTO	National Association of City Transportation Officials

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CHURCHILL COUNTY BICYCLE PLAN

NBAB	Nevada Bicycle Advisory Board (Converted to NBPAP in 2011)
NBPAB	Nevada Bicycle and Pedestrian Advisory Board
NDOT	Nevada Department of Transportation
NHPP	National Highway Performance Program
NHS	National Highway System
NHTSA	National Highway Traffic Safety Administration
SHSP	Strategic Highway Safety Plan
SRTS	Safe Routes to School
STP	Surface Transportation Program
TAP	Transportation Alternatives Programs
TMA	Transportation Management Areas

1. INTRODUCTION

Communities throughout Nevada have been steadily expanding their emphasis on improving bicycling over the last few decades. In February 2013, NDOT formalized this momentum in the Nevada Statewide Bicycle Plan (State Bike Plan), which focused on areas outside of the four Metropolitan Planning Organizations (MPO) in Nevada, including the Carson Area Metropolitan Planning Organization (CAMPO), the Regional Transportation Commission of Southern Nevada (RTC), the Regional Transportation Commission of Washoe County (RTC), and the Tahoe MPO (TMPO). Representatives from NDOT and other public and private organizations throughout the state came together to support bicycle planning within the development of this plan. The State Bike Plan focused on recommendations to improve bicycling through Policies, Programs, Legislation, Tourism, and Infrastructure Improvements. **Appendix A** contains the cover to the State Bike Plan along with legislation found within the State Bike Plan.

The first strategy listed within the State Bike Plan is for NDOT to assist local jurisdictions with adopting local bicycle plans that are endorsed by the Nevada Bicycle and Pedestrian Advisory Board (NBPAB). The Churchill County Bicycle Plan has been prepared in support of that strategy. This Plan references the major elements of the State Bike Plan that are relevant to Churchill County with a focus on documenting the existing and proposed infrastructure improvements desired within Churchill County, as well as, adjacent areas.

This Plan is being developed with significant input from county and local representatives as well as cycling advocates from Churchill County. The project is being led by NDOT in coordination with the NBPAB.

2. PUBLIC INVOLVEMENT

The development of this Plan was guided by local coordination and public input. Public input was originally gathered during the development of the State Bike Plan. Public meetings for the State Bike Plan were held in three locations within Churchill County, including Fallon on November 17, 2011, Middlegate Station on September 26, 2012, and in Cold Springs Station on September 26, 2012. These meetings were attended by a total of eleven people and the following summarizes the key topics identified at the meetings:

Largest Need:

- Bike education for the public as well as law enforcement officers
- Increased tourism along US 50

Biggest Issue:

- Lack of shoulders on some state highways; many are narrow with rumble strips

Greatest Assets:

- Flat areas to ride including quiet agricultural roadways, which are used in the "No Hill 100" event
- Main route east/west across country and across Nevada with highest volume of loaded bicycle tourists in state
- Great accommodations for bicyclist (Middlegate Station)

Additional Information:

- It is safer to ride outside of town than in town (Fallon)
- Touring cyclists come through the area and need food and restrooms about every 25 miles
- Free camping, showers and kitchen (Middlegate Station)
- Inexpensive historic lodging (Middlegate Station)
- Picnic tables in shade (Middlegate Station)
- Newly reconstructed modern accommodations (Cold Springs Station)
- Inexpensive camping and lodging (Cold Springs Station)
- Restaurant, food market and gift shop

Section 3 of the State Bike Plan includes a summary of all public input received, which was from 15 public meetings throughout the State and 777 responses to a user survey. The following is a summary of 51 key issues identified from the surveys that were typical to bicycling in rural counties in Nevada.

1. Advocacy Groups Lacking – Lack of organized bicycle advocacy groups at the local level.
2. Alternate Roadway Corridors Not Inventoried – There are old roads that parallel newer roads in many places throughout rural Nevada. However, they are in various states of repair (some are used, others look partially or entirely abandoned); they are often hard to access and there is not an inventory of their availability (locations) or suitability for bicycling.
3. Alternate Corridors Not Preserved – Former railroad rights-of-way corridors that would make excellent trails are being (or were) lost due to lack of information and knowledge regarding the acquisition and preservation of rail corridors. Stretched budgets have also resulted in a lack of staff resources to pursue rail-trail opportunities.
4. ATVs on Bike Facilities – ATVs, while regulated, are often allowed to ride on designated bicycle facilities including paved pathways and mountain bike trails.

5. Bicyclists Not Respected by Motorists – Many motorists do not respect bicyclists - bicycling is not a legitimate part of local culture. Bicyclists relayed stories of harassment and intimidation by motorists.
6. Bicyclists Often Riding Wrong Way – Observed a lot of wrong-way riding by bicyclists.
7. Bike Lane Width Sometimes Includes Gutter – Gutter pan sometimes included in the width of a bicycle lane even if pavement to gutter pan edge is not smooth.
8. Bike Plans for Communities Lacking – Towns and counties do not have adopted, current bicycle plans. Since NDOT requires that proposed bicycle facilities are in an adopted plan, opportunities to construct bicycle facilities as part of NDOT projects or to receive state/federal funds are often lost. Many towns and counties do not have the time, money, or expertise to develop a bicycle plan.
9. Bikeways Not Coordinated Across Jurisdictional Boundaries – Town and county bicycle planning is not always coordinated. As a result, there is often a lack of connectivity between the more urbanized town areas and bicycle destinations (e.g. state parks, public lands, mountain bike trails, and low-volume country roads) in the rural, county areas.
10. Bikeway Innovation Lagging – Newer bicycle facility options such as shared lane markings are not widely known about or used.
11. Bikeways Have Ridge at Edge – Some overlays stop at the shoulder resulting in a ridge (lip) a ridge that can cause bicyclists to fall.
12. Bikeways Lacking in Tunnels – There are few provisions for bicyclists going through tunnels (e.g. lack of signs or bicycle activated flashing lights to warn motorists as is done at tunnel in Tahoe).
13. Bikeways Lacking Along Hwy 50 – Highway 50 is the most popular cross county bicycling route and has significant bicycle travel but lacks a bikeable shoulder through many mountain passes with limited visibility around curves.
14. Bikeways Lacking Access to Mountain Bike Areas – Mountain bike areas close to rural towns are often not accessible by bicycle from the town due to lack of facilities (e.g. road leading out of town is high speed and does not have shoulders). Consequently, bicyclists find it necessary to load their bikes on their motor vehicles and drive to nearby mountain bike trail heads.
15. Bikeway Terms Not Understood – There is a lack of understanding and use of terms to describe various bicycle facilities (e.g. bike route, bicycle lane, bicycle path etc.).
16. Bikeway Variances – Local zoning boards give variances to developers, thereby losing opportunities to install bike lanes and paths required by local zoning regulations.
17. Education Materials Not Readily Available – Locals don't know where to get bicycle educational materials for schools, summer recreational programs, etc.
18. Education Programs Lacking – There are very few bicycle safety education programs offered to children in country towns. In the past, rodeos and other safety programs were more available through schools, and local police and sheriff's departments. These have become less frequent or have disappeared over time.
19. Enforcement Lacking and Uninvolved – Law enforcement officials are typically not involved in bicycle safety (i.e. they do not ticket motorists or bicyclists and they no longer provide safety training rodeos for children).
20. Facilities for Aging Populations Lacking – There are aging populations in many of the small country towns that lack adequate trail (sidewalk) facilities to exercise and access local services.
21. Funding Opportunity Awareness Lacking - Local, rural jurisdictions are not always aware of state funding opportunities. Consequently, there are times when there is a lack of applications for some pots of money.
22. Funding Shortage for Bike Infrastructure – Lack of funding for bicycle infrastructure improvements.
23. Gravel on Facilities – Existing bicycle facilities are not maintained (e.g. trails in disrepair, bicycle lanes and shoulders are full of gravel).
24. Gravel on Shoulder – Gravel on roadways at locations where there are access roads/driveways.
25. Helmet Use Low – Helmet use by bicyclists, especially children is low.

26. High Speed Right Turn Lanes – High speed right turn add lanes on arterial streets create a challenge for bicyclists going straight.
27. Infrastructure Inconsistent – There is a lack of consistency with regard to the design of NDOT vs. non-NDOT roads (e.g. lane width, shoulder width, curbs radii etc.).
28. Interstate Access – For bicyclists traveling from urbanized to rural areas, there are no informational signs to indicate where they are allowed to access interstate freeways.
29. Rumble Strip Takes Up Shoulder – Rumble strips are often placed to right of white edge line on the 12- to 24-inch shoulder forcing bicyclists to ride to the left of the edge line. Also, design and application of rumble strips are inconsistent.
30. Interstate By-pass Wayfinding Lacking – There are no way-finding signs to guide bicyclists through towns in rural areas. This is particularly important for bicyclists who have exited an interstate freeway and must travel through town and back to a freeway entrance.
31. Interstate Locations That Bikes Must Exit Unclear – It is not clear where bicyclists traveling on interstate freeways entering urbanized areas are required to exit the freeway.
32. Interstate Way-Finding Lacking – For bicyclists traveling on interstate freeways, there are no way-finding signs to indicate where they should exit to access small towns.
33. Legality of Bicycling on Sidewalks Not Clear – Lack of clarity regarding bikes on sidewalks. State law says that bicyclists are not allowed on sidewalks unless granted "permission" by "owner".
34. Locals feel NDOT Not Prioritizing Bicycling – Some locals feel NDOT doesn't really care about bicyclists and does not recognize the importance of touring bicyclists to economies of small towns. Examples cited include: a) rumble strips in narrow shoulders of NDOT roads; 2) NDOT projects that ignored local requests for bicycle facilities; and 3) non-responsiveness of NDOT officials in district offices. Some locals are concerned that NDOT does not value their input. Locals complained that by the time they find out about a project, it is already scoped, budgeted, and designed.
35. Maps of Local Bike Facilities Lacking – Lack of bicycle maps at the local level that show bicycle facilities, water, bike shop and destinations such as mountain bike areas.
36. Rumble Strips Next to Guard Rail – Rumble strips are sometimes installed immediately adjacent to guardrails, which is inconsistent with state guidelines.
37. School Crossing Guards Lacking – There are often no school crossing guards at crossings of arterial streets near schools (state, county and local roads).
38. School Kid's Bikes Need Repairs – Children don't know how to fix their bikes (e.g. flat tires due to puncturevine, also known as goatheads).
39. School Support and Facilities Lacking – Some local school districts do not recognize or support bicycling and/or walking to school; and they are not aware of SRTS programs and grants. Children often cannot bicycle to school due to lack of bicycle facilities.
40. Schools Lacking Adequate Bike Parking – There is often a lack of bicycle parking facilities at schools.
41. Shared Use Path Crossing Advanced Motorist Signing Lacking – Inadequate warning/crossing signs for motorists at locations where paths cross roadways.
42. Shared Use Path Intersection Priority – Assignment of right-of-way at trail crossings. Some trails arbitrarily require trail users to stop at all crossings, including driveways.
43. Shoulders Lacking or Too Narrow – Many state, county and local highways do not have a shoulder, have a very narrow shoulder, and/or have the entire shoulder covered in a rumble strip.
44. Special Event Participants Lacking – Special events (century rides, etc.) need more participants.
45. Special Event Permitting Unclear – Lack of clarity as to whether permits are required for special events with more than 50 participants and the requirements for the application. Regional NDOT offices may have different policies.

46. Special Event Signing Requirements Not Clear – Lack of clarity with regard to state rules regarding way-finding guidance (arrows on the pavement and temporary signs) to direct bicyclists participating in special events (e.g. century ride).
47. Touring Bicyclist Economic Impact Not Quantified – There are no numbers regarding the importance (or potential) of bicycling to the economy of rural towns.
48. Touring Bicyclist Travel on Through – Bicycle tourism in Nevada is an untapped resource. Touring bicyclists do not stop in Nevada to bike (they go on to Utah, Colorado, and other destinations).
49. Touring Bicyclists Lack Water – Touring bicyclists lack places where they can find water. NDOT facilities in rural areas may be able to provide water.
50. Utility Corridors Don't Officially Allow Bikes – Authorities (agencies) that operate irrigation and drainage networks do not allow bicycle facilities on dikes and service roads. However, informal use is widespread and often tolerated.
51. Workzones – On interstate freeways, state highways and local roadways, space for bicyclists is not routinely provided through construction zones. For example, it is not uncommon to see motorists channeled into one lane or on the shoulder, leaving no place for the bicyclists to ride.

These issues identified in the State Bike Plan were used as a baseline for a workshop held specifically for development of the Churchill County Bicycle Plan.

A two-day workshop was held on November 4 and 5, 2013, in Fallon, Nevada. The purpose of the two-day workshop was to gain input from representatives of the local community on specific bicycling conditions in Churchill County and to develop recommendations on proposed bicycle facility improvements as well as recommendations for policy, program, legislation, and tourism improvements for bicycling. The following is a list of attendees at the workshop:

- Michael Johnson, Churchill County Planning Department
- Preston Denney, Churchill County Planning Department
- Jorge Guerrero, Churchill County
- Danny Gleich, Churchill County Parks and Recreation
- Gary Johnson, City of Fallon
- Bill Story, NDOT Project Manager
- Tim Rowe, NDOT Safe Routes to School
- Albert Jacquez, NDOT Bicycle and Pedestrian Education
- Mike Colety, Kimley-Horn
- Michael Hintze, Toole Design Group

The workshop covered a variety of bicycling topics, and included a field assessment. The workshop schedule is included below.

WORKSHOP	8:00 – 8:30	Meet-and-Greet
	8:30 – 9:00	Overview of planning process, review Statewide Bike Plan
	9:00 – 9:30	Review bicycle facility types
	9:30 – 12:00	Review Lyon County Bike Plan/maps, identify opportunities, barriers
	12:00 – 1:00	Lunch Break
	1:00 – 2:30	Review Maps
	2:30 – 5:00	Plan Development – interactive exercise
	5:00	Adjourn

**The field assessment was attended by a subset of the workshop attendees and then presented to the group*

A field assessment was conducted by a smaller group the day after the workshop.

The attendees offered input on existing bicycling conditions, existing issues, desired routes, necessary programs and policies, and then specified on priorities. The field assessment reviewed existing conditions and identified potential areas for improvement. Notes from the countywide field assessments are included in **Appendix B**.

3. EXISTING CONDITIONS

3.1 Countywide Observations

Bicycling conditions throughout Churchill County were observed as part of the development of the State Bike Plan and during the field assessment during the workshop. The following are examples of good existing bicycling conditions in Churchill County:

- Options for safe routes, various distances
- Good weather
- Good stop for touring cyclists (Fallon)
- Bike lanes
- Wide shoulders
- Low volume roadways
- Flat and grid street system
- Close proximity to destinations
- Low traffic side streets
- Rural character, scenic and varied landscape
- Community acceptance of local bike-related events ("No Hill 100")

Similarly, the following are examples of non-desirable conditions that were observed in Churchill County:

- Fast, narrow roads
- Rumble strips on narrow shoulders
- Rough roads in need of repair
- Inadequate chip sealing
- No bike shop
- Improve education/awareness of motorists, bicyclists, and law enforcement
- Major freight routes
- No shoulders
- Signals not detecting bicyclists
- Interaction with farm equipment

Figure 1 shows a map of the existing population areas found within Churchill County from the 2010 Census.

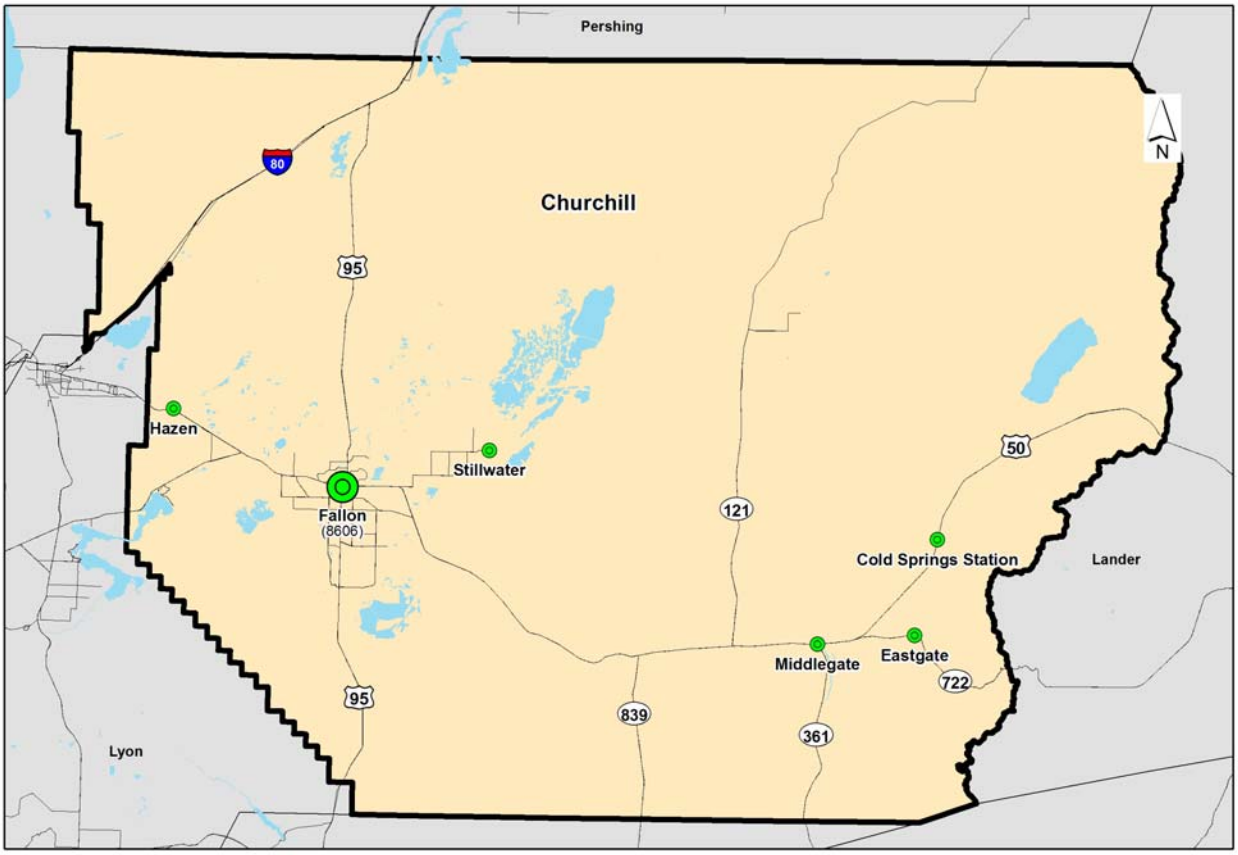


Figure 1 – Churchill County Population Point Map

3.2 Existing Documents, Policies, Programs and Legislation

Existing bicycle related documents from Churchill County were collected as part of the development of the State Bike Plan. The following sections are a summary of bicycle related documents, policies, programs and legislation in Churchill County in matrix form (**Table 1**) and paragraph form.

	Churchill County
Bike Plan (NDOT Approved)	2010
Existing/Proposed Facility Map	Yes
Major Bikeway Initiatives	Yes
Laws	No
Policies	Yes
Safe Routes to School Program	No
Construction Standards	No
Maintenance Expectations and Protocols	No
Cycle Tourism Initiatives	No

Table 1 – Churchill Countywide– Existing Bicycling Documents, Policies, Programs and Legislation

3.2.1 Churchill County Bike Plan 2010

Churchill County Bicycle Plan has trails that can be used by their residents such as the shared-use paths, marked bike lanes, hiking and mountain biking trails and has clear distinction of who is responsible for the maintenance of these trails and bicycling routes.

3.2.2 Trails Across Churchill County

The Trails Across Churchill County (TRACC) plan was created in response to growing community desire for the development of trails for bicycling and other recreational activities. The purpose of TRACCS plan was to create a system of multi-use trails for recreationalists of varying abilities, which would consequently provide an alternative transportation system, connecting primary destinations within the County. Since its adoption, a number of proposed bicycle routes identified in the plan have been implemented.

3.2.3 Churchill County Master Plan

Churchill County Master Plan provides a framework to support decision making processes relating to land use and development concerns and identifies goals and policies to address these concerns. Part of this plan identifies goals and policies, aimed at providing a safe network of bicycle facilities throughout the County to support bicycling as recreation and as an alternative mode of transportation. The goals and policies are primarily focused on promoting education, supporting safety, expanding and improving the existing trail system to connect destinations throughout the county, consistent with TRACC. Providing sufficient and well maintained bicycle facilities is another focus of the Plan.

3.2.4 Safe Routes to School Program

At the time this Bike Plan was prepared a Safe Routes to School Program did not exist in Churchill County. In Nevada a Safe Routes to School Program exists in Douglas, Lyon, Humboldt, and Lincoln Counties. The program incorporates the Five Es: Evaluation, Education, Encouragement, Engineering and Enforcement. The goal of SRTS is to increase the number of children bicycling and walking to schools safely on a daily basis. SRTS efforts improve facilities for bicycles and pedestrians and increases opportunities for healthy physical activities for everyone. The State currently funds an SRTS coordinator who is available to assist the county and school district personnel in program expansion and implementation. Participation in the SRTS program is encouraged.

3.2.5 Legislation

Although no specific bicycle related legislation was identified in Churchill County, existing statewide legislation related to bicycling is summarized in Section 4.3.9 on Page 39 of the State Bicycle Plan. This legislation is found in **Appendix C**.

3.2.6 US Prioritized and Alternative Bicycle Corridors

The US Bicycle Route System (US BRS) is a proposed national network of bicycle routes that will link urban, suburban, and rural areas using a variety of appropriate cycling facilities. US Bicycle Routes were first established in 1982. In October, 2008, AASHTO's Board of Directors passed a resolution in support of the National Corridor Plan. The existing National Corridor Plan includes prioritized corridors along existing roadways. In Nevada, priority bicycle corridors exist along the I-80 corridor, along US 50 and along I-15. The alternate corridors in Nevada primarily follow US 95 and US 93.

3.3 Crash Data

As part of the State Bike Plan, bicycle crashes with motor vehicles were reviewed. NDOT annually completes a crash data review for the preceding three (3) years. The most recent report includes the years 2008 to 2010. It is important to recognize that most bicycle crash data only includes bicycle crashes with motor vehicles that are significant enough to require a police report. The data included in NDOT's report does not include minor collisions with bicycles and motor vehicles that do not have a police report, nor does it include bicycle crashes that do not include a motorist (i.e., crashes between two bicycles or a single bicycle crash). A summary of the bicycle and motor vehicle crashes for years 2008 to 2010 in Churchill County is presented in **Table 2.**

COUNTY	2008				2009				2010			
	TOTAL INJURY CRASHES	TOTAL INJURIES	TOTAL FATAL CRASHES	TOTAL FATALTIES	TOTAL INJURY CRASHES	TOTAL INJURIES	TOTAL FATAL CRASHES	TOTAL FATALTIES	TOTAL INJURY CRASHES	TOTAL INJURIES	TOTAL FATAL CRASHES	TOTAL FATALTIES
CARSON	11	12			6	6			8	8		
CHURCHILL	5	5	1	1	3	3			1	1		
CLARK	243	250	6	6	421	432	5	5	380	399	3	3
DOUGLAS	6	6			9	9			10	10		
ELKO	3	3			4	4			1	1		
ESMERALDA												
EUREKA												
HUMBOLDT	2	2										
LANDER												
LINCOLN												
LYON	1	1			4	4			2	2		
MINERAL												
NYE					2	2			4	4		
PERSHING												
STOREY	1	1										
WASHOE	111	115			106	112	1	1	98	102	3	3
WHITE PINE												
TOTAL	383	395	7	7	555	572	6	6	504	527	6	6

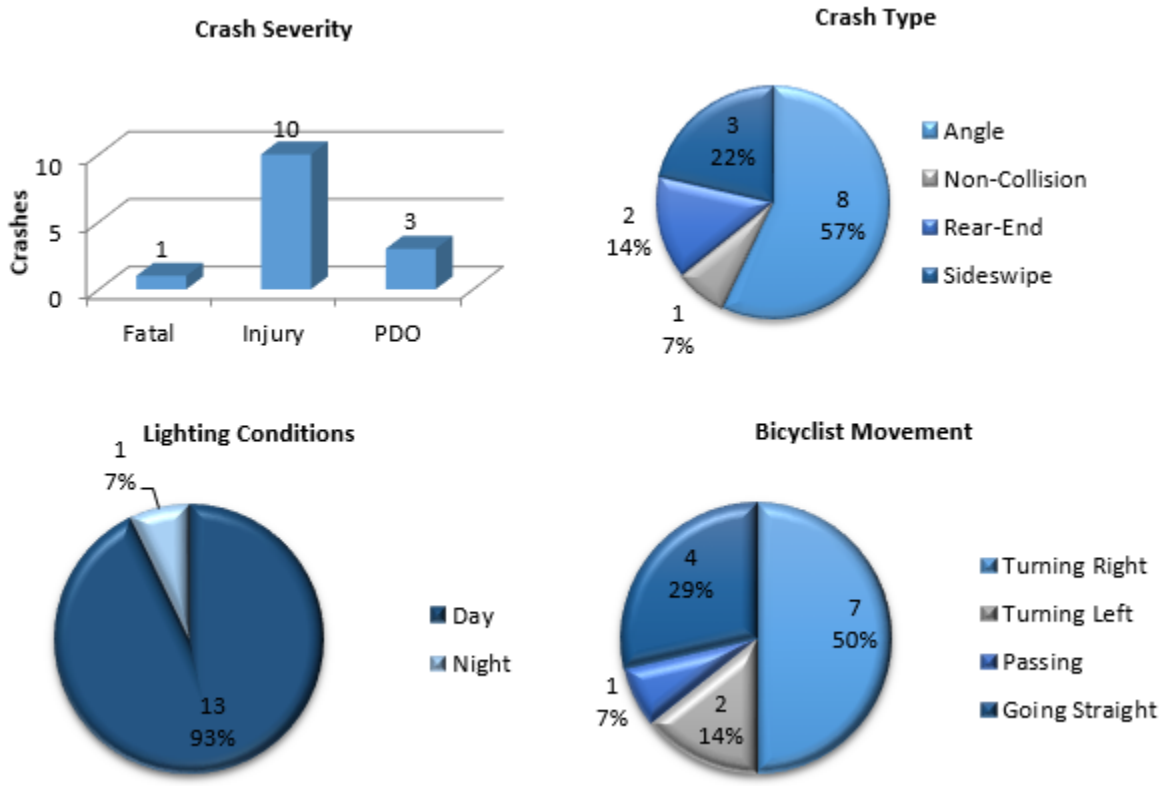
Source: NDOT Crash Data Report 2008-2010

Table 2 – Summary of Churchill County Bicycle and Motor Vehicle Crashes 2008 to 2010

The following are additional key results from the NDOT crash data for all crashes that occurred outside of the four MPOs in Nevada between the years 2008 and 2010:

- Bicycle crashes trended up over the three years, but fatalities decreased slightly.
- Failure to yield is the most common motorist factor.
- Improper crossing and wrong side of road are most common bicyclist factor, followed by darting, failure to obey signs, signals or officer, and failure to yield right of way. Not visible, inattentive and lying in roadway are contributing factors for some bicycle crashes.
- There are typically more bicycle crashes and fatalities per day on weekdays than on weekends. Most collisions are between 3:00 and 5:00PM, with Noon to 3:00 PM being secondary.

NDOT also provided Geographic Information System (GIS) bicycle crash data for Nevada from 2006 to 2011. The data from NDOT has been spatially located where the event occurred, and is coded with information related to the incident including crash type and severity (property damage only (PDO), injury level or fatal). **Figure 2** contains a summary of the crash data provided for Churchill County. **Figure 3** and **Figure 4** are GIS maps illustrating the exact location of each crash within Churchill County.



Source: NDOT Crash Data 2006-2011

Figure 2 – Summary of Churchill County Bicycle and Motor Vehicle Crashes 2006-2011

The data from NDOT has been spatially located to where the event occurred, and is coded with information related to the incident including crash severity and type. **Figure 3** is a GIS map illustrating the exact location of each crash within Churchill County.

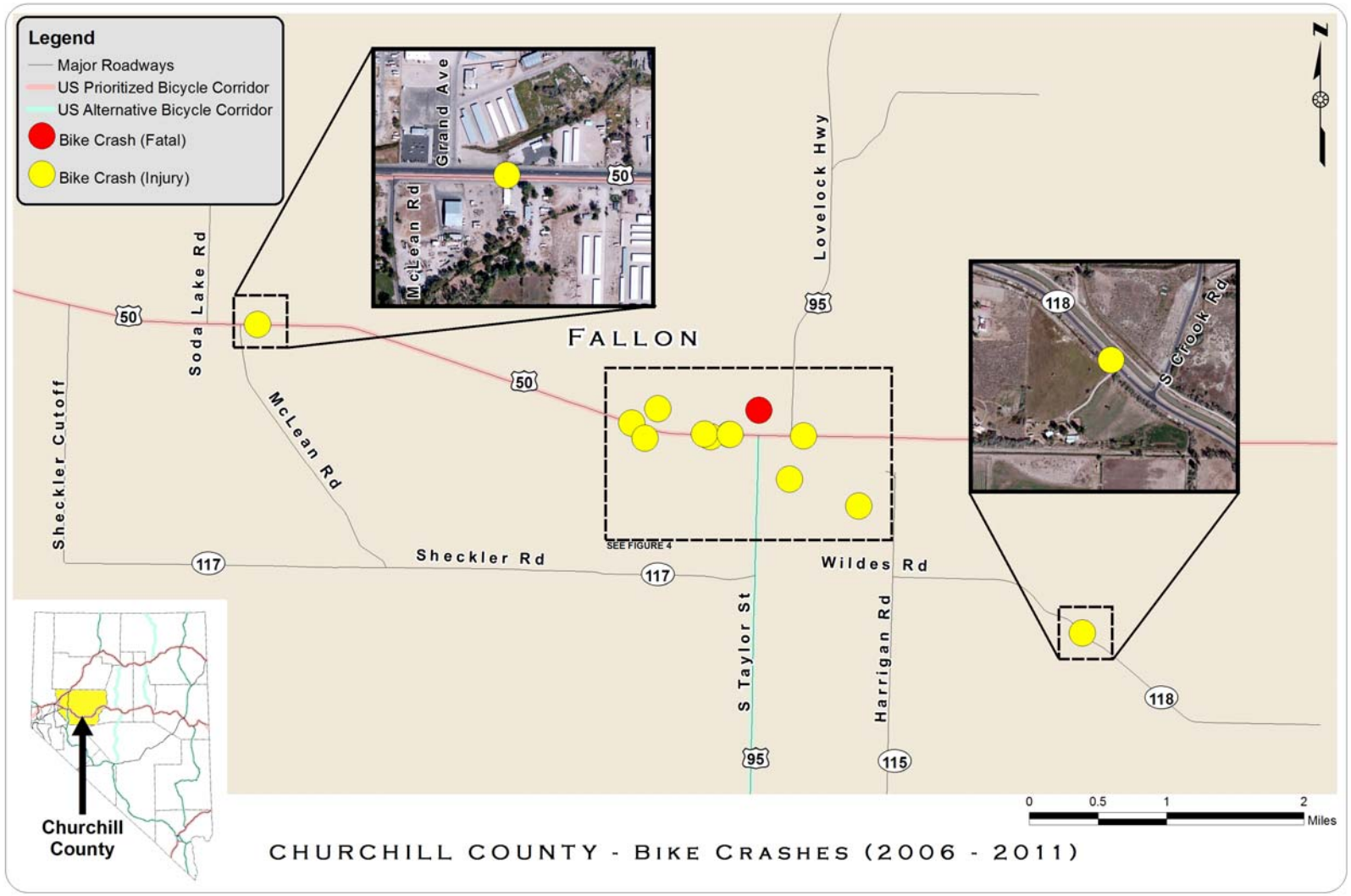


Figure 3 – Reported Bicycle and Motor Vehicle Crashes in Churchill County 2006-2011

Figure 4 is a GIS map indicating the exact location of each crash within Fallon, Nevada.

Figure 4 – Reported Bicycle and Motor Vehicle Crashes in Fallon 2006-2011

4. VISION, GOALS, AND OBJECTIVES

The Vision, Goals, and Objectives for the Churchill County Bicycle Plan are described in the following sections.

4.1 Vision

For Churchill County residents and visitors of all ages and abilities to experience a convenient, pleasant, and safe bicycling environment.

4.2 Goals

There are two major goals of the Churchill County Bicycling Plan that will guide the specific objectives and strategies within this plan:

- Increase bicycling's mode share throughout Churchill County in and between communities, both by residents and tourists.
- Reduce crashes involving bicyclists and eliminate all bicyclist fatalities in support of Nevada's "Zero Fatalities" and the national "Towards Zero Deaths" initiatives.

4.3 Objectives

The following objectives are the specific tasks to be evaluated in order to determine the success of this Plan and bicycling in Nevada.

- Objective 1: Increase Local Support of Bicycling.
- Objective 2: Increase Bicycle Tourism.
- Objective 3: Accommodate Appropriate Bicycling Facilities on all Roadways in Nevada Open to Bicycling.
- Objective 4: Increase Motorists and Bicyclists Compliance with Laws Associated with Bicycling.

5. RECOMMENDED STRATEGIES

The following strategies have been developed for Churchill County to support the four main objectives of this Plan.

5.1 Objective 1

Increase Local Support of Bicycling

Strategy 1A: Improve the connectivity of bicycle facilities between population centers in a safe and effective manner.

Strategy 1B: Provide guidance and technical support to the local jurisdictions, including the towns and general improvement districts for developing bicycle plans that are consistent with the County and State Bicycle Plans.

Strategy 1C: Collaborate with the towns and general improvement districts to employ consistent design and maintenance policies for bicycle facilities.

Strategy 1D: Work with local agencies on the creation of funding mechanisms for bicycle related projects.

Strategy 1E: Collaborate with local agencies in applying for available state and federal funding opportunities and programs that are available for bicycle related projects.

Strategy 1F: Work with the Churchill County School District and other health advocates and agencies to promote bicycling as part of a healthy lifestyle for children and adults, including Bike Month, and Nevada Moves Day.

Strategy 1G: Work with the Churchill County School District, Towns, and General Improvement Districts to develop bicycle plans that identify safe routes and identify needed bicycle facilities for each school and incorporate the needs of each school into the County's Community Development Plan.

Strategy 1H: Establish a Bicycle Advisory Committee or Bicycle and Pedestrian Advisory Committee that provides guidance to the County Commission on bicycle (and pedestrian) related issues in Churchill County.

Strategy 1I: Adopt a bicycle accommodation or complete street policy specifying that all design projects with new roadways or modifications to existing roadways are required to include appropriate bicycle accommodation.

Strategy 1J Encourage communities and businesses within each county to achieve "Bike Friendly Status" from the League of American Bicyclists (www.bikeleague.org/bfa). This will help promote each community or business as a destination for bicyclists.

5.2 Objective 2

Increase Bicycle Tourism

Strategy 2A: Encourage the County's Economic Vitality Division to collaborate with the State's Office of Economic Development, local governmental agencies, and business organizations to promote bicycle tourism.

Strategy 2B: Assist in the development of bicycle tourism materials related to road and mountain bicycling, including maps that show destinations and designated routes, if supported by local business and local agencies.

Strategy 2C: Encourage NDOT to establish US Bicycle Routes and regional bicycle routes in Churchill County, Nevada and support the marketing and use of these routes.

Strategy 2D: Review the County's existing permit process for bicycle events, and if needed, develop a streamlined permitting process that establishes clear rules and guidelines along with acceptable temporary wayfinding methods.

Strategy 2E Encourage each region/community to develop a free bicycling map/guide highlighting bicycle routes, destinations and services of interest to cyclists.

Strategy 2F Encourage each region/community to explore the development of "scenic bikeway" routes highlighting the regions scenic and cultural attributes.

Strategy 2G Encourage each region/community to explore the development of an annual bicycle event to showcase/market their area and culture. This event may be tied to already established events and gatherings.

Strategy 2H Develop a signage scheme to notify visitors of available trails and cycling destinations and opportunities.

5.3 Objective 3

Accommodate Appropriate Bicycling Facilities on All Roadways in Nevada Open to Bicycling

Strategy 3A: Adopt County wide design guidelines and specifications that address bicycle facility design, including wayfinding and informational signs, and accommodating bicycle facilities in work zones.

Strategy 3B: Develop protocols with the state and local agencies that review maintenance projects which require restriping, to evaluate redesign options for adding bicycle facilities.

Strategy 3C: Define, inventory, and preserve, as necessary, alternate corridors such as railroad, irrigation easements, utility, and roadway rights-of-way for bicycling.

Strategy 3D: Maintain and evaluate, every two years, a list of high priority bicycle improvement projects.

Strategy 3E: Strengthen requirements for developers to provide the space for a bicycle facility through street design standards. Provide guidance on when developer is to install the bicycle facility and when the developer must provide the space and funding for a future County improvement if it is not appropriate to install the facility at the time of development.

Strategy 3F Encourage each community to develop a strategy to provide bicycle parking (racks, lockers, etc.) at all key destination points and business districts.

5.4 Objective 4

Increase Motorists and Bicyclists Compliance with Laws Associated with Bicycling

Strategy 4A: Encourage bicycle training for youth and adult bicyclists, through County, state, local, and private sector organization partnerships.

Strategy 4B: Provide assistance with state and local bicycle media and safety campaigns, materials, and outreach.

Strategy 4C: Work with the Churchill County Sheriff's Office and state law enforcement agencies to encourage the enforcement of state laws related to bicycling from a motorist's and bicyclist's perspective, regarding unsafe and unlawful behaviors.

Strategy 4D: Encourage a state sponsored Bicycle Infraction Diversion Program that allows violators of bicycling related infractions (motorists and bicyclists) to complete a training course instead of paying a fine.

Strategy 4E: Continue to work with advocates and the State to address legislative issues and needed changes related to bicycling during Nevada's bi-annual legislative sessions.

6. RECOMMENDED BICYCLE FACILITIES

Recommendations within the State Bike Plan are based upon the Vision, Goals and Objectives developed from the review of existing conditions and bicyclists' needs discovered through public input and stakeholder improvement processes.

The Churchill County Bike Plan's primary focus is to document the proposed bicycle infrastructure in Churchill County. The facility recommendations take into account that bicycle accommodation is not a one-size-fits-all approach and that bicycling accommodation should be responsive to the preferences of different bicycling user groups and trip types. The 2012 American Association of State Highway and Transportation Officials (AASHTO) Guide for the Development of Bicycle Facilities (2012 AASHTO Bike Guide) defines two user groups based on bicyclist skill and comfort level: Experienced and Confident, and Casual and Less Confident. Characteristics of the two groups are described below:

Experienced and Confident:

- Most comfortable riding with vehicles on streets and are able to navigate streets like a motor vehicle, including using the full width of a narrow travel lane when appropriate and using left-turn lanes.
- While comfortable on most streets, some prefer on-street bike lanes, paved shoulders or shared use paths when available.
- Ride with the flow of traffic on streets and avoid riding on sidewalks.
- Typically ride at speeds of 15 to 25 miles per hour on level grades and can reach up to 45 miles per hour on steep descents.

Casual and Less Confident:

- Prefer shared use paths, bicycle boulevards, or bike lanes along low-volume streets.
- May have difficulty gauging traffic and may be unfamiliar with rules of the road as they pertain to bicyclists; more likely to walk bike across intersections.
- May use less direct route to avoid arterials with heavy traffic volumes.
- May ride on sidewalk if no on-street facility is available.
- Typically ride around 8 to 12 miles per hour.
- Typically cycle shorter distances, one to five miles.

Bicyclists generally also have different preferences based on local versus long distance trips. Local trips are often more utilitarian (e.g., biking to a shopping destination or school) and long trips more recreational (e.g., biking for exercise or sport), although there are also short recreation trips and long utilitarian trips. Local trips typically do not go much further beyond the populated area; whereas, long distance trips may be cross-state, touring type trips, or regional trips between destinations.

These trip types are also based on information in the 2012 AASHTO Bike Guide and generally have the following characteristics:

Long-Distance Trips:

- Directness of route not as important as visual interest, shade, and protection from wind.
- Loop trips may be preferred to back tracking; start and end points are often the same with an exception being bicycle touring trips.
- Trips typically range from under a mile to over 50 miles.
- Short term parking is needed at recreational sites, parks, trailheads and other activity centers.

- Varied topography may be desired, depending on the fitness and skill level of the bicyclist.
- More likely to be riding in a group.
- Sometimes drive with bicycle to starting point of ride.
- Typically ride on the weekend or on weekday before or after commute hours.

Local Trips:

- Directness of route and connected, continuous facilities more important.
- Trips generally travel from residential to schools, shopping or work areas.
- Trips typically range from 1 to 10 miles in length.
- Short-term and long-term bicycle parking is needed at destinations.
- Flat topography preferred.
- Often ride individually.
- Bicycle is primary mode of transportation for the trip; may transfer to public transportation and may not have access to a car for the trip.

Table 3 summarizes the preferences of both trip types for the two user groups.

		Experienced/Confident Bicyclists		Casual/Less Confident Bicyclists	
		Long Distance	**Local**	**Long Distance**	**Local**
Facility Type	Bicycle Lane	✓	✓	✓	✓
	Paved Shoulder	✓	✓	✓	✓
	Shared Lanes	✓	✓		
	Marked Shared Lanes		✓		✓
	Shared Use Path			✓	✓

Table 3 – User Group and Trip Types

As displayed in **Table 3**, all of the different facility types are preferred by at least one particular user group for either a local or long distance trip. Therefore, the recommendations of this Plan recognize that all of these different facility types serve a particular purpose and should be considered for particular conditions and in some cases two facilities may be appropriate within the same area or corridor.

6.1 Bicycle Facility Types

The following bicycle facility type terms, descriptions and design standards from the 2012 AASHTO Bike Guide and the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide will be used for this Plan:

6.1.1 On-street Bicycle Facilities

6.1.1.1 Shared Lane

Bicycles may be operated on all roadways except where prohibited by statute or regulation. There are no roadways in Churchill County that prohibit bicycles. Generally speaking, roadways that carry very low to low volumes of traffic, and may also have traffic typically operating at low speeds (typically 25 mph or less), may be suitable as shared lanes in their present condition. There are two categories of shared lanes for bicycling. Shared lanes where a bicycle and motor vehicle can share side by side, which is generally considered to be 14 or 15 feet or greater. The second category is a shared lane where the lane is too narrow for a motor vehicle and bicycle to share side by side, which is a lane that is less than 14 or 15 feet wide. There are various design features can make shared lanes more compatible with bicycling, such as good pavement quality; adequate sight distances; roadway designs that encourage lower speeds; and bicycle-compatible drainage grates, bridge expansion joints, and railroad crossings (2012 AASHTO Bike Guide Section 4.3). **Figure 5** represents an example shared lane facility.

Figure 5 – Shared Lane Facility

6.1.1.2 Marked Shared Lane

In situations where it is desirable to provide a higher level of guidance to bicyclists and motorists, marked shared lanes include the shared-lane marking. On streets with on-street parallel parking, shared-lane markings should be placed at least 11 feet from the face of curb, or edge of the traveled way where there is no curb. Without on-street parallel parking, shared-lane markings should be placed at least four feet from the face of curb, or edge of the traveled way where there is no curb (2012 AASHTO Bike Guide Section 4.4). Shared lane markings should not be used on streets with posted speed limits greater than 35 mph. **Figure 6** represents an example marked shared lane facility.

Figure 6 – Marked Shared Lane Facility

6.1.1.3 Paved Shoulder

Adding or improving paved shoulders can greatly improve bicyclists' accommodation on roadway with higher speeds or traffic volumes as well as benefit motorists, and are most often used on rural roadways. Shoulder width of at least five feet is recommended from the face of a guardrail, curb, or other roadside barrier to provide additional operating width, as bicyclists generally shy away from a vertical face. On uncurbed cross sections with no vertical obstructions immediately adjacent to the roadway, paved shoulders should be at least four feet (2012 AASHTO Bike Guide Section 4.5). **Figure 7** represents an example paved shoulder facility.

Figure 7 – Paved Shoulder Facility

6.1.1.4 Bike Lane

A portion of the roadway designated for preferential use by bicyclists. One-way facilities that typically carry bicycle traffic in the same direction as adjacent motor vehicle traffic. Bike lanes are the appropriate and preferred bicycle facilities for thoroughfares in both urban and suburban areas. Under most circumstances the recommended width for bike lanes is five feet. On higher speed, higher volume roadways a buffer or physical separation between the bike lane and vehicle lane should be considered in order for the facility to be comfortable for, and used by, less confident bicyclists. A width of four feet may be used on roadways with no curb and gutter and no on-street parking (2012 AASHTO Bike Guide Section 4.6). **Figure 8** represents an example bike lane facility.

Figure 8 – Bike Lane Facility

6.1.1.5 Buffered Bike Lane

A buffered bike lane is a conventional bike lane paired with a designated buffer space separating the bike lane from the adjacent motor vehicle travel lane and/or parking lane. The design standards for a conventional bike lane apply. The buffer shall be marked with two solid white lines and the interior of the marked buffer shall have diagonal cross hatching or chevron markings if the buffer is three feet in width or wider (NACTO Urban Bikeway Design Guide Section page 19). **Figure 9** represents an example buffered bike lane facility.

Figure 9 – Buffered Bike Lane Facility

6.1.1.6 Bicycle Boulevard

A bicycle boulevard is a local street or series of continuous street segments that have been modified to function as a through street for bicyclists, while discouraging through automobile travel (2012 AASHTO Bike Guide Section 4.10). A bicycle boulevard incorporates several design elements to accommodate bicyclists. These design elements include, but are not limited to:

- Traffic diverters at key intersection to reduce through motor vehicle traffic while permitting passage for through bicyclists.
- At two-way, stop-controlled intersections, priority assignment that favors the bicycle boulevard, so bicyclists can ride with few interruptions.
- Neighborhood traffic circles and mini-roundabouts at minor intersections that slow motor vehicle traffic but allow bicyclists to maintain momentum.
- Other traffic-calming features to lower motor vehicle speeds where deemed appropriate

Figure 10 represents an example bicycle boulevard facility.

Figure 10 – Bicycle Boulevard Facility

6.1.2 Off-street Bicycle Facility

6.1.2.1 Shared Use Path

Bikeways that are physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent right-of-way. Paths are most commonly designed for two-way travel. Shared use paths can be paved or unpaved. A paved surface is generally preferred over un-paved surfaces, however unpaved surface may be appropriate on rural paths or as a temporary measure before funding is available for paving (2012 AASHTO Bike Guide Section 5.1). The usable width and the horizontal clearance for a shared use path are the primary design considerations. The minimum paved width for a two-direction shared use path is 10 feet with a typical range from 10 to 14 feet. A path width of eight feet may be used for a short distance due to a physical constrain (2012 AASHTO Bike Guide Section 5.2). **Figure 11** represents an example shared lane bicycle facility.

Figure 11 – Shared Use Path Facility

6.1.2.2 Side-Path

A shared use path that is adjacent to a roadway. Provision for a side-path is not a substitute for an on-street bicycle accommodation. Side-paths can create operational issues, but can function along highway for short sections, or for longer sections where there are few street and/or driveway crossings. A side path should satisfy the same design criteria as shared use paths in independent right-of-way (2012 AASHTO Bike Guide Section 5.2.2). **Figure 12** represents an example side-path facility.

Figure 12 – Side-Path Facility

6.1.3 Bicycle Facility Design Guidance

All bicycle facilities recommended in this Plan should be designed and constructed based on the most current version of the AASHTO Bike Guide, the NACTO Urban Bikeway Design Guide and any applicable NDOT and County design standards. Typical roadway cross sections by facility type can be found in **Appendix D**. In addition to the recommended on-street and off-street bicycle facilities, individual improvement projects should include:

- Bicycle signage and marking (See **Appendix D**)
  - Bicycle guide signs and wayfinding
  - Signage to alert motorists to the potential presence of bicyclists in travel lanes where no bicycle lane or adjacent shoulders usable by bicyclists are present and where travel lanes are too narrow for bicyclists and motor vehicles to operate side by side such as:
    - Mountainous areas with limited sight visibility
    - Narrow bridges

- Narrow lanes (<14 feet wide) without bike lanes or shoulders (less than 4 feet wide usable)
- Bicycle parking at destinations
- Roadway crossings and intersection accommodations (including signal detection)

When changing roadway characteristics result in the narrowing of the roadway and the need for bicyclist to use the full lane, warning signs may be used to alert both bicyclists and motorists. These warning signs may be installed in advance of the area followed by a "Bicycle May Use Full Lane" sign (R4-11). Signs may be repeated at regular intervals when the narrow roadway condition persists for an extended distance. For specific guidance on how and when to use these different signs, found in **Appendix E**, refer to the latest version of the Manual on Uniform Traffic Control Devices.

6.2 Proposed Bicycle Facilities

A major purpose for the development of this plan was to document the recommended bicycle network for Churchill County. The recommended bicycle network was developed based on input from the Bicycle Plan Workshop and coordination with Churchill County. As discussed previously, bicycles are permitted on all roadways in Churchill County and bicycles should be accommodated on all roadways in Churchill County. Opportunities for additional bicycle facilities that are not identified in this bicycle plan may develop and should be pursued. The recommended bicycle network identified as part of this Plan is included in the following Figures:

- **Figure 13** – Bicycle Network – Churchill County
- **Figure 14** – Bicycle Network – Fallon Area
- **Figure 15** – Bicycle Network – Fallon

Improvements to a roadway that has a proposed bicycle facility must provide the recommended bicycle facility and necessary right-of-way. In situations where strict compliance with the proposed bicycle facility may not act to protect public health and safety, a variance to the required improvements may be requested.

It is acknowledged that there may be constraints such as a lack of right-of-way or narrow bridges that make it infeasible to implement the recommended bicycle facilities in specific spot locations. In those situations and upon approval by Churchill County, engineering judgment should be used to provide the best accommodation for bicycles that is feasible at that time, while maintaining the potential for a future improvement to accommodate the recommended bicycle facility. This may include providing a shared use path or alternative route connection around the constraint. Locations with limited width should include warning signage as was described in the previous subsection.

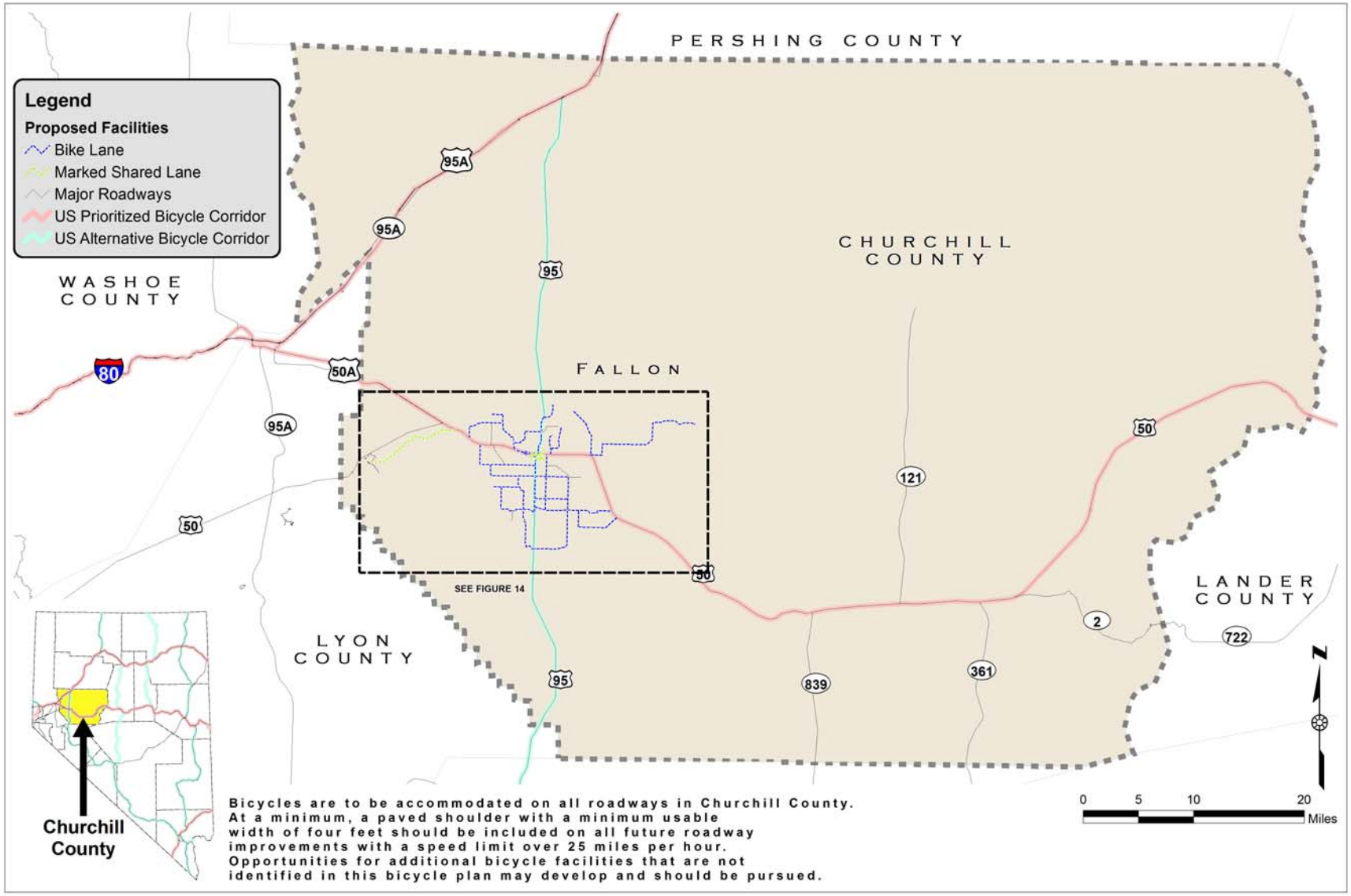


Figure 13 – Bicycle Network – Churchill County

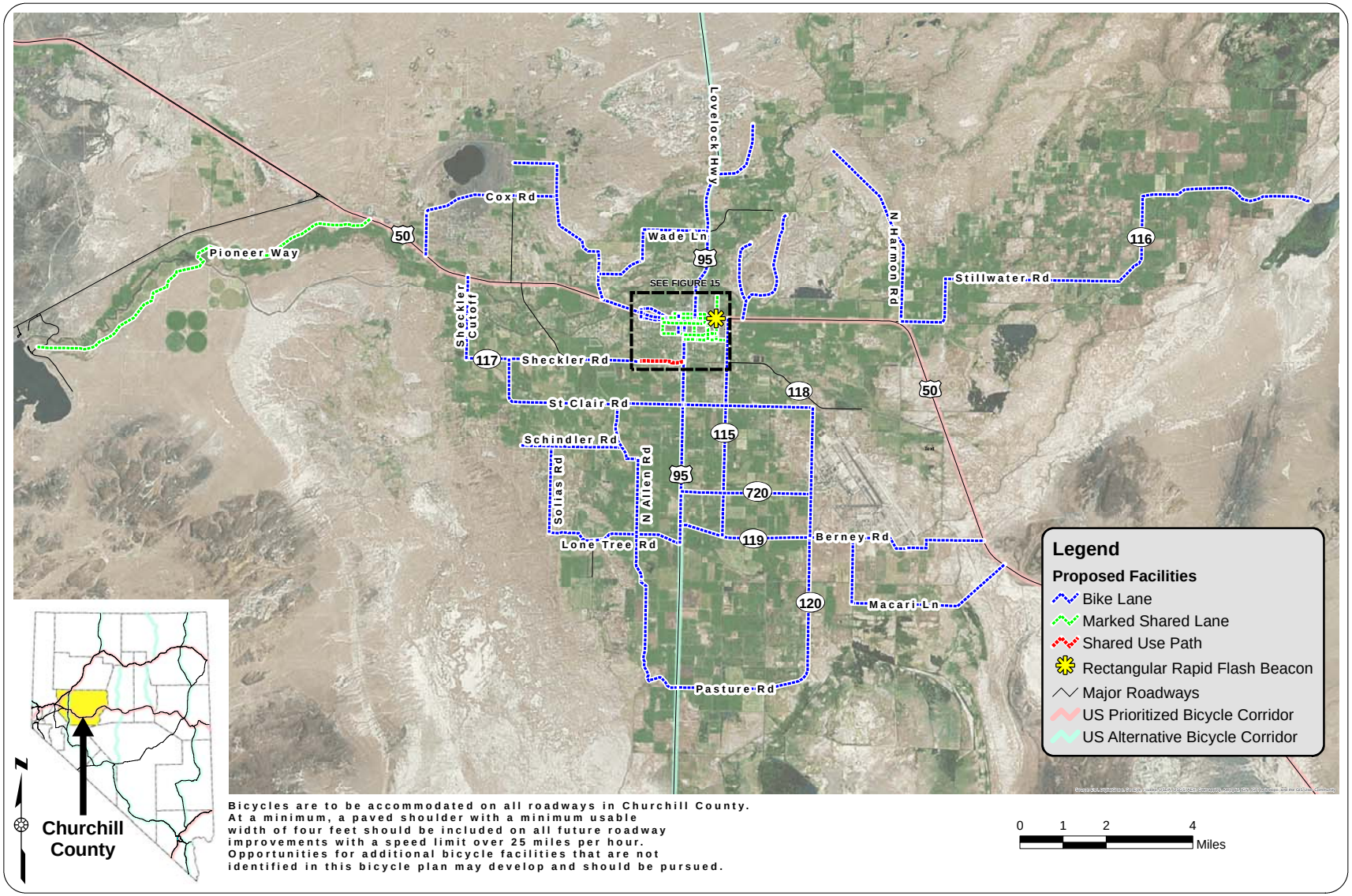


Figure 14 – Bicycle Network – City of Fallon and Surrounding Areas

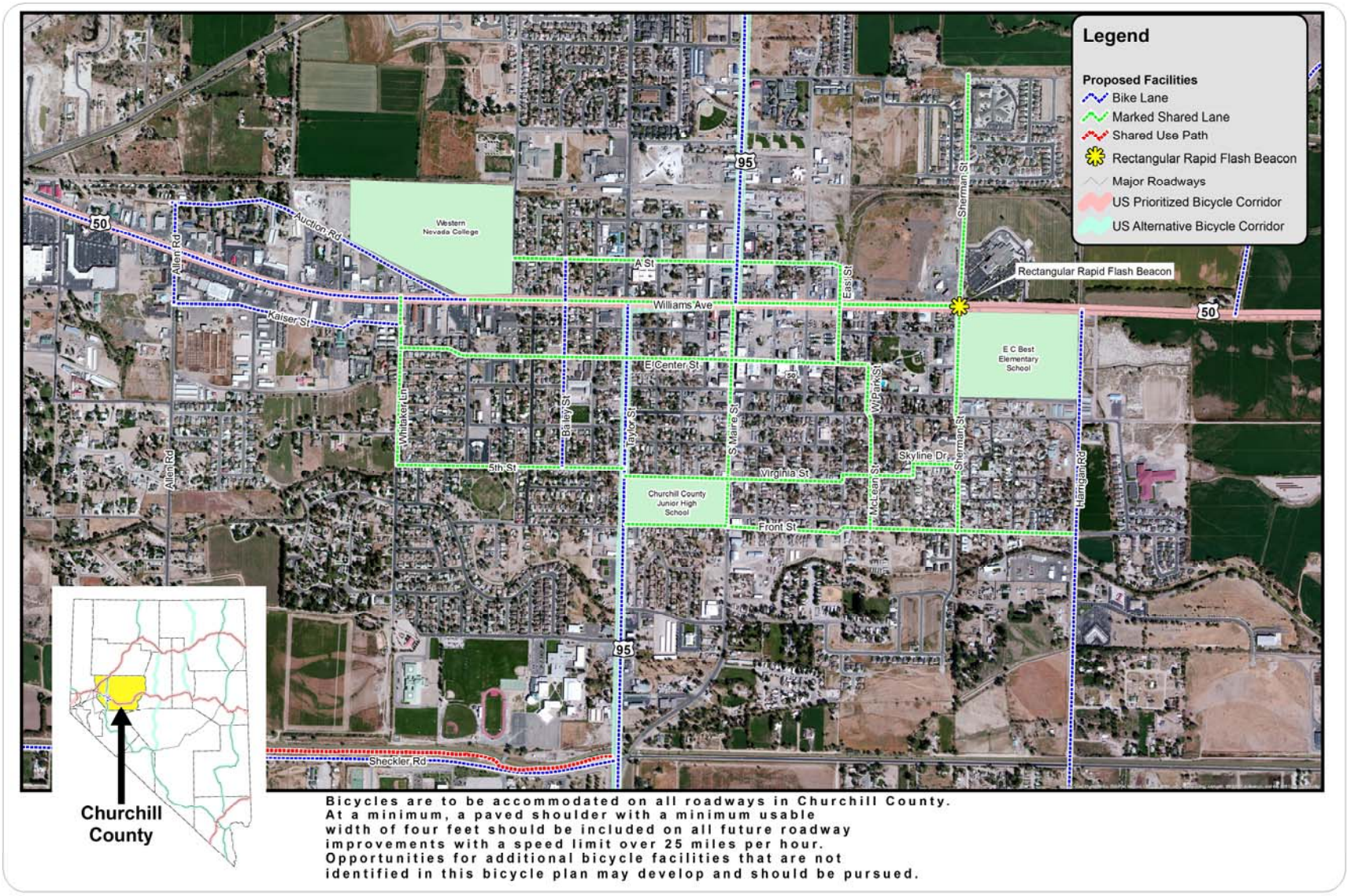


Figure 15 – Bicycle Network – City of Fallon

6.3 High Priority Bicycle Improvement Projects

The list below notes high priority bicycle improvement projects identified through the creation of this Plan. The initial project list was developed through the two day bike plan workshop where input was collected from individuals representing local, regional and state agencies or organizations and a few members of the public who participated in the workshop. High priority bicycle improvement projects include:

- Marked Shared Lane: Williams Avenue, Tedford Lane to Sherman Street
- Bicycle Lane: US 95, Keddie Street to Rice Road
- Bicycle Lane: Allen Road, Lone Tree Road to US 95
- Bicycle Lane: McLean Road, SR 117 to US 50
- Safety Improvements: Sheckler Cutoff and Williams Avenue Intersection
- Rectangular Rapid Flash Beacon: US 50 and Sherman Street Intersection
- Feasibility Study for Shared Use Path Connecting Fallon Station to Fallon
- Bicycle Signage and Marking throughout Fallon
- Bicycle Racks at Schools

7. FUNDING

Funding for bicycling improvements can come from federal, state, and local sources. At the state level, plan recommendations may be implemented by incorporating bicycle infrastructure local improvements into NDOT's Statewide Transportation Improvement Program. Localities may take similar actions by dedicating staff and budget resources to support bicycle planning and programs (e.g., education, encouragement, and enforcement), incorporating bicycle improvements into capital improvement programs, and routinely accommodating bicycle facilities when making major roadway improvements.

Federal transportation funding is an important source of funding for states and localities. With passage of the most recent federal transportation bill, Moving Ahead for Progress in the 21st Century Act (MAP-21), the Transportation Enhancements, SRTS, Recreational Trails, and redevelopment of underused highways to boulevards programs have been consolidated into the Transportation Alternatives Program (TAP). The TAP builds upon the legacy of the Transportation Enhancement program by expanding travel choices, strengthening the local economy, improving the quality of life, and protecting the environment.

The TAP is one component of the total federal transportation funding apportionment that states receive. Other programs that are part of the federal apportionment to states, and which could be important for supporting this Plan's recommendations, include the National Highway Performance Program, the Surface Transportation Program (STP), and the Highway Safety Improvement Program (HSIP). The Section 402 State and Community Highway Safety Grant Program is another potential source of funding for certain types of projects that may benefit bicyclists. The following are details for each of these funding sources.

7.1 Transportation Alternatives

MAP-21 gives states more flexibility in how they allocate federal monies. States have the option to increase funding that supports walking and bicycling, keep funding levels the same, or decrease funding. Under the new bill, state DOTs are to distribute 50% of TAP funding to defined Transportation Management Areas (TMA), which consists of cities or metro areas with populations greater than 200,000. TMAs (Regional Transportation Commissions in Nevada and often MPOs) are required to distribute these funds through a competitive grant process. The other 50% of funds are distributed directly by state DOTs through a competitive grant process with no sub-allocation of funding by population. Governors are given the authority to opt-in or out of the Recreational Trails program on an annual basis. If they choose to opt-out funding set aside for the Recreational Trails program automatically goes into the TAP.

7.1.1 Eligible Activities for Transportation Alternatives Program

The following activities are eligible to receive funding from TAP (from MAP-21):

- Construction, planning, and design of on-road and off-road trail facilities for pedestrians, bicyclists, and other nonmotorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act of 1990.
- Construction, planning, and design of infrastructure-related projects and systems that will provide safe routes for non-drivers, including children, older adults, and individuals with disabilities to access daily needs.
- Conversion and use of abandoned railroad corridors for trails for pedestrians, bicyclists, or other nonmotorized transportation users.
- Construction of turnouts, overlooks, and viewing areas.
- Inventory, control, or removal of outdoor advertising.

- Historic preservation and rehabilitation of historic transportation facilities.
- Vegetation management practices in transportation rights-of-way to improve roadway safety, prevent against invasive species, and provide erosion control.
- Archaeological activities relating to impacts from implementation of a transportation project eligible under this title.
- Any environmental mitigation activity, including pollution prevention and pollution abatement activities and mitigation to address stormwater management, control, and water pollution prevention or abatement related to highway construction or due to highway runoff, including activities described in sections 133(b)(11), 328(a), and 329; or reduce vehicle-caused wildlife mortality or to restore and maintain connectivity among terrestrial or aquatic habitats.

In addition to the eligibilities listed above from Section 101 of MAP-21, eligible TAP projects also include any projects eligible under the Recreational Trails Program and SRTS Program. Major changes to SRTS funding include elimination of the requirement that states spend between 10 and 30 percent of SRTS funds on non-infrastructure activities (e.g., public awareness campaigns and outreach to press and community leaders, traffic education and enforcement, student training, and funding for training, volunteers, and managers of SRTS programs), and state SRTS coordinators are no longer mandated, but are an eligible use of funds. Law enforcement activities within 2 miles of a K-8 school remain eligible for funding as SRTS projects. SRTS-related law enforcement activities can also be funded by HSIP funds, if SRTS is identified in the Strategic Highway Safety Plan (SHSP).

Eligible TAP projects also include the "planning, designing, or constructing boulevards and other roadways largely in the right-of-way of former Interstate System routes or other divided highways" as stated in Section 213(b)(4) of title 23 U.S.C. Lastly, although the language for the national Scenic Byways program will stay intact, funding for projects has not been included in the new transportation bill. There will be no national Scenic Byways funding program.

The TAP is a part of the Federal-aid Highway Program. Although the program is a "grant" program under federal regulation, it is not an "up-front" grant program and funds are available only on a reimbursement basis. Only after a project has been approved by the State Department of Transportation or MPO and the Federal Highway Administration (FHWA) division office can costs become eligible for reimbursement. This means project sponsors must incur the cost of the project prior to being repaid. Costs must be incurred after FHWA division office project approval or they are not eligible for reimbursement.

7.1.2 Relevance of MAP-21 to the Churchill County Bicycle Plan

MAP-21's TAP may be instrumental in funding bicycling improvements in areas with a population less than 200,000, such as Churchill County. For areas with populations less than 200,000, MAP-21 directs state DOTs to administer a competitive grant process.

More information, including updates, on MAP-21 and final rulemaking can be found at Advocacy Advance http://www.advocacyadvance.org/MAP21 and from the FHWA at http://www.fhwa.dot.gov/map21/.

7.2 Surface Transportation Program

The STP provides flexible funding that may be used by States and localities for projects on any Federal-aid highway, including the National Highway System (NHS), bridge projects on any public road, transit capital projects, and intracity and intercity bus terminals and facilities. Among the eligible activities under STP are projects relating to intersections that: have disproportionately high accident rates; have high congestion; or are located on a Federal-aid highway.

7.3 Highway Safety Improvement Program

The HSIP emphasizes a data-driven, strategic approach to improving highway safety that focuses on results. A highway safety improvement project corrects or improves a hazardous road location, or addresses a highway safety problem. Funds may be used for projects on any public road or publicly owned bicycle and pedestrian pathway or trail. Each State must have a SHSP to be eligible to use up to 10 percent of its HSIP funds for other safety projects under 23 USC (including education, enforcement and emergency medical services).

7.4 State and Community Highway Safety Grant Program

Highway Safety Funds are used to support State and Community programs to reduce deaths and injuries on the highways. In each State, funds are administered by the Governor's Representative for Highway Safety. Pedestrian safety has been identified as a National Priority Area and is therefore eligible for Section 402 funds. Section 402 funds can be used for a variety of safety initiatives including conducting data analyses, developing safety education programs, and conducting community-wide pedestrian safety campaigns. Since the Section 402 Program is jointly administered by the National Highway Traffic Safety Administration (NHTSA) and FHWA, Highway Safety Funds can also be used for some limited safety-related engineering projects. A State is eligible for these formula grants by submitting a Performance Plan, which establishes goals and performance measures to improve highway safety in the State, and a Highway Safety Plan, which describes activities to achieve those goals.

Additional information is available from the following web sites:

- NHTSA Section 402 Programs and Grants
  - http://www.nhtsa.gov/
- Traffic Safety Fact Sheets for Section 402 and Related Programs
  - http://www.nhtsa.gov/Laws+&+Regulations/Section+402+SAFETEA-LU+Fact+Sheet
- Uniform Guidelines for State Highway Safety Programs
  - http://www.nhtsa.gov/nhtsa/whatsup/tea21/tea21programs/
- Traffic Safety Fact Sheets—Links to laws
  - http://www.nhtsa.dot.gov/people/injury/TSFLaws/PDFs/810728W.pdf

7.5 National Highway Performance Program

The National Highway Performance Program (NHPP) provides support for the condition and performance of the NHS, for the construction of new facilities on the NHS, and to ensure that investments of Federal-aid funds in highway construction are directed to support progress toward the achievement of performance targets established in a State's asset management plan for the NHS.

NHPP projects must be on an eligible facility and support progress toward achievement of national performance goals for improving infrastructure condition, safety, mobility, or freight movement on the NHS, and be consistent with Metropolitan and Statewide planning requirements. Eligible activities include:

- Construction, reconstruction, resurfacing, restoration, rehabilitation, preservation, or operational improvements (including paved shoulder reconstruction) of NHS segments.
- Construction, replacement (including replacement with fill material), rehabilitation, preservation, and protection (including scour countermeasures, seismic retrofits, impact protection measures, security countermeasures, and protection against extreme events) of NHS bridges and tunnels.
- Bridge and tunnel inspection and evaluation on the NHS and inspection and evaluation of other NHS highway infrastructure assets.
- Training of bridge and tunnel inspectors.

APPENDIX A

NEVADA STATEWIDE BICYCLE PLAN

NEVADA DEPARTMENT OF TRANSPORTATION

A copy of this plan is available at
www.bicyclenevada.com

NEVADA STATEWIDE BICYCLE PLAN

Prepared by Kimley-Horn and Associates, Inc.

FEBRUARY 2013

APPENDIX B

NOTES FROM COUNTYWIDE OBSERVATIONS

	EXISTING							PROPOSED			
ID	STREET NAME	FROM	TO	ONEWAY	NUMBER LANES	MEDIAN	WIDTH	RECOMMENDED FACILITY	RECOMMENDED ACTION	CROSS SECTION WIDTH	
D001	N. Maine	Williams	N. of B Street	N	4	NONE	60				
D002	N. Maine	N. of B Street	W. D Street	N	3		52				
D003	N. Maine	W. D Street	Keddie	N	2		42				
D004	Lovelock Hwy	Keddie	Rice	N	2	NONE	27	BL	WS	38	
D005	Lovelock Hwy	Rice	Wake Lane	N	2	NONE	27	PS	WS	36	
D006	Lovelock Hwy	Wade lane	S. of Tarzyn	N	2	NONE	27	PS	WS	38	
D007	Lovelock Hwy	S. of Tarzyn	I-80	N	2	NONE	27	PS	WS	36	
D008	Tarzyn	Lovelock Hwy	90º turn	N	2	NONE	24	SRD	NAC	24	
D009	Tarzyn	90º turn	Indian Springs	N	2	NONE	24		PAVE ROAD		
D010	Indian Springs	Tarzyn	Harmon	N	2	NONE	26	SRD	Overlay Road		
D011	Harmon	Indian Springs	Still Water	N	2	NONE	26	SRD	NAC	26	
D012	Kirn			N	2	NONE	26	SRD	NAC		
D013	Still Water	Hwy 50	Reservation	N	2		26	PS	WS	36	
D014	Hwy 50			N	2		32	PS	WS	36	
D015	Wildes			N	2		22				
D016	McCari	Hwy 50	Curve	N	2	NONE	24	PS	WS	36	
D017	McCari	Curve	Beach	N	2	NONE	20	PS	WS	36	
D018	Beach	McCari	Berney	N	2	NONE	26	PS	WS	36	
D019	Berney	Base	Schurz/95	N	2		32	PS	RS	32	
D020	Pasture			N			26	PS	WS	36	
D021	Lone Tree	95	Curry	N			26	PS	WS	36	
D022	95 Schurz	95	Lone Tree	N			38-40	PS	NAC	44	
D023	95 Schurz	Lone Tree	County Line	N	2	NONE	32	PS	WS	38	
D024	Allen	Sandhill	Curry	N			26	SRd	PAVE ROAD	26	
D025	Lone Tree	Curry	Solias	N			26	SRd	PAVE ROAD	26	
D026	Solias	Lone Tree	Schindler	N			26	SRd	NAC	26	
D027	Schindler	West End	Bass	N			26	SRd	NAC	26	
D028	Bass	South End	St. Clair	N			22	SRd	NAC	22	
D029	St. Clair	West End	Allen	N			26	SRd	NAC	26	
D030	Allen	St. Clair	Sheckler	N	2		26	PS	WS	36	
D031	Sheckler	West	East	N	2		26	SRd	NAC		
D032	Maine	Front St.	Williams	N	2			SH	ASM		
D033	US 50	Allen	Williams	N	4	Striped		BL	NAC		
D034	US 50	Allen	I-80	N	4	Striped		PS	NAC		
D035	Lucas	US 50	Cox	N	2		26	SRd	NAC		
D036	Cox	Lucas	Soda Lake	N	2		26	SRd	NAC	26	
D037	Soda Lake	Cox	Edwards	N	2		26	SRd	NAC		
D039	Edwards	Soda Lake	Hillsborough	N	2		22	SRd	NAC		
D040	Hillsborough	Edwards	Gummow	N	2		26	SRd	PAVE ROAD	26	
D041	Gummow	Hillsborough	Rice	N	2		26	SRd	NAC		
D042	Rice	Gummow	Moody Lane	N	2		26	SRd			
D043	Moody Lane	Rice	Wade	N	2		26	SRd	NAC	26	
D044	Wade Lane	Moody Lane	95	N	2		26	SRd	NAC	26	
D045	Bafford Old River 726	95	Indian Lakes	N	2		26	SRd	NAC		
D046	Indian Lakes	Bafford	Rio Vista	N	2		26	SRd	NAC		
D047	Rio Vista	North End	US 50	N	2		26	SRd	NAC		
D048	E. Williams	Sherman	East	N	3		57				
D049	William	State	Sherman	N	4			SH	ASM		
D050	William	Sherman	Maine	N	4		58	SH	ASM		
D051	Williams	Maine	Taylor	N	4	Striped	63				
D052	A Street	N Allen	Nevada	N	2		52			52	
D053	A Street	Nevada	Veuterucci	N			40	SH			
D054	New Road behind WNC			N				SH			
D055	Auction	WNC	Allen	N	2		20	SH/BL	ASM/WS	32	
D056	Kaiser	Allen	Whitaker	N			40	BL	ASM		
D057	Allen			N							
D058	Whitaker	Kaiser		N	2		40	SH			

LEGEND

FACILITY CODE
SRD - Shared Roadway
SH - Sharrow (Shared Lane Marking)
PS - Paved Shoulder
BL - Bike Lane
BFBL (1) - Buffered Bike Lan (BL & Travel Lane)
BFBL (2) - Buffered Bike Lane (BL & Parked Car)
SUP - Shared Used Path
SWBP - Sidewalk w/ Bike Permitted
S - Further Study Needed
CT1-1 - Cycle Track (1side 1way)
CT2-1 - Cycle Track (2sides 1 way)
CT2-2W - Cycle Track (2 way operation)
BBlvd - Bicycle Boulevard
CFBL - Contra-Flow Bike Lane
CL - Climbing Lane & Sharrow
WOL - Wide Outside Lane
B/BL - Bus/Bike Lane
PHB/BL - Peak Hour Bus/Bike Lane

Action Code
NAC - No Action Needed
ASM - Add Striping/Marking
LD - Lane Diet
RD - Road Diet
RP1 - Remove Parking 1 Side
RP2 - Remove Parking 2 Sides
FTP1 - Add Full Time Parking 1 Side
FTP2 - Add Full Time Parking 2 Sides
WS - Widen Street
WSw - Widen Sidewalk
CFD - Construct Bike Facility w/ Future Development
S - Further Study Needed
MC - Move Center Line
RhExB - Rehabilitate Existing Bike Fac.
PShdr - Pave Existing Shoulder
RECON - Reconstruct Roadway
W- Wayfinding
RS- Restripe

	EXISTING							PROPOSED		
ID	STREET NAME	FROM	TO	ONEWAY	NUMBER LANES	MEDIAN	WIDTH	RECOMMENDED FACILITY	RECOMMENDED ACTION	CROSS SECTION WIDTH
D061	5th	Whitaker	Taylor	N	2		40	SH		
D062	Virginia	Taylor	Wilder St.	N	2		40	SH		
D063	Shermann	Williams	Wilder St.	N	2		40	SH	ASM	
D064	Court	Shermann	Wilder St.	N	2		40	SH	ASM	
D065	Front St.	Shermann	Maine	N			20/30	SH	WS	40
D066	Maine	Shermann	Maine	N				SH	ASM	
D067	Center			N			40	SH	ASM	
D068	Hwy 50			N			32			

LEGEND

FACILITY CODE

SRD - Shared Roadway
SH - Sharrow (Shared Lane Marking)
PS - Paved Shoulder
BL - Bike Lane
BFBL (1) - Buffered Bike Lan (BL & Travel Lane
BFBL (2) - Buffered Bike Lane (BL & Parked Car)
SUP - Shared Used Path
SWBP - Sidewalk w/ Bike Permitted
S - Further Study Needed
CT1-1 - Cycle Track (1side 1way)
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MC - Move Center Line
RhExB - Rehabilitate Existing Bike Fac.
PShdr - Pave Existing Shoulder
RECON - Reconstruct Roadway

APPENDIX C

NEVADA STATEWIDE BICYCLE PLAN LEGISLATION

4.3.9 *Legislation*

The Nevada Revised Statutes (NRS) contains legislation pertaining to the use of bicycles. The following is a summary of current laws.

NRS 484A.025 includes a definition of a bicycle as "a device propelled by human power upon which a person may ride, having two tandem wheels either of which is over 14 inches in diameter, or every such device generally recognized as a bicycle though equipped with two front or two rear wheels except a moped." In addition, most legislation also pertains to the use of an electric bicycle, which has been defined in NRS 484B.017 as "a device upon which a person may ride, having two or three wheels, or every such device generally recognized as a bicycle that has fully operable pedals and is propelled by a small electric engine which produces not more than 1 gross brake horsepower and which produces not more than 750 watts final output." NRS 408.579 includes legislation that permits electric bicycles to be used on trails and walkways that are intended for bicycles.

According to items within NRS 408 and NRS 484B, the Nevada Department of Transportation shall:

- Consider bicycle lanes and routes, facilities, signs, and turnouts into their designs (408.321);
- Develop a bicycle and pedestrian safety education program (408.228);
- Provide support services to the Nevada Bicycle and Pedestrian Safety Advisory Board (408.577); and
- Have the authority to prohibit the use of bicycles on controlled-access highways or require a permit (484B.593).

According to NRS 408.321, the Nevada Bicycle and Pedestrian Safety Advisory Board shall:

(a) At its first meeting and annually thereafter, elect a Chair from among its members.
(b) Meet regularly at least once each calendar quarter and may meet at other times upon the call of the Chair.
(c) Promote programs and facilities for the safe use of bicycles and pedestrian safety in this State.
(d) Advise appropriate agencies of the State on policies, programs and facilities for the safe use of bicycles and pedestrian safety.

Relating to the responsibilities of an individual operating a bicycle or electric bicycle, NRS has defined that users shall:

- Be subject to the duties applicable to those driving a motor vehicle, except for an individual operating while on duty, including a peace officer, firefighter, emergency medical technician, or employee of a pedestrian mall (NRS 484B.777);
- Use hand signals when appropriate (484B.769);
- Ride upon an attached seat with no more persons than intended by design (NRS 484B.770);
- Ride as near to the right side of the roadway as practical when appropriate (NRS 484B.777); and
- Utilize a headlamp and red rear reflectors when operating at night (NRS 484B.783).

In addition, an operator of a bicycle or electric bicycle shall not:

- Attach themselves to a motor vehicle (NRS 484B.773);
- Carry an article that prevents them from using at least one hand (NRS 484B.780); and
- Intentionally interfere with the movement of a motor vehicle (NRS 484.324).

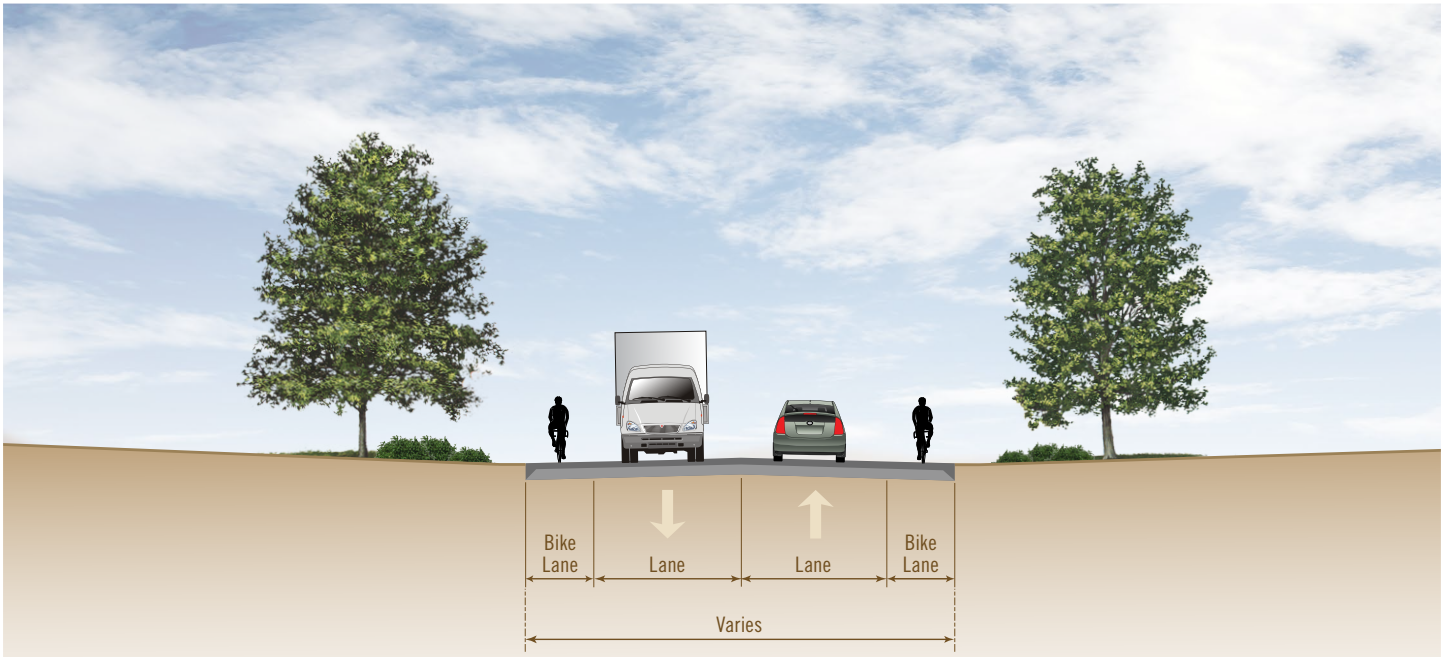
Relating to the responsibilities of an individual operating a motor vehicle, NRS 484B.270 has defined that users shall:

- Not intentionally interfere with an individual operating a bicycle or electric bicycle, and utilize due care. This includes moving to the lane to the immediate left if possible when passing. If this is not possible, no less than 3 feet should be provided;
- Yield to bicycles and electric bicycles riding on a pathway or lane; and
- Be subject to additional penalty if found to be at fault for a collision.

NRS 455 contains legislation relating to skate parks. Relating to bicyclists utilizing these facilities, NRS 455B.290 states that a person shall not use a skate park to ride a bicycle while under the influence of a controlled substance. In addition, NRS 205.2741 includes language making it illegal to willfully damage a bicycle, making the offense subject to a penalty no less than a misdemeanor.

APPENDIX D

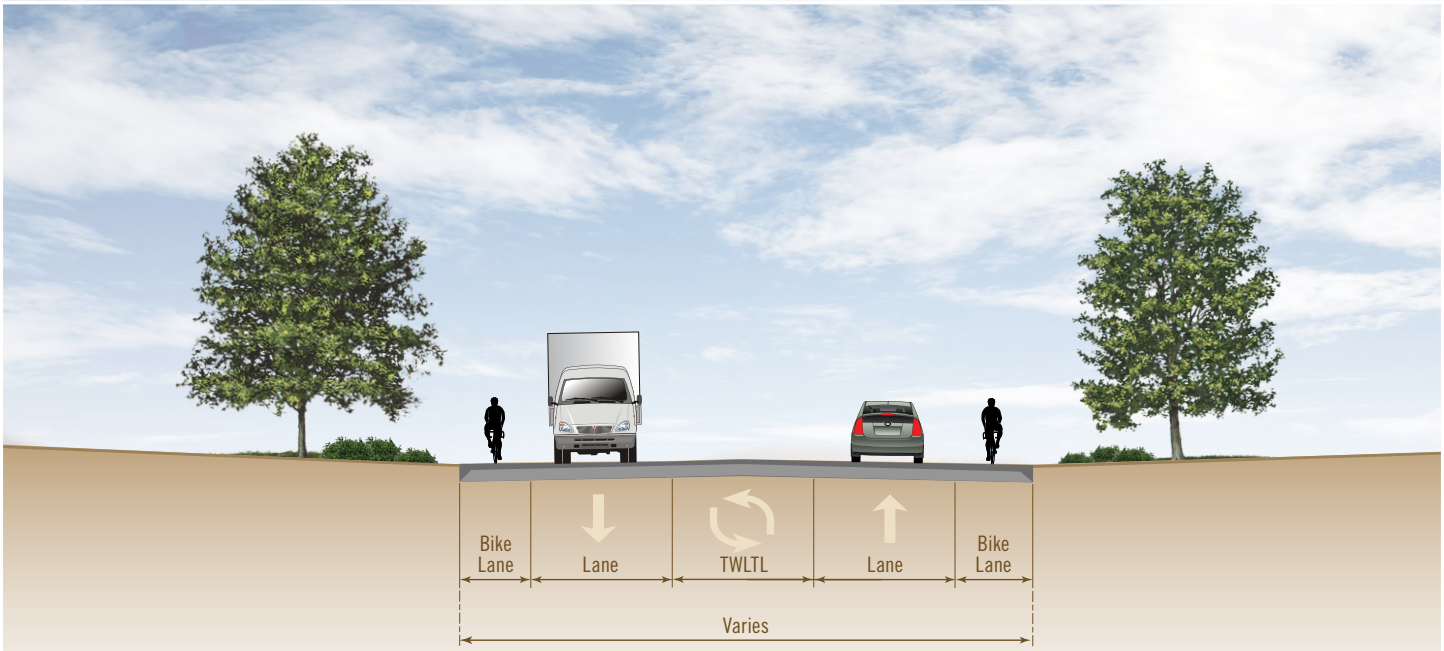
EXAMPLE ROADWAY CROSS SECTIONS WITH BICYCLE FACILITIES



Two Lanes Each Direction with Bike Lane

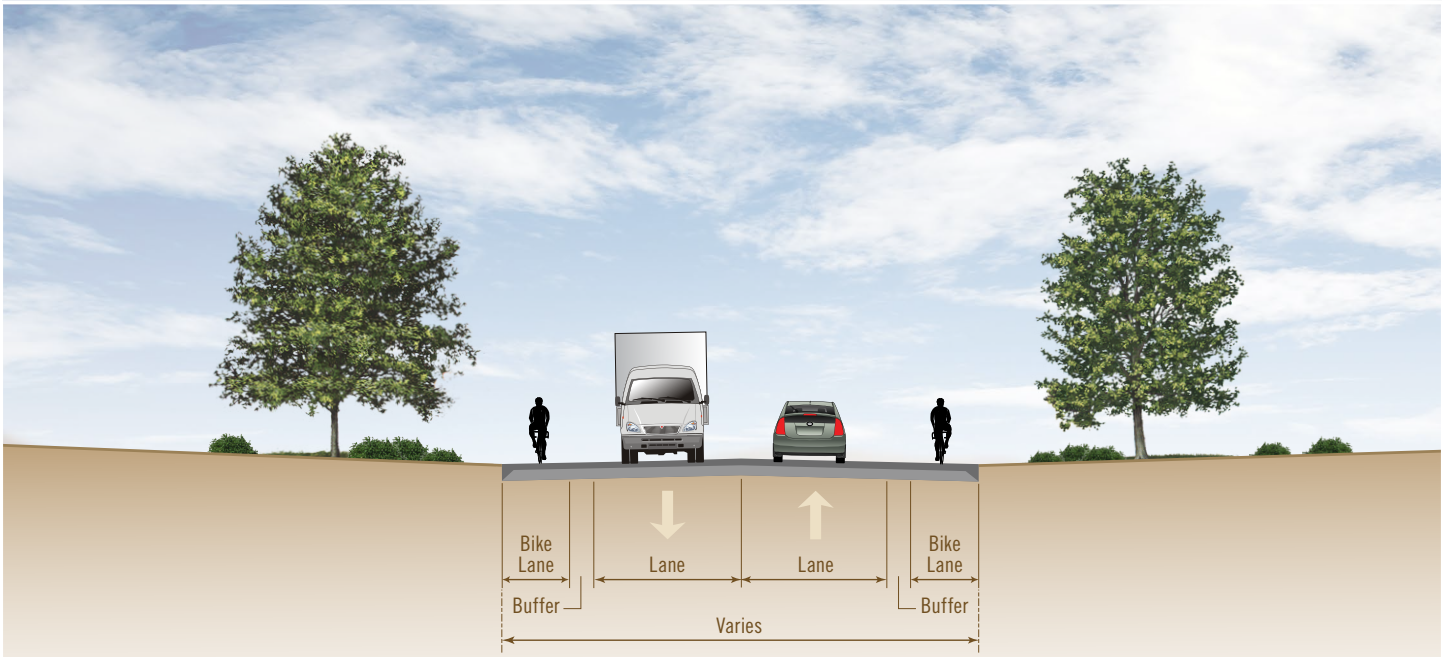
Travel Lane: 10'-12'*
Bike Lane: 4'-6'* (2012 AASHTO Bike Guide Section 4.6)

*Twelve foot lanes and six foot shoulders (36' cross sections) preferred for high speed rural highways. Narrower cross section may be appropriate on lower speed and/or lower volume roadways.



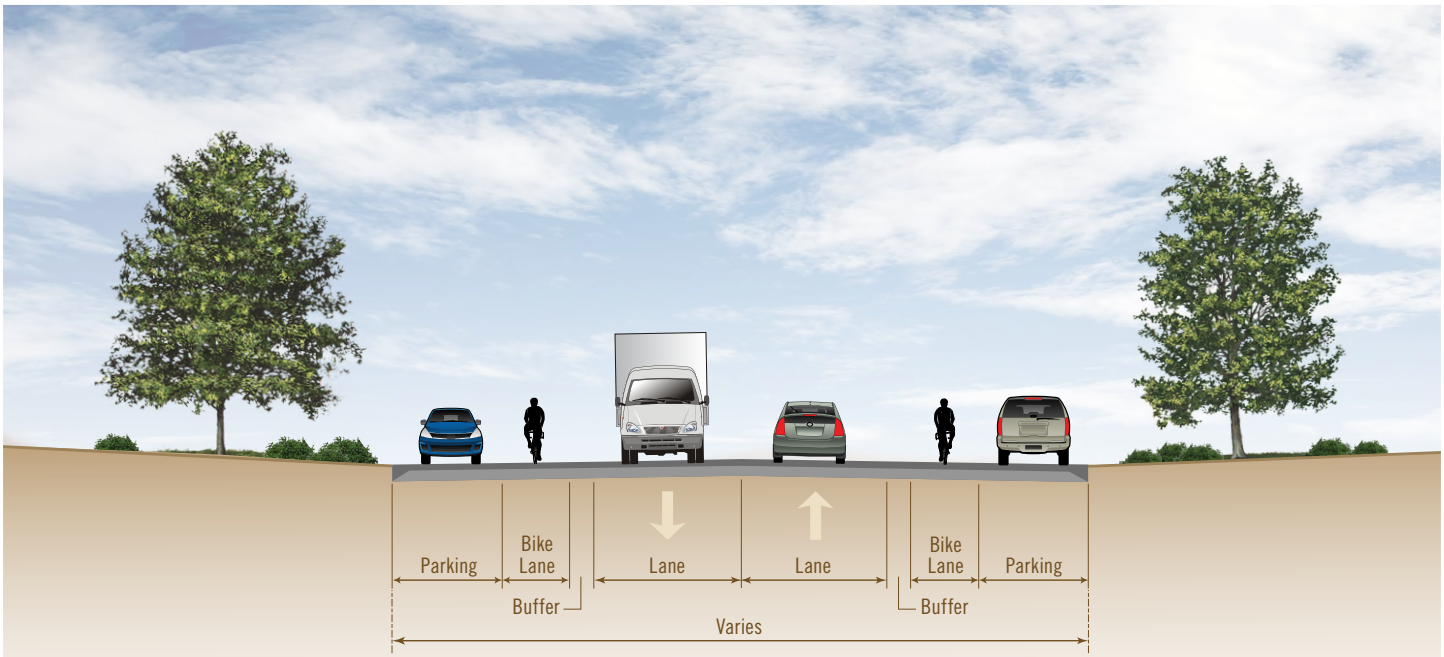
Two Lanes Each Direction with TWLTL and Bike Lane

Travel Lane: 10'-12'
TWLTL: 12'-14'
Bike Lane: 4'-6' (2012 AASHTO Bike Guide Section 4.6)



Buffered Bike Lane

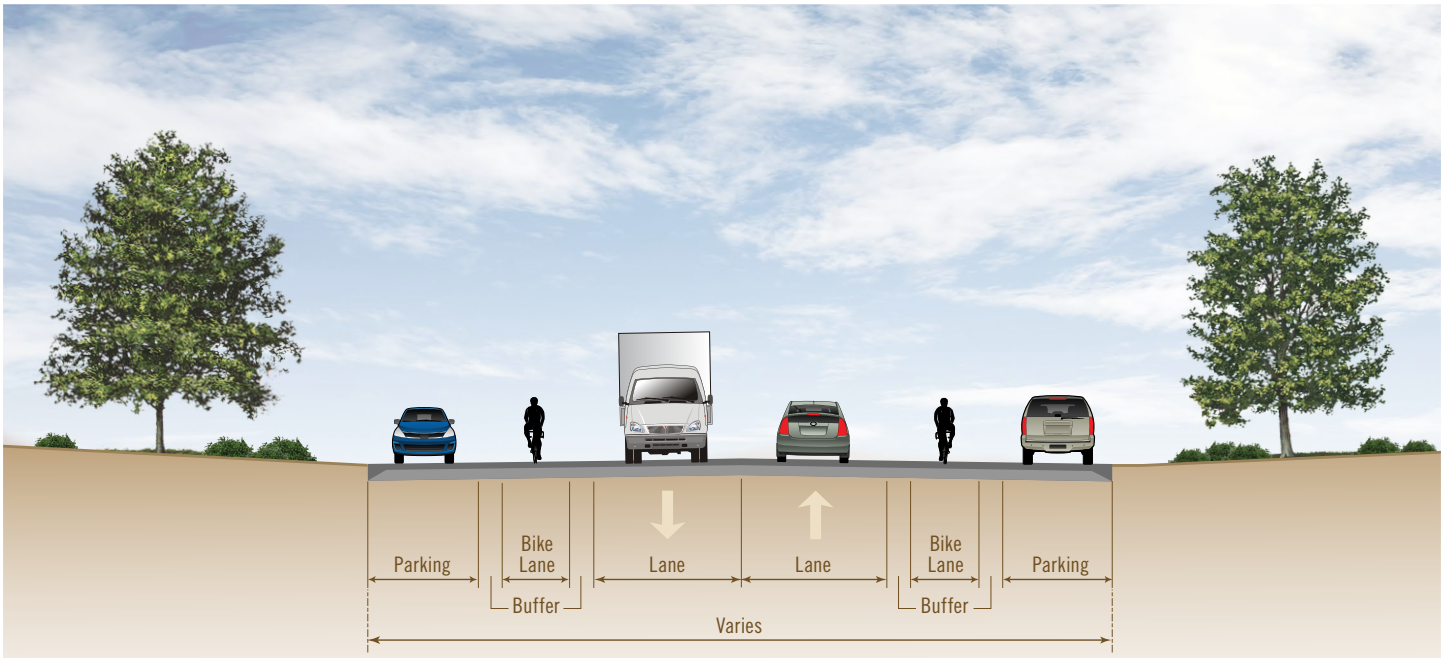
Travel Lane: 10'-12'
Buffer: 2'-3' (NACTO Urban Bikeway Design Guide)
Bike Lane: 4'-6' (2012 AASHTO Bike Guide Section 4.6)



Buffered Bike Lane with Parking

Travel Lane: 10'-12'
Buffer: 2'-3'* (NACTO Urban Bikeway Design Guide)
Bike Lane: 4'-6'* (2012 AASHTO Bike Guide Section 4.6)
Parking: 9'-12'

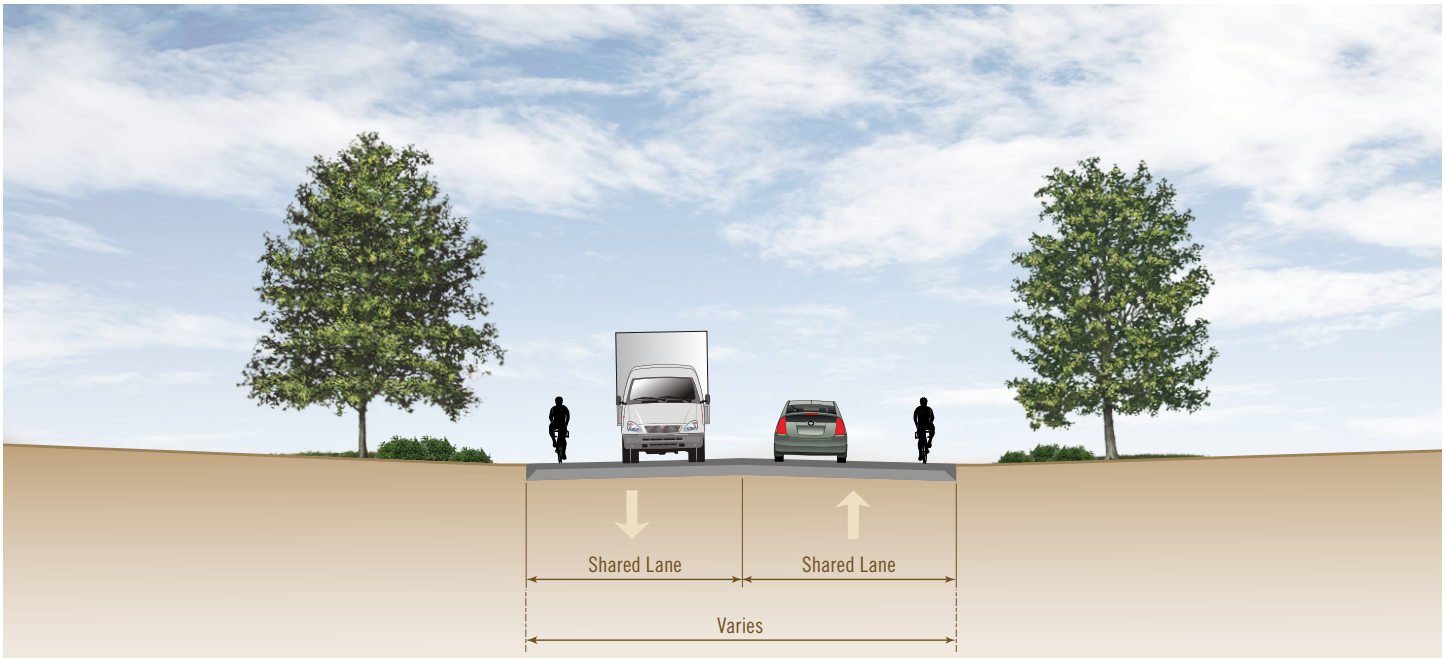
*When on-street parking is present a minimum of 5' is needed for a bike lane if no buffer is provided.



Double Buffered Bike Lane with Parking

Travel Lane: 10'-12'
Buffer: 2'-3'* (NACTO Urban Bikeway Design Guide)
Bike Lane: 4'-6'* (2012 AASHTO Bike Guide Section 4.6)
Buffer: 2'-3'
Parking: 9'-12'

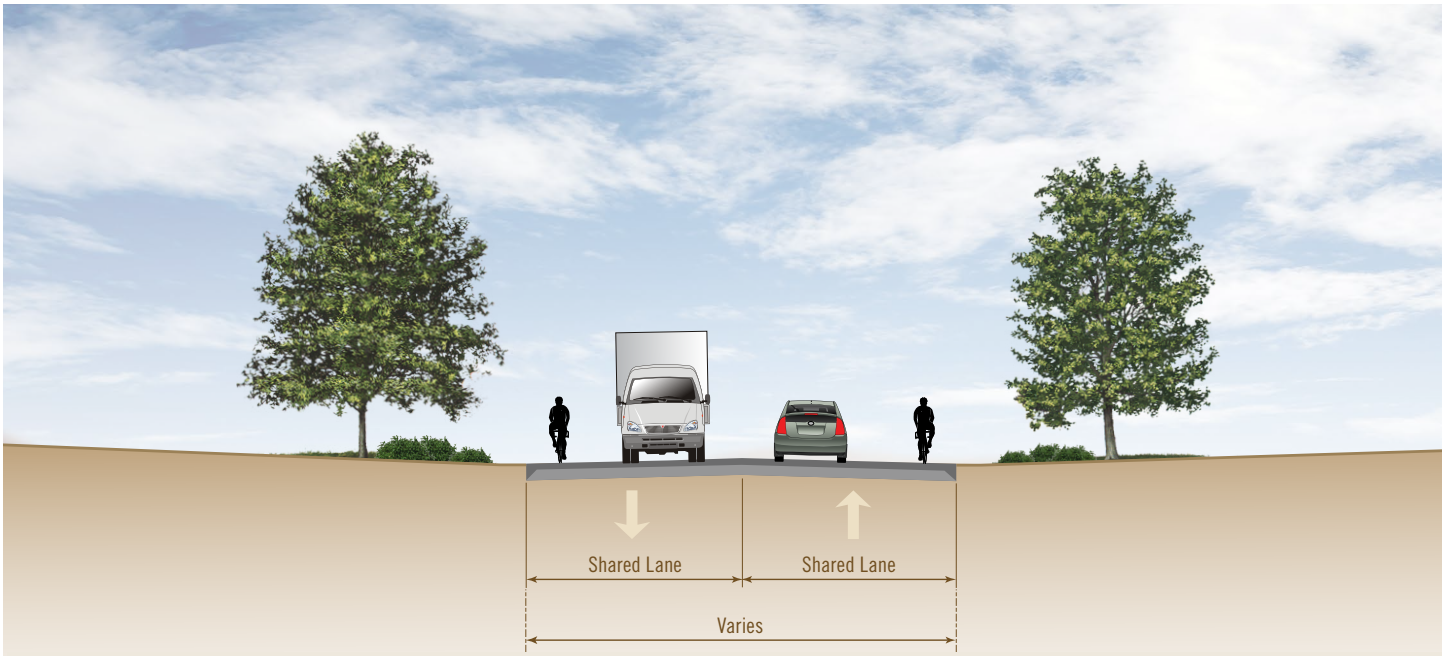
*When on-street parking is present a minimum of 5' is needed for a bike lane if no buffer is provided.



Shared Lane (14’ Wide or Greater)

Shared Lane* (2012 AASHTO Bike Guide Section 4.6)

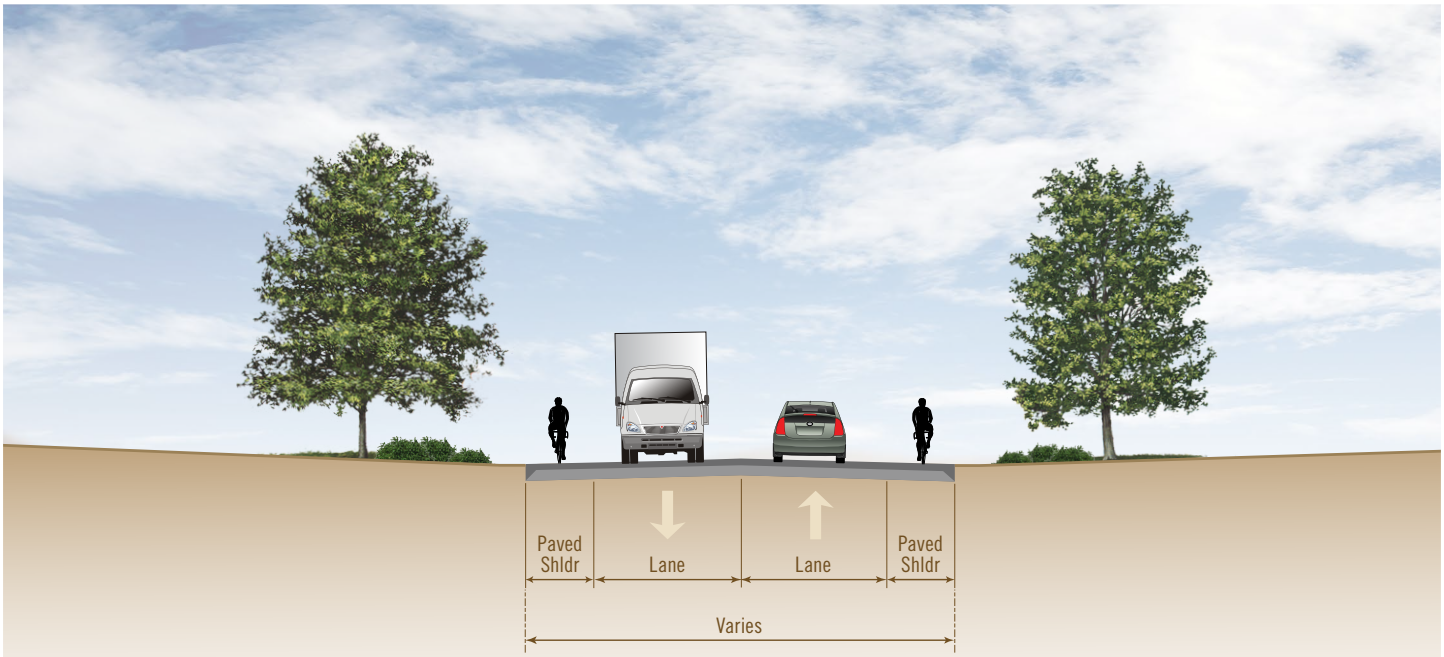
*14' minimum needed for motor vehicles to pass bicycles in the travel lane with 3' of clear. With less than 14' motor vehicles and bicycles will not be able to share the travel lane side by side.



Shared Lane (Less than 14’ Wide)

Shared Lane* (2012 AASHTO Bike Guide Section 4.6)

*14 feet minimum needed for motor vehicles to pass bicycles in the travel lane with 3 feet of clear. With less than 14 feet, motor vehicles and bicycles will not be able to share the travel lane side by side. A Shared Lane less than 14 feet wide is typically appropriate for roadways with a speed limit of 25 miles per hour or less, but may be appropriate on roadways with higher speed limits if there is a low volume of motor vehicles. Shared Lane Markings should only be used on roadways with a speed limit of 35 mph or less (2009 MUTCD Section 9C.07).



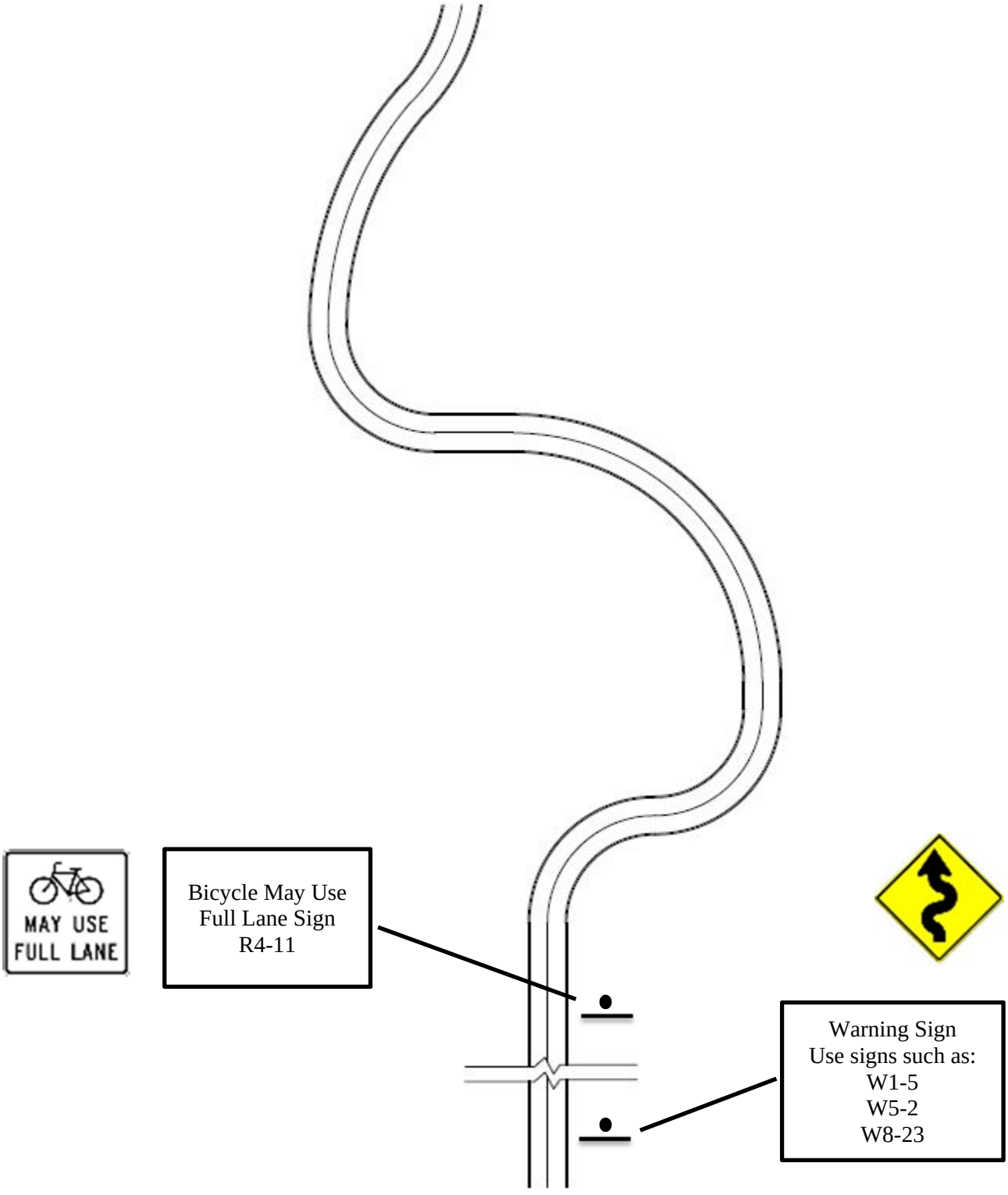
Paved Shoulder

Travel Lane: 10'-12'
Paved Shoulder: 4' minimum

APPENDIX E

BICYCLE FACILITY SIGNS

Sign Placement



Warning Sign

W1-5 – Horizontal Alignment Warning Sign

W5-3 – One Lane Bridge Sign

W5-1 – Road Narrows Sign

W8-23 – No Shoulder Sign

W5-2 – Narrow Bridge Sign

W8-25 – Shoulder Ends Sign

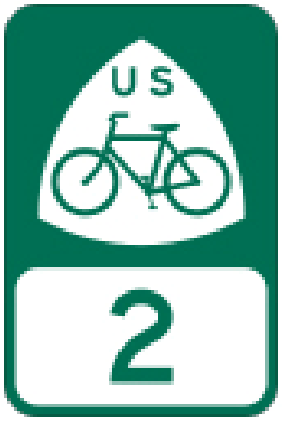
Regulatory Signs for Bicycle Facilities

R4-11 – Bicycle May Use Full Lane Sign

This sign should be installed after a warning sign and in advance of the area

Guide Signs for Bicycle Facilities

D1-3c – Bicycle Guide Sign



M1-9 – Bicycle Route Sign (US Routes)

M1-8a – Bicycle Route Sign (Regional Routes)

*Guidance on how and when these signs are to be used can be found in the latest version of the Manual on Uniform Traffic Control Devices.