



STURGIS BIKE PATH COMPREHENSIVE PLAN 2018



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STURGIS, SOUTH DAKOTA

Sturgis, a town of rich history, warm invites, and the alluring mom-and-pop quality is a town very rare in a variety of ways. With 6,700 residents, visitors will be delighted and enchanted by the diversity of the people that call Sturgis home. There are the avid hikers, bicyclists and outdoor enthusiasts taking full advantage of the trails in the Black Hills. In addition, there are the ranchers and farmers that make use of the open prairie that has provided generations with a living.

The uniqueness of this town will amaze you. Sturgis is home to the annual motorcycle rally which is one of the oldest and the largest motorcycle rally in the nation. On average this ten day event will host 500,000 visitors. This town, which is located in the foothills between the rolling Black Hills and the prairie, is more enticing, diverse and picturesque than most people have encountered in such a small area. Sturgis residents and City officials strive for success in the future and commemorate the past – all while maintaining the well-being of the community in the

present. Residents take pride in their history and look forward to meeting new visitors that come to our small, but impressive, hometown.

Sturgis currently has just over 11 miles of bike paths throughout the city and Fort Meade area. These paths currently connect residential areas to school districts as well as several parks. The City aims to connect existing bike paths throughout the city to local attractions, schools, neighborhoods, and community centers. In addition, this project will connect the existing bike trails in the Black Hills to the city to create access nodes within city limits. These paths will be designed to be built in a multi section project so that the city and other stakeholders can build trails as funding becomes available.

PURPOSE OF BIKE PATH PLAN

The City of Sturgis currently has five bike paths within the city limits and three mountain bike trails located just outside the limits of town. The goal of this project is to add paths that will not only connect the existing paths to the nearby trails, but also provide Sturgis residents more accessible and safe pathways to get to attractions within the city limits.

BENEFITS OF NON-MOTORIZED PATH SYSTEMS

RECREATION

An excellent way to get the daily recommended 30 minutes of daily exercise would be to bike or walk in short increments throughout the day. A bike path or lane provides a safe way to entice a person into the outdoors. For somebody who has a disability, a bike path is an outstanding way to safely be active and in the outdoors. Bike paths help to attract tourists which in turn bolsters the economy. Paths also encourage more social interactions among residents thereby creating a better sense of community.

ENVIROMENTAL & SUSTAINABILITY

Bike paths are a great way to provide an environmentally friendly and sustainable roadway system. No motorized vehicles are allowed on these paths which will help from a sustainability point of view. For starters, fewer vehicles on the road means less car emissions and less greenhouse gas emissions. This also means that there will be less pollution in the forms of oil or fuel spills. Often, materials such as the base course can be reused in other projects. The objective of a sustainable bike path is to reduce the number of unneeded trips and vehicles on local roadways.

ALTERNATIVE TRANSPORTATION

Another great advantage of a bike path is the diversity of transportation options. Instead of driving from place to place in the city, a bike path provides a person the option of walking, biking or using their wheelchair. The paths typically provide a straight path and less distance to travel than when driving. For short distances, taking a bike path is usually quicker than driving. They also provide safer means of transit for the youth of the community. A comprehensive plan promotes youth activity and independence.

ECONOMIC DEVELOPMENT

A new bike path system in a city can help with the economic development as well. One of the largest expenditures per household in the United States is transportation. Bicycles are much more affordable than buying a vehicle.

Making this investment could possibly reduce the total number of vehicles needed in a household thereby increasing the amount of disposable income within the community. Also, there are less maintenance costs on a bicycle and they are much more cost effective per mile. Similarly the savings from maintenance and fuel expenditures could potentially increase the amount of money that can be invested in the community. If people were to only use vehicles in the winter and/or for long road trips, they would be able to save even more on fuel and maintenance costs. Possibly the most important economic advantage of a nice public bike path is the quality of life it provides to residents and visitors. There will be an increase in revenue due to the increase in tourism in the local stores, which will increase the local economy. The City of Sturgis does a fabulous job of keeping bike paths clear in the winter creating a feasible option to utilize the bike paths during all months of the year. Once people see the savings among other advantages, others may be inspired to utilize the bike path system regularly.

LOCAL ATTRACTIONS

The following chart shows attractions in and around the City of Sturgis that are or will be in connection to the local bike paths.

Local Attraction Analysis				
Park Systems				
Facility	Location	Total Acres	Playground Areas	Special Amenities
Centennial Park	14 th Street	.5	Small playground, various play structures	Picnic tables, park benches, bike racks
Lions Club Park	590 Lazelle Street	8.0	Timber playground structure, various play structures,	Ice skating pond, large pavilion, log shelter, restroom facility, off street parking, picnic tables, park benches, bike racks
Meade Avenue Park	Meade Avenue & Douglas Street	.33	Small playground	Picnic tables, open lawn area
Rose Street Park	Sherman Street & Rose Street	.25	Infant maze play structure, small playground, various play structures	Picnic table, open lawn area
Starline Park	Starline Avenue & Oak Grove Court	.33	Medium size playground	Picnic tables, open lawn area

Sturgis Baseball and Softball Fields	Ballpark Road	21.0	5 baseball fields, 4 softball fields	Concessions, restroom facilities, bleachers, off street parking
Woodle Field	Blanche Street	8.0	Running track, football field	Concessions, restroom facilities, bleachers, off street parking
Willow Park	1 st Avenue	.33	Small playground, ½ basketball court, horseshoe court	Picnic tables, open lawn area
Woodland Park	781 Sly Street	6.0	Large playground, various play structures, disc golf course, horseshoe court	Restroom facility, large grill, picnic tables, park benches, park shelters, off road parking
Sturgis Soccer Field Complex	Blanche Street	7.0	Soccer areas for various age levels	Concessions, off road parking, picnic tables, restroom facilities
Sturgis Outdoor Bike Park	Blanche Street	1.0	Paved bike area with jumps	Off Road parking, open lawn area
6 th Street Park	6 th Street	2.4	Shaded playground area, tennis and pickle ball courts, skate park, full basketball court	Park benches, restroom facility, picnic tables, bike rack, off street parking

Table 1: Local Attractions, Park Systems

Local Attraction Analysis Cont.			
School Facilities			
Facility	Location	Total Acres	
Sturgis Elementary School	1121 Ballpark Rd.	5.5	Playground, baseball fields, basketball courts
Brown High School	12930 SD-34	-	
Sturgis Middle School	Douglas St.	0.5	
Additional Notable Facilities			
Facility	Location	Total Acres	
Law Enforcement Center	1400 Main St.	0.3	
Sturgis Auditorium	119 Main St.	-	
Sturgis Community Center	1401 Lazelle St	1.6	Indoor swimming pool, 72 foot waterslide, sauna, hot tub, gymnasium, elevated track, weight room, cardio room, 2 racquetball courts, locker rooms, 444 seat theater, 75 person conference room, concessions
Sturgis Fairgrounds	Ballpark Rd.	20	Rodeo Grounds
Sturgis Public Library	1040 2nd St	-	Library, city offices, conference rooms
U.S. Post Office	820 Kinship Rd	-	
Volunteer Fire Department	1901 Ballpark Rd.	0.5	Conference rooms

Table 2: Local Attraction List Schools and Notable Facilities

LOCAL ATTRACTION MAP:

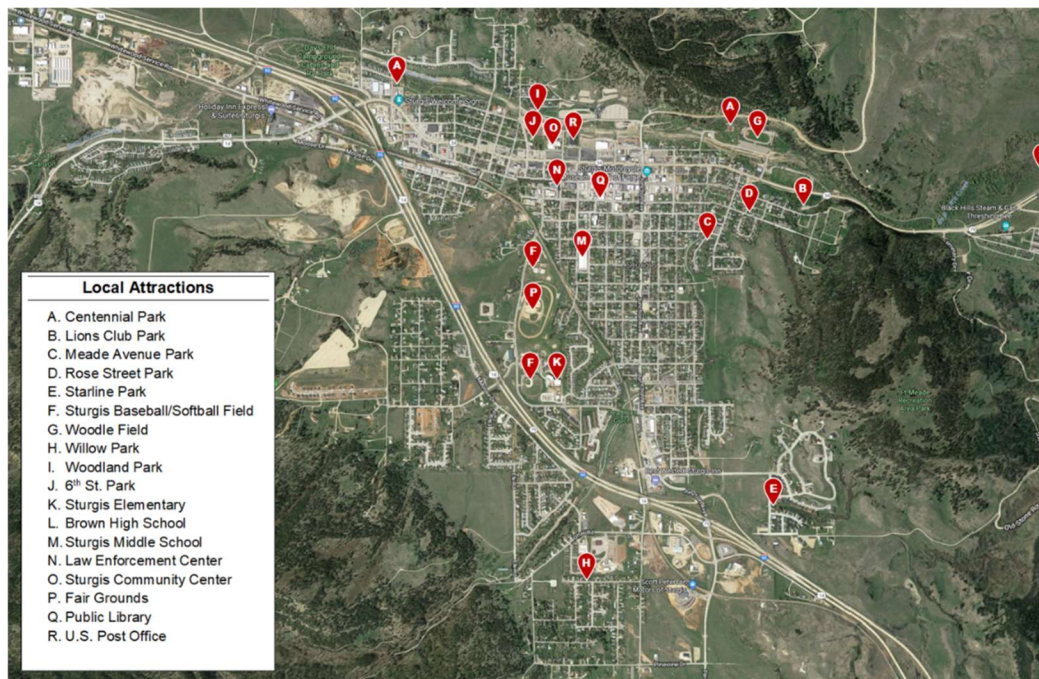


Figure 1: Local Attraction Map



PART ONE: Existing Bike Paths

EXISTING PATH LAYOUT

CITY BIKE PATHS

The City of Sturgis has six (6) existing bike paths throughout the city as seen below in Figure 4. This section includes length, route, connections, and existing conditions for each of these paths.

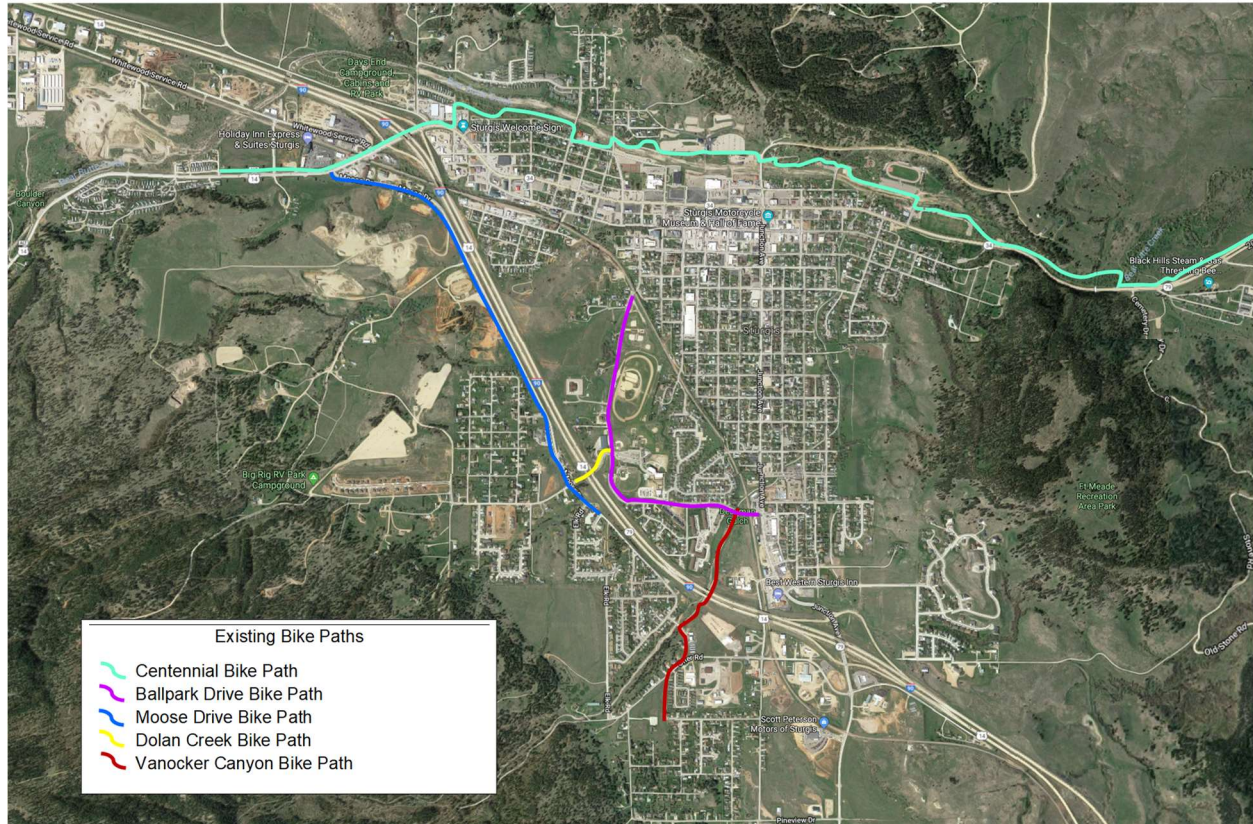


Figure 2 : Existing City Bike Paths

BALL PARK DRIVE BIKE PATH



Figure 3: Ball Park Drive Bike Path

The Ball Park Drive Bike Path follows the entire length of Ballpark Drive. Ballpark Drive is considered the third busiest street in the city and is the innermost city trail. Due to its central location this path is arguably the most important path in the city. The significance of this bike path is that it goes past the Sturgis Elementary school, multiple neighborhoods, baseball fields, the fairgrounds, and connects to Junction Avenue on the south end while adjoining close to downtown on the north end.

LENGTH:

1.1 miles

ROUTE:

1. Path begins west on Ball Park Drive at the intersection of Junction & Ball Park Drive
2. The path ends under the railroad tracks where Ball Park Drive transitions to 5th Street

CONNECTIONS:

- ❖ Sturgis Elementary School
- ❖ City Baseball/Softball Fields
- ❖ Sturgis Fair Grounds
- ❖ Junction Ave.
- ❖ Dolan Creek Bike Path
- ❖ Vanocker Canyon Bike Path
- ❖ Volunteer Fire Department

CENTENNIAL BIKE PATH

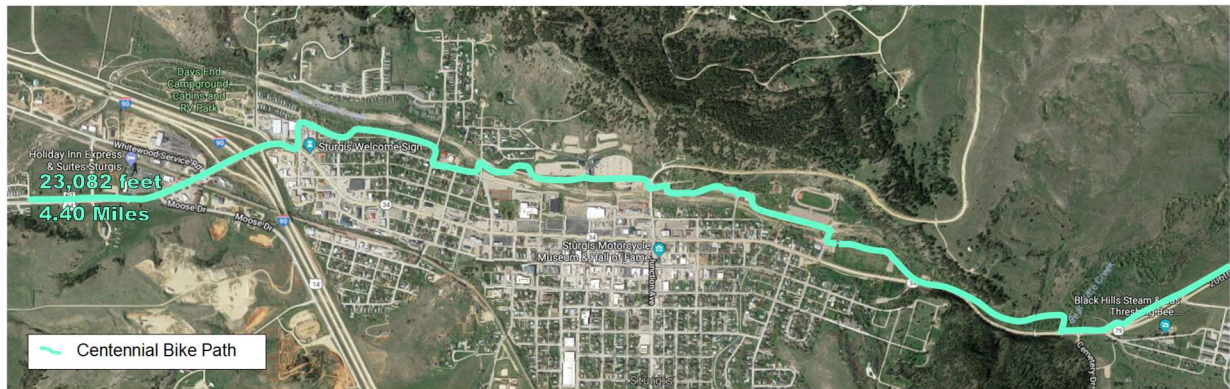


Figure 4: Centennial Bike Path Map

The Centennial Bike Path covers the entire length of north Sturgis. Beginning on the northwest entrance of Sturgis, it follows Lazelle Street through Sturgis all the way to Fort Meade, which ends at Sturgis Brown High School. This path connects many parks with its most important landmark being Woodlee Field, where Sturgis Brown High School hosts multiple sporting and non-sporting events throughout the year. The key feature of this path is that it spans through the entire length of the city. The Centennial Bike path competes with Ball Park Drive bike path as the most important path inside of the city.

LENGTH:

4.4 Miles

ROUTE:

1. The Centennial Bike Path begins at the intersection of Adair Avenue and Lazelle Street
2. The path follows Lazelle Street until going north on 14th Street.
3. The path heads east on an off-road path until going south on 9th street.
4. The path heads east on Williams Street until 7th Street where the path goes north.
5. The path then heads east on Woodland Drive continuing onto Blanche Street.
6. The path follows to the north of Blanche Street passing the football stadium where it heads to the south of Blanche Street.
7. The path continues east eventually following to the north of Lazelle Street.
8. The path continues east until reaching Custer Avenue in Fort Meade.

CONNECTIONS:

- ❖ Moose Drive Bike Path
- ❖ Centennial Park
- ❖ Woodland Park
- ❖ Woodlee Field
- ❖ Sturgis Brown High School

DOLAN CREEK BIKE PATH



Figure 5: Dolan Creek Bike Path Map

The Dolan Creek Bike Path runs along Dolan Creek Road from a residential area to the elementary school. This path does not connect many landmarks, but it does allow children living in the residential areas a safe passageway from their homes to school.

LENGTH:

0.30 Miles

ROUTE:

1. The path begins at the intersection of Moose Drive and Dolan Creek Road.
2. The path continues east on Dolan Creek Road, passing Ball Park Drive ending at the middle school.

3. The path crosses under Interstate 90.

CONNECTIONS:

- ❖ Moose Drive Bike Path
- ❖ Ball Park Drive Bike Path
- ❖ Sturgis Elementary School
- ❖ City Baseball/Softball Fields
- ❖ Volunteer Fire Department

VANOCKER CANYON BIKE PATH



Figure 6: Vanocker Canyon Bike Path Map

Originally referred to as the Deadman Bike Path, the Vanocker Canyon bike path leads through residential areas allowing the people who live in south Sturgis access to everything the Ball Park Drive Bike Path holds.

LENGTH:

0.74 Miles

ROUTE:

1. The path begins on the west end of 1st Avenue and heads north until reaching Otter Road.
2. Heading east on Otter Road until turning north on Raccoon Road.
3. Once the path intersects with Deadman Channel, it follows the levee under the Interstate 90 until intersecting with Ball Park Drive.

CONNECTIONS:

- ❖ Willow Park
- ❖ Ball Park Drive Bike Path

MOOSE DRIVE BIKE PATH

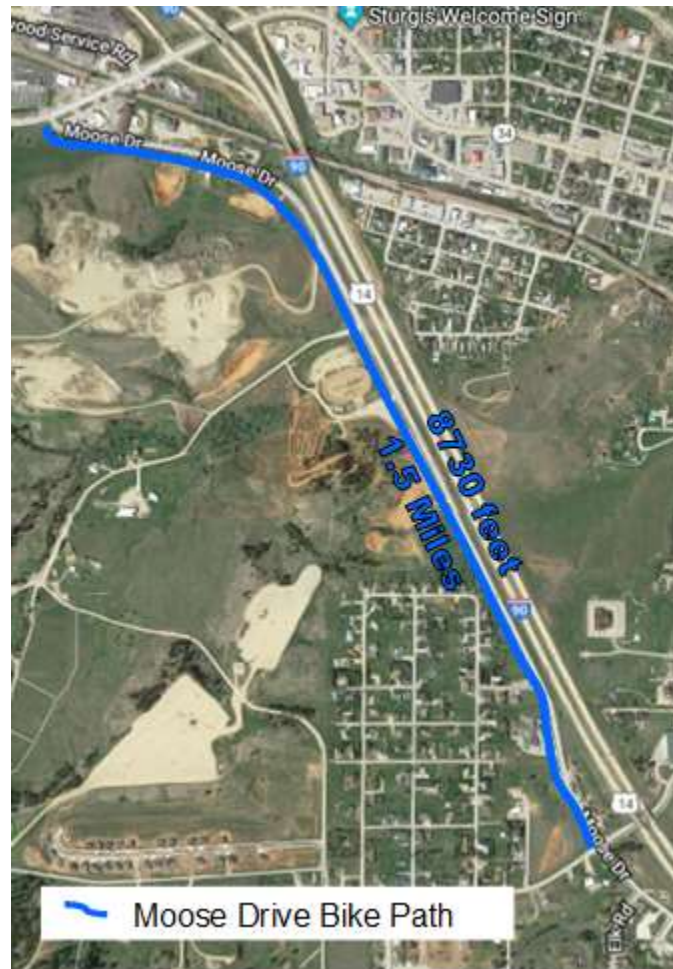


Figure 7: Moose Drive Bike Path Map

The Moose Drive Bike Path serves as a long leisurely path following the southwest side of Interstate 90 and gives access to all city bike path connections through the Dolan Creek Bike Path and the Centennial Bike Path.

LENGTH:

1.5 Miles

ROUTE:

1. The path begins at the intersection of Moose Drive and Lazelle Street
2. Going south on Moose Drive until intersecting with Holly Court.

CONNECTIONS:

- ❖ Centennial Bike Path
- ❖ Dolan Creek Bike Path

MOUNTAIN BIKE PATHS

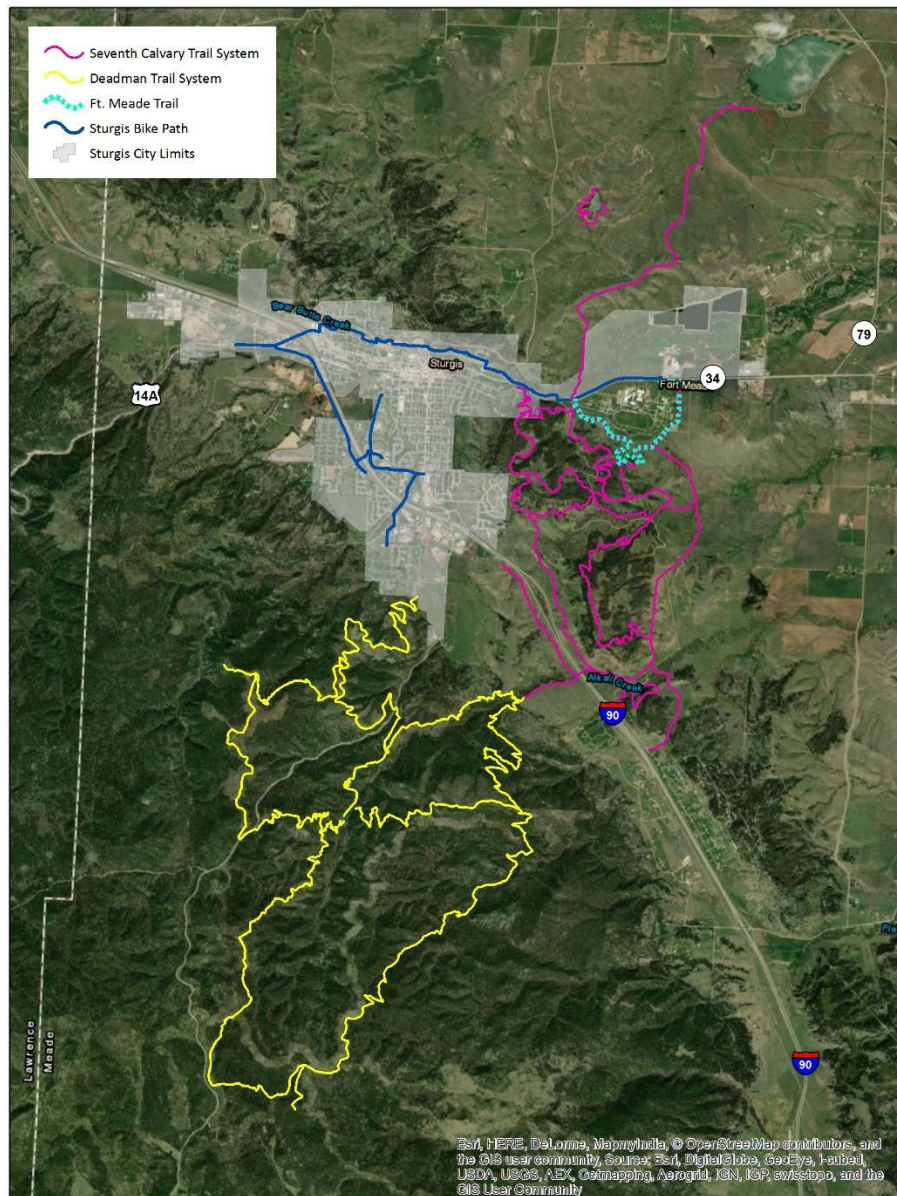


Figure 8: Mountain Bike Path Map

SOUTH STURGIS TRAIL SYSTEM (ALSO KNOWN AS DEADMAN TRAIL SYSTEM)

The South Sturgis mountain bike trail system runs 23 miles through the Black Hills, south of the City of Sturgis. This trail connects to multiple hiking trails including the popular Deadman Mountain and Rock Giant. While riding this trail bikers are also able to enjoy an amazing vista of Bear Butte. Another popular stopping point along this trail is the Sturgis Dams, which was the former water source for the city. Those ponds have been off limits to the public for years but are now accessible through this trail. This trail begins/ends in two key locations. One being the trail head parking lot on the south entrance of town at the end of Vanocker Canyon Road and the other being the beginning of the Seventh Cavalry Trail System.

ROUTE:

1. The trail begins at the trail head parking lot on the south end of Vanocker Canyon Road.
2. The trail heads south around and through the surrounding hills for 23 miles
3. The trail eventually ends at the south trailhead of Seventh Cavalry Trail System

CONNECTIONS:

- ❖ Seventh Cavalry Trail System
- ❖ Deadman Mountain
- ❖ Rock Giant
- ❖ Bear Butte Viewpoint
- ❖ Sturgis/Davenport dams
- ❖ Vanocker Canyon Road

SEVENTH CAVALRY TRAIL SYSTEM

The Seventh Cavalry Trail System runs 29 miles through the Black Hills to the east of Sturgis. Along the way it goes through many hiking trails within the Fort Meade Recreation Area. It also crosses the Centennial Bike Path which connects to the City of Sturgis. Not only does this trail have many important crossing points, it also holds significance by being the first trail system created by the Black Hills Trails group. The group invested over 1200 volunteer hours to assist in creating this trail.

ROUTE:

1. The trail begins at the east end of the South Sturgis Trail System
2. The trail heads north for 29 miles around and through the surrounding hills until reaching the Bear Butte Reservoir

CONNECTIONS:

- ❖ Fort Meade Trail
- ❖ South Sturgis Trail System
- ❖ Centennial Bike Path
- ❖ Bear Butte National Wildlife Refuge
- ❖ Bear Butte Reservoir
- ❖ Brown High School

FORT MEADE TRAIL

The Fort Meade Trail interlocks with a small portion of the Seventh Cavalry Trail System. It begins at the intersection of 206th Street and Custer Ave. The trail goes south, eventually heading back north to end at Sturgis Brown High School. The crushed limestone trail is 2.3 miles long and was funded through the Recreational Trail Program and the city.

ROUTE:

1. The trail begins at the west intersection of 206th Street and Custer Avenue.
2. Heading southeast through the hills until coming north on the east side of Custer Avenue.
3. The trail ends at the east intersection of 206th Street and Custer Avenue.

CONNECTIONS:

- ❖ Seventh Cavalry Trail System
- ❖ Centennial Bike Path
- ❖ Sturgis Brown High School



PART TWO:

Future Paths of Sturgis

PROPOSED BIKE PATHS

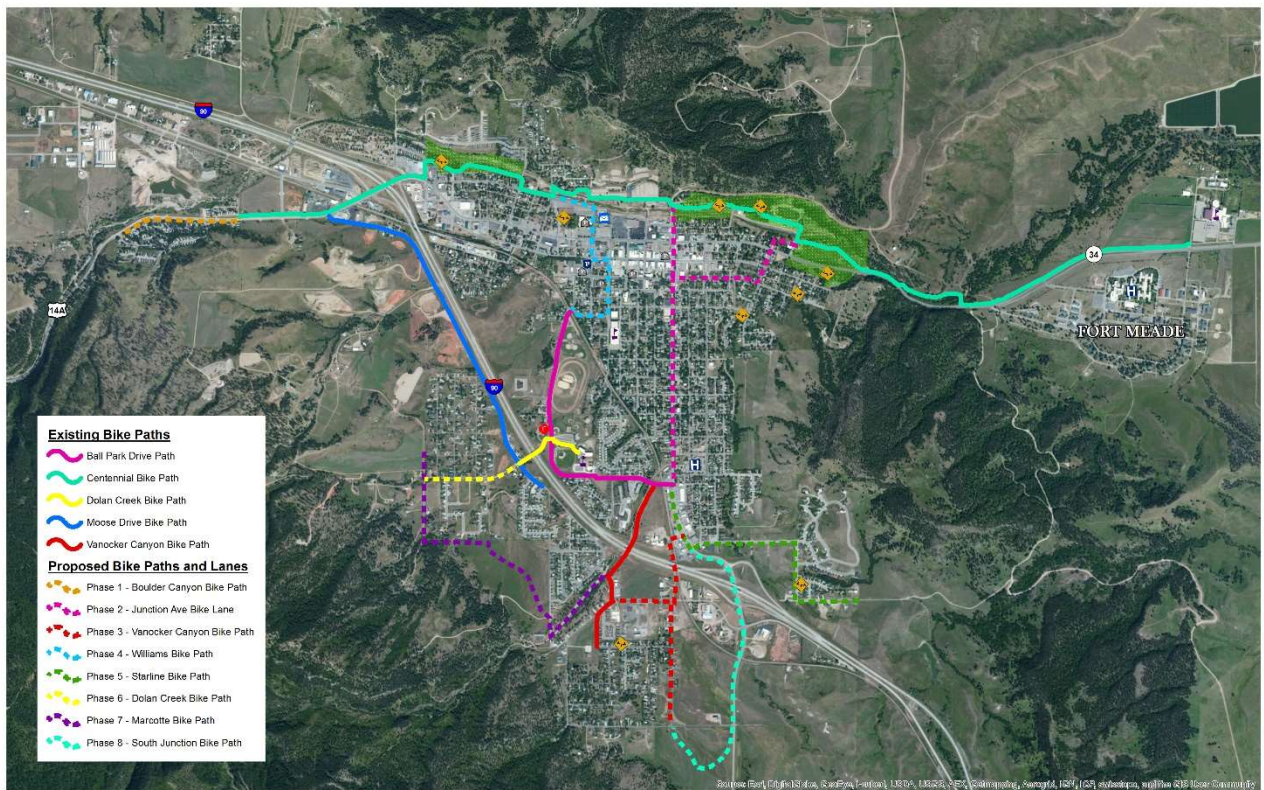


Figure 9: Overall Map with Proposed Paths

SECTION 1: BOULDER CANYON BIKE PATH

LOCATION MAP:

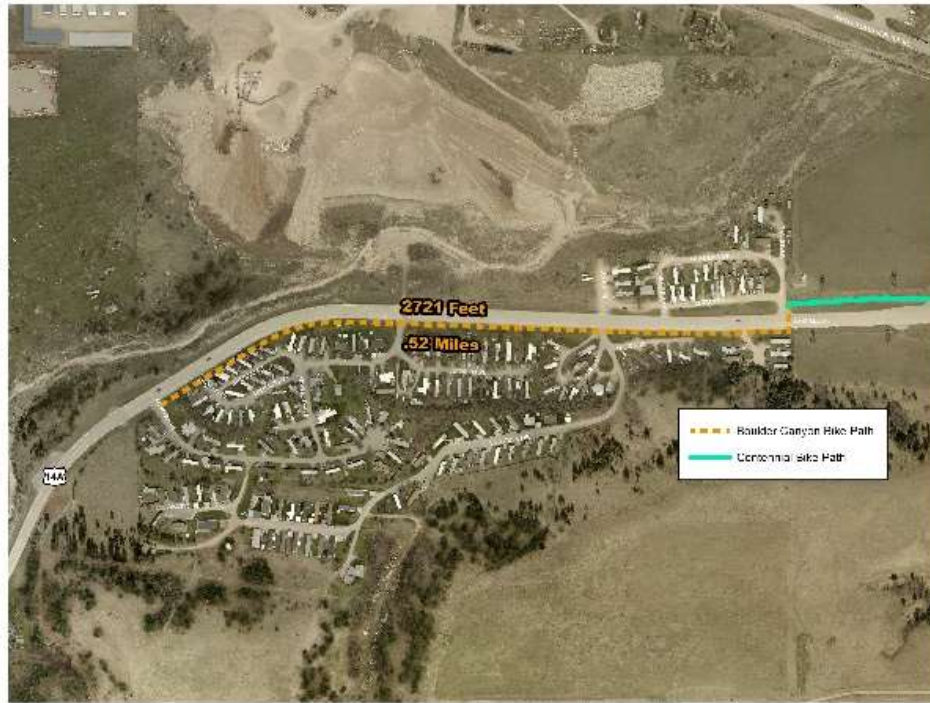


Figure 10: Boulder Canyon Bike Path Map

ROUTE:

1. Path begins at intersection of Apollo Place and Boulder Canyon Road heading east on the south side of the road
2. Path heads east along Boulder Canyon Road and crosses Arcadia Place
3. Path crosses Boulder Canyon Road at Adair Avenue and connects to existing Centennial Bike Path on the north side of Boulder Canyon Road

CONNECTIONS:

- ❖ Centennial Bike Path

SECTION 2: JUNCTION AVENUE BIKE LANE

LOCATION MAP:

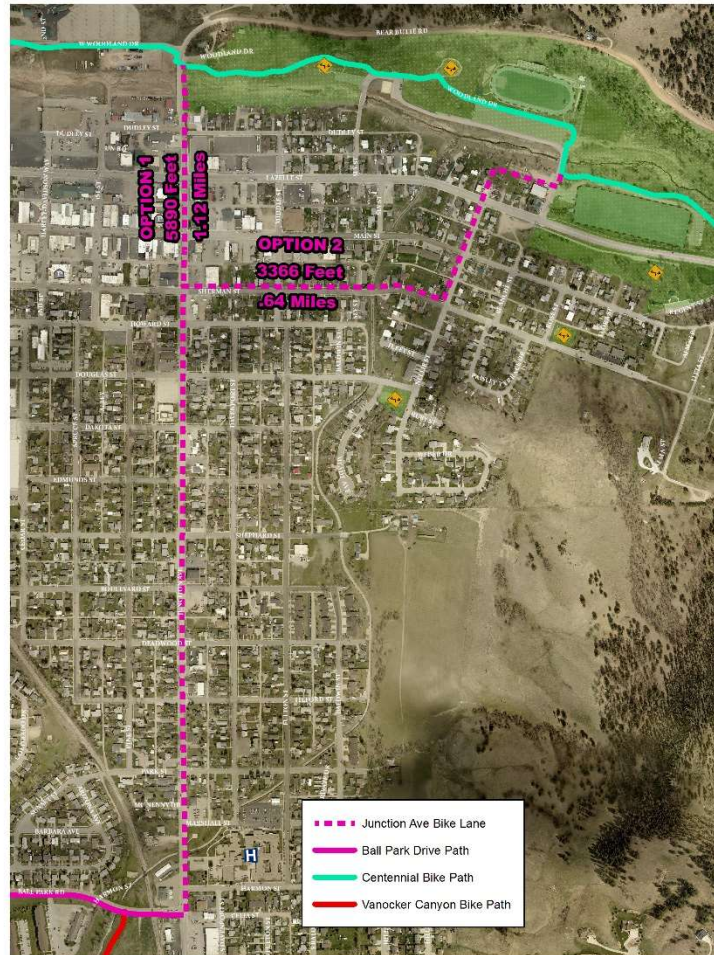


Figure 11: Junction Ave Bike Lane Map

ROUTE:

Option 1

1. Lane begins at the intersection of Junction Avenue/Ball Park Drive heading north
2. Lane ends at the intersection of Junction Avenue/West Woodland Drive

Option 2

1. Lane begins at the intersection of Junction Avenue/Ball Park Drive heading north
2. East on Douglas Street
3. North on Nellie Street
4. East on Lazelle Street

5. North on Blanch Street
6. Path ends at Centennial Bike Path

Option 3 (Considered, but not feasible)

1. Lane begins at the intersection of Junction Avenue/Ball Park Drive heading north
2. East on Tilford Street
3. North following the canal
4. East on Douglas Street
5. North on Nellie Street
6. East on Lazelle Street
7. North on Blanch Street
8. Path ends at Centennial Bike Path

CONNECTIONS:

Option 1:

- ❖ Ball Park Drive Bike Path
 - ❖ Centennial Bike Path
 - ❖ Starline Bike Path (Proposed)
-

Option 2:

- ❖ Ball Park Drive Bike Path
- ❖ Meade Avenue Park
- ❖ Rose Street Park
- ❖ Centennial Bike Path
- ❖ Starline Bike Path (Proposed)

SECTION 3: VANOCKER CANYON BIKE PATH

LOCATION MAP:



Figure 12: Vanocker Canyon Bike Path

ROUTE:

1. Path begins at parking lot on the south end of Vanocker Canyon
2. North on Vanocker Canyon
3. West on Otter Street
4. Path joins with existing Vanocker Canyon path

CONNECTIONS:

- ❖ South Sturgis Mountain Bike Trail
- ❖ Vanocker Canyon Bike Path

SECTION 4: WILLIAMS BIKE PATH

LOCATION MAP:



Figure 13: Williams Bike Path Map

ROUTE:

1. Path begins at intersection of Ball Park Road/Farley Street heading east
2. Extends to 3rd Street and the middle school
3. North on 4th Street
4. West on Williams Street
5. Path ends at intersection of Williams Street/7th Street

CONNECTIONS:

- ❖ Ball Park Drive Bike Path
- ❖ Centennial Bike Path
- ❖ Sturgis Middle School
- ❖ Law Enforcement Center
- ❖ Sturgis Library
- ❖ Sturgis Community Center
- ❖ US Post Office
- ❖ Downtown Sturgis

SECTION 5: STARLINE BIKE PATH

LOCATION MAP:



Figure 14: Starline Bike Path Map

ROUTE:

1. Path begins at east end of Old Stone Road heading west until Starline Avenue
2. Continue north on Starline Avenue
3. West on Anna Street
4. North on Junction Avenue
5. Path ends at intersection of Junction/Ball Park Drive

CONNECTIONS:

- ❖ Starline Park
- ❖ Ball Park Drive Bike Path
- ❖ Seventh Calvary Trail System
- ❖ Junction Ave Bike Lane (Proposed)

SECTION 6: DOLAN CREEK BIKE PATH

LOCATION MAP:



Figure 15: Dolan Creek Bike Path

ROUTE:

1. Path begins at the southwest corner of Moose Drive and Dolan Creek Road
2. Path follows the south side of Dolan Creek Road
3. Path ends at southeast corner of Pine Glenn Drive and Dolan Creek Road

CONNECTIONS:

- ❖ Moose Drive Bike Path
- ❖ Existing Dolan Creek Bike Path

SECTION 7: MARCOTTE BIKE PATH

LOCATION MAP:



Figure 16: Marcotte Bike Path

ROUTE:

4. Path begins at the south end of the Vanocker Canyon Bike Path
5. Path goes southwest along Deadman Channel
6. Path goes northwest through the Marcotte Property
7. Path ends on Pine Glenn Drive

CONNECTIONS:

- ❖ Vanocker Canyon Bike Path
- ❖ Dolan Creek Bike Path

SECTION 8: SOUTH JUNCTION BIKE PATH

LOCATION MAP:



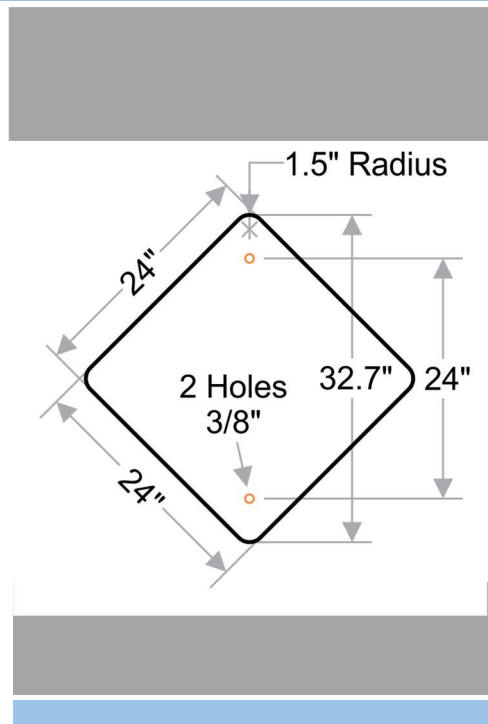
Figure 17: South Junction Bike Path

ROUTE:

8. Path begins at the southwest corner of Anna Street and Junction Ave
9. Path follows the west side of Junction Ave
10. Path will go through a proposed subdivision south of Pine View
11. Path ends at southwest corner of Pine View Drive and Vanocker Canyon Road

CONNECTIONS:

- ❖ Starline Bike Path
- ❖ Vanocker Canyon Bike Path



PART THREE:

General Path Details

New bike paths will be required to meet the following standard details.

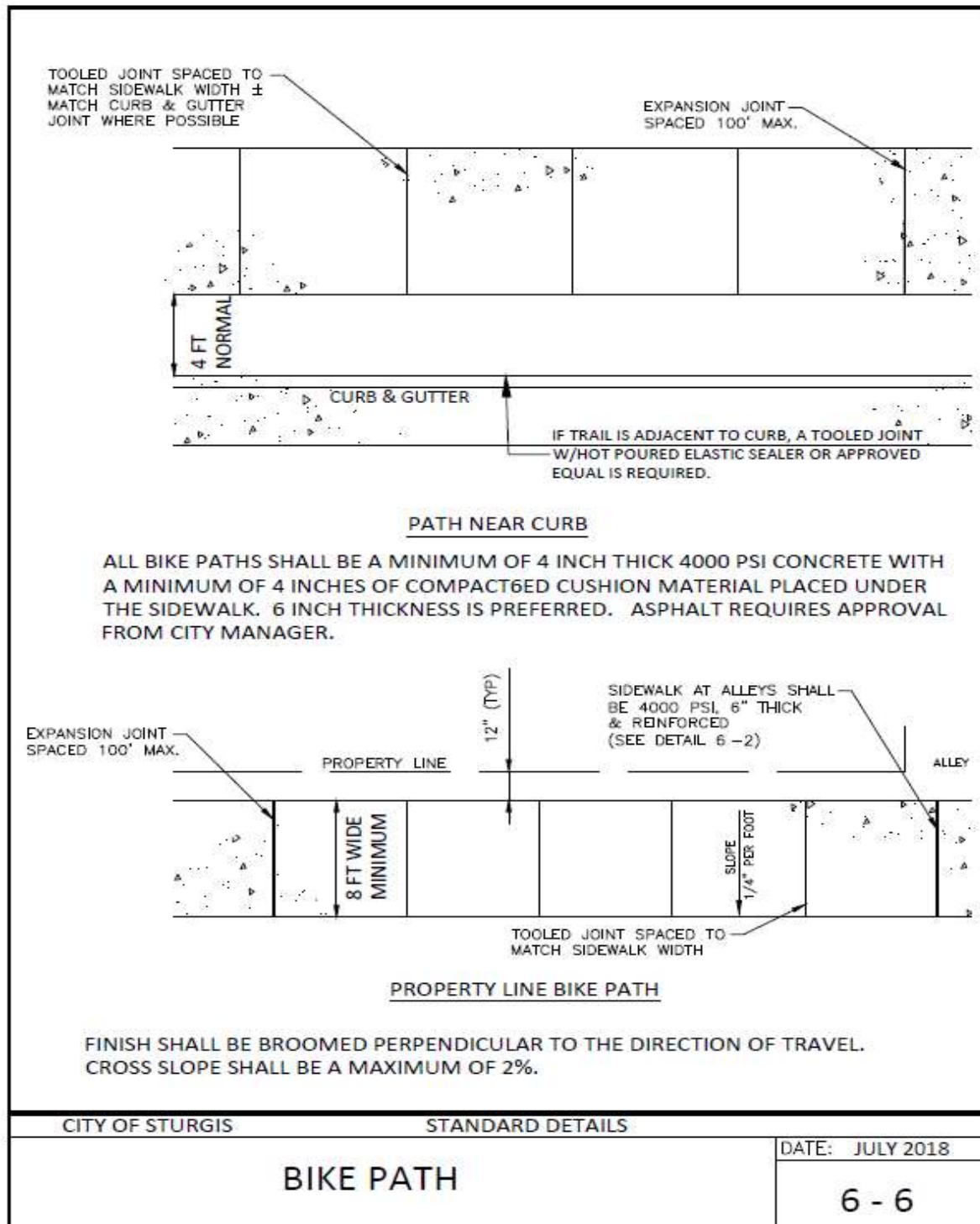
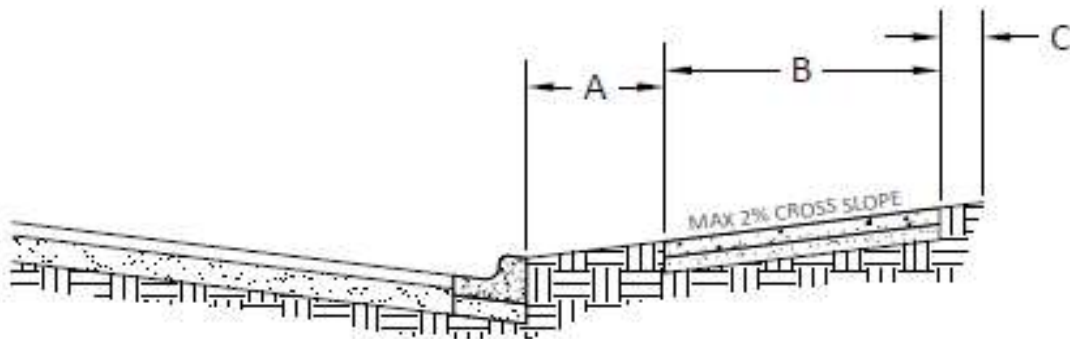


Figure 18: Bike Path Details

ALL BIKE PATHS WILL BE DESIGNED IN ACCORDANCE WITH ACCEPTED ENGINEERING DESIGN PROCEDURES AND SHALL BE APPROVED BY THE CITY ENGINEER.

SIDEWALK DETAILS NEED TO MEET DETAILS 6-1 THRU 6-5.

STREET AND DRIVEWAY DETAILS NEED TO MEET DETAILS 5-1 THRU 5-8.



- A WIDTH OF BOULEVARD IS 4 FEET.
NARROWER BOULEVARD REQUIRES CITY MANAGER APPROVAL.
BOULEVARD SHOULD BE GRASS OR LANDSCAPED.
- B MINIMUM WIDTH OF TRAIL IS 8 FEET.
- C MINIMUM WIDTH IS 1 FOOT TO PROPERTY LINE.

AGGREGATE BASE COURSE TO BE COMPACTED TO 97% OF MAXIMUM DRY DENSITY.

SUBGRADE TO BE COMPACTED TO 95% OF MAXIMUM DRY DENSITY.

CITY OF STURGIS STANDARD DETAILS

DATE: AUG 2018

TYPICAL BIKE PATH DETAIL

6-7

Figure 19: Typical Bike Path Detail

SIGNAGE

The following signs from the Federal Highway Association's Manual of Uniform Traffic Control Devices will be implemented within this project. The signs are described by a description of what they are, as well as the alpha-numeric code that designates each within the manual.

Bike Lane Plaques (R3-17)



Bicycles must use full lane (R4-11)



No Motor Vehicles (R5-3)



No Parking Bike Lane (R7-9 and R7-9a)



Bicycle Regulatory (R9-5)



Figure 20: Regulatory Signs

Combination Bike and Ped Crossing (W11-15) and Trail Crossing Plaque (W11-15P)



Bicycle Warning (W11-1)



Figure 19: Warning Signs

Guide Signs & Plaques:

Bicycle Destination 1 Line (D1-1b)



Bike Route (D11-1)



Bicycle Destination 2 Lines (D1-2b)



Bike Route Plaque (D11-1bP)



Bicycle Destination 3 Lines (D1-3b)



Figure 21: Guide Signs and Plaques

STRIPING

The striping that will be implemented in this plan will be two different types of crosswalk striping. The ladder striping will be implemented at Boulder Canyon road while typical two-lane striping will be implemented in all other locations that striping is needed. The following figure shows the two different types of striping that will be implemented.



Figure 22: Crosswalk Striping Types

LIGHTING

The American Association of State Highway and Transportation Officials' *Guide for the Development of Bicycle Facilities* includes a section on lighting along shared-use paths and will be used as a resource for determining guidelines for any lighting that will need to be installed along the paths. AASHTO guidelines state that lighting should be placed at crosswalks and on signage. This all will be considered when designing the paths. All lighting fixtures will be displayed in the booklet. Any lighting implemented will be called out in the plan views of each paths sheet. (FWHA, 2009)

There are two proposed crosswalk signals. The location of the first will be at the intersection of Adair Street and Boulder Canyon Road. The second location will be at the intersection of Nellie Street & Lazelle Street. Both locations will require a flashing traffic signal due to heavy traffic and high speeds. For the rest of the crosswalks standard signage will be used. In the state of South Dakota, beacons need to be approved by the state so that will be needed to be considered when implementing these two paths.

REFERENCES

- BHMBA. (2018). *Black Hills Mountain Bike Association*.
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