
Aberdeen
TRAILS
ABERDEEN
PARKS, RECREATION & FORESTRY DEPT.
A MULTI-USE TRAILS PLAN

Aberdeen Parks, Recreation & Forestry Dept.

225 SE Third Ave.
Aberdeen, SD 57401

Stantec

Helms & ASSOCIATES

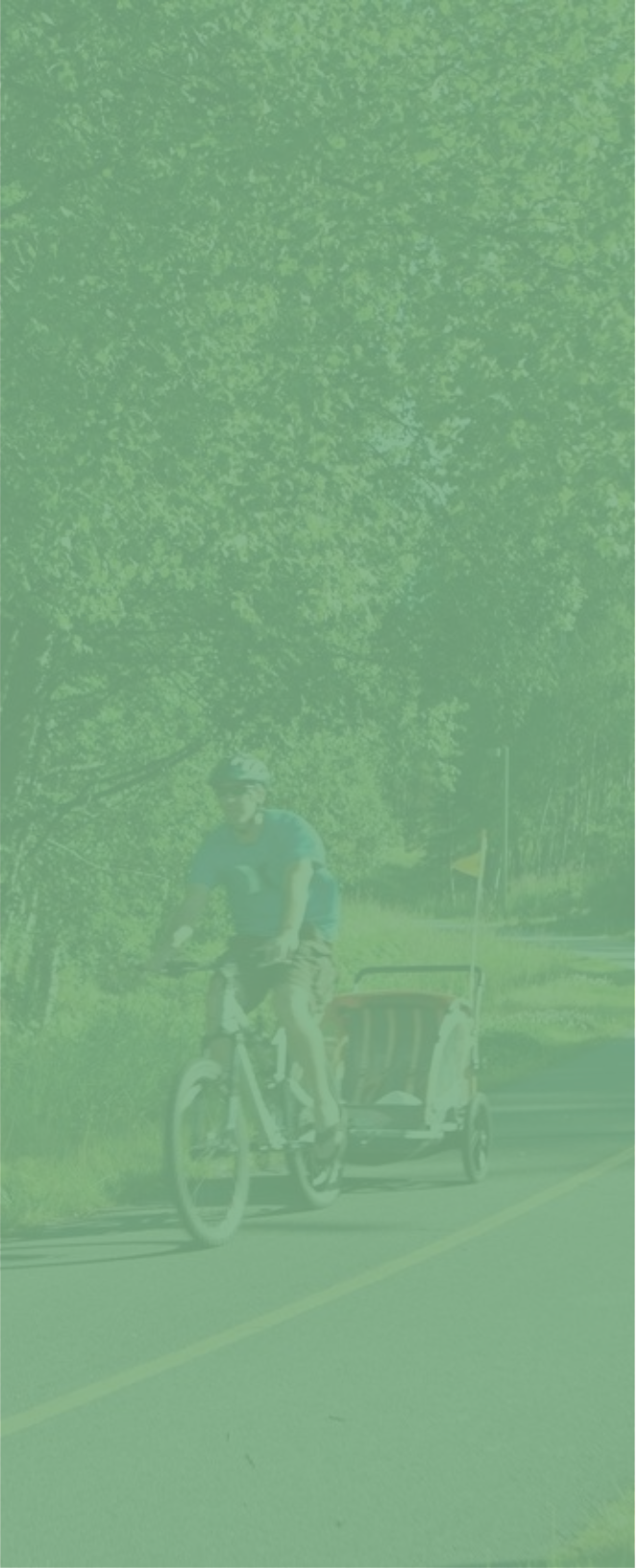
CONFLUENCE

FHWA Disclaimer:
The preparation of this report has been financed in part through grant(s) from the Federal Highway Administration and Federal Transit Administration, U.S. Department of Transportation, under the State Planning and Research Program, Section 505 of Title 23, U.S. Code. The contents of this report do not necessarily reflect the official views or policy of the U.S. Department of Transportation.

SDDOT Disclaimer:
The preparation of this report has been financed through the South Dakota Department of Transportation's SPR Funding for Local Agencies program. The contents and recommendations of this report do not necessarily reflect official views, policy, or endorsement of the South Dakota Department of Transportation.

SDDOT Title VI Statement:
The South Dakota Department of Transportation provides services without regard to race, gender, religion, national origin, age or disability, according to provisions contained in SDCL 20-13, Title VI of the Civil Rights Act of 1964, the Rehabilitation Act of 1973, as amended, the Americans With Disabilities Act of 1990 and Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations, 1994. To request additional information on the SDDOT's Title VI/Nondiscrimination policy or to file a discrimination complaint, please contact the Department's Civil Rights Office at 605-773-3540.

Table of Contents



Acknowledgments

This Recreational Trails Plan Study update would not have been possible without the collaboration of the South Dakota Department of Transportation, the Aberdeen Parks, Recreation and Forestry Department, the City of Aberdeen, Study Advisory Team members, consultant staff, and the general public. A special thanks to these team members for the dedication and effort they gave to make this Study a success.

SDDOT Staff

Steve Gramm, SDDOT Planning Engineer

Logan Gran, SDDOT Bicycle and Pedestrian Coordinator

Consultant Team

Stantec

Helms & Associates

Confluence

Study Advisory Team Members

Doug Johnson- Aberdeen Parks, Recreation and Forestry Director

Lynn Lander- Aberdeen City Manager

Robin Bobzien- Aberdeen City Engineer

David Bunsness- Aberdeen City Council Member

Matt Prehn- Aberdeen Park Board Member

Doug Farrand- Aberdeen Park Board Member

Paul Fauth- Aberdeen Trail Committee Member

David McNeil- Aberdeen Police Chief

Mark Hoven- Aberdeen Parks, Recreation and Forestry

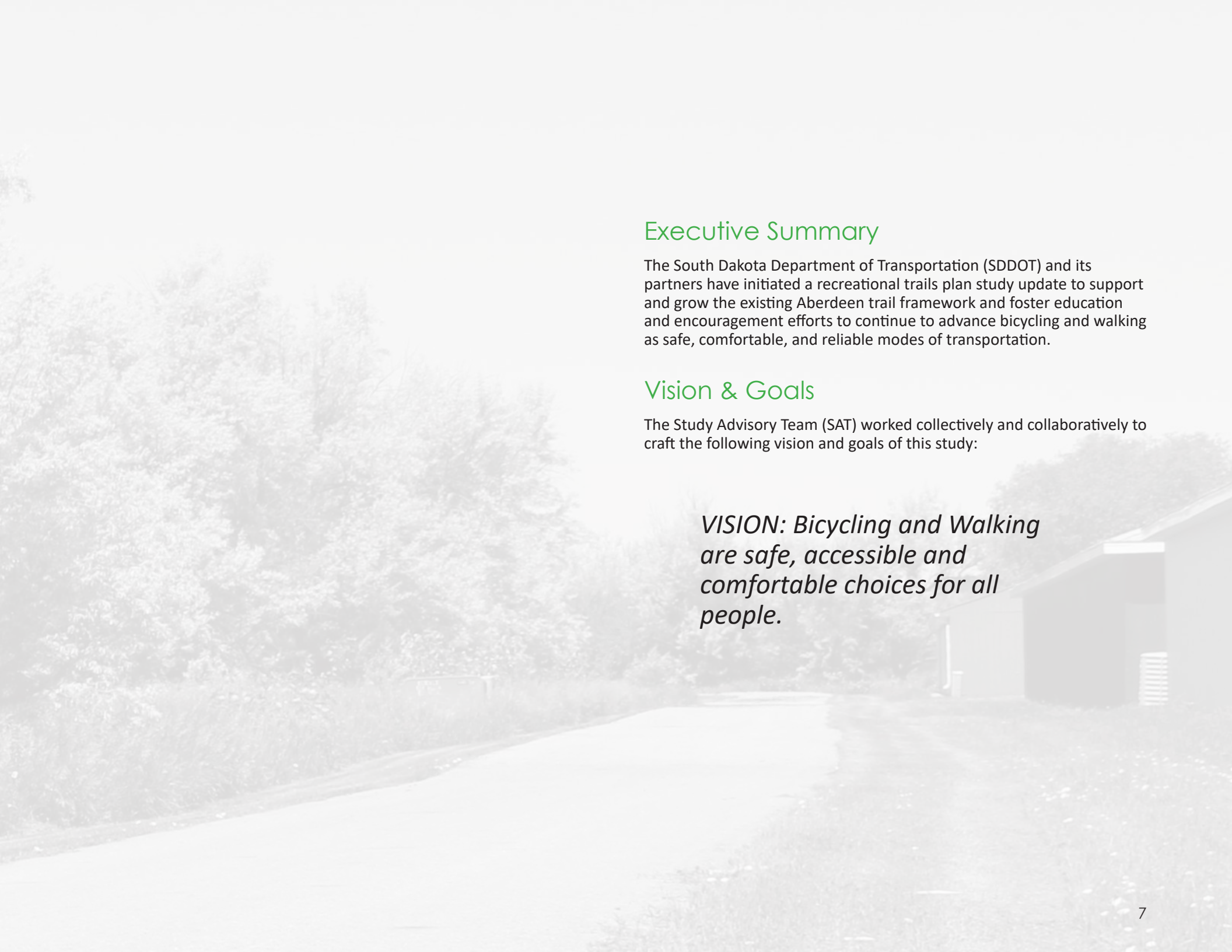
Jeff Senst- SDDOT Aberdeen Region Engineer

Mark Peterson- SDDOT Aberdeen Region Engineer

1

Introduction

AN OVERVIEW OF THE PLAN



Executive Summary

The South Dakota Department of Transportation (SDDOT) and its partners have initiated a recreational trails plan study update to support and grow the existing Aberdeen trail framework and foster education and encouragement efforts to continue to advance bicycling and walking as safe, comfortable, and reliable modes of transportation.

Vision & Goals

The Study Advisory Team (SAT) worked collectively and collaboratively to craft the following vision and goals of this study:

VISION: Bicycling and Walking are safe, accessible and comfortable choices for all people.

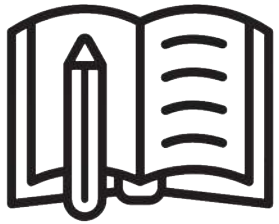
To achieve this vision, the following goals have been identified:

1. ***SAFETY AND COMFORT: Develop a connected network of bicycling and walking routes that connect Aberdeen's residential areas with the downtown, the university campuses, schools, parks and commercial areas.***

    - The connectivity of bicycle and pedestrian routes can decrease vehicle miles traveled per person in Aberdeen while providing viable options to combine travel needs. Connectivity of routes that lead people to community destinations promotes bicycling and walking not only as a form of leisure activities, but also as alternative modes of transportation.

2. ***EDUCATION: Sponsor education initiatives that promote safe practices for bicyclists, pedestrians and motorists, alike.***

    - Promoting and educating on safe behaviors from drivers, walkers, and bicyclists offers a level of predictability to a functional system. Predictability of modes in a shared space better ensures the safety of drivers, bicyclists and pedestrians. By creating an environment in which all individuals feel safe and comfortable, this can be a driving force in improving network use.



3. ***ENCOURAGEMENT: Increase participation, planning and events of bicycles and pedestrian activities within the community of Aberdeen.***

    - Once perceived and real barriers are removed, walking and biking can become a daily experience for all residents, employees, and visitors. A well-established network gives people the option to not only be healthier but, be environmentally friendly by choosing to walk or bike. Encouraging people to bike and walk more frequently increases the number of bicycling and walking trips throughout the community

Aberdeen as a Bicycle-Friendly Community

Aberdeen has expressed the intent of applying for recognition by the League of American of Bicyclists as a "Bicycle Friendly Community" and the information and efforts compiled by this study, are intended to support this effort.

Achieving the designation of a "Bicycle Friendly Community" will reflect the community's strong network of multi-use trails, presence of community organizations that actively advocate for cycling and provide public education, outreach, and inclusion of bicycling facilities throughout the City of Aberdeen. The League of American Bicyclists has identified key strategies of Bicycle Friendly communities, of which these are outlined in Figure 1.1.

This plan includes a discussion of community outreach and engagement as part of the planning process as well as the vision and goals for the plan, as identified and approved by the Study Advisory Team (SAT).

The bicycle and pedestrian planning process is generally guided by the principles of the five "Es" which include: Engineering, Education, Encouragement, Enforcement and Evaluation. By intent of the SAT, this plan focuses on three of these five:

- **Engineering** considerations include recommendations for an expanded, community-wide trail framework along with safety improvements, and are outlined in detail within the *Bicycle & Pedestrian Trails Network* chapter of this document.
- **Education** initiatives provide guidance on community partnerships and activities that can improve the awareness of trail safety for bicyclists, pedestrians and motorists, alike. These recommendations have been included within the *Policies & Programs* chapter of this document.
- **Encouragement** recommendations have also been outlined within the *Policies & Programs* chapter of this document, and specify guidelines for the built environment, as well as community stakeholders, to encourage increased use of Aberdeen's trail network.

Overall, this plan addresses existing conditions and issues facing bicyclists and pedestrians in Aberdeen, community priorities, and best practices for improving the trail experiences throughout the City. This document also includes a description of the full and prioritized trail and bicycling routes in the community and has been organized into the following chapters:

1. Introduction & Executive Summary
2. Existing Conditions
3. Outreach & Engagement
4. Bicycle and Pedestrian Trails Network
5. Wayfinding Plan
6. Policies & Programs
7. Implementation

A successful plan is one that is both actionable and implementable. Chapter 7 of this plan includes implementation strategies for the three E's as outlined above.

This Plan also includes six appendices for reference:

- Appendix A: Existing Conditions Memo
- Appendix B: Public Open House Summaries
- Appendix C: Walk Audit Materials
- Appendix D: Study Advisory Team Summaries
- Appendix E: Comprehensive Trail Implementation Matrix

Bicycle friendly community, League of American Bicyclists

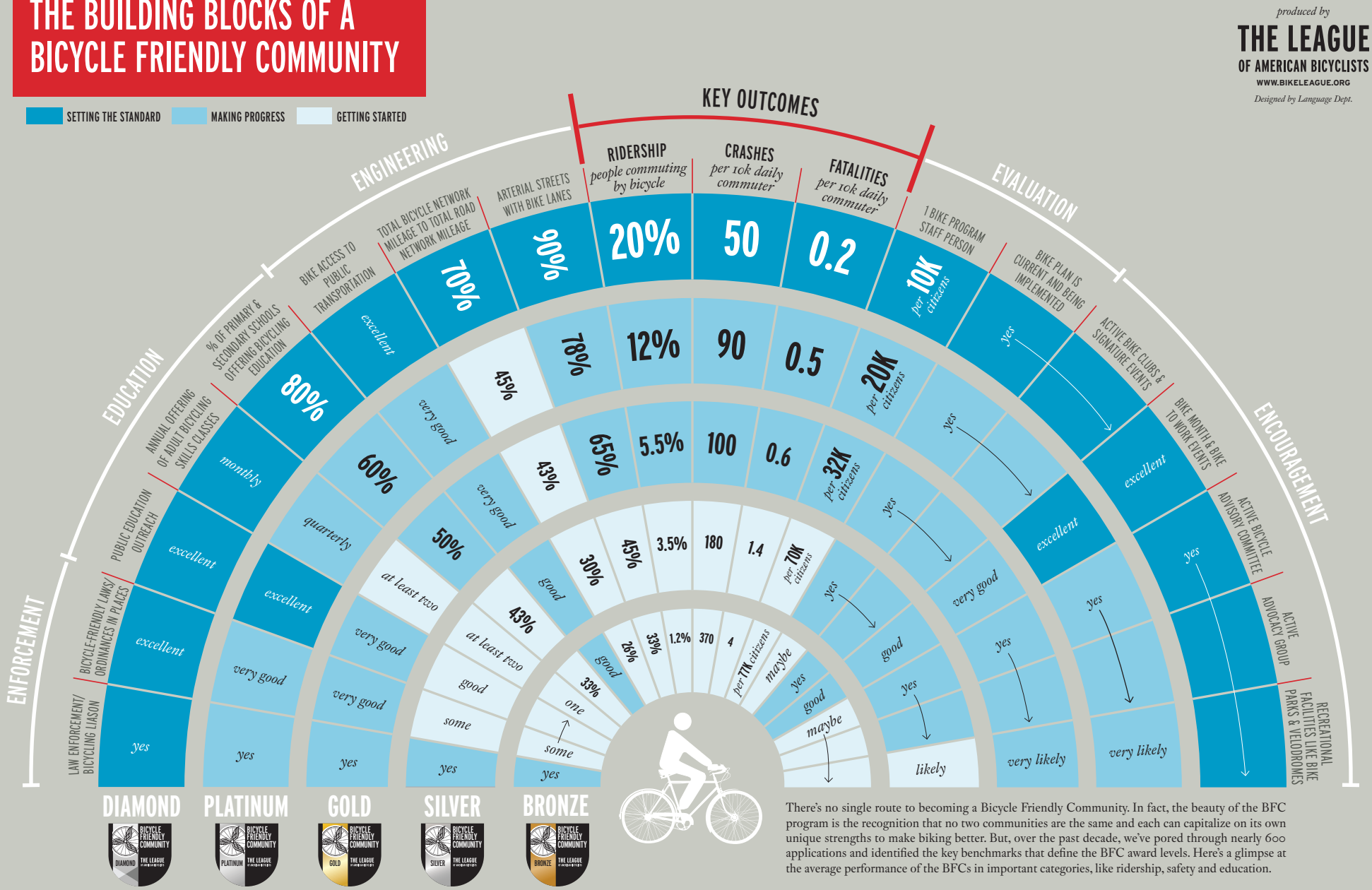


Figure 1.1: The Building Blocks of a Bicycle Friendly Community, The League of American Bicyclists

2 Existing Conditions

List of Tables and Figures

INTRODUCTION

Known as the “Hub City”, Aberdeen is a regional destination of commercial and employment opportunities for the surrounding communities throughout Brown County. Seeking to achieve a Bronze Level “Bicycle Friendly Community” designation from the League of American Bicyclists, the City of Aberdeen has initiated a bicycle and pedestrian plan to develop a comprehensive recreational trails network that will allow every resident to access a safe and comfortable trail facility.

Some of the community’s current weaknesses in supporting bicycling and pedestrian activities include a limited network of on-road facilities, incomplete connections to outlying areas of the community, and few programs to advocate for increased bicycle and pedestrian activities.

The City of Aberdeen and the South Dakota Department of Transportation (SDDOT) will utilize this master plan to support and advance bicycling and walking as safe, comfortable, and reliable modes of transportation in the community. This report provides an overview of existing conditions, programs, and regulations to support bicycling and walking in Aberdeen. It presents existing network conditions and reviews local and statewide policies and ordinances related to bicycling and walking. The report concludes with a review of sidewalk, multi-use trail, and roadway design and maintenance standards for the City of Aberdeen, Brown County and the SDDOT.

Table 2.1: Rider Group Matrix

Rider Group		
		
A - Advanced Experienced riders who can operate under most traffic conditions	**B - Basic Bicyclist** Riders who are less confident of their ability to operate in traffic without special provisions for bicycles.	**C - Children** Riders whose roadway use is initially monitored by parents.
Preferences		
• Direct access to destinations. • Operate at a maximum speed with minimum delays. • Sufficient Roadway space or shoulder so that bicyclists and motorists can pass without altering their timeline.	• Comfortable access to destinations. • Direct route, but on low-speed, low volume streets or designated bicycle facilities. • Well defined separation of bicycle and motor vehicles or separated bike paths.	• Access to schools, recreation facilities, shopping or other residential areas. • Residential streets with lower motor vehicle speed limits and volumes. • Well defined separation of bicycle and motor vehicles or separate bike paths.
Transportation Improvements		
• Provide wide outside lanes (urban). • Provide usable shoulders (rual).	• Provide netwrok of designated bicycle facilities (lanes, bike, paths, bike boulevards). • Usable roadway shoulders.	• Ensure low speeds on neighborhood streets. • Provide network of designated bicycle facilities (lanes, bike paths, bike boulevards). • Usable roadway shoulders.

This photo illustrates the existing roadside trail system within the community of Aberdeen

EXISTING BICYCLE AND PEDESTRIAN NETWORK

Facilities

The existing designated bicycle and pedestrian system in Aberdeen is comprised of sidewalks, bike lanes and shared-use paths which primarily follow roadway alignments and natural features. Paved shoulders are most typically provided in rural areas, along county highways, but are narrow in width and not typically utilized by the basic bicyclist. Community feedback indicates most residents do not feel comfortable biking on paved shoulders such as these.

Generally, there are two types of bicyclists: advanced and basic. A third category, children, can be classified similarly to basic bicyclists as they have similar needs. A summary of all three categories of riders is provided in Table 2.1 (left).

Sidewalks are the best choice for the youngest bicycle riders but are not intended to be a substitute for bicyclists. Based on community feedback, most residents of Aberdeen feel most comfortable on off-street recreational trails.

Aberdeen is home to more than 32 miles of off-street trails, sidewalks and bike lanes. Other infrastructure investments to support bicycling and walking include bicycle racks and trail kiosks throughout the community.

Figure 2.1 illustrates the existing and planned bicycle and pedestrian network in Aberdeen. It includes off-road trails, roadside trails and bike lanes.

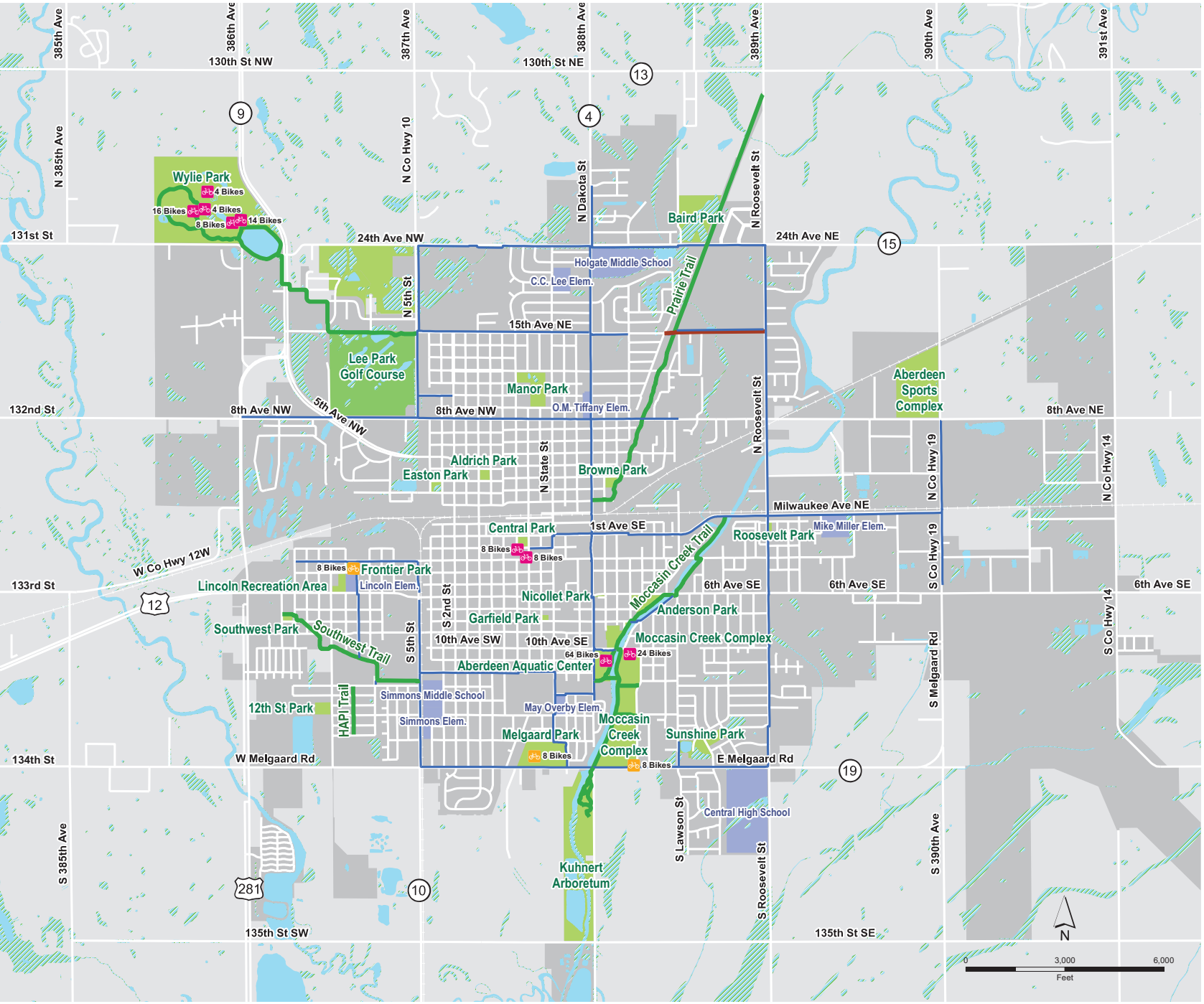


Figure 2.1: Existing Bicycle Facilities, Parks and Schools

Bike Rack Locations:

- Good
- Fair
- Existing Off-Road Trail
- Existing Roadside Trail
- Existing Bike Lane
- Park
- Golf Course
- School
- Open Water
- Wetlands
- Within Current City Limits

Figure 2.1 also illustrates known locations of existing bike racks in Aberdeen, of which information was collected by the Aberdeen Parks, Recreation and Forestry Department. In total, these bike racks provide 174 spaces for bike parking at recreational facilities throughout Aberdeen. All these bike parking locations are racks; no bike lockers or indoor bike stations are known to exist in the community today. Additional bike parking facilities, such as at City Buildings and Civic Facilities were not counted but do exist.

Community destinations that typically generate bicycling and walking trips, such as schools, commercial centers, and civic facilities are shown in Figure 2.2. These major bicycle and pedestrian trip generators are shown to illustrate the ability of the existing network to link major community destinations.

Figure 2.2 also illustrates existing trail facilities, proposed or planned facilities and stakeholder comments from the community indicating where additional off-road or roadside trail connections are needed.

System Use

Without a specific counting program to track system use of pedestrians and bicyclists, it can be challenging to determine future demand. However, utilizing existing bicycling data received through the American Community Survey, a baseline understanding of future bicycle ridership can be established. There are two main types of methods that can be used to project bicycle ridership.

- **Aggregate Method**: Uses aggregated transportation data (such as the American Community Survey travel mode to work) to identify a share of the trips generated by a certain mode and project a share of total trip generation. For example, if bicycle trips make up 2% of all trips today, we can assume they will hold a constant share into the future. This method is reliable and simple; however, it fails to address recreational and occasional ridership, which is especially important in the summer months.
- **Disaggregate Method**: Looks at bicycle data specifically and then make assumptions about how many individuals are represented in the population to forecast travel choices across the population. This data could be taken from a survey asking specifically about ridership. One of the challenges with this method is that survey responses may be biased (ridership may be overestimated if survey participants are riders with an interest in bicycling in Aberdeen).

Although this study has conducted a ridership and comfort survey, projections will rely on the aggregate method and constant ridership share because of its simplicity and reliability.

The American Community Survey, part of the US Census, administers long-form questionnaires to Americans across the Country. The survey addresses population demographics, income and poverty rates, housing conditions, employment, and transportation data. Most specifically, one question pertains to the mode of transportation to work, which is most utilized by respondents who are employed.

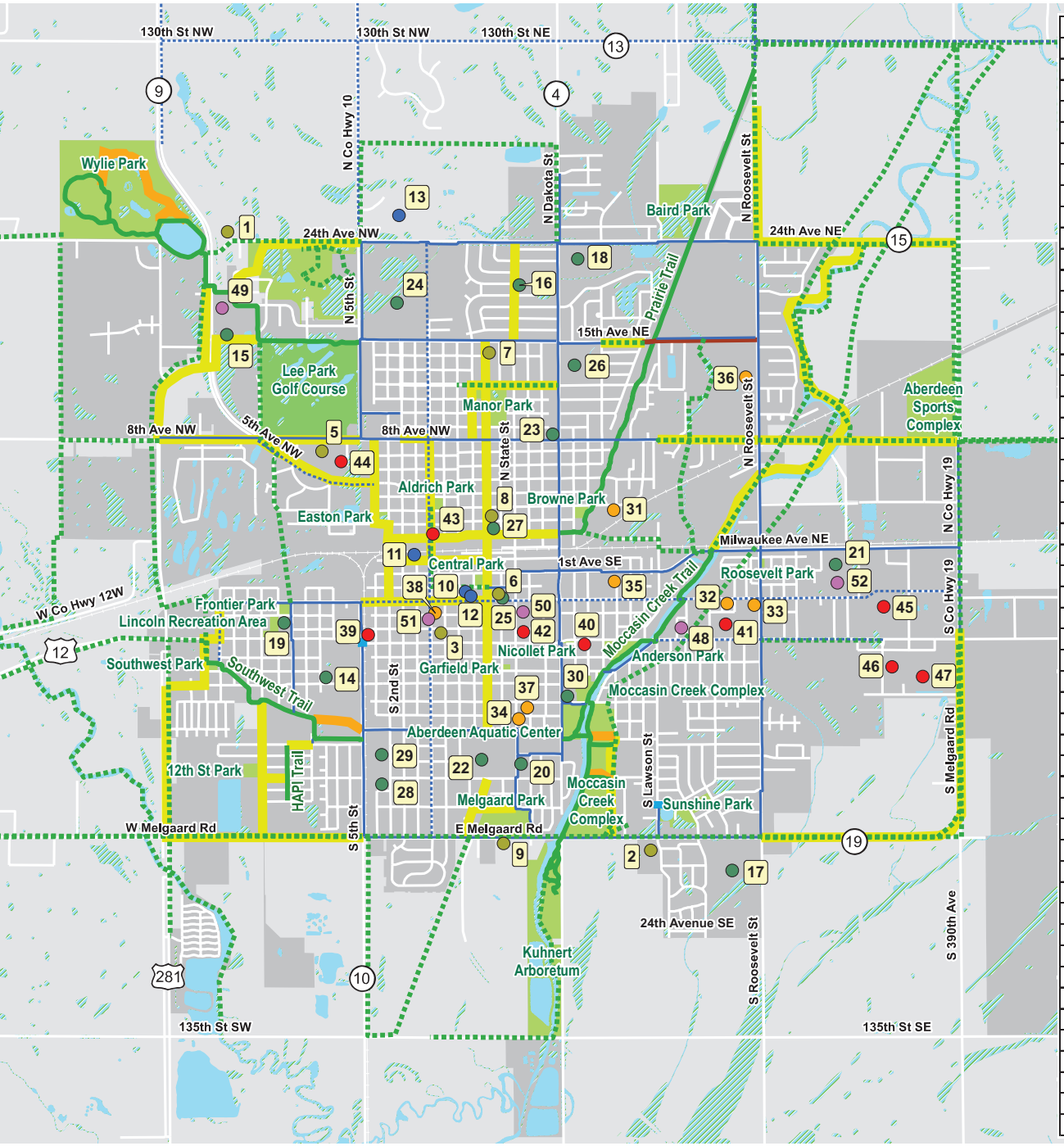
In Aberdeen, private automobiles are the most common mode of transportation to work, though approximately five percent of the population walks or bikes to work. For these projections, it is assumed that the category “Other Means” is defined as bicycling to work. This is the value that will be utilized for projecting future ridership. See Table 2.2 for more details.

Table 2.2: Mode of Transportation to Work in Aberdeen, SD

Car, Truck, or Van (Drove Alone)	83.2%
Car, Truck, or Van (Carpooled)	8.4%
Public Transportation	0.3%
Walking	2.5%
Other Means	2.5%
Worked at Home	3.1%

Source: American Community Survey, 2017

Main Street in Aberdeen serves as a major trip generator for drivers, bicyclists, and pedestrians with many local retailers along the corridor.



ID	Name
1	First Assembly of God Church
2	First Baptist Church
3	First United Methodist Church
4	Freedom Church
5	New Life Fellowship Church
6	Sacred Heart Parish Church
7	St. Mark's Episcopal Church
8	St. Mary's Catholic Church
9	The Journey Church
10	Aberdeen Civic Arena
11	Aberdeen Convention & Visitor's Buerau
12	Aberdeen Recreation and Cultural Center
13	Brown County Fairgrounds
14	Aberdeen Alternative School
15	Aberdeen Christian School
16	CC Lee Elementary School
17	Central High School
18	Holgate Middle School
19	Lincoln Elementary School
20	May Overby Elementary School
21	Mike Miller Elementary School
22	Northern State University
23	OM Tiffany Elementary School
24	Presentation College
25	Roncalli Elementary School
26	Roncalli High School
27	Roncalli Primary School
28	Simmons Elementary School
29	Simmons Middle School
30	Trinity Lutheran School
31	East Briar Commons Apartments
32	Elmwood Manor Apartments
33	Homestead Apartments
34	Northern Commons Apartments
35	Prairie Song Apartments
36	Prairie Village Apartments
37	State Stree Commons Apartments
38	The Lofts on Main Apartments
39	Family Dollar Food Market
40	Kaw Lah Asian Food Market
41	Ken's Food Market
42	Kessler's Food Market
43	Natural Food Market
44	Shopko
45	Shopping Mall
46	Target
47	Wal-Mart
48	Aberdeen Community Health Center
49	Aberdeen Health and Rehab
50	Avera Hospital
51	Brown County Community Health Center
52	Sanford Hospital

Figure 2.2: Major Trip Generators

- Major Trip Generator - Civic
- Major Trip Generator - Institution
- Major Trip Generator - Church
- Major Trip Generator - Apartment
- Major Trip Generator - Major Retail
- Major Trip Generator - Medical
- Existing Off-Road Trail
- Existing Roadside Trail
- Existing Bike Lane
- 2013 Proposed Trail Projects
- 2013 Planned Off-Road Trail
- 2013 Planned Sidewalk
- Online Survey Suggested Trail Connections
- Online Survey Suggested Sidewalk Connections
- Park
- Golf Course
- Open Water
- Wetlands
- Within Current City Limits

As part of the Aberdeen Growth Plan, the City projected its population to 2045. Working with population projection models and community input, it was established that by 2045, the City is planned to grow to a population of 40,000 residents. Using the Aggregate Projection Method, existing population, a consistent ridership rate, and the Growth Plan population projections, we can project overall ridership growth for the City. Ridership in the City is expected to grow from 710 bicycle commuters to 1,000 in the year 2045 (41 percent growth). Table 2.3 illustrates existing and projected population and ridership for the City of Aberdeen.

Table 2.3: City-wide Bicycle Ridership Projections

Year	Population	Ridership	Bicyclists*
2017 (Existing)	28,388	2.5%	710
2045 (Projected)	40,000	2.5%	1,000
Growth	+ 11,612 (41%)	--	+300 (41%)

**Estimated Number of Bicycle Commuters*

As new commercial development occurs throughout Aberdeen, bicycle facilities, such as bike racks and trail connections, should be considered necessary to community infrastructure. Image © Lamont Companies

These ridership growth projections are an estimate based on commuting data and the Aberdeen Growth Plan. It is important to note that this process has included assumptions and this information should be used for planning purposes only.

It is recommended that a formal-in person bicycle counting program be implemented to get a strong set of baseline data for existing commuting and recreational ridership across the City. This will allow the baseline aggregate projections to include all types of riders, not just commuters.

System Comparisons

The League of American Bicyclists has worked with communities across the United States to identify bicycle-friendly infrastructure, programs, and policies. The organization has created fact-sheets and a Bicycle Friendly Community scoring system to assess existing bicycle infrastructure and programs and identify areas for improvement. While the City of Aberdeen has not worked with the organization, numerous communities throughout the Dakotas, Minnesota, and Iowa have. The League's score sheet includes numerous metrics worth reviewing including the bicycle Friendly Communities Rating (Bronze, Silver, Gold, or Platinum), network mileage ratio, and existing ridership (commuter bicyclists). The network mileage ratio was calculated by comparing the total length of roadways to the total length of bicycle facilities. Table 2.4 illustrates this ratio by facility type in Aberdeen.

Table 2.4: Existing Network Ratio between Roadway and Bicycle Facilities in Aberdeen

Type	Length (ft)	Length (mi)	Percent of Transportation Facilities
Roads in City	945,919.24	179.15	-
Bike Lanes	3,052.30	0.58	0.32%
Trail	51,103.99	9.68	5.40%
Sidewalk	116,287.91	22.02	12.29%
Total	170,444.20	32.28	18.02%

Some communities that Aberdeen can look to for inspiration and as a benchmark in these metrics are listed in Table 2.5 below. In some cases, Aberdeen has a greater percentage of network coverage than Cities' that have already received the Bicycle Friendly Designation Bronze Status. Unless otherwise noted, all data is from the League of American Bicyclists.

Mayor's bike ride. Credit: Visit Winona

Table 2.5: Bicycle Friendly Communities Network Ratio Comparison

Community	Pop.	Size*	Bicycle Friendly Designation	Network Coverage†	Ridership‡
Aberdeen, SD	28,388[1]	15.6[(2)]	N/A	18%	2.5%[(1)]
Brookings, SD	22,056	12.9	Bronze	22%	3.3%
Bemidji, MN	14,319	14.1	Bronze	95%	1.8%
Willmar, MN	19,610	16	Bronze	16%	1.2%
Winona, MN	27,372	24	Bronze	25%	1.2%
Bettendorf, IA	35,727	21.2	Bronze	20%	0.2%
Coralville, IA	18,907	12	Bronze	56%	0.9%
Cedar Falls, IA	41,255	29.9	Bronze	19%	0.9%

**Geographic size in square miles*
†Bicycle Network Mileage to Road Network Mileage
‡Existing Ridership (percent bicycle commuters)

Source:
[1]American Community Survey, 2017
[2]US Census, 2010

Bicycle Friendly Communities in the IA, MN, and SD

System Safety

According to the South Dakota Office of Highway Safety, during the period between 2013 and 2017, there were a total of 2,041 total reported crashes within the City of Aberdeen. Figure 2.3 illustrates the location of these crashes. Of these reported incidents, 26 involved a pedestrian (1.27% of total) and 25 involved a bicyclist (1.22% of total). Table 2.6 shows the details of the bicycle and pedestrian crashes that occurred during this reporting period, and Table 2.7 illustrates the top vehicular crash locations in the City. During this reporting period, two of these crashes each resulted in a fatality. While this data evaluates bicycle and pedestrian crashes as a percentage of all vehicle crashes, it is challenging to develop a bicyclist or pedestrian crash rate without a counting system in place to understand the total number of bicyclists and pedestrians using the network. Little data exists to generate a crash rate that compares the total number of bicycle and pedestrian crashes with the total number of network users.

While we cannot develop a specific crash rate based on these statistics, we can review the severity of the crashes that have occurred. Each of the reported crashes within this time period resulted in either a fatality or injury. Bicyclists and pedestrians are extremely vulnerable to higher severity resultant crashes because they do not have a motor vehicle to protect them.

Table 2.6: Aberdeen Bicycle and Pedestrian Crashes, 2013-2017

Year	Type	Fatal	Injury	Subtotal	Bike/ped total	All crashes	Bike/ped crash (%)	
2013	bike		6	6	15	407	1.47%	3.69%
	ped		9	9			2.21%	
2014	bike		5	6	12	420	1.43%	2.86%
	ped		5	6			1.43%	
2015	bike		3	3	6	397	0.76%	1.51%
	ped		3	3			0.76%	
2016	bike		4	4	6	430	0.93%	1.40%
	ped		2	2			0.47%	
2017	bike		6	6	12	387	1.55%	3.10%
	ped		6	6			1.55%	
sub.	bike	1	24	25	51	2,041	1.22%	2.50%
	ped	1	25	26			1.27%	
total		2	49	51				

Source: South Dakota Office of Highway Safety, online Yearly Crash date 2013-2017

In 2013, the City adopted the Aberdeen Master Transportation Plan. Developed as a joint study between the City and the South Dakota Department of Transportation (SDDOT), the plan reviewed available crash statistics (collected between 2009-2011) and identified the following Top Intersection Crash Locations.

The Master Transportation Plan further clarifies that:

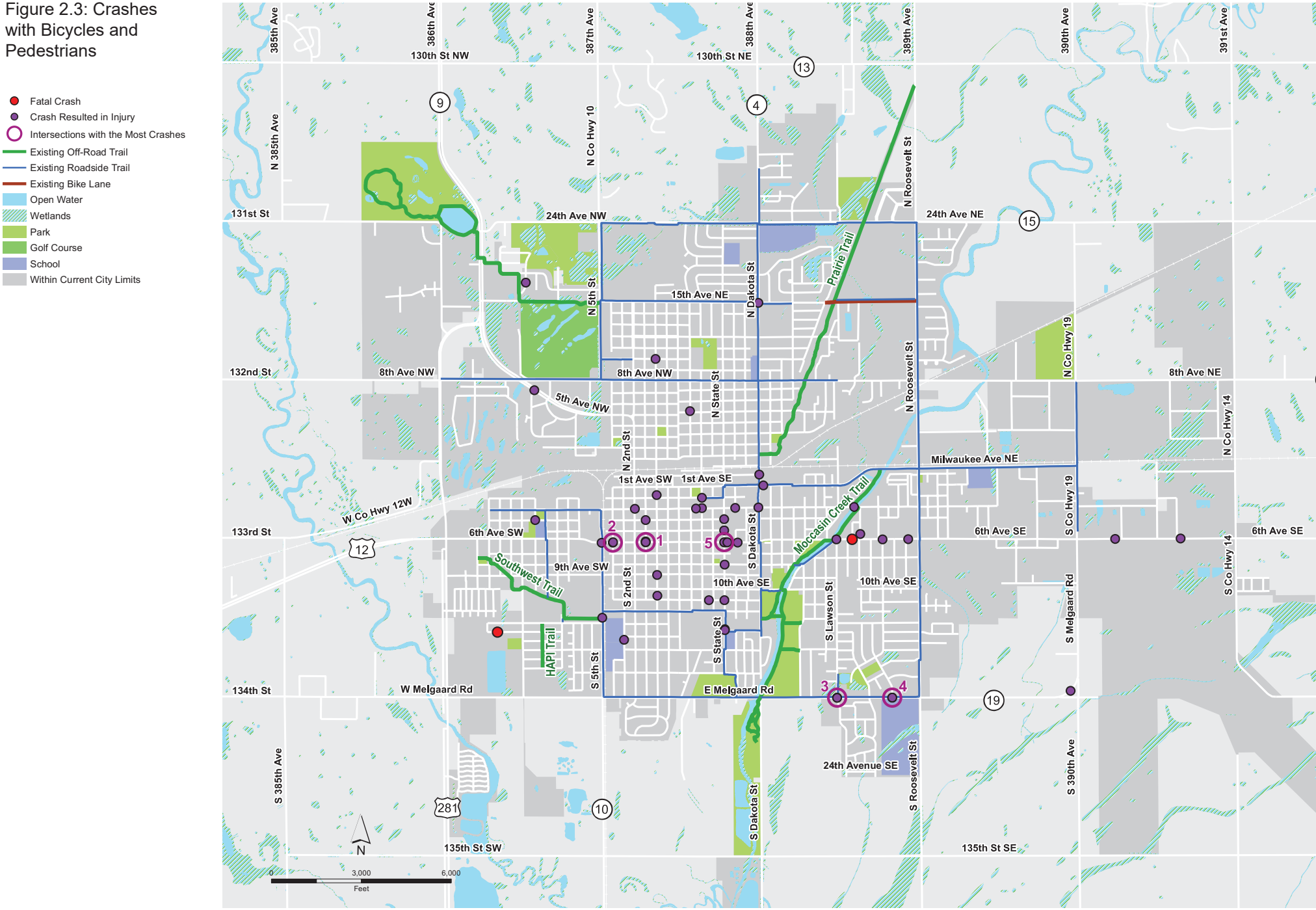
- "Eleven of the top 16 intersections are along US 12 (6th Avenue), with the highest being at the intersection of Roosevelt Street S and US 12, experiencing 37 crashes between 2009 and 2011."
- One crash at US 12 (6th Avenue) & Lincoln Street S, included a conflict between a vehicle and bicyclist.

Table 2.7: Top Intersection Crash Locations

Location	Number of Crashes
US 12 (6th Ave) & Roosevelt St S	37
US 12 (6th Ave) & State St S	31
US 12 (6th Ave) & 2nd St S	29
US 12 (6th Ave) & Lincoln St S	24
US 12 (6th Ave) & Centennial St S	22
US 12 (6th Ave) & Main St S	18
US 12 (6th Ave) & Lamont St S	17
US 12 (6th Ave) & Lawson St S	16
US 12 (6th Ave) & Dakota St S	16
US 12 (6th Ave) & 5th St S	13
US 12 (6th Ave) & 1st St S	12
Roosevelt St N & 8th Ave NE	11
Roosevelt St N & Milwaukee Ave NE	10
Roosevelt St S & 3rd Ave SE	9
Main St N & 8th Ave NE	9
Dakota St S & 1st Ave SE	9

Source: 2013 Aberdeen Master Transportation Plan

Figure 2.3: Crashes with Bicycles and Pedestrians

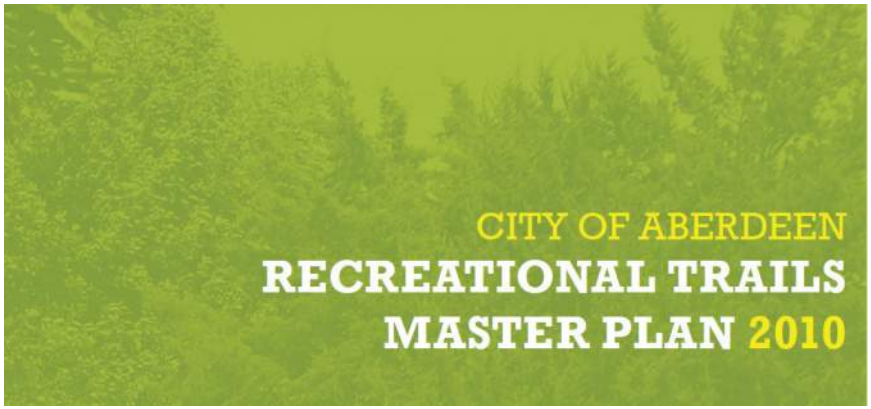


While the crash statistics within the 2013 Master Transportation Plan do not identify the specific number of bicycle and pedestrian collisions, it is noted that two instances of these collisions were reported, one of which resulted in a pedestrian fatality.

EXISTING PLANS

City of Aberdeen Recreational Trails Master Plan 2010

The Aberdeen Parks Recreation and Forestry Department developed and adopted a City-Wide trail master plan in 2010. The purpose of this plan was to provide the City with a comprehensive planning tool to be used during the development of the trail system and is primarily a policy document to be referenced for the maintenance and expansion



of community trails. The plan was intended to serve as a guide for the Aberdeen Park and Recreation Board and Aberdeen City Council in their decisions regarding the location, funding and construction of recreational trails within the City. The plan has been used to coordinate development of trails where the cooperation of two or more governmental entities is required.

The 20-page plan was developed by the Aberdeen Parks, Recreation and Forestry Department, in conjunction with the Aberdeen Trail Committee. The document provides an overview of the history of trail development within the community and profiles existing conditions, prioritizes trail system development, identifies potential funding sources for trail infrastructure, and outlines design standards for trail construction.

1. **Develop a Continuous Trail System**
   - Provide a continuous trail with minimal gaps
   - Provide loops of various lengths
   - Provide a trail system which provides numerous neighborhood connections as well as connections to community Destinations
2. **Make trails functional as a transportation mode**
   - Link trails to significant destinations such as parks, schools, downtown and business centers
3. **Provide a quality trail experience for all users**
   - Develop a variety of different types of trails
   - Plan and develop safe trails
4. **Integrate trails into neighborhoods**
   - Locate trails in such a way that they are accessible to potential users
5. **Make trails safe to use**
   - Maximize visibility and physical access to trails
   - Make all street crossings safe for trail users
6. **Develop new trails as per the approved Trail Master Plan**
   - Follow the prioritization for trail development and update on an annual basis
7. **Improve existing trails**
   - Develop a prioritization plan for improving existing trails and schedule implementation of the improvements
8. **Encourage a partnership between the City, schools, County and other entities**
   - Work with the county, neighborhood groups, schools and business community to foster the development of trails
9. **Provide necessary trail maintenance**
   - Conduct regular inspections of the trail system and identify maintenance needs for trails
   - Appropriate funding to address trail maintenance needs
10. **Promote awareness and benefits of the trail system**
    - Promote the benefits of the trail system and usage including economic, transportation, safety, community image and health.

In Chapter 3 *(Trail System Plan),* the document identifies a trail network that addresses four key considerations: connectivity, design, safety and experience. Based on these factors, ten goals and objectives were identified for the Aberdeen Trail System:

The 2010 Aberdeen Trail Master Plan also outlines a clear Hierarchy of trails to organize trails based on use and location within the overall system. This proposed hierarchy of Primary Trails, Secondary Trails and Spur Trails is as follows:

- **Primary Trails** are those that link major destinations in the City. These trails are generally wider and are designed to carry a greater volume of traffic.
- **Secondary Trails** are the paths within the City that connect areas that feed into the primary trail system. Secondary trails generally have a lower volume of traffic than the primary trails. Secondary trails generally occur in established neighborhoods and areas with low vehicular traffic. These trails may share roadway shoulders with appropriate signage. Secondary trails generally occur in established neighborhoods and areas with low vehicular traffic
- **Spur Trails** are short routes that access points of interest, scenic vistas, school sites or park and recreation areas. The specific locations of these trails have been determined for inclusion in the plan.

Recreational Trails Masterplan (2010)

The plan recognized that a variety of trail types are necessary to address the connectivity needs of the community and established four classifications of trails that could be developed.

Class I. Multi-Purpose Trails

Multi-purpose trails, in many cases, are developed independently of streets and road rights-of-way and accommodate pedestrians, bicyclists, in-line skaters and other non-motorized users. Multi-purpose trails often follow streams, greenways, former railroad lines or utility corridors. This class of trails may be located within street or highway rights-of-way but have a substantial separation from the roadway and interact with traffic very infrequently.

Class II Sidewalk Trails

Sidewalk trails are off-road trails that are typically located within street rights-of-way and are relatively close to the adjacent street. Sidewalk trails are effectively widened sidewalks and have to deal with frequent street and driveway crossings. These traffic conflicts require special design attention to provide safe facilities for a variety of users. Sidewalk trails are often preferred by beginning and intermediate riders who are uncomfortable with mixed vehicular traffic and are often less popular with experienced "vehicular" bicyclists. They are effective at providing trail continuity in places where right-of-way, true multi-purpose trails is either unavailable or unfeasible because of cost, neighboring land use or local opposition.

Class III. Bicycle Lanes

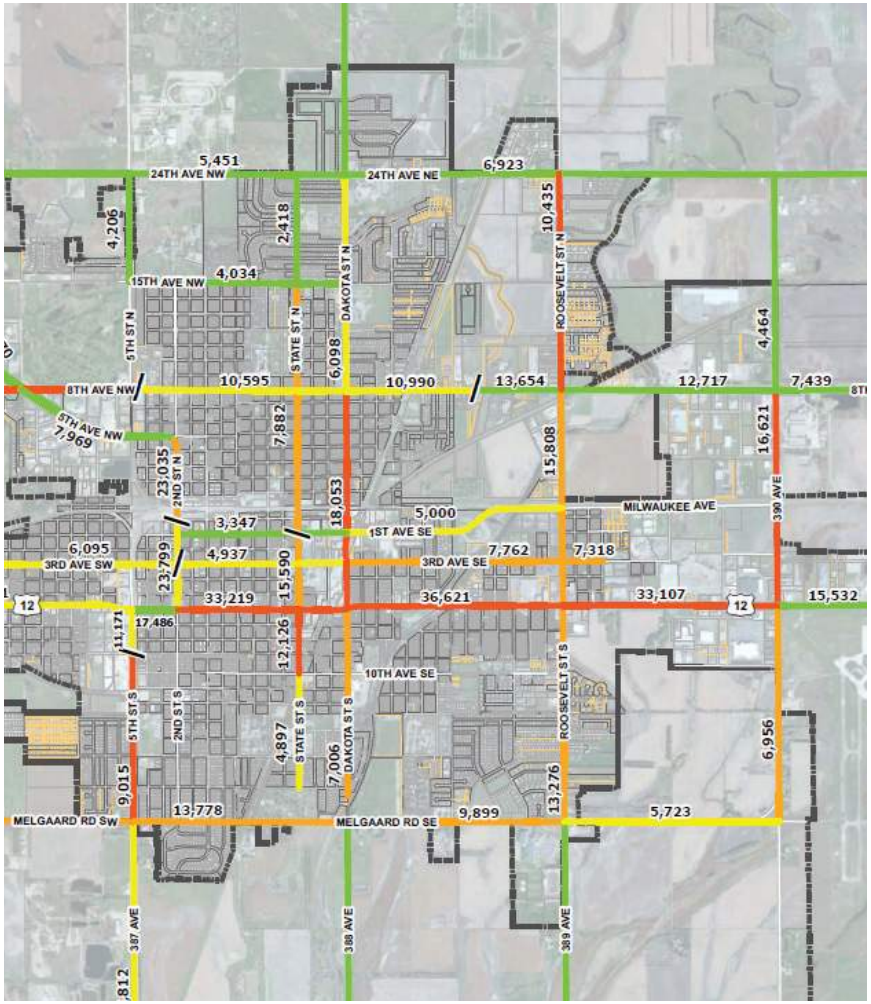
Streets with bicycle lanes provide a specific space for bicycles within the street channel, defined by pavement markings. Bicycle lanes should always move in the direction of traffic and should never produce a counterflow situation unless the counterflow lane is physically and three-dimensionally separated from the flow of motor vehicles. Bicycle lanes are generally employed for on-road routes that connect to major trails or other major destinations.

Class IV. Natural Trails

Natural trails are located in natural undisturbed open space and the trail surface consists of native surface material. The trail width will be determined by the amount and density of surrounding vegetation.

Aberdeen Master Transportation Plan (2013)

In 2013, the City of Aberdeen adopted the Master Transportation Plan. At the time of plan development, the effort recognized that a significant number of bicycle and pedestrian facilities were planned for the community, but that there were significantly underserved areas of the community—particularly along the fringes of the community and along collector and minor arterial routes. As additional non-motorized facilities are considered for the community, the plan recommended development of trails along minor arterials and major collectors.



Excerpt of forecasted traffic volumes from the 2013 report, HRGreen

Numerous goals and objectives in this plan addressed bicycle and pedestrian transportation. These goals and objectives include:

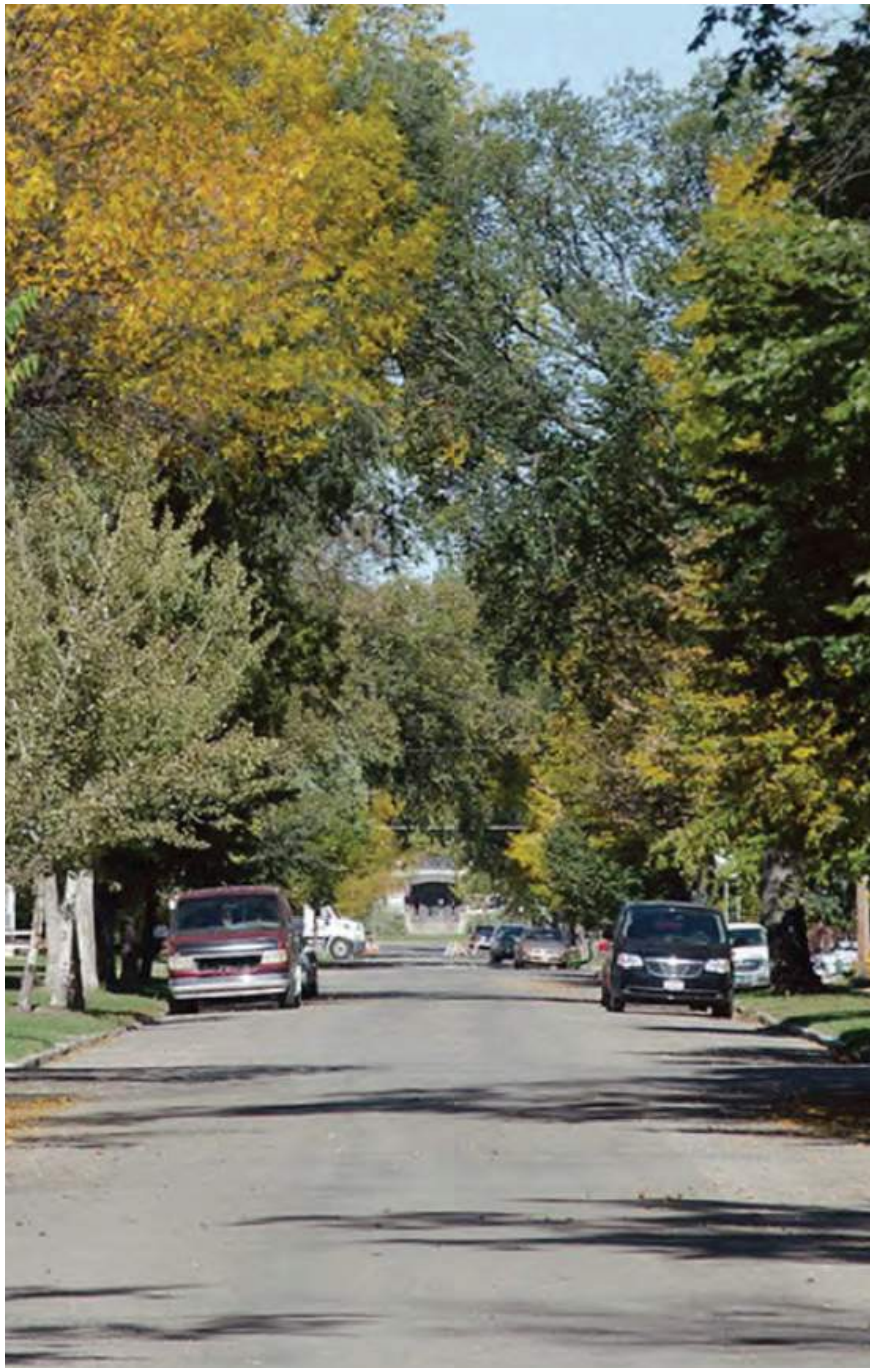
- Provide an interconnected system of paths, trails, lanes and routes that are multipurpose, accessible, convenient and connected to activities centers such as towns, residential neighborhoods, parks, schools, workplaces, major open spaces, and other destinations.
- Form mutually beneficial partnerships with and among the public, cities, and townships and private sector partners to expand and improve the provision of multimodal services and facilities
- Sustain and improve the quality condition and attractive appearance of public areas and facilities with an aggressive maintenance program in order to support and encourage multi-modal transportation.

The plan also identifies the bicycle and pedestrian system improvements to address system connectivity and needs.

2016 Aberdeen Parks, Recreation and Forestry Department Community Survey

The Aberdeen Parks, Recreation and Forestry Department commissioned a community-wide survey in 2016 to determine residents' needs and perceptions of recreation facilities across the City. While this survey solicited input on all recreation facilities (including parks, aquatics, programs and others) it collected specific feedback pertaining to trail development.

- **83%** (or 9,511 households) indicated a need for increased walking and biking trails
- **43%** indicated that walking and biking trails were the most important to their household
- **79%** indicated it was important for the City to develop additional waking and biking trails and connect existing trails
- **35%** of respondents indicated their household was the most willing to fund the development of additional trails and connect existing trails. This response was rated as one of the top four results of the survey.

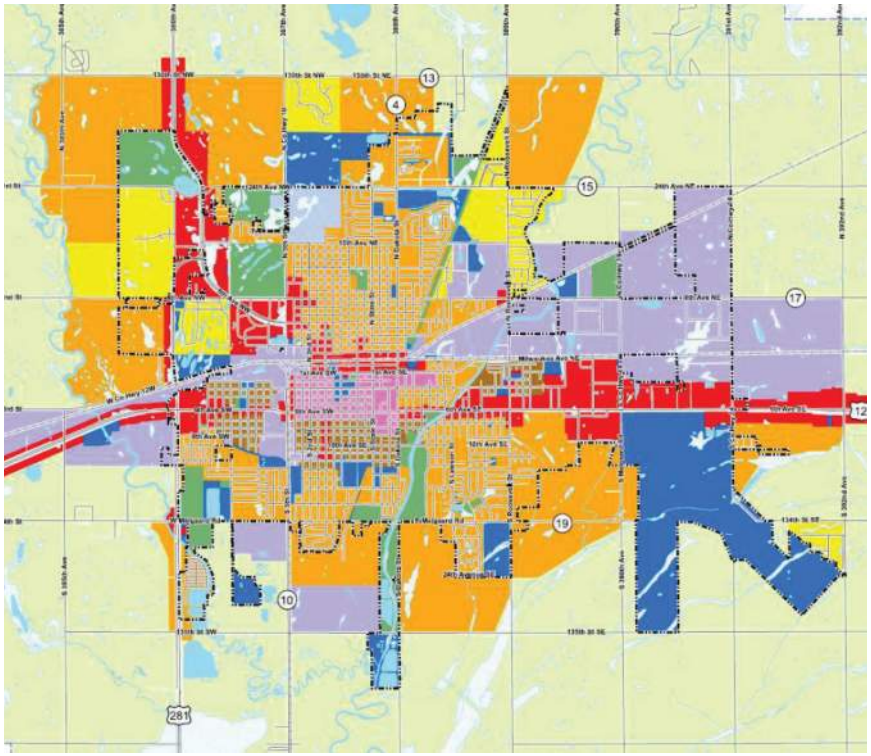


Neighborhood street, Comprehensive Plan

Aberdeen Comprehensive Plan (2018)

Most recently, the City of Aberdeen completed an updated comprehensive plan, which was reviewed by the Aberdeen City Council and is expected to be formally adopted in February 2019. During the course of the 18-month study, all aspects of the community were evaluated, and a number of goals were included in the final plan which pertain to bicycling and pedestrian facilities.

- **Livability and Quality of Life Goal 1:** An Enhanced quality of life adds to the attractiveness of Aberdeen as a place to live and work.
    - QoL-1.3: Facilitate continued development and enhancement of recreation facilities and entertainment opportunities, expanded medical services, quality public safety, and improved property maintenance and appearance
- **Transportation Goal 1:** Provide a safe and secure transportation system.
    - T-1.1: Reduce the incidence of all motor and non-motorized vehicle crashes, with an emphasis on serious and fatal crashes
- **Transportation Goal 5**: Enhance regional alternatives to automobile travel.
    - T-5.1: Promote walking and bicycling as viable alternative modes of transportation
    - T-5.4: Create multimodal connections between bicycle, pedestrian, automobile, and other modes of travel
    - T-5.5: Improve bicycle and pedestrian system accessibility and connectivity opportunities while maintaining safety
    - T-5.6: Improve the awareness and safety of bicycling, and educate both bicyclists and motorists on rules and responsibilities
- **Transportation Goal 6**: Coordinate Transportation Planning with the Natural & Built Environment.
    - T-6.3: Plan for and address multimodal transportation system impacts/sufficiency when planning new developments.



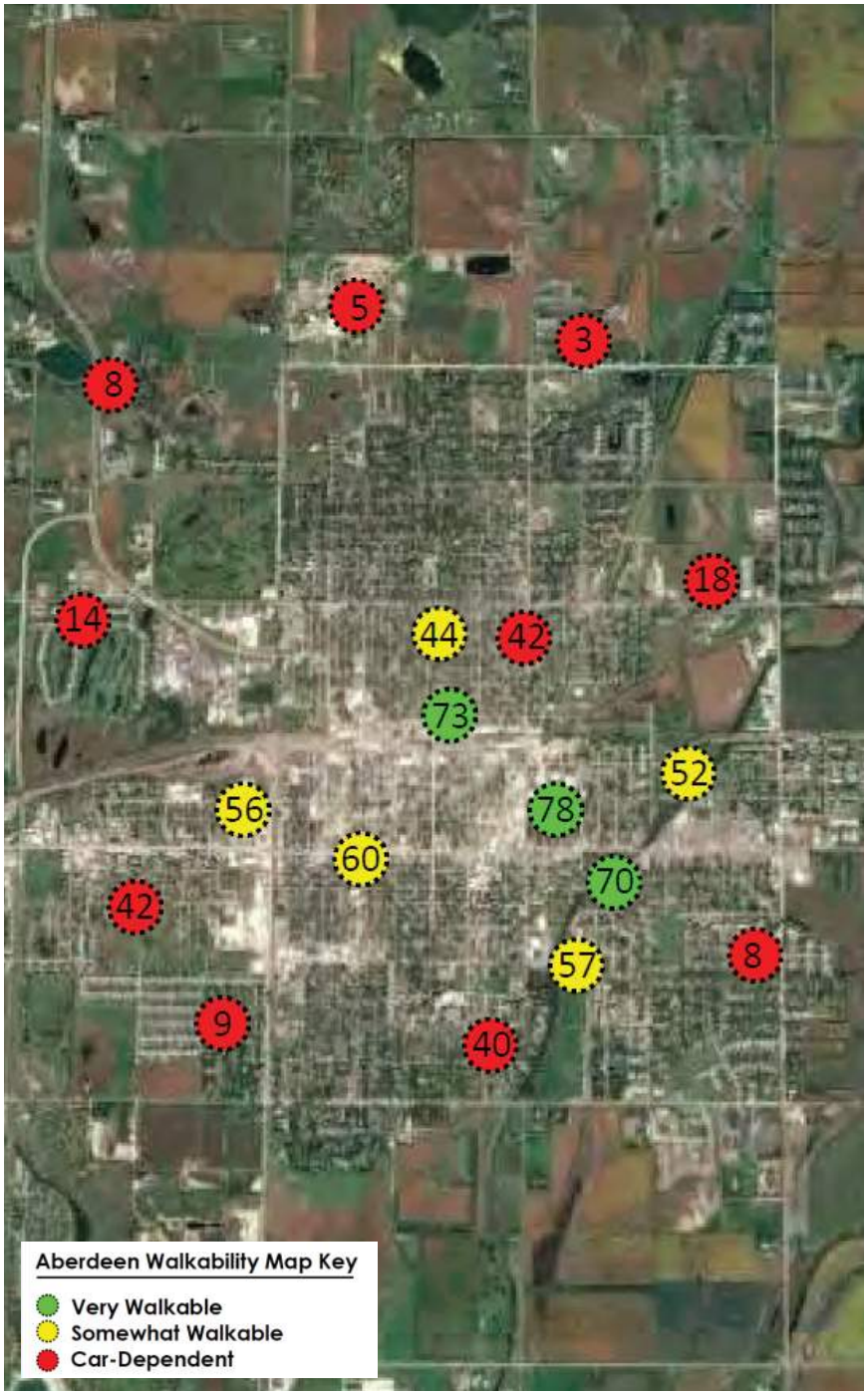
Future Land Use Map, Comprehensive Plan

As a part of the comprehensive planning process, several key transportation issues were identified. Most notably, two general observations pertain directly to bicycling and pedestrian amenities.

1. There is a need for driver education programs to promote safety for bicycles and pedestrians.
2. There is a need for additional bicycle facilities, especially from southwest to northwest part of town.
3. There is a need for better lighting and pavement improvements on streets.

The Comprehensive Plan also evaluated existing walk scores throughout the community. Walk scores (www.walkscore.com) data measures walkability on a scale from 0 to 100 based on walking routes to destinations such as grocery stores, schools, parks, restaurants, and retail.

The average Walk Scores for Aberdeen is 35 with scores ranging from a high of 72 (very walkable) in downtown to single digits (car dependent).



EXISTING ROADWAY AND TRAIL DESIGN AND MAINTENANCE STANDARDS

CITY OF ABERDEEN AND ABERDEEN PARKS, RECREATION AND FORESTRY DEPARTMENT

Sidewalks

Design Standards

The City of Aberdeen is served by approximately 22 miles of sidewalk. All sidewalks are to be a minimum of 4 feet wide and shall be constructed in accordance with City specifications and ADA standards. No sidewalk shall be located closer than three feet to either the edge of pavement or curbline of any street unless otherwise approved by the public works director/city engineer (§48-127).

Development Standards and Capital Expenditures

No building permit for a new residence or commercial building shall be approved unless the building plan includes conforming sidewalks bordering the entire lot proposed for construction (§12-112). Sidewalks must be constructed within 12 months of issuing a building permit and must meet City specifications (§46-127).

Any owner of a replatted lot (after February 9, 2018), shall construct sidewalks adjacent to lots and unimproved public rights-of-way within 5 years of plat filing (§46-127).

Where sidewalks exist on lots adjacent to right-of-way of lots without sidewalks, the City may require owners of lots without sidewalks to construct missing sidewalk links. Consideration of patterns of use or potential use of the right-of-way by pedestrians and vehicles, the proximity of the right-of-way to schools, churches, public facilities, and arterial streets, and any other factors may be deemed relevant by the City Council (§46-127).

The City may cause the construction of a sidewalk if any owner fails to construct the sidewalk, as required by City code, and assess the costs to the owner as provided under SDCL ch. 9-46.

Winter Maintenance Policies

City Ordinance 46-337 requires that property owners keep sidewalks clean and unobstructed at all times. Property owners have 48 hours after a snowfall event to clear their sidewalk of snow and ice. In most areas, property owners shovel snow into the adjacent boulevard or onto their property.

Properties that are not cleared during winter are addressed on a complaint basis by the city. The City of Aberdeen removes snow and ice and the adjacent property owner is assessed for this service.

On-Street Bicycling Facilities

Design Standards

The City of Aberdeen maintains approximately 0.58 mile of bicycle lanes. These are installed on a major collector roadway. Typical bicycle lanes are six feet wide. Travel lanes are generally widened in these areas to accommodate larger vehicles. Right of way and roadway width standards vary throughout Aberdeen and are based on Functional Classification, platted standards, zoning, traffic studies and year in which platted or constructed. The City of Aberdeen maintains requirements for new right of way and roadway widths which are outlined in ordinance 48-127. No standards currently exist in ordinance for bicycle facilities. Determination of future use of right of way and roadway widths for integrated bicycle facilities is investigated on a case by case basis.

Winter Maintenance Policies

Bicycle lanes are cleared of snow on the same schedule as adjacent roadways. Bicycle lanes are often filled with snow and ice buildup and are unpassable in winter months.

Multi-use Trails

Design Standards

Aberdeen is served by approximately 9 miles of multi-use trails. Multi-use trails are typically ten feet wide and designed according to standards set in the 2012 AASHTO Guide for the Development of Bicycle Facilities. Trails are only constructed at widths narrower than ten feet when space is constrained by physical barriers, such as mature trees.

Roadside trails constructed adjacent to collectors and arterials are typically added during construction or reconstruction of these roads. The width of these paths is determined based on the total right-of-way of the road and the space requirements of motor vehicles (travel lanes, turn lanes, medians and parking lanes). When trails are constructed along roadways, they are designed to be a minimum of eight feet wide. Because most roadside trails are constructed adjacent to roadways, standard pedestrian crossing treatments at controlled intersections are generally provided.

Multi-use trails are marked by signs at every trailhead that include a map of the system and trail rules. Longer trails are signed throughout the distance of the trails.

Capital Expenditures

The City of Aberdeen cannot entirely fund trail projects through the city budget. The financial assistance sought through other sources is in the form of grants from the state of South Dakota, Federal agencies or philanthropic organizations.

The City of Aberdeen, through the Parks, Recreation and Forestry Department, may fund trail development. The Park and Recreation Board submits its annual budget request to the City manager in July of each year for the following calendar year. The City Council considers and approves or disapproves requests for funding for capital outlay projects such as recreation trail development.

The Land and Water Conservation Fund is a federal grant program administered by the U.S. Department of Interior. The fund was created by the Land and Water Conservation Fund Act in 1965 to increase recreational opportunities through state and local acquisition and development projects. The fund is administered locally by the South Dakota Department of Game, Fish and Parks. Grants awarded to local governments provide up to 50% funding for trail development projects including land acquisition. Funding for this program has been very limited in recent years.

The U.S. Congress authorizes a federal funding program for highways, highway safety and mass transportation. The highway funding allows for special programs including a trails funding program which provides funds for construction of recreational trails for non-motorized uses. The funds for this program are administered by the South Dakota Department of Transportation. The program provides 80% federal funding.

Private funding sources can be very important to projects that local governments do not consider top priority or are unable to fund completely, no matter what the priority level is. Furthermore, a favorable light is often cast on projects which show they are stretching government dollars by combining them with private dollars. Local private funds can be most important, as they demonstrate community support for the trail project and can often help generate increased community support.

Winter Maintenance Policies

The Aberdeen Parks, Recreation and Forestry Department is responsible for winter maintenance of most of the city's trail network. The agency prioritizes snow clearance near parks facilities (e.g. parking lots and sidewalks) to ensure accessibility to park programming. The second priority are the city's most popular trails, and all trails are maintained in winter.

Sidewalk trails adjacent to roadways are typically maintained by the City of Aberdeen. These are cleared on the same schedule as the adjacent roadway.

3

Outreach & Engagement

City staff gather for a meeting on November 8th, 2018.

Rationale

Public input has been an integral part of the Aberdeen Recreational Trails Plan Study update's success. Therefore, public open house meetings and Study Advisory Team meetings were embedded into the entire process. Through these meetings, the project team was not only able to collect the public's comments and opinions, but also use this feedback to develop a customized bicycle and pedestrian network and implementation plan for Aberdeen.

Study Advisory Team

The Study Advisory Team (SAT) was established by the South Dakota Department of Transportation (SDDOT) and included local partners to provide input on key points of the project and act as champions for future implementation of the study. Representatives from SDDOT, Aberdeen Parks, Recreation & Forestry, City of Aberdeen, Aberdeen Parks Board, Aberdeen City Council, Aberdeen Police Department and Aberdeen Trails Committee were all members of the SAT.

Each SAT meeting started with the reviewing of minutes from the previous meeting. The six SAT committee meetings are summarized in the following sections. Full meeting minutes from each of the SAT meetings are included in Appendix B.

Project Initiation Kick-Off Meeting

The Project Initiation Kick-Off Meeting for the Aberdeen Recreational Trails Plan Update Study was held on August 28, 2018 at the South Dakota Department of Health in Aberdeen and there were 12 attendees.

The main purpose of the meeting was to inform attendees of the project schedule and the scope. The team discussed the community engagement process for the Plan which would involve the project website, surveys, dotmocracy boards, and open houses. It was also explained that the project would include three of the five "E's" of bicycle and pedestrian planning to help Aberdeen achieve designation of a Bicycle Friendly Community.

Methods & Assumptions Review Meeting

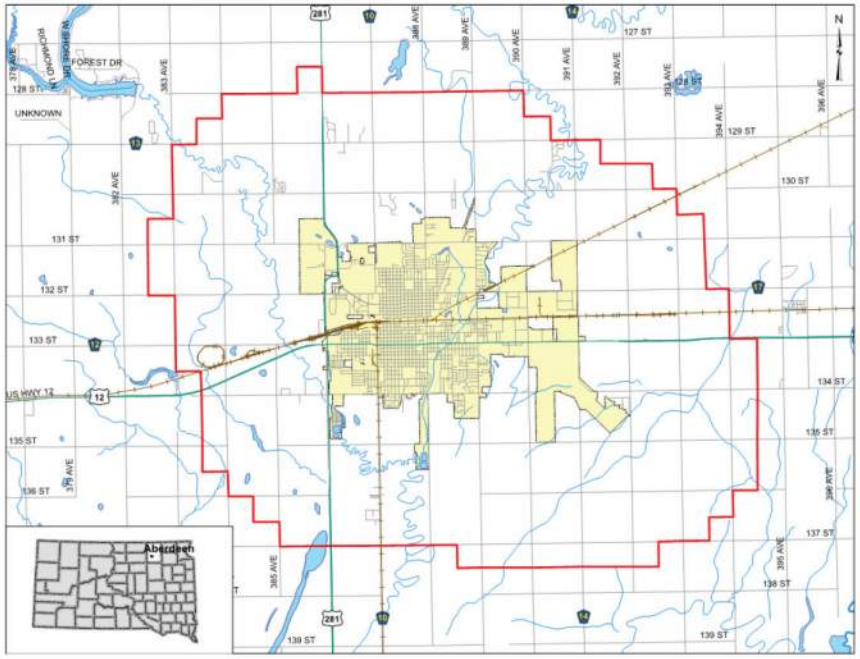
The Methods & Assumptions meeting was held on September 19, 2018 at the South Dakota Department of Transportation's regional office in Aberdeen. There were 12 attendees.

The primary purpose of the meeting was to review the Methods & Assumptions draft document, as required for SDDOT planning projects. Information provided in this document included:

- Introduction and Project Description
- Planning Analysis Years/Periods for the study
- Data Collection and responsible parties
- Traffic Operations Analysis
- Travel Forecasts
- Safety Issues
- Selection of Measures of Effectiveness

Following the review and suggested edits of the Methods & Assumptions document, the SAT reviewed "Big Picture" planning discussion items regarding the perceptions of bicycling and walking in the community. These questions included:

- *What are current community perceptions of on-street bike lanes and off-street recreational trails?*
- *What community perceptions and growth impacts influence current bicycle and pedestrian activities?*
- *League of American Bicyclists—How will the City achieve Bronze designation, who will lead the process?*



The project study area, including the City of Aberdeen and its planning area. From the Methods and Assumptions document.

The meeting concluded with a discussion regarding the scheduling of November Stakeholder meetings and Community Open House #1. Identification of community points of contact, advertising logistics and coordination of project website, online survey and dotmocracy exhibits was also covered.

Study Advisory Team Meeting #3

The third SAT meeting was held on January 29, 2019 at the Aberdeen regional office of the South Dakota Department of Transportation. Fourteen participants were in attendance and the discussion was initiated with a recap of the planning process and overview of key milestones.

This was the first opportunity for the SAT to reconvene, following the first round of stakeholder meetings and community open house held in November. The consulting team presented a stakeholder engagement memo, which summarized the result of all community outreach activities and initial recommendations for the trails plan.

The SAT also reviewed the proposed Draft Vision and Goals for the study, which was a direct reflection of community feedback and direction provided by members of the SAT.

In addition to these items, the following discussion items were also covered:

- Overview of planned trail network as proposed by community stakeholders and the planning team
- Review of the prioritization process and methodology that will be utilized to develop an implementation strategy
- Discussion of need for Education, Encouragement and Enforcement initiatives and overview of potential ideas
- Clarification of wayfinding preferences to provide guidance as this aspect of the plan is developed

A wayfinding concept from Confluence presented at SAT Meeting #3

Study Advisory Team Meeting #4

The SAT met for a 4th meeting on March 6, 2019, which also coincided with an update on the status of the planning study, by the consultant team, to the Aberdeen Parks Board. The SAT meeting was held at the Aberdeen regional office of the South Dakota Department of Transportation and thirteen participants joined in the discussion.

The priorities for discussion during this meeting were final approval of the trail framework plan and an overview of the recommended trail implementation priorities.

An introduction was provided to the SAT, which outlined the methodology and criteria that were employed to identify segments for prioritized implementation. While the consultant team reviewed this technical approach in detail, it was also discussed that technical evaluation does not always consider community preferences and nuances that may impact trail development. Final prioritization recommendations will lean heavily on SAT and community input.

The consultant team also reviewed recommended design guidance for the implementation of trail facilities and presented this information to the SAT.

Three wayfinding concepts were also shared with the SAT, for which input was provided to guide final development and assembly of preliminary cost estimates.

The meeting concluded with a discussion outlining examples of possible Encouragement and Education initiatives that may be further developed as the study is finalized.

Study Advisory Team Meeting #5

The fifth SAT meeting was held on April 30, 2019 at the Aberdeen regional office of the South Dakota Department of Transportation. This meeting coincided with the second round of stakeholder meetings and community open house #2. Nine attendees were present and participated in this discussion.

The purpose of this meeting was to review the final recommendations for the prioritized network, trail loops and wayfinding elements.

Proposals for Education and Encouragement initiatives were also reviewed, and feedback was provided by the SAT for consideration into the final study.

Feedback from community stakeholder meetings and review of final steps in the planning process rounded out the discussion of this meeting.

Study Advisory Team Meeting #6

The sixth and final SAT meeting was held on July 3, 2019 to review the final draft of the Recreational Trails Plan. The purpose of this meeting was to receive final recommendations for edits before presentation before the Aberdeen Park Board and the Aberdeen City Council for acceptance.

Community Open Houses

There were two public open house meetings held throughout the duration of the project: one meant to serve as a kick-off to the project, identifying issues and opportunities for bicycling and walking in the area, and the second to review key aspects of the Draft Plan. Both open houses are summarized in the following sections. Full summaries of the open house events are included in Appendix C.

Open House 1

The first public open house meeting was held on November 7th, 2018 at the Aberdeen Recreation and Cultural Center in the Eagle's Nest. Over 40 people attended the workshop and gave input on bicycling and walking in Aberdeen. Meeting attendees provided feedback through comment cards, describing their comfort level on different facility types, identifying desired routes and destinations, and conversing with staff to identify other important issues. Some of the key questions public meeting attendees were asked to explore included:

- What are current experiences and issues along roads in Aberdeen?
- Where are preferred future routes?
- Which types of facilities are most comfortable for bicycling and walking?
- Which types of facilities will encourage more bicycling and walking in the future?

The meeting was arranged around six different interactive stations which educated attendees about the upcoming plan and asked for feedback on preferred routes and different facility types. The five stations included:

1. Welcome: This station included a sign-in area, and included handouts about the plan
2. About the Aberdeen Recreational Trails Plan Study Update: This station provided background information about the plan and process
3. Comfort Continuum: This station allowed participants to rank their perceived comfort of different bicycle and pedestrian facilities and state if that facility would encourage them to walk or bike more. This activity was the in-person version of the online survey
4. Routes I would Ride: This station allowed participants to draw on a map the routes they would like to bike in Aberdeen. This activity was the in-person version of the wiki-map online
5. Routes I would Walk: This station allowed participants to draw on a map the routes the would like to walk in Aberdeen. This activity was the in-person version of the wiki-map online.

In addition to the interactive stations, meeting attendees were also able to listen to a detailed presentation about the planning process, project schedule, and objectives of the plan.

Open House 2

On Tuesday, April 29th from 5:00 to 8:00pm, the SDDOT hosted the second public open house for the Recreational Trails Plan Study Update at the Aberdeen Recreation and Cultural Center in the Eagle's Nest. Fourteen people attended the open house and gave input on the draft plan. Meeting attendees provided feedback through verbal Q&A, comment cards, online/website comments, and conversing with staff.

Meeting attendees were presented the process and results of the Plan, through a presentation and a series of maps where they could provide specific input and suggested revisions to the proposed trail framework. They were asked to provide their comments and questions on changes that should be made to the Draft Plan recommendations before final development and review by the SAT.


Where are destinations and barriers for walking in Aberdeen?
Aberdeen Recreational Trail Plan

The presentation that was provided to attendees included a detailed overview about the planning process and contents of the plan. The presentation addressed:

- Plan process and updates
- Community engagement and results of survey, website, and open house 1
- Vision and Goals of the plan
- Determining the proposed bicycle network
- Priorities for Education and Encouragement
- Next steps in the process

Stakeholder Meetings

November 2018 Stakeholder Meetings

On Wednesday November 6th and Thursday November 7th, ten separate stakeholder meetings were held to solicit input from various sectors of the community regarding bicycling and pedestrian facilities development. Each stakeholder group was identified in collaboration with the SAT, and email invitations to participate were solicited directly to points of contact from each local organization. Over the course of the two-day process, the planning team met with more than 50 representatives of the community from the following sectors:

- Business Community
- Aberdeen Park Board
- Higher Education institutions
- Aberdeen Schools (public and private)
- Running and Bicycling Advocacy groups
- Health & Wellness representatives
- Brown County
- Emergency representatives; Parks, Recreation and Forestry Department staff, City staff
- South Dakota Department of Transportation Aberdeen Area Office

Informal, round-table discussions were facilitated during these meetings and the planning team was available to provide a brief overview of the project and to receive input and feedback on the existing recreational trail system as well as ideas for ways in which it can be improved and ways to increase participation from the community. Notes from these meetings have been compiled and are included in Appendix C.

April 2019 Stakeholder Meetings

On Monday afternoon, April 29th, three combined stakeholder meetings were held with similar stakeholder groups from earlier in the planning process. The purpose of the second round of stakeholder meetings was to present the preliminary trail framework plan and review proposals for education and encouragement initiatives. Email invitations to participate were solicited directly to points of contact from the list of attendees who participated in Phase 1 stakeholder discussions. Over the course of the afternoon, the planning team met with more than 25 representatives of the community from the following sectors:

- Business Community; Parks, Recreation and Forestry Department staff, City staff
- Higher Education institutions, Aberdeen Schools (public and private), Emergency representatives
- Running and Bicycling Advocacy groups

Similar to previous stakeholder meetings to solicit input, informal discussions were facilitated by the planning team and participants provided input on additional trail connections and ideas to improve education and encouragement initiatives throughout the community. Notes from these meetings have been compiled and are included in Appendix C.

Online Engagement

Project Website: www.aberdeentrailplan.com

Throughout the duration of the project, a project website was active to educate the public about the project and provide an opportunity for the public to ask questions and give feedback. The website also hosted an online mapping application (wiki-map) which allowed users to identify routes they would like to walk or bike and drop pins for local destinations and barriers. Throughout the duration of the project, the website received close to 1,000 unique views.

Comfort Survey

The project website also linked to an online survey intended to understand which facility types were preferred for pedestrians and bicyclists in Aberdeen. Survey participants were asked to rank different facility types as more or less comfortable to use and whether building that facility would encourage them to walk or bike more. In total more than 430 community members completed the survey.

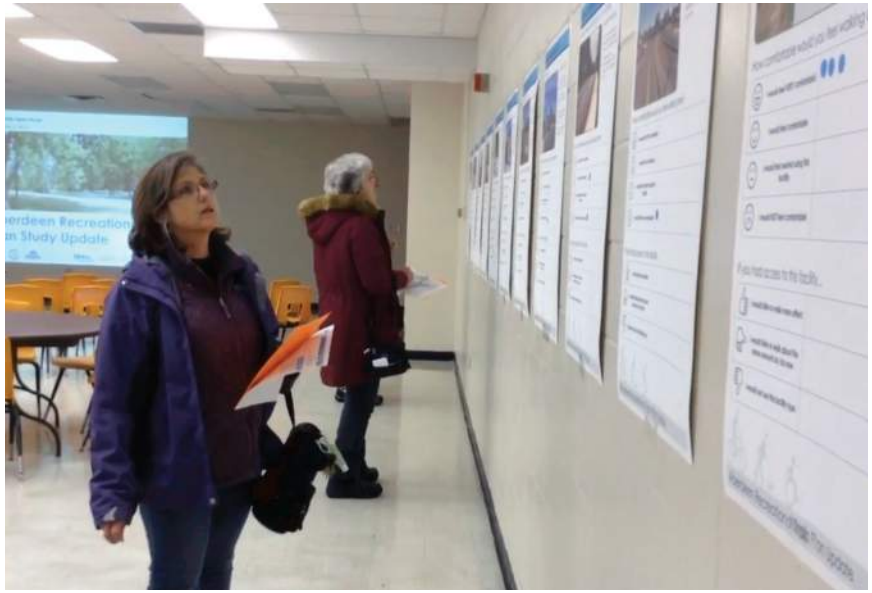
The online survey platform was optimized for desktop and smartphone devices.

Community Kiosks

Prior to the first open house, kiosk voting was available at numerous public locations throughout Aberdeen. These kiosks included a board with dots, allowing the public to share which bicycle and pedestrian facilities they felt most comfortable using. Community Kiosks were placed at the following locations:

- Aberdeen public Library
- YMCA
- Aberdeen Recreation and Cultural Center (ARCC)
- City Hall
- Red Rooster
- Boys & Girls Club
- Northern State University
- Presentation College

Each location hosted the public input materials for a time period of approximately one week and, overall, collected more than 100 responses from the public at-large.



Meeting attendees provide input using the Comfort Continuum, an analog version of the online survey.

Findings via "Comfort Continuum" Station and Online Survey

Participants used dots to mark their perceived comfort on different bicycling and walking facility types. Participants were then asked if this facility was available, would they choose to walk or bike more. Figure 4 illustrates an example of one of these boards.

This activity included 13 different facility types.

Bicycling Facilities:

1. Off-road Trail
2. Protected Bike Lane
3. Traditional Bike Lane
4. Buffered Bike Lane
5. Side Path
6. Unmarked Route (low traffic)
7. Signed Route

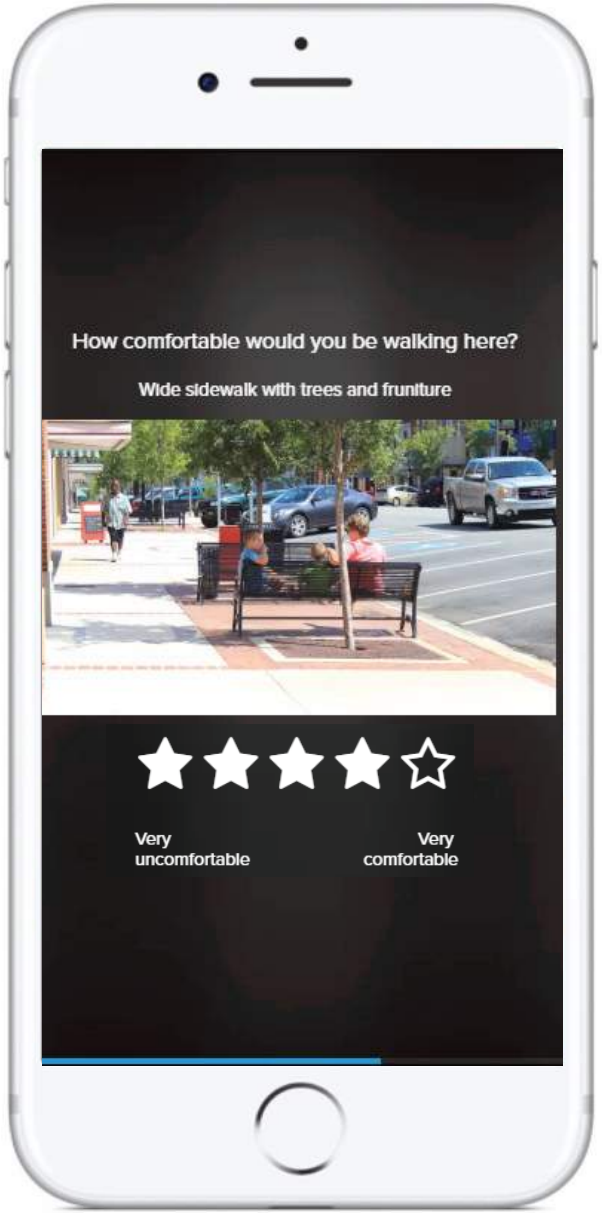
Pedestrian Facilities:

8. Sidewalk with Furniture Zone
9. Sidewalk with Boulevard
10. Sidewalk without Boulevard (low traffic)
11. Sidewalk without Boulevard (high traffic)
12. Crosswalk with Median
13. Traditional Crosswalk

Generally, facility types that are separated from traffic, such as protected bike lanes and off-street trails are considered the most comfortable and most likely to generate additional biking and walking in the community. Facilities that are least comfortable do not prioritize bicyclists and pedestrians, including signed routes. It is important to note that, typically, the facilities that were viewed as the most comfortable were also the most likely to encourage more biking and walking.

This activity was repeated in an online survey, which attracted 430 participants from across Aberdeen. Of the 420 residents who began the survey, results collected 315 complete responses. Survey participants were asked to score their perceived comfort and likelihood of using different pedestrian and cycling facilities. Participants were also asked to share how often they bike and walk and their knowledge of traffic laws.

The comfort continuum activity was also repeated at eight kiosks in high-traffic locations throughout Aberdeen. Over a timespan of six weeks, kiosks were hosted at the Aberdeen Public Library, YMCA, ARCC,



A screenshot from the online survey, which was desktop computer and smartphone enabled

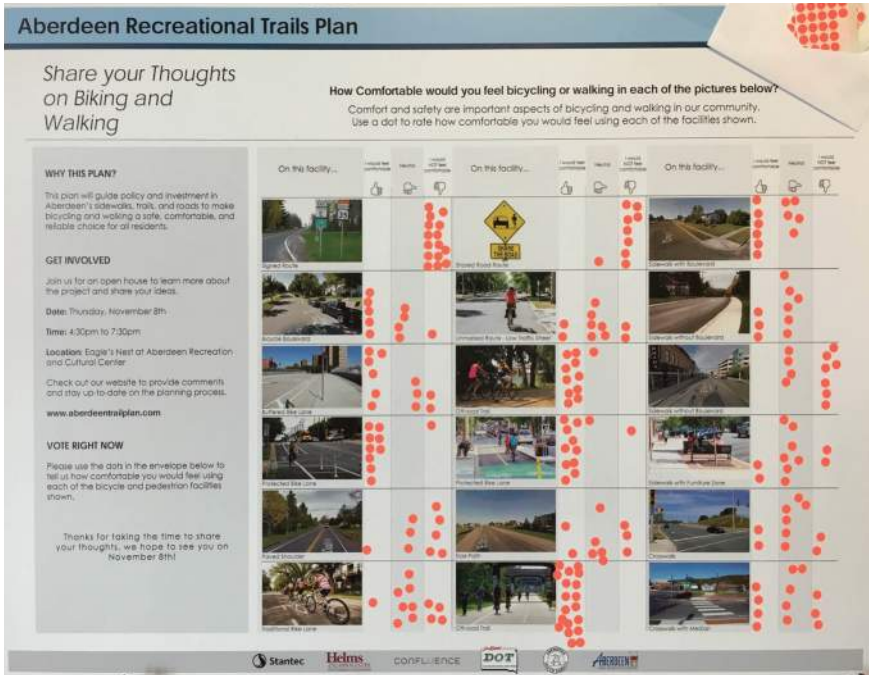


Figure 4: Large kiosk boards were displayed around town. Passers-by provided input by placing dots to indicate preferences

All three activities identified separated facilities, such as protected bike lanes and sidewalks with boulevards or furniture zones as the most comfortable and likely to encourage new users. A summary of survey and comfort continuum results is provided on the following page. The important thing to consider with each of these rankings is that context matters for perceived safety and future facility use.

Best to worst ranked facilities via survey

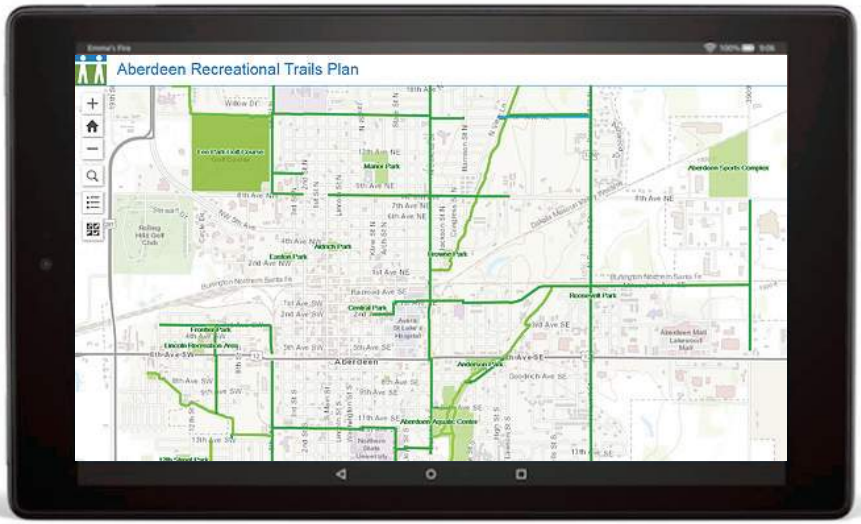
Findings via "Routes I Would Ride" Station and Wiki Mapping

In the Routes I Would Ride Station and Routes I would walk station; open house participants were asked to identify barriers to bicycling and walking in Aberdeen and new routes they would prefer to ride. Common barriers included dangerous intersections and crossing, trail maintenance, and roads lacking shoulders to bike in. Participants (both cyclists and pedestrians) identified additional north/south routes in the western part of Aberdeen along as a preferred route, as well as an uninterrupted trail loop configuration around the perimeter of the city.

The public was also able to identify barriers and preferred routes online through the project GIS map This process allowed the public to tag routes and comment on issues they have experienced. All comments from the public open house and wiki mapping process have been documented and incorporated into a new preferred route map which will guide the planning process. Common themes for additional routes include:

- Increased Access to commercial district on 6th Ave, improved safety
- Continuous trail loop around perimeter of City, connections to Wiley Park, outlying housing parks and golf courses, improved safety for nearby residents
- Additional connections and increased safety in downtown Aberdeen
- North/South connection on the west edge of Aberdeen
- Increased connectivity on Melgaard
- Improved safety for intersections with 6th Avenue at:
    - State Street
    - 1st Street
    - 4th Street

Residents provide input on preferred walking and bicycling routes at the open house.



A screenshot from the online Wiki Mapping platform

Additional Comments

General comments were solicited at the public open house through comment cards and were solicited online through the project website and comfort continuum survey. Participants were prompted to comment in two areas: What are the challenges you face when biking and walking in Aberdeen, and what do you hope to see in the future for biking and walking in the community.

All these comments can be divided into different general themes pertaining to: **Engineering**, **Encouragement**, **Education** and **Enforcement**. These themes and a representative comment for each are listed in the appendix.

4 Bicycle and Pedestrian Trails Network

List of Figures

DEVELOPING THE FUTURE BICYCLE AND PEDESTRIAN NETWORK

The 2013 Aberdeen Master Transportation Plan (MTP) served as a jumping off point for developing an updated Recreational Trails plan to address the current and future needs of the community. Based on the bike and pedestrian network in the MTP, new connections and routes were identified to complete the network during this plan development.

The new connections for this study were determined by several factors. First, an extensive effort was undertaken to gather public input. Through a series of data gathering opportunities—wikimap survey, online surveys, website comments, dotmocracy voting and feedback during stakeholder meetings and public open houses—new potential connections were identified. These routes were based on existing bike routes, routes the pubic would like to ride in the future, and barriers that would have an impact on safety, equity, accessibility, and demand. The new connections were then compared with the existing ones in the MTP to identify the elements beyond the planned system. These elements were evaluated with spacing and connectivity criteria in relation to the planned system and community destinations to determine additions to the MTP network. Finally, the Study Advisory Team (SAT) reviewed a draft of the planned network and identified additional connections for a full build-out network that would further connect both existing and planned facilities.

The full existing and planned network is illustrated in Figure 4.1.

The next step was to evaluate the priorities of individual connections and critical intersections for the entire planned network. Based on discussions with the SAT, it was determined that all segments should be divided into one of two categories: roadside trails and off-road trails. Due to the separate jurisdictional oversight of the Aberdeen Parks, Recreation and Forestry Department and the City of Aberdeen (as well as differing funding opportunities available for each of these categories) the SAT determined that each of these groups should be analyzed independently, using similar criteria, to establish implementation priorities.

Evaluation methodology was developed to assess each group of connections in categories of safety, equity, accessibility and demand. These categories for evaluation and prioritization were a direct correlation to the vision and goals that were developed for this plan. Before the criteria were applied to the network, it was necessary to understand the characteristics of individual connections in terms of functional classification and regional location.

Pedestrian improvements are not illustrated in the planned network map. However, based on community and stakeholder feedback, SAT members valued the existence of a complete and well-maintained sidewalk network in Aberdeen. Policy tools to advance sidewalk connectivity and construction are discussed in Chapter 6- Policies & Programs. Additionally, existing bike/ped crash data was analyzed to identify the five highest impacted intersections for review of potential safety improvements. An overview of this intersection analysis is discussed further in Chapter 7- Implementation.

ROUTE PRIORITIZATION

Methods

Despite the desire to build a totally integrated bicycling and pedestrian network, route prioritization is important to an effective implementation of the network. By evaluating the proposed on-street and off-road segments, we can determine which routes will balance accessibility, safety, demand, and equity. In evaluating routes for prioritization, the project team considered the entire length of the route which was defined as an on-street facility or an off-road trail, not a sidewalk. Aside from a few key differentiators, elements considered in the score were very similar.

Overall, evaluation criteria included: collision history, context and suitability, and potential of completion for a full-loop trail route.

The accessibility and mobility scoring addressed network connectivity and physical barriers (railroad, bridges and arterials). Network demand addressed destinations served, community acceptance and input through this process. Each segment was scored 0-5 based on these criteria, with the highest potential score being 25. When each route was scored, the total score was then divided by the length of the route to eliminate bias toward longer routes. The analysis and ranking of each group of routes- on-street and off-road- are included in Figure 4.2. The overall ranking, within each of these groups, are illustrated by percentage increments.

The network connections were divided into categories of arterial, collector and local connections and then individual segments were identified for analysis based on further investigation of their locational characters. This established analysis methodology was applied to all the individual segments within the proposed trail framework. The top priority segment ranking is illustrated in Figure 4.3.

Existing percentage of trails to roadway, within the City of Aberdeen, is currently calculated to be 9.8%. With the full-build out of the bicycle and pedestrian trails framework (both roadside and off-road), and considering the future growth boundaries for the City of Aberdeen, estimated future percentage of trails to roadway is calculated to be 25.86%.

In bicycle and pedestrian planning, equity evaluation (access to children, older adults and population in poverty) is also included in the prioritization methodology. US Census block data is typically utilized to assess this criterion however, available census information for the City of Aberdeen (and this specific study area) was not available to adequately evaluate this measure. This can be attributed to the overall population of the community, as compiled by the most recent Census information. To address equity considerations, the study team relied on input from SAT members to evaluate connectivity for this context.

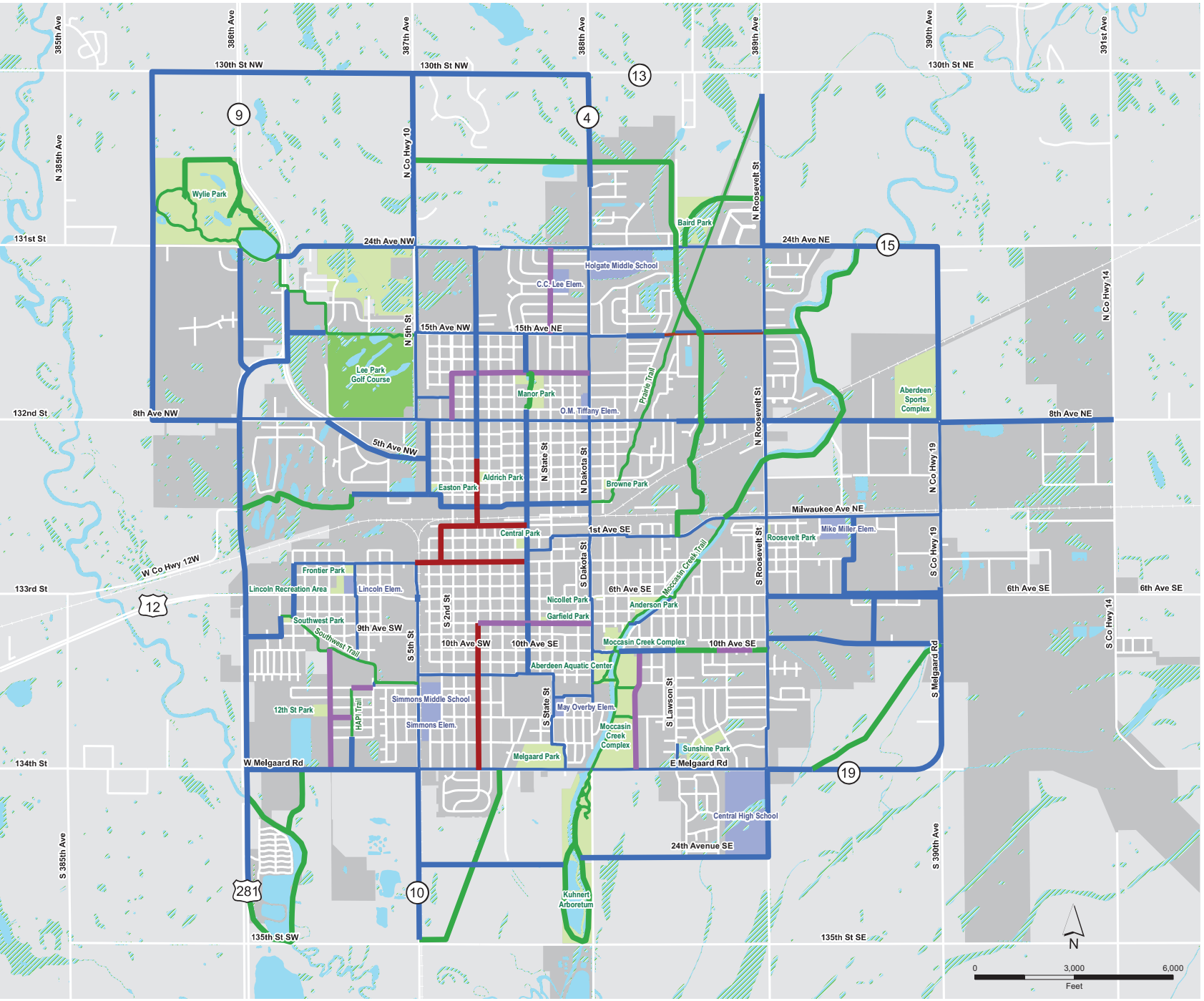
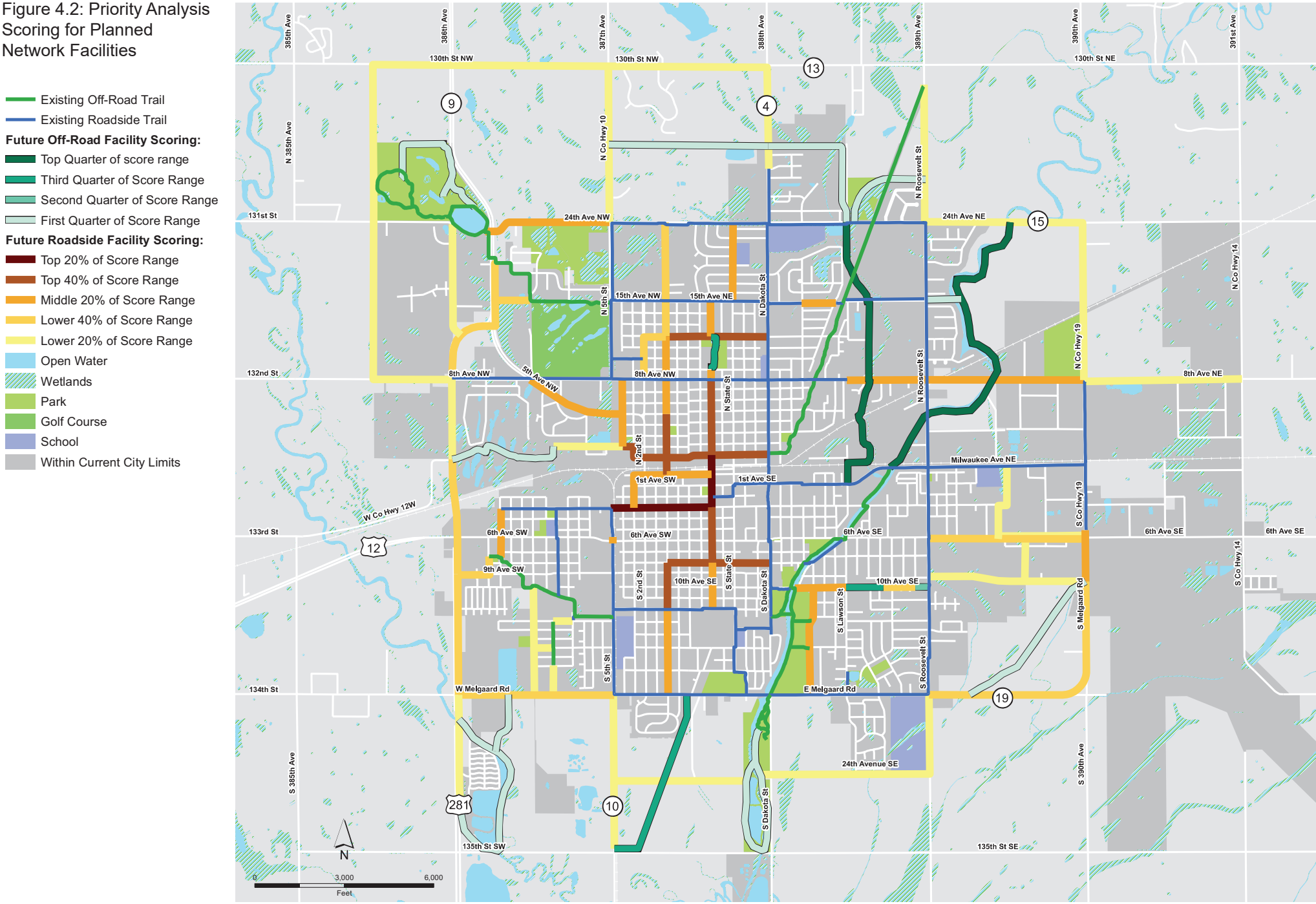


Figure 4.1: Planned Bicycle and Pedestrian Network

- Existing Off-Road Trail
- Existing Roadside Trail
- Existing Bike Lane
- Future Off-Road Trail
- Future Roadside Trail
- Future Bike Lane
- Future Designated Bike Route
- Park
- Golf Course
- School
- Open Water
- Wetlands
- Within Current City Limits

Figure 4.2: Priority Analysis Scoring for Planned Network Facilities



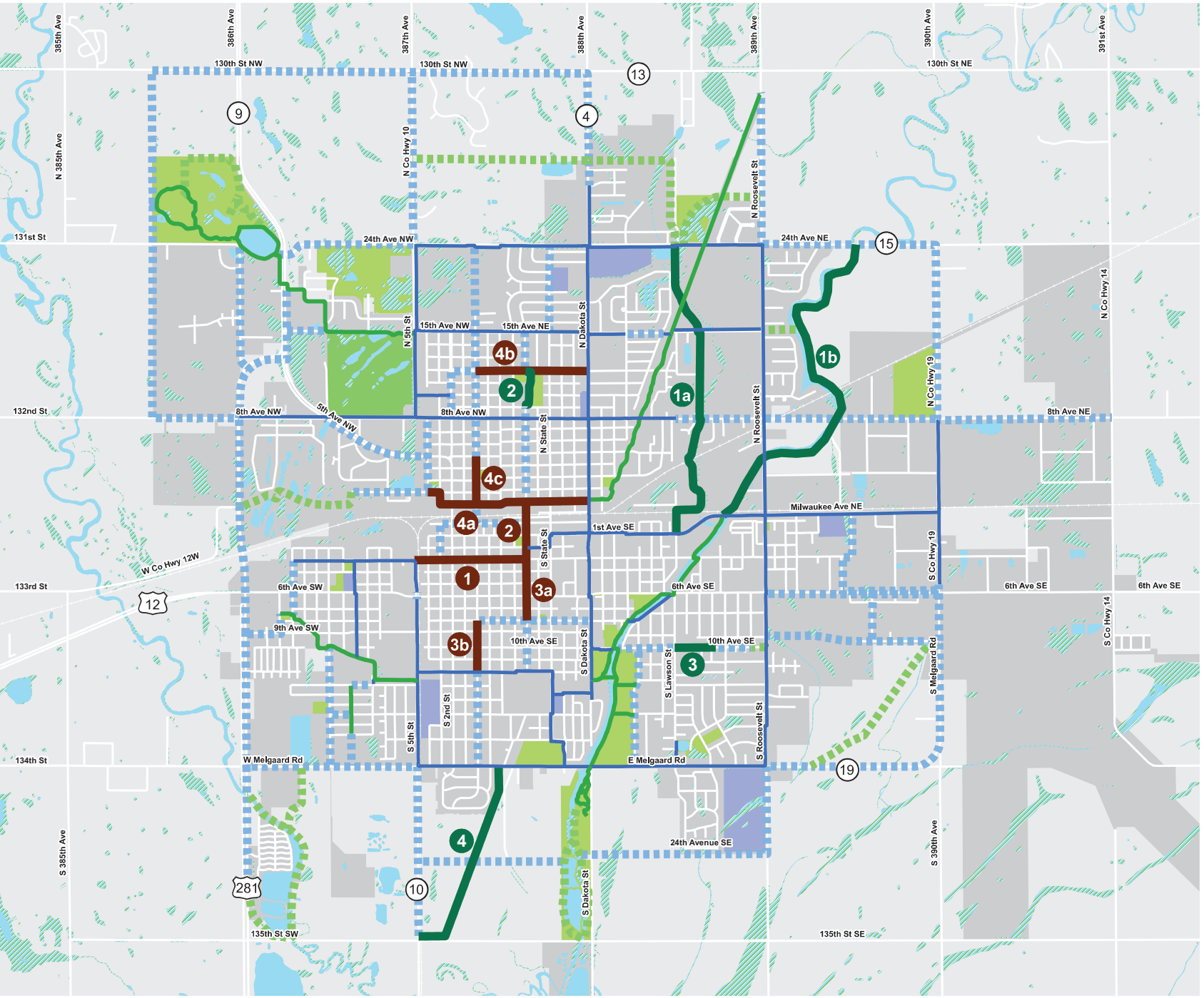


Figure 4.3: Top Priority Segments of Planned Network Facilities

- Existing Off-Road Trail
- Existing Roadside Trail
- Top Priority Future Off-Road
- Top Priority Future Roadside
- Other Future Off-Road Trails
- Other Future Roadside Trails
- Open Water
- Wetlands
- Park
- Golf Course
- School
- Within Current City Limits

PRIORITIZED ROUTES

Once a selection of potential routes and intersections was determined, each route and intersection were given a score based on the evaluation criteria mentioned earlier. The top ranked on-street and off-road trails (as illustrated in Figure 4.3) include:

On-Street Routes:

- **1:** 3rd Avenue SW/SE between S. 5th Street & S. Kline Street
- **2:** N/S Kline Street between 1st Avenue NE & 3rd Avenue SE
- **3a:** S. Kline Street between 3rd Avenue SE & 8th Avenue SE
- **3b:** S. Main Street between 8th Avenue SE & 12th Avenue SE
- **4a:** 1st Avenue NW/NE to N 3rd Street to 2nd Avenue NW
- **4b:** 12th Avenue NW/NE between N. Main Street and N. Dakota Street
- **4c:** N. Main Street between 1st Avenue NW/NE and 5th Avenue NW/NE

Off-Road Routes:

- **1a:** Levee between 1st Avenue SE and 24th Avenue NE
- **1b:** Moccasin Creek between Milwaukee Avenue SE and 24th Avenue NE
- **2:** Manor Park (N. Kline Ave. extension) between 12th Avenue NE and 9th Avenue NE
- **3:** Farm field (at 10th Avenue SE) between S. Lawson Street and S. McCoy Street
- **4:** Vacated rail corridor between E. Melgaard Rd and S. 5th Street at 135th Street

These top routes, within each category, are further evaluated within Chapter 7- Implementation that includes the recommended facility type for the routes and opportunities and challenges to be considered as the top five routes and intersections are programmed and implemented.

Because this plan is intended to address long-term connectivity of the Aberdeen community, a comprehensive map of each segment, and recommended facility type, is included in Figure 4.4. A prioritization table, which includes a description for each of these corresponding segments, is provided and discussed in Chapter 7- Implementation.

DETERMINING APPROPRIATE BICYCLE FACILITIES FOR FUTURE ROUTES

Through public input, we were able to identify the bicycle facility types that individuals within the Aberdeen community are most comfortable utilizing. This plan included the development of a Bicycle Facilities Selection Framework (Table 4.1) that will serve to assist the local jurisdictional entities in selecting an appropriate bicycle facility type for all the planned future routes as they are programmed and implemented. Initially, we utilized the framework to recommend bicycle facilities for all the network routes.

A suitable bicycle facility type depends on the context. The Bikeway Selection Framework, consistent with national and international guidance, was used to identify preferred bicycle and pedestrian facilities. The selection framework can be used in numerous ways to select and evaluate trail types in the design process.

- If a street has been selected for a bikeway, the framework can help identify candidate bikeway facilities for that street.
- If a bikeway facility (e.g. separated bike lane) has been selected, the framework can help identify candidate streets with suitable conditions for that facility type.
- If a bikeway facility has been selected for a street, the framework can help identify what the target motor vehicle speed on that street should be. This can be used to allocate traffic calming measures and enforcement resources.
- The framework can be used to evaluate if an existing bikeway facility remains suitable for prevailing conditions based on motor vehicle traffic speeds and volumes.

Research has shown that motor vehicle speed and volume are key considerations in identifying a suitable bikeway facility based on people's level of comfort. Higher motor vehicle speeds require increased separation for the safety and comfort of people cycling, while higher motor vehicle volumes increase the number of potential conflicts. The type of conflicting traffic can also impact the suitable bikeway type: streets with more trucks and buses may also warrant different infrastructure. Bikeway facility selection criteria are summarized in Table 4.1.

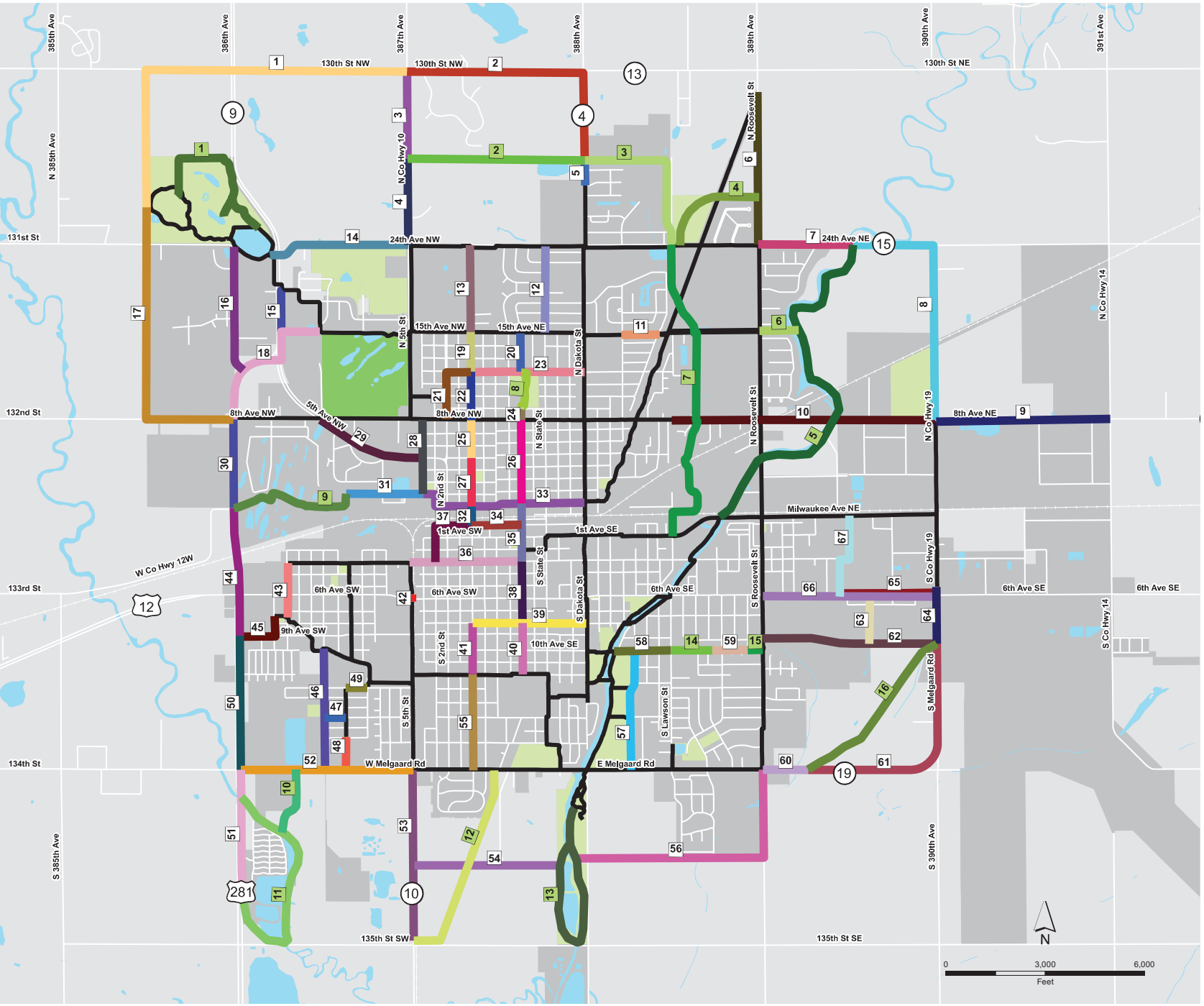


Figure 4.4: Analysis Segments for Planned Network

- Existing Facilities
- Open Water
- Park
- Golf Course
- Within Current City Limits
- X Planned Roadside & On-Road Seg
- X Planned Off-Road Segment IDs

Individual colors Indicate individual analysis segments of planned facilities. Segment IDs are labeled inside squares.

Table 4.1: Bikeway Facilities Selection Framework

Bike Infrastructure Type	Suitable Conditions				
	Posted Speed Limit	Vehicle Volumes	Walking/Cycling Volumes	Transit Operations	
Bike Lane A division of a road with lines to designate use specifically for cyclists, or **Buffered Bike Lane** A division of a road with buffer space that sepearates cyclists from motor vehicles	20 mph or less	2,500 vehicles per day or more	N/A	N/A	
	20 to 30 mph	Fewer than 4,000 vehicles per day			
Protected Bike Lane* A division of a road with a physical buffer that seperates cyclists from motor vehicles. *Raised bike lanes may mitigate challenges posed by freqent driveways intersecting route	30 mph or less	Any volume	Any volume and particularily with higher volumes (greater than 10 persons per hour per foot of path wideth) and in downtown environments	N/A	
	20 to 30 mph	Any volume - more rigid barriers required at higher speeds (e.g. over 35 mph) Bike path or SUP may suffice			
Shared Use Path (SUP) A path that is designed for mixed-use (i.e. pedestrians, cyclists, other non-motorized or low powered vehicles)	50 mph or less	Any volume	Consider segregating walking and biking paths when greater than 10 persons per hour per foot of path width	N/A	
	Over 50 mph	Amu volume with greater sepearation (i.e. outside the clear zone)			
Bicycle Boulevard A designated path for bicycles where the speed limit for motor vehicles is very low and the boulevard is designed to be bicyclist-friendly	20 mph or less	Less than 2,500 vpd	N/A	No transit service or limited, small bus community service (less than 8 buses per peak hour)	
	Up to 25 mph	Less than 1,000 vpd			

WINTER DESIGN GUIDELINES

As a community situated in the heart of the northern plains, Aberdeen experiences significant snowfall and very low temperatures with windchill during the winter months. While the Bikeway Facilities Selection Framework provides direction for the type of trail facility and design guidance for configuration of trails, it's also important to consider how winter weather may influence the recreational trail system.

Recently, the City of Edmonton AB has developed a manual of Winter Design Guidelines which serves as a specifications document for effective design of City infrastructure, public spaces and bicycle & pedestrian trails. As Aberdeen looks to expand the community's trail system, it's beneficial to consider the effective measures that other winter cities are taking toward the design of a trail system that encourages use through all months of the year.

The winter design guidelines provide flexible guidance and inspiration for future development decisions throughout the community. The guidelines are intended to facilitate leading-practice design solutions tailored to the specific needs of residents during the winter months.

The following considerations, taken directly from the City of Edmonton's Winter Design Guidelines manual, have applicability for trail development within the City of Aberdeen:

Winter Design in a Nutshell:

The Winter Design Guidelines are comprehensive. For the sake of simplicity, however, the five main principles of winter city design are:

1. Incorporate design strategies to block wind, particularly prevailing winds and downdrafts.
2. Maximize exposure to sunshine through orientation and design.
3. Use color to enliven the winterscape.
4. Create visual interest with light, while being mindful of intensity, spread, contrast and color.
5. Design and provide infrastructure that supports desired winter life and improves comfort and access in cold weather.

Sidewalks and Boulevards

- Design wide sidewalks in pedestrian areas to provide a clear, barrier-free pedestrian through zone. Adequate space for street cleaning and snow clearing equipment must be considered in the design.
- Ensure grading directs snowmelt towards roadways, and away from building entries and pedestrian zones, to avoid slippery conditions during freeze-thaw cycles. Potential contaminants from snowmelt (i.e. salt, ice melters and sand) should not drain into creeks, rivers or natural areas.
- Select paving materials that are durable enough to withstand the harsh impacts of winter snow management and the corrosive effects of salt, as well as freeze-thaw cycles, while still being safe, slip-proof and easy to maintain
- Apply color, pattern variation and decorative paving bands in Pedestrian areas. Variations in color or material will add visual interest and can indicate circulation in the pedestrian zone—particularly in curb cuts. Decorative paving bands along the curb side serve to align fixed objects such as trees, streetlights, parking meters, bike racks, and trash receptacles.
- Provide landscaped, permeable surface areas on or near roadways to provide a natural filter for snowmelt and heavy rainfall, reducing pressure on the drainage and water network. These landscaped features could also be used as design opportunities to introduce traffic calming to a street and to improve crosswalks on wide streets.
- Reduce vehicular lane widths in pedestrian and trail priority areas. Narrow lanes result in less road surface to clear of snow during the winter, and extended sidewalks with shared-use paths accommodate a variety of active transportation modes. Consider how any reallocation of space or roadway redesign would best accommodate all modes safely in all weather conditions. Needs of municipal maintenance, operation and emergency vehicles must always be considered.

Street Crossings

- Install lit or reflective crossing signs and surface markings to increase visibility of crosswalks during reduced daylight hours in winter, especially in school zones.
- Program all crosswalk lights and audible signals at intersections to work concurrently with traffic signals. Pedestrian-actuated (on-demand) crossing lights tend to increase pedestrian wait times and, therefore, exposure to the elements.
- Adjust signal light timings to prioritize active transportation modes, such as for cyclists on minimum grid routes and pedestrians in high-pedestrian areas.
- Locate catch basins for surface runoff away from pedestrian crossings and bus stops. Pooled water at crosswalks may splash onto pedestrians from vehicles during warmer temperatures. During freeze-thaw cycles, freezing runoff water will create a slip-and-fall hazard.
- Prioritize pedestrians with short traffic signal cycles and pedestrian-actuated crosswalks to reduce waiting times and exposure during extremely cold temperatures, where possible.
- Provide mid-block crossings with curb extensions on long blocks to reduce long distances pedestrians must travel to reach their destinations. Curb extensions that minimize pedestrian crossing distances are recommended where curbside parking lanes exist.
- Research, test and evaluate innovative street design features. For example, pedestrian platforms (i.e. raised street crossings), aligned curb cuts, and/or heated sidewalks and crosswalks are commonly found on pedestrian-oriented streets in other winter cities.

Street Lighting

- Provide decorative, pedestrian-scaled lighting. Focus illumination towards the ground to reduce light pollution. Use fully shielded fixture to eliminate glare.
- Assess, provide and test visibility after sunset, particularly in priority pedestrian and bicycle areas to ensure safety, comfort and interest for these active transportation modes. The color and intensity of lighting, as well as the amount of glare, affect how a street is perceived and used.
- Beautify the streetscape with creative passive lighting. Several types of materials can be added to surfaces, such as streets and sidewalks, to diffuse, differentiate, direct, increase or refract the amount of light already produced. Keep in mind that snow reflect light, therefore not as much light may be needed in the wintertime.

Wayfinding

- Incorporate a signage and wayfinding system as part of the planning process, with design considerations for winter conditions. For example, approximate walking, cycling or cross-country skiing times, in addition to distances.
- Design adaptable and seasonal wayfinding strategies to support changing uses and functions throughout the year.
- Use blank walls that do not get covered in snow to display signage, public information or to generate solar power.
- Provide signage along cycling routes that are prioritized for snow removal or grooming in winter. This could be as simple as a snowflake logo added to existing wayfinding elements to let users know that the routes will be maintained and/or cleared of snow on a regular basis throughout the winter.
- Optimize wayfinding signage for low glare and good visibility in snowy conditions and for aesthetic benefits.

Winter cycling is growing, and is encouraged by protected bike lanes, Edmonton Winter City Design Guidelines

Winter cycling is not our culture? Remember that culture shifts over time. Edmonton Winter City Design Guidelines

Bicycle Routes and Storage

- Prioritize higher volume corridors with cleared and dedicated routes to provide a safer environment for cyclists year-round.
- Consider covered bicycle racks and storage lockers in pedestrian and bicycle trail priority areas.
- Connect existing and new bicycle routes through community hubs and larger sites, such as schools and district parks, to provide the most direct route for winter cyclists.
- Provide real-time information to let cyclists know which routes were cleared of snow, and when, so that cyclists can plan their trips accordingly.

Shared-Use Paths and Open Space Connections

- Identify, prioritize and clear shared-use paths of snow and ice for all pedestrians, runners and cyclists with a focus on gathering areas and routes used by active transportation commuters.
- Design complementary networks for cross-country skiers, snowshoers and kick-sled users. Ensure appropriate grooming (track-set or compacted) to accommodate different snow spots.
- Incorporate trails from recreation areas and associated equipment storage facilities into overall transportation network.
- Provide lighting and clear wayfinding signage along priority trails (those used for commuting.) Consider educational signage for trail etiquette that will discourage other users from damaging groomed trails.
- Develop an open source winter circuit map to establish high use routes for winter active transportation modes.

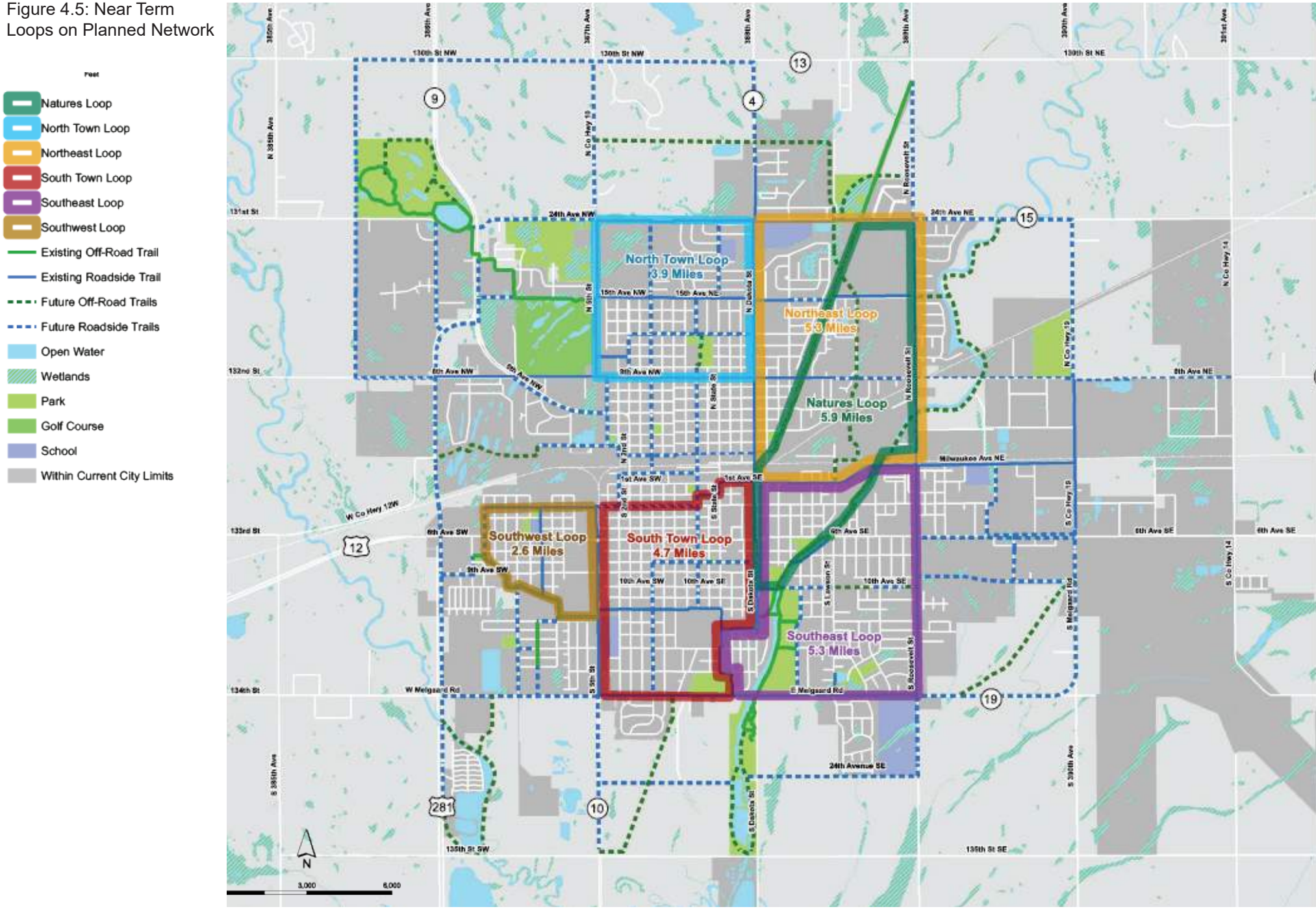
To encourage continued use and promote increased use of the Aberdeen trail network, the Study Advisory Team (SAT) worked to identify trail loops throughout the community. As described earlier in this chapter, the connectivity of these loops—that is, the ability for new segments of trails to complete designated loops—was considered an important criterion in prioritizing the implementation of the network.

Two designated groups of trail loops have been identified in this plan, and are described as follows:

- ***Near Term Loops*** are those loops that are already existing within the community. Apart from the future construction of a few short segments of trail, it is expected that these loops could be identified with wayfinding signage and promoted as key routes immediately.
- ***Long Term Loops*** are those loops that, with the long-term development of the trail network, can be identified with wayfinding signage to promote an uninterrupted perimeter route around the City, as well as other off-road trail routes to connect key destinations and support running and bicycling events in the community.

Both Near Term Loop and Long-Term Loop priorities have been identified in Figures 4.5 and 4.6. While the development of these loops largely depends on the availability of trail infrastructure, a cohesive wayfinding approach is also important to delineate and promote the branding of these routes. A wayfinding system has also been developed as a part of this planning study, and is described in Chapter 5- Wayfinding Plan.

Figure 4.5: Near Term Loops on Planned Network



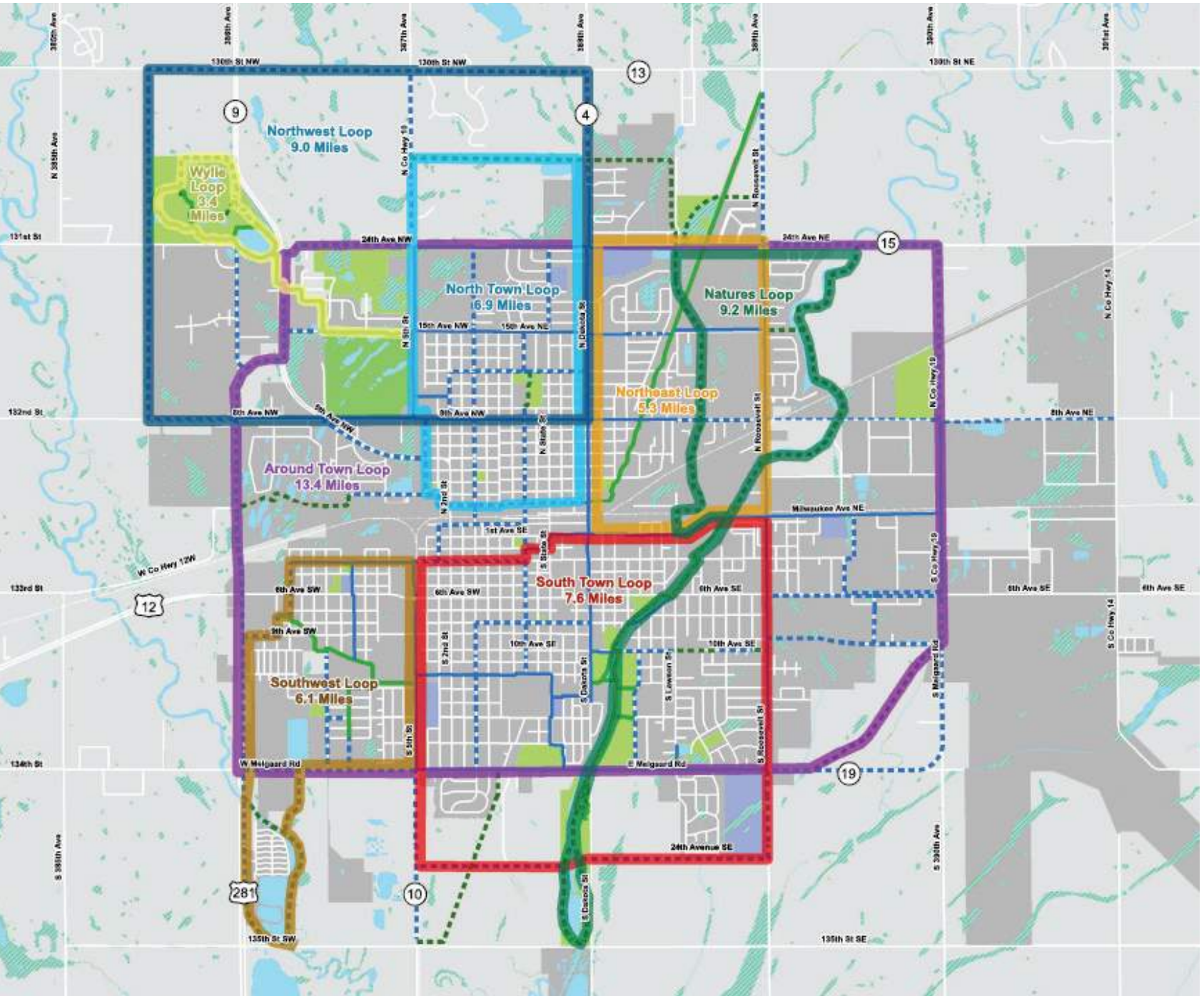


Figure 4.6: Long Term Loops on Planned Network

5 Wayfinding Plan

List of Figures and Tables

Purpose

A successful wayfinding signage program has signs that are clear and concise with a simplified message and text to maintain the motion of the user. Wayfinding systems offer orientation and navigation, and answer the following questions – Where are you now? Where are you going and how will you get there?

General Guidelines

Wayfinding signage should be placed at consistent intervals and at locations of decision points, with consistent font choices and character sizes to be accessible to users of all ages and abilities. Signs should be easily visible for both bike and pedestrian traffic, and clearly viewable throughout the seasons even above snowfall drifts or summer plantings.

The design of wayfinding signage must also meet applicable requirements set forth for bicycle facilities in the Federal Highway Administration of the United States Department of Transportation Manual on Uniform Traffic Control Devices (MUTCD).

Successful trail wayfinding signage encourages the safety of trail users, reflects the hospitality of Aberdeen, and aids in the overall definition of the City. Signs direct traffic to trails and inform users of trail distances. A network of trail loops in the short term will connect major facilities and features and will allow for future linking and possible branding with sponsorships. The location of these wayfinding signs is identified in Figures 5.1 and 5.2, Aberdeen Trails wayfinding Signage Location Map.

(Left and above) Existing wayfinding signage in Aberdeen provides directions for motorists to important community destinations

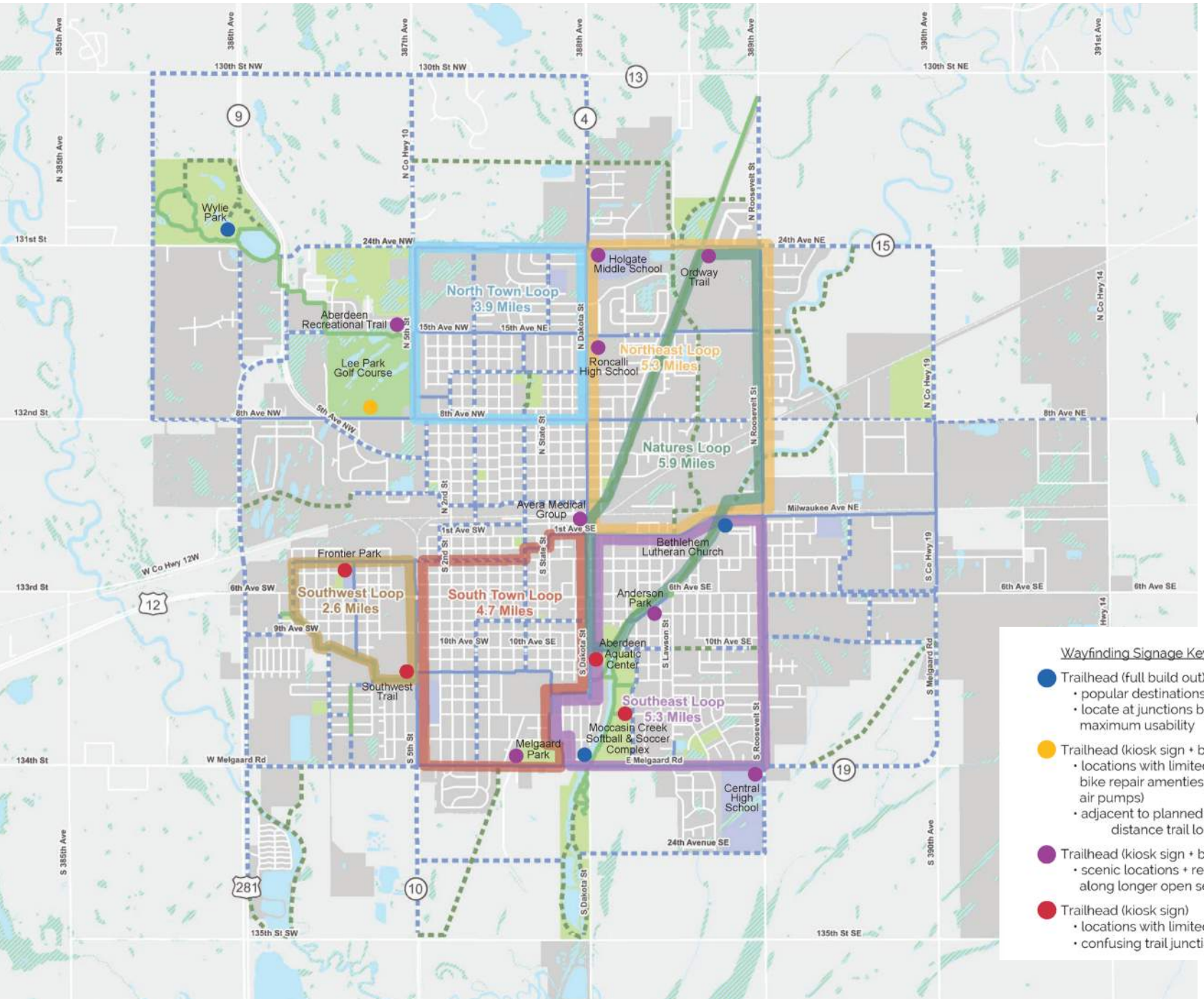
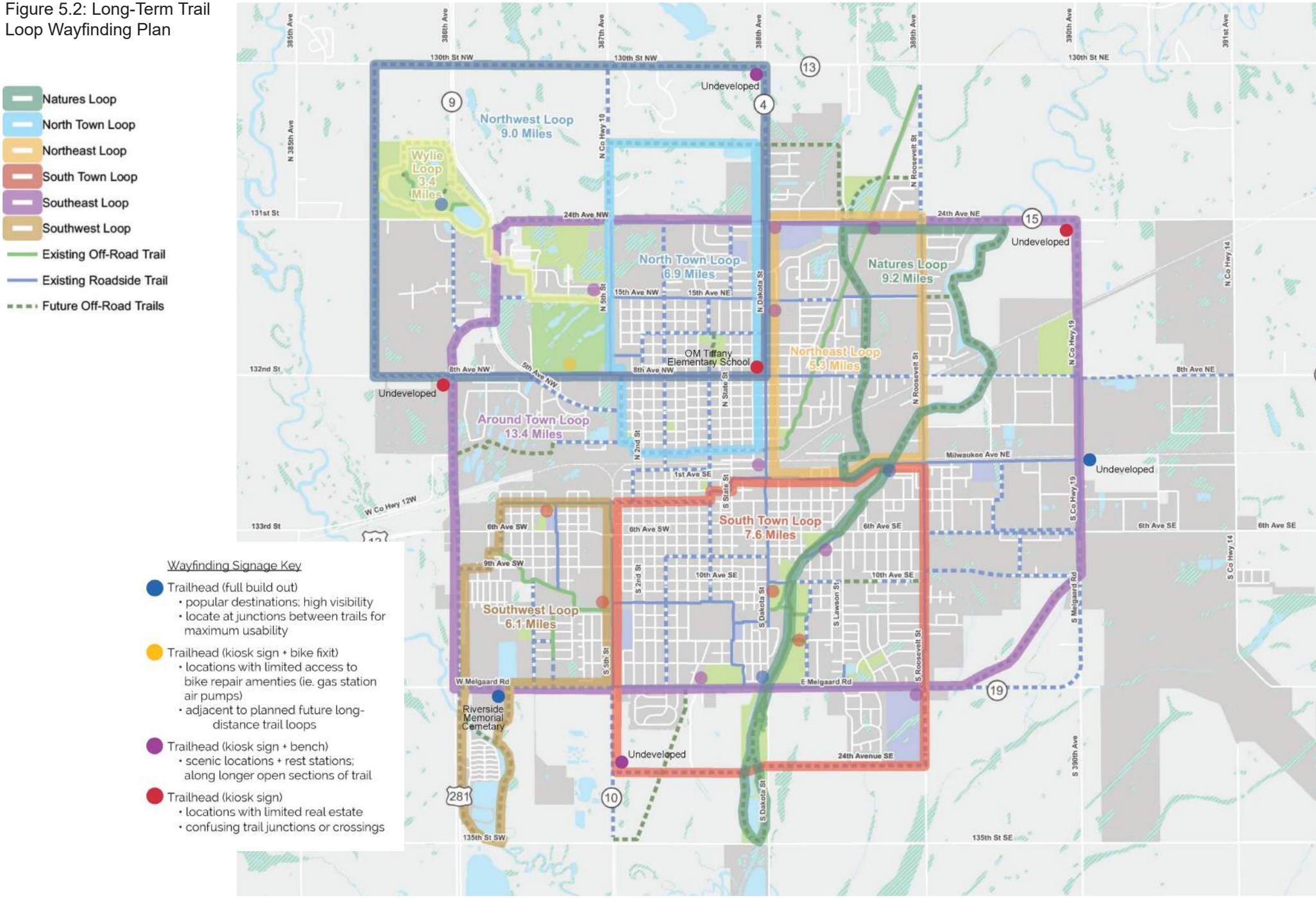


Figure 5.1: Near-Term Trail Loops Wayfinding Plan

Figure 5.2: Long-Term Trail Loop Wayfinding Plan



Sign Family

As identified in figures 5.3 through 5.6, Aberdeen Wayfinding Signage Concept the final design concept consists of a sign family hierarchy, or grouping of signs, with similar designs intended to be used for specific unique purposes. The sign family consists of three types of signs: a wayfinding kiosk, a mile marker, and two types of route identification signs (post-mount or utility-post mount). A kiosk in combination with site furnishings, such as benches, a water fountain, and bike fixit station compromise a trailhead feature. The sign family is a consistent, cohesive signage package with clear branding standards, a trail logo, matching materials, and color-defined trail loops. Lighting may be incorporated within the signage family as needs are identified.

Sign materials are readily available from local sources, at reasonable prices, with limited maintenance requirements. A preliminary cost estimate has been assembled for this comprehensive wayfinding family and is provided in Table 5.1. This allows for phased implementation within budgetary constraints and allows for flexibility in the future should the trails logo or city branding standards change.

The wayfinding kiosk consists of a double-side sign that contains a map of the trails, text information on biking rules and tips, and optional sponsorship information. These would be located primarily on Park or City property, with rarer occurrences on school or private property. The kiosk will be located at approximate 2-mile trail intervals, at popular recreation sites or destinations, in high visibility locations as advertisement for the trail network, or at the junctions of two or more trails. Wayfinding kiosks will require small concrete pads or areas for users to step off the trails to read information.

Mile marker signs are designed to be visible, but inconspicuous. Mile markers will be located at each half mile intervals and may sometimes occur within an easement on private property. Mile markers can also contain the custom trails logo and will be color-coded to identify different trail loops.

Route identification signs can be either tube post mount (typical traffic signpost) or utility post mount, depending on site conditions. Higher traffic commercial routes will usually be utility post mount, while residential neighborhoods and park will typically by post mounted. Route identification signs occur at frequent intervals – at decisions points, or anywhere the trail crosses a street or turns a corner. Utility post mounted signs will be double-sided.

Wayfinding signage is an important part of a successful trails master plan package. Consistent reliable signage creates a more enjoyable, safer trail experience for all. As the trail network continues to develop, it will be important to create a hierarchy of looped trail networks, differentiated through signage, to expand the network of trail users and riders.

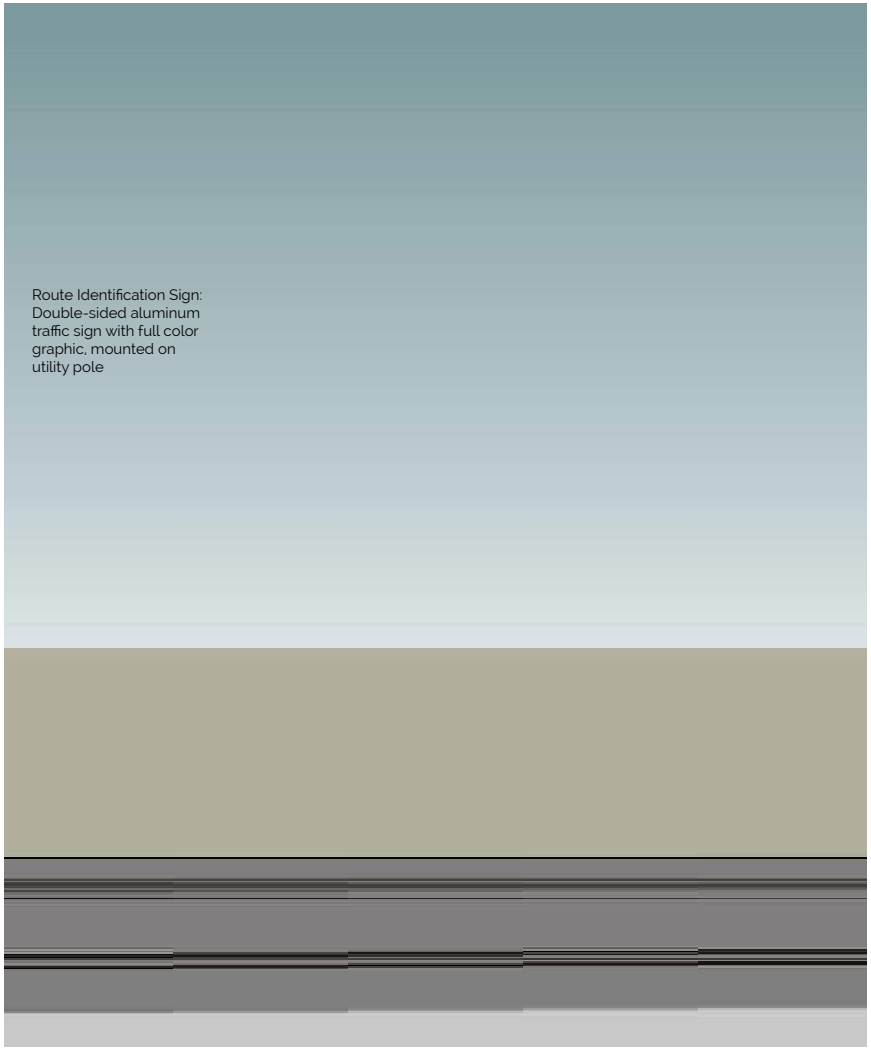


Figure 5.3: Wayfinding concept: Route Identificaiton Sign

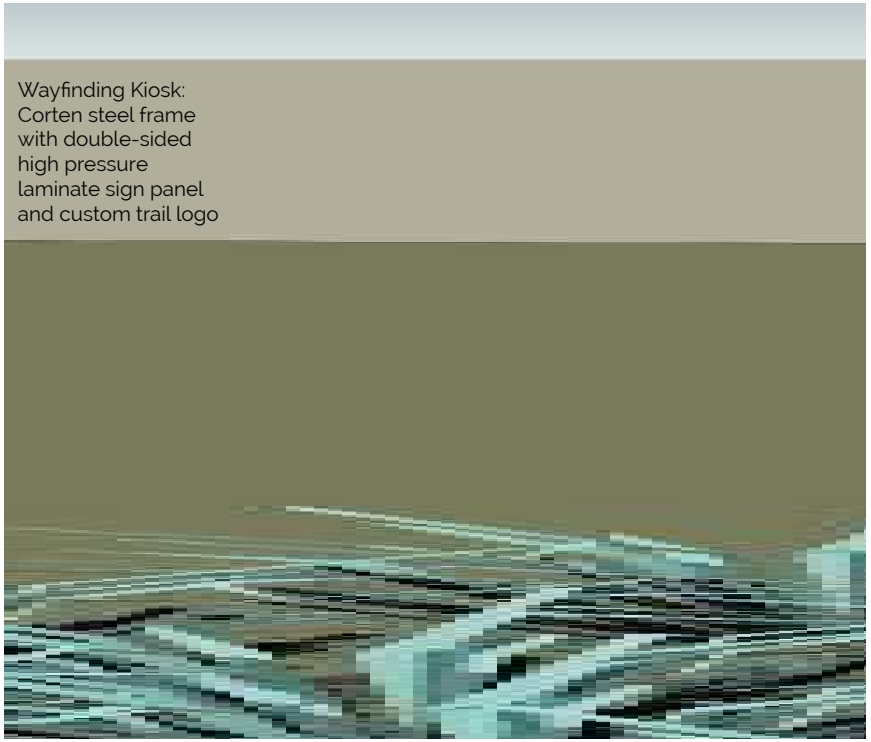


Figure 5.4: Wayfinding concept: Wayfinding Kiosk

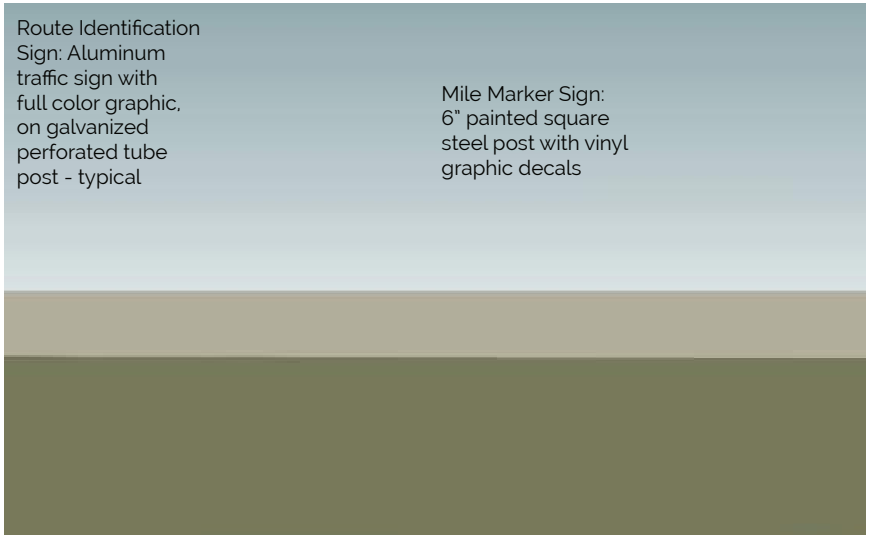


Figure 5.5: Wayfinding concept: Mile Marker and Route Identification Signs

Wayfinding Kiosks

Primary Locations:

- Park Property
- City of Aberdeen Property
- School District Property
- Private Property (only if other property options are unavailable in a necessary location)

Frequency:

- Approximate 2 mile trail intervals
- At the junctions between different trail loops
- At popular destinations where users will most likely be starting a trail walk/ride
- In high visibility locations to advertise the trail

Mile Marker Signs

Frequency:

- Approximately 1/2 mile trail intervals
- Along each trail loop
- In high visibility locations to advertise the trail
- Avoid conflict with driveways, other business/ community signage

Frequency:

- Frequent intervals
- Anywhere the trail crosses a street, turns corner, or in locations where the trail direction is questionable
- Mount on utility poles when possible in higher traffic commercial districts
- Mount on sign posts in neighborhood locations and parks

Figure 5.6: Trailhead Stations Concept Design

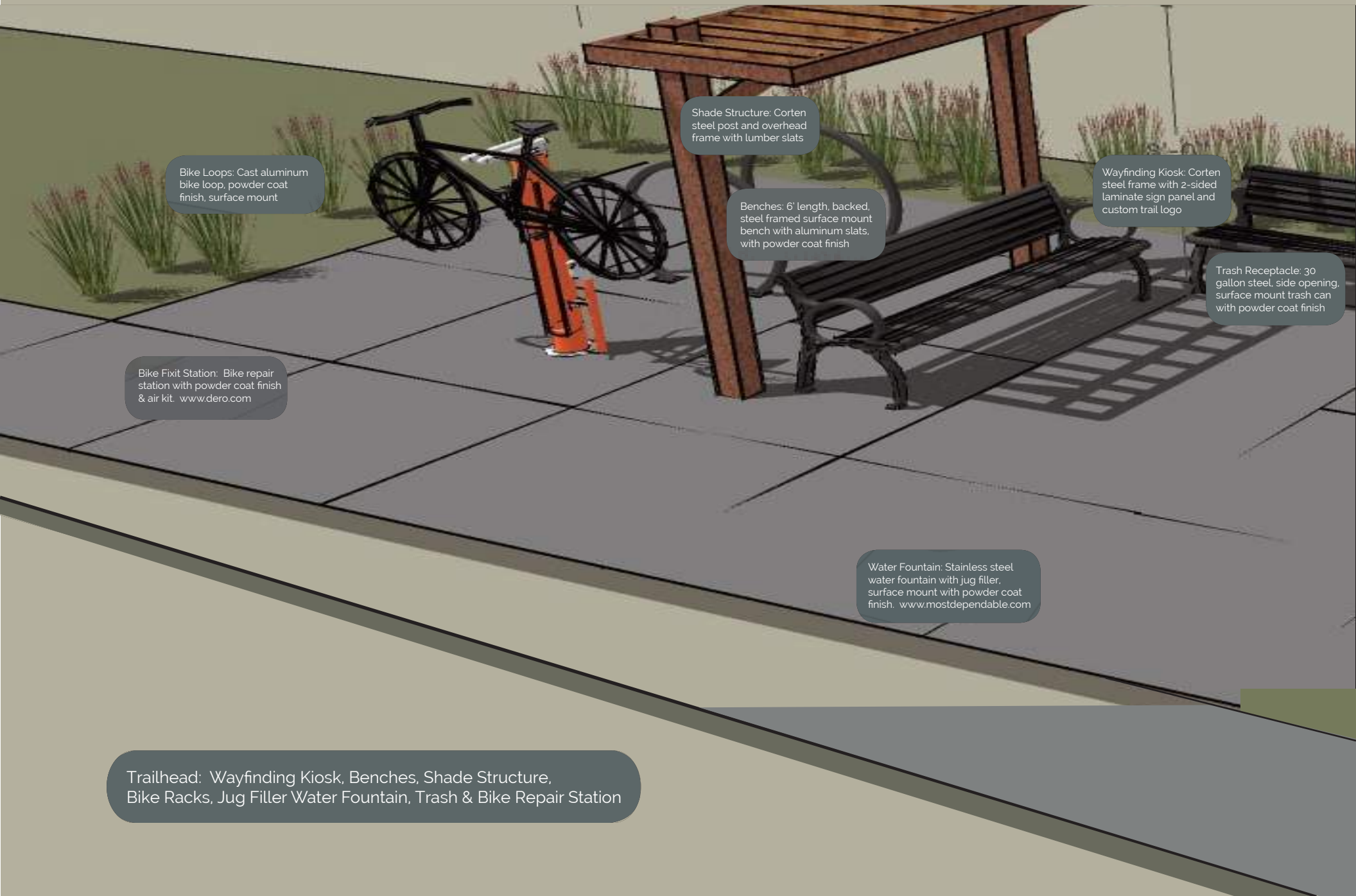


Table 5.1: Wayfinding Cost-Estimate

CONFLUENCE
524 NORTH MAIN AVENUE, SUITE 201, SIOUX FALLS, SD 57104
Tel 605-339-1205 FAX 605-339-1215 WWW.THINKCONFLUENCE.COM

Probable Construction Cost Opinion (Budget Estimate)

The amounts stated herein are our best estimate of probable construction costs based on current information. Because costs are influenced by market conditions, changes in project scope, and other factors beyond our control, we cannot ensure that actual construction costs will equal this cost opinion.

Aberdeen Recreational Trails Plan - Wayfinding Signage 18169
Aberdeen, South Dakota 6/3/2019

Wayfinding System Quantities

Near Term Loops on Planned Network

Description	Qty	Unit	Unit Cost	Item Total	Remarks
Wayfinding Kiosk	4	EA	$ 6,600.00	$ 26,400.00	
Mile Marker	54	EA	$ 2,050.00	$ 110,700.00	
Route Identification Sign (Freestanding)	48	EA	$ 352.50	$ 16,920.00	
Route Identification Sign (Utility Pole)	20	EA	$ 2,057.50	$ 41,150.00	
Trailhead (Full Build Out)	3	EA	$ 57,750.00	$ 173,250.00	
Trailhead (Kiosk Sign + Bike Fixit)	1	EA	$ 14,500.00	$ 14,500.00	
Trailhead (Kiosk Sign + Bench)	8	EA	$ 12,000.00	$ 96,000.00	
Near Term Loops Total				**$**	**478,920.00**

Long Term Loops on Planned Network

Description	Qty	Unit	Unit Cost	Item Total	Remarks
Wayfinding Kiosk	3	EA	$ 6,600.00	$ 19,800.00	
Mile Marker	60	EA	$ 2,050.00	$ 123,000.00	
Route Identification Sign (Freestanding)	28	EA	$ 352.50	$ 9,870.00	
Route Identification Sign (Utility Pole)	28	EA	$ 2,057.50	$ 57,610.00	
Trailhead (Full Build Out)	2	EA	$ 57,750.00	$ 115,500.00	
Trailhead (Kiosk Sign + Bike Fixit)	0	EA	$ 14,500.00	$ -	
Trailhead (Kiosk Sign + Bench)	2	EA	$ 12,000.00	$ 24,000.00	
Long Term Loops Total				**$**	**349,780.00**

Design Intent & Frequency of Signs: *Wayfinding kiosks and trailheads to be located as identified on the wayfinding signage locations map for near and long term loops on the planned network. Mile markers are located at 1/2 mile intervals along each looped trail. Route identification signs are located at 1/2 mile intervals along each looped trail, and at key intersections and decision points. Signs will be utility-post mounted whenever possible along high traffic corridors.*

CONFLUENCE
524 NORTH MAIN AVENUE, SUITE 201, SIOUX FALLS, SD 57104
Tel 605-339-1205 FAX 605-339-1215 WWW.THINKCONFLUENCE.COM

Probable Construction Cost Opinion (Budget Estimate)

The amounts stated herein are our best estimate of probable construction costs based on current information. Because costs are influenced by market conditions, changes in project scope, and other factors beyond our control, we cannot ensure that actual construction costs will equal this cost opinion.

Aberdeen Recreational Trails Plan - Wayfinding Signage 18169
Aberdeen, South Dakota 6/3/2019

Final Design Concept - Sign Family

Wayfinding Kiosk (Each)

Description	Qty	Unit	Unit Cost	Item Total	Remarks
Weathering Steel Sign Frame	1	LS	$ 2,750.00	$ 2,750.00	
Sign Panel (double-sided)	36	SF	$ 100.00	$ 3,600.00	high pressure laminate
Landscape Plantings	1	ALW	$ 250.00	$ 250.00	
Subtotal				**$**	**6,600.00**

Mile Marker Sign (Each)

Description	Qty	Unit	Unit Cost	Item Total	Remarks
6" Steel Post W/Vinyl Graphic Wrap	1	LS	$ 1,800.00	$ 1,800.00	
Landscape Plantings	1	ALW	$ 250.00	$ 250.00	
Subtotal				**$**	**2,050.00**

Route Identification Sign (Freestanding; Each)

Description	Qty	Unit	Unit Cost	Item Total	Remarks
Standard Traffic Sign Post	1	LS	$ 300.00	$ 300.00	
Sign Panel (Single-Sided)	1.5	SF	$ 35.00	$ 52.50	full color vinyl graphic
Subtotal				**$**	**352.50**

Route Identification Sign (Utility Pole Mounted; Each)

Description	Qty	Unit	Unit Cost	Item Total	Remarks
Sign Panel Brackets	1	ALW	$ 1,200.00	$ 1,200.00	
Sign Panel (Double-Sided)	24.5	SF	$ 35.00	$ 857.50	full color vinyl graphic
Subtotal				**$**	**2,057.50**

Trailhead Furnishings

Bench

Description	Qty	Unit	Unit Cost	Item Total	Remarks
Bench - 6' Steel with Aluminum Slats	1	EA	$ 2,500.00	$ 2,500.00	
Subtotal				**$**	**2,500.00**

Trash Receptacle

Description	Qty	Unit	Unit Cost	Item Total	Remarks
Trash Receptacle	1	EA	$ 2,800.00	$ 2,800.00	
Subtotal				**$**	**2,800.00**

Table 5.1: Wayfinding Cost-Estimate (continued)

Bike Fixit Station					
Description	**Qty**	**Unit**	**Unit Cost**	**Item Total**	**Remarks**
Bike Fixit Station with Air Kit	1	EA	$ 2,750.00	$ 2,750.00	
Subtotal				**$**	**2,750.00**

Water Fountain					
Description	**Qty**	**Unit**	**Unit Cost**	**Item Total**	**Remarks**
Drinking Fountain with Jug Filler	1	LS	$ 12,000.00	$ 12,000.00	
Water Connection	1	LS	$ 8,000.00	$ 8,000.00	
Subtotal				**$**	**20,000.00**

Bike Loops					
Description	**Qty**	**Unit**	**Unit Cost**	**Item Total**	**Remarks**
Bike Loops	2	EA	$ 1,650.00	$ 3,300.00	
Subtotal				**$**	**3,300.00**

Shade Structure					
Description	**Qty**	**Unit**	**Unit Cost**	**Item Total**	**Remarks**
Corten Posts & Overhead Frame	1	ALW	$ 10,000.00	$ 10,000.00	
Lumber - Overhead Infill	1	ALW	$ 3,500.00	$ 3,500.00	
Subtotal				**$**	**13,500.00**

6 Policies & Programs

List of Tables and Figures

INTRODUCTION

Education and Encouragement are the topics that most relate to all the plan goals of this study. Future pedestrians and bicyclists will be the most encouraged to begin walking and biking on a regular basis by seeing others do it as part of a safe, convenient, and well-planned system.

EXISTING EDUCATION AND ENCOURAGEMENT PROGRAMS

SOUTH DAKOTA DEPARTMENT OF TRANSPORTATION

Bicycle/Pedestrian Information

The South Dakota Department of Transportation has taken an active approach in communicating Bicycling and Pedestrian resources to visitors on its website: www.sddot.com. Due to a significant number of cyclists travelling the state during the summer months, a specialized Bicycle/Pedestrian section on the SDDOT website (www.sddot.com/travelers/bicycle) has been developed to share appropriate bicycle and pedestrian information to the travelling public.

On the SDDOT Bicycle/Pedestrian website, the following information can be found to facilitate the safe travel of bicyclists throughout the state and in regional communities:

- Interactive Roadway Characteristics Map illustrates highways with narrow widths, gravel shoulders, or rumble strips
- A Traffic Flow Map shows the volume of car and truck traffic upon state highways
- The Statewide Transportation Improvement Program Map can also be referenced for long-term route planning as it illustrates proposed construction projects on state highways during the next 5 years.

Additionally, the website provides contact information for the State's Bicycle and Pedestrian Coordinator, Jerry Orthbahn, and includes links to the following bicycle advocacy groups throughout the state:

- South Dakota Bicycle Coalition
- Black Hills National Forest website
- Mike Bentley's Bicycle Links- trails, bicycle dealers, etc.

SDDOT 2018 STEP Guide

The South Dakota Department of Transportation participated in a FHWA Every Day Counts Initiative titled "Safe Travel for Every Pedestrian (STEP)". Pedestrians account for an estimated 16 percent of all roadway fatalities nationwide, the majority of which occur at uncontrolled crossing locations (i.e. mid-block locations) and at intersections with no traffic signal, STOP sign, or YIELD sign. The STEP initiative helps transportation agencies address such crashes by promoting cost-effective countermeasures with known safety benefits. This guidance document includes the best practices to help city engineers and designers address potential safety concerns at uncontrolled crossings.

The information contained in the guide was developed as a resource to assist agencies in their effort to more safely accommodate pedestrians on their systems of roads and highways. The guide identifies and advocates such design countermeasures as:

1. Flashing Beacons
    a. Intersection Control Beacon
    b. Warning Beacon
    c. Speed Limit Sign Beacon
    d. Stop Beacon
2. Radar Speed Feedback Sign
3. Rectangular Rapid Flashing Beacons (RRFBs)
4. Pedestrian Hybrid Beacons and Pedestrian Traffic Signals
5. Light-Emitting Diode (LED) Enhanced Signs
6. Traffic Calming
    a. Speed Humps/Table
    b. Raised Intersections/ Pedestrian Crossings
    c. Curb Extensions
    d. Choker/Slow Point
    e. Road Diet
7. Pedestrian Refuge Islands
8. Enhanced Visibility at Crosswalks

Knowing how to determine good crossing locations and which countermeasures to use enables city engineers, highway agencies and other organizations to increase pedestrian safety. Benefits of assembling this guide as a framework for statewide infrastructure design include:

- **Improved Safety.** Countermeasures are available that offer proven solutions for reducing pedestrian fatalities at uncontrolled crossing locations.
- **Targeted Investment**. By focusing on uncontrolled locations, agencies can address a significant national pedestrian safety problem.

- **Enhanced Quality of Life.** Improving crossing opportunities boosts quality of life for pedestrians of all ages and abilities.

As future improvements are considered for intersections evaluated in chapter seven of this study, these STEP measures should be evaluated as possible ways to address pedestrian safety.

SOUTH DAKOTA DEPARTMENT OF PUBLIC SAFETY

The South Dakota Department of Public Safety (DPS) is comprised of 11 agencies, among which include the South Dakota Office of Accident Records, South Dakota Driver Licensing, South Dakota Highway Patrol, and the South Dakota Office of Highway Safety. The DPS includes a number of programs and initiatives to promote safe travel of bicyclists and pedestrians.

South Dakota Driver Manual

DPS has developed a guidebook for motorists as they prepare for the South Dakota Driver's License Exam. The guide serves as a "plain-language" summary of state traffic code and provides tips and recommendations to drivers in how to address various traffic circumstances—including those that involve bicyclists and pedestrians. It also provides information regarding bike hand signals and interprets traffic sign meanings.

Pedestrian & Bike Safety

The South Dakota Department of Safety has several special programs focused on improving safety for the travelling public. One, specifically, has been developed to focus on pedestrian and bike safety. The DPS Pedestrian and Bike Safety website is an on-line resource page developed to educate and advocate for safe bicycling and walking practices. The site provides several Bicycle Safety Campaigns, focusing on bicycle-helmet advocacy as well as bicycle safety tips.

Since 1994, DPS has actively promoted bicycle helmet use and bicycle safety in South Dakota communities through the "Don't Thump Your Melon" campaign. The department actively posts bicycle safety reminders and news releases during Bike Safety Month and provides bike safety resources including:

- EMS for Children: Helmets, which provides a direct link to the Emergency Management Services site for Bicycle Safety and training resources
- Bike Helmet Safety
    - How to Fit a Helmet
    - What's New About Bicycle Helmets
    - Your Bicycle Helmet: A Correct Fit
- A Walking & Biking Safety Guide for adults
- A Walking & Biking Safety Guide for kids

The Bicycle & Pedestrian Safety program educates the public about the benefits of safe bicycling practices—primarily by encouraging bike helmet use through programs, public safety announcements, and videos. While these resources focus explicitly on bicycle safety, the program provides an existing platform that could be tailored to include motorist awareness for bicyclists and pedestrians.

SOUTH DAKOTA DEPARTMENT OF HEALTH

The South Dakota Department of Health's Active Transportation program has assembled promotional materials and programs to promote bicycling and walking activity in communities across the state. Toolkits, activity guides and resources have been assembled by the Department and can be accessed at: https://healthysd.gov/category/communities/ . Information pertaining to walking and bicycling includes:

- "Walk Walk Walk"- a resource guide to encourage SD residents to get in at least 20 minutes of walking each day
- "Walk! Healthy South Dakota Community Walkability Toolkit"- a toolkit outlining what walkability is and how to create access to more walkable areas
- 2014 South Dakota Physical Activity Study
- "Staying Active in a Rural Community"- an article outlining specific measures to encourage physical fitness among rural populations
- "#Commit2Ten"- A challenge to encourage SD residents to get at minimum of 10 minutes of physical activity each day
- "Step It Up!"- An announcement to promote the Surgeon General's call to action to promote walking and walkable communities
- "Fall into Fitness"- An article outlining measures to incorporate physical activity during the Fall season

- South Dakota State Plan for Nutrition and Physical Activity
- "Park It: Health Benefits of Enjoying the Outdoors"- An article promoting the physical benefits of parks and recreation amenities
- "Active!"- A call to action to promote and encourage the design of walkable communities and neighborhoods for South Dakota community leaders
- "Get Movin'!"- A physical Activity Data Infographic for the State of South Dakota
- "Winter Time: Get Up & Out!"- An article highlighting the various ways to promote outdoor physical activity during the winter months.
- "Community Recreational Trails in South Dakota"- An informational article outlining the recreational trails in communities across the state, as well as the marked routes and trailheads funded through the 2010-2011 grant program.
- South Dakota Game, Fish and Parks Fitness Passport Challenge- An outline of the program to promote use and active recreation opportunities throughout the State's park system.
- "Park RX: A Prescription for a Day in the Park!"- A partnership between the South Dakota Department of Health, Department of Game, Fish and Parks, and SDSU Extension and community physicians to encourage physical activity. The project encourages healthcare providers to prescribe exercise and, when they do, patients can take their Park Rx to any South Dakota State Park and turn it in for a free pass for the day.

SOUTH DAKOTA STATE UNIVERSITY (SDSU) EXTENSION

The SDSU Extension program launched the first "Walk With Ease" walking program on January 25, 2019. The purpose of the pogrom is to teach participants how to initiate a safe walking program and promote long-term commitment to this type of exercise. "Walk With Ease" programs can be initiated in any community across the state, with assistance and support form the SDSU Extension office. Additional information can be found at: https://extension.sdstate.edu/news/sign-sdsu-extension-walk-ease-walking-program .

SCHOOL PROGRAMS

Aberdeen's public schools host numerous programs to support bicycling and walking. These programs include partnerships with local police and biking and walking safety education. These programs were identified through input from local stakeholder discussions held on November 7th & 8th 2018. School initiatives and programs are summarized in Table 6.1.

PARKS AND BOYS' AND GIRLS' CLUB PROGRAMS

The Aberdeen Parks Recreation and Forestry Department hosts encouragement and education programs on its trail system. These are summarized in Table 6.2.

NON-GOVERNMENTAL PROGRAMS

Advocacy

The Aberdeen region hosts one active running group and a youth BMX club. The local running club (name unknown) hosts group runs, organizes 5k and half-marathon races and is an active voice in promoting running activities throughout the community.

Community Initiatives

- The Aberdeen Police Department participates in several bicycle safety initiatives. Officers visit elementary school classes in uniform and teach about bicycle safety. The officers are on bikes themselves and present themselves as experts in the topic. Police patrol and traffic officers also provide ice cream coupons to kids who are riding bikes with helmets.
- The Aberdeen Boys and Girls club actively promotes bicycle safety initiatives and hosts several bike safety workshops and camps during the summer months. The Aberdeen club has an annual enrollment of more than 300 students or more—many of whom actively ride a bicycle or walk to the club's facility during the summer.

Bike Rodeo teaches safety tips, © Aberdeen News Co.

Table 6.1: Encouragement, Education and Enforcement Programs in Aberdeen Public Schools

Program		
Safety videos and classroom presentations	Teacher Monitors and/or Crossing Guards	Bike Rodeo
Type		
Education	Encouragement	Encouragement
Description		
Classes are shown videos or presentations regarding safe walking, biking, and riding the bus	School grounds and streets are monitored for safety during arrival and dismissal time	Students and community members participate in a bike rodeo event each year to promote riding and safety
Participating Schools		
• C.C. Lee Elem. • Lincoln Elem. • May Overby Elem. • Mike Miller Elem. • O.M. Tiffany Elem. • Simmons Elem. • Holgate Middle • Simmons Middle	• C.C. Lee Elem. • Lincoln Elem. • May Overby Elem. • Mike Miller Elem. • O.M. Tiffany Elem. • Simmons Elem. • Holgate Middle • Simmons Middle	• C.C. Lee Elem. • Lincoln Elem. • May Overby Elem. • Mike Miller Elem. • O.M. Tiffany Elem. • Simmons Elem.

Table 6.2(a): Encouragement and Education attributes of the Aberdeen Parks, Recreation and Forestry Department

Program			
Parks & Trails Map	Trailhead Signs	Safety Town	Bike Rodeo
Type			
Encouragement	Encouragement	Education	Education
Description			
Park & Trail Map includes trail rules	Trail rules are included on all trailhead signs, as well as a trail map and contact information	Introduces children to a variety of safety conditions- available to children in Kindergarten and 1st Grade	Teaches about bicycle safety through obstacle course navigation. Bike helmets given to those who don't already own.

Table 6.2(b): Encouragement and Education attributes of the Aberdeen Boys & Girls Club

Program	
Walking Club	Biking Club
Type	
Encouragement	Education & Encouragement
Description	
During summer months, this club meets every other day for an hour for students grade 1st through 12th. Members are encouraged to participate by walking laps indoors and outdoors. Members and Club staff keep track of their progress and members earn different rewards and privileges when they reach certain miles markers. The Walking Club's goal is to walk the same distance as it would be if it were possible to walk from New York City to Honolulu.	Students in 1st grade through 12th grade are taught basic bike safety skills and complete a bike safety course. Once the corse is completed, members venture out on the various biking paths & trails in the Aberdeen community. Members also take a field trip to a local bike shop and hear from a guest speaker about bike safety. This program is offered twice weekly during summer months.

EXISTING REGULATIONS AND POLICIES

Numerous jurisdictions regulate traffic and govern road safety around Aberdeen. The following section summarizes existing policies that regulate traffic and promote safety for all road users, including bicyclists and pedestrians. State and local code is referenced throughout this document.

State Capitol
© NPS

STATE-LEVEL POLICIES AND REGULATIONS

The South Dakota Department of Transportation (SDDOT) has developed numerous reports and campaigns to promote pedestrian and bike safety on highways and local roads. These policies are summarized below.

South Dakota Legislative Code

The South Dakota Legislature has adopted a code which encompasses a wide array of areas including traffic, roadways, and safety. The following sections, summarized below, are relevant to biking and pedestrian safety in Aberdeen.

Title 32: Motor Vehicles

§32-14-2. Applicability to drivers of publicly owned vehicles.

- Bicycles are considered vehicles on all roadways within the state and must comply with the same regulations as motor vehicles.

§32-17-25. Every bicycle shall be equipped with a lighted lamp on the front and a light or reflex mirror on the rear, exhibiting a yellow or red light visible under atmospheric conditions from a distance of at least three hundred feet in the front and two hundred feet in the rear.

§32-20B (1-8): This section is dedicated to specific rules for bicyclists. These rules include:

- Bicycles may ride upon a sidewalk and along a crosswalk but must yield to pedestrians and must stop before entering a crosswalk or highway from a sidewalk area
- Bicycles must yield to pedestrians and must give an audible signal before overtaking and passing
- A person may park a bicycle on a sidewalk unless prohibited or restricted by an official traffic control device or ordinance
- When on a roadway, bicyclists must ride as far right as practicable
- Turning, stopping or starting signals are required by bicyclists

§32-26-21.1 Driving on sidewalks are prohibited. No person may drive any vehicle other than a bicycle or an electric personal assistive device upon a sidewalk. The local governing body of a municipality may restrict a bicycle or an electric personal assistive device from operating upon a sidewalk or sidewalk area.

§32-26-26.1 The driver of any motor vehicle overtaking a bicycle proceeding in the same direction shall allow a minimum of a three-foot separation between the right side of the driver's vehicle.

§32-27 (1-10): This section provides general traffic rules for motorists and pedestrians in South Dakota. These regulations are summarized below:

- Motorists must yield to pedestrians in marked crosswalks and on sidewalks, including pedestrians walking across driveway cuts
- In unmarked crosswalks, motorists must yield to pedestrians when they are half way through the intersection
- Pedestrians must yield to cars when crossing the road somewhere other than a crosswalk or when crossing the road when a pedestrian bridge or tunnel has been provided
- Pedestrians must not cross divided or controlled-access highways if those roadways are marked prohibiting pedestrians
- Pedestrians must obey signalized intersections

City Hall

MUNICIPAL POLICIES AND REGULATIONS

City of Aberdeen

The City of Aberdeen Code of Ordinances includes regulations specific to biking and walking derived from the South Dakota Legislative Code and enhanced to protect residents. As summary of these regulations include:

> **Bike Safety:** Bicyclists must follow traffic ordinances. Biking on sidewalks is prohibited in business districts. If biking on a sidewalk, cyclists must yield to pedestrians. Lights are required when biking at night.
>
> **Pedestrian Safety:** Pedestrians must follow applicable traffic laws and devices. When there are no signals at an intersection, motorists must yield to pedestrians. Pedestrians not crossing at crosswalks must yield to motorists.
>
> **Motorist Safety:** Motorists must obey traffic signals and signs, yield to bikes and pedestrians in marked crosswalks.

Specific ordinances are provided as follows.

Article I- General

52-4 Persons propelling pushcarts or riding bicycles or animals. Any person propelling any pushcart or riding a bicycle or an animal upon a roadway, and every person driving any animal, shall be subject to the provisions of this chapter applicable to the operator of any vehicle, except those provisions of this chapter with reference to the equipment of vehicles and except those provisions which by their nature can have no application.

Article II- Administration and Enforcement

52-118 Traffic control; red signal. Vehicular traffic facing a red signal shall stop before entering the nearest cross walk at any intersection or at a limit line when marked, and shall remain standing and shall not enter the intersection or roadway to the front until the green signal is shown; however the driver of a vehicle which is stopped as close as practicable at the entrance to the crosswalk and to the far right side of the roadway, then at the entrance to the intersection in obedience to the red of “stop” signal, may make a right turn but shall yield the right-of-way to pedestrians and other traffic proceeding as directed by the signal at said intersection.

Article IV- Recreational Trails

36-123 Signs Posted. Signs will be posted to designate each pathway for use by walkers, bicyclists and roller skaters.

36-124 Careless Use. No person shall use pathways carelessly, recklessly, or heedlessly in disregard for the rights or the safety of others

36-125 Duty to keep to the Right. Persons using the pathways shall remain upon the right half of the pathway except when overtaking and passing another user proceeding in the same direction.

36-126 Meeting other users. Persons proceeding in opposite directions shall pass each other to the right and shall give to the other at least one-half of the pathway as nearly as possible.

36-127 Overtaking and passing. Persons overtaking and passing other users proceeding in the same direction shall be governed by the following:

> The person overtaking another proceeding in the same direction shall pass to the left thereof at a safe distance and shall not

again return to the right side of the pathway until safely clear of the overtaken person.

The person being overtaken shall give way to the right in favor of the overtaking person on audible warning and shall not increase their speed until completely passed by the overtaking person.

No person shall overtake and pass another using the left side of the pathway unless such left side is clearly visible and is free of oncoming users for a sufficient distance ahead to permit such overtaking and passing to be completed without interfering with the safety of those approaching from the opposite direction.

36-128 Following too closely. No person shall follow another more closely than is reasonable and prudent, having due regard for the speed of oneself and for others upon the pathway.

36-129 Control, speed and manner of operation. No person shall ride or propel a bicycle upon a parkway or designated bicycle path except in a prudent and careful manner and unless such person shall be capable of efficient control and operation of such bicycle, and no bicycle shall be ridden faster than is reasonable and proper. Every bicycle shall be operated with reasonable regard to the safety of the operator and other persons upon the parkway and designated bicycle path.

36-130 General speed limit. No person shall propel a wheeled device at a speed greater than the maximum of 15 miles per hour on any pathway.

36-131 Duty to yield to pedestrians. Any person riding a bicycle upon any combined designated bicycle and pedestrian path or upon any other park land shall yield the right-of-way to any pedestrian thereon.

36-132 Duty to keep right; riding abreast. Every person operating a bicycle upon a roadway or designated bicycle path shall ride as near the right side of the roadway or designated bicycle path as is practical, exercising due care when passing a standing vehicle or bicycle or one proceeding in the same direction. Persons riding bicycles upon a roadway or designated bicycle path shall not ride two abreast except on pathways set aside for the exclusive use of bicycles.

36-133 Authorization of path designation signs, control signs and marking.

The director, acting directly or through is or her duly authorized officers or agents, may authorize the installation or erection of pedestrian and/or bicycle path designation signs, control signs or markings upon any paths or on across park lands so as to properly control their use.

No motorized vehicles, bicycles or other devices shall be allowed on any pathway except for vehicles designed for people with disabilities.

Sec. 46-127. - Sidewalks required on adjoining right-of-way. Upon real estate within the city limits where sidewalks do not exist upon public right-of way immediately adjacent to the real estate:

1. New residential and commercial construction. Any owner of such real estate upon which is to be built a new residence or new commercial construction shall have constructed within 12 months after the issuing of the building permit for such construction sidewalks meeting the specifications contained in subsection 48-127(5). All other new residential and all new commercial construction must have such sidewalks that conform to subsection 48-127(5) prior to being issued a certificate of occupancy.

2. Replatted lots. Any owner of such real estate of which any portion was replatted after February 9, 2018, shall have constructed within five years of the date the plat is filed for record with the register of deeds sidewalks adjacent to lots and unimproved public rights-of-way meeting the specifications contained in subsection 4/-127(5). Every plat of real estate subject to this provision shall be approved by city officials after determining compliance with the subdivision regulation regarding sidewalks adjoining approved public streets.

3. Missing links. Notwithstanding the provisions of subsection (2), where sidewalks exist upon the right-of-way immediately adjacent to a lot which abuts real estate without sidewalks, the city council, upon a finding of public convenience and necessity and notice to construct sidewalks, may require any owner of such real estate to have constructed within the time designated in the notice sidewalks meeting the specifications contained ins subsection 48-127(5). A finding of public convenience and necessity shall take into consideration patterns of use or potential use of the right of way by pedestrians and vehicles, the proximity of the right-of-way to schools, churches, public facilities, and arterials streets, and any other factors deemed relevant by the city council.

4. Assessment of costs. The city may cause the construction

of a sidewalk if any owner fails to construct the sidewalk as required in this article and assess the costs therefor as provided under SDCL ch. 9-46.

State Law Reference- Notice to adjoining owners to construct sidewalks, SDCL 9-46-3; owner's certification of plat, SDCL 11-3-4; approval of plat by municipality, SDCL 11-3-6; assessments for sidewalk improvements, SDCL ch. 9-46

Article VI- Bicycles and Longboards

52-10 Coasters, roller skates, etc. It shall be unlawful for any person to utilize or use roller skates or coasters, toy vehicles, skateboards or any nonmotorized wheeled article, except those used by the handicapped, or bicycles upon any roadway, except while crossing a street on a cross walk. However, the use of roller skates, or skateboards , or coasters, or any toy vehicle or similar device shall not be used upon the sidewalks, streets or parking lots in the downtown core area, which shall include an area who's boundaries would be Railroad Avenue on the north, the west side of First Street on the west, the east side of Washington Street on the east and the south side of Sixth Avenue on the south.

It shall be unlawful for any person to ride upon any roller skates, coasters, toy vehicles, skateboards, bicycle or any nonmotorized wheeled article upon the railroad overpass located on South Second Street from First Avenue South to Second Avenue North. All bicycle traffic or any use of the overpass referred to in this section in the designated traffic lanes shall be prohibited by any wheeled, nonmotorized article; and all transportation devices, other than licensed vehicles, shall be walked along the appropriate walkways provided.

52-10 Coasters, roller skates, etc. It shall be unlawful for any person to utilize or use roller skates or coasters, toy vehicles, skateboards or any nonmotorized wheeled article, except those used by the handicapped, or bicycles upon any roadway, except while crossing a street on a cross walk. However, the use of roller skates, or skateboards , or coasters, or any toy vehicle or similar device shall not be used upon the sidewalks, streets or parking lots in the downtown core area, which shall include an area who's boundaries would be Railroad Avenue on the north, the west side of First Street on the west, the east side of Washington Street on the east and the south side of Sixth Avenue on the south.

52-268 Traffic Laws Pertaining to persons riding bicycles or longboards. Every person riding a bicycle or longboard upon a roadway shall be granted all of the rights and shall be subject to all of the duties applicable to the driver of a vehicle by the laws of this state declaring rules of the road applicable to vehicles or by the traffic ordinances of this city applicable to the driver of a vehicle, except as to those provisions of laws and ordinances which by their nature can have no application.

52-269 Obedience to traffic control devices. Any person operating a bicycle or longboard shall obey the instructions of official traffic control signals, signs and other control devices applicable to vehicles, unless otherwise directed by a police officer.

Whenever authorized signs are erected indicating that no right or left U-turn is permitted, no person operating a bicycle or longboard shall disobey the direction of any such sign, except where such person dismounts from the bicycle or longboard to make any such turn, in which event such person shall then obey the regulations applicable to pedestrians.

52-270 Riding on bicycle. A person propelling a bicycle shall not ride other than astride a permanent and regular seat attached thereto.

No bicycle shall be used to carry more persons at one time than the number for which it is designed and equipped.

No person under the age of 18 years shall carry a passenger on a bicycle unless such bicycle is a tandem bicycle so built at the factory and designed to accommodate more than one person, except that persons 18 years old or more may carry a passenger on a bicycle provided that the passenger is seated on an additional seat which has been solidly and safely attached to the bicycle, and provided that such passenger is under the age of eight years.

52-272 Riding on roadway and bicycle paths. Every person operating a bicycle or longboard upon a roadway shall ride as near to the right-hand

side of the roadway as practicable, exercising due care when passing a standing vehicle or one proceeding in the same direction.

Persons riding bicycles or longboard upon a roadway shall not ride more than two abreast except on paths or parts of roadways set aside for the exclusive use of bicycles.

Whenever a usable path for bicycles has been provided adjacent to a roadway, bicycle and longboard riders shall use such path and shall not use the roadway.

52-276 Riding on Sidewalk. No person shall ride a bicycle or longboard upon a sidewalk within a business district. The said business district shall be bounded on the north by Railroad Avenue and on the south by Seventh Avenue South and on the east by Washington Street and on the west by Second Street, said business area to include Second Street in said boundaries.

Whenever any person is riding a bicycle or longboard upon a sidewalk, such person shall yield the right-of-way to any pedestrian and shall give audible signal before overtaking and passing such pedestrian.

Article VII- Pedestrians

52-341 Crossing Streets. *It shall be unlawful for a pedestrian to cross a roadway at any point other than within a marked or unmarked crosswalk in the business district as defined in this chapter or on any federal highway.*

52-342 Use right half of crosswalk. Pedestrians shall move, whenever practicable, upon the right half of the crosswalks.

52-343 Traffic Signals. At intersections where traffic is directed by police officers or traffic control devices, it shall be unlawful for any pedestrian to cross the roadway other than with released traffic and pedestrians shall obey all traffic signals and directions.

IDENTIFYING EDUCATION AND ENCOURAGEMENT ISSUES AND PRIORITIES

Aberdeen already has several existing policies and programs that encourage the use of the trail system and promote the safety of bicycles, pedestrians and motorists, alike. However, very early in the planning process, members of the SAT recognized that encouragement and education initiatives are perhaps the most important area for improvement—even more so than the expansion of the existing trail network.

Working from a baseline analysis of policies and programs, as well as utilizing ideas identified by significant stakeholder input, the consultant team and SAT worked collaboratively to determine key recommendations for education and encouragement initiatives to support transportation safety and increase the use of the trail system throughout the community. The following sections of this chapter outline the outcome of this process.

WALK AUDITS TO SUPPORT EDUCATION INITIATIVES

On April 30, 2019, the consultant team conducted a demonstration walk audit for the SAT, the City of Aberdeen, the SDDOT, and the Aberdeen Parks, Recreation and Forestry Department. This activity was held in support of the Aberdeen Recreational Trails Plan Study update and were intended to serve as a "train the trainer" activity, wherein those in attendance could easily replicate the exercise with other stakeholders throughout the community, on a case-by-case basis, as various project needs arise.

The Walk Audit Process

Walk audits serve an important role in evaluating current pedestrian infrastructure in order to raise awareness, identify gaps and evaluate potential project opportunities for municipalities and neighborhood groups. Overall, they are an important tool to promote education and awareness of the condition of bicycle and pedestrian trails.

Many times, this activity serves as a measurable exercise to complete at the onset of a project, in response to public concerns, or in conjunction with other planning studies. The process of a walk audit can be led by city engineering or planning staff and include the following:

Gather with invited stakeholders (recommended size of 3 to 12 participants) to review the walking corridor and survey questions.

Review intersection evaluation criteria in response to these items:

- Vehicle Speeds
- Curb Returns/Corner Treatments
- Visibility & Lighting
- ADA Ramps
- Crossing Controls
- Traffic Signals

Review Mid-Block evaluation criteria to assess the following:

- Sidewalk Presence
- Sidewalk Width
- Driveway Slopes & Design
- Sidewalk Condition
- Vehicle Speed
- Street Trees & Vegetation
- Place
- Lighting
- Median
- Accessibility
- Transit

Walk the Route

Complete the pre-determined walking route to review each intersection configuration and midblock condition in accordance with the walk audit criteria. It is recommended that the group complete one set of evaluation questions for each intersection and mid-block area that is encountered along the route. Walk audit routes are recommended to be contiguous, but do not necessarily need to follow a direct linear path- as it is expected that the evaluation corridors can turn and take detours as necessary.

Share Your Ideas

Once the group has completed the walking route, it is important to reconvene to review the existing conditions as observed during the exercise. This reap discussion provides an important opportunity to identify areas of most concern, record general observations, and facilitate group discussion of how potential improvements could be

addressed. Some questions, which should be included within this reflection time are:

- What did you see?
- As a person walking, did you feel like you were of importance to other road users?
- Did you make any other observations while performing the audit?
- What needs to change? (in the short, medium, long-term timeframe)
- How did the roadway and intersection segments rank?

Walk Audit Evaluation Criteria

The primary value of a walk audit rests on the evaluation criteria. As part of this exercise, an extensive list of questions has been developed to evaluate the pedestrian needs of a walking corridor for both roadway intersections as well as mid-block environments. Each of these criteria are scored on the following scale:

- Good (+3 points)
- Fair (+1 point)
- N/A (0 points)
- Poor/Gap in pedestrian infrastructure (-3 points)

It should be noted that the cumulative score of a walk audit is important, but not the ultimate indicator for how a corridor should be evaluated. In many instances, the scoring system provides an opportunity to specifically measure the efficacy of each element, rather than the overall performance of the walking route itself. At present time, there are no known industry scoring standards which have been developed to assess pedestrian elements. The scoring aspect of the walk audit process has been provided to help stakeholders prioritize areas of improvement along corridors, where numerous challenges may exist.

The following list of walk-audit questions have been assembled and included within the scoring sheets. During the walk-audit exercise, each of these questions are evaluated on an individual basis (per the scale provided above) in order to set priorities and establish goals for improvement. The questions are divided into two categories: Intersections and Mid-Block and are described in the following sections.

Intersections

- Vehicle Speed - What is the operating speed of the roadway adjacent to the sidewalk? What is the posted speed of the two interesting roadways?
- Curb Returns/Corner Treatments - What are the corner treatments? (tight, large, channelized right turn, ‘smart’ right turn, curb extension)
- Visibility & Lighting - Are people walking visible to the people driving through the intersection? Is lighting provided that illuminates the roadway when people are walking across the street? Does lighting illuminate the people waiting to cross the street on the sidewalk?
- ADA Ramps - Are ADA ramps existing at all corners of the intersections that have sidewalk connections? Are the ramps shared at the corner or is there one ramp per direction?
- Crossing Controls - What pedestrian crossing controls are present? Does the control type convey the importance of a crossing location?
- Traffic Signals - Is the signal designed to minimize the delay to people waiting to cross the intersection? Is there adequate time for people of all ages and abilities to cross the street? Is there information provided to indicate the amount of time remaining in crossing the street? Are accessible signals provided? Are tactile walking surface indicators used to navigate the intersections?

Mid-Block

- Sidewalk Presence -Are sidewalks existing on both sides of the street?
- Sidewalk width -How wide is the sidewalk? Is it conducive for two people in wheelchairs to wheel side-by-side while passing another person (8.5’ clearance)? Can two wheelchair users pass each other on the sidewalk without issue (6’ clearance)? Is the sidewalk clear of obstructions?
- Driveway slopes & design - Describe the driveway treatments (if present) Comment on the degree of side slope that exists for the driveway portion, if walking or wheeling is expected to occur across it.

- Sidewalk Condition - What is the condition of the sidewalk? Is it conducive to reliable wheelchair travel?
- Vehicle Speed - What is the observed operating speed of the roadway adjacent to the sidewalk? What is the posted speed of the roadway adjacent to the sidewalk? What is the distance from the edge of the sidewalk to the nearest travel lane?
- Street Trees & Vegetation - Is there a boulevard present? Are trees or vegetation able to be viable and thrive in the boulevard?
- Place - Are there programming and design components that enhance the experience in the area?
- Lighting - Is lighting provided that illuminates the walkways, in addition to the roadway? Is lighting provided in a manner that does not create darker areas that feel less comfortable and secure?
- Median - Is there a median in the street? If yes, what is the width and what is it made of?
- Accessibility - Are tactile walking surface indicators used to navigate the street? Is the street clear of obstacles that would be a barrier to access?
- Transit Access - Are transit stops easy to access and accessible for all users? Are transit stops located outside of the clear walkway width, not impeding travel along the sidewalk?

Observations of the Walk Audit Demonstration

Overall, participants of the walk audit demonstration indicted that the exercise was valuable and could be utilized as an effective tool to help convey the importance of pedestrian infrastructure. Participants indicated they felt comfortable replicating this with other community constituent groups, and elected officials, in the future.

Participants conveyed the importance of site context and how it impacts the audit process. There are some questions that more aptly pertain to busier streets and high-density areas, while other questions are better suited to smaller scale contexts such as residential neighborhoods and calmer streets.

Due to the wide-ranging seasonal considerations experienced in South Dakota, it is important to note that this exercise would provide value if completed at various times of the year to evaluate pedestrian access, snow removal and accommodation of stormwater runoff, particularly in regard to the Winter Design Guidelines as described in Chapter 4- Bicycle and Pedestrian Trails Network.

Walk Audit led by Stantec

TOP EDUCATION AND ENCOURAGEMENT POLICIES, PROGRAMS, AND IDEAS

In addition to a planned, well-connected trail system, Education and Encouragement initiatives help improve the safety of all roadway users and help increase the use of trails throughout the community. As bicycle and pedestrian activities continue to increase in similar communities throughout the Great Plains, various Education and Encouragement policies, partnerships and programs are being developed to improve the quality of life for residents of communities, like Aberdeen.

EXAMPLES OF INITIATIVES IN CITIES ACROSS THE REGION

Examples from: Minneapolis, MN; Kansas City, MO; Duluth, MN; Madison, WI; Sioux Falls, SD; Moorhead, MN

- *Bike Walk KC*, Kansas City (www.bikewalkkc.org)
  - 501(c)(3) Nonprofit
  - Mission to make streets a place for people to build culture of active living
  - Advocacy for equitable infrastructure, complete streets, and neighborhood planning
  - Education for people of varied experience levels (youth, women, ed professionals)
- *Bike Cops for Kids*, Minneapolis (www.facebook.com/bikecopsforkids)
  - Mission to be more approachable, est. positive relationship with youth
  - Hand out helmets, locks, bikes, treats, books
  - Supports positive relationships as much as bike safety
  - Oriented toward poor areas of city
  - Consistent social media presence
- *Bike to Work Day*, Minneapolis (www.tcbiketoworkday.org)
  - Elected officials lead rides from varied starting points
  - Part of month of activities that promote biking https://www.mplsbikemonth.org/
- *Falls Area Bicyclists*, Sioux Falls (www.fallsareabicyclists.org)
  - Host variety of events and safety classes
  - Winter Bike to Work Day Breakfast
  - Volunteer Organization
- *Slow Down Yard Sign Campaign*, Madison (www.safercommunity.net)
  - Yard signs reading “Thanks for Slowing Down”
  - Provided to individual neighbors and neighborhood groups
  - Private support from AAA and American Family Insurance
- *Artful Crossings Initiative*, Madison (www.facebook.com/ArtfulCrossings)
  - Local artists commissions to design boxes that hold ‘crossing flags’
  - Supported by Traffic Engineering Department
  - Neighborhoods, business dist., police, “adopt” intersections
- *Open Streets*, Minneapolis (http://www.minneapolismn.gov/bicycles/safety/WCMSP-198348)
  - Streets temporarily closed to become car-free
  - Bike, ped, wheelchair, skateboard, all mode event
  - Believed to build community, civic pride, active living
  - Rotates to different streets throughout the season
- *Pop-up bike lanes*, Moorhead (http://www.bikemn.org/collaboration/bicycle-friendly-community-resource-guide/moorhead-minnesota)
  - Temporary bike lanes delineated by planters
  - Partner with preexisting community events
  - Group also offers classes on fixing flats, biking at night
- *Dedicated Paid Staff Time*, Duluth (http://www.bikemn.org/collaboration/bicycle-friendly-community-resource-guide/duluth-minnesota)
  - Paid staff ensure that effort move forward
  - Recognizing importance in public health, civic pride
  - Group rides with police, elected officials, city staff, mechanics
- *Stop for Me Campaign*, St. Paul (https://www.smart-trips.org/stop-for-me/)
  - Enforcing ‘yield to peds’ at crosswalks
  - Increased enforcement and citations at key intersections during campaign period
  - Weekly updated signage indicating percentage of drivers who yield
- *Artistic Crosswalks*, Des Moines (https://dsmpublicartfoundation.org/art-route-dsm-crosswalk-installations-taking-place/)
  - Artist-designed painted crosswalks
  - Combined to create a ‘trail’ between public art destinations
  - Emphasis on human-scale, pedestrian pathway
- *Leading Pedestrian Interval*, St. Paul (http://www.startribune.com/st-paul-expands-early-signals-for-walkers/461709143/)
  - Gives ‘Walk’ sign 3-7 second prior to ‘Green’ light
  - Provides opportunity for pedestrian to get into intersection first and be seen
  - Allows more time for walking across intersection per sequence

- *Safe Routes to School*, Milwaukee (https://city.milwaukee.gov/Bike/Safety-Information-and-Rules/Safe-Routes-to-School.htm#.XQ1wBDZYaUk)
  - Federal program with local implementation
  - Policy changes at city- and school-levels
  - Educations and encourages safe, active transportation to school

Education and Encouragement were the focus of two Study Advisory Team (SAT) meetings. Prior to SAT meeting #4, two online surveys (one each for the topics of Education and Encouragement) with a list of potential policies and programs to improve the safety of all individuals on the road, was sent out to SAT members.

EDUCATION

Six members of the SAT participated in the education policies and programs survey that was made available in February 2019. When asked "What education programs, policies, or ideas do you think will work in your city to address biking and walking safety?" respondents were asked to rank their top five priorities from the following list:

- "Road Safety" campaigns on local TV and radio stations periodically through the year with a focus on school-related issues at the start of the school year
- Developing materials on road safety for pedestrians, bicycles and vehicle drivers
- Simple pamphlets on bicycle and pedestrian road safety available at local businesses (especially those selling or repairing bicycles), public libraries, recreation centers, family-oriented restaurants and other locations (i.e. bumper stickers promoting safe driving on the roads and in school zones)
- Safety educational programs of schools (even at upper-level educational institutions as part of orientation)
- "Code for the Road" campaign focused on biking and walking
- Signs printed by local jurisdictions and placed on yards along popular walking or bicycling routes or known problem areas with messages like "drive like your kids walk here" or Slow down! Keep our kids safe"
- Additional signage designating school zones and school-related speed limits
- Newspapers regularly including a section on bike safety. This could be helpful and quick reminder for both motor vehicles drivers and bicyclist of the "do's" and "don'ts" on the road to ensure safety
- School visits by law enforcement to educate children about bike safety
- A reward system or initiatives that encourage safe biking for children (i.e. Police on patrol giving out coupons for ice cream or other things, to children with bike helmets)
- Prepare for and develop a media blitz on "Streets of the Future" (actual title to be determined) showcasing existing streets that already are great examples of complete streets
- Special programs or sessions for parents hosted during PTA meetings or school meetings to educate on how they can help their children be safer when biking or walking

From this list, survey results indicated the most support for the following education initiatives:

1. School Visits by law enforcement to educate children about bike safety
2. Safety educational programs at schools (even at upper level educational institutions as part of orientation)
3. Developing materials on road safety for pedestrians, bicycles, and vehicle drivers
4. Simple pamphlets on bicycle and pedestrian road safety available at local businesses (especially those selling or repairing bicycles), public libraries, recreation centers, family-oriented restaurants and other locations. (i.e. bumper stickers promoting safe driving on the roads and in school zones)
5. Special programs or sessions for parents hosted during PTA meetings or school meetings to educate on how they can help their children be safer when biking or walking.

In the SAT meeting itself, members received a presentation of the results of the survey and additional information, and then a group discussion was facilitated to discuss the preferred ideas. The feedback reviewed during this discussion has been incorporated into the specific policy, program and idea descriptions on the following pages.

TOP EDUCATION POLICIES, PROGRAMS, AND IDEAS

School Visits by Law Enforcement to Educate Children about Bike Safety

School visits by law enforcement to educate children about bike safety may be one of the best ways for children to learn about road safety. It is important that children are properly informed about road safety. With law enforcement visits to schools, children will be properly informed on how to practice safe walking and biking. Children should also have a good understanding that "road safety" is only ensured due to a mutual understanding between motorists, bicyclists, and pedestrians.

Some of the things law enforcement can address during school visits are:

- Standard hand signals when turning
- Proper bike gear and attire (i.e. helmet and closed-toe-shoes)
- Helping children understand traffic laws and the importance of abiding traffic laws
- What to do in the case of an accident
- How to practice safe bicycling behaviors on multimodal/busy streets
- Safe turning practices. This includes proper left-turn lane merges for bicyclists and awareness of bicyclists and pedestrians on adjacent facilities when turning right, so as not to "cut off" or "T-bone" these users.

Law enforcement can continue to promote safe behavior outside of schools by presenting children with coupons or stickers for being safe while walking and biking. Aberdeen is currently implementing a similar program during the summer months.

"Don't Thump Your Melon" is a bicycle safety rodeo kit for communities that is sponsored by the South Dakota Department of Public Safety and is implemented in Pierre, SD. The challenge with police-run events is that attendance can be limited. Partnering with the park district or school district will help advertise the event. North Dakota State University has also adopted a "Bicycle Safety & Rules of the Road" guide that not only lists safety measures when bicycling but also the responsibilities of bicyclists on the road. Law enforcement can also pass out this guide at events.

Safety Educational Programs in School

Drivers aren't the only contributing factors to road accidents with bicyclists and pedestrians. Bicyclists and pedestrians are just as responsible for the safety of everyone on the road. While some road safety rules and laws seem obvious, children aren't as aware of these rules as adults. Therefore, it is crucial to educate children, teenagers, and even parents on how to be safe. Road safety programs shouldn't be limited to just elementary, middle, and high schools but should be available at upper level educational institutions as well. Parents should also play an integral part in keeping children safe on the road. Therefore, it is important parents and adults are also well-aware of safety bicycling practices and road safety rules.

In Brookings, SD, there are several programs that contribute to teaching and keeping children safe on the roads. Not only were bikes donated to schools by Sioux River Bicycle & Fitness for students to use during physical education class but, free helmet and bike safety checks are available at the Kite and Bike Festival. Potential safety educational programs that could be adopted in Aberdeen are:

- Helmet checks at school and helmet donations from the department of Public Health and Safe Routes to School.
- Providing safety courses during freshmen orientation at colleges. This could be connected to a local bike advocacy group or facilitated by students enrolled in health & wellness or criminal justice majors.
- Incorporating road safety as part of a school's physical education (P.E.) curriculum. This needs to happen in both public and private schools.
- Helping keep children safe by providing educational opportunities for parents including proper helmet fits and seat heights, the importance of bike tuning, etc.

- Interactive activities in which students act out different road safety scenarios.
- Connecting with parents of students through school newsletters to continue education at home.
- Implementation of the “What do you Consider Lethal” program at area high schools.

Developing Materials on Road Safety for Pedestrians, Bicycles and Vehicle Drivers

Frame from bike safety video produced by NDDOT

While the State of South Dakota has a few programs to promote the increased safety of bicyclists and pedestrians, limited information is currently provided by the South Dakota Department of Public Safety on bicycle and pedestrian safety awareness for motorists. Through all stakeholder meetings and feedback from the community, increased awareness for safety by motorists and bicyclists/pedestrians, alike, was an issue that was heard often. Given the increased activity of bicyclists and pedestrians with community roadways, and the increasing issue of distracted behavior (driving, bicycling and walking), improved materials on road safety for pedestrians, bicycles and vehicle drivers is a concerted means to increase safety for all.

It should be recognized that, while this initiative may lean heavily on partnership and the influence of the South Dakota Department of Public Safety, local leaders and trail advocacy groups in Aberdeen can hep voice support in the development of these materials, and lean on the assistance of local legislators to gain progress with this initiative.

In recent years, the North Dakota Department of Transportation (NDDOT) has developed a specific approach to developing materials on road safety for pedestrians, bicyclists and motorists. The “Share the Road” campaign has been developed for motorists and included in their motorist education programs and outlined on their program website (https://www.dot.nd.gov/divisions/safety/bicycle-safety.htm). Key aspects of the NDDOT “Share the Road” campaign include:

- Bicycles are vehicles. They have every right to be on the road, just as you do.
- Leave room when passing bicycles
- Change lanes to pass bicycles if traveling in a narrow lane
- Look for bicycles when changing lanes or going through an intersection, just as you would vehicles
- Be predictable when driving by obeying traffic laws.
- Show common courtesy and respect on the road. Do not use your horn to alert bicyclist as it may startle them and cause them to swerve into traffic.
- Obey the speed limit. A speeding motor vehicle is a serious safety risk to bicyclists.
- Use eye contact to acknowledge the presence of a bicyclists who has stopped at an intersection and waiting to cross the street. Yield to them when appropriate.

In addition to the “Share the Road” initiative, the NDDOT has also partnered with many local news media outlets to promote awareness for motorists of bicycle and pedestrian safety. The jingle included in the media campaign is short, easy, catchy and is readily available online to the public. In addition to the NDDOT, there are several U.S. cities that are also taking advantage of local media to further promote road safety to the public. Bemidji, MN has a radio show called, “Chat About.” The radio show has invited police officers and city council members to talk about bicycling and how to stay safe on the road. As road safety information is considered, messaging should include:

- Danger for a potential conflict between cyclists riding at higher speeds and pedestrians
- Informing motorists that cyclists have the right to ride in the roadway
- Cyclists riding on the roadway need to follow the same rules of the road as motor vehicles

- On-Road cyclists should ride with traffic
- Watching out for one another at intersections, including right turns in front of pedestrians and cyclists (right hook), sight lines, and stopping behind stop bars.
- Wearing helmets saves lives
- Sharing the roadway including behavior at intersections
- Trail behavior, including sharing the trail between bicyclists and pedestrians and allowing room for all users.
- Bicyclists hand signals, including revising the signals to include pointing in both directions
- The role of bicycle facilities in promoting equity and revitalization while maintaining a variety of housing units and price-points (managing risk of gentrification)

Simple Pamphlets on Bicycle and Pedestrian Road Safety Available at Local Businesses

A bike safety pamphlet is included among the brochures available to the public at the Sea Isle City Welcome Center © Sea Isle News

Providing simple pamphlets on bicycle and pedestrian road safety can provide the public with a framework of safety protocols as well as links to more information. Such pamphlets can be left at local businesses (especially those selling or repairing bicycles), public libraries, recreation centers, family-oriented restaurants and other locations for dispersal. They may also be paired with promotional bumper stickers promoting safe driving on the roads and in school zones.

Potential content for these materials may include:

- Safety tips for preparing - what to check to make sure a bike is ready to be ridden including tire pressure and brakes
- Safety tips for riding - how to properly signal and where to ride on the road
- Tips for helmets - how they should be placed on the head, how to adjust straps, and where to buy helmets locally
- A map of bicycle routes and off-street trails

Many communities, of similar size and demographic to Aberdeen, take a similar approach in providing educational materials to the community. Among these case studies are:

- The City of Chilliwack, British Colombia publishes a pamphlet that includes safety tips for motorists as well bicyclists. Information includes a wide range of topics, ranging from helmet tips, to ways in which drivers can keep an eye out for bicyclists on the road.
- Wheel of Fun, a bicycle rental company in Minneapolis, Minnesota provides a graphic pamphlet at its kiosks that includes a short checklist of items to check on bikes for safety before taking a ride. it also includes a coupon to extend rentals for a free hour as an incentive to take the pamphlet.

Special Programs or Sessions for Parents Hosted During PTA Meetings to Educate on Bicycling and Walking Safety

Educating parents is an effective channel for educating kids. Special programs or sessions through Parent-Teacher Associations and school meetings can help prepare parents to talk to their kids about bike and pedestrian safety. There are some tools that have already been developed that can guide such programs to be fun and informative for parents and kids alike.

Potential Program Topics:

- How to adjust a helmet - teach parents the basic of helmet fitting for their children
- Provide advice for biking with kids as well as teaching kids how to navigate the road on their own
- Provide an activity kit for parents to undertake with their

children - including traffic sign matching exercises, and fill-in-the blank activities.

Example Case Studies:

- Bike Walk KC, a non-profit in Kansas City, MO, provides low-cost classes to families that teach parents about bike maintenance and how to haul groceries by bike
- The National Highway Traffic Safety Administration has released a Bicycle Safety Activity Kit for teachers or parents to utilize in order to teach safety measures to children. The kit includes a variety of interactive activities including mapping out a safe route to school.

ENCOURAGEMENT

Encouragement is the topic that most relates to all the plan goals of increasing network use, connectivity, safety and comfort, maintenance, and planning. Future pedestrians and bicyclists will be the most encouraged to begin walking and biking on a regular basis by seeing others do it as part of a safe, convenient, and well-planned system. We can think about encouragement in two ways:

- Encouragement to build a safe, comfortable bicycling and walking network OR
- Encouragement to use a safe, comfortable bicycling network

Six members of the SAT participated in the encouragement policies and programs survey that was made available in February 2019. When asked "What encouragement programs, policies, or ideas do you think will work in your city to address biking and walking safety?" respondents were asked to rank their top five priorities from the following list:

- Ordinances requiring snow removal and winter maintenance policies from sidewalks and bike facilities
- Ordinances requiring bicycle parking
- Updated ordinances mandating sidewalks be built when lots are platted (to avoid gaps in the network)
- "Complete Streets" policy (balancing needs of bicycles, pedestrians, transit, trees, stormwater management, motorists, etc.)
- Events to encourage walking and biking such as "Open Streets" or "Cyclovia"
- Partnerships with local tourism groups to promote biking and walking
- Partnerships with local businesses and chamber of commerce to provide discounts to walkers and bicyclists
- Printed and/or online bicycle and trail facility maps for the entire region
- Development of themed and signed loop walks/rides
- Public bike share program
- Increased lighting along trails
- Increased bicycle police presence along trails
- Other (please specify)

From this list, survey results indicated the most support for the following encouragement initiatives:

1. Increased lighting along trails
2. Printed and/or online bicycle and trail facility maps for the entire region
3. Oversight of ordinances mandating sidewalks be built when lots are platted (to avoid gaps in the network)
4. Events to encourage walking and biking such as "Open Streets" or "Cyclovia"
5. Partnerships with local businesses and chamber of commerce to provide discounts to walkers and bicyclists
6. Development of themed and signed loop walks/rides

In the SAT meeting itself, members received a presentation of the results of the survey and additional information, and then a group discussion was facilitated to discuss the preferred ideas. The feedback reviewed during this discussion has been incorporated into the specific policy, program and idea descriptions on the following pages.

TOP ENCOURAGEMENT POLICIES, PROGRAMS, AND IDEAS

Increased lighting along trails

Trail lighting in Kelowna, BC © Stantec

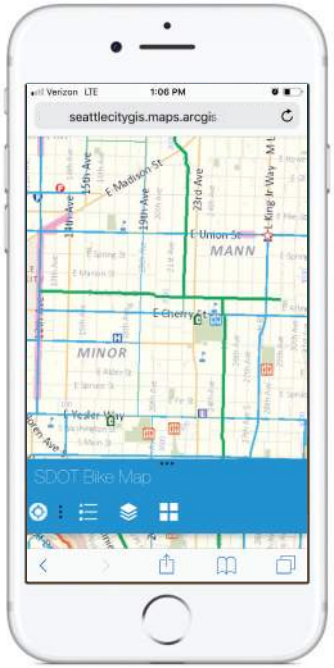
Clearly demarcating and lighting trails are important aspects to help people move between places, feel confident in their safety, and to attract more users. In nearly every stakeholder meeting and comment from residents, increased lighting along trails was heard as a common concern—particularly in segments of off-road trail that are in natural areas, green spaces, and parks.

Increased lighting along trails will encourage more use of the trail system through all months of the year and should be considered in the design of new trail segments. Chapter 7 Implementation specifically identifies which new sections of off-road trails should include additional lighting at the time of construction. Existing trail segments should be further reviewed by the Bicycle and Pedestrian Plan Implementation Committee, to determine appropriate locations for additional lighting to be installed.

In addition to lighting, emergency responses kiosks should also be considered to help increase the safety for pedestrians and cyclists throughout the year. These kiosks could be developed to provide direct 911 calling access, to local emergency responders.

Printed and/or online bicycle and trail facility maps for the entire region

Print Map, Hennepin Co, MN.



Seattle Bike Route App

Trail maps, both print and online, provide the best-fit option for cyclists, runners, and pedestrian when planning a trip whether that be for transportation or recreation. For riders who are new to the system, or experienced riders looking for new routes, not having access to a comprehensive map can be challenging. With today's reliance on smartphones and digital technology, online maps and applications are also in demand. Not limited to just providing route options for map users, these interactive maps can also provide information on the kind of facility types and popular destinations accessible en route. The City of Seattle has an online mapping application for their bicycle network, separated by facility type which can help riders figure out a route they are most comfortable using.

Aberdeen has local trail maps, but these aren't interactive maps for people. Moving forward, it will be important to consider collaboration between the City of Aberdeen and the Aberdeen, Parks, Recreation and Forestry Department on mapping parks and trails for both on-street and off-road. However, numerous challenges exist including the resources it takes to map all trails and sidewalks, especially as new areas develop.

Events to encourage walking and biking such as "Open Streets" or "Cyclovia"

Open Streets event, © City of Minneapolis

A city with an abundance of parking spaces, no sidewalks, or bike lanes doesn't provide people with the right environment to bike or walk. Creating an environment in which people want to bike and walk is important. To change the preconception that roads are only for motor vehicles, cities can close major thoroughfares to car traffic to host bicycle and walking events. By transforming spaces that aren't normally considered bike or pedestrian friendly, people may be more inclined to bike or walk in the future. Various cities in the United States close off main streets to motor vehicles, transforming them into pedestrian-friendly areas in which children and adults can safely attend on-street events. Farmers' markets have become one of the popular on-street events to not only encourage community engagement but as a way to make roads multifunctional. Through these events, the public can experience roads as more than just a form of infrastructure for transportation. Roads can be multipurpose for social gatherings and events.

In Aberdeen, there are running and cycling groups that could get involved in a large-scale event like "Open Streets", but coordination and collaboration is needed amongst all the interested groups and agencies. A cohesive committee, or bicycle and pedestrian advisory committee, could help to organize a large-scale event.

Development of themed and signed loop walks/rides

Loop trail signage © The Colorado Springs Independent

Clearly demarcating themed loop rides and routes helps promote greater use of the system and supports local events that promote a healthy, active lifestyle. As described in Chapter 4 Bicycle and Pedestrian Trails Network, and Chapter 5 Wayfinding, a wide variety of route distances can be developed throughout Aberdeen—both in the near-term and in the long-term implementation of the plan.

To support these trail loops, wayfinding signage and trail maps will provide the necessary orientation and branding of these routes for residents and visitors, alike. Trail maps, both print and online provide opportunities for cyclists, runners, and pedestrians to plan a route to travel for transportation or recreation. For riders who are new to the system, or experienced riders looking for new routes, not having access to a comprehensive map can be challenging. With today's reliance on smartphones and digital technology, online maps and applications are also in demand.

Many communities across America have developed designated trail routes that rely on print and online trail facility maps for walking and biking. Print maps are often compact and sold or given out at bicycle shops, tourism centers/chamber of commerce offices, or at parks and trail heads. These maps are specifically designed to fold and fit into a purse or bike bag. Online maps and map applications are also popular, as they allow users to zoom

to specific locations, turn on and off “layers”, and use GPS location services. All maps, regardless of platform, should specify facility types and highlight destinations.

Potential wayfinding elements to include in a loop route:

- Maps and directional signs help users orient themselves and create a plan for how to reach their destination
- Confirmation signs and mile-markers help users affirm that they’re on the right path
- Lighting elements, along off-road loops, help users feel safe from dangers both perceived and real -highlighting cracks in the road and terrain changes

The following communities have established both print maps and online maps to help communicate and encourage identified routes within their trail system:

- Fargo-Moorhead Metropolitan Area (print maps)
- St. Paul, MN (print maps)
- Hennepin County, MN (print maps)
- Madison, WI (mobile web map applications)
- Seattle, WA (mobile web map applications)
- Pittsburgh, PA (mobile web map applications)

Oversight of ordinances mandating sidewalks be built when lots are platted (to avoid gaps in the network)

When sidewalks are not connected, people are discouraged from walking. Sidewalks need to lead people to community destinations. However, when sidewalks exist in small patches, people are unable to get from point A to B without having to walk on non-designated pedestrian paths. To create an environment that would not only encourage people to walk but feel safe doing so, a well-connected sidewalk network is essential. To create a sidewalk network that is well connected, ordinances mandating that sidewalks are constructed at the time homes are built are common and can be influential. In late 2018, the City of Aberdeen adopted ordinances that required sidewalks to be constructed when platting, replatting or construction occurs—or when development has been established on both adjoining sides of an undeveloped lot. Tracking of these properties, and adequate enforcement of these ordinances, would help improve the overall network throughout the community.

In a typical site plan review process, a city might examine how roadway networks connect to existing developments. The same should be done for sidewalks and trails.

In Aberdeen, this issue has been related to residential subdivisions and commercial developments. For example, a new commercial development may have sidewalks in front of all the stores but there may not be sidewalks connecting the commercial and the residential development. Another challenge is that home construction can cause damage to sidewalks that have already been installed. Protecting these features is important to ensure a safe, well-maintained network.

During the community input process of this planning study, many residents and stakeholders mentioned safety concerns regarding crossing the roadway to switch from one side of the street to the other, in order to continue on the trail system. These crossings are not only inconvenient, but also have the potential to expose bicyclists and pedestrians to vehicle activity in busy areas. There are currently seven locations within the existing trail system where these “jogs” occur, as illustrated in Figure 6.1. Adopting development ordinances that construct trail and sidewalk facilities at the time of roadway construction, will help minimize instances where these jogs occur, and will contribute to a safer bicycle and pedestrian network.

Partnerships with local businesses and chamber of commerce to provide discounts to walkers and bicyclists

Businesses around the Country are realizing the value that biking brings to local business. Retailers are attracting more customers by bike - and without the same need for parking.

By partnering with the Chamber of Commerce, or directly with businesses themselves, local government can help create a mutually beneficial environment for bicyclists and business owners.

Potential Program Ideas:

- Create a promotional list of bike-friendly businesses to increase visibility online and offer store-front signs
- Encourage retailers to provide discounts on products and services for customers who arrive by foot or bike (offsetting parking requirements)

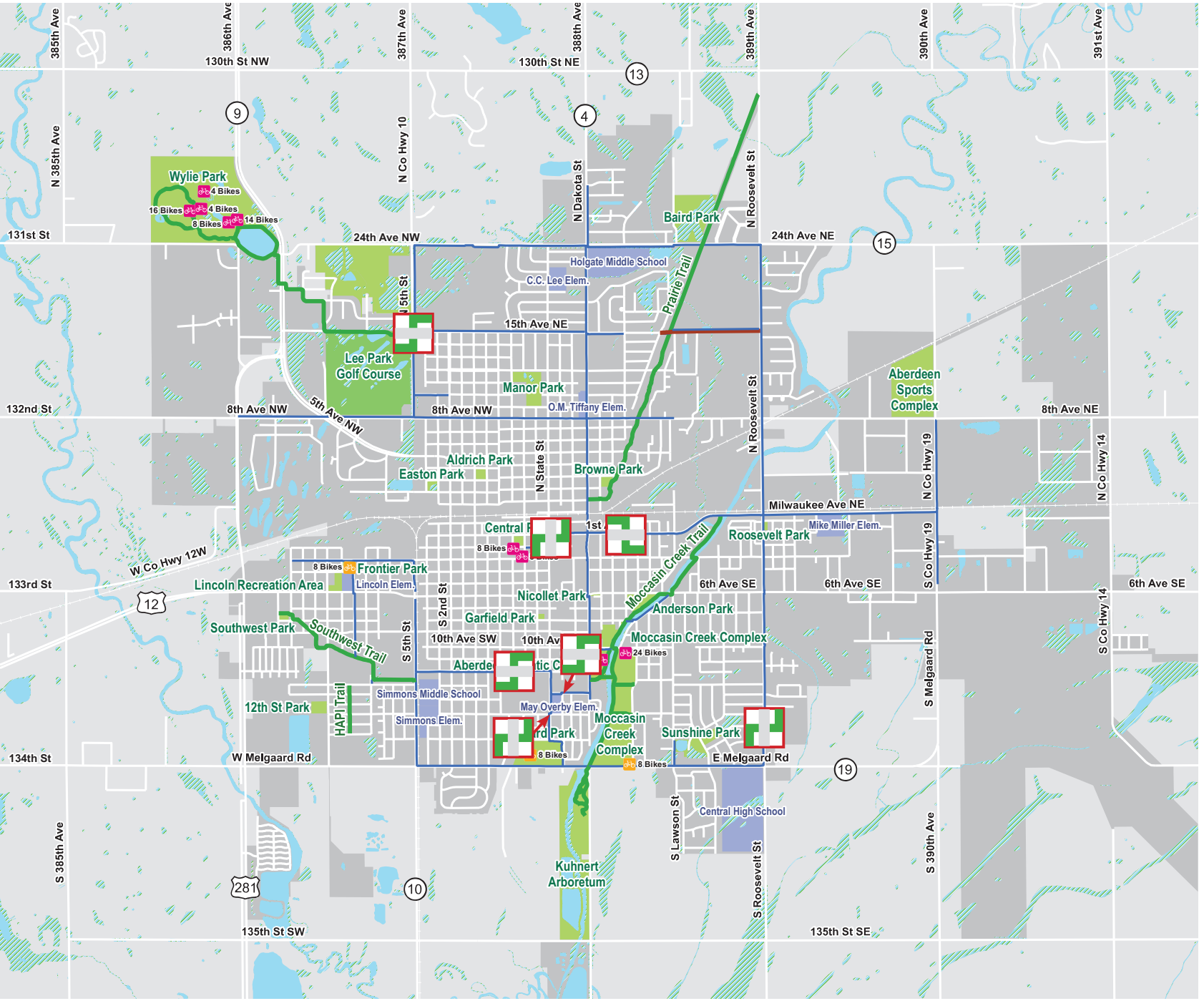


Figure 6.1: “Jogs” Map

Examples of Known Jogs

(other jogs may also exist in the community, which aren't illustrated in Figure 6.1)

- Partner with an existing program or host a unique bike-friendly business awards presentation

Many communities have explored these business partnerships and have found value in the results of how this approach has increased bicycle and pedestrian activities.

- Fort Collins boasts the most bike-friendly businesses in the country, offering consultation, workshops, and ongoing communications to create a community of bike supporting businesses
- The San Francisco Bicycle Coalition publishes a data-driven report focusing on the benefits to businesses from biking -and offers multiple ways for businesses to get involved

ENFORCEMENT CONSIDERATIONS

Local Law Enforcement

While Enforcement initiatives weren't a direct focus of this plan, it is important to recognize the role that law enforcement and emergency responders play in education and encouragement programs. In recognition of this, a phone interview was conducted with Chief Dave McNeil, of the Aberdeen Police Department (APD) to learn more about the biggest issues and concerns facing enforcement of safe bicycling and pedestrian activities. Chief McNeil is a member of the Study Advisory Team and has been actively engaged with the planning process. Through the course of this effort, his feedback has indicated that the following issues are top of mind, regarding bicycle and pedestrian safety:

1. What are some obstacles law enforcement encounters regarding daily practice concerning bicycles and pedestrians?
    - Resources—more officers are needed at busier times of the day to monitor higher traffic areas.
2. What are some improvements that can be made to better enforce road safety?
    - Additional surveillance options to monitor distracted driving.
3. What would help facilitate law enforcement officers in the process of enforcing/ensuring safety for all?
    - Additional communication/reminders/safety campaigns reminding the public about the rules of the road. Especially with distracted driving.
4. What are some things that are already being done to encourage and safeguard bicycle and pedestrian traffic?
    - APD has a strong social media platform and regularly partners with local schools to educate students. Continuation of these programs is important.
5. What coordination or changes would be made to make enforcement more effective for bicyclists and pedestrians?
    - Stronger partnerships with local advocacy groups and organizations to help encourage/educate safe practices. Identify specific goals and objectives.

E-Bike Ordinances

Electric bicycles, or "e-bikes", are becoming more popular as more products at lower prices enter the market. E-bikes assist the rider to make it easier to pedal. The new technology brings with it new opportunities as well as challenges for legislation and local rule making.

It is recommended that Aberdeen Parks and Recreation Department allow the use of e-bikes on their trails and prepare plans for improved facilities for e-bike and traditional bike users alike.

E-bikes are generally defined as bikes with electric assistance. They run on batteries and, instead of a throttle, require that the user be pedaling and be exerting their own energy for the electric assist to be engaged. Most e-bikes don't provide assistance over 20 miles per hour and disengage every time the user stops pedaling.

The State of South Dakota recently passed legislation on e-bikes, effective January 1, 2020. The new legislation creates a legal definition for e-bikes, outlines proper documentation, and state-level rules regarding use on public facilities.

The State characterizes e-bikes into three categories (paraphrased):

- Class I: electric assisted only when user is pedaling, ceasing to assist at 20mph
- Class II: electric assist even without user pedaling, ceasing to assist at 20mph
- Class III: electric assist only when user is pedaling, ceasing to assist at 28mph

As of January 1, 2020 and unless otherwise prohibited by a local government, Class I and II e-bikes may be operated on any bike path or multi-use path.

Among other rules established in the legislation, a permanent label must be affixed to any e-bike that states the e-bike Class and is updated if any relevant changes to the bike are made.

Three Rivers Parks District is a large, inter-county jurisdiction surrounding much of the Twin Cities Metropolitan area, including many miles of bike paths and multi-use trails. Though the District has anticipated the need for traffic calming or other measures in the case that e-bike use becomes dangerous or a nuisance to park user, no significant impacts have been observed. E-bikes are currently allowed on District trails and there are no restrictions beyond those placed upon use of traditional (non electric) bicycles.

In the State of South Dakota, Jerry Orthbahn, (SDDOT Bike and Pedestrian coordinator), has also not encountered an issue, stating that that he "has not heard of any problems with e-bikes on paths and trails."

Though no significant issues have been reported due to the use of e-bike use on public trails, plans should continue to be developed to improve user experience for e-bike users and traditional bike users alike. The introduction of e-bikes may exacerbate the need for bicycle facility improvements such as:

- Curb-cuts that are better designed for bicycle and e-bike use
- An overall bicycle network that connects to recreational areas as well as commerce and jobs
- Appropriate trail width and continued trail maintenance

Most recently, the City of Sioux Falls, SD adopted a City ordinance allowing the use of Class 1 e-bikes on city trails. As Aberdeen continues to encourage additional use of the local trail system, local policy leaders should also be encouraged to consider adoption of similar ordinances.

7

Implementation

List of Figures and Tables

INTRODUCTION

The Implementation Approach for the Aberdeen Recreational Trails Plan identifies specific action steps that local jurisdictional entities and the community can take to implement key recommendations in the Plan. This section examines goals identified in the Plan and develops specific opportunities to implement these goals as well as establish a timeline for completion.

Chapter 4 identified the development process for the future bicycle and multi-use trail facilities planned network in Aberdeen. This chapter further identified the process to evaluate and prioritize the future network connections. Although the top five routes (each for roadside and off-road trails) were identified and are further discussed as part of this implementation plan, it is important to note that implementation of all routes is recommended as opportunities arise with programmed projects.

While this plan previously identified the top implementation priorities each for roadside and off-road trails, it's also important to provide an outline of the comprehensive trail system, to specify individual segments, associated cost estimates and identify potential funding sources. The following tables (7.1 and 7.2, along with exhibit 7.1) provides a comprehensive listing of this information, to assist the City of Aberdeen and the Aberdeen Parks, Recreation and Forestry Department, in realizing the full-build out of this planned bicycle and pedestrian network.

Figure 7.1: Priority Analysis Segments for Planned Network

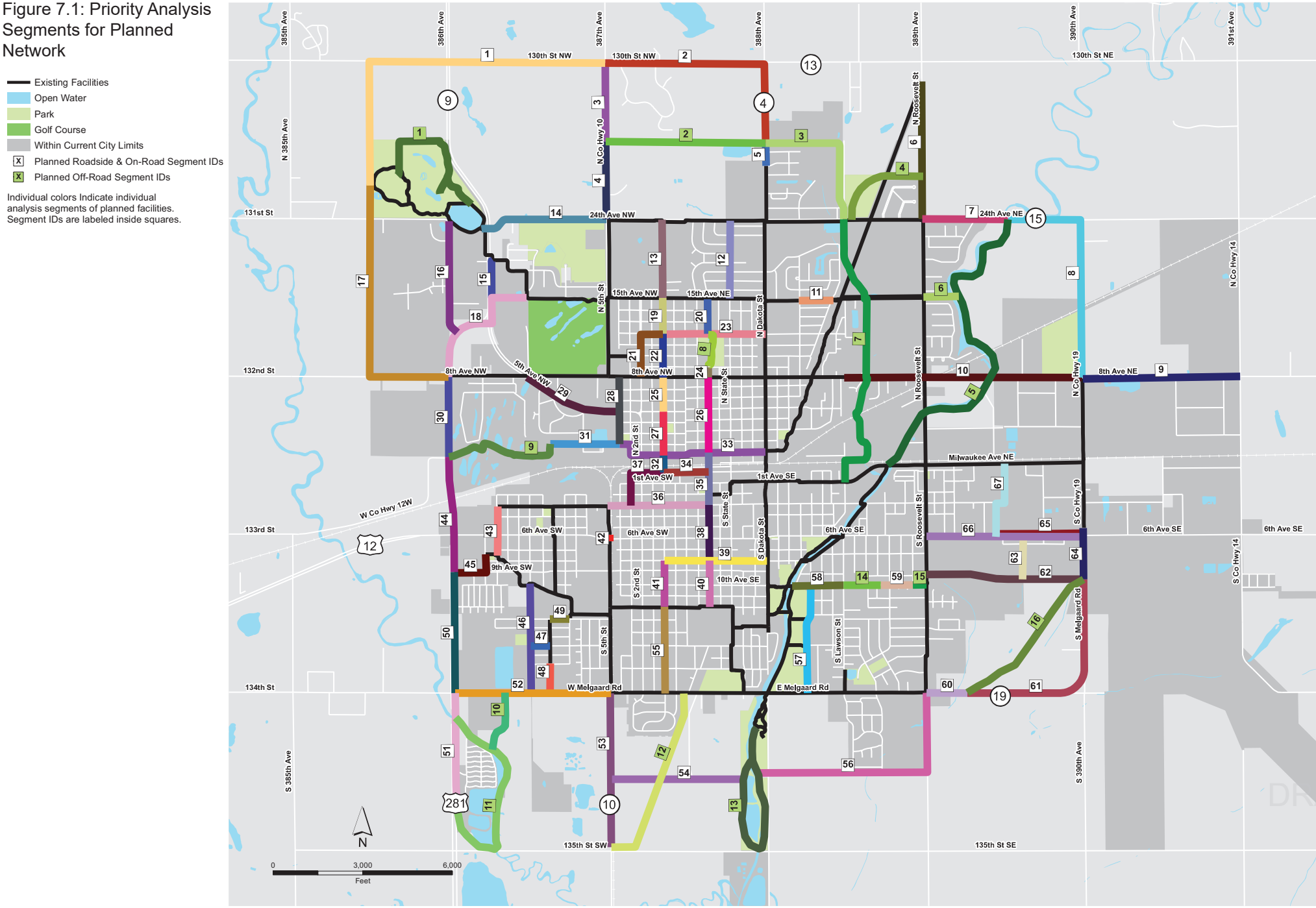


Table 7.1 - Proposed On-Road and Roadside Segments

Segment ID	Facility Location	Beginning Point	End Point	Proposed Facility Type	Length in Feet	Length in Miles	On Loop	Estimated Cost
1	130th St NW, farm road	farm road & park trail	N 5th St & 130th St NW	Shared Use Path	12,041.13	2.28	Long Term	$ 1,559,900.00
2	130th St NW, 388th Ave (N Dakota St)	N 5th St & 130th St NW	N Dakota St & Bruckner Exp	Shared Use Path	7,961.13	1.51	Long Term	$ 1,032,100.00
3	387th Ave (County 10)	N 5th St & <No ROW>	N 5th St & 130th St NW	Shared Use Path	2,623.23	0.50		$ 341,400.00
4	387th Ave (County 10)	N 5th St & 24th Ave NW	N 5th St & <No ROW>	Shared Use Path	2,601.27	0.49	Long Term	$ 338,600.00
5	388th Ave (N Dakota St)	N Dakota St & 28th Ave NE	N Dakota St & Bruckner Exp	Shared Use Path	761.20	0.14	Long Term	$ 100,500.00
6	389th Ave (N Roosevelt St)	N Roosevelt St & 24th Ave NE	N Roosevelt St & Ordway Trail	Shared Use Path	4,601.72	0.87		$ 597,400.00
7	24th Ave NE	N Roosevelt St & 24th Ave NE	Moccasin Creek & 24th Ave NE	Shared Use Path	2,861.98	0.54	Long Term	$ 372,300.00
8	24th Ave NE, 390th Ave (County 19)	Moccasin Creek & 24th Ave NE	N Melgaard Rd & 8th Ave NE	Shared Use Path	7,703.31	1.46	Long Term	$ 998,700.00
9	8th Ave NE	N Melgaard Rd & 8th Ave NE	County-14 & 8th Ave NE	Shared Use Path	5,260.02	1.00		$ 682,600.00
10	8th Ave NE	N Kettering Dr & 8th Ave NE	N Melgaard Rd & 8th Ave NE	Shared Use Path	7,945.62	1.50		$ 1,030,100.00
11	15th Ave NE	N Harrison St & 15th Ave NE	Northview Ln & 15th Ave NE	Shared Use Path	1,156.23	0.22		$ 151,600.00
12	N State St	N State St & 15th Ave NE	N State St & 24th Ave NE	Designated Bike Route	2,601.55	0.49		$ 990.00
13	N Main St, college road	N Main St & 15th Ave NW/NE	college road & 24th Ave NW/NE	Shared Use Path	2,623.05	0.50		$ 341,400.00
14	24th Ave NW	N 5th St & 24th Ave NW	US-281 & 24th Ave NW	Shared Use Path	4,304.35	0.82	Long Term	$ 558,900.00
15	US-281	US-281 & recreational trail	US-281 & 5th Ave NW	Shared Use Path	1,289.86	0.24	Long Term	$ 168,900.00
16	19th St N (386th Ave)	N 19th St & 24th Ave NW	N 19th St & US-281	Shared Use Path	3,820.20	0.72		$ 496,300.00
17	132nd St, 24th St N extension	US-281 & 8th Ave NW	N 24th St & 24th Ave NW	Shared Use Path	9,156.64	1.73	Long Term	$ 1,186,700.00
18	US-281 bypass, US-281, 15th Ave NW	US-281 & 8th Ave NW	Olive Dr & 15th Ave NW	Shared Use Path	4,838.83	0.92	Long Term	$ 628,100.00
19	N Main St	N Main St & 15th Ave NW/NE	N Main St & 12th Ave NW/NE	Shared Use Path	1,197.51	0.23		$ 157,000.00
20	N Kline St	N Kline St & 15th Ave NE	N Kline St & 12th Ave NE	Shared Use Path	1,147.69	0.22		$ 150,500.00
21	N 2nd St, 12th Ave NE	N 2nd St & 8th Ave NW	N Main St & 12th Ave NW/NE	Designated Bike Route	2,148.39	0.41		$ 990.00
22	N Main St	N Main St & 12th Ave NW/NE	N Main St & 8th Ave NW/NE	Shared Use Path	1,469.69	0.28		$ 192,200.00
23	12th Ave NE	N Main St & 12th Ave NW/NE	N Dakota St & 12th Ave NE	Designated Bike Route	3,440.46	0.65		$ 1,320.00
24	N Kline St	N Kline St & 9th Ave NE	N Kline St & 8th Ave NE	Shared Use Path	340.14	0.06		$ 46,100.00
25	N Main St	N Main St & 8th Ave NW/NE	N Main St & 5th Ave NW/NE	Shared Use Path	1,135.95	0.22		$ 149,000.00
26	N Kline St	N Kline St & 8th Ave NE	N Kline St & 1st Ave NE	Shared Use Path	2,519.98	0.48		$ 328,100.00
27	N Main St	N Main St & 5th Ave NW/NE	N Main St & 1st Ave NW/NE	Bike Lane	1,465.58	0.28		$ 3,310.00
28	N 4th St	N 4th St & 8th Ave NW	N 4th St & 2nd Ave NW	Shared Use Path	2,237.88	0.42	Long Term	$ 291,600.00
29	5th Ave NW	5th Ave NW & 8th Ave NW	N 4th St & 5th Ave NW	Shared Use Path	3,388.51	0.64		$ 440,500.00
30	US-281 bypass	US-281 & 8th Ave NW	US-281 & County 12W	Shared Use Path	2,668.30	0.51	Long Term	$ 347,300.00
31	2nd Ave NW	N 10th St & 2nd Ave NW	N 4th St 2nd Ave NW	Shared Use Path	2,324.49	0.44		$ 302,800.00
32	N Main St	N Main St & 1st Ave NW/NE	N Main St & Railroad Ave SW/SE	Bike Lane	568.85	0.11		$ 1,290.00
33	1st Ave NW/NE, N 3rd St, 2nd Ave NW	N 4th St & 2nd Ave NW	N Dakota St & 1st Ave NE	Shared Use Path	5,260.24	1.00	Long Term	$ 682,600.00
34	Railroad Ave SE	N Main St & Railroad Ave SW/SE	S Kline St & Railroad Ave SE	Bike Lane	1,507.51	0.29		$ 3,400.00
35	N/S Kline St	N Kline St & 1st Ave NE	S Kline St & 3rd Ave SE	Shared Use Path	1,748.61	0.33	Long Term	$ 228,300.00
36	3rd Ave SW/SE	S 5th St & 3rd Ave SW	S Kline St & 3rd Ave SE	Bike Lane	3,394.51	0.64	Near Term	$ 7,650.00
37	Railroad Ave SW, S 3rd St	S 3rd St & 3rd Ave SW	S Main St & Railroad Ave SW/SE	Bike Lane	2,200.03	0.42		$ 4,980.00
38	S Kline St	S Kline St & 3rd Ave SE	S Kline St & 8th Ave SE	Shared Use Path	1,865.11	0.35		$ 243,400.00
39	8th Ave SE	S Main St & 8th Ave SW/SE	S Dakota St & 8th Ave SE	Designated Bike Route	3,438.94	0.65		$ 1,320.00
40	S Kline St	S Kline St & 8th Ave SE	S Kline St & 12th Ave SE	Shared Use Path	1,551.49	0.29		$ 202,800.00
41	S Main St	S Main St & 8th Ave SW/SE	S Main St & 12th Ave SW/SE	Bike Lane	1,549.69	0.29		$ 3,490.00
42	S 5th St	S 5th St & 6th Ave SW (north-side)	S 5th St & 6th Ave SW (south-side)	Shared Use Path	215.09	0.04	Long Term	$ 29,900.00
43	S 15th St	S 15th St & 3rd Ave SW	S 15th St & southwest trail	Shared Use Path	1,646.11	0.31	Near Term	$ 215,000.00

Table 7.1 - Proposed On-Road and Roadside Segments (continued)

Segment ID	Facility Location	Beginning Point	End Point	Proposed Facility Type	Length in Feet	Length in Miles	On Loop	Estimated Cost
44	HWY-281 bypass	US-281 & County 12W	US-281 & 9th Ave SW	Shared Use Path	3,852.26	0.73	Long Term	$ 500,500.00
45	9th Ave SW, S 16th St	US-281 & 9th Ave SW	S 16th St & southwest trail	Shared Use Path	1,687.61	0.32	Long Term	$ 220,400.00
46	S 12th St, extension	S 12th St & southwest trail	S 12th St & Melgaard Rd SW	Designated Bike Route	3,660.94	0.69		$ 1,320.00
47	SW 15th Ave	S 12th St & 15th Ave SW	S 9th St & 15th Ave SW	Designated Bike Route	643.79	0.12		$ 330.00
48	HAPI trail extension	hapi trail & 17th Ave SW	<No ROW> & Melgaard Rd SW	Shared Use Path	964.49	0.18		$ 126,800.00
49	SW 13th Ave	hapi trail & 13th Ave SW	S 9th St & 13th Ave SW	Designated Bike Route	656.95	0.12		$ 330.00
50	HWY-281	US-281 & 9th Ave SW	US-281 & Melgaard Rd SW	Shared Use Path	4,051.49	0.77	Long Term	$ 526,200.00
51	HWY-281	US-281 & Melgaard Rd SW	US-281 & <No ROW>	Shared Use Path	3,895.50	0.74	Long Term	$ 506,100.00
52	W Melgaard Rd	US-281 & Melgaard Rd SW	S 5th St & Melgaard Rd SW	Shared Use Path	5,217.39	0.99	Long Term	$ 677,100.00
53	S 5th St	S 5th St & Melgaard Rd SW	S 5th St & 135th St	Shared Use Path	5,144.85	0.97	Long Term	$ 667,700.00
54	<No ROW>	S 5th St & <No ROW>	Moccasin Creek & <No ROW>	Shared Use Path	4,349.28	0.82	Long Term	$ 564,800.00
55	S Main St	S Main St & 12th Ave SW/SE	S Main St & Melgaard Rd SW/SE	Bike Lane	2,902.33	0.55		$ 6,550.00
56	<No ROW>, S Roosevelt St	N Dakota St & <No ROW>	S Roosevelt St & Melgaard Rd SE	Shared Use Path	8,350.05	1.58	Long Term	$ 1,082,400.00
57	Cochrane St S	S Cochrane St & 10th Ave SE	S Cochrane St & Melgaard Rd SE	Designated Bike Route	3,618.27	0.69		$ 1,320.00
58	10th Ave SE	Riverside Dr & 10th Ave SE	S Lawson St & 10th Ave SE	Shared Use Path	1,715.43	0.32		$ 224,000.00
59	10th Ave SE	<cul-du-sac> & 10th Ave SE	S Park St & 10th Ave SE	Designated Bike Route	1,070.56	0.20		$ 660.00
60	E Melgaard Rd	S Roosevelt St & Melgaard Rd SE	<No ROW> & Melgaard Rd SE	Shared Use Path	1,365.65	0.26	Long Term	$ 178,700.00
61	E Melgaard Rd, Melgaard Rd S	<No ROW> & Melgaard Rd SE	S Melgaard Rd & 10th Ave SE	Shared Use Path	7,360.62	1.39		$ 954,400.00
62	10th Ave SE, Prosepct Ave extension	S Melgaard Rd & 10th Ave SE	S Roosevelt St & Prospect Ave SE	Shared Use Path	5,267.68	1.00		$ 683,600.00
63	Lamont St S	S Lamont St & 6th Ave SE	S Lamont St & 10th Ave SE	Shared Use Path	1,527.27	0.29		$ 199,600.00
64	Melgaard Rd S	S Melgaard Rd & 6th Ave SE	S Melgaard Rd & 10th Ave SE	Shared Use Path	1,719.82	0.33	Long Term	$ 224,600.00
65	6th Ave SE	S Norwood St & 6th Ave SE (north-side)	S Melgaard Rd & 6th Ave SE (north-side)	Shared Use Path	2,914.26	0.55		$ 379,100.00
66	6th Ave SE	S Roosevelt St & 6th Ave SE (south-side)	S Melgaard Rd & 6th Ave SE (south-side)	Shared Use Path	5,241.02	0.99		$ 680,100.00
67	Lafayette St S, 3rd Ave SE, Norwood St S	S Lafayette St & Milwaukee Ave NE	S Norwood St & 6th Ave SE	Shared Use Path	2,723.92	0.52		$ 354,500.00

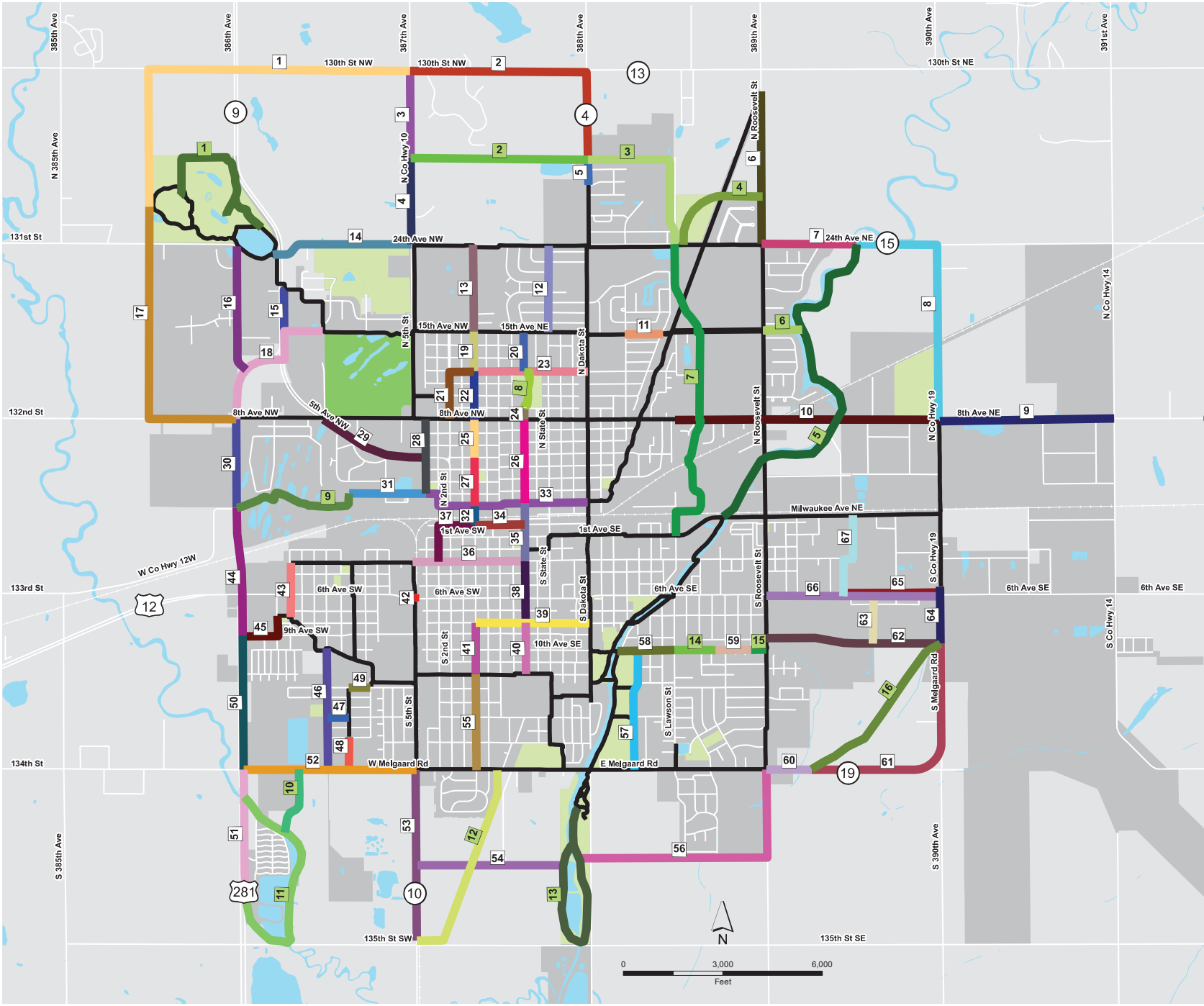
Table 7.2 - Proposed Off-Road Segments

Segment ID	Facility Location	Beginning Point	End Point	Proposed Facility Type	Length in Feet	Length in Miles	On Loop	Estimated Cost
1	Wiley Park	park trail	park trail	Off-Road Trail	5,770.77	1.09	Long Term	$ 928,300.00
2	Bruckner Exp, extension	N 5th St & <No ROW>	N Dakota St & Bruckner Exp	Off-Road Trail	5,350.42	1.01	Long Term	$ 860,900.00
3	Bruckner Exp extension,	N Dakota St & Bruckner Exp	dyke & 24th Ave NE	Off-Road Trail	5,007.75	0.95		$ 805,900.00
4	<No ROW>	dyke & 24th Ave NE	N Roosevelt St & <No ROW>	Off-Road Trail	3,326.31	0.63		$ 536,000.00
5	Moccasin Creek	Moccasin Creek & 24th Ave NE	Moccasin Creek & Milwaukee Ave NE	Off-Road Trail	12,063.01	2.28	Long Term	$ 1,938,300.00
6	15th Ave NE extension	N Roosevelt St & 15th Ave NE	Moccasin Creek & <No ROW>	Off-Road Trail	1,182.70	0.22		$ 191,900.00
7	Dyke, Lancelot Dr	dyke & 24th Ave NE	N Lancelot Dr & 1st Ave SE	Off-Road Trail	9,990.02	1.89	Long Term	$ 1,605,600.00
8	Manor Park	N Kline St & 12th Ave NE	N Kline St & 9th Ave NE	Off-Road Trail	1,283.95	0.24		$ 208,100.00
9	Rolling Hills Golf Course	N 10th St & 2nd Ave NW	US-281 & County 12W	Off-Road Trail	4,062.27	0.77		$ 654,100.00
10	Riverside Cemetery	cemetery road & Melgaard Rd SW	E Lake Dr & 2nd Curve	Off-Road Trail	2,072.77	0.39	Long Term	$ 334,800.00
11	Lakeside Mobile Home Park	US-281 & Foot Creek	US-281 & <No ROW>	Off-Road Trail	7,368.09	1.40	Long Term	$ 1,184,700.00
12	Vacated railroad corridor	<No ROW> & Melgaard Rd SE	S 5th St & 135th St	Off-Road Trail	6,227.22	1.18		$ 1,001,600.00
13	Moccasin Creek, Arboretum	Moccasin Creek & <No ROW>	Moccasin Creek & 135th St	Off-Road Trail	7,552.24	1.43	Long Term	$ 1,214,300.00
14	10th Ave SE extension	S Lawson St & 10th Ave SE	<cul-du-sac> & 10th Ave SE	Off-Road Trail	1,248.03	0.24		$ 202,400.00
15	10th Ave SE extension	S Park St& 10th Ave SE	S Roosevelt St & 10th Ave SE	Off-Road Trail	459.07	0.09		$ 75,700.00
16	Public easement	<No ROW> & Melgaard Rd SE	S Melgaard Rd & 10th Ave SE	Off-Road Trail	5,557.77	1.05	Long Term	$ 894,200.00

Figure 7.2: Analysis Segments for Planned Network

- Existing Facilities
- Open Water
- Park
- Golf Course
- Within Current City Limits
- [X] Planned Roadside & On-Road Seg
- [X] Planned Off-Road Segment IDs

Individual colors Indicate individual analysis segments of planned facilities. Segment IDs are labeled inside squares.



FUNDING

Securing funding is critical to the implementation of any successful bicycle or pedestrian project. The following matrix outlines national-level programs that may be available for the development of the top five routes in each category, as well as any other proposed improvements in Aberdeen. Local government bodies should also coordinate to include bicycle and pedestrian infrastructural improvements in their annual Capital Improvement Plans (CIPs).

There are several exciting opportunities to offset the City of Aberdeen trail and bicycle facility improvement costs with grant funding and private donations. The first step to securing long-term funding is to build a coalition of public and private partners to launch a campaign to raise seed money from foundations and private organizations that have an interest in the proposed improvements. In the coming years, the City of Aberdeen with the State of South Dakota to purse a large-scale federal grant (either BUILD or Recreation Trails Program) that can support multiple improvements in the City. Building private support ahead of the federal funding request will signal the community's commitment to the proposed projects. To close the gap in financing for these different improvements and to ensure long-term maintenance, the City should pursue local government financing options (capital improvements plan allocations, municipal bonds, or tax levies).

Given the expansive nature of the full proposed network, the construction of different segments and associated fundraising will take place in a series of phases. This Plan recommends drawing from public grants, small-scale private grants, private donations, and local government matches. It is much easier to tackle funding in these "bite-sized" pieces and show potential funders the ongoing success of trail and bike facility development in Aberdeen. Ultimately, we want to create a cycle of funding success where funding drives improvements in the neighborhood, which attracts new interest in investment of future phases.

There are numerous funding opportunities that may be applicable to the City of Aberdeen, Brown County, and the South Dakota Department of Transportation (SDDOT) to implement the proposed bicycle facilities and trail network improvements described below.

Local Public Funding Sources

Local funding will be critical to implementing the proposed network improvements, both to fund projects and serve as a local match for state and federal grant opportunities. Some of the local funding opportunities that exist include:

City of Aberdeen: For projects located on City property or within City right-of-way, funding may be available through the City. Aberdeen has a Capital Improvement Plan (CIP) which allocates funding for future public works projects. At a minimum, the City should include a portion of funding in their CIP for trails and facilities improvement projects on City owned property, including street right-of-way. Additional funding can also be raised through a bond or tax levy. If funds are allocated for a grant match, coordination between the City and the County will be needed to ensure that funding is in place at the appropriate time.

Aberdeen Public Schools: Schools across the district undergo routine maintenance and improvement projects on-site. The City and the District should coordinate future facility improvements with the recommendations outlined in this Plan. For improvements on or adjacent to District owned property, the District may be able to assist with financing. The School District can also fund and implement educational and encouragement programs for students.

Aberdeen Parks, Recreation and Forestry Department: For school sites adjacent to public parks, the Aberdeen Parks, Recreation and Forestry Department can be a partner for school site improvements. Additionally, any new trails constructed connecting to school sites can be a part of the existing Department-owned and maintained trails. The Department also plays a role in non-infrastructural improvements such as mapping the trail network.

SDDOT: Although most of the trails and facility improvements are located on city streets, for improvements along State Highways, the SDDOT can be a source of funding. Like the City of Aberdeen, the State has its own Capital Improvement Plan, which allocates funding for future roadway improvements. Facility improvement projects on DOT owned property, including street right-of-way, should be included in the DOT's STIP. Coordination between the State and the City will be needed to ensure that funding is in place at the appropriate time. The SDDOT may also provide resources and funding for non-infrastructural improvements, such as state-wide safety education campaigns.

External Funding Sources

There are also external funding sources and grant opportunities that may be available to implement school safety improvements. The following table summarizes these opportunities.

Table 7.3: External Funding Sources

Funder	Program	About	Award Amount	Applicable Agency	Deadline
USDOT	Highway Safety Improvement Program	State is eligible for State Highway Safety Program grants by having and implementing an approved Highway Safety Plan (HSP). The funding can go to bike and ped safety, school bus safety, and driver safety on state roadways. https://safety.fhwa.dot.gov/legislationandpolicy/policy/section402/	Varies	State of SD	Ongoing
USDOT	Better Utilizing Investments to Leverage Development (BUILD)	Transportation improvement projects including bicycle and pedestrian elements and intermodal projects. https://www.transportation.gov/BUILDgrants/about	At least $1 million with a 20% match	State of SD, City of Aberdeen	April Annually
Federal Transit Administration	Urbanized Area Formula Program	Provides grants for public transportation capital, planning, job access and reverse commute projects including bicycle routes to transit, bike racks, shelters and equipment for public transportation vehicles. https://www.transit.dot.gov/funding/grants/urbanized-areaformula-grants-5307	Varies with a 20% match	State of SD which allocates the funds to the City	Annually
SD Game, Fish, and Parks Department	Recreational Trails Program	Recreational Trails Program (RTP) is a federal aid assistance program to help states provide and maintain recreational trails for both motorized and non-motorized trail use. https://gfp.sd.gov/partnerships/	Varies with a 20% Match	State of SD which allocates the funds to the City	Annually
SD Game, Fish, and Parks Department	Land and Water Conservation Fund	Land and Water Conservation Fund (LWCF) is a federal aid assistance program to help states provide outdoor recreation facilities. Eligible projects may include, but are not limited to playgrounds, ballfields, sport and play fields, picnic facilities, pools, ice rinks, golf courses, amphitheaters, winter sports facilities, visitor information facilities and land acquisitions. https://gfp.sd.gov/partnerships/	Varies with a 50% match	State of SD which allocates the funds to the City	Annually

Table 7.3: External Funding Sources (continued)

Funder	Program	About	Award Amount	Applicable Agency	Deadline
SD DOT	Transportation Alternatives	TA includes the Safe Routes to School, Scenic Byways and Recreation Trails Programs, smaller-scale transportation projects such as pedestrian and bicycle facilities, recreational trails and community improvements. http://www.sddot.com/services/transalt/	Up to $400K with a 18% match	City	Annually
SD Department of Health	Active Transportation Assessment Collaboration	Technical assistance, provided by SDSU City Planning Students, in conducting various active transportation assessments and providing recommendations for improving the built environment to increase walkability and active transportation. https://healthysd.gov/fundingopportunities/	Technical Assistance – no funding	City	Annually
SD Governor's Office of Economic Development	Local Infrastructure Improvement Grant	Grant funding to construct or reconstruct public infrastructure associated with an economic development project. https://sdreadytowork.com/financing-incentives/local-infrastructure-improvement/	Technical Assistance – no funding	City	Annually
Wellmark	MATCH Grants	Grant funding for outdoor recreation and trails, including links, spurs and connectors Safe Routes to School plans and infrastructure. Grants must address healthy living in SD. https://www.wellmark.com/foundation/	Up to $100K with a 50% match	City	Annually
People for Bikes	Community Grants	Private foundation with funding for corridor improvements, trails, mountain bike facilities etc. http://www.peopleforbikes.org/pages/grant-guidelines	Up to $10,000	City	Annually

Funding for Key Improvements

As part of the network analysis for this Plan, the project team identified funding costs associated with each of the proposed improvements. Improvements were also prioritized by the City, Study Advisory Team members, and community members. Identifying funding for top priority improvements will be critical for the successful implementation of the Plan. Some key notes for the funding strategy include:

1. Use City capital improvements funding for the development of on-street bike lanes and designated bike routes. The total estimated cost of implementing all top tier bike lanes and designated routes is $18,380.
2. Use the proposed shared use path at South Kline and 3rd Ave SE as a key demonstration project in the community. Use a combination of SDDOT Transportation Alternatives funds and private funds to generate public and private support for facility improvements in the City.
3. Apply to the Federal BUILD Grant program to implement the remaining high-priority shared use paths. The grant can provide a significant source of funding and the local (public and private) commitment to facility improvements will reflect strongly in the application. Funds can also be used for other transportation project in the City so coordination on upcoming projects will be critical. According to the FY 2019 Appropriations Act, *BUILD Transportation grants may not be less than $5 million and not greater than $25 million, except that for projects in rural areas (as defined in section C.3.ii) the award size is $1 million. There is no minimum award size regardless of location, for BUILD Transportation planning grants.* According to the Rural Definition outlined within the 2019 Appropriations Act, the City of Aberdeen is classified as a population less than 200,000 and is classified as a rural community.

Table 7.4 identifies these top improvements, associated construction costs and recommended funding sources.

Table 7.4: Funding for Key Improvements

Segment	Facility Type	Priority	Est. Cost	Recommended Funding Source(s)
Seg. #36 S Kline St & 3rd Ave SE	Bike Lane	#1	$7,650	City Capital Improvements Budget
Seg. #35 S Kline St & 3rd Ave SE	Shared Use Path	#2	$228,300	SD DOT Transportation Alternatives Wellmark MATCH
Seg. #38 S Kline St & 8th Ave SE	Shared Use Path	#3	$243,400	US DOT BUILD Grant
Seg. #41 S Main St & 12th Ave	Bike Lane	#3	$3,490	City Capital Improvements Budget
Seg. #23 N Dakota St & 12th Ave NE	Designated Bike Route	#5	$1,320	City Capital Improvements Budget
Seg. #27 N Main St & 1st Ave	Bike Lane	#5	$3,310	City Capital Improvements Budget
Seg. #33 N Dakota St & 1st Ave NE	Shared Use Path	#5	$682,600	US DOT BUILD Grant
Seg. #26 N Kline St & 1st Ave NE	Shared Use Path	Top 40% of Score Range	$328,100	US DOT BUILD Grant
Seg. #32 N Main St & Railroad Ave	Bike Lane	Top 40% of Score Range	$1,290	City Capital Improvements Budget
Seg. #39 S Dakota St & 8th Ave SE	Designated Bike Route	Top 40% of Score Range	$1,320	City Capital Improvements Budget

Demonstration Projects

As identified in measure 2 of *Funding for Key Improvements*, demonstration projects are an opportunity to "test out" proposed trail improvements with the community. Often, these projects serve as a temporary installation utilizing water-soluble paint, jersey barriers, hay bales and other materials, to delineate new segments of bicycle and pedestrian trail through key areas of the community. Many grants are available to help fund these temporary installations and, often, local community groups, advocacy organizations, and members of the business community are willing partners to help plan, install and promote these demonstration projects.

Most recently, the North Dakota of Transportation sponsored the ND Moves study, which included participation from nine rural communities throughout the state, to participate in and promote transportation demonstration projects during the summer of 2018. While some of these demonstration projects pertained to traffic-calming devices, there were a few communities that selected to install temporary bicycle lanes to demonstrate the benefits of permanent construction of these transportation amenities.

Bismarck demonstration project from ND Moves Active & Public Transportation Plan

As described by the North Dakota Department of Transportation on their project website, *"These demonstrations sought to explore and connect our vibrant communities by safely integrating cars, bikes, pedestrians and transit to important local destinations."* To learn more about the ND Moves program, please visit: https://www.dot.nd.gov/plans/statewide/popup.htm.

While the South Dakota Department of Transportation does not currently have any programs similar to ND Moves, there are many non-profit organizations, such as AARP, that regularly offer funding assistance and grant opportunities to communities and local advocacy organizations to construct demonstration projects for bicycle and pedestrian facilities.

OPPORTUNITIES & CONTRAINTS ANALYSIS

The top 10 routes (5 on-street and 5 off-road) are further explored within this section to identify opportunities and constraints provided by each route. The intent of identifying these top routes is to focus on the five routes for programming and implementation over the next five years. Because this plan is not an in-depth engineering study, further preliminary and detailed engineering will need to be completed with the development of each route as part of the final implementation.

ABERDEEN PRIORITY ROADSIDE ROUTE #1

3rd Avenue SW/SE between S. 5th Street & S. Kline Street

Based on the Bicycle Suitability Matrix, the appropriate facility type for this route is an on-road bike lane. The segment transects the downtown core, crosses railroad tracks, and is adjacent to community facilities. Existing roadway widths along the corridor are as follows and additional opportunities and constraints are identified in with legend below.

66-feet right-of-way width

- 36-feet curb-to-curb between Kline and Washington, 2nd St and 5th St
- 40-feet curb-to-curb between Washington and Lincoln
- 46-feet curb-to-curb between Lincoln and 2nd St

Opportunities and Constraints

1. Connection to existing facilities
2. Connection to proposed facilities
3. Transitioning curb-to-curb distance

ABERDEEN PRIORITY ROADSIDE ROUTE #2

N/S Kline Street between 1st Avenue NE & 3rd Avenue SE

Based on the Bicycle Suitability Matrix, the appropriate facility type for this route is a shared use path. The segment crosses active railroad tracks, connecting north and south sides of the city, runs adjacent to community facilities, and into the downtown area. Existing roadway widths along the corridor are as follows and additional opportunities and constraints are identified in with legend below.

66-feet right-of-way width

- 40-feet curb-to-curb at 1st Ave NE
- 46-feet curb-to-curb between 1st Ave NE and railroad
- 38-feet curb-to-curb between railroad and 3rd Ave SE

Opportunities and Constraints

1. Connection to existing facilities
2. Connection to proposed facilities
3. Transitioning curb-to-curb distance

ABERDEEN PRIORITY ROADSIDE ROUTE #3A

S Kline Street between 3rd Avenue SE & 8th Avenue SE

Based on the Bicycle Suitability Matrix, the appropriate facility type for this route is a shared use path. The segment crosses a busy highway, connecting two divided areas of town, runs adjacent to community facilities, and into the downtown area. Existing roadway widths along the corridor are as follows and additional opportunities and constraints are identified in with legend below.

66-feet right-of-way width

- 39-feet curb-to-curb between 3rd Ave SE and 5th Ave SE
- 39-feet to 37-feet curb-to-curb between 5th Ave SE and 6th Ave SE (US-12)
- 38-feet curb-to-curb between 6th Ave SE (US-12) and 8th Ave SE

Opportunities and Constraints

1. Connection to existing facilities
2. Connection to proposed facilities
3. Transitioning curb-to-curb distance

ABERDEEN PRIORITY ROADSIDE ROUTE #3B

S Main Street between 8th Avenue SE & 12th Avenue SE

Based on the Bicycle Suitability Matrix, the appropriate facility type for this route is a bike lane. The segment connects residential areas with areas that are mixed commercial and light-industrial and connects a peripheral area with one more central to town. Existing roadway widths along the corridor are as follows and additional opportunities and constraints are identified in with legend below.

80-feet right-of-way width

- 56-feet curb-to-curb between 8th Ave SE and 12th Ave SE

Opportunities and Constraints

1. Connection to existing facilities
2. Connection to proposed facilities
3. Transitioning curb-to-curb distance

ABERDEEN PRIORITY ROADSIDE ROUTE #4A

1st Avenue NW/NE, N 3rd Street, 2nd Avenue NW

Based on the Bicycle Suitability Matrix, the appropriate facility type for this route is a shared use path. The segment runs parallel to an active railroad that currently serves as a significant barrier, it would also function as an extension to an existing and lengthy off-road trail. Existing roadway widths along the corridor are as follows and additional opportunities and constraints are identified in with legend below.

64-feet to 66-feet right-of-way width

- 34-feet curb-to-curb between N Lincoln St and N Washington St
- 32-feet curb-to-curb between N Main St and N Lincoln St; N 3rd St and N 2nd St
- 30-feet curb-to-curb between N 2nd St and N Main St
- 36-feet curb-to-curb between N 4th St and N 2nd St; N Jay St and N Dakota St

Opportunities and Constraints

1. Connection to existing facilities
2. Connection to proposed facilities
3. Transitioning curb-to-curb distance

ABERDEEN PRIORITY ROADSIDE ROUTE #4B

12th Avenue NW/NE between N Main Street and N Dakota Street

Based on the Bicycle Suitability Matrix, the appropriate facility type for this route is a designated bike route. The segment runs cross-town, through mostly residential areas, and connecting several proposed routes. It also runs adjacent to a city park. Existing roadway widths along the corridor are as follows and additional opportunities and constraints are identified in with legend below.

85-feet to 106-feet right-of-way width

- 20-feet curb-to-curb 2X (median divided) between N Main St and N Washington St
- 42-feet to 40-feet curb-to-curb between N Washington St to N Arch St
- 37-feet to 34-feet curb-to-curb between N Arch St and N Dakota St
- Constrained right-of-way one-half block west of N Dakota St

Opportunities and Constraints

1. Connection to existing facilities
2. Connection to proposed facilities
3. Transitioning curb-to-curb distance

ABERDEEN PRIORITY ROADSIDE ROUTE #4C

N Main Street between 1st Avenue NW/NE and 5th Avenue NW/NE

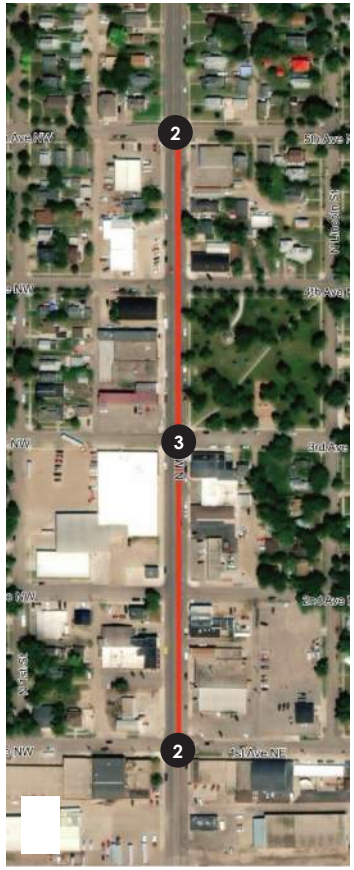
Based on the Bicycle Suitability Matrix, the appropriate facility type for this route is a bike lane. The segment connects residential areas on the north side of town with the fringes of the downtown core. It also runs adjacent to a city park. Existing roadway widths along the corridor are as follows and additional opportunities and constraints are identified in with legend below.

80-feet right-of-way width

- 52-feet curb-to-curb between 5th Ave NW/NE and 3rd Ave NW/NE
- 56-feet curb-to-curb between 3rd Ave NW/NE and 1st Ave NW/NE

Opportunities and Constraints

1. Connection to existing facilities
2. Connection to proposed facilities
3. Transitioning curb-to-curb distance



ABERDEEN PRIORITY OFF-ROAD ROUTE #1A

Levee between 1st Avenue SE and 24th Avenue NE

Based on the Bicycle Suitability Matrix, the appropriate facility type for this route is an off-road trail. The segment runs along the northeast peripheral of town, connecting residential areas with the central city and connecting with existing trails. Existing conditions are as follows and additional opportunities and constraints are identified in with legend below.

Mixed public and private property

- Gravel access road already in place concurrently with majority of proposed route
- Public lands generally north of 8th Ave NE
- Transects private fields generally south of 8th Ave NE

Opportunities and Constraints

1. Connection to existing facilities
2. Connection to proposed facilities
3. Private property

Lighting

Limited lighting is present along the proposed trail segment with the exception of the intersection with 24th Ave NE and segment adjacent to a parking lot immediately south of 8th Ave NE.

The Rails to Trails Conservancy suggests 50- to 100-feet intervals as a standard for distance between fixtures and at the very least placed at tunnels or overpasses, trailheads, bridge entrances and exits, public gathering places, along streets, crosswalks, where paths or sidewalks cross, and on signage.[i]

1. https://www.railstotrails.org/build-trails/trail-building-toolbox/design/lighting/

ABERDEEN PRIORITY OFF-ROAD ROUTE #1B

Moccasin Creek between Milwaukee Avenue SE and 24th Avenue NE

Based on the Bicycle Suitability Matrix, the appropriate facility type for this route is an off-road trail. The segment functions as an extension of the existing Moccasin Creek trail to the south, connecting the northeast peripherals of town with that existing trail and the central area of the city. Existing conditions are as follows and additional opportunities and constraints are identified in with legend below.

Predominantly private property

- Narrow swaths of public land toward south of segment

Opportunities and Constraints

1. Connection to existing facilities
2. Connection to proposed facilities
3. Existing bridge
4. Existing culvert

Lighting

Lighting installations will likely be necessary along the extent of the route with two potential exceptions.

The intersection of the proposed trail and Milwaukee Ave NE is lit with a streetlamp. New lighting at this intersection may not be necessary.

The intersection of the proposed trail and Roosevelt Rd is lit with a streetlamp. New lighting at this intersection may not be necessary.

The Rails to Trails Conservancy suggests 50- to 100-feet intervals as a standard for distance between fixtures and at the very least placed at tunnels or overpasses, trailheads, bridge entrances and exits, public gathering places, along streets, crosswalks, where paths or sidewalks cross, and on signage.[i]

ABERDEEN PRIORITY OFF-ROAD ROUTE #2

Manor Park (N Kline Ave extension) between 12th Avenue NE and 9th Avenue NE

Based on the Bicycle Suitability Matrix, the appropriate facility type for this route is an off-road trail. The segment functions as a connection between proposed N Kline Ave trails to the north and south, which together connect residential areas on the north side of town with the downtown core. Existing conditions are as follows and additional opportunities and constraints are identified in with legend below.

Park property

- Potential existing driveway easement on back-side of 1002 N Jay Ave impacting trail alignment

Opportunities and Constraints

1. Connection to existing facilities
2. Connection to proposed facilities

Lighting

Existing lighting is present at or around both ends of the segment along the edges of each parking lot. These may provide lighting for each end of the segment.

Lighting around the ice rink may provide lighting for the adjacent portion of the segment.

There is also a lamp post at the playground which will likely provide some light on the proposed segment.

There are no known lampposts on the southern half of the segment except for the one at the segment-end mentioned above.

The Rails to Trails Conservancy suggests 50- to 100-feet intervals as a standard for distance between fixtures and at the very least placed at tunnels or overpasses, trailheads, bridge entrances and exits, public gathering places, along streets, crosswalks, where paths or sidewalks cross, and on signage.[i]

ABERDEEN PRIORITY OFF-ROAD ROUTE #3

Green space(at 10th Avenue SE) between S Lawson Street and S McCoy Street

Based on the Bicycle Suitability Matrix, the appropriate facility type for this route is an off-road trail. The segment functions as a portion of a connection between Moccasin Creek and an existing trail on S Roosevelt St, connecting residential areas to the trial system. Existing conditions are as follows and additional opportunities and constraints are identified in with legend below.

Gap in street grid

- Western portion appears to be private property, platted for right-of-way
- Eastern portion appears to be unfinished right-of-way

Opportunities and Constraints

1. Connection to existing facilities
2. Connection to proposed facilities
3. Private property
4. Public right-of-way

Lighting

There are existing streetlights along the proposed segment where it intersects S Lawson St, S McCoy St, and Diamond St.

There is no known lighting in the undeveloped field in the western portion of the segment.

The Rails to Trails Conservancy suggests 50- to 100-feet intervals as a standard for distance between fixtures and at the very least placed at tunnels or overpasses, trailheads, bridge entrances and exits, public gathering places, along streets, crosswalks, where paths or sidewalks cross, and on signage.[i]

ABERDEEN PRIORITY OFF-ROAD ROUTE #4

Vacated rail corridor between E Melgaard Rd and S 5th Street at 135th St

Based on the Bicycle Suitability Matrix, the appropriate facility type for this route is an off-road trail. The segment utilizes an abandoned rail corridor to connect a peripheral area of town with a developed area and existing trails. Existing conditions are as follows and additional opportunities and constraints are identified in with legend below.

50-foot parcel width

- Multiple parcels running in parallel

Opportunities and Constraints

1. Connection to existing facilities
2. Connection to proposed facilities
3. Private property
4. Vacated railroad parcel
5. Public right-of-way

Lighting

There are existing streetlights along the proposed segment where it intersects S Lawson St, S McCoy St, and Diamond St.

There is no known lighting in the undeveloped field in the western portion of the segment.

The Rails to Trails Conservancy suggests 50- to 100-feet intervals as a standard for distance between fixtures and at the very least placed at tunnels or overpasses, trailheads, bridge entrances and exits, public gathering places, along streets, crosswalks, where paths or sidewalks cross, and on signage.[i]

INTERSECTION REVIEW

In addition to the planned trail network, it's also important to consider safety improvements and considerations for the key intersections that receive the highest number of bike/ped and vehicular crashes. Based on information provided by the Aberdeen Police Department (APD) and the SDDOT, the consultant team identified the five intersections that receive the highest rates of these instances and conducted a visual review and audit of these intersection to highlight additional safety considerations. As illustrated in Figure 7.3, some of these intersections are located within the proposed trail framework and others are not.

It should be noted that several of these intersections are located within the corridor of US Highway 12/6th Avenue SE. The SDDOT is currently conducting an ADA accessibility assessment of this corridor to update ADA compliant facilities to address pedestrian access. Additionally, the City of Aberdeen is currently working on a signal optimization project along this corridor to evaluate the current traffic control signals and determine appropriate improvements to address traffic flow and pedestrian safety.

The study team conducted an audit of each intersection that followed the same criteria of the "intersection walkability audit" as developed for this plan. However, the audit was completed from the perspective of both a pedestrian and a cyclist. Graphics with corresponding notes have been developed to illustrate opportunities to improve the safety and comfort level of pedestrians and cyclists as they maneuver through these identified intersections. It is important to note that, while there are challenges with these intersections, they were designed to meet the standards required at the time they were constructed.

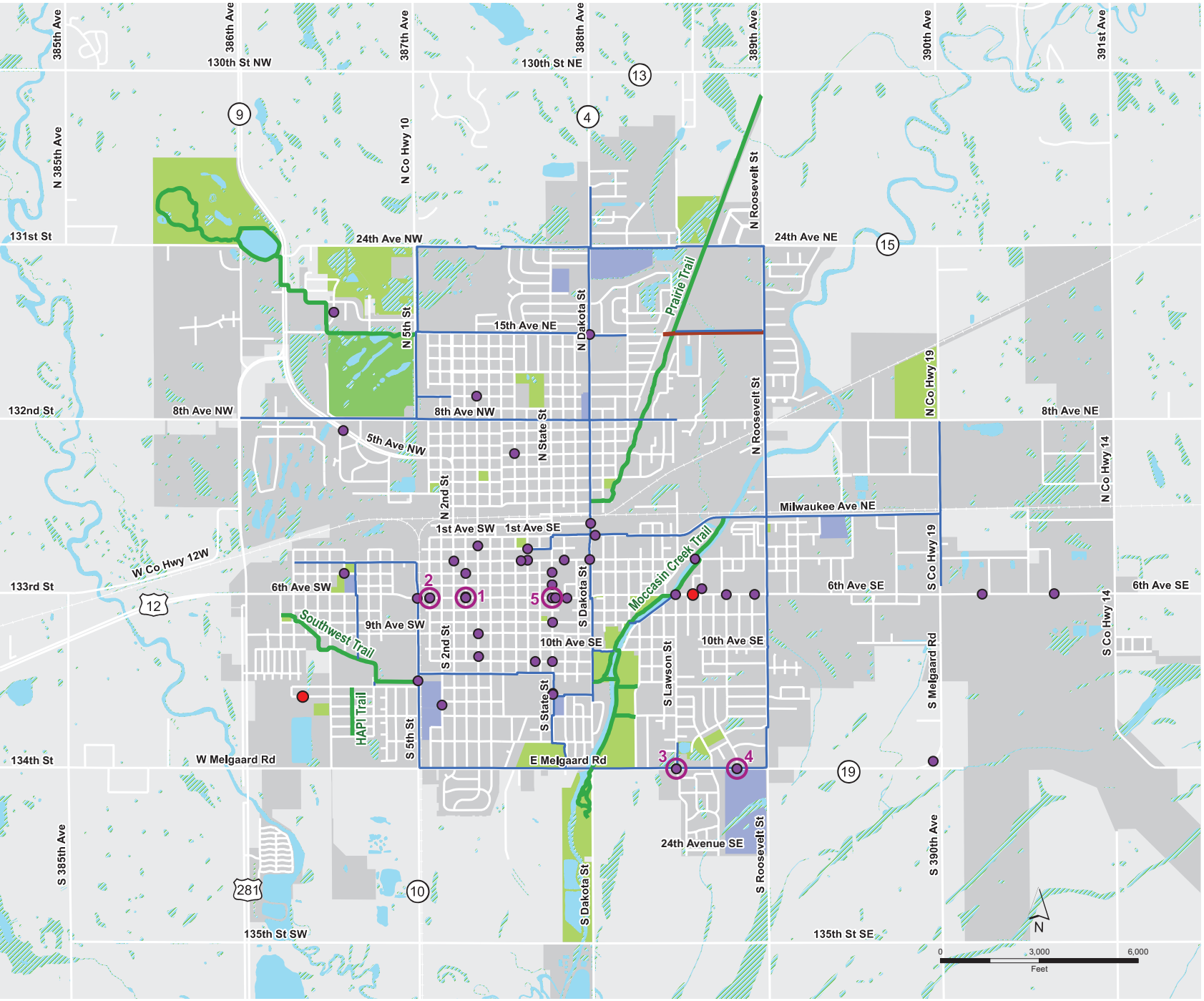


Figure 7.3: Bicycle and Pedestrian Crashes

- Fatal Crash
- Crash Resulted in Injury
- Intersections with the Most Crashes
- Existing Off-Road Trail
- Existing Roadside Trail
- Existing Bike Lane
- Open Water
- Wetlands
- Park
- Golf Course
- School
- Within Current City Limits

Aberdeen interesection analysis: 1st Highest bike/ped crash incidence

6th Avenue SW (SDDOT HWY 12) and S 1st Street

Crash History:

- 8-12-2016: An eastbound bicyclist was struck by a southbound vehicle at the north side crossing of 6th Avenue SW and 1st Street. As the vehicle attempted a right turn onto 6th Avenue SW, the bicycle crossed when the signal indicated not to cross and was struck. The driver of the vehicle attempted to brake, but the vehicle wasn't functioning properly.
- 11-11-2016: A northbound pedestrian was struck by a northbound vehicle attempting to turn left (west) onto 6th Avenue SW. As the crossing controls indicated to the pedestrian to cross on the west side of State St., the left-turning vehicle was blinded by the sun and did not yield to the pedestrian crossing the intersection.

Vehicle Speed Rating: Good

- *Posted Speed: 30MPH on 6th Ave. SW and 20MPH on S. 1st St.*

Curb Return Treatments: Good

- *Good corner treatments with 'tight' curb radii*

Traffic Signal Rating: Poor

- *Signal length does not seem to be effective in providing enough time for pedestrians to cross*
- *Based on the amount of traffic travelling through the intersection, pedestrian signals feel "undermarked" to highlight pedestrian safety*

Crossing Controls: Fair

- *Pedestrian signals are provided, but no countdown timers or auditory signals. Crossing signals are accessible*

ADA Ramps: Fair

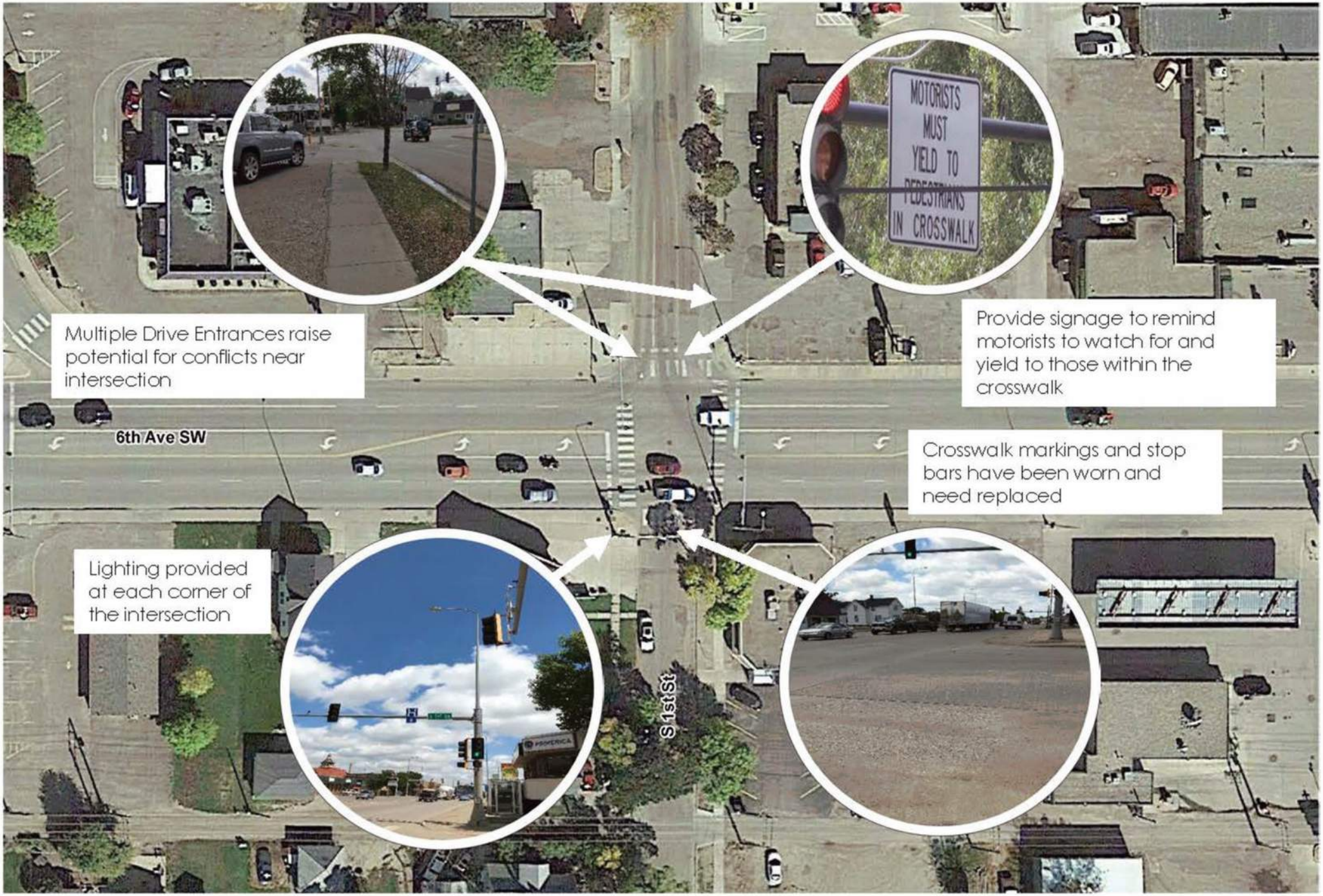
- *Crosswalk markings are worn off and stop bars are not marked for motorists*
- *Truncated domes are provided on ADA ramps, but no tactile walking surface indicators are present within the crossing, itself*
- *ADA ramps are provided and are shared on each corner of the intersection*
- *There are a lot of adjacent driveways entering and exiting onto 6th Avenue, which pose safety hazards to pedestrians and bicyclists*
- *Some ramp and curb repair is needed*

Visibility & Lighting: Fair

- Lighting is provided on each corner of the intersection
- Intensity of vehicular traffic and adjacent driveway entrances close to the intersection limit visibility of pedestrians and bicyclists to motorists

Recommended Improvements:

- Upgrade crossing timers to countdown timers with auditory signals for pedestrians to more safely navigate the intersection.
- Consider access management techniques to the accesses that are spaced within close proximity to the intersection to improve the overall safety of the intersection
- Check the amount of time allowed for pedestrians to cross through the intersection to ensure it meets MUTCD standards.
- Replace crossing markings and stop bars
- Add signage reminding motorists to yield to pedestrians in crosswalk and promote an education campaign to pedestrians, motorists and bicyclists on the dangers of "Right Hook" crashes.
- Improvements on 6th Ave SW (HWY 12) would be great candidate for Highway Safety Improvement Program (HSIP) funds



6th Avenue SW and S 1st Street

Aberdeen interesection analysis: 2nd Highest bike/ped crash incidence

6th Avenue SW (SDDOT HWY 12) and S 4th Street

Crash History:

- 3-21-2017: Northbound pedestrian crossing 6th Avenue, on west side of 4th St., was struck by a vehicle in left westbound lane at the intersection. Pedestrian sprinted across the intersection, hoping to avoid any vehicles.
- 10-24-2017: A westbound pedestrian was struck by a vehicle at the north crossing of 4th St. and 6th Ave. The southbound vehicle did not stop at the intersection, struck the pedestrian in the crosswalk, turned east onto 6th Avenue and did not stop.

Vehicle Speed Rating: Good

- *Posted Speed: 30MPH on 6th and 20MPH on 4th*

Curb Return Treatments: Good

- *Good corner treatments with 'tight' curb radii*

Traffic Signal Rating: Poor

- *This intersection is controlled by side street north and southbound stop control. No traffic signals exist at this intersection.*
- *No crossing signage is provided for pedestrians at this intersection*

Crossing Controls: Poor

- *No pedestrian signals or signage is provided, despite curb ramps provided into the intersection for pedestrians from adjacent sidewalks. The intensity of vehicular traffic at this intersection contributes to a very uncomfortable crossing.*

ADA Ramps: Fair

- *No indicated crossing (marked crossing) is present for pedestrians*
- *Truncated domes are provided on ADA ramps, but no tactile walking surface indicators are present within the crossing, itself*
- *ADA ramps are provided and are shared on each corner of the intersection*
- *Some ramp and curb repair is needed*

Visibility & Lighting: Poor

- Lighting is provided on each corner of the intersection
- Intensity of vehicular traffic and lack of pedestrian crossing signage limits visibility for pedestrians and bicyclists to motorists

Recommended Improvements:

- ADA ramps and curb cuts should be replaced so that they are oriented to only promote east/west crossing at the north and south legs of this intersection
- Provide signage to encourage pedestrians to cross north/south across 6th Avenue SW at the nearby crossings of 5th Street or 2nd Street, which are controlled by traffic signals and offer a protected crossing for pedestrians.
- A comprehensive corridor study should be considered for 6th Avenue SW (SDDOT HWY 12) to evaluate access management and further analysis of vehicular, bicycle and pedestrian safety.

6th Avenue SW and S 4th Street

Aberdeen interesection analysis: 3rd Highest bike/ped crash incidence

E. Melgaard Road and S. Lawson Street

Crash History:

- 11-23-2016: An eastbound bicyclist travelling on the north side of Melgaard was struck by a northbound vehicle, attempting to cross Melgaard Rd. on Lawson St. The driver of the vehicle indicated another eastbound vehicle turned left onto Melgaard Rd. and he attempted to cross after the left turn was completed by the other motorist. The northbound vehicle did not see the eastbound bicyclist and struck the back wheel of the bicyclist, knocking the rider to the ground.
- 10-24-2015: An eastbound bicyclist travelling on the north side of Melgaard Rd. was struck by a southbound vehicle attempting to turn right onto Melgaard Rd. The vehicle was stopped at Lawson St., attempting to cross while the bicyclist slowed their speed and indicated that eye contact was made with the driver—assuming the driver saw her. The driver indicated that the sun made it difficult to see and did not see the bicyclist.

Vehicle Speed Rating: Good

- *Posted Speed: 30MPH on Melgaard and 20MPH on Lawson*

Curb Return Treatments: Good

- *Good corner treatments with 'tight' curb radii*

Traffic Signal Rating: Fair

- *No crossing signals are provided for pedestrians at this intersection. The intersection is controlled by north and southbound side street stop control*
- *Crossing signage is provided for pedestrians at this intersection at the west leg of the route across Melgaard Rd. No east/west stop vehicular stop control is provided.*

Crossing Controls: Poor

- *No pedestrian signals are provided, no traffic signals are provided at this intersection.*
- *Despite posted speed limit of 30MPH on Melgaard, long stretch of roadway, wide ROW, and few traffic signals contribute to higher speeds of vehicular traffic*

ADA Ramps: Good

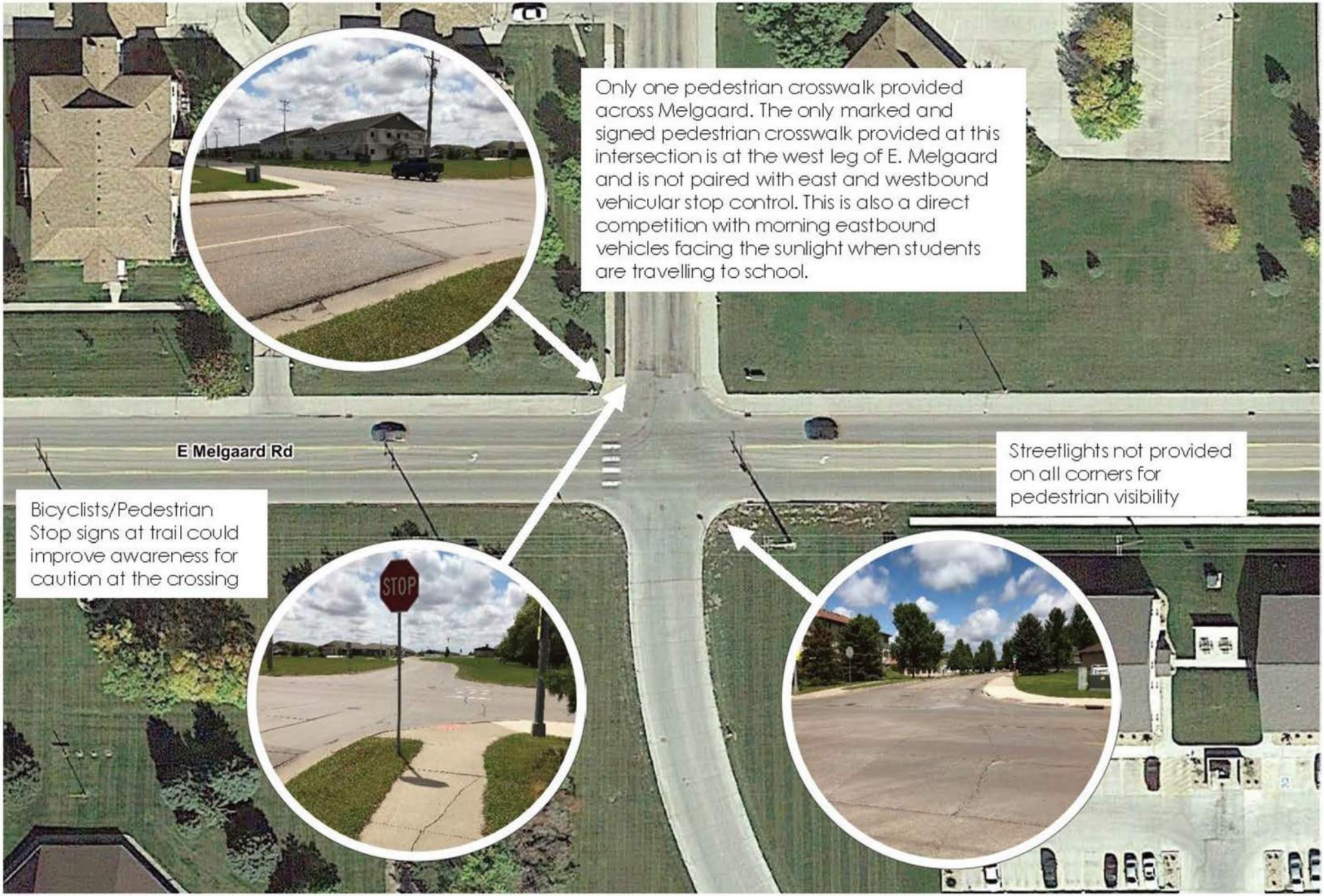
- *Crosswalk markings are very worn and need replaced. Vehicular stop bars are very worn and also need replaced.*
- *Truncated domes are provided on ADA ramps, but no tactile walking surface indicators are present within the crossing, itself*
- *ADA ramps are provided and are shared on each corner of the intersection*

Visibility & Lighting: Poor

- Lighting is provided on two corners of the intersection, lack of lighting on other two corners could contribute to less visibility

Recommended Improvements:

- Replace pedestrian crossing markings and vehicular stop bars.
- Eastbound vehicles have reported visibility issues in morning sunlight. Traffic control, for eastbound and westbound vehicles on Melgaard Rd., should be considered to improve safety.
- Add street lighting to illuminate all four corners of the intersection
- Complete a more detailed analysis of the intersection to analyze if additional intersection control is warranted based on both vehicular traffic, pedestrian traffic, and the proximity of Central High School.
- Consider a corridor study of E. Melgaard Road to analyze bicycle, pedestrian and vehicular safety needs along the entire corridor.



E. Melgaard Road and S. Lawson Street

Aberdeen interesection analysis: 4th Highest bike/ped crash incidence

E. Melgaard Road and Mel Rose Drive

Crash History:

- 8-23-2017: Eastbound bicyclist was struck by a vehicle while crossing Mel Rose Drive. After stopping at the stop sign on Mel Rose Drive, the southbound vehicle turned right onto Melgaard Rd., and the bicyclist crossing Mel Rose Dr. struck the front right fender of the vehicle.
- 4-17-2014: Eastbound bicyclist on the north sidewalk of Melgaard Rd. was struck by a southbound vehicle turning right (west) onto Melgaard Rd. The bicyclist indicated both she and the motorist stopped at the intersection and the motorist waved to the bicyclist to proceed crossing Mel Rose Dr. The motorist then struck the bicyclist.

Vehicle Speed Rating: Good

- *Posted Speed: 30MPH on Melgaard and 20MPH on Mel Rose*

Curb Return Treatments: Good

- *Good corner treatments with 'tight' curb radii*

Traffic Signal Rating: Fair

- *No crossing signals are provided for pedestrians at this intersection*
- *Crossing signage is not provided for pedestrians at this intersection*
- *The intersection is north and southbound stop controlled*

Crossing Controls: Poor

- *No pedestrian signals are provided, no traffic signals are provided at this intersection.*
- *Despite posted speed limit of 30MPH on Melgaard, long stretch of roadway, wide ROW, and few traffic signals contribute to higher speeds of vehicular traffic*

ADA Ramps: Poor

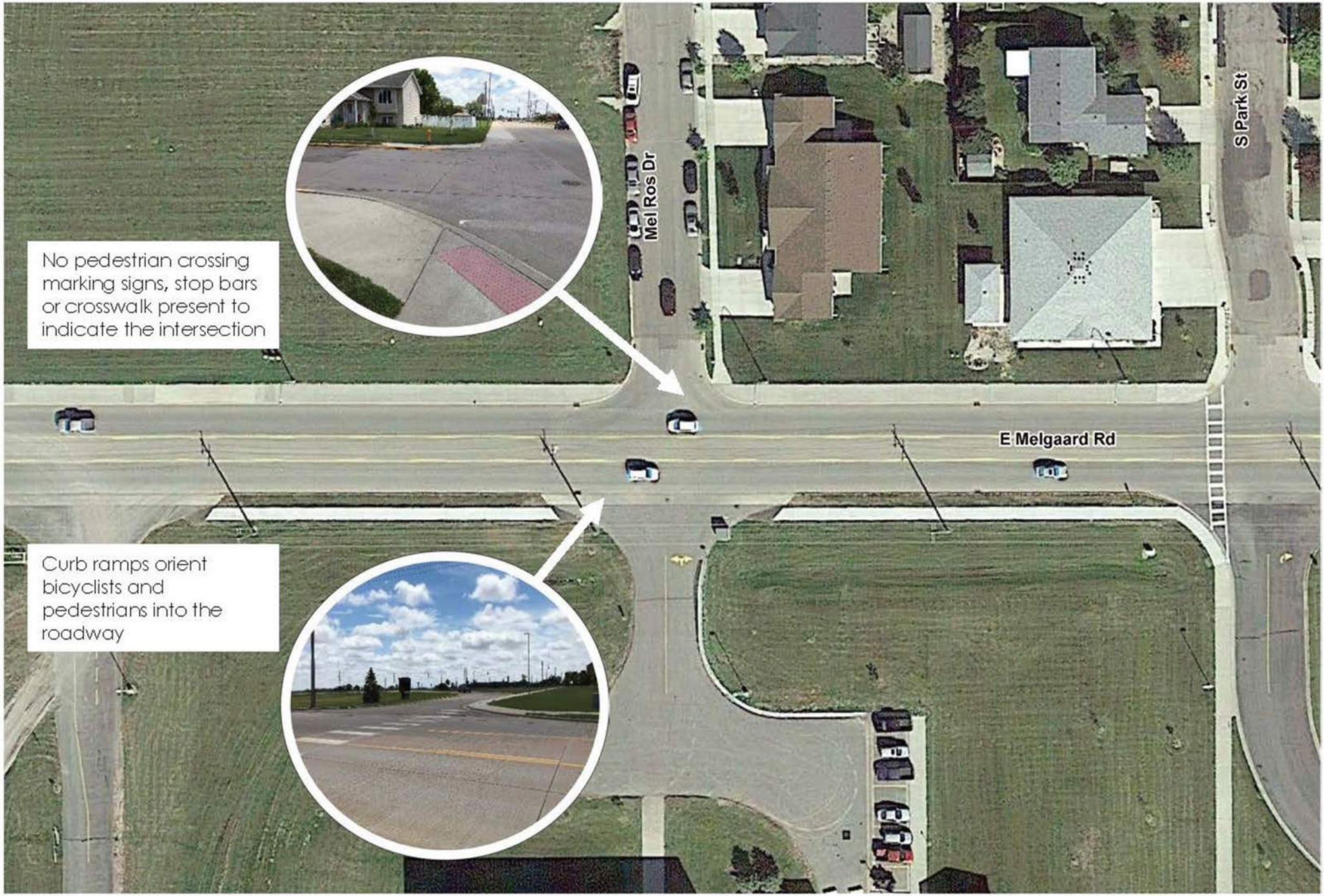
- *No crosswalk markings exist. Vehicular stop bars are very worn and also need replaced.*
- *Truncated domes are provided on ADA ramps, but no tactile walking surface indicators are present within the crossing, itself*
- *ADA ramps are provided and are shared on two of the corners (north side) of the intersection. One curb ramp (SE corner) orients pedestrians into the roadway*

Visibility & Lighting: Poor

- Lighting is provided on only one corner of the intersection, lack of lighting on other three corners could contribute to less visibility

Recommended Improvements:

- Add north and southbound vehicular stop bars. Add crosswalk markings for the north and south legs of the intersection for pedestrians crossing east and westbound
- Consider adding signage to the north and southbound side stop streets along Melgaard with a warning sign to "Watch for Pedestrians and Bicyclists Crossing at Intersections".
- Consider adding flashing pedestrian signage to alert motorists to pedestrian traffic at the crossing (for motorists travelling east/west on Melgaard)
- Add street lighting to illuminate all four corners of the intersection
- Add pedestrian stop signs on east bound and west bound trails to remind bicyclists and pedestrians to fully stop
- Long-term evaluation of the Melgaard corridor to study the impacts of traffic with few signalized crossings and high bicyclist and pedestrian activity to the High School



E. Melgaard Road and Mel Rose Drive

Aberdeen interesection analysis: 5th Highest bike/ped crash incidence

6th Avenue SW (SDDOT HWY 12) and S. State Street

Crash History:

- 7-27-2017: Bicyclist crossing southbound on west side of State St. was struck by a tractor trailer turning right (west) onto 6th Ave. Bicyclist stated he was waiting at the intersection for the light to turn green and proceeded south in the crosswalk once it turned green. Tractor trailer did not see the bicyclist in the crosswalk.
- 5-2-2013: A westbound pedestrian crossing on State St. on the north side of 6th Ave. was struck by a vehicle turning right. The pedestrian crossed the intersection when the crossing controls indicated and was struck by the vehicle, who did not see her.

Vehicle Speed Rating: Good

- *Posted Speed: 30MPH on 6th Avenue and 20MPH on State Street*

Curb Return Treatments: Good

- *Good corner treatments with 'tight' curb radii*

Traffic Signal Rating: Good

- *Crossing signals are provided for pedestrians at this intersection*

Crossing Controls: Good

- *Audio signals are provided, no countdown timers*
- *Good timing for pedestrians to adequately cross*
- *Crossing signage is provided for pedestrians at this intersection*

ADA Ramps: Good

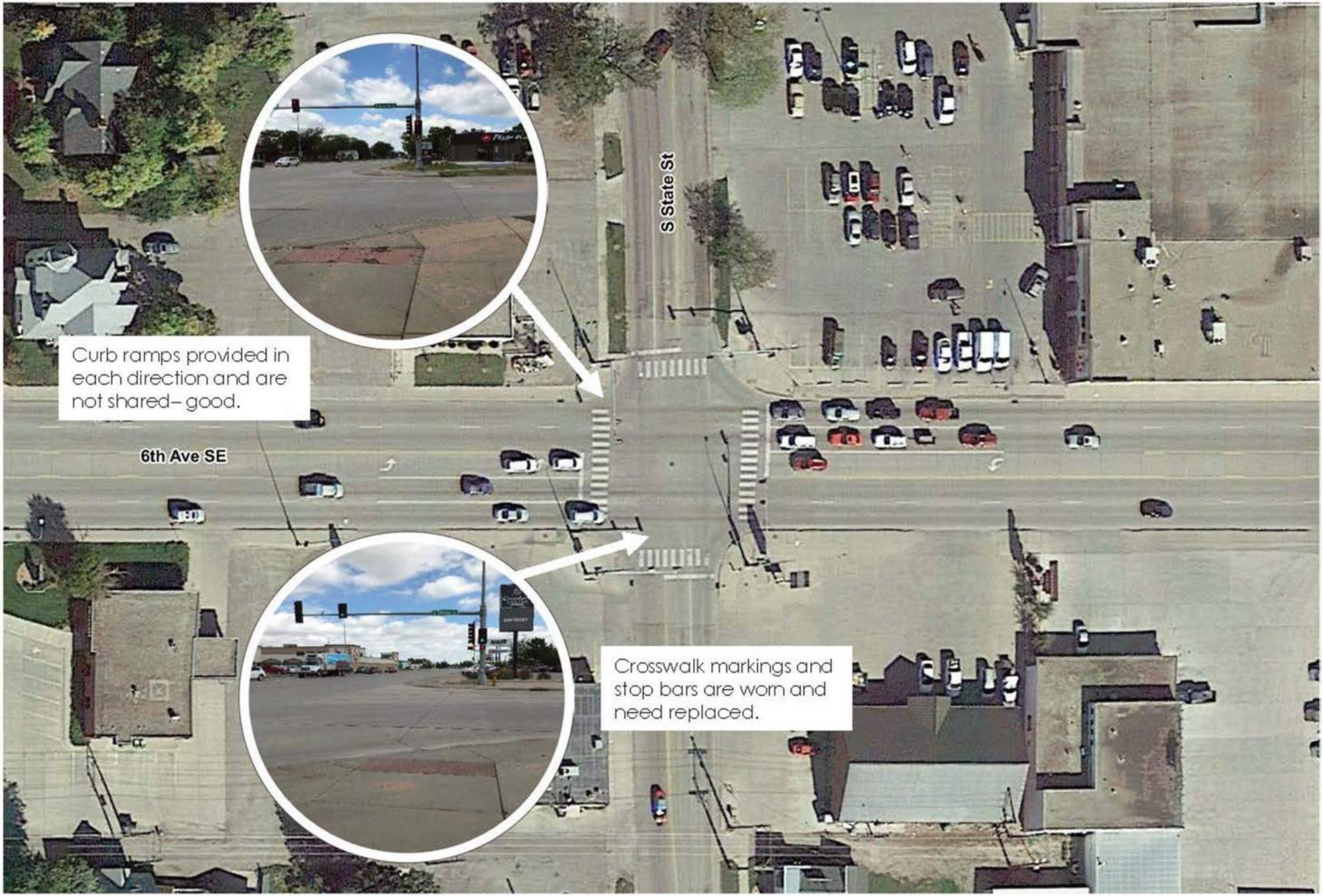
- *Crosswalk markings are very worn and need replaced. Vehicular stop bars are very worn and also need replaced.*
- *Truncated domes are provided on ADA ramps, but no tactile walking surface indicators are present within the crossing, itself*
- *ADA ramps are provided and are located at each corner, one in each direction*

Visibility & Lighting: Good

- Lighting is provided on all four corners of the intersection. Visibility of pedestrians to motorists is good

Recommended Improvements:

- Crossing timers for pedestrians to more safely navigate the intersection
- Replace crossing markings and stop bars
- Signage reminding motorists to be aware of pedestrians when making right turns, limit right turns. Consider adding "No Right Turn" signage.
- Long-term evaluation of the 6th Avenue corridor to study the impacts of traffic with multiple driveway entrances and pedestrian activity
- Consider promotion of an education campaign for motorists, bicyclists and pedestrians on the dangers of "right hook" crashes.
- Improvements on 6th Ave SW (HWY 12) would be great candidate for Highway Safety Improvement Program (HSIP) funds



6th Avenue SW and S State Street

EDUCATION IMPLEMENTATION PRIORITIES

There are numerous existing educational programs in Aberdeen, discussed in Chapter 6. These programs have helped to shape bicycling and walking in the community and educate all users on safety. Top implementation priorities for educational programs help to build on these existing opportunities. These priorities will require close coordination with other agencies and organizations. Because coordination is so critical, top priorities are listed in a table with potential partners.

Table 7.5: Education Priorities

Priority	Facility Type
Schools visits by Law Enforcement	APS, Private Schools, Higher Education Institutions, APD
Safety Educational Programs at Schools	APS, Private Schools, Higher Education Institutions, APD
Materials for Road Safety for Pedestrian, Bicyclists and Motorists	SDDOT, APD
Simple Safety Pamphlets at Local Businesses	APD, APRFD, SDDOT, Chamber
Special Programs for Parents	APS, Private Schools, Higher Education Institutions, APD

ENCOURAGEMENT IMPLEMENTATION PRIORITIES

There are numerous implementation priorities based on the issues and opportunities raised in Chapter 6. These priorities include:

- Increased lighting along trails
- Printed and/or online bicycle and trail facility maps for the entire region
- Updated ordinances mandating sidewalks be built when lots are platted (to avoid gaps in the network)
- Events to encourage walking and biking such as “Open Streets” or “Cyclovia”
- Partnerships with local businesses and chamber of commerce to provide discounts to walkers and bikers
- Development of themed and signed loop walks/rides

Before beginning implementation of any of these priorities, it will be important to first develop a Bicycle and Pedestrian Plan Implementation Committee to ensure the success of the Plan. The Committee can be comprised of current SAT members and include stakeholders and community members who have expressed interest in the plan throughout the course of this study. This will require commitment of staff and financial resources but can be implemented at a small scale to begin and grow as the responsibilities of the committee become more substantial. For example, in the first year, the committee could meet quarterly. This would involve four one- or two-hour meetings, hosted by Parks and Recreation Department staff. The potential tasks and hours required to develop the committee are summarized in the following table.

When the time commitment is broken down and added to the Parks and Recreation Department’s work plan, the commitment will be manageable at approximately 48 hours annually. Committee members would serve as volunteers for the effort or compensated for their time by their host agency or organization. The committee would be charged with examining the other Education and Encouragement implementation priorities.

Table 7.6: Encouragement Tasks

Task	Time
Meeting Prep and Scheduling	4 hours per meeting
Host Meeting	2 hours per meeting
Meeting Follow-up (synthesizing minutes, acting on next-steps)	6 hours per meeting
Total	12 hours per meeting
	48 hours annually

CONCLUSION

The community of Aberdeen already supports a wide variety of bicycling and walking options for residents and, based on the analysis and research contained within this plan, is well on it's way to becoming a recognized Bicycle Friendly Community by the American League of Bicyclists. While the established network of off-road and roadside trails certainly has room for expansion as the community grows, those residents and community leaders who actively participated in the development of this study will be integral for future success. In addition to trail expansion, the future safety of the network depends on improved Education and Encouragement programs throughout the community. Building on existing programs will be important-- those community stakeholders who actively participated in this study should be considered as key partners in implementing the plan and expanding Education and Encouragement initiatives throughout Aberdeen.