Chapter 5
Non-motorized Transportation

INTRODUCTION

Nationwide, the number of people bicycling and walking as a means of transportation and recreation has increased significantly. According to 2009 National Household Travel Survey data, the number of trips made by bicycle in the United States increased from 3.2 billion in 2001 to 4.1 billion in 2009, a 27 percent increase. In the same timeframe, the number of walking trips increased from roughly 33 billion to 41 billion. Growing desires to improve physical activity and promote healthier lifestyles have led to an increase in the construction of off-road trails, on-road bicycle accommodations, and complete streets elements. The Iowa Northland Region is fortunate to have an extensive off-road recreational trail system. Nonetheless, major gaps in the regional trail network exist today. While connecting the regional trail system remains important, increased emphasis will be placed on maintenance of the existing system and the provision of on-road accommodations. This chapter provides insight into the development of bicycle and pedestrian facilities in the region, including an overview of the current network, as well as identification of future needs, goals, and initiatives.

National Policy

Planning and providing for bicycle and pedestrian facilities and transportation enhancements is strongly supported in MAP-21. In addition to providing funding opportunities, the U.S. Department of Transportation (DOT) has taken a proactive approach in encouraging non-motorized transportation as an efficient and environmentally sound alternative for commuter travel. The DOT issued the following Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations:

The DOT policy is to incorporate safe and convenient walking and bicycling facilities into transportation projects. Every transportation agency, including DOT, has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems. Because of the numerous individual and community benefits that walking and bicycling provide – including health, safety, environmental, transportation, and quality of life – transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.

(www fhwa dot gov environment bicycle pedestrian guidance policy accom cfm)

State Planning

The Iowa DOT is working to complete the Iowa Bicycle and Pedestrian Long-Range Plan to expand opportunities and further improve conditions for bicycling and walking across the state. The plan will build upon the Iowa DOT’s long-range strategy for multimodal transportation over the next three decades. The Bicycle and Pedestrian Long-Range Plan will have three key objectives:
• Align with national best practices, including the federal transportation funding bill (MAP-21) and national guidelines for trail development
• Develop a list of priorities to expand the trails system between and within cities
• Help state and local agencies to put the plan in place by providing tools for funding and design

The plan will be able to serve as the primary guide for statewide decision-making regarding bicycle and pedestrian programs and facilities, including sidewalks, trails, bike lanes, paved shoulders, and other trail elements. The document will also help achieve a better level of statewide coordination and continuity for all levels of bicycle and pedestrian mobility through regional, county, and city plans and programs.

EXISTING INFRASTRUCTURE AND CONDITIONS

Bicyclist Skill Levels

An important consideration in the design and location of bicycle accommodations is the varying skill level of bicyclists. The Iowa Northland Region’s system of bicycle and pedestrian facilities, including off-road trails and on-road accommodations, should continue to be designed for all users to the fullest extent possible. The skill level and preferences of bicycle riders can vary greatly. Riders who use bicycles to commute to work are more likely to be comfortable on the majority of roads, including those without designated bicycle facilities. Conversely, casual users and young children may be uncomfortable on routes that do not include separate bicycle designations and are likely best served by facilities that are separate from the roadway.

The American Association of State Highway and Transportation Officials’ (AASHTO) 2012 Guide for the Development of Bicycle Facilities discusses types of bicyclists by dividing them into two main categories:

• Experienced/Confident Riders – Most are comfortable riding with vehicles on street, prefer a more direct route, avoid riding on sidewalks, may ride up to 25 mph, and may cycle longer distances.
• Casual/Less Confident Riders – Prefer on- or off-road designated bicycle facilities, may avoid busier streets, may ride on sidewalks, may ride around 8-12 mph, and may cycle shorter distances.

The City of Portland, Oregon, which is well-known as a bicycle friendly community, has also developed a bicycle classification system based on its experience. This system divides the population into the following four types of cyclists:

• <1 percent – Strong and Fearless
• 7 percent – Enthused and Confident
• 60 percent – Interested but Concerned
• 33 percent – No Way No How
The City of Portland recognizes that in reality there is more of a continuum between the various categories, but considers its classification as holding true overall for its population.

Types of Bicycle Facilities

There are several types of bicycle facilities that can accommodate various types of bicyclists and purposes of bicycling trips. While the regional trail system currently features predominately off-road trails, other types of accommodation could likely become more common in the future. All types of accommodation should be considered in the effort to provide the region with the best possible system of bicycle and pedestrian accommodations. The most common types of bicycle facilities are as follows:

- **Signed/marketed shared roadway** – These roads are designated by bike route signs and/or pavement markings such as sharrows, generally either to provide continuity with other bicycle facilities, such as bike lanes, or to designate preferred routes.

- **Shared roadway without signage** – Most minor city residential streets would qualify as shared roadways, as they have small amounts of low-speed traffic and therefore do not need any bicycle designations or accommodations.

- **Paved shoulders** – These are primarily implemented in rural areas, often on state and local highways. Paved shoulders provide a separated space for bicyclists, similar to bicycle lanes. A minimum of four feet is recommended.

- **Bicycle lanes** – Bicycle lanes are established by pavement markings and signage along streets where there is significant bicycle demand and the necessary street conditions to accommodate bike lanes. A minimum of five feet is recommended. Bicycle lanes can also be protected or buffered from traffic by adding a painted or landscaped space between the bike and vehicular traffic.

- **Shared use path** – These are generally referred to as trails or off-road accommodations. Shared use paths often serve corridors not served by roads, or where wide right-of-way exists next to the roadway, permitting their construction parallel to the road.
There are many factors to consider when determining the best type of accommodation for a particular road, including traffic volume and speed, lane widths, road surface conditions, driveways, and so on. Many roadways, especially low-volume ones, are considered safe for bicycling for all skill levels without any modifications. The Iowa Northland Region recommends using AASHTO’s 2012 Guide for the Development of Bicycle Facilities or the National Association of City Transportation Officials’ (NACTO) Urban Bikeway Design Guide for design standards for various types of bicycle facilities.

**Trail System**

The current regional trail network is shown on Map 5.1. The majority of trails in the region are off-road facilities connecting parks and other outdoor recreation destinations. Several trails utilize former railroad right-of-ways as their alignment, such as the Rolling Prairie Trail and Cedar Valley Nature Trail. There are also trails that run adjacent to existing roadway alignments. Most trails are ten feet in width and are hard-surfaced with concrete or asphalt. Some portions of trails are granular limestone products. Because granular trails are less user-friendly and cannot be used for some recreation activities, such as inline skating, the RTA supports hard-surfacing granular trails when funding is available.

**American Discovery Trail**

The American Discovery Trail (ADT), a nationally significant trail, encompasses approximately 104 miles through three counties in the region: Black Hawk, Buchanan, and Grundy. The ADT stretches for over 6,800 miles across 15 states and is the only coast-to-coast non-motorized trail in the nation. The route of the ADT through Iowa and the Iowa Northland Region is shown on Map 5.2. The portion of the trail through the Waterloo/Cedar Falls metropolitan area includes a dual alignment on both sides of the Cedar River. A regional planning effort is underway to identify points of interest and develop project priorities along the American Discovery Trail. This planning initiative is outlined in more detail later in this chapter.

**Cedar Valley Nature Trail**

Designated as a part of the American Discovery Trail in the 1990s, the Cedar Valley Nature Trail (CVNT) represents the first rail to trail conversion in the state of Iowa. Opened in 1982, this 52-mile trail provides non-motorized recreation between the Waterloo/Cedar Falls and Cedar Rapids metropolitan areas. The alignment of the CVNT is shown on Map 5.3. The CVNT features two large bridges over the Cedar River, both of which were destroyed in the floods of 1980.
2008. Utilizing multiple funding sources, the Evansdale Trail Bridge was reconstructed in the summer of 2011, and the McFarlane Park Trail Bridge was reconstructed in the spring of 2013. The trail is hard-surfaced from Evansdale to McFarlane Park just outside of La Porte City. The remainder of the trail in the region from the McFarlane Park Bridge to the Buchanan County/Benton County line – approximately 9.5 miles – is surfaced with compacted limestone aggregate. Black Hawk, Linn, and Johnson Counties are actively seeking funds to pave the remaining portion of the Cedar Valley Nature Trail.

**Rolling Prairie Trail**

Currently under development, the Rolling Prairie Trail (RPT) will ultimately connect the City of Coulter in Franklin County to the City of Oelwein in Fayette County, encompassing over 80 miles of trail. The alignment of the trail through the Iowa Northland Region will primarily follow abandoned railroad right-of-way through Butler and Bremer Counties and will connect the cities of Dumont, Bristow, Allison, Clarksville, Shell Rock, Waverly, Denver, and Readlyn. With a total of 33 miles of hard-surfaced trail in place, large sections of the RPT in the Iowa Northland Region have been completed; approximately 24 miles in the region remain to be hard-surfaced. Priority projects for the region include completing the segment from Shell Rock to Waverly and from Allison to the Butler County line. The former rail corridor alignment that the RPT would have utilized is no longer in place. Recognizing the critical nature of this connection, representatives of Butler County, Bremer County, the City of Shell Rock, the City of Waverly, and INRCOG met to explore alternate trail alignments and options for this connection. Map 5.4 shows the existing trail segments.
Map 5.2
American Discovery Trail in the Iowa Northland Region

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Map 5.4
Rolling Prairie Trail in the Iowa Northland Region

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**Water Trails**

Water trails are often considered an important recreational feature and add to the quality of life of the area. According to the Iowa Department of Natural Resources (DNR), there are currently two state designated water trails in the region. There are two water trails that are designated as study areas, and one water trail designated as a potential study area (reference Map 5.5). There are several components that may be included as part of a water trail:

- Access points where users can enter and leave the water
- Signage to direct users to the water trail and its access points
- Signage to designate the trail and its access points
- Portages around shallow water areas or features such as dams

The Cedar Valley Paddler’s Trail is a state designated water trail loop that covers 10 miles (8.4 miles of water trail and 1.6 of portage) along the Cedar River and lakes in both state and county recreation areas in the Waterloo/Cedar Falls metropolitan area. George Wyth Memorial State Park, located on the northeast side of the Cedar River, contains four lakes ranging in size from 40 to 120 acres. Hartman Reserve Nature Center, a Black Hawk County Conservation Board entity, is located on the southwest side of the Cedar River with two lakes. This trail received an Iowa Water Trails grant from the Iowa DNR.

The second state designated water trail in the region is the Wapsipinicon River Water Trail. With a total length of almost 40 miles, the Wapsipinicon River Water Trail is one of the longest continuous stretches of natural and scenic river corridors in the state. This trail is located in Buchanan County and stretches northwest-southeast from Cutshall Area north of Jesup, through the cities of Independence and Quasqueton, and ends at the Troy Mills County Access southeast of Quasqueton. The Wapsipinicon River is well-known for its quality backwater wetlands and associated woodland habitat, and as such is listed as a Protected Water Area. Currently, there are three dams located along the water trail. A portage is provided around the Littleton Dam in Buchanan County. The City of Quasqueton received Iowa DNR Low-head Dam Public Hazard Program funding in 2010 and 2013 and a Federal Recreational Trails funding grant through the Iowa DOT in 2011 for design and construction of a rock arch rapids at the Quasqueton Dam. Completed in 2014, the project helps eliminate the dangerous
hydraulic recirculation and backwash at the dam, as well as restore the natural flowing character of the river.

The Cedar River Water Trail is a designated study area through Black Hawk and Bremer Counties and is in development to become a state designated water trail. The water trail will be adjacent to numerous parks and recreation areas, as well as land recreational trails. The implementation of this trail will include signage, informational kiosks at access points, and safety improvements including portages around dams. A Federal Recreational Trails grant was awarded for the project, and a Low-head Dam Public Hazard Program grant was also awarded for the portages around the dams in Waterloo. Though not currently funded, whitewater courses have been proposed for future implementation on the Cedar River, including one near Gateway Park in Cedar Falls, and one in downtown Waterloo near the Park Avenue Bridge.

The Black Hawk Creek Water Trail is also a designated study area. This trail would begin in southwest Black Hawk County and travel northeast through a greenbelt and the cities of Hudson and Waterloo, eventually joining the Cedar River near Downtown Waterloo. An Iowa Water Trails grant was received for this water trail, including funding for signage and access improvements near Ranchero Road and Fletcher Avenue in Waterloo.

An extension of the Wapsipinicon River Water Trail is identified as a potential study area. This trail would extend from Frederika in Bremer County to the northernmost point of the state designated water trail near Jesup in Buchanan County. As the Iowa DNR continues to plan and develop water trails across the state, additional water trails within the region could be identified as potential study areas.
Map 5.5
Water Trails

Water Trails
- State Designated Water Trail
- Water Trail Study Area
- Potential Study Area
- River

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On-Road Bicycle Compatibility Rating

The regional trail network can provide non-motorized connections and exceptional recreational opportunities for users of all age levels and abilities. However, due to the costs associated with constructing and maintaining off-road recreational trails, they cannot reasonably connect to every destination in the region. By developing a non-motorized network using a combination of off-road trails and on-road routes, the Iowa Northland Region can effectively provide non-motorized connectivity to the majority of destinations within the six-county region.

An on-road bicycle compatibility assessment was conducted for all paved rural Primary and Secondary roadways in the region. Originally developed by Toole Design Group for use by the Wisconsin Department of Transportation (WisDOT), this model was established with rural roadways in mind and is based on the probability of bicycle conflicts with traffic. The assessment uses factors including average daily traffic, roadway width, percent center yellow line, and percent heavy/truck traffic. Based on a combination of these factors, roadway segments are rated “good”, “moderate”, or “poor” for on-road bicycle compatibility. The ratings provided are for bicyclists over 16 years of age who are generally comfortable with some level of traffic. Additional information on the history and methodology of the on-road bicycle compatibility rating assessment can be found at the WisDOT website listed below.


Map 5.6 shows the on-road bicycle compatibility rating applied to the Iowa Northland Region. As shown, 827 miles are rated good, 157 miles are rated moderate, and 586 miles are rated poor for on-road compatibility (Figure 5.1). A major contributing factor for the good ratings these roads received is the relatively low volumes of traffic. Conversely, many roads entering the Waterloo/Cedar Falls metro area received a “poor” rating due to higher traffic volumes and increased heavy or truck traffic. It should be noted that this assessment uses present-day factors to evaluate on-road bicycle compatibility. Ratings may change over time depending on fluctuations in the assessment factors (i.e. increase in the percent truck traffic on a roadway).

Figure 5.1 – On-Road Bicycle Compatibility Assessment
In developing this plan, the need to establish guiding principles for selecting bicycle routes was recognized. The Regional Bicycle Route Selection Criteria provide guidance for identifying bicycle routes with the highest level of accommodation, and to provide a planning guide for consistency. The selection criteria are as follows:

1. Routes should primarily follow roadways with an on-road bicycle compatibility rating of “good”.
2. Where available, routes should incorporate existing on- and off-road accommodations.
3. Where possible, routes should connect communities to their respective county seat.
4. Where possible, routes should connect to major urban areas (Independence, Waverly, Waterloo/Cedar Falls).
5. Gravel/dirt/unpaved roads should be avoided, unless there is a plan in place to improve these roads.
6. Where multiple routes connecting the same areas meet the above criteria, only the most direct route between these areas should be designated.

*Map 5.7* identifies the Planned Bicycle Routes in the Iowa Northland Region. As shown in *Figure 5.2*, approximately 638 miles of bicycle routes have been identified, of which 47 miles show a compatibility issue (i.e. high traffic volumes, heavy truck traffic, poor line of sight, limited roadway width). Seven miles of bicycle routes have been identified as requiring some form of physical infrastructure improvement (i.e. the most accommodating route is currently unpaved, there are no existing off-road trails). It is evident that connecting Waverly to Shell Rock and Janesville will be a major hurdle in overall regional connectivity.

*Figure 5.2 – On-Road Bicycle Compatibility*
While the Bicycle Route Selection Criteria provide a guide for consistency, they are not intended to supersede local agencies’ policies on designing or implementing on- or off-road bicycle facilities. Additionally, portions of an identified bicycle route may not meet these criteria or may have a compatibility issue, but still provide the most accommodating route available with existing infrastructure.

Bicycle route designation should not be seen as a guarantee against injury. Parents and guardians must judge and set limits to where younger bicyclists may and may not ride. Adult bicyclists also need to ensure that they understand how to ride in a competent manner and avoid routes with heavy traffic volumes and other safety concerns, to the extent possible. Community officials need to consider that there are competent bicyclists who could benefit from bicycle route designation and that inexperienced bicyclists have the potential to become competent road bicyclists with proper education and training. With that in mind, it is the responsibility of each individual user to determine whether a particular bicycle facility is suitable for them.

PLANNING EFFORTS

Regional Bicycle Accommodation Plan Public Input Meetings

To help guide the development of this chapter, INRCOG staff conducted public input meetings at four locations in the Iowa Northland Region. The primary goals of these meetings were to identify and discuss bicycle facility needs in the region, and to discuss the on-road bicycle compatibility assessment. Input from these meetings was utilized to develop the Regional Bicycle Accommodation Plan found later in this chapter. Entities that were represented at the meetings included trail committees, county engineers, city representatives, local tourism, local businesses, and INRCOG. Complete lists of meeting attendees can be found in Appendix II. A summary of public comments received can be found in Appendix IV.

Regional Safe Routes to School Partnership

Safe Routes to School (SRTS) is a nationwide effort to promote children safely walking and bicycling to school through the “5-Es”: engineering, education, enforcement, encouragement, and evaluation. Programs funded under SAFETEA-LU provided for a variety of SRTS initiatives. Types of infrastructure grants included sidewalk infill, traffic calming and speed reduction improvements, pedestrian and
bicycle crossing improvements, on-road and off-road bicycle and pedestrian improvements, bicycle parking facilities, and traffic diversion improvements. Types of non-infrastructure grants included items such as the development of SRTS studies and plans, production of educational and promotional materials, and SRTS training workshops.

While MAP-21 eliminated SRTS as a stand-alone program, SRTS projects are still eligible under the Transportation Alternatives Program (TAP). Recently, INRCOG was awarded Statewide TAP funding to add a staff person to coordinate a regional Safe Routes to School initiative in partnership with the Iowa Bicycle Coalition and Upper Explorerland Regional Planning. This multi-regional comprehensive program will provide support to communities with SRTS initiatives and recruit new communities to participate. The goal of the program is to increase the number of students walking and bicycling to school with the ultimate goal of improving the overall health and well-being of the state’s youth. The project will include providing pedestrian and bicycle safety and education, providing support of bicycle skills training events, developing Community Action Plans, reviewing current community infrastructure and recommending physical improvements, and creating a sustainable SRTS program. The regional Safe Routes to School initiative is anticipated to start in the spring of 2016.

**Eastern Iowa American Discovery Parkway Plan**

In 2015, the Iowa Northland Regional Council of Governments started a planning initiative for the development of the Eastern Iowa American Discovery Parkway Plan, which is inclusive of the American Discovery Trail as the backbone of the corridor. The American Discovery Trail is the only coast-to-coast non-motorized recreational trail, spanning more than 6,800 miles from California to Delaware. In eastern Iowa, the route passes through Grundy, Black Hawk, Buchanan, Benton, Linn, Johnson, Cedar, Louisa, Muscatine, and Scott Counties. Currently, some sections of the trail are hard-surfaced, some sections are gravel, and some sections are not developed at all. The collaborative planning effort aims to identify recreational, cultural, historical, and natural points of interest along the trail corridor and develop project priorities. The strategic planning process will also include identifying additional links to the trail, identifying funding sources, and developing a marketing plan to promote the benefits of the Eastern Iowa Discovery Parkway.

**Rolling Prairie Trail Visioning Committee**

In 2013, Butler County was selected to participate in Trails Visioning for the Rolling Prairie Trail. Trails Visioning is a program that provides an opportunity for Iowa communities and trail groups to access professional landscape planning and design assistance. Through a series of planning meetings, a local volunteer committee worked with Trees Forever and a professional landscape designer to identify potential trail improvements and landscaping projects along the Rolling Prairie Trail. During planning sessions, the Visioning Committee identified trail expansion as a high priority. The highest priority goals are to connect Heery Woods State Park in Clarksville to Beeds Lake State Park in Hampton, and to connect Shell Rock to Waverly.
Public Input Survey

During the month of April 2012, an online survey was conducted as part of development of this plan. The survey, which received 194 responses, had several questions related to walking and bicycling. An initial question asked how often residents undertook various transportation activities, and the bicycle and pedestrian-related topics are shown in Table 5.1. While the “Never” category ranks highest for all three categories shown, there was still a significant percentage of respondents that frequently undertook these bicycle and pedestrian activities.

Table 5.1 – How Often Respondents Undertook Various Bicycle and Pedestrian Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Never</th>
<th>1 or 2 times in the year</th>
<th>3 to 12 times in the year</th>
<th>2 or 3 times per month</th>
<th>1 or 2 times per week</th>
<th>More than 1 or 2 times per week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walked or biked to/from work</td>
<td>71.8%</td>
<td>4.8%</td>
<td>5.9%</td>
<td>1.6%</td>
<td>4.3%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Rode a bike on a city street or county road</td>
<td>34.7%</td>
<td>12.6%</td>
<td>22.1%</td>
<td>13.2%</td>
<td>8.9%</td>
<td>8.9%</td>
</tr>
<tr>
<td>Used a bicycle/pedestrian trail</td>
<td>24.7%</td>
<td>16.8%</td>
<td>21.1%</td>
<td>16.3%</td>
<td>12.1%</td>
<td>8.9%</td>
</tr>
</tbody>
</table>

Source: 2012 RTA Public Input Survey

Figure 5.3 shows the differences in perceived quality of various bicycle and pedestrian infrastructure elements. The quality of on-road and off-road bicycle facilities scored similarly, with most respondents selecting “Poor” or “Fair”. With nearly three-quarters of total responses, the two highest categories for the perceived quality of pedestrian facilities were “Fair” and “Good”.

Figure 5.3 – Comparison of Perceived Quality of Bicycle and Pedestrian Infrastructure

Table 5.2 shows the importance of various types of bicycle and pedestrian infrastructure improvements to respondents. All improvements were ranked either “Moderately Important” or “Very Important”. Note that the two improvements with the highest numbers of “Very Important” rankings are completing missing segments of sidewalks along major roads and improving crosswalk safety on major roads.
Table 5.2 – Importance of Making Bicycle and Pedestrian Infrastructure Improvements

<table>
<thead>
<tr>
<th></th>
<th>Not Important</th>
<th>Somewhat Important</th>
<th>Moderately Important</th>
<th>Very Important</th>
</tr>
</thead>
<tbody>
<tr>
<td>More off-road trails aimed at recreation</td>
<td>12.6%</td>
<td>24.6%</td>
<td>31.4%</td>
<td>31.9%</td>
</tr>
<tr>
<td>More off-road trails aimed at commuting</td>
<td>21.5%</td>
<td>22.0%</td>
<td>30.9%</td>
<td>26.2%</td>
</tr>
<tr>
<td>Better on-road accommodations for bicyclists</td>
<td>19.4%</td>
<td>20.4%</td>
<td>30.4%</td>
<td>29.8%</td>
</tr>
<tr>
<td>Completing missing segments of sidewalks along major roads</td>
<td>8.9%</td>
<td>21.1%</td>
<td>21.6%</td>
<td>48.4%</td>
</tr>
<tr>
<td>Improving crosswalk safety on major roads</td>
<td>3.7%</td>
<td>18.5%</td>
<td>31.7%</td>
<td>46.0%</td>
</tr>
</tbody>
</table>

Source: 2012 RTA Public Input Survey

VISION AND GOALS

To foster continued development of the regional trail system and expand non-motorized transportation opportunities, the RTA Policy Board has adopted several goals related to access, connectivity, and safety for the region. Goals were identified at focus group meetings conducted during the document planning process and provide a foundation for the implementation of this plan.

Access and Connectivity Goals

1. Complete a continuous trail system of on- and off-road facilities in the Iowa Northland Region
2. Complete the Rolling Prairie Trail from Shell Rock to Waverly
3. Complete the Rolling Prairie Trail from Allison to the Butler County line
4. Complete the Rolling Prairie Trail from Readlyn to the Bremer County line
5. Connect the Waterloo/Cedar Falls metropolitan trail system to the Rolling Prairie Trail through Janesville and Waverly
6. Pave the 9.5 miles of unpaved Cedar Valley Nature Trail in Black Hawk and Buchanan Counties
7. Provide efficient non-motorized access between major traffic generators
8. Provide a framework to local jurisdictions that encourages the incorporation of bicycle and pedestrian accommodations in new and existing transportation infrastructure and development projects

Safety Goals

1. Reduce conflicts and crashes between pedestrians, bicycles, and motor vehicles
2. Reduce physical obstructions/barriers that impede safe bicycle/pedestrian travel
3. Encourage the development of safety education programs to inform the public of bicycle/pedestrian rules and regulations
4. Where feasible, utilize former railroad right-of-ways, levees, and parkways in the development of non-motorized transportation projects
5. Identify streets and highways best suited to accommodate on-road bicycle travel based on on-road bicycle compatibility rating
To accomplish these goals and meet the future needs of both recreation-based and commuter-based non-motorized travel, the Iowa Northland Region will implement a multi-tiered system. One tier consists of the continued development of the off-road trail system. Another tier is the identification and implementation of on-road facilities that will best accommodate bicyclists. This includes identifying on-road bicycle routes utilizing the on-road bicycle compatibility assessment, and the implementation of paved shoulders where feasible. The RTA recognizes that an efficient on-road system of on-road bicycle routes and paved shoulders will greatly enhance the transportation system for bicyclists. It is important to stress that the on- and off-road systems envisioned must be implemented using a holistic approach to provide seamless interaction between trails and on-road facilities.

**Regional Bicycle Accommodation Plan**

The Iowa Northland Regional Bicycle Accommodation Plan is shown on *Map 5.8*. The RTA has chosen to focus its Bicycle Accommodation Plan on three types of facilities: on-road bicycle routes, paved shoulders, and off-road trails. On-road bicycle routes were identified using the on-road bicycle compatibility assessment. Paved shoulder projects were identified by county engineers and are typically targeted towards roadways planned for resurfacing within the lifetime of this plan. Most future off-road trails shown on the plan are not along roadways, but rather are connecting existing trail segments or recreation areas.

Full implementation of the Regional Bicycle Accommodation Plan would result in a bicycle network of over 800 miles of accommodations, as detailed on *Table 5.3*.

**Table 5.3 – Existing and Planned Mileage of Bicycle Accommodations**

<table>
<thead>
<tr>
<th></th>
<th>Existing Miles</th>
<th>Planned Miles in Regional Bicycle Accommodation Plan</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>On-Road Bicycle Routes*</td>
<td>N/A</td>
<td>550.0</td>
<td>550.0</td>
</tr>
<tr>
<td>Paved Shoulders</td>
<td>23.3</td>
<td>60.1</td>
<td>83.4</td>
</tr>
<tr>
<td>Paved Off-Road Trails</td>
<td>72.0</td>
<td>87.0**</td>
<td>159.0</td>
</tr>
<tr>
<td>Granular Off-Road Trails</td>
<td>31.9</td>
<td>0</td>
<td>31.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>127.2</strong></td>
<td><strong>697.1</strong></td>
<td><strong>824.3</strong></td>
</tr>
</tbody>
</table>

*On-Road Bicycle Routes do not require additional infrastructure improvements.

**Planned off-road trail miles include 6.1 miles of trails programmed for funding in FY 2016-2019.**

On-road bicycle routes do not require additional infrastructure improvements. In their existing state, these roads have been identified as the most accommodating routes as is. Portions of identified on-road bicycle routes may have compatibility issues, but still provide the most accommodating route available with existing infrastructure. Individual jurisdictions are encouraged to address compatibility issues along roadways during the reconstruction or resurfacing of these segments. However, this plan neither suggests nor implies that individual jurisdictions be required to add any further improvements to these roadways.
Implementation

The Regional Bicycle Accommodation Plan is a vision and has been created with the understanding that the type of accommodation to be provided will be a decision of each jurisdiction. While the RTA has the responsibility of creating this plan, accountability for implementing that vision will be the responsibility of each individual jurisdiction. The timing and various accommodations and projects will depend on the cost, funding available, and amount of work required to create them.

Ways to measure the success of implementing non-motorized accommodations can include the following:

- Existing mileage of various accommodation types
- Amount of RTA funded projects that is spent on each type of accommodation
- Crashes involving bicyclists
- Local counts to measure usage of accommodations
- Ancillary economic development indicators, such as retail activity and property values

NON-MOTORIZED PROJECTS

Table 5.4 identifies planned non-motorized projects in the region for federal fiscal years 2016 to 2019. Projects shown only include those programmed with federal-aid; state or locally funded projects are not included. As shown, the majority of projects are focused towards off-road recreational trails. As the Iowa Northland Region implements the Regional Bicycle Accommodation Plan, there may be an increase in the number of TAP and STP projects that include on-road accommodations.

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Sponsor</th>
<th>Description</th>
<th>Total Cost (1,000s)</th>
<th>Federal Funding (1,000s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2016</td>
<td>Fredericksburg</td>
<td>Plum Creek Trail: 600’ S of Mattke Ave to 100’ S of US-18</td>
<td>$249</td>
<td>$199</td>
</tr>
<tr>
<td>2017</td>
<td>Buchanan CCB</td>
<td>Amish Trail: From C-57 to 125th St west of Fontana Lake</td>
<td>$278</td>
<td>$220</td>
</tr>
<tr>
<td>2018</td>
<td>Allison</td>
<td>SRTS: Cherry St/IA-3 NW through town to 4th St/Birch ST</td>
<td>$168</td>
<td>$83</td>
</tr>
<tr>
<td>2018</td>
<td>Butler CCB</td>
<td>Rolling Prairie Trail: In City of Dumont from Main St to Cedar Ave</td>
<td>$126</td>
<td>$101</td>
</tr>
<tr>
<td>2019</td>
<td>Independence</td>
<td>1st St West Trail: From 20th Ave SW east to the Liberty Trail</td>
<td>$270</td>
<td>$145</td>
</tr>
<tr>
<td>2019</td>
<td>Butler CCB</td>
<td>Rolling Prairie Trail: In City of Bristow from Elm St to ECL</td>
<td>$141</td>
<td>$112</td>
</tr>
</tbody>
</table>
Map 5.8
Regional Bicycle Accommodation Plan

Accommodation
- Existing or Programmed Paved Trail
- Existing Granular Trail
- Planned Paved Trail
- Existing Paved Shoulder
- Planned Paved Shoulder
- On-Road Bicycle Route*

* On-Road Bike Compatibility Rating Factors:
- Average Daily Traffic
- Roadway Width
- Percent Center Yellow Line
- Percent Heavy/Truck Traffic

(No Additional Improvements Required)

The map does not represent a survey, no liability is assumed for the accuracy of the data delineated herein, either expressed or implied by INRCOG.

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PEDESTRIAN ACCOMMODATIONS

Walking is an essential part of nearly everyone’s daily life. Whether it’s walking to a place of work after parking the car or walking to the grocery store from home, and whether by foot or using a mobility aid, virtually everyone is a pedestrian at some point in their day. Walking is also the most universally affordable mode of transportation and is particularly important to those who or are unable to drive including senior citizens, persons with disabilities, children, and persons who cannot afford to own a personal vehicle. It is also important for persons who choose not to drive a personal vehicle. While walking is the least expensive transportation mode, constructing and maintaining a high quality pedestrian infrastructure requires comprehensive planning and long-term funding. There are numerous types of pedestrian facilities that can be incorporated throughout the region to not only improve pedestrian accessibility and connectivity, but also promote a culture of walking for persons of all ages and abilities. RTA jurisdictions are encouraged to consider and explore different types of pedestrian facilities to incorporate into construction and reconstruction projects.

NON-MOTORIZED FACILITIES FUNDING

Cost of Bicycle Facilities

The cost of different types of bicycle accommodations can vary widely. For this Plan, bicycle facility cost estimates were derived from the publication *Costs for Pedestrian and Bicyclist Infrastructure Improvements*. The cost of providing a paved shoulder along both sides of a rural highway is estimated to range from $80,000 (four feet) to $115,000 (six feet) per mile. The cost associated with the construction of an off-road recreational trail will vary widely depending on the width, materials used, alignment, and right-of-way constraints. Using conservative figures, constructing new off-road trails is estimated to range from $275,000 to $400,000 per mile.

Engineers, planners, city officials, and the general public can use the *Costs for Pedestrian and Bicyclist Infrastructure Improvements* document to better understand the approximate cost of non-motorized treatments and to help make informed decisions about which facilities are best suited for implementation.

Traditional Funding Sources

There are several state and federal funding programs available through the Iowa DOT, Iowa DNR, Iowa Economic Development Authority, and Iowa Northland Region to help fund non-motorized projects. RTA jurisdictions are encouraged to consider the programs outlined below.

**Surface Transportation Program (STP)**

This program is designed to address specific issues identified by Congress and provides flexible funding for projects to preserve or improve the condition and performance of a number of transportation facilities. The Iowa DOT provides programming authority for allotments of STP funds to RPAs and MPOs. The flexible nature of STP funds, as detailed in the legislation, allows them to be used for all types of transportation projects including Transportation Alternatives Program (TAP) eligible activities.

**Transportation Alternatives Program (TAP)**

This program combines funding from a number of programs in the previous federal authorization bill, SAFETEA-LU. The TAP program provides funding to expand travel choices and improve the transportation experience. TAP funding must go towards bicycle, pedestrian, scenic, historic, or other enhancement-type transportation projects. Similar to the STP, RPAs, MPOs, and the Iowa DOT receive allotments of TAP funds over which they have programming authority. RPAs also receive a pool of flexible funding that can be used for either STP or TAP projects.

**State and Federal Recreational Trails Programs**

These state and federal grant programs are administered by the Iowa DOT to assist cities, counties, and non-profit organizations in funding recreational trails in Iowa for the use, enjoyment, and participation of the public. Applications are accepted annually through statewide competitive grant programs.

**Resource Enhancement and Protection (REAP)**

Administered through the Iowa DNR, this statewide program invests in the enhancement and protection of the state’s natural and cultural resources. Funding is available annually to cities through statewide competitive grants. Multi-purpose recreational facilities and parkland expansion are typical projects funded under this program.

**Community Attraction and Tourism (CAT)**

The CAT program was created to assist projects that will provide recreational, cultural, entertainment, and educational attractions. Administered through the Iowa Department of Economic Development, this program is intended to help position a community to take advantage of economic development opportunities in tourism and strengthen a community’s competitiveness as a place to work and live. Projects must have demonstrated substantial regional or statewide economic impact. Eligible projects include the construction of recreational trails.
Funding Deficiencies

For the purpose of this document, an assessment was conducted to estimate funding levels required to implement the Regional Bicycle Accommodation Plan. As shown in Map 5.8, 60 miles of paved shoulder and 87 miles of off-road trail have been identified. Using the conservative centerline mile cost estimates of $100,000 for paved shoulders, and $300,000 for off-road trails, it would cost roughly $32 million to fully implement the Regional Bicycle Accommodation Plan. This figure does not factor in future maintenance costs for non-motorized accommodations.

EDUCATION

Considering the extensive use on the regional recreational trails system coupled with a focus on developing on-road facilities for bicyclists, it is imperative to reinforce the importance of educating the users of both systems. The RTA encourages users to follow the “rules of the trail”:

- Use your head – wear a helmet
- Go with the flow – stay to the right
- Stay clear of the trail when stopped
- Signal turns or stops; announce when passing
- Show respect for adjacent property

In order to ensure a safe, enjoyable, and efficient trip on on-road facilities, bicyclists and motorists have shared responsibilities in maintaining safe driving habits and behaviors. The RTA recommends that users of the on-road system follow the guidelines established in the “Effective Cycling” training initiatives. According to the Effective Cycling approach, the following recommendations are applicable to both motorists and bicyclists:

- Always ride on the right-hand side of the roadways, not on the left, and never on the sidewalk.
- When approaching a road that is larger than the one you are on, or carries more traffic, or faster traffic, or is protected by a stop or yield sign, you must yield to traffic on that roadway. Yielding means looking left and right until you see that no traffic is approaching so closely as to constitute a danger.
- When intending to move your line of travel either left or right upon the roadway, you must yield to traffic in the new line of travel. Yielding means looking in front and behind until you see that both directions are clear, and that there is no traffic approaching so closely as to constitute a danger.
- When approaching an intersection, you must position yourself according to the direction in which you want to go. Right-turning drivers are at the right, left-turning drivers are at the left close to the center of the roadway, and straight-through drivers are between them.
• When cycling between intersections, you must position yourself according to your speed relative to other traffic. Parked vehicles are next to the curb, slow drivers are next to them, while fast drivers are to the left, next to the centerline.
• Per Iowa Code, a bicycle operated between sunset and sunrise must be equipped with a white light on the front and a red light or reflector on the back, both visible for a distance of at least 300 feet.

Other education initiatives supported by the RTA include the following:

• Incorporating appropriate and safe bicycling techniques into the K-8 school curriculums
• Discouraging the practice of bicycling on sidewalks as bicyclists mature in their riding capabilities
• Supporting safe bicycling initiatives developed by the Governor’s Traffic Safety Bureau
• Encouraging helmet use for bicyclists of all age levels and abilities
• Encouraging law enforcement agencies to enforce traffic laws for bicyclists