Chapter 5
Bicycle and Pedestrian
Chapter 5 – Bicycle and Pedestrian

This chapter primarily focuses on bicycling and walking as modes of transportation, though it also includes activities such as jogging, using a wheelchair, and using an e-bike.

While these activities are often done for recreation or exercise, bicycling and walking are modes of transportation. From this perspective, the same principles that apply to motorized transportation also apply to non-motorized transportation. This includes improving safety, reducing delays, and maximizing traffic flow.

State Bicycle and Pedestrian Plan

In 2018, the Iowa DOT adopted the Iowa Bicycle and Pedestrian Long-Range Plan. The document serves as the primary guide for Iowa DOT decision-making regarding bicycle and pedestrian programs and facilities. It also has applicability for regional, county, and city plans and programs, helping to achieve a better level of statewide coordination and continuity for all levels of bicycle and pedestrian mobility.

The Bicycle and Pedestrian Long-Range Plan has three key objectives:

1. Improve the policies and practices for the ongoing development of the Iowa bicycle and pedestrian system and program. Central to this objective is the development and adoption of a Complete Streets policy.
2. Expand the intercity and intracity bicycle network by providing guidance for the completion of national trail segments and establishing additional U.S. Bicycle Routes.
3. Facilitate implementation of the plan by including a funding toolbox, enhancing design guidelines used by Iowa DOT and local agencies, and making recommendations for program priorities.

The most critical concept outlined in the document is the idea of mainstreaming safe bicycling and pedestrian accommodations. This means that as part of the Iowa DOT’s multimodal mission and regular business practices, bicycle and pedestrian accommodations should be considered in the design and scope for all transportation projects that involve new or improved facilities unless demonstrated that accommodation is not needed. Historically, bicycle and pedestrian accommodations were only considered when a need was demonstrated or when promoted by external stakeholders. This plan aligns the Iowa DOT’s policy with federal regulations that require bicycle and pedestrian accommodations to be considered in every project that involves a new or improved facility.
While bicycle and pedestrian accommodations will be considered for all projects, it does not mean that they will be part of all transportation projects implemented. There are circumstances where accommodations would not be advisable for various reasons. The Iowa Bicycle and Pedestrian Long-Range Plan helps Iowa DOT staff identify and evaluate cases where it would not be wise to implement those accommodations. The overall goal is a flexible approach that balances the needs of all users.

www.iowadot.gov/iowainmotion/modal-plans/bicycle-pedestrian-plan

Overview of Bicycle and Pedestrian Facilities
To understand how bicyclists and pedestrians interact with the transportation system, it is important to identify the facilities used by these modes of transportation. Table 5.1 identifies each facility type in the most general sense, as they apply to each mode.

Table 5.1: Bicycle and Pedestrian Facilities

<table>
<thead>
<tr>
<th>Facility</th>
<th>Bicycles</th>
<th>Pedestrians</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sidewalk (&lt; 8 ft.)</td>
<td>No</td>
<td>Yes</td>
<td>2nd Ave SW sidewalks, Waverly</td>
</tr>
<tr>
<td>Paved trail (≥ 8 ft.*)</td>
<td>Yes</td>
<td>Yes</td>
<td>Rolling Prairie Trail, Butler and Bremer Counties</td>
</tr>
<tr>
<td>Paved shoulders</td>
<td>Yes</td>
<td>Not recommended</td>
<td>W13 (Fairbank-Amish Blvd), Buchanan County</td>
</tr>
<tr>
<td>Bike lane</td>
<td>Yes</td>
<td>No</td>
<td>Park Ave, Waterloo</td>
</tr>
<tr>
<td>Driving lane</td>
<td>Yes</td>
<td>No</td>
<td>W35 (Quasqueton Diagonal Blvd), Buchanan County</td>
</tr>
</tbody>
</table>

*10 feet wide paved trail preferred

The design guidelines for small cities and rural areas are unique from urban areas. In rural communities, active transportation can be quite common. However, infrastructure to support active transportation is often limited or absent. Many small and rural communities are located on state and county roadways that were built to design standards that favor high-speed motorized traffic, resulting in a system that makes walking and bicycling less safe and uncomfortable. Nevertheless, these roadways can be retrofitted and redesigned over time to provide a transportation network that better serves the safety, health, and economic interests of the community. The Small Town and Rural Multimodal Networks Guide published by the Federal Highway Administration (FHWA) in 2016 is a resource for communities to plan for complete multimodal transportation networks in rural areas.

The decision of which facilities to include in a new construction or reconstruction project is determined by the respective jurisdiction. Sidewalks and paved trails accommodate pedestrian travel; paved trails, bike lanes, paved shoulders, and driving lanes accommodate bicycle travel. However, not all facility types provide equal service for bicycles. As a rule of thumb, bike lanes are generally the most advantageous facility in urbanized areas for bicycling for transportation. Like automobile traffic, bicycles operating on collector and arterial roadways have the priority at most intersections. This allows bicyclists to travel uninterrupted for multiple blocks at a time between traffic control devices. Roads with bike lanes provide the additional benefit of separating drivers and bicyclists who typically operate at different speeds. This makes bicycles feel safer and can reduce delay for drivers.

Conversely, bicyclists operating on a parallel trail typically do not have the priority at intersections, and frequently slow down or stop at intersections and driveways. Confusion at conflict points can also increase the likelihood of crashes and may slow traffic operations. There are some instances where a paved trail is preferable to bike lanes, such as roadways with high speed limits or for nature trails not situated alongside a roadway. However, in more concentrated urban areas, bicycles tend to face greater delays on paved trails than on bike lanes. The Guide for the Development of Bicycle Facilities by the American Association of State Highway and Transportation Officials (AASHTO) lists 14 conflicts associated with paved trails or “side paths”, including the following:
- Bicyclists are often not seen by motorists turning left or right.
- Motorists may block crossings at intersections and driveways.
- Stop or yield signs along trails are generally ineffective.
- Fixed objects can constrain the usable width of a trail.

Whether in a rural or urban area, sidewalks should not be considered a bicycle facility. Any side path less than eight feet wide is considered a sidewalk. In addition to the conflicts listed above, there are other disadvantages of bicycling on a sidewalk:

- Conflicts with pedestrians are more likely.
- Motorists may not expect bicyclists to appear suddenly at crossings and driveways.
- Uneven sidewalk pavement can make riding less comfortable and increase delay.

While bicycling on sidewalks may be allowed in some communities in the region, sidewalks do not efficiently fulfill the needs of bicycle transportation and should not be considered a substitute for other bicycle facilities.

Bicyclists may operate on the majority of driving lanes in the region in the same manner as automobile traffic. The only places where it is illegal for bicyclists to operate on-road are on Interstate highways and highways with a posted minimum speed limit. While the law allows bicycling on most driving lanes, in practice this can often be dangerous for bicyclists and frustrating for drivers. Any time a bicyclist avoids the most direct route because of perceived danger, it should be considered a delay for the bicyclist.

On the other hand, many local and county roads with low traffic volumes are suitable for bicycling as-is without the need for additional bike lanes or trails. These roads may be suitable to designate as “shared lanes” which can be defined with Share the Road signage, Bikes May Use Full Lane signage, Bike Route signage, or shared lane markings (or “sharrows”). Even without any signage, these roads are perfectly acceptable for bicycle transportation.

For pedestrians, the development of trails and sidewalks is more straightforward. Generally, sidewalks and trails offer equal accommodation for pedestrians, though sidewalks less than five feet wide are not suitable for pedestrians walking two abreast. Additional improvements for pedestrians involve site-specific treatments that reduce crossing distances, calm traffic, and provide a safe area to wait for traffic. Some of these treatments are included in the next section.

While much discussion about pedestrian planning relates to transportation improvements, land uses play an equal if not greater role in shaping the environment for walking. Large block sizes, setback distances, and parking lots can increase the distance pedestrians must travel and compel them to walk along informal routes. In addition, many businesses and civic buildings do not have a designated walkway to their front door, so pedestrians must walk through parking lots or grassy areas to reach their destination. For these reasons, discussions about pedestrian planning should not be limited to trails and sidewalks alone.
Site-Specific Bicycle and Pedestrian Treatments

A variety of site-specific treatments can be used in addition to each of the five facilities described prior. Currently, these treatments are used sparingly in the region, and some do not exist at all.

Table 5.2 describes some of the most common treatments. This is only an overview and is not intended to serve as an exhaustive list of treatments. All treatments presented in the table are eligible for Transportation Alternatives Program (TAP) and Surface Transportation Block Grant (STBG) program funding.

**Table 5.2: Site-Specific Bicycle and Pedestrian Treatments**

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Median refuge island</td>
</tr>
<tr>
<td>Facility type: Sidewalks and Trails</td>
</tr>
<tr>
<td>Description: A protected space in the middle of a road crossing, typically designed as part of a median, that allows pedestrians and bicyclists to cross one direction of traffic at a time</td>
</tr>
<tr>
<td>Benefits: Reduces the time spent waiting for traffic, and reduces exposure in the crosswalk</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Curb extensions (or bulb-outs)</td>
</tr>
<tr>
<td>Facility type: Sidewalks</td>
</tr>
<tr>
<td>Description: Any lateral shift in the curb that narrows the width of the street</td>
</tr>
<tr>
<td>Benefits: Improves visibility, reduces exposure in the crosswalk, and reduces travel speeds</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vertical speed control</td>
</tr>
<tr>
<td>Facility type: All</td>
</tr>
<tr>
<td>Description: Raised pavement in driving lanes including speed humps, speed tables, and speed cushions</td>
</tr>
<tr>
<td>Benefits: Reduces travel speeds</td>
</tr>
<tr>
<td>Facility Type</td>
</tr>
<tr>
<td>----------------------------</td>
</tr>
<tr>
<td>Narrower driving lanes</td>
</tr>
<tr>
<td>Pedestrian alleys</td>
</tr>
<tr>
<td>Buffers and delineators</td>
</tr>
<tr>
<td>On-road bike route guide signs</td>
</tr>
<tr>
<td>Location</td>
</tr>
<tr>
<td>------------------</td>
</tr>
<tr>
<td>Tampa, twitter</td>
</tr>
<tr>
<td></td>
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<tr>
<td></td>
</tr>
<tr>
<td>San Luis Obispo, nacto.org</td>
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<td></td>
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<tr>
<td>Madison, nacto.org</td>
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<td></td>
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<tr>
<td></td>
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<tr>
<td>Portland, nacto.org</td>
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</tbody>
</table>
National Guidance

Above all, planning for bicycles and pedestrians is United States law. Section 217 in Title 23 of the U.S. Code addresses bicycle transportation and pedestrian walkways. Subsection (g) relates to planning and design:

(1) In general. —
Bicyclists and pedestrians shall be given due consideration in the comprehensive transportation plans developed by each metropolitan planning organization and State in accordance with sections 134 and 135, respectively. Bicycle transportation facilities and pedestrian walkways shall be considered, where appropriate, in conjunction with all new construction and reconstruction of transportation facilities, except where bicycle and pedestrian use are not permitted.

(2) Safety considerations. —
Transportation plans and projects shall provide due consideration for safety and contiguous routes for bicyclists and pedestrians. Safety considerations shall include the installation, where appropriate, and maintenance of audible traffic signals and audible signs at street crossings.

In 2010, the United States Department of Transportation (DOT) issued a 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.”

The DOT encourages transportation agencies to adopt similar policy statements on bicycle and pedestrian accommodation and go beyond the minimum design standards and requirements to create safe, attractive, sustainable, accessible, and convenient bicycling and walking networks. Several recommended actions are included in the DOT Policy Statement:

- Considering walking and bicycling as equals with other transportation modes
- Ensuring that there are transportation choices for people of all ages and abilities, especially children
- Going beyond minimum design standards
- Integrating bicycle and pedestrian accommodation on new, rehabilitated, and limited-access bridges
- Collecting data on walking and biking trips
- Setting mode share targets for walking and bicycling and tracking them over time
- Removing snow from sidewalks and shared-use paths
- Improving non-motorized facilities during maintenance projects

FHWA is a division of the DOT and issues the Manual on Uniform Traffic Control Devices (MUTCD), which has a significant impact on the design of bicycle facilities. The MUTCD sets the standards for traffic signage, signals, and pavement markings in the United States. The last update to the MUTCD was in 2009. On October 5, 2018, the FHWA announced it plans to update the MUTCD, though a release date nor deadline was identified.
In addition to federal policy, other organizations also influence transportation planning for bicycles and pedestrians. AASHTO is the standards-setting body for the design and construction of highways and streets in the United States. AASHTO is the organization of State DOTs, not an entity of the federal government. However, the FHWA ultimately uses a formal rulemaking process to adopt AASHTO standards for application on the National Highway System.

Foremost is the AASHTO Green Book, *A Policy on Geometric Design of Highways and Streets*. The most recent edition of the Green Book, the 7th Edition, is more flexible, multimodal, and performance-based than in the past. In addition to the Green Book, AASHTO also publishes the *Guide for the Development of Bicycle Facilities* and the *Guide for the Planning, Design, and Operations of Pedestrian Facilities*. An update to the bicycle guide – date to be determined – is expected to include significant updates given the rapid advancement of bicycle treatments over the next decade.

Another notable organization is the National Association of City Transportation Officials (NACTO), which is a coalition of municipal departments of transportation. Currently, there are no cities in Iowa that are members of NACTO. However, NACTO has been very influential in the advancement of bikeway and street design at a national level for the past several years. NACTO’s *Urban Bikeway Design Guide* was released in 2011 and includes several treatments not yet adopted in the MUTCD or AASHTO manuals. In 2013, NACTO released the *Urban Street Design Guide* which focuses on the street as a whole and emphasizes pedestrian activity at intersections, sidewalks, and sitting areas, as well as traffic calming and streetscaping measures.

Alta Planning + Design, in partnership with the FHWA and Blue Cross Blue Shield of Minnesota, developed the *Small Town and Rural Multimodal Networks Guide* which was released in 2016. The guide translates existing street design guidance and facility types for bicycle and pedestrian safety and comfort for rural areas not addressed in guides such as the *Urban Street Design Guide*. The guide provides clear examples of how to interpret and apply design flexibility to improve bicycling and walking conditions and develop safe and appealing networks in small towns and rural areas. The guide also provides examples of peer communities and project implementation that are appropriate for rural communities.
State Guidance

National advances in bicycle planning have outpaced Iowa in recent years. In 2011, Iowa was ranked the 6th most bicycle friendly state according to the Bicycle Friendly State program. In 2019, Iowa was ranked 26th. Among other critiques, the Bicycle Friendly State program identified that the state is not allocating enough state funding (C) and federal funding (D+) for bicycling and walking projects compared to other states.

Recommended actions to improve the safety, comfort, and accessibility of bicycling in Iowa include the following:

- Adopt a safe passing law with a minimum distance of 3 feet to address bicyclist safety
- Adopt a law prohibiting a motorist from opening an automobile’s door unless the motorist can do so safely
- Install a Protected Bike Lane on a state-owned road

The state has made significant progress over the past couple of years to improve bicycling and walking. The Iowa Bicycle and Pedestrian Long-Range Plan was adopted by the Iowa DOT in 2018. The document includes a statewide Complete Streets policy, and communities can use this policy as a basis for their own policies. The statewide Complete Streets policy applies to all Iowa DOT projects. The policy outlines that bicycle and pedestrian accommodations will be considered in the design and scope for all transportation projects that involve new or improved facilities. Accommodations are to be implemented unless the additional cost would be excessively disproportionate to the need or probable use, or there is a demonstrated absence of future needs as determined by factors including current and future land use, current and projected user volumes, population density, and crash data.

The Iowa DOT has updated the state’s Bridge Design Manual and is updating the Design Manual to reflect national best practices regarding bicycle and pedestrian facilities, particularly on-road facilities. These updates are being coordinated with the on-road bicycle section from the Statewide Urban Design and Specifications (SUDAS) Manual.

The Iowa Bicycle and Pedestrian Long-Range Plan includes basic design parameters for sidewalks, trails, curb ramps, crosswalks, refuge islands, and signals for pedestrians. For bicycles, the plan identifies basic design
parameters for trails, paved shoulders, bike lanes, separated bike lanes, bike boulevards, shared lanes, wayfinding, and intersection treatments.

Numerous types and widths of bicycle facilities are available, and some are more appropriate than others for any given context. To help select an appropriate facility based on traffic volume and speed, the Plan includes a facility selection matrix for urban settings and another for rural settings (Figure 5.2). These matrices include preferred and acceptable values for each facility type.

**Figure 5.2: Rural and Urban Facility Selection Matrices**

The second tool provided in the Plan is a table of context characteristics of common facility types, which summarizes various attributes of the primary bicycle and pedestrian facility types used in Iowa and provides additional guidance on facility selection. The table can be found on page 96 of the document.

Planned statewide trails of significance to the region include the Cedar Valley Nature Trail to Cedar Rapids, a trail north to Waverly, a trail east to Dubuque, and a combination of trails to the south and west toward the Des Moines metropolitan area.

Also being planned at a statewide scale are the proposed United States Bike Routes (USBR). Of significance to the region is USBR 36, a planned bike route from New York to Oregon with established segments in Pennsylvania and Indiana. Two alignments are proposed for this route, both passing through the region. Between the two alignments, the southern route has a greater share of on-road rural roads considered “good” for bicycling compared to the northern route (90 vs. 75 percent), though the southern alignment has 35 more on-road miles altogether. The proposed USBR 36 is shown in purple, as well as the American Discovery Trail route in green.
Existing Facilities
The Iowa Northland Region has a variety of facilities for bicyclists and pedestrians including 95 miles of paved trails, 26 miles of granular trails, 62 miles of paved shoulders, and 548 miles of on-road bicycle routes. The existing regional bicycle network is shown on Map 5.1. Several trails utilize former railroad right-of-way as their alignment, such as the Rolling Prairie Trail and Cedar Valley Nature Trail. There are also trails that run parallel to existing roadway alignments. Most trails are ten feet in width which is today’s standard for new trail construction. Because granular trails are less user-friendly and cannot be used for some recreation activities, the RTA supports hard-surfacing granular trails when funding is available.

American Discovery Trail
The American Discovery Trail is a 6,800-mile designated east-west bicycle route extending from the East Coast to California. The ADT uses some paved trails, though it is predominantly designated along roadways. The official ADT route splits into a Northern Route and Southern Route between Ohio and Colorado, and the northern route passes through the region. The route encompasses 104 miles through Black Hawk, Buchanan, and Grundy Counties. The trail through George Wyth State Park in Waterloo is the northernmost point along the entire trail nationwide.

The ADT includes the Cedar Valley Nature Trail, the Evansdale Nature Trail, portions of the Cedar Valley Lakes Trail and South Riverside Trails, the Cedar Prairie Trail, and the Sergeant Road Trail. Map 5.2 shows the official ADT route.
Map 5.1

Existing Bicycle Facilities

Accommodation
- Red: Existing Paved Trail
- Orange: Existing Granular Trail
- Yellow: Programmed Trail (Construction Pending)
- Blue: Existing Paved Shoulder
- Orange: On-Road Bicycle Route / Sharrows

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Map 5.2
American Discovery Trail in the Iowa Northland Region

American Discovery Trail Route

Accommodation
- Existing Paved Trail
- Existing Granular Trail
- Programmed Trail (Construction Pending)
- Existing Paved Shoulder
- On-Road Bicycle Route / Sharrows

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Great American Rail-Trail
The Great American Rail-Trail, a project of the Rails-to-Trails Conservancy, is the first trail that will be entirely bikeable across the country. Upon completion, the entire trail will be separated from vehicle traffic in its entirety. The trail stretches more than 3,700 miles between Washington, D.C. and Washington, and it includes 125 miles of existing trails, greenways, and other multi-use paths through the Cedar Valley.

www.railstotrails.org/greatamericanrailtrail/

Cedar Valley Nature Trail
Designated as 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, the trail connects the Waterloo/Cedar Falls and Cedar Rapids metropolitan areas, passing through wetlands, forested land, and prairies along the way. The original alignment was from Evansdale south to Hiawatha, a total distance of 52 miles. Recent efforts have extended the trail south of Cedar Rapids to Ely. In the region, the trail features two large bridges over the Cedar River, and a concrete arch bridge over Lime Creek in Brandon. Map 5.3 shows the alignment of the Cedar Valley Nature Trail.

The trail is hard surfaced from Evansdale to McFarlane Park just outside of La Porte City. The remainder of the trail to the Benton County line is surfaced with compacted limestone aggregate. Black Hawk County Conservation has been proactively repairing and replacing bridges and repairing trail surfaces as funding has become available. The old rail line was constructed in the early 1900s with most of the bridges being constructed in 1912. The bridges have far exceeded their original life expectancy. Black Hawk County Conservation developed a Restoration Plan for the Cedar Valley Nature Trail that identifies and prioritizes needs along the northern 26 miles of the trail. The plan includes repairing the concrete arch bridge in Brandon – constructed in 1914 – the last of its kind along the Cedar Valley Nature Trail.

www.cedarvalleynaturetrail.com
Rolling Prairie Trail
The longstanding goal of the Rolling Prairie Trail has been to connect Coulter in Franklin County to Oelwein in Fayette County, over 80 miles in distance. The alignment of the trail through the region primarily follows abandoned railroad right-of-way through Butler and Bremer Counties. 42 miles of the trail are in place in the region, connecting Bristow, Allison, Clarksville, Shell Rock, Waverly, Denver, and Readlyn. Butler County Conservation plans to extend the trail from Bristow west to the Franklin County line as funding becomes available. Much of the Rolling Prairie Trail crosses through open prairie meadows and vegetative areas, and portions are outlined with woodland areas. Several former railroad stops and grain elevators are situated along the trail as well. Map 5.4 shows the existing segments of the Rolling Prairie Trail.

In 2019, the Iowa DOT added six-foot paved shoulders and bike route signage along IA Hwy 3 from Shell Rock to Waverly as part of a pavement rehab project, completing a critical link in the Rolling Prairie Trail. Butler County and Bremer County continue to explore options for separated bicycle accommodations along 240th Street to connect Waverly and Shell Rock.

Comet Trail
The Comet Trail in Grundy County connects Beaman west to Conrad, and Beaman east to the Wolf Creek Trail in Tama County. The Wolf Creek Trail extends from Gladbrook west to T45 where users can access the Comet Trail. Combined, the two trails have a total distance of 10 miles. A half-mile spur of the trail east of Beaman uses a 72-foot suspension bridge over Wolf Creek to access the Wolf Creek Recreation Area. The dirt and aggregate trail features multiple creek crossings, and an abundance of wildlife can be observed along the trail including whitetail deer, ring-necked pheasant, and numerous songbirds.

Pioneer Trail
This 12-mile-long dirt trail travels through four segments of the Grundy County Greenbelt and the Black Hawk Creek Wildlife Area, providing necessary habitat for a variety of animal and bird life, as well as native prairie vegetation. Holland, Grundy Center, Morrison, and Reinbeck are situated along the trail, and there are seven trailheads along the corridor.
Current Planning
The RTA is working on a couple of bicycle and pedestrian related projects. These include both short-range and long-range planning efforts. This section describes only those efforts that are long-range in nature and does not intend to cover all bicycle and pedestrian projects and planning initiatives RTA staff work on.

2045 Bicycle Accommodation Plan
The regional bicycle 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 trails, they cannot reasonably connect to every destination in the region. By developing a non-motorized network using a combination of paved trails, paved shoulders, and on-road routes, the region can effectively provide bicycle connectivity to many destinations within the six-county region.

As part of the 2040 Long-Range Transportation Plan, an on-road bicycle compatibility assessment was conducted for all paved rural primary and secondary roadways in the region. The assessment used 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 were 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 automobile traffic. Additional information on the methodology can be found using the website listed below.


After the on-road bicycle compatibility rating was applied to the regional road network, bicycle routes were identified to provide the highest level of accommodation, connectivity, and consistency. Selection criteria were as follows:

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

For the 2045 Bicycle Accommodation Plan, RTA staff contacted jurisdictions for updates and changes. Staff reviewed suggested changes and refined planned accommodations – including on-road bicycle routes – within individual cities. Furthermore, on-road bicycle routes and planned paved shoulders connecting to the Waterloo/Cedar Falls metropolitan area were adjusted to align with the 2045 Metropolitan Planning Organization Bikeway Plan.

The connection between Janesville and Waverly was refined as part of the planning efforts for the interchange project on U.S. 218. The Iowa DOT has programmed construction of an interchange at 260th Street north of...
Janesville in FY 2024. As part of the project, a series of frontage roads with paved shoulders will be incorporated to provide local access to two subdivisions and the City of Janesville from the north. This leaves a two-mile gap between Janesville and Waverly. A separated paved trail has been identified from 260th Street north to 29th Avenue SW in Waverly to complete the connection. As shown, users would be able to travel from Cedar Falls to Waverly using paved trails, paved shoulders, and on-road bicycle routes.

The 2045 Regional Bicycle Accommodation Plan is shown on Map 5.5. The RTA has chosen to continue its focus on three types of facilities: on-road bicycle routes, paved shoulders, and paved trails. Many paved shoulder projects were identified by county engineers and are typically targeted towards roadways planned for resurfacing within the lifetime of this plan. Most planned trails shown 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 continuous bicycle network of 885 miles of accommodations, as detailed below.

<table>
<thead>
<tr>
<th>Table 5.3: Mileage of Existing and Planned Bicycle Accommodations</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Existing Miles</td>
</tr>
<tr>
<td>On-Road Bicycle Routes</td>
</tr>
<tr>
<td>Paved Shoulders/Bike Lanes</td>
</tr>
<tr>
<td>Paved Trails</td>
</tr>
<tr>
<td>Granular Trails</td>
</tr>
<tr>
<td><strong>Total</strong></td>
</tr>
</tbody>
</table>

*Includes 0.6 miles of programmed trails in FY 2021-2024

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.
Rolling Prairie Trail Wayfinding and Guide Signs

In 2019 and 2020, RTA staff planned the implementation of wayfinding signage for the 42-miles of the Rolling Prairie Trail in Butler and Bremer Counties. The methodology and sign design are like the Cedar Valley Trails wayfinding signs in the Waterloo/Cedar Falls metropolitan area. Meetings were held with jurisdictional representatives to determine sign location, design, and steps for implementation. RTA staff identified the locations for signs and the destinations to be displayed on each customized sign. The sign layout was created by RTA staff and agreed upon by a committee representing the cities and counties along the trail in the region.

Each customized sign shows the distance to each destination, as well as the estimated time it would take by bicycle based on an average speed of 10 miles-per-hour. The signs display the closest destination first, followed by any other destinations in the same direction, and then the next closest destination in a different direction.

Altogether, 25 customized wayfinding signs were identified for the Rolling Prairie Trail in addition to 46 bicycle guide sign locations. The City of Waverly plans to expand on this system for the city’s trail network.

Trail Counters

In 2019, the City of Waverly was awarded a grant through the Cedar Trails Partnership to purchase and install three electronic trail counters. The City approached RTA staff to install and administer the trail counters. The counters are discreetly placed beside the trail and capture the number of users passing by at that location. Counters collect data continuously, but they do not differentiate different types of trail users. Black Hawk County Conservation also has trail counters on the Cedar Valley Nature Trail that have been collecting data since 2018.

Figure 5.3: Trail count weekly totals in Waverly
Bicycle route designation should not be seen as a guarantee against injury. Bicyclists must ensure that they understand how to ride in a competent manner and avoid routes with heavy traffic. It is the responsibility of each individual user to determine whether a particular bicycle facility is suitable for them.

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

(No Additional Improvements Required)
2020 Public Input Survey
In September 2020, RTA staff conducted a public input survey to gain input from across the Iowa Northland Region. Surveys were mailed to 1,000 randomly generated households in the region, and 118 were returned.

Respondents were asked how they would rate the infrastructure for five transportation modes. Figures 5.4 and 5.5 show the total number of responses per rating for bicycle and pedestrian modes. 16 respondents selected “Neutral/No Opinion” for bicycle, and 11 respondents selected the same for pedestrian.

Figure 5.4: Responses for Rating Transportation Modes, Bicycle

Figure 5.5: Responses for Rating Transportation Modes, Pedestrian

Respondents were asked if they would support improvements for long-distance recreational trails, short trails/trail loops in local parks, and/or bike lanes on roads. Figure 5.5 shows the total number of responses to each improvement. 94 survey participants answered this question, and a total of 170 responses were recorded among the three improvements. Of all survey respondents, 79.7 percent support at least one improvement, and 21.2 percent support all three improvements.
Respondents were also asked what the number one transportation problem in their life is, and what will be the biggest transportation challenge in the next 25 years. There were also opportunities for additional comments. Notable findings pertinent to this chapter include the following:

**What is the number one transportation problem in your life?**

- Bicycle and pedestrian infrastructure were commented on by 5.9 percent of respondents.

**What will be the biggest transportation challenge in the next 25 years?**

- 4.2 percent of survey respondents answered with the need for additional bicycle and pedestrian infrastructure.

**Additional Comments**

- 33.3 percent of survey respondents providing additional comments answered with bicycle and pedestrian infrastructure or bicycle safety.
Other Non-Motorized Projects

Black Hawk County Water Trails Master Plan
From 2017-2021, INRCOG worked on developing the Water Trails Master Plan for Black Hawk County. This project was funded through the Iowa Department of Natural Resources (DNR) and identifies site-specific improvements to over two dozen river accesses throughout the County. Many of these river accesses are situated near or along paved trails, creating multiple opportunities for “pedal paddle” trips. These are trips where a paddler drops off their bike at their take-out location, drives to the put-in location, paddles downstream, locks up their canoe or kayak, bicycles back to their vehicle, and returns with the vehicle to pick up their canoe or kayak.

The planning process also includes signage plans for on-land navigational signage, and on-water navigational signage. These include directional signs on roadways, dam warning signs, and signage to be installed at each entry point. This process required much coordination between each City, Black Hawk County, the Iowa DNR, and the Iowa DOT. The planning process also included meeting with elected officials to identify maintenance responsibilities for each government entity.

To distribute information to the public, a website was created for the Cedar Valley Water Trails. The site includes an interactive map, public input materials, paddling safety and equipment rental information, and the Master Plan document. A Facebook page was also created to further engage and inform the public.

The Black Hawk County Water Trails are to be state designated in 2021.

www.cedarvalleywatertrails.com
Wapsipinicon River Water Trail

The first state designated water trail in the region was the Wapsipinicon River. With a total length of 40 miles, the Wapsipinicon River Water Trail is one of the longest continuous stretches of natural and scenic river corridors in the state. The water trail has three different segments with beginner and intermediate skill levels. The river retains its natural backwater wetlands and woodlands, making it a rare treasure worth protecting. Therefore, the Wapsipinicon River is designated a Protected Water Area – one of only five in the State of Iowa.

The Wapsipinicon River Water Trail stretches from Rigdon Access County Park in Black Hawk County to the Buchanan County/Linn County line. The northernmost access is at Wapsi Bluff, and the southernmost access is at Troy Mills. Exposed limestone outcrops rise 10 to 20 feet above the river, though some reach 80 feet. On nearly every sandbar, shells of living mussels will be found. Seasonally connected backwaters, sloughs, and oxbows provide the spawning and nursery habitat where pike reproduce. Other game fish include smallmouth bass, walleye, channel catfish, and crappie. Wood ducks can be seen along the river in tree cavities as well. Between Independence and Quasqueton, two historic structures can be seen along the river. Paddlers can float by the 1872 bowstring arch bridge at Iron Bridge Access and the brick boathouse at Cedar Rock State Park. The boathouse is part of the Walter Residence designed by the famous architect Frank Lloyd Wright.

There are three dams located along the water trail 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 eliminated the dangerous hydraulic recirculation and backwash caused by the dam and restored the natural flowing character of the river.

An extension of the Wapsipinicon River Water Trail is identified as a potential study area. This water trail would extend from Frederika in Bremer County to the northernmost point of the state designated water trail 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 5.6

Water Trails

- **State Designated Water Trail**
- **Potential Study Area**
- **River**
Safe Routes to School

Safe Routes to School (SRTS) is a nationwide effort to promote children safely walking and bicycling to school through engineering, education, enforcement, encouragement, and evaluation (5-E’s). SRTS projects are eligible under the Transportation Alternatives Program (TAP). INRCOG has been awarded Statewide TAP funding for multiple years to fund a staff person to coordinate a regional Safe Routes to School initiative in partnership with the Iowa Bicycle Coalition and Upper Explorerland Regional Planning Commission in Decorah. The goal of the program is to increase the number of students walking and bicycling to school with the goal of improving the overall health and well-being of the region’s youth. As of 2020, INRCOG staff have done the following:

- Supported Safe Routes related education, activities, and events in 20 elementary schools in 12 school districts in INRCOG’s six-county area
- Maintained two routine Walking School Bus programs encouraging physical activity and safety for over 75 students
- Hosted numerous Bike Rodeo safety education events, educating over 1,700 students in bike and pedestrian safety
- Continuously attended four area community wellness coalitions with emphasis on physical activity, safety, and education
- Organized trail rides for two elementary schools
- Provided input for the development of a new online student data collection tool
- Piloted an in-class bike safety lesson, titled Helmets & Hand Signals, with 12 second grade classrooms, educating over 250 students

Though there is no dedicated federal Safe Routes to School funding for infrastructure projects anymore, the RTA is committed to maintaining the Safe Routes to School Coordinator position to continue and grow these activities.
Short-Term Bicycle and Pedestrian Projects
Table 5.4 identifies planned projects in the region for federal fiscal years 2021 to 2024. Projects shown only include those programmed with federal TAP funds; state or locally funded projects are not included. This table also demonstrates the limited funding abilities of TAP. With only $184,000 available per year, the program has historically been limited to one new project per year.

Table 5.4: Bicycle and Pedestrian Projects, FY 2021-2024

<table>
<thead>
<tr>
<th>Fiscal Year</th>
<th>Jurisdiction</th>
<th>Project</th>
<th>Termini</th>
<th>Description</th>
<th>Cost Estimate ($)</th>
<th>TAP Funds ($)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2021</td>
<td>Waverly</td>
<td>Rolling Prairie Trail</td>
<td>10th Ave SW, Heritage Way to 16th St SW</td>
<td>Trail Paving</td>
<td>235,000</td>
<td>184,000</td>
</tr>
<tr>
<td>2024</td>
<td>Buchanan Co.</td>
<td>Taylor’s Ford Bridge</td>
<td>Over Wapsipinicon River, from 262nd St S 0.8 miles</td>
<td>Historic Preservation</td>
<td>350,000</td>
<td>184,000</td>
</tr>
</tbody>
</table>

Long-Term Vision
The Regional Bicycle Accommodation Plan is a vision for the future. While the RTA has the responsibility of creating this plan, accountability for implementing that vision rests with each jurisdiction in the region. Implementation of this vision will largely depend on project costs and available funding.

The RTA has identified the following goals to continue the development of the regional trails system and expand bicycle transportation opportunities:

- Complete the Rolling Prairie Trail from Bristow to the Butler County line
- Connect the Waterloo/Cedar Falls metropolitan trail system to the Rolling Prairie Trail through Janesville and Waverly
- Provide a second route for the Rolling Prairie Trail from Shell Rock to Waverly along 240th St/Grove Rd
- Pave sections of the Comet Trail and add on-road accommodations to create a continuous facility from Holland to Reinbeck
- Pave the granular sections of the Cedar Valley Nature Trail in Black Hawk and Buchanan Counties
- Maintain the bridges on the Cedar Valley Nature Trail
- Incorporate bicycle and pedestrian accommodations in new and existing transportation infrastructure and development projects
- Implement a continuous system of on- and off-road facilities to connect the Iowa Northland Region

To accomplish these goals, the RTA has implemented a multi-tiered system. One tier consists of the continued development of the paved trail system. The second tier is the identification and implementation of on-road bicycle 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/bike lanes. A continuous and seamless network of on-road accommodations and paved trails will greatly enhance the transportation system for bicyclists.