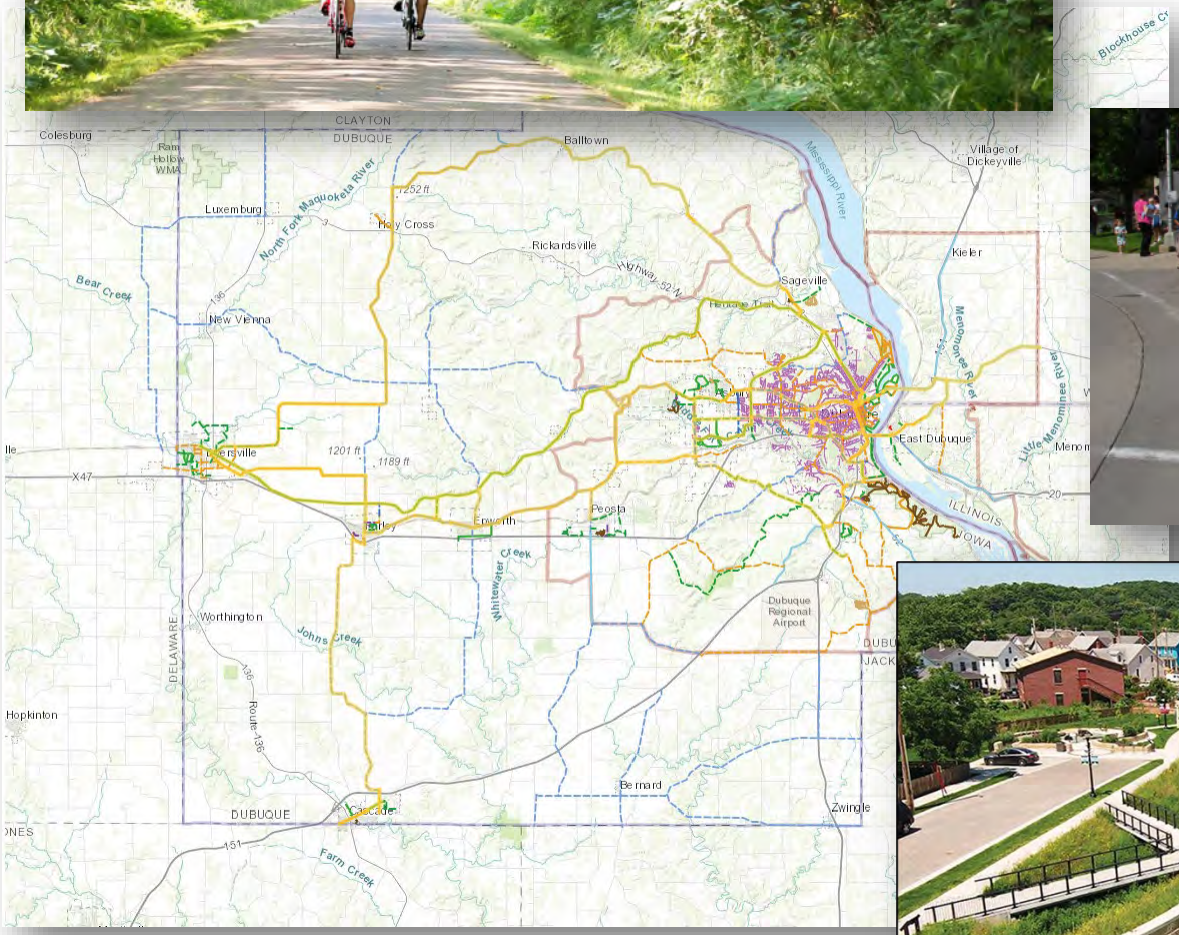
2023 DUBUQUE REGIONAL BICYCLE AND PEDESTRIAN NETWORK PLAN

DRAFT 4-12-2023



ACKNOWLEDGEMENTS

East Central Intergovernmental Association (ECIA) would like to thank the Project Steering Committee and all those residents, stakeholders, and organizations that generously shared their time, experiences, and knowledge to make the Dubuque Regional Bicycle and Pedestrian Network Plan an actionable vision for a safe, comfortable, and equitable multimodal transportation network accessible to all ages and abilities.

PROJECT STEERING COMMITTEE		
Agency/Organization	**Representative**	**Alternate Representative**
Dubuque County Engineer / Roads	Russell Weber, County Engineer	Wyatt Anderson, Licensed Surveyor
Dubuque County Conservation	Brian Preston, Director, DCCD	Nate Sisler, Deputy Director, DCCD
City of Dubuque Engineering	Gus Psihoyos, City Engineer	Jon Dienst, Civil Engineer
City of Dubuque Leisure Services	Marie Ware, Leisure Services Manager	Steve Fehsal, Park Division Manager
City of Dubuque Planning Services	Wally Wernimont, Planning Services Manager	Jason Duba, Assistant Planner
City of East Dubuque	Loras Herrig, City Manager, East Dubuque	Alyssa Darnall, Assistant City Manager
Regional Planning Agency (RPA) -- Small Cities	Mick Michel, City Administrator, Dyersville	Adam Huehnergarth, Park and Recreation Manager, Dyersville
Dubuque Metro Area (DMATS) -- Small Cities	Beth Bonz, City Administrator, Asbury	Sara Burke, City Clerk, Asbury
Tourism & Trails Advocacy Groups	Keith Rahe, President + CEO, Travel Dubuque	Tyler Daugherty, VP of Community Engagement, Travel Dubuque

Cover: Network map and photos of bicyclists and school crossing by ECIA; Bee Branch Creek Greenway from City of Dubuque website.

TABLE OF CONTENTS

1. INTRODUCTION

Purpose

The purpose of this plan is to help cities and counties, regional and state agencies, residents, and advocacy groups identify and coordinate future projects that will expand and enhance the Dubuque regional bicycle and pedestrian network within the region's multimodal transportation system.

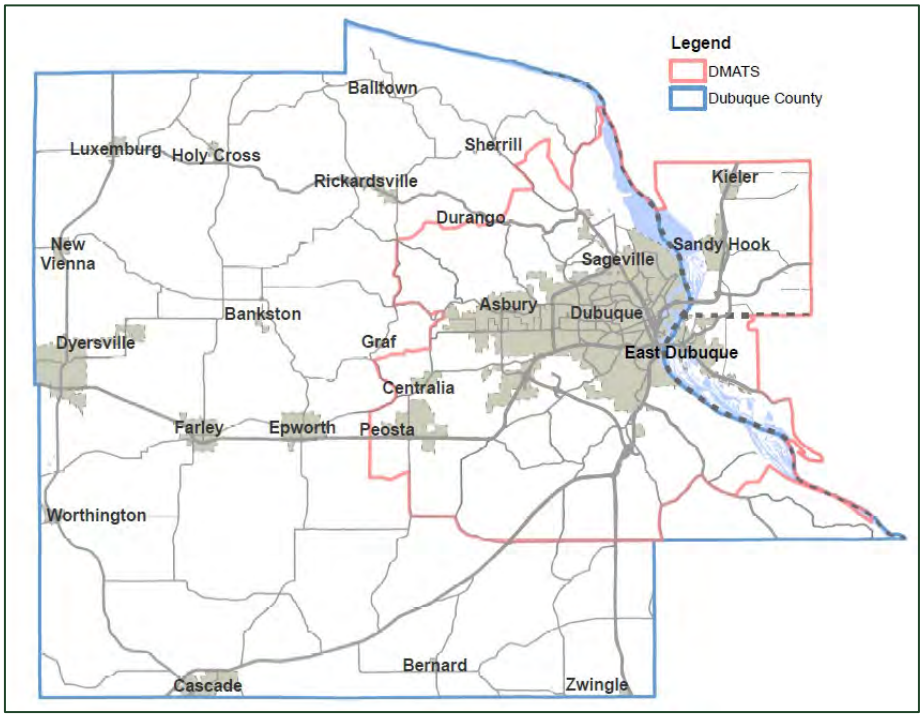
Planning Area

The Dubuque Region is located on the Mississippi River at the convergence of the state boundaries of Iowa, Illinois, and Wisconsin. The planning area includes all of Dubuque County and its cities in Iowa; unincorporated areas of Kieler and Sandy Hook in Grant County, Wisconsin; and the City of East Dubuque in Jo Daviess County, Illinois.

Planning Process

To create a plan that accurately reflects the future needs of the network, ECIA formed a Project Steering Committee to help gather input from stakeholders, community partners, and people in the region. Steering Committee members: Dubuque County, City of Dubuque, City of East Dubuque, Regional Planning Affiliation (RPA), Dubuque Metropolitan Area Transportation Study (DMATS), and Travel Dubuque representing advocacy groups for tourism and trails.

Planning Area for Dubuque Regional Bicycle & Pedestrian Network



The planning process consisted of these primary tasks:

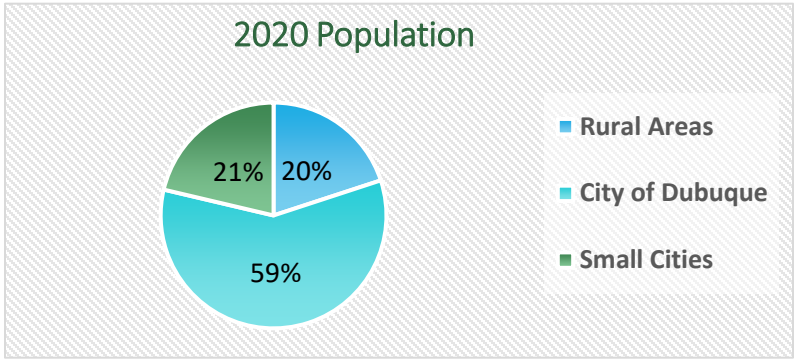
- Review Related Plans: Urban and Rural
- Review Conditions of Existing Facilities
- Develop Future Network Concept
- Encourage Community and Stakeholder Engagement
- Revise Concept Based on Community & Stakeholder Input
- Finalize Future Network Plan

Regional Context

This plan will coordinate the bicycle and pedestrian goals and objectives of the states, regions, counties, and cities in the planning area.

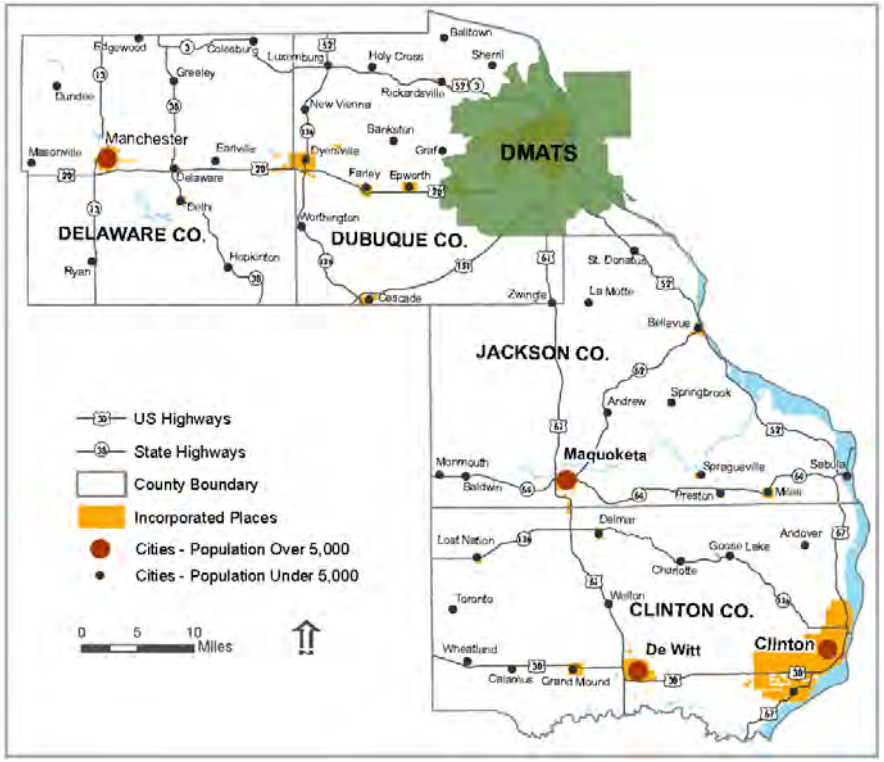
Population

The estimated 2020 population for the Dubuque Region was nearly 102,000 people according to the US Census Bureau. The region's population was split between the City of Dubuque (59,667), the 21 small cities (21,663), and unincorporated rural areas (20,291).



Regional Planning Affiliation (RPA)

The purpose of the RPA is to enhance and improve the rural transportation planning consultation process between Iowa Department of Transportation and local governments. The RPA gives these governments a united voice in addressing safety issues, long range transportation needs and transit needs. The RPA includes 52 cities and four counties. The Iowa Department of Transportation (DOT), Federal Transit Administration (FTA), and Federal Highway Administration (FHWA) are advisors to the RPA Policy Board and Technical Advisory Committee. The City of Dubuque and surrounding area is excluded, as it is part of the Dubuque Metropolitan Area Transportation Study (DMATS) planning area.



2022 RPA Plan: Planning Area (p. 7)

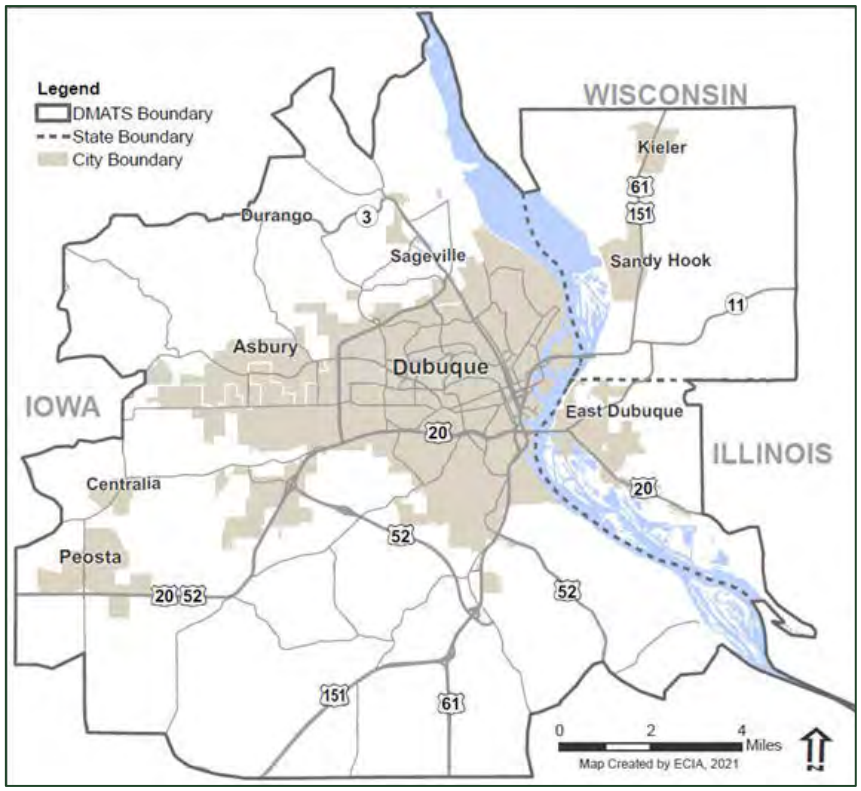
Dubuque Metropolitan Area Transportation Study (DMATS)

DMATS is the metropolitan planning organization (MPO) for the Dubuque metro area. As the MPO, DMATS is responsible for maintaining a continuous, comprehensive, and coordinated (3-C) transportation planning process. DMATS is also responsible for carrying out the metropolitan planning requirements of the current federal surface transportation legislation.

The DMATS Policy Board and Technical Advisory Committee are advised by the FTA and the FHWA. The Policy Board includes representatives of: Cities of Dubuque and Asbury, Iowa; City of East Dubuque, Illinois; Dubuque County, Iowa; Jo Daviess County, Illinois; Grant County, Wisconsin; one Small City representative for the Cities of Centralia, Durango, Peosta, and Sageville, Iowa; the three state DOTs; ECIA; Southwestern Wisconsin Regional Planning Commission (SWWRPC); Jule Transit; and Regional Transit Authority (RTA).

Topography

The topography of the Dubuque Region ranges from gently rolling in the southwest, to hilly and steep in the north and east. Along the Mississippi River, the topography is very steep and rugged, with high limestone bluffs and outcrops. Much of the steep terrain is heavily wooded. The steep landscape restricts development and farming activities.[1] It also presents challenges for creation of a regional bicycle and pedestrian network.



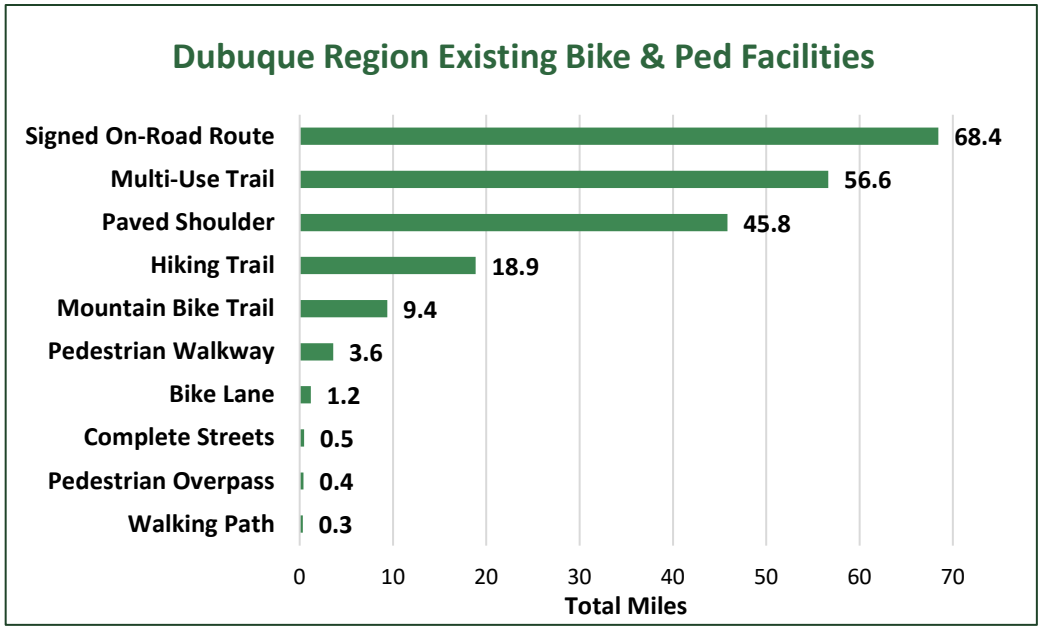
2021 DMATS Plan: Planning Area (p. 7)

Transportation System

The predominant surface transportation system in the Dubuque Region is a network of four US highways and other roads that carry vehicles. These roadways accommodate the travel needs of residents and businesses, as well as travelers from outside the region. Transit services connect many regional residents to work, school, and other important activities in urban and rural areas. Freight railways line both sides of the Mississippi River,

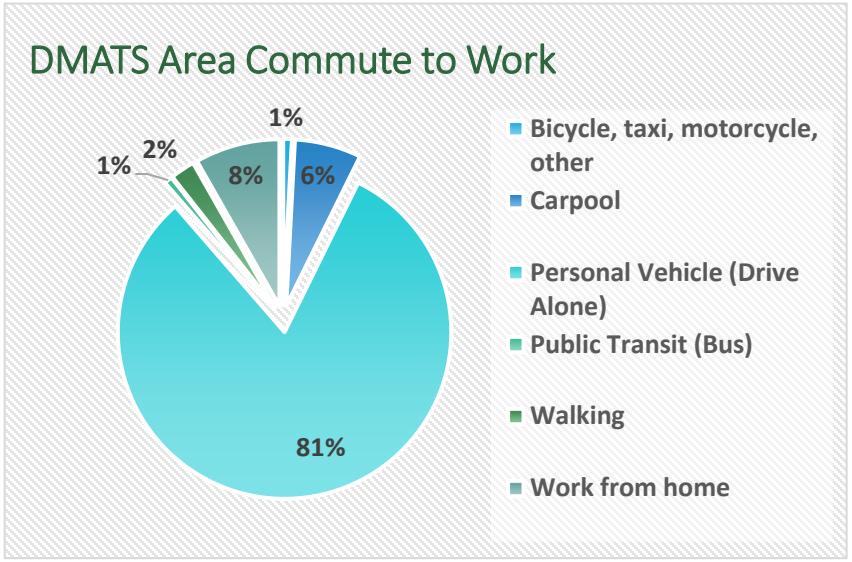
and an east-west freight railway generally follows the US Highway 20 corridor. Most regional bicycle and pedestrian facilities -- off-road trails, on-road routes, and sidewalks -- are found in cities, parks, and recreation areas.

The chart here shows the nearly 177 total miles of existing bike and pedestrian facilities by type in the Dubuque Region's transportation system. The hiking and mountain bike trails are not part of the transportation system, but these recreational trails are important destinations.



Commute to Work

In the DMATS area, 81% of workers drive themselves to work and 6% carpool. About 2% walk to work. Less than 1% bike or ride the bus. About 8% work from home.

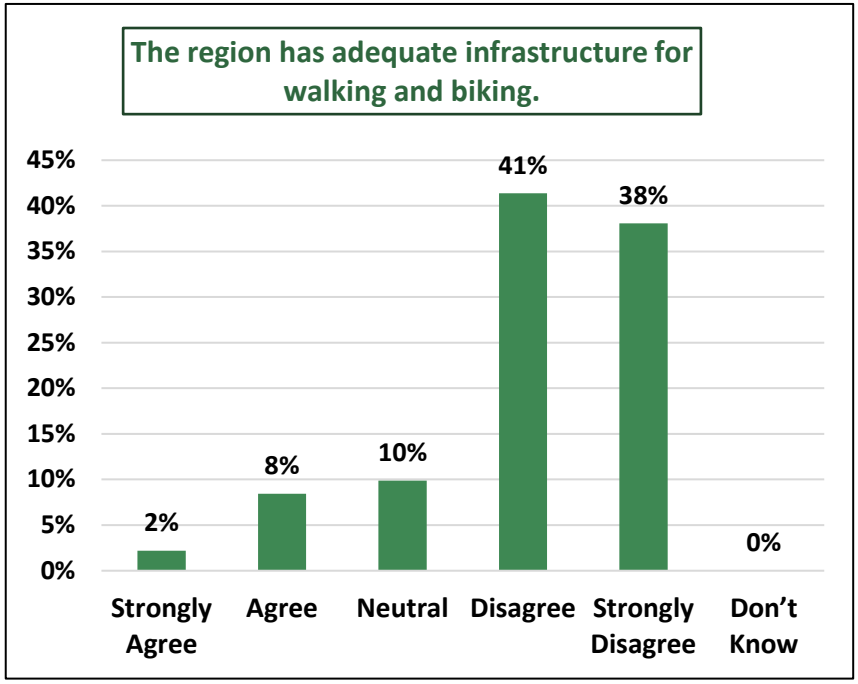


Source: 2021 American Community Survey (ACS) 5-year estimates

Summary of Community Input

Community Engagement for this plan was a coordinated effort of ECIA regional outreach and local outreach by the County and City governments with planned bicycle and pedestrian facilities. The plan was tested with stakeholders, advocacy groups, community members, and the general public. For regional outreach, ECIA launched a project website, an online interactive map, an online community survey, and local map displays. ECIA also conducted two public input meetings.

ECIA received positive comments on many of the region's individual bicycle and pedestrian facilities. But, when asked about the system overall, the feedback was more negative and indicated that there is more work to be done (see chart).

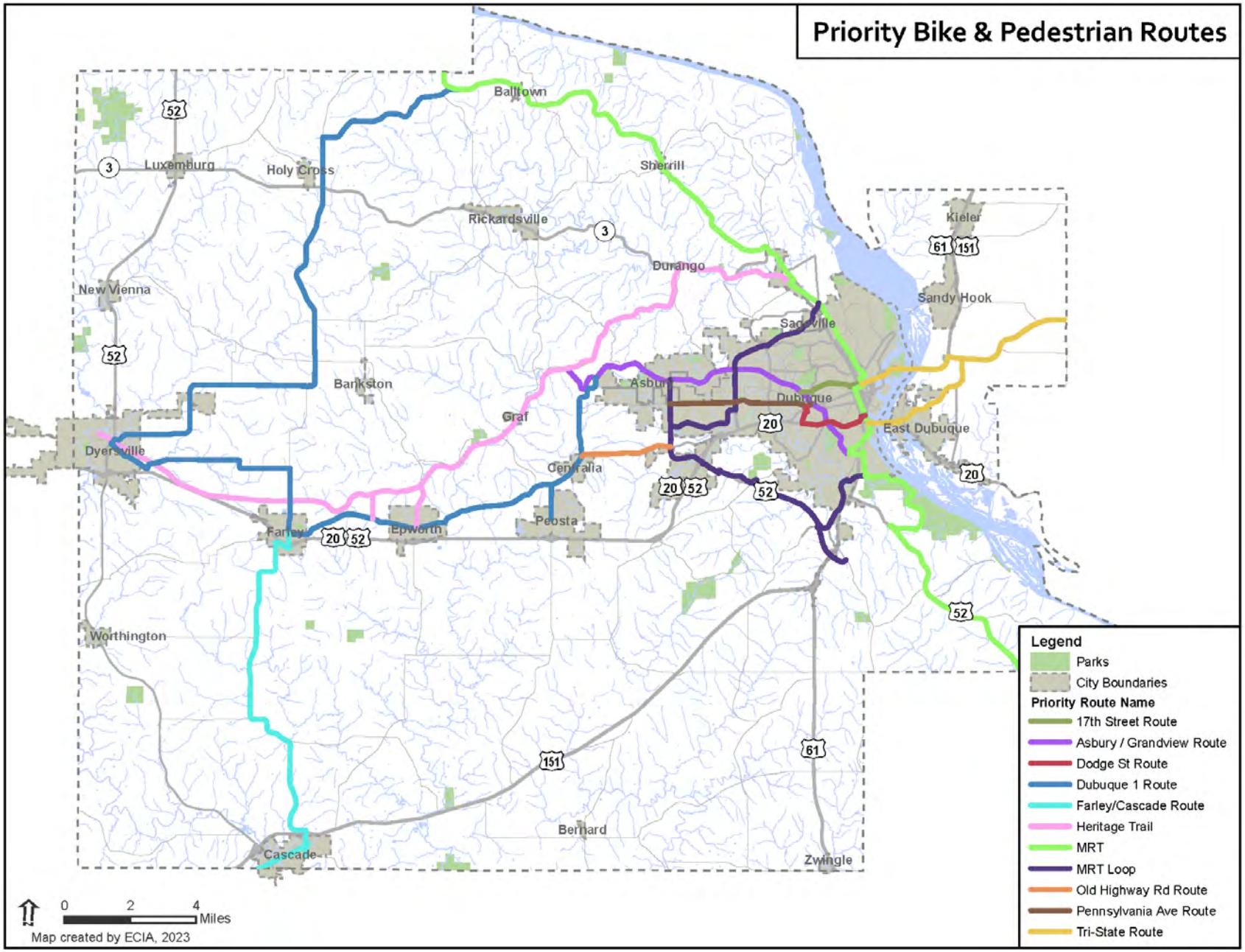


Community Needs and Priorities

Using stakeholder and community input, eight Tri-State Community Needs were identified and ranked for our regional elected representatives to give the most weight when choosing the bicycle and pedestrian network projects to fund. *1 = Most important to consider, 8 = Least important.* Below is a summary.

1. Create an integrated bike and pedestrian network to encourage good outcomes.
2. Connect the regional network to state, county, and city recreation areas.
3. Provide safe and comfortable connections from neighborhoods to destinations.
4. Provide connections to regional, state, and national trail systems.
5. Provide safe, paved multi-use trails with amenities and online maps.
6. Advocate for Complete Streets and Safe Routes to Schools.
7. Encourage safety education and enforcement of traffic laws.
8. Improve clarity of route options for network users.

Community input established eight **Priority Goals** for the future network. Safety and Connectivity are the top priorities to be addressed. ECIA staff and the Steering Committee identified objectives and performance measures to reach these goals. Further information is discussed in section **5. Future Network Concept**. Community input also helped identify **Priority Routes** using existing and future facilities. See map below and section **6. Bike and Pedestrian Projects** for more information.


Priority Bike & Pedestrian Routes
Balltown
Luxemburg
Holy Cross
Sherrill
Rickardsville
Durango
Kieler
Sandy Hook
New Vienna
Sageville
Bankston
Asbury
Dubuque
Graf
East Dubuque
Dyersville
Centralia
Peosta
Epworth
Farley
Worthington
Bernard
Cascade
Zwingle
0 2 4 Miles
Map created by ECIA, 2023
Legend
Parks
City Boundaries
Priority Route Name
17th Street Route
Asbury / Grandview Route
Dodge St Route
Dubuque 1 Route
Farley/Cascade Route
Heritage Trail
MRT
MRT Loop
Old Highway Rd Route
Pennsylvania Ave Route
Tri-State Route

2. RELATED PLANS & POLICIES

Over time, the states, counties, cities, planning agencies, RPA, and DMATS have created their own plans and project lists for their portions of the Dubuque Region. These plans are summarized here. Federal policies related to bicycle and pedestrian facilities are summarized as well.

National Trail Plans

***National Trails** are interstate non-motorized routes that use a mix of multi-use trails, paved shoulders, and shared roadways. Two such trails cross the planning area.*

Mississippi River Trail (MRT)

When finished, the MRT will stretch from the Mississippi River's headwaters in Itasca, Minnesota south to the Gulf of Mexico and will link about 3,000 miles of off-road trails and on-road bikeways through 10 states, including 335 miles in Iowa. The MRT runs on both sides of the river in the Dubuque Region.[2]

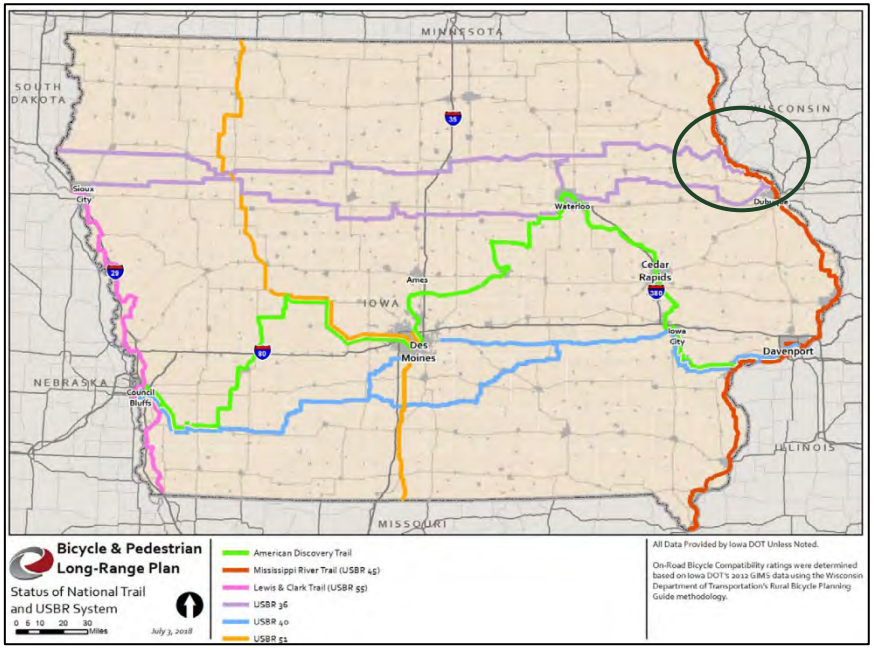
US Bicycle Route 36 (USBR 36)

USBR 36 will originate in New York City, pass through Chicago, and cross the Mississippi River at Dubuque, where it will follow the Dubuque County Heritage Trail. It will continue west across Iowa by a northern or southern route. It will cross Yellowstone National Park, and terminate in eastern Oregon. [3]

State Plans

Iowa Bicycle and Pedestrian Long-Range Plan: 2018

This plan, by the Iowa Department of Transportation, seeks to expand opportunities and improve conditions for bicycling and walking across Iowa as part of the statewide trail network (which includes regional trails) or as part of a local trail network.[4] The statewide routes in the Dubuque Region are the MRT and USBR 36. This plan is the source for the map below.



2018 Iowa DOT Plan: National trail and USBR system alignments (p. 113)

Illinois Bike Transportation Plan: 2014

This plan, by the Illinois Department of Transportation, has policies, best practices, and strategic direction for implementing a sustainable, multimodal transportation system. The plan shows existing and planned regional trails and the MRT in East Dubuque and Jo Daviess County.

Wisconsin Bicycle Transportation Plan: 1998

The Wisconsin Department of Transportation is updating this plan and the 2002 Wisconsin Pedestrian Policy Plan. They will be combined as the Wisconsin 2050 Active Transportation Plan.

Regional Plans

RPA 2045 Long Range Transportation Plan: 2022

The plan reviews the current transportation system and identifies future needs for all transportation modes: roads and bridges, bicycle and pedestrian, public transit, freight, and air travel in the RPA planning area. The plan shows existing and planned bicycle and pedestrian facilities in Dubuque County and in the Cities of Cascade, Dyersville, Epworth, and Farley.

Grant Wood Loop Master Plan: 2022 Update

The plan is a shared regional vision for the Grant Wood Loop area of Dubuque, Jackson, and Jones Counties. Its purpose is to establish and implement an ambitious vision of connecting people to their communities and to each other through parks, trails, quality-of-life assets, and healthy living programming. [5]

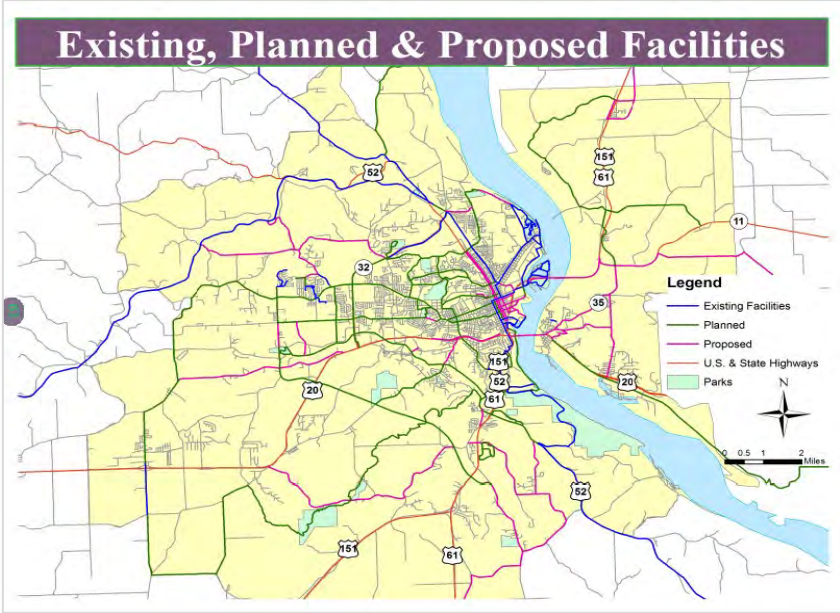
DMATS 2050 Long Range Transportation Plan: 2021

The plan reviews the current transportation system and identifies future needs for all transportation modes: roads and bridges, bicycle and pedestrian, public transit, freight, and air travel in the DMATS planning area. The plan shows existing and planned bicycle and pedestrian facilities in Dubuque County and in the Cities of Asbury, Dubuque, and Peosta.

2021 DMATS Plan: Future Bicycle and Pedestrian Facilities (p. 41)

Tri-State Area Integrated Walking, Bicycling and Hiking Network Plan: 2008

The plan was completed in 2008 by ECIA and adopted by DMATS in 2010. The plan identifies existing needs and recommends projects to enhance and improve the network. It includes plans for location of existing, planned, and proposed facilities, timing, and costs in the tri-state area. The routes identified in this plan were signed-shared use roadways, striped bicycle lanes, paved shoulders, or multi-use trails. Some projects were completed, others revised or given alternate alignments.



2008 Tri-State Area Integrated Walking, Bicycling and Hiking Network Plan: Existing, Planned, and Proposed Facilities (p. 63)

County Plans

Grant County Comprehensive Outdoor Recreation Plan: 2021

This plan was developed by the Southwestern Wisconsin Regional Planning Commission. Although there are no marked bicycle trails, Grant County includes 17 of 28 bike loops on paved roads designated as part of Cycle Southwest Wisconsin. The only developed public hiking trail systems in the county are in Wyalusing State Park and Nelson Dewey State Park.

Jo Daviess County Greenways and Trails Plan: 2009

This plan was developed as a chapter for the Jo Daviess County Comprehensive Plan. It recommends the development of a trail system along the US Highway 20/railroad corridor to connect to the MRT on the Illinois side of the Mississippi River. The City of East Dubuque has designated an alternate route along the riverfront that utilizes public property and right-of-way.

Dubuque County Comprehensive Parks, Trails, and Open Spaces Plan: 2020

The plan has an inventory of Dubuque County Conservation's existing trail facilities and a list of proposed future upgrades. Three recreation areas receive special focus, with added details and information, due to their visibility and importance in the park system: the Swiss Valley complex, Heritage Trail, and Whitewater Canyon.

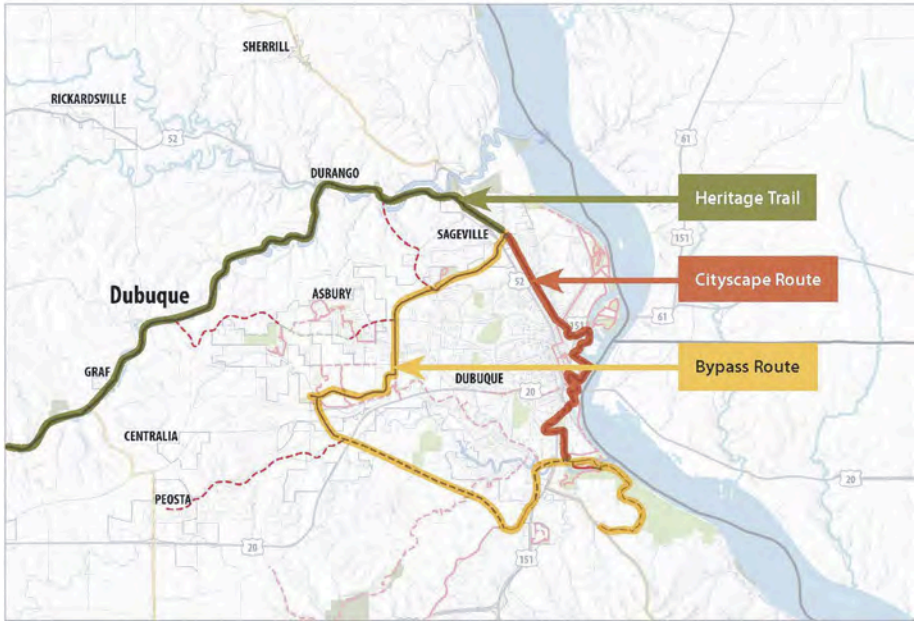
From the 2020 Dubuque County Conservation Plan:

"RECOMMENDED IMPROVEMENTS INCLUDE:

1. Heritage Trail Improvements from Dyersville to Dubuque. The Heritage Trail might be called the "spine" of the Dubuque County Conservation park system. It offers a great opportunity to improve the quality of life for residents and can be an important way to connect and draw people to parks and communities along and near the trail. To truly be accessible to all (and ADA compliant), the Heritage Trail should be paved. The proposed trail section includes soft shoulders with crushed lime added for runners in several key areas, i.e., Heritage Pond to Durango and Holy Cross Road to Gun Club Road. In addition to paving, dedicated trail connections, separated from traffic with a physical barrier, should be developed along these roads (or by way of an easement through willing land owner's property)."[6]

a. **Asbury/Dubuque Priority Routes:**
    a. John F Kennedy Road/NW Arterial Trail head to Clay Hill Road,
    b. Asbury Road to Twin Springs Trail Head
b. **Peosta Priority Route:** Sundown Road to Old Highway Road to Graf Road.
c. **Epworth Priority Route:** 1st Avenue to Gun Club Road
d. **Farley Priority Route:** 1st Street NW to Holy Cross Road

2020 Dubuque County Conservation Plan: Priority Routes (p. 151)



"2. Create a Paved Off-Street Connecting Loop. In collaboration with the City of Dubuque, this pavement will go around and through the city, connecting to the Mines of Spain and the State of Iowa MRT along Highway 52. Two options are recommended and should be connected so that people can ride the full loop.

a. **Bypass Route:** a paved, dedicated route around the city, from the northwest arterial to the southwest arterial to Key West to Mines of Spain to Highway 52.
b. **Cityscape Route:** a paved, dedicated route from Heritage Trail to the Bee Branch, to the river front and up Mount Carmel Road to Mines of Spain, then to Highway 52."[7]

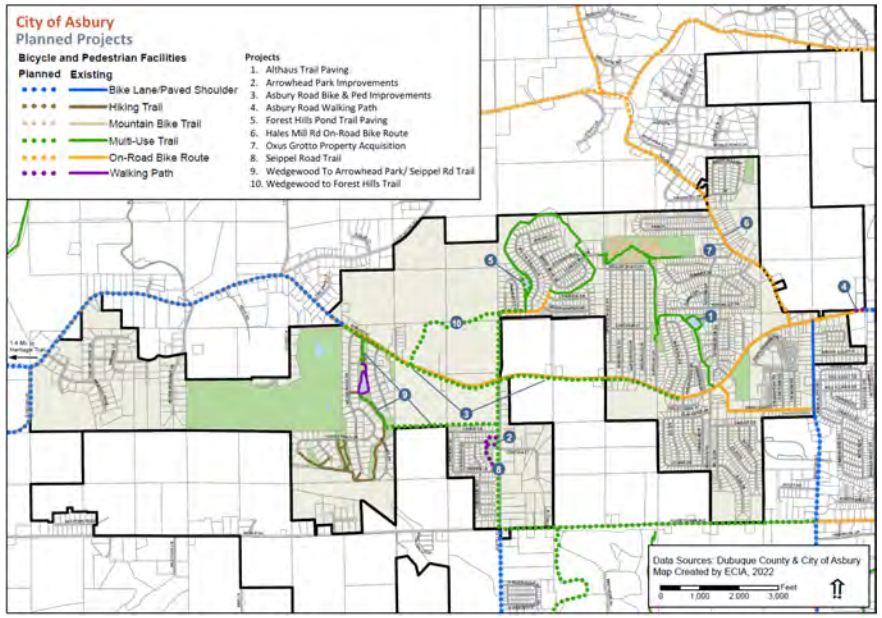
City Plans

Asbury Parks and Trails Plan: 2023

The plan outlines a general concept for the community's future bicycle and pedestrian network, focusing on two priority areas:

1. Improve bicycle and pedestrian safety, and
2. Expand community's bicycle and pedestrian network.

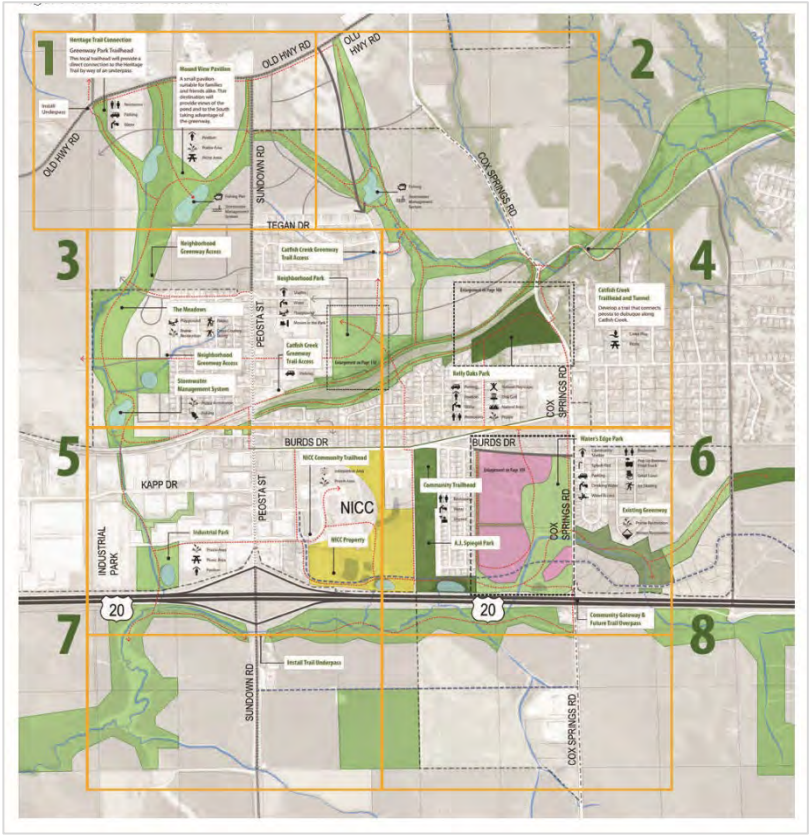
The plan lists prioritized projects to help achieve these two objectives. It includes maps of existing and planned bicycle and pedestrian facilities as shown here.



2023 Asbury Plan: Planned Bicycle and Pedestrian Projects (p. 20)

Peosta Forward! Parks and Trails Master Plan: 2021

The Master Plan is part of the 2021 Peosta Forward! Comprehensive Plan. It focuses on several key amenities throughout the proposed system of greenways and parks, including trails for regional connectivity as shown here.

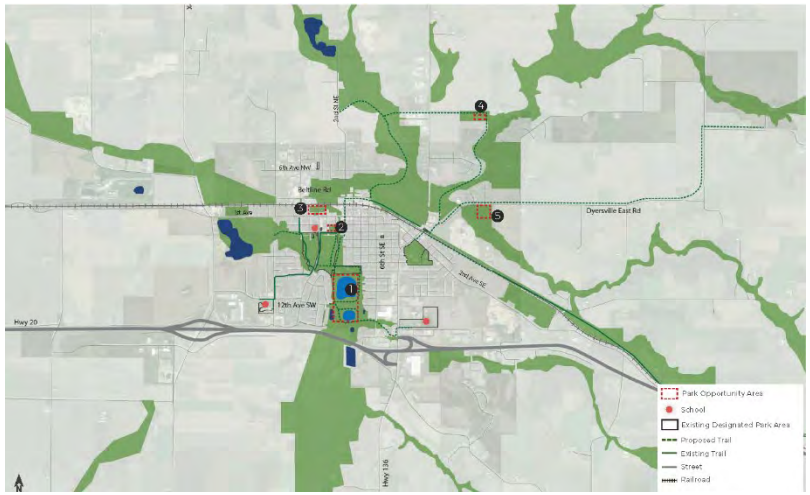


2021 Peosta Forward! Parks & Trails Master Plan (p. 89)

Dyersville Comprehensive Plan: 2018

The plan's transportation goals include: Create a transportation network that will provide a safe and efficient means for all users including pedestrians, bicyclists, and drivers. The existing trail system will shift focus from connecting parks to filling gaps and connecting people to destinations like the Heritage Trail.

2018 Dyersville Plan: Park & Greenway System Concept (p. 91)

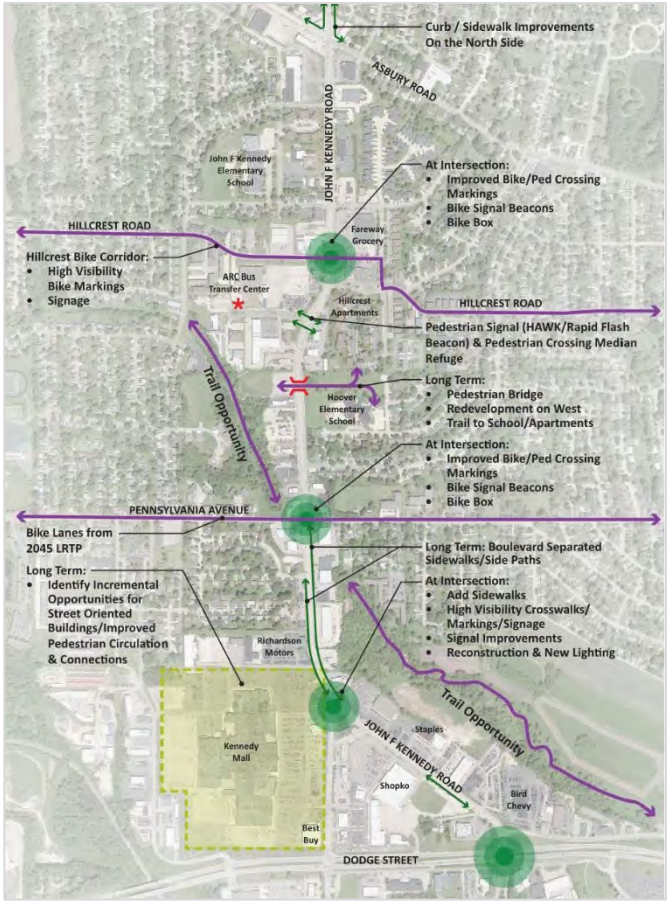


Imagine Dubuque Comprehensive Plan: 2017

The plan's Call to Action for bicycle and pedestrian facilities is: Apply Complete Streets principles throughout Dubuque, Link neighborhoods via trails and open space, and Implement the DMATS 2045 Long Range Transportation Plan. The plan includes complete streets recommendations such as the John F. Kennedy (JFK) Road Corridor shown here. The Plan references the "comprehensive network plan for Complete Streets," but this network plan does not exist.

Farley Comprehensive Plan: 2014

The plan's transportation goals include: To establish improved pedestrian and bike routes in the region to encourage alternative modes of transportation. Proposed projects include sidewalks, a shared-use trail, and an on-road trail.



Potential Complete Streets Opportunities in JFK Road Corridor (2017 Imagine Dubuque Plan, p. 8-10)

Related City of Dubuque Plans & Policies

Heritage Trail Master Plan (1996): Resulted in construction of the Heritage Trail Riverfront System

Port of Dubuque Master Plan (2002): Includes Pedestrian Circulation Plan

Downtown Dubuque Master Plan (2003): Transportation recommendations including bike and pedestrian facilities

Unified Development Code (2009)

- Promotes pedestrian inclusion and safety
- Requires construction of sidewalks on all public street frontages to given design standards
- "Separate bicycle paths shall be required in accordance with the Comprehensive Plan."
- Describes bicycle lanes
- Promotes pedestrian scale and character, and sidewalks, in Old Town Neighborhood Overlay District Design Guidelines

Washington Neighborhood Plan (2009); Neighborhood bike routes, sidewalks, and pedestrian amenities

Historic Millwork District Master Plan (2009): Streetscape improvements, connections within and outside the district; Complete streets improvements followed plan

Complete Streets policy (2011): Develop complete streets during reconstruction and new construction as feasible with topography, cost, and right-of-way; Does not apply to street maintenance

Architectural Guidelines (2014): Promotes pedestrian-oriented development and connections

Chaplain Schmitt Island Master Plan (2017): Bike and pedestrian circulation and recreation

South Port Brownfield Area Wide Use Plan (2017): Proposes connecting MRT from South Port to North Port's Riverwalk

Central Ave. Corridor Streetscape Master Plan (2019): Street amenities and safety improvements for transportation and economy

Climate Action Plan (2020): Promotes Complete Streets with target of 25% community coverage by 2030; Promotes reduced vehicle travel citywide; Promotes increased pedestrian access and safety

Equitable Poverty Reduction & Prevention Plan (2021): Conduct a Study on the Two-Mile Radius for Busing & Impact on School Attendance

US EPA Emerging Mobility Report (2021): Examines four areas: Collaboration, Access to opportunities, Walkable and vibrant downtown, Innovative solutions to local needs

Federal Policies & Programs

Below are key federal policies that direct the provision of bicycle and pedestrian facilities at the state, regional and local levels.

Accommodation

The US Department of Transportation (US DOT) **Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations** issued in 2010 recommends that state, regional, and local stakeholders considering walking and bicycling as equals with other transportation modes, and ensure that there are transportation choices for people of all ages and abilities, especially children.

The Federal Highway Administration (FHWA) policy, **Accommodating Bicycle and Pedestrian Travel: A Recommended Approach**, was updated in 2017 to require incorporation of bicycle and pedestrian facilities into all transportation projects utilizing Federal Aid unless exceptional circumstances exist.[8]

The primary purpose of the FHWA's **Americans with Disabilities Act (ADA)** program is to ensure that pedestrians with disabilities have an equal opportunity to use the public rights-of-way in the transportation system. The FHWA's regulatory responsibilities under Title II of the ADA and **Section 504 of the Rehabilitation Act of 1973 (Section 504)** include oversight of state and local entities and recipients of Federal funds that are responsible for roadways and pedestrian facilities to ensure that they do not discriminate based on disability in any highway transportation program, activity, service or benefit they provide to the public.[9]

"Example of roadway that offers transportation options for users of varying ages and abilities." (2014 Illinois DOT Plan, p. 7)

"Per Federal guidance from the Departments of Justice and Transportation (http://www.ada.gov/doj-fhwa-ta.htm) … resurfacing is an alteration that requires the installation of curb ramps where street level pedestrian walkways cross curbs."[10]

The FHWA's **Bicycle and Pedestrian Program** promotes safe, comfortable, and convenient walking and bicycling for people of all ages and abilities. The FHWA supports pedestrian and bicycle transportation through funding, policy guidance, program management, and resource development.[11] Key resources include:

- Pedestrian & Bicycle Safety
- Bicycle and Pedestrian Facility Design Flexibility
- Pedestrian and Bicycle Funding Opportunities

Complete Streets

Complete Streets serve pedestrians, bicyclists, public transit users, children, older adults, persons with disabilities, motorists, and freight vehicles. **A Complete Street is safe, and feels safe, for all users.** Most states and many local jurisdictions have adopted Complete Streets policies. The FHWA supports transportation agencies to plan, implement and evaluate equitable streets and networks that prioritize safety, comfort, and connectivity to destinations for all people who use the street network.[12] Adoption in the region:

- Complete Streets Law: Illinois and Wisconsin
- Complete Streets Policy: Iowa, DMATS, City of Dubuque

The National Complete Streets Coalition notes that: **Complete Streets is a process and an approach, not just a product or a single type of street.** Each street is unique and responds to its community context. The context and needs of users are different in rural, suburban, and urban communities, and streets will look different as a result, even when using a Complete Streets approach.[13]

The FHWA notes that a **Complete Streets implementation strategy** starts with people, not transportation mode. The elements of a Complete Street vary based on community context and the role that a particular street needs to serve in the multimodal network. Not every street requires bicycle lanes or public transit stops.[14]

Source: National Complete Streets Coalition website

Context Sensitive Design

The FHWA notes that **Context Sensitive Design** is a collaborative, interdisciplinary approach that involves all stakeholders. It considers both the physical setting and facility specifications as well as economic, social, scenic, aesthetic, historic, and environmental resources, while maintaining safety and mobility. It addresses the total context within which a transportation facility is planned, implemented, maintained, and operated.

Adoption in the region:

- Illinois DOT: separate Context Sensitivity Policy
- Iowa DOT: part of Complete Streets Policy and design
- Wisconsin DOT: part of Complete Streets design

Safe Routes to School Programs

The US DOT provides guidance and resources for **Safe Routes to School (SRTS) Programs**, "an approach that promotes walking and bicycling to school through infrastructure improvements, enforcement, tools, safety education, and incentives to encourage walking and bicycling to school. Extensive resources are available through a national center, including an SRTS Guide, parent surveys and student tallies, and simple strategies, such as the walking school bus, that schools can use to support bicycling and walking."[15]

"The **National Center for Safe Routes to School** uses research-based evidence to highlight what works and why, and translates this research into education, professional development tools and training to provide communities the technical support they need to make community-enhancing decisions."[16]

Adoption in the region:

- ECIA: Dubuque Area SRTS Plan for Dubuque Community School District and Holy Family Catholic Schools
- SWWRPC: SRTS Plans for Richland Center, Fennimore, Lancaster, and Platteville

Safe System Approach

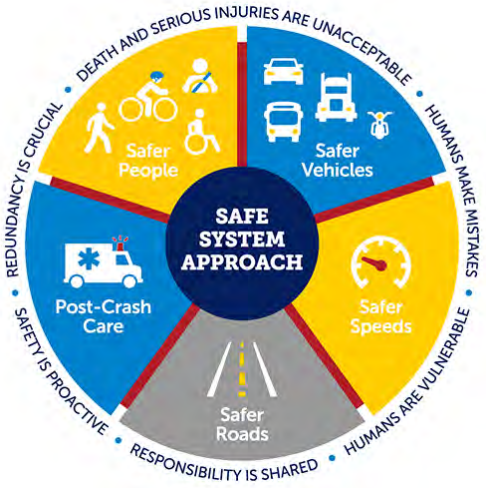
"The US DOT has adopted a **Safe System Approach** as the guiding paradigm to address roadway safety. It works by building and reinforcing multiple layers of protection to both prevent crashes from happening in the first place and minimize the harm caused to those involved when crashes do occur. It is a holistic and comprehensive approach that provides a guiding framework to make places safer for people.

"This is a shift from a conventional safety approach because it focuses on both human mistakes AND human vulnerability and designs a system with many redundancies in place to protect everyone.

"US DOT's National Roadway Safety Strategy and the Department's ongoing safety programs are working towards a future with zero roadway fatalities and serious injuries. In support of this approach, safety programs are focused on infrastructure, human behavior, responsible oversight of the vehicle and transportation industry, and emergency response."[17]

Adoption in the region of a zero-fatality policy:

- Iowa, Illinois and Wisconsin DOTs
- DMATS and RPA 8 Policy Boards



Zero Deaths and Safe System

"The zero deaths vision acknowledges that even one death on our transportation system is unacceptable and focuses on safe mobility for all road users.

"There are six principles that form the basis of the Safe System approach: deaths and serious injuries are unacceptable, humans make mistakes, humans are vulnerable, responsibility is shared, safety is proactive, and redundancy is crucial."[18]

FHWA Safe System Brochure available online

3. EXISTING CONDITIONS

In many parts of the region, the choice of travel is limited to driving due to land use patterns. Even when destinations are nearby, lack of pedestrian and bicycle facilities often makes walking and bicycling unsafe and undesirable. Existing facilities in the region fall into 3 main categories: off-road trails, on-road routes, and pedestrian facilities.

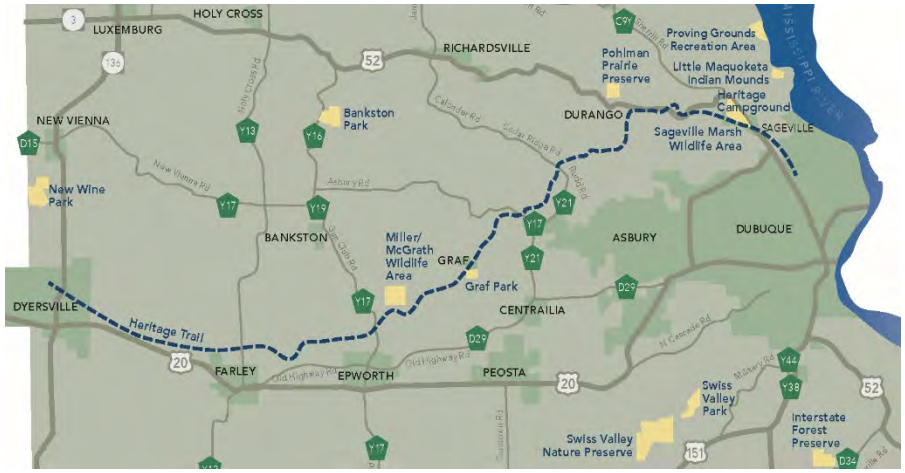
Off-Road Trails

Bicycle and pedestrian facilities that are physically separated from vehicle traffic by an open space or barrier.

Multi-Use Trails

Also called shared use paths, these trails accommodate both bicyclists and pedestrians and sometimes other users. They are suitable for most age groups and abilities. They typically are concrete, asphalt, or packed crushed rock and usually are 8 to 10 feet wide. Multi-use trails can be in an independent right-of-way or within a highway right-of-way. They can be used for transportation and recreation. Urban examples are the Bee Branch Creek Greenway in Dubuque and Westside Park Walking/Biking Trail in Dyersville. The major rural example in the region is the Dubuque County Heritage Trail.

Heritage Trail is a crushed limestone muti-use trail that stretches from Dyersville on the west side of Dubuque County to Dubuque on the east side. Trail users follow the 30-mile route of a former railroad into a 450-foot-deep valley, past old towns based on mining and mills. Visitors discover the rugged beauty that welcomes thousands of bicyclists and hikers each year to one of the Upper Midwest's most scenic all-season trails. Amenities at trailheads along the Heritage Trail include: boating, fishing, picnicking, camping, restrooms, shelters, and water. A minimum four inches of snow is required for snowmobiling on the trail. A user fee is required.[19]



Dubuque County Recreation Areas Map: Heritage Trail Route (Dubuque County Conservation website)

Heritage Trail (2020 Dubuque County Conservation Plan, p. 4)

Sidepaths

The term “sidepath” refers to a multi-use trail along a roadway. “While mostly separated from motor vehicle traffic, sidepaths can be high-stress accommodations for bicyclists depending on the design of driveway and street crossings and number of crossings per mile. Regional examples include the Northwest Arterial Trail in Dubuque.

Northwest Arterial Trail (Source: ECIA using Google Maps)

Recreational Trails

These trails are geared to specific recreational uses such as the hiking trails in the Mines of Spain State Recreation Area, and the mountain biking trails in the Interstate Power Company Forest Preserve south of Dubuque. Usually unpaved, steeper, and narrower than a multi-use trail, these trails may require a relatively higher level of physical ability. They are local or regional destinations, not part of the transportation system.

On-Road Routes

Bicyclists and sometimes pedestrians share the roadway with vehicle traffic.

Paved Shoulders

Paved shoulders can provide a stable surface off the roadway for bicyclists, and sometimes for pedestrians when sidewalks are not provided. They need a minimum width of 4 feet adjacent to a road edge, in addition to a buffer or rumble strip. Regional examples are found in all three states:

- Iowa MRT Route/Dubuque-1 Bike Route along Sherill Road and Balltown Road
- US 52 from US 61-151 to Dubuque County line
- US 61-151 across Wisconsin Bridge to Grant County line
- US 20 from 6th St to west of Camillus Dr in East Dubuque

Bicyclists using 4’ paved shoulder with rumble strip (FHWA Small Town Guide, p. 3-5)

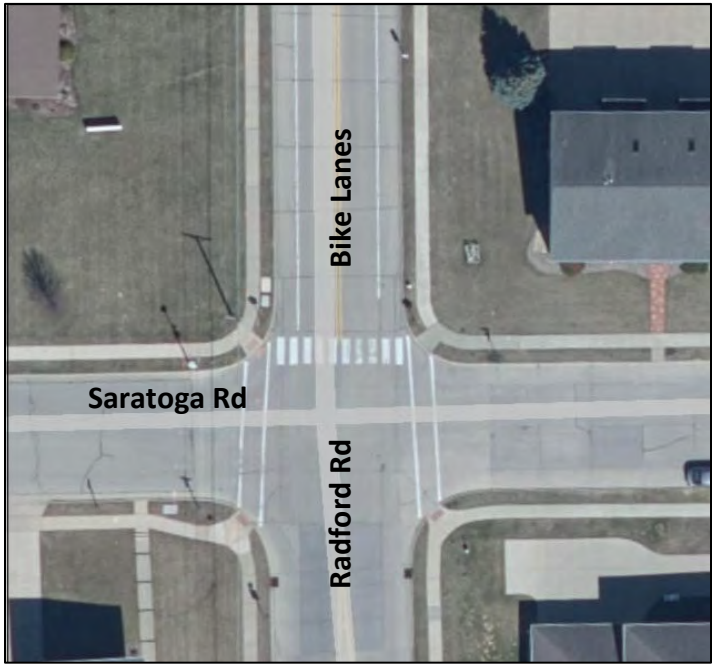
Map of Dubuque-1 Bike Route (Source: ECIA)

Travel Dubuque notes: "The **Dubuque-1 Bike Route** is one of the most scenic bike rides in the Midwest. This is a challenging 66 miles with a couple of spectacular climbs. But the breathtaking scenery and low-traffic, paved roads will make up for the uphill challenge. There are several places to begin and end this ride, but the best spot for parking is at the Heritage Pond on Hwy 52 on the north end of Dubuque. It is just beyond the trail overpass on Hwy 52 and is the start of the Dubuque Heritage Trail. There is plenty of parking and bathrooms." [20]

Standard bike route signs and wayfinding signs shown here guide bicyclists along the route. (Source: ECIA)

Bike Lanes

Bike lanes designate a space just for bicyclists using pavement markings and often signs in urban areas. A bike lane is generally 4 to 5 feet wide (not counting gutter) and located next to vehicle travel lanes. Bicyclists travel in the same direction as the vehicle traffic. Some places have contra-flow bike lanes going against traffic that are protected by a barrier. Bike lanes are not intended for use by pedestrians. Locally, bike lanes are provided along Radford Road from Asbury Road to Saratoga Road in Asbury.



Bike lanes on Radford Road in Asbury (Source: ECIA using Dubuque County GIS)

Shared Lane Markings ("Sharrows")

In cities, shared lanes on streets with moderate traffic may use shared lane markings called "sharrows" and often signs to show where bicyclists should ride, and to alert drivers to "share the road. Locally, sharrows were used as part of a Complete Streets project in Dubuque's Historic Millwork District.

Sharrows in Millwork District (2017 Imagine Dubuque Plan)

We now know, "**Shared lane markings should not be considered a substitute for bike lanes, cycle tracks, or other separation treatments** where these types of facilities are otherwise warranted or space permits."[21]

Signed On-Road Routes

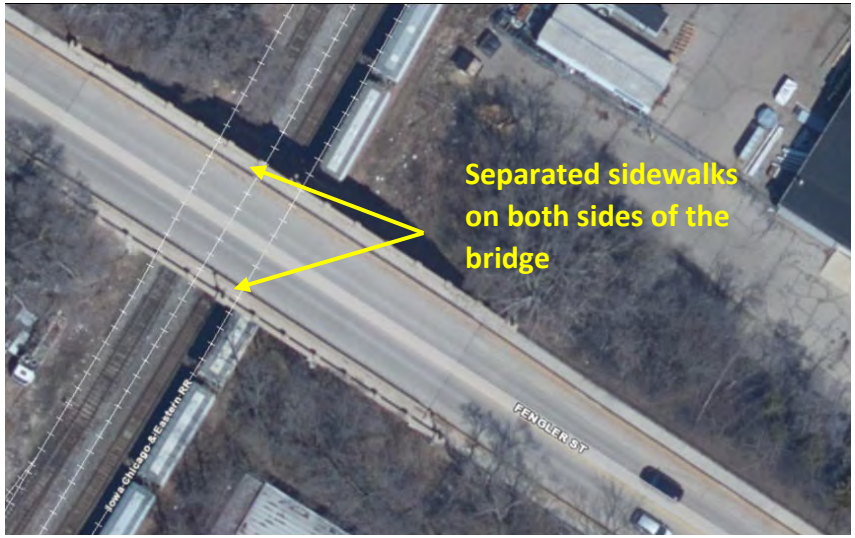
Roadways with bike route or wayfinding signs direct bicyclists along preferred routes to destinations in and across cities, counties, and the region. Examples are on-road portions of the Iowa MRT, the Dubuque-1 Bike Route, and portions of the Heritage Trail Riverfront System in the City of Dubuque. The City of Dubuque uses non-standard wayfinding signs along this on-road route. FHWA, state DOTs, and most cities use signs from the Manual of Uniform Traffic Control Devices (MUTCD).

Bridges and Tunnels

Depending on the design, bicyclists and pedestrians may share a space separated from vehicle traffic along the roadway, over the roadway, or under the roadway. There are several examples of each in the region; a few are highlighted here.

Separated Bridge Facilities

When the City of Dubuque rebuilt the Fengler Street Bridge over the railroad tracks, sidewalks on each side of the new bridge were physically separated with a barrier wall from the vehicle traffic for the safety of bicyclists and pedestrians.



Fengler St. Bridge (Source: ECIA using Dubuque County GIS)

Bike and Pedestrian Bridges/Overpasses

With construction of the US 61 / 151 Freeway Project through Downtown Dubuque, a physically separated bike and pedestrian bridge (overpass) with ADA-accessible ramps on each end was built over the Locust Street Connector at Flat Iron Park.

Locust Street Connector Bike and Pedestrian Bridge/Overpass at Flat Iron Park (Source: ECIA using Dubuque County GIS)

Bike and Pedestrian Tunnels

Tunnels under John Deere Road South connect the Dubuque County and City of Dubuque portions of the Heritage Trail. Tunnels under railroad tracks were constructed as part of the Bee Branch Creek Greenway project in the City of Dubuque.

Bee Branch Tunnels (City of Dubuque website)

Pedestrian Facilities

Pedestrians are separated from vehicles traffic and sometimes bicyclists.

Sidewalks

Sidewalks separate pedestrians from vehicle traffic, often with an open space or a barrier. Typically found in cities within the public right-of-way along one or both sides of streets. Width can vary with surrounding land uses. Sidewalks in residential neighborhoods generally are narrower (4 to 5 feet) than in downtowns or at schools. Many streets in the region have sidewalks, but there are gaps in the sidewalk network. Rural areas generally do not have sidewalks, relying on paved shoulders or multi-use trails instead.

Crosswalks

Streets throughout the region have unmarked and marked crosswalks. Marked crosswalks with bold striping patterns are more visible to drivers and improve pedestrian safety. They typically are used in downtowns and at schools. They often are used with signs and/or pedestrian signals. State law requires drivers yield to pedestrians in crosswalks.

Marked crosswalk, curb ramp, and pedestrian sign outside Wahlert High School (2017 Imagine Dubuque Plan, p. 8-2)

Curb Ramps

Curb ramps serve as a transition from sidewalks to crosswalks. Many streets in the region have curb ramps, but there are gaps in the sidewalk network. Also, some curb ramps may not comply with all current federal laws and state design standards to comply with ADA requirements.

Other Crossing Improvements

Other types of crossing improvements include pedestrian refuge or median islands, traffic controls signs, and pedestrian-activated crossing signals. These types of improvements have been made at various locations throughout the region, often at school crossings.

Pedestrian refuge island outside Dubuque Senior High School (Source: ECIA using Dubuque County GIS)

Common Challenges

Urban areas, small cities, and rural counties in the Dubuque Region face common challenges in providing a safe, comfortable, equitable, and connected bicycle and pedestrian network for people of all ages and abilities.

Providing a Choice of Transportation Options

Roadways often are designed only to be shared by cars, trucks, and vans – and do not easily accommodate transit bus stops, bicyclists, and pedestrians. The focus on vehicle traffic in the region results in a lack of transportation options that are safe and comfortable for bicyclists and pedestrians to use.

"A singular focus on automobile mobility results in a lack of facilities for people walking and bicycling, making travel by these modes difficult and less safe." (FHWA Small Town Guide, p. 1-13)

Providing Safe, Comfortable, and Equitable Access

The design of a community can limit or expand the choices and opportunities available to its residents in where they live and how they travel.[22] Safe, comfortable, and equitable access is provided by a network with "interconnected pedestrian and/or bicycle facilities that allow people of all ages and abilities to safely and conveniently get where they want to go."[23] The challenge of providing equitable access is that facility needs vary by age and abilities, and there is no "one size fits all" solution.[24]

"Pedestrian crossings are often not defined and may be difficult to warrant based on low existing use; however, not providing pedestrian crossings make streets act as barriers that divide communities." (FHWA Small Town Guide, p. 1-14)

Creating Multi-modal Connections

Many communities in the Dubuque Region have invested in bicycle and pedestrian facilities. However, no communities have a complete multi-modal network that allows people to bike and walk throughout the community, to other communities, and to local and regional destinations.

For example, the City of Dubuque has an extensive riverfront trail system and the Northwest Arterial Trail (see City's Interactive Trails and Parks Map). However, there are no designated connections to destinations in the center of the community. See the East-West Corridor Case Study to learn how Dubuque is addressing this challenge.

Multi-Use Trails Come at a Price $$$

Due to the expense of trail construction and maintenance, and difficulty in acquiring right-of-way for new trails, the multi-use trail system has gaps. While multi-use trails may be the most desirable option for transportation and recreational biking and walking, cost and available land will limit the ability to build a comprehensive network out of multi-use trails alone.

Sidewalks = Public Facility + Private Maintenance

Sidewalks and on-road routes are important public facilities that can help fill the gaps in the bicycle and pedestrian network. Sidewalks provide necessary walking connections to homes, schools, businesses, transit services, and other activities. Unlike off-road trails or on-road bike routes, however, private property owners usually maintain sidewalks. This can create challenges, as property owners can vary greatly in their ability or desire to maintain sidewalks.

Dubuque has invested in the riverfront trail system and the Northwest Arterial Trail, but not in routes across the center of the community. (City of Dubuque website)

Constrained by Terrain and Right-of-Way

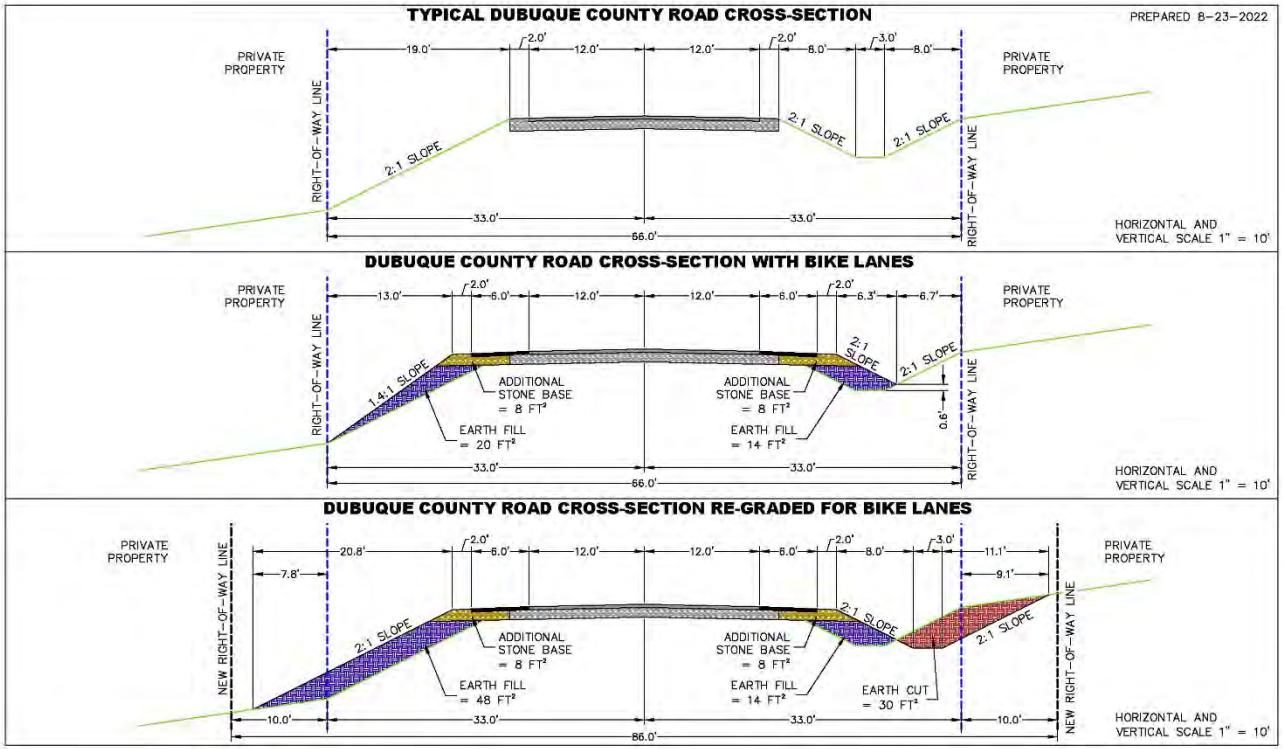
Terrain in the region ranges from gently rolling to hilly, steep, and wooded along the Mississippi River. This rugged landscape can impact the design and cost of providing bicycle and pedestrian facilities along city streets and rural roadways. Whether a road of any given traffic volume is suitable for biking also is impacted by width of pavement and right-of-way and how space is allocated - on-street parking, wide travel lanes, etc.

Constrained by Adjacent Land Use

In addition to terrain, existing right-of-way, and pavement width, adjacent land use can impact the feasibility of adding bike lanes or paved shoulders on County roads. The cost to provide bike lanes or paved shoulders within existing right-of-way is substantially less than if the road must be regraded and private property must be acquired. These same principles can apply in the Dubuque metro area and in small towns.

Plans for bike lanes or paved shoulders must be realistic and prioritized to focus limited resources where they can reap the most benefit for this major portion of the regional network.

The Dubuque County Engineer's Office compared a typical road cross-section (top) and two examples to help explain the realities and impacts of providing bike lanes or paved shoulders within the right-of-way (center) or when property acquisition, cutting, and filling are needed outside the right-of-way (bottom).



Typical Dubuque County Road Cross-Sections – Bike Lanes (or Paved Shoulders)

Connecting Schools

Schools are key destinations in communities of all sizes. They serve as neighborhood or community centers for people of all ages and abilities. By Iowa law, elementary and middle school students within 2 miles of their school, and high school students within 3 miles of their school, are not eligible for busing. Yet many students do not have safe routes to walk or bike to school. Some areas have no sidewalks or paved shoulders to connect students to their schools.

Bicyclist and Pedestrian Related Crashes

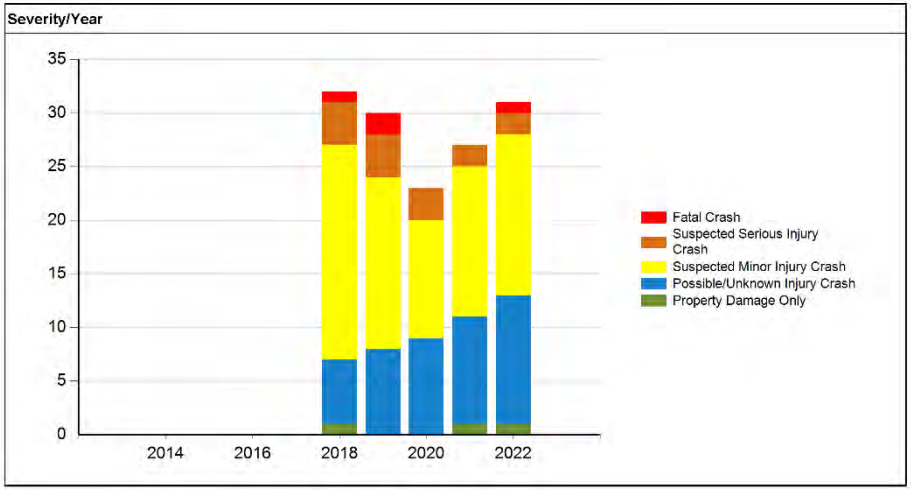
The number, severity, and location of pedestrian and bicyclist related crashes with vehicles can provide information on where safety improvements are needed. ECIA staff acquired Dubuque County crash data using the Iowa DOT's online Crash Analysis Tool (ICAT) at https://icat.iowadot.gov/. Iowa DOT notes: "There are at least three limitations to this analysis:

• "This dataset only includes reported crashes. Many minor crashes (those that do not result in a major injury, fatality, or property damage exceeding $1,000) are not reported.

• "This dataset only includes crashes involving a motor vehicle. Bicyclist loss of control, collisions with debris, crashes between multiple bicyclists, and crashes between bicyclists and pedestrians—no matter how severe—are not included in this data.

• "Without an accurate and up-to-date estimate of pedestrian and bicycle miles traveled or trips taken data, it is impossible to determine accurate crash rates."[25]

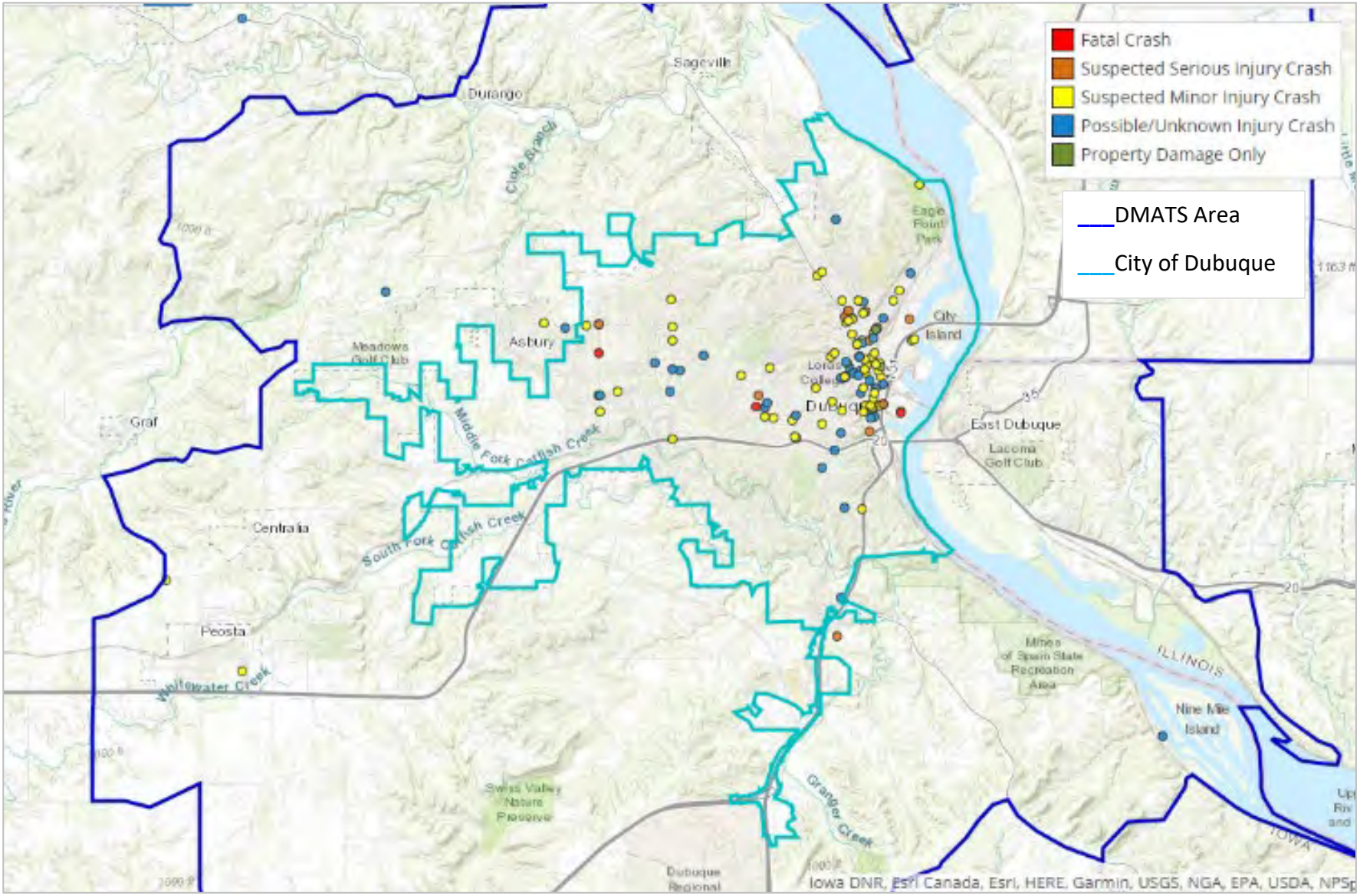
Of the 143 crashes in Dubuque County from 2018 to 2022, 92 involved pedestrians and 51 involved bicyclists. The cause for 37 of the crashes was "Failure to yield the right-of-way to a pedestrian." The 148 total injuries included 4 pedestrian fatalities and 15 serious injuries over this 5-year period. Five of the serious injuries were to children under the age of 18. Of the 78 minor injuries, 33 were to children under 18 years. The chart below shows the level of crash severity by year.



Bicycle and Pedestrian Related Crash Severity by Year in Dubuque County, 2018-2022 (Source: ECIA using ICAT)

Most crashes (133, or 93%) occurred within the City of Dubuque as shown on the map below. These crashes were split with 46 involving bicyclists and 87 involving pedestrians. The Dubuque crashes included 3 of the 4 pedestrian fatalities.

Concentrated Location and Severity of Bicycle and Pedestrian Related Crashes in Dubuque County, 2018-2022 (Source: ECIA using ICAT)



Existing Facilities

The five maps on the following pages chart the location of the area's existing bicycle and pedestrian facilities. Facilities are classified as follows:

Bike Lane or Paved Shoulder – Roadway with pavement extending at least four feet outside the vehicle travel lane.

Bike & Pedestrian Bridge or Overpass – Bridge or overpass dedicated for bicycle and pedestrian use.

Complete Streets – Streets where improvements have been made to support safe mobility for all users.

Hiking Trail – Unpaved trail used for hiking.

Mountain Bike Trail – Unpaved trail used for mountain biking.

Multi-Use Trail – Paved or unpaved trail designed for multiple types of users. Typically, multi-use trails are at least ten feet wide, but may be as narrow as eight feet in some locations.

Pedestrian Walkway – Paved path designed primarily for pedestrian use. Pedestrian walkways may be open to bicycle use in some instances. The maps include only select facilities that are important for pedestrian mobility.

Signed On-Road Route – On-road bicycle routes that are designated by signage posted along the route.

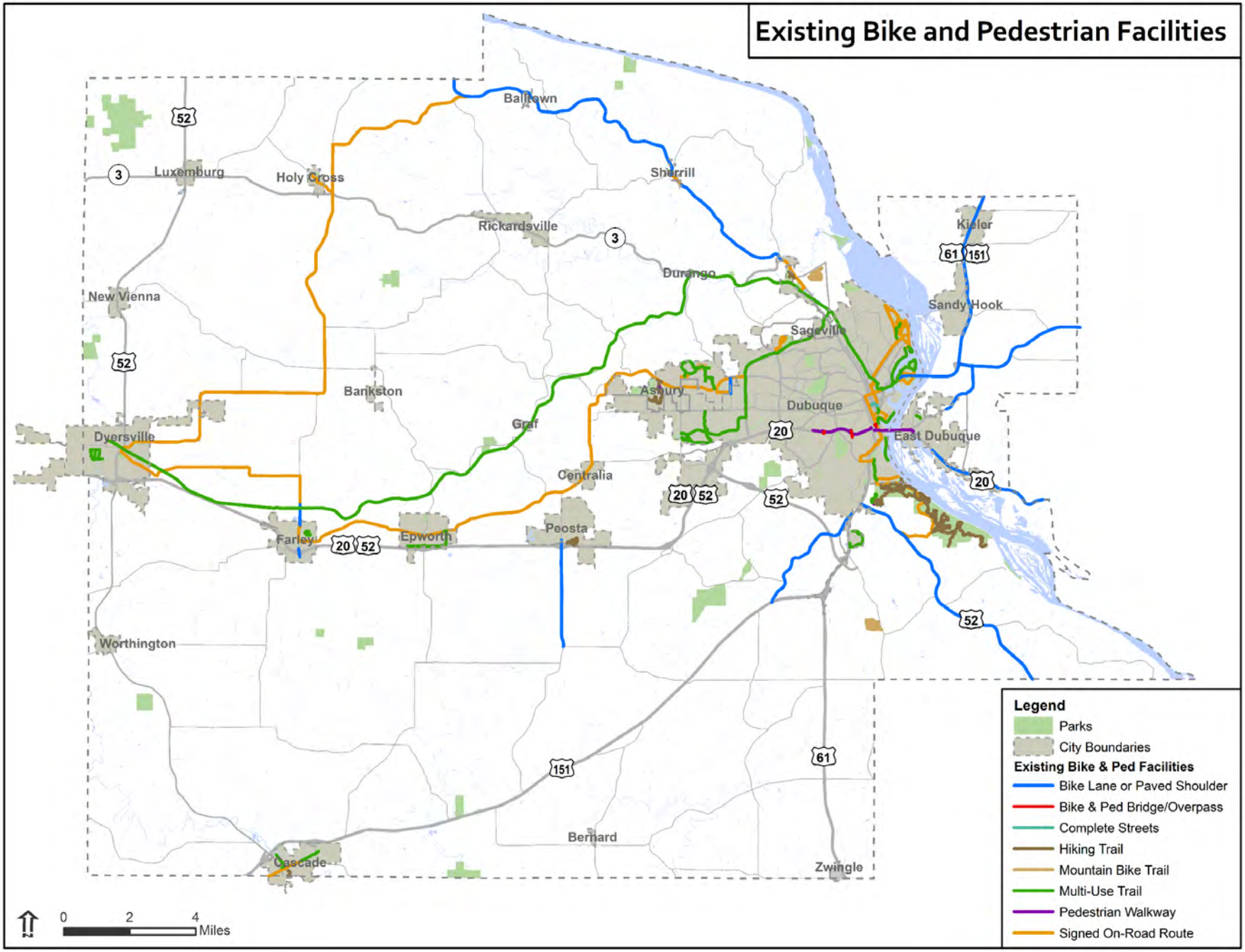
City of Dubuque Sidewalks

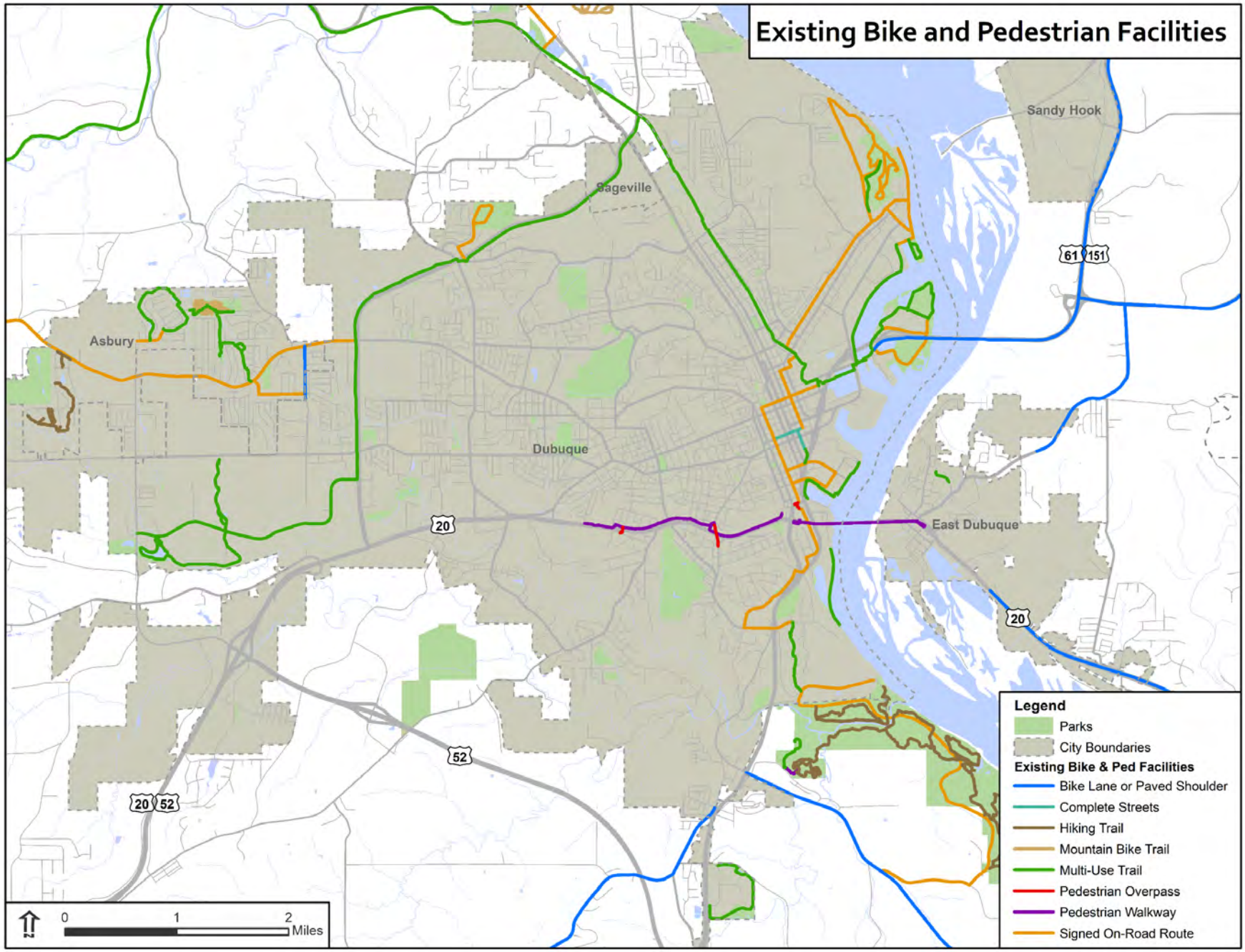
This sixth map shows existing sidewalks in Dubuque, which will help identify the City's Complete Streets inventory.

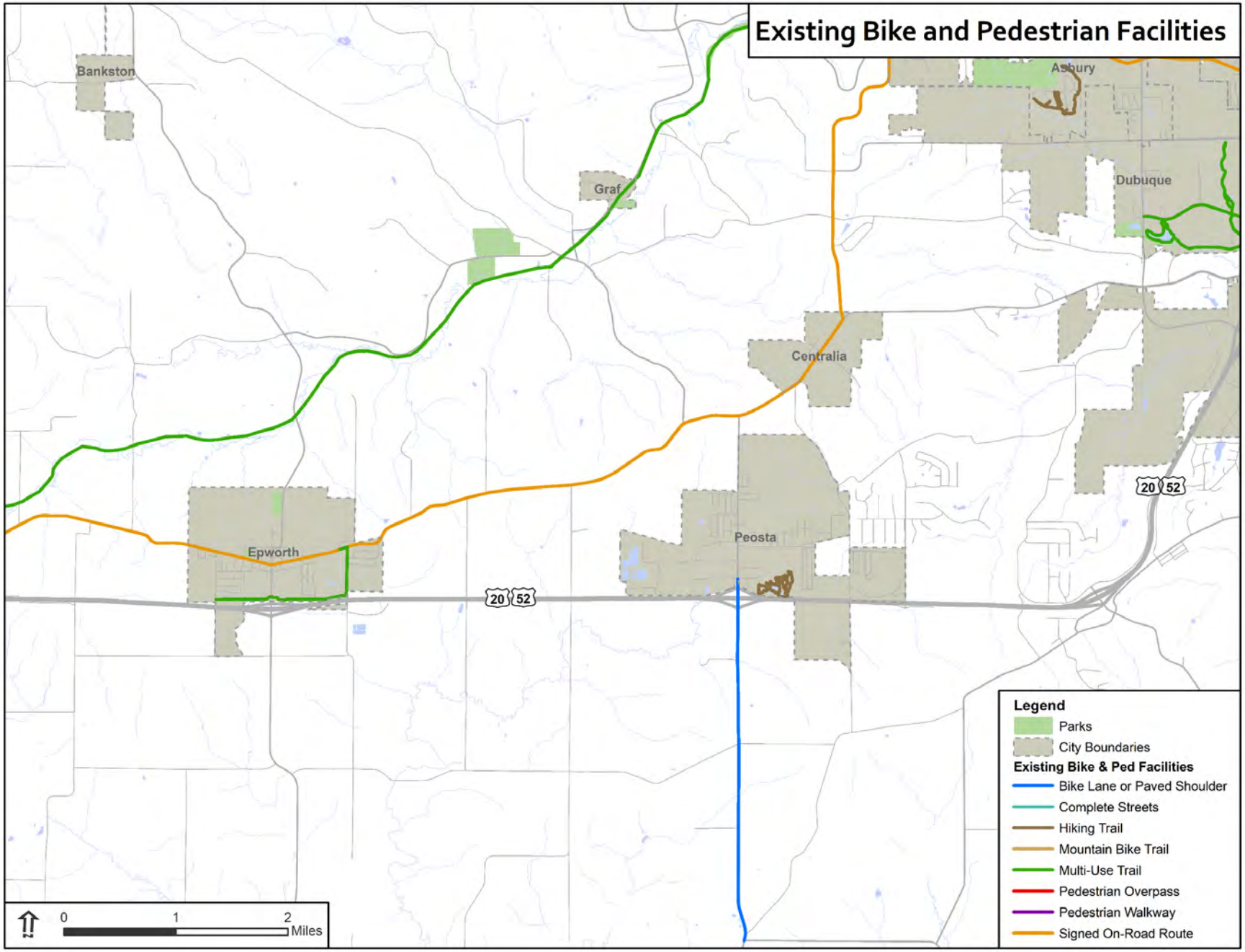
Source: Travel Dubuque website

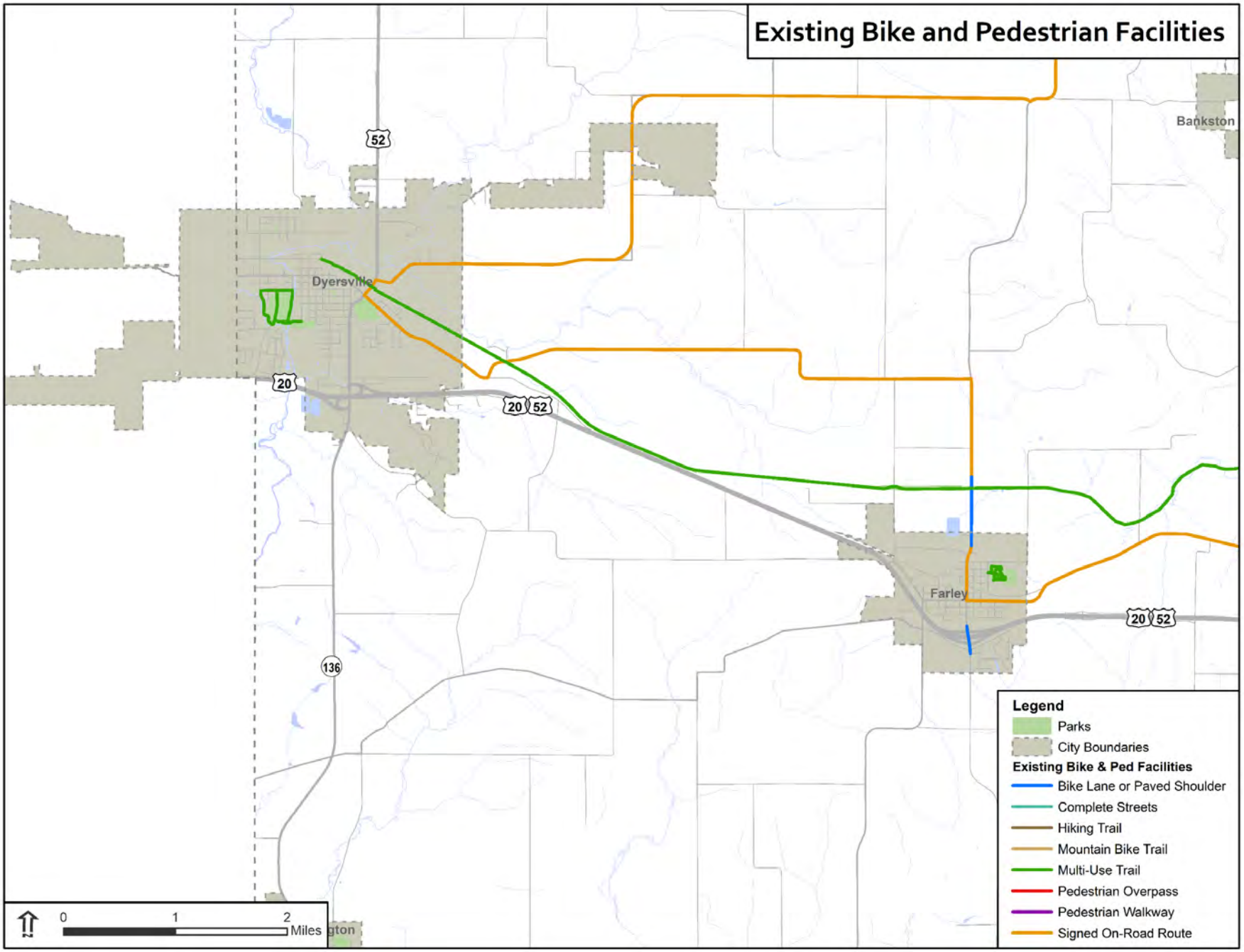
Fenelon Place Elevator

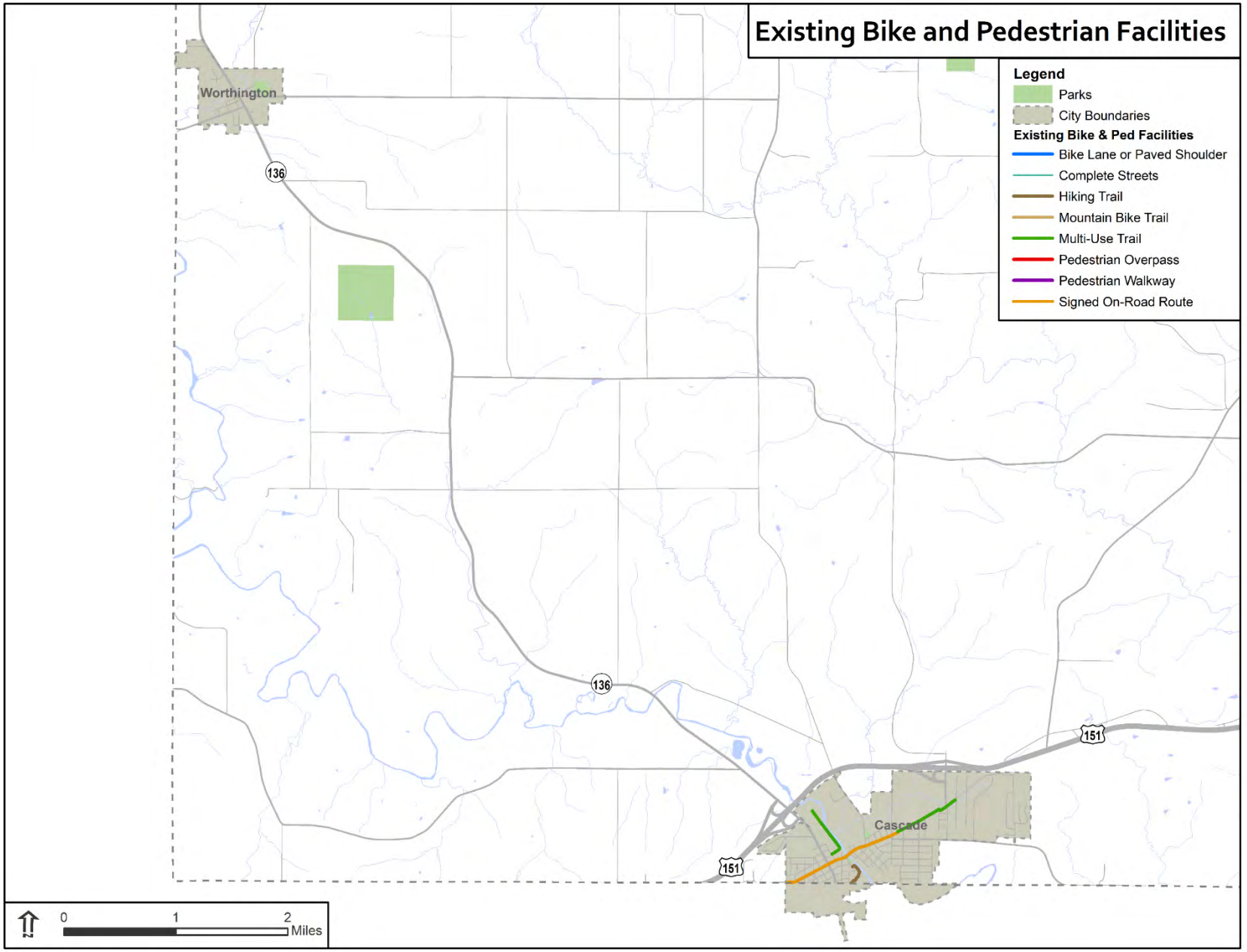
Dubuque's historic cable car provides pedestrians and bicyclists with a unique multimodal way to traverse the city's steep bluffs separating historic neighborhoods from the downtown. "Also known as the Fourth Street Elevator, this funicular railway has been called 'the world's steepest, shortest scenic railway.' 296 feet in length, elevating passengers 189 feet from Fourth Street up to Fenelon Place."[26] Open daily April through November.

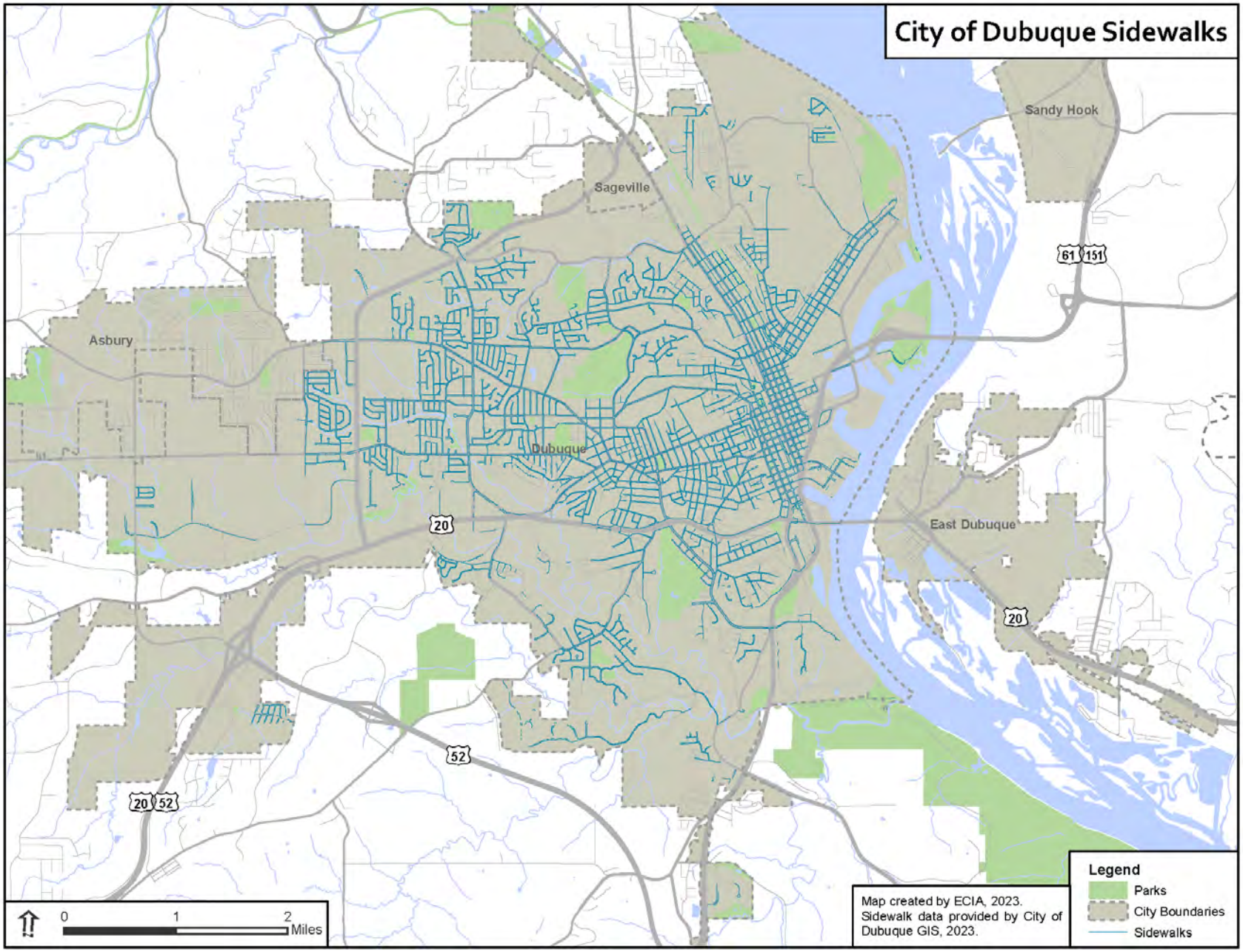

Existing Bike and Pedestrian Facilities
Balltown
Luxemburg
Holy Cross
Sherrill
Rickardsville
Durango
Kieler
Sandy Hook
Sageville
New Vienna
Bankston
Asbury
Dubuque
East Dubuque
Graf
Dyersville
Centralia
Peosta
Farley
Epworth
Worthington
Bernard
Cascade
Zwingle
52
3
20
61
151
0 2 4 Miles
Legend
Parks
City Boundaries
Existing Bike & Ped Facilities
Bike Lane or Paved Shoulder
Bike & Ped Bridge/Overpass
Complete Streets
Hiking Trail
Mountain Bike Trail
Multi-Use Trail
Pedestrian Walkway
Signed On-Road Route


Existing Bike and Pedestrian Facilities
Sandy Hook
Sageville
Asbury
Dubuque
East Dubuque
61
151
20
52
0
1
2
Miles
Legend
Parks
City Boundaries
Existing Bike & Ped Facilities
Bike Lane or Paved Shoulder
Complete Streets
Hiking Trail
Mountain Bike Trail
Multi-Use Trail
Pedestrian Overpass
Pedestrian Walkway
Signed On-Road Route


Existing Bike and Pedestrian Facilities
Bankston
Graf
Asbury
Dubuque
Centralia
Peosta
Epworth
20
52
0
1
2
Miles
Legend
Parks
City Boundaries
Existing Bike & Ped Facilities
Bike Lane or Paved Shoulder
Complete Streets
Hiking Trail
Mountain Bike Trail
Multi-Use Trail
Pedestrian Overpass
Pedestrian Walkway
Signed On-Road Route


Existing Bike and Pedestrian Facilities
Bankston
Dyersville
Farley
52
20
20 52
136
0
1
2
Miles
Legend
Parks
City Boundaries
Existing Bike & Ped Facilities
Bike Lane or Paved Shoulder
Complete Streets
Hiking Trail
Mountain Bike Trail
Multi-Use Trail
Pedestrian Overpass
Pedestrian Walkway
Signed On-Road Route


Existing Bike and Pedestrian Facilities
Legend
Parks
City Boundaries
Existing Bike & Ped Facilities
Bike Lane or Paved Shoulder
Complete Streets
Hiking Trail
Mountain Bike Trail
Multi-Use Trail
Pedestrian Overpass
Pedestrian Walkway
Signed On-Road Route
Worthington
136
136
151
151
Cascade
0
1
2
Miles


City of Dubuque Sidewalks
Sandy Hook
Sageville
Asbury
Dubuque
East Dubuque
61
151
20
52
0
1
2
Miles
Map created by ECIA, 2023.
Sidewalk data provided by City of Dubuque GIS, 2023.
Legend
Parks
City Boundaries
Sidewalks

4. COMMUNITY INPUT

Community Engagement for this plan was a coordinated effort of ECIA regional outreach and local outreach by the County and City governments with planned bicycle and pedestrian facilities.

Project Steering Committee

To create a plan that accurately reflects the future needs of the network, ECIA formed a Project Steering Committee to help gather input from stakeholders, community partners, and people in the region as shown here.

ORGANIZATION / AGENCY	REPRESENTING
Dubuque County	Engineer / Secondary Roads
Dubuque County	Conservation
City of Dubuque	Engineering
City of Dubuque	Leisure Services
City of Dubuque	Planning Services
City of East Dubuque	East Dubuque
Regional Planning Agency (RPA)	Small Cities
Dubuque Metro Area (DMATS)	Small Cities
Travel Dubuque	Tourism & Trails Advocacy Groups

The Committee's Public Participation Plan for the project had two general outreach components regarding existing and future bicycle and pedestrian facilities in the project area: Test with Stakeholders and Community Engagement through Local and Regional Outreach.

Test with Stakeholders

Stakeholder input was encouraged and received through hybrid in-person and virtual meetings, email, in-person contacts, phone calls, and website research with the following:

- Project Steering Committee members and alternates
- Illinois, Iowa, and Wisconsin Departments of Transportation
- Regional Planning Agencies:
    - Blackhawk Hills Regional Council (Illinois)
    - DMATS (Tri-State)
    - Regional Planning Affiliation 8 (Iowa)
    - Southwestern Wisconsin Regional Planning Commission
- County Governments: Dubuque (Iowa), Grant (Wisconsin), and Jo Daviess (Illinois)
- Cities of Asbury, Cascade, Dubuque, Dyersville, Epworth, Farley, and Peosta (Iowa); East Dubuque, Illinois; and Jamestown Township, Wisconsin

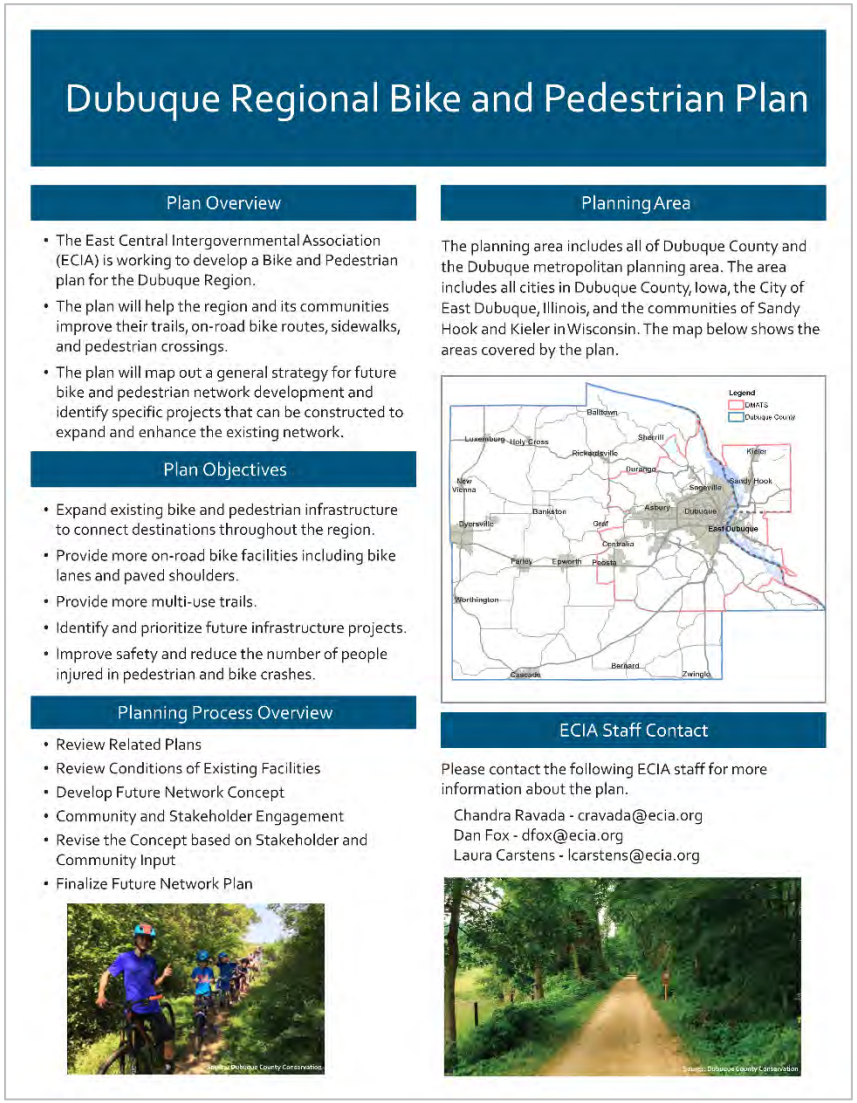
- Regional and Local Organizations:
    - Grant Wood Mississippi River Region (Iowa)
    - Travel Dubuque (Iowa)
    - Tri-State Trail Vision
    - Dubuque Main Street
    - Sustainability Coalition
    - Biking, hiking, running, outdoor, and environmental clubs and advocacy groups
    - Bike shops: Bike Shack, Bicycle World, Dubuque Bike Coop, Free Flight

Local Outreach

Some regional, county and city stakeholders reviewed their planned future facilities at Commission, Board, or Council meetings in 2021, 2022, or 2023. For example, the RPA 2045 Long Range Transportation Plan and the Grant Wood Loop Master Plan Update were adopted in June 2022 by their Boards.

Other stakeholders held local public input meetings on their planned future facilities during that same time frame. For example, the Asbury Park Board conducted a Public Information Meeting to discuss the Parks and Trails Master Planning throughout the City on November 1, 2022.

ECIA and City of Dubuque staff provided plan information at Tri-State Trail Vision meetings in 2022.



Dubuque Regional Bike and Pedestrian Plan

Plan Overview

- The East Central Intergovernmental Association (ECIA) is working to develop a Bike and Pedestrian plan for the Dubuque Region.
- The plan will help the region and its communities improve their trails, on-road bike routes, sidewalks, and pedestrian crossings.
- The plan will map out a general strategy for future bike and pedestrian network development and identify specific projects that can be constructed to expand and enhance the existing network.

Plan Objectives

- Expand existing bike and pedestrian infrastructure to connect destinations throughout the region.
- Provide more on-road bike facilities including bike lanes and paved shoulders.
- Provide more multi-use trails.
- Identify and prioritize future infrastructure projects.
- Improve safety and reduce the number of people injured in pedestrian and bike crashes.

Planning Process Overview

- Review Related Plans
- Review Conditions of Existing Facilities
- Develop Future Network Concept
- Community and Stakeholder Engagement
- Revise the Concept based on Stakeholder and Community Input
- Finalize Future Network Plan

Planning Area

The planning area includes all of Dubuque County and the Dubuque metropolitan planning area. The area includes all cities in Dubuque County, Iowa, the City of East Dubuque, Illinois, and the communities of Sandy Hook and Kieler in Wisconsin. The map below shows the areas covered by the plan.

ECIA Staff Contact

Please contact the following ECIA staff for more information about the plan.

Chandra Ravada - cravada@ecia.org
Dan Fox - dfox@ecia.org
Laura Carstens - lcarstens@ecia.org

This Project Handout created by ECIA staff was distributed as part of the community engagement process.

Regional Outreach

ECIA staff coordinated opportunities for meaningful community engagement through a variety of regional outreach methods.

Project Website

In October 2022, ECIA staff created the project website at https://eciatrans.org/projects/bikepedestrianplan.cfm. The website encouraged people to learn more about the plan, ask questions, and provide comments. The project website also served as the portal for the interactive map and online survey.

Interactive Project Map

In June 2022, ECIA staff began building an interactive map that is available at this link https://arcg.is/1rnzaG3. This map shows the existing and future bike and pedestrian facilities for Dubuque County and the rest of the planning area. The online map allows people to zoom in to see more details. People also can click on the trail segments and a pop-up window will provide some basic information about the segment.

Community Survey Distribution

Launched online in October 2022, the community survey helped identify the transportation issues that are important to people and community partners in the region. The survey was marketed through a media release, email notifications, the project website, and Facebook using the flyer shown here.

The flyer includes a QR code and the link to the online survey at https://arcg.is/bi5jX. The flyer was posted on the ECIA and City of Dubuque websites and Facebook pages. The City of Dubuque marketed the survey in its newsletter to utility customers. This flyer was distributed to regional and local stakeholders to encourage outreach for survey distribution

In addition, posters describing the project and displaying the draft network map and copies of the surveys were installed in February 2023 at the Multicultural Family Center in Dubuque, and at public libraires in Asbury, Cascade, Asbury, Dyersville, East Dubuque, Epworth, Farley, Holy Cross, and Peosta to broaden the regional outreach.

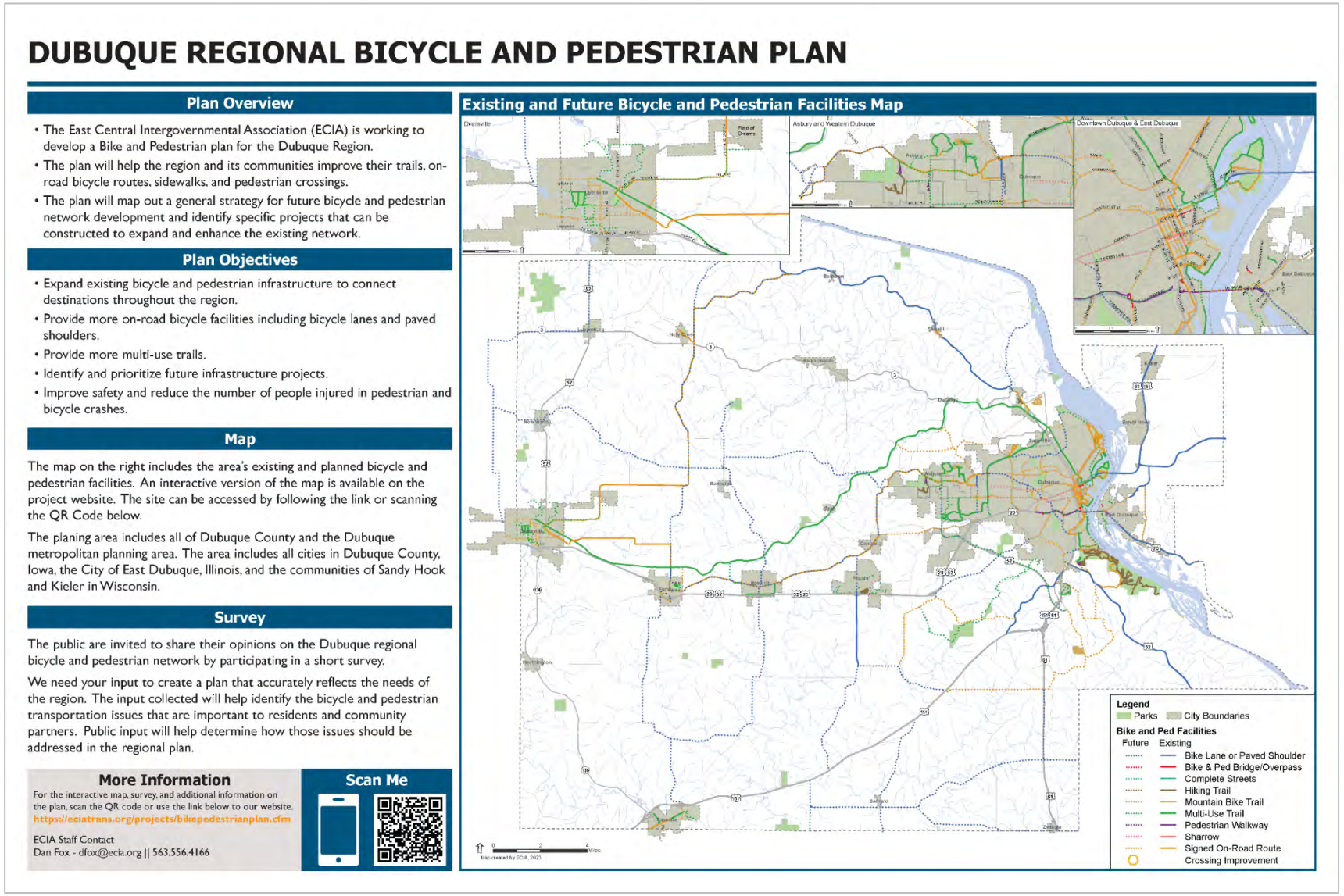
Public Input Meetings

In January 2023, public input meetings were marketed through a media release, email notifications, the project website, and Facebook using the flyer shown below. The City of Dubuque marketed the survey on its website and Facebook page. This flyer was emailed to the regional and local stakeholders. The flyer includes a QR Code and links to the online survey and project website.

Public input meetings were held January 31, 2023 in Dubuque and February 1, 2023 in Dyersville. Short presentations on the plan were followed by public discussion on the future network. Twelve community surveys were received. Thirty people participated in addition to ECIA and City of Dubuque staff. Most participants were from Dubuque with three from Asbury and two from Cascade. Broad discussion topics were:

- Prioritization
- Public Education: indifferent culture of community, drivers ed, signs and paint markings, enforcement
- Bike Counts: important to have good counts
- Accessibility and Connectivity: link to important destinations, through middle of Dubuque, flats, bluffs
- Status of projects: what's planned? what's needed
- Tourism $: benefits locals, benefits economy
- Sustainable Dubuque: small grants program
- Bike Racks: need good, secure, functional parking
- Business incentives: to walk or bike to work
- Trail Counters: Heritage Trail user data
- Performance Measures: connected miles, value of connection (total miles versus key bridge or tunnel)?
- Pave Heritage Trail: increase access to all users
- Connect small cities to Heritage Trail
- Dubuque is not very bike-friendly or walkable
- Encourage walking and biking to school
- Who to talk to about getting planned projects done
- Dubuque Google Map of bike system needed

The full public meeting notes are in the Appendix. This poster created by ECIA staff was displayed at the Multicultural Family Center in Dubuque and the regional public libraries in Dubuque County and East Dubuque during February 2023. The poster also was used at the two public input meetings along with the interactive project map.

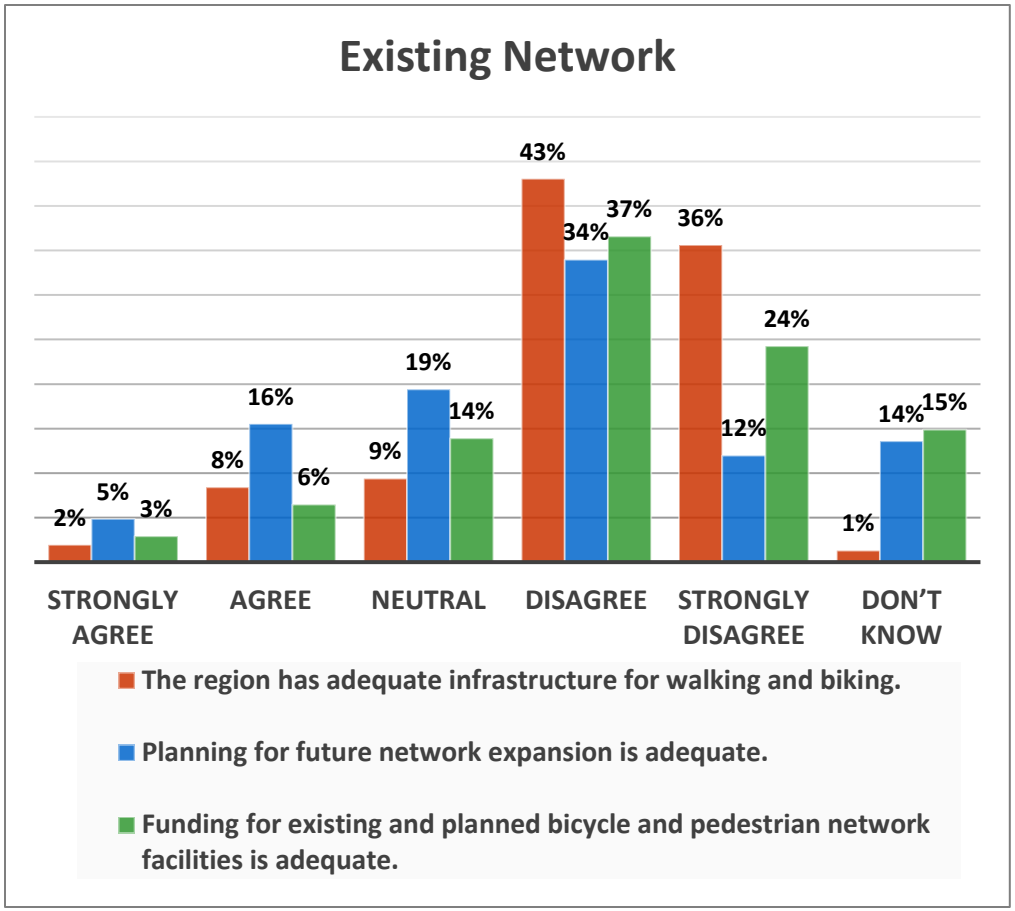


Community Survey Results

A total of 309 valid surveys were submitted. The community survey form and complete survey results are in the Appendix.

Existing Network

Survey takers were asked to relate their satisfaction with the operation, planning, and funding of the region's bicycle and pedestrian network. There were higher rates of dissatisfaction with network operation and funding. Satisfaction with network planning is more spread out. Totals may not equal 100% due to rounding.



The region has adequate infrastructure for walking and biking.

- 10% strongly agree/agree
- 9% neutral
- 78% disagree/strongly disagree
- 1% don't know

Planning for future network expansion is adequate.

- 20% strongly agree/agree
- 19% neutral
- 46% disagree/strongly disagree
- 15% don't know

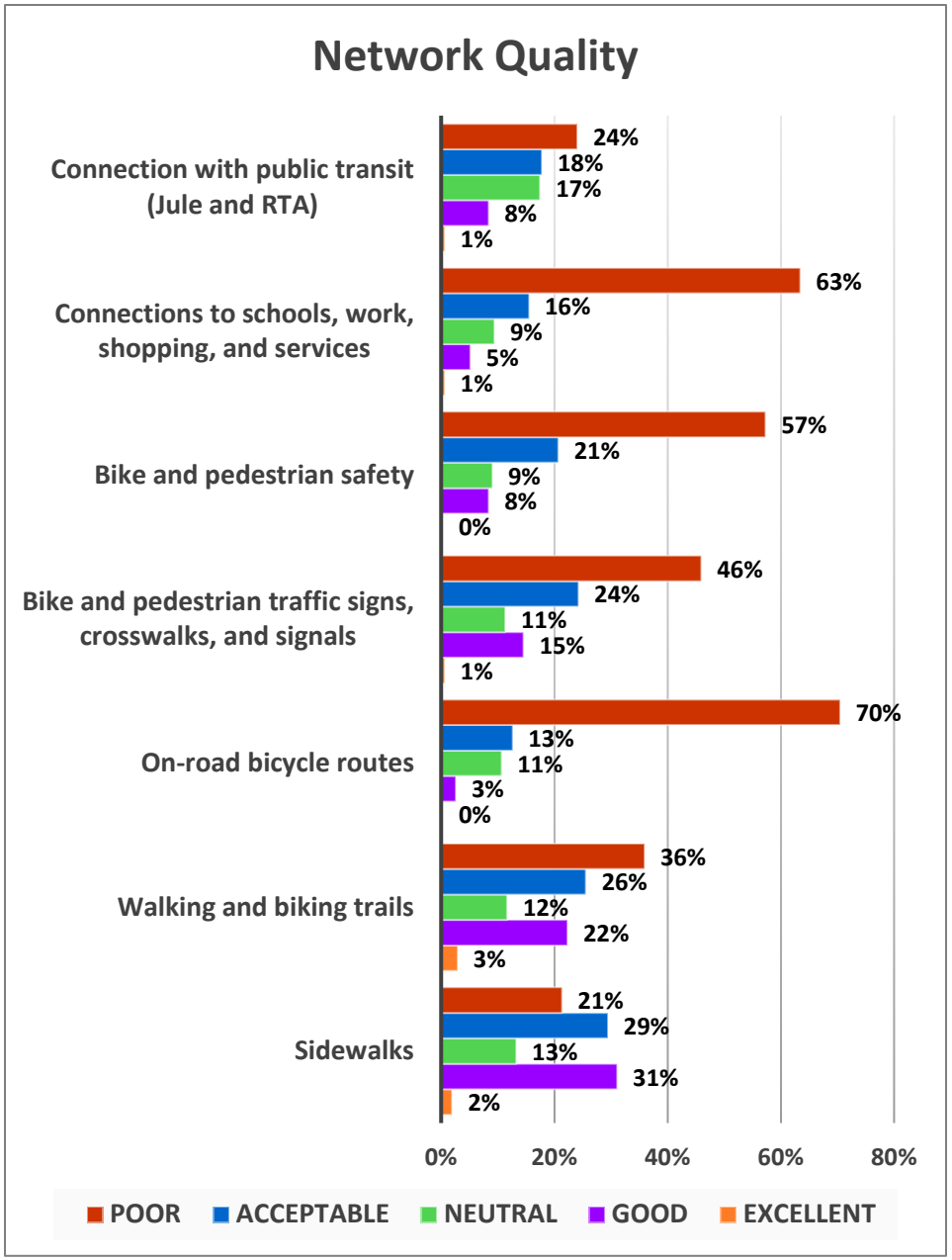
Funding for existing and planned bicycle and pedestrian network facilities is adequate.

- 9% strongly agree/agree
- 14% neutral
- 61% disagree/strongly disagree
- 15% don't know

Network Quality

Survey takers were asked to indicate their level of satisfaction with each of the network elements listed below. While a majority rated the quality of Sidewalks as good or acceptable, poor quality was the single rating chosen most often for all remaining network elements.

- **Connections with public transit (Jule and RTA):** 27% good/acceptable, 24% poor
- **Connections to schools, work, shopping, and services:** 20% good/acceptable, 65% poor
- **Bike and pedestrian safety:** 29% good/acceptable, 58% poor
- **Bike and pedestrian traffic signs, crosswalks, and signals:** 39% good/acceptable, 47% poor
- **On-road bicycle routes:** 14% good/acceptable, 70% poor
- **Walking and biking trails:** 47% good/acceptable, 36% poor
- **Sidewalks:** 60% good/acceptable, 22% poor



Tri-State Community Needs

Survey takers were asked: Which of the following tri-state community needs would you want your elected representatives to give the most weight when choosing the bicycle and pedestrian network projects to fund? *Rank each issue by its importance. 1 = Most important to consider, 8 = Least important to consider.* The results are shown in the **Future Network Concept** section.

Future Network Priorities

Survey takers were asked: Which of the following priorities would you want your elected representatives to give the most weight when choosing the bicycle and pedestrian network projects to fund? *Rank each issue by its importance. 1 = Most important to consider, 8 = Least important to consider.* The results are shown in the **Future Network Concept** section.

Additional Comments

Of the 309 surveys received, 138 included additional comments. The "word cloud" generated from these comments is shown here. The larger the letter size, the more often the word appeared in the comments. The complete list of comments is in the Appendix. Here are some of the major themes:

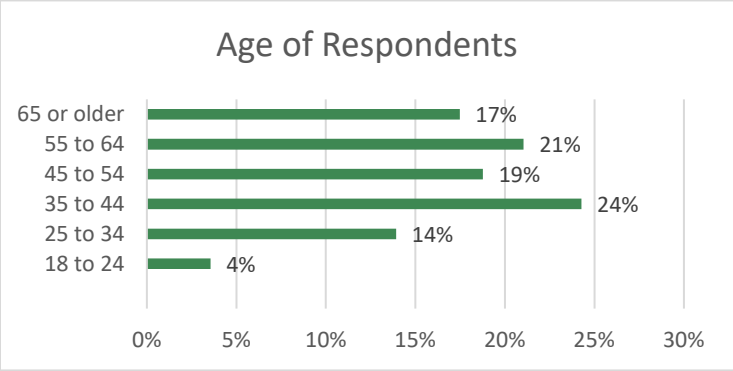
- Pave Heritage Trail to increase access and use by all
- Don't pave Heritage Trail, runners prefer crushed rock
- Need more safe routes to schools with all subdivisions connected with their schools for walking and biking
- Many people feel unsafe biking and walking in Dubuque due to conditions, behavior of bicyclists and motorists
- Network is way behind comparable regions and cities, missing out on tourism, recruitment, retention
- Need more paved shoulders, bike lanes, bike racks
- Need better, expanded connections with public transit
- Need for east-west routes across Dubuque
- Need more driver education, bike safety education, community events
- Use standard, uniform bike route signs and bike racks
- Use road diets to reduce speed, improve crossings
- How to accommodate increase in E-bikes

Who did we hear from? How do they get around?

Based on zip codes, 78% were from the Dubuque/Asbury area, 6% from Dyersville, and 4% from Peosta.

95% identified as White. I% identified as Hispanic or Latino.

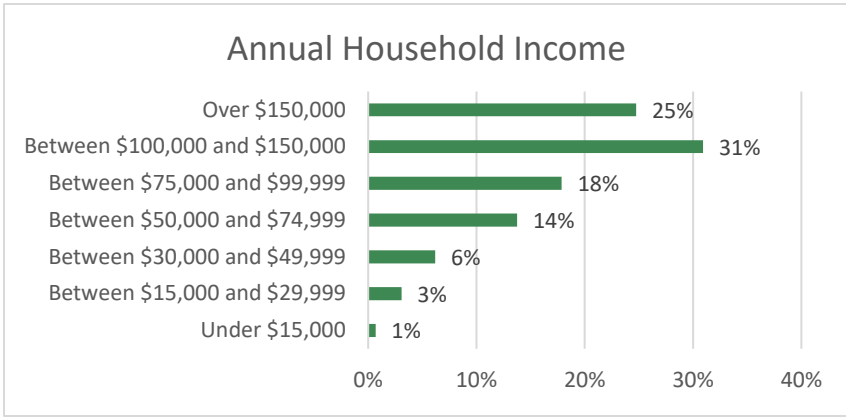
24% were ages 35 to 44 years. 72% were 45 years and up. Only 4% were 18 to 24 years. Just one person was under 18 years old. Age breakdown is shown here.



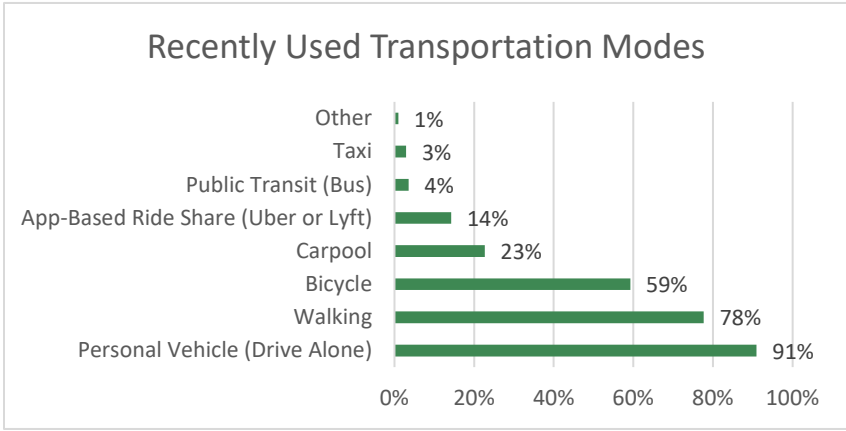
89% of households had no one with a disability, 8% did.

When asked "What determines your choice of transportation?" Cost was not a notable factor. These four other factors were notably similar: 26% Accessibility, 22% Availability, 22% Reliability, and 19% Location.

74% of respondents reported an annual household income of $75,000 or more. 25% indicated an income over $150,000. See chart for further breakdown of annual household income.



When asked "What is your primary mode of transportation?" for 93% of respondents it was: Personal Vehicle (Drive Alone).



When asked "Which of the following modes of transportation have you used in the past month?" 91% used a Personal Vehicle (Drive Alone), but some also used other modes as shown in the chart here: 78% Walking, 59% Biking, 23% Carpool, 14% App-Based Ride Share.

5. FUTURE NETWORK CONCEPT

"A connected network is not developed by a single trail, sidewalk, or bike lane but is comprised of many facilities that support walking and bicycling throughout the community."[27]

Vision

The Dubuque Regional Bicycle and Pedestrian Network Plan will promote safe, comfortable, accessible, interconnected, and equitable multimodal routes for people to walk and bike to key services and destinations in our communities and throughout the region.

The Dubuque Regional Bicycle and Pedestrian Network will be a system of various facilities that accommodate a range of ages and abilities, such as multi-use trails, sidewalks, bike lanes, paved shoulders, and signed routes. These facilities also will provide equitable transportation for people of all income levels.

Implementation

To implement this network plan successfully, the focus must be on a practical, opportunistic approach to building a complete multimodal network. Successful implementation will involve coordinated planning, phasing of improvements, and partnerships with other projects, communities, government agencies, advocates, and non-profits.

The metro area, small cites, and rural areas of the Dubuque Region have great potential for creating viable multimodal networks that serve residents and visitors. We all must think creatively to build connected facilities within our communities and to use our roadways to create access to key locations for bicyclists and pedestrians throughout the region. In doing this, we can transform our common challenges into shared opportunities.

Agency and Organization Roles

Cities, counties, DMATS, RPA, Iowa DOT, Illinois DOT, Wisconsin DOT, and FHWA "all have roles in planning, designing, constructing, and maintaining elements of the transportation system. Each also has a role in ensuring adequate bicycle and pedestrian accommodations are provided to improve access and connectivity."[28]

This Plan is meant to guide decision-making by city, county, and regional agencies, and to inform the actions of advocates and non-profits. Successful and effective implementation of this plan depends on the support and actions of many players.

Format

The Dubuque Regional Bicycle and Pedestrian Network Plan is focused on the result of stakeholder and community input that identified Tri-State Community Needs and Future Priorities. From this information, the Project Steering Committee and ECIA staff developed Performance Measures.

Tri-State Community Needs

Based on community input, the following tri-state community needs are ranked for our elected representatives to give the most weight when choosing the bicycle and pedestrian network projects to fund. *1 = Most important to consider, 8 = Least important.*

RANK	TRI-STATE COMMUNITY NEEDS
1	**Create an integrated bike and pedestrian network to encourage: recreation, wellness, transportation, energy conservation, tourism, environmental education, air quality, personal financial savings, and transit ridership.**
2	**Connect the regional bike and pedestrian network to state, county, and city recreation areas such as along the Heritage Trail and Southwest Arterial, on both sides of the Mississippi River, and at the Field of Dreams Movie Site.**
3	**Provide safe and comfortable connections from neighborhoods to educational institutions, parks, employment, shopping, places of worship, entertainment, and other points of interest.**
4	**Provide connections to regional, state, and national trail systems, including the Heritage Trail and the Mississippi River Trail (MRT).**
5	**Provide safe, paved multi-use trails with restrooms, benches and bike racks linked to a corresponding website and maps.**
6	**Advocate for adoption, strengthening, and implementation of "Complete Streets" policies by cities and counties in the Tri-State area.**
7	**Encourage walking and biking safety education for all road users, and enforcement of traffic laws to improve safety.**
8	**Improve clarity of route options for residents, tourists seeking to visit the area, and bicyclists passing through.**

Priority Goals for Future Network

Based on community input, the following priority goals are ranked for our elected representatives to give the most weight when choosing the bicycle and pedestrian network projects to fund. *1 = Most important to consider, 8 = Least important.*

RANK	PRIORITY
1	**Develop a connected bike and pedestrian network close to all residents**
2	**Improve bike and pedestrian safety and comfort**
3	**Increase Complete Streets with safe access for all people who need to use them and Safe Routes to School for children to walk and bike**
4	**Link the bike and pedestrian network, public transit, and automobile facilities to foster multi-modal travel**
5	**Connect residents and tourists with services and destinations**
6	**Use consistent street, wayfinding, trail, and map signs**
7	**Educate all users in safety and rules of the road**
8	**Improve multi-modal access and mobility**

Goals, Objectives, and Performance Measures

The Project Steering Committee and ECIA staff have identified goals, objectives, and performance measures that will help the Dubuque Region achieve its vision for the future. These are the basic building blocks around which the Dubuque Regional Bicycle and Pedestrian Network Plan is structured. Each has its own role in the federal transportation planning process.

Goals

Goals are broad statements that describe the way things should be. For example, if you were to say "We will improve bike and pedestrian safety and comfort," this would be a general description of how you want to improve transportation safety in the future. You have not said how you are planning to do it and what the resources you need to do it are.

Objectives

Objectives are specific, measurable steps to be taken to reach a goal. An example would be saying "Reduce bike and pedestrian fatalities and serious injuries." This objective makes the abstract goal of "Improve bike and pedestrian safety" into something specific. Each of the Plan's goals has distinct, measurable objectives associated with it.

Performance Measures

Performance Measures are the quantifiable means to measure progress. For improving bike and pedestrian safety, the performance measure could be "Number of nonmotorized fatalities and nonmotorized serious injuries."

The Iowa DOT notes that: "Performance measures are used to track the outcomes of broad infrastructure and programmatic actions on the part of all stakeholders. They are the primary way to determine the effectiveness of actions and investments."[29]

The Illinois DOT notes: "Performance measures are more effective when they are phased so that progress can be tracked over time rather than referencing a single action to be completed by a certain date in time (e.g., number of schools participating in SRTS programs rather than 30% of all schools in Illinois will participate in SRTS programs by 2020.)"[30]

Performance measures should use quantifiable data to measure outcomes or trends that can be attributed as results of the programs, policies, and investments made all stakeholders. Baseline data must be established for each performance measure, which in some cases will require ECIA and its partners to engage in new data collection activities. Once the baseline is established, a desired trend is identified for a specific point in the future for each performance measure. ECIA and its partners should consistently assess progress on each performance measure, preferably on an annual basis.[31]

Taking into consideration federal policies and requirements for multi-modal transportation, local planning efforts, and feedback from the Project Steering Committee members and the public, the ECIA staff identified objectives and performance measures for regional network improvements.

GOAL 1: Develop a connected bike and pedestrian network close to all residents				
Objective	**Performance Measures**	**Data Collection Needed**	**Baseline**	**Target/Desired Trend**
Increase network access	Percentage of population that lives within ¼ mile of the regional bicycle and pedestrian network	Data can be collected for region using Census data	TBD	Increase
Increase access to off-road trails	Percentage of population that lives within ¼ mile of a trail[1]	Data can be collected for region using Census data	18.12% (2019)[1]	Increase[1]
	Total miles of multi-use trails and sidepaths	Data collected for regional plan	56.64 miles	Increase[1]
Provide more on-road bicycle facilities	Total miles of signed on-road routes[2]	Data collected for regional plan	68.44 miles	Increase[1,2]
	Total miles of paved shoulders[2]		45.84 miles	
	Total miles of bike lanes[2]		1.18 miles	
	Total miles of bike/pedestrian overpasses[2]		0.42 miles	
Provide more pedestrian facilities	Total miles of walking paths	Data collected for regional plan	0.33 miles	Increase[2]
	Total miles of pedestrian walkways		3.58 miles	
	Total miles of crossing improvements[2]		0.0 miles	
Provide more sidewalks in incorporated cities	Total miles of roadways with sidewalks on one side (other than sidepaths)[2]	Data available from City of Dubuque, will need inventory from small cities	TBD	Increase[2]
	Total miles of roadways with sidewalks on both sides[2]			
Data Sources: ECIA GIS data, US Census data.				
Related Plans & Policies: 2021 DMATS Plan, 2022 RPA Plan, 2014 Illinois DOT Plan, STAR Community Technical Guide				
References: [1] 2021 DMATS Plan. [2]2014 Illinois DOT Plan (Technical Memorandums, Ch. 3 Performance Measures)				

GOAL 2: Improve bike and pedestrian safety and comfort				
Objective	**Performance Measures**	**Data Collection Needed**	**Baseline**	**Target/Desired Trend**
Reduce number of bicycle and pedestrian related crashes[1]	Number of bicycle-related crashes per year[1]	Crash data by type available online from IA DOT (ICAT)	10[2]	Decrease[1]
	Number of pedestrian-related crashes per year[1]		19[2]	
Reduce nonmotorized fatalities and serious injuries[3]	Number of nonmotorized fatalities and serious injuries [3]	Crash severity data available online from IA DOT (ICAT)	4[2]	Decrease[3] (Reduce rate of serious injuries and fatalities by 20%)[4]
	Number of nonmotorized fatalities and serious injuries to children under 18 years		1[2]	
Increase funding for safety infrastructure projects that improve biking and walking[4]	Percentage of safety infrastructure dollars going to projects improving biking, annually[4]	Tracked for DMATS and RPA projects, needs to be expanded to include county and city projects	TBD	Safety infrastructure funding for pedestrians and bicyclists should be proportionate to the rate of bike/ped serious injuries vs. all serious injuries[4]
	Percentage of safety infrastructure dollars going to projects improving walking, annually[4]		TBD	
Increase roadways that are suitable for bicycling for all ages and abilities[4]	Percentage of the rural transportation network suitable for bicycling[6]	Use Iowa DOT's On-Road Bicycle Compatibility Rating model for paved rural roads[6]	TBD % rated "good"[6]	Increase
	Percentage of the urban transportation network suitable for bicycling[6]	Use Level of Traffic Stress (LTS) for urban areas[5,6]	TBD % rated LTS 1 or 2[6]	Increase (LTS-1 is ages and abilities[5])
Data Sources: Iowa Crash Analysis Tool (ICAT), Transportation Improvement Plans for DMATS and RPA, City and County Capital Improvement Plans, Iowa DOT Bicycle Compatibility Ratings assessment.				
Related Plans & Policies: 2021 DMATS Plan, 2022 RPA Plan, 2018 Iowa DOT Plan, 2014 Illinois DOT Plan, STAR Community Technical Guide.				
References: [1] 2018 Iowa DOT Plan (Ch. 8 Implementation, Performance Measures). [2]Iowa Crash Analysis Tool, 5-year averages for 2018-2022 for Dubuque County. [3]FHWA, 2021 DMATS Plan, and 2022 RPA Plan performance measures. [4] 2014 Illinois DOT Plan (Technical Memorandums, Ch. 3 Performance Measures). [5] FHWA Bikeway Selection Guide. [6]Iowa DOT Plan.				

GOAL 3: Increase Complete Streets with safe access for all people who need to use them and Safe Routes to School for children to walk and bike				
Objective	**Performance Measures**	**Data Collection Needed**	**Baseline**	**Target/Desired Trend**
Adopt a Complete Streets Policy[1]	Number of jurisdictions with an adopted Complete Streets policy.[1]	Contact regional jurisdictions re: adoption	Two[2]	Increase[1]
Increase funding for Complete Streets projects	Percentage of funding for Complete Streets-specific projects.[3]	Tracking of Complete Streets project funding (not existing)	TBD	Increase
Increase projects with Complete Streets elements	Number or percentage of projects with Complete Streets elements	Tracking of projects with Complete Streets elements (not existing)	TBD	Increase
Build Complete Streets[4]	Miles of roadways meeting Complete Streets Policy[4]	Will need to establish Complete Streets inventory (not existing)	TBD	25% Complete Streets coverage by 2030[4]
Activate Safe Routes to School program	Number of school districts or individual schools with a Safe Routes to School plan.[1]	Will need to confirm tracking system with schools and districts (not existing)	TBD	Increase[1]
	Number of Safe Routes to School projects completed		TBD	Increase
Increase safe walking and biking to schools	Percentage of schools with adequate bicycle and pedestrian accommodations.[1]	Will need to confirm tracking system with schools and districts (not existing)	TBD	Increase[1]
	Percentage of students walking and biking to school.		TBD	Increase
Data Source: Iowa Crash Analysis Tool (CAT). Data for Complete Streets and Safe Routes to School objectives will need to be developed from local sources to add to ECIA GIS and data base.				
Related Plans & Policies: 2018 Iowa DOT Plan - Complete Streets Policy, Dubuque Climate Action Plan (DCAP), Safe Routes to Schools Plans, 2021 DMATS Plan.				
References: [1] 2018 Iowa DOT Plan. [2] 2021 DMATS Plan. [3] 2014 Illinois DOT Plan. [4] 2020 DCAP.				

GOAL 4: Link the bike and pedestrian network, public transit, and automobile facilities to foster multi-modal travel				
Objective	**Performance Measures**	**Data Collection Needed**	**Baseline**	**Target/Desired Trend**
Reduce the share of commute trips made by personal vehicle[1]	Percentage of workers commuting via transit[1]	Use Census ACS data as available	1%[3]	Increase transit ridership to 3% by 2030[5]
	Percentage of workers commuting via walking and biking[2]		3%[3]	Increase walking and biking to 5% by 2030[4]
	Percentage of workers commuting via carpool[2]		6%[3]	Increase carpooling to 11% by 2030[5]
	Percentage of workers commuting via personal vehicle (drive alone)		81%[3]	Decrease by 10% by 2030[5]
Street and roadway projects that include bike/ped improvements	Percentage of new construction and reconstruction projects	Tracking of street and roadway projects (not existing)	TBD	Increase
	Percentage of 3R (resurfacing, restoration, or rehabilitation) projects		TBD	Increase
	Percentage of maintenance, preservation, resurfacing projects		TBD	Increase
Data Sources: US Census American Community Survey (ACS) Commute by Mode 5-year estimates; Fixed route ridership statistics.				
Related Plans & Policies: 2021 DMATS Plan, 2022 RPA Plan, Dubuque Climate Action Plan (DCAP), STAR Community Technical Guide, 2018 Iowa DOT Plan				
References: [1]DMATS and RPA Plans. [2]DMATS Plan. [3]2021 ACS 5-year estimates for DMATS area. [4]STAR Transportation. [5]DCAP.				

GOAL 5: Connect residents and tourists with services and destinations				
Objective	**Performance Measures**	**Data Collection Needed**	**Baseline**	**Target/Desired Trend**
Incorporate local "business routes" where possible to connect regional routes to basic services and important destinations[1]	Miles of roadways with sidewalks on both sides that connect to services and destinations	Identify services and destination, then coordinate with data collected for regional plan (not existing)	TBD	Increase
	Miles of on-road bike facilities that connect to services and destinations		TBD	Increase
Extend existing regional and local trail systems to connect communities, services, and destinations	Miles of multi-use trails that connect to services and destinations	Identify services and destination, then coordinate with data collected for regional plan (not existing)	TBD	Increase
	Miles of off-road connections to Heritage Trail		TBD	Increase
	Miles of on-road connections to Heritage Trail		TBD	Increase
Data Source: Data will need to be developed from local sources to add to ECIA GIS.				
Related Plans & Policies: 2021 DMATS Plan, STAR Community Technical Guide, 2014 IL DOT Plan.				
References: [1] 2014 IL DOT Plan.				

GOAL 6: Use consistent street, wayfinding, trail, and map signs				
Objective	**Performance Measures**	**Data Collection Needed**	**Baseline**	**Target/Desired Trend**
Provide traffic control devices in accordance with the Manual of Uniform Traffic Control Devices[1]	Percentage of non-compliant signs replaced on the network	Inventory of traffic and trail signs (not existing)	TBD	Increase
Install wayfinding signs in accordance with the MUTCD[1]	Number of wayfinding signs that state the distance and direction to important destinations	Need to develop inventory of wayfinding signs (not existing)	TBD	Increase
	Miles of signed on-road routes, directing bicyclists at every turn, including long-distance routes like the MRT[1]	Using sign inventory, coordinate with data collected for regional plan (not existing)	TBD	Increase
Data Source: To be determined				
Related Plans & Policies: 2018 Iowa DOT Plan, Manual of Uniform Traffic Control Devices (MUTCD) – current addition, 2020 Northwest Illinois Trails Wayfinding Sign Guide				
References: [1]Iowa DOT Plan				

GOAL 7: Educate all users in safety and rules of the road				
Objective	**Performance Measures**	**Data Collection Needed**	**Baseline**	**Target/Desired Trend**
Support safety and skills training courses for adults and youth[1]	Number of safety and skills training courses offered	Will need to coordinate with schools or agencies (not existing)	TBD	At least 2 per year
Implement focused enforcement programs[2]	Number of focused enforcement programs implemented per year[2]	Will need to coordinate with law enforcement agencies (not existing)	TBD	At least 2 per year[2]
Hold bicyclist and/or pedestrian programs and events.[3]	Number of bicyclist and pedestrian programs and events.	Tracking events held (not existing), opportunity for advocacy groups	TBD	At least 2 per year
Access to DOT sponsored or endorsed training events for Complete Streets issues.	Number of engineers, planners and consultants who have attended DOT sponsored or endorsed training events for Complete Streets issues.	Tracking personnel in bike/pedestrian training programs (not existing).	TBD	At 30% of engineers, planners and consultants will have received regular training on Complete Streets issues.
Data Source: Data will need to be developed from local sources to add to ECIA data base.				
Related Plans & Policies: 2018 Iowa DOT Plan, STAR Community Technical Guide				
References: [1]Iowa DOT Plan. [2]STAR Transportation Choices. [3]2014 Illinois DOT Plan.				

GOAL 8: Improve multi-modal access and mobility				
Objective	**Performance Measures**	**Data Collection Needed**	**Baseline**	**Target/Desired Trend**
Improve transportation affordability[1]	Reduce the transportation and housing cost burden on area low- and moderate-income households as measured by Housing + Transportation (H+T) Affordability Index[1]	Data collected for DMATS area, need to expand to region (not existing)	56% (2015)[1]	≥ 45%[1,3]
	Reduce average total driving cost based on regional typical household income[2]	Calculate costs (not existing)	TBD with CNT calculator	>15%[2]
Increase funding for bicycle and pedestrian facilities	Percentage of regional transportation funding used for bicycle and pedestrian facilities.	Coordinate with data collection for other priority goals (not existing)	TBD	Increase
Secure funding for priority projects and programs	Percentage of priority projects and programs with assured funding.		TBD	Increase
Data Source: H+T Affordability Index, Center for Neighborhood Technology (CNT) Total Driving Cost calculator, DMATS and RPA Transportation Improvement Programs. Data will need to be developed from local sources to add to ECIA data base.				
Related Plans & Policies: 2021 DMATS Plan, STAR Technical Guide				
References: [1]DMATS Plan. [2]STAR Transportation Choices. [3]STAR Built Environment.				

6. BIKE & PEDESTRIAN PROJECTS

Communities in the Dubuque Region have located areas of high demand for bike and pedestrian facilities, and identified barriers to walking and biking. Each community has developed a list of future projects that will address safety issues, expand the bike and pedestrian network, and remove barriers to walking and biking.

Rendering of paved Heritage Trail with 3' wide crushed limestone shoulders (2020 Dubuque County Conservation Plan, p. 177)

Future Facilities

The five maps on the following pages chart the location of the area's future bicycle and pedestrian facilities in the region. Existing facilities are shown with solid lines and future facilities with dashed lines. Facilities are classified as follows:

Bike Lane or Paved Shoulder – Roadway with pavement extending at least four feet outside the vehicle travel lane.

Bike & Pedestrian Bridge or Overpass – Bridge or overpass dedicated for bicycle and pedestrian use.

Complete Streets and SRTS – Streets where Complete Streets or Safe Routes to School (SRTS) improvements have been made to support safe mobility for all users.

Multi-Use Trail – Paved or unpaved trail designed for multiple types of users. Typically, multi-use trails are at least ten feet wide, but may be as narrow as eight feet in some locations.

Pedestrian Walkway – Paved path designed primarily for pedestrian use. Pedestrian walkways may be open to bicycle use in some instances. The maps include only select facilities that are important for pedestrian mobility.

Signed On-Road Route – On-road bicycle routes that are designated by signage posted along the route.

Crossing Improvements – Intersections where improvements are planned to enhance safety for bicyclists and pedestrians.

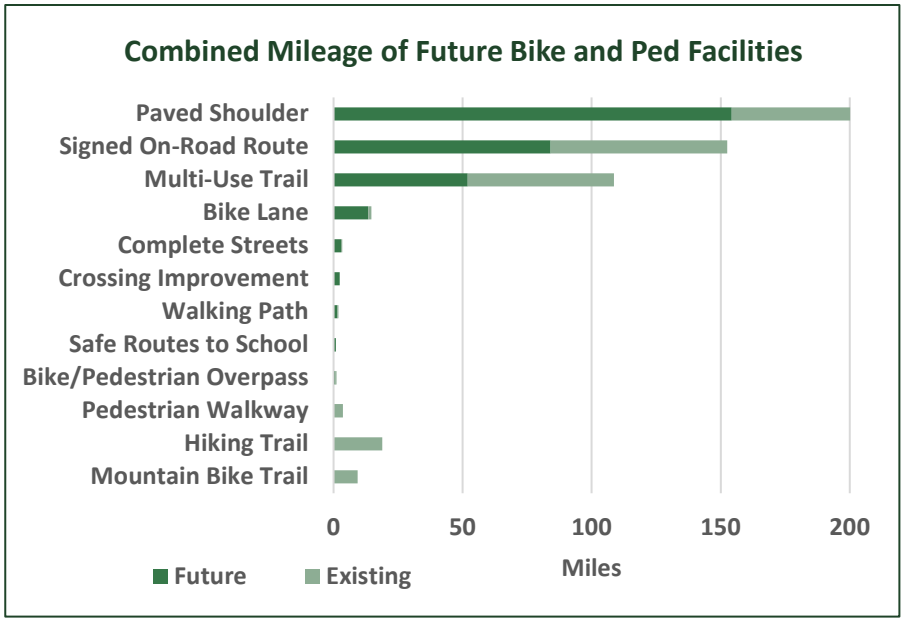
Hiking Trail – Unpaved trail used for hiking.

Mountain Bike Trail – Unpaved trail used for mountain biking.

Mileage of Future and Existing Facilities by Type

The table here show the 177 total miles of existing facilities and 312 total miles of future facilities by type as part of the regional transportation system. The chart here depicts the combined mileage of future and existing facilities. Paved shoulders would increase by 154 miles to 200 total miles. Signed On-Road Routes would grow by 84 miles to 153 total miles. Multi-Use Trails would nearly double to 109 total miles. The hiking and mountain bike trails are not part of the transportation system, but these recreational trails are important destinations.

Facility Type	Future	Existing	Total
Paved Shoulder	154.30	45.84	200.14
Signed On-Road Route	84.09	68.44	152.53
Multi-Use Trail	51.98	56.64	108.62
Bike Lane	13.44	1.18	14.62
Complete Streets	2.89	0.46	3.35
Crossing Improvements	2.38	0.00	2.38
Walking Path	1.50	0.33	1.83
Safe Routes to School	0.95	0.00	0.95
Pedestrian Walkway	0.00	3.58	3.58
Bike/Pedestrian Overpass	0.70	0.42	1.12
Transportation Network	**312.23**	**176.89**	**489.12**
Hiking Trail	0.00	18.86	18.86
Mountain Bike Trail	0.00	9.38	9.38
Total Miles	**311.52**	**205.14**	**517.37**

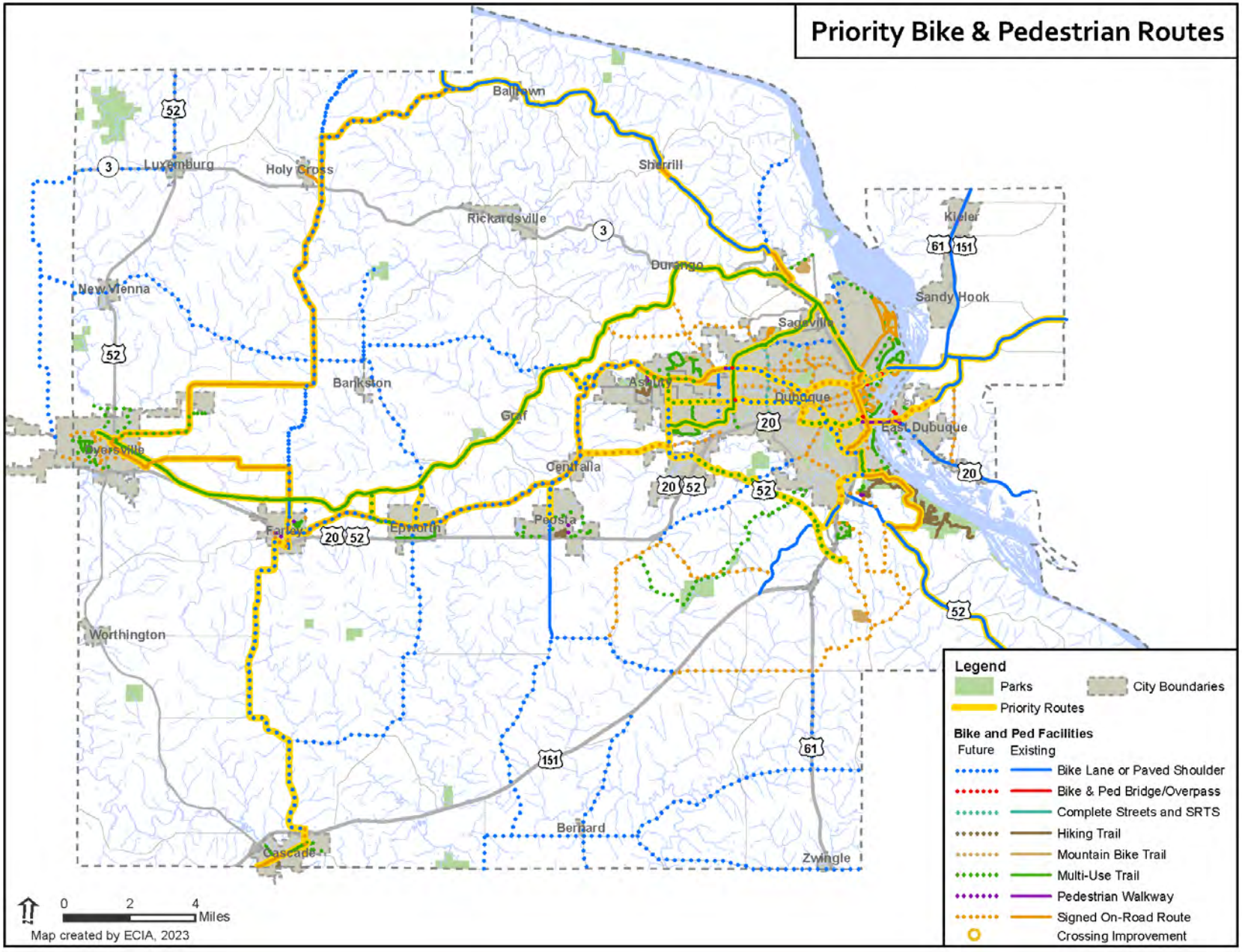


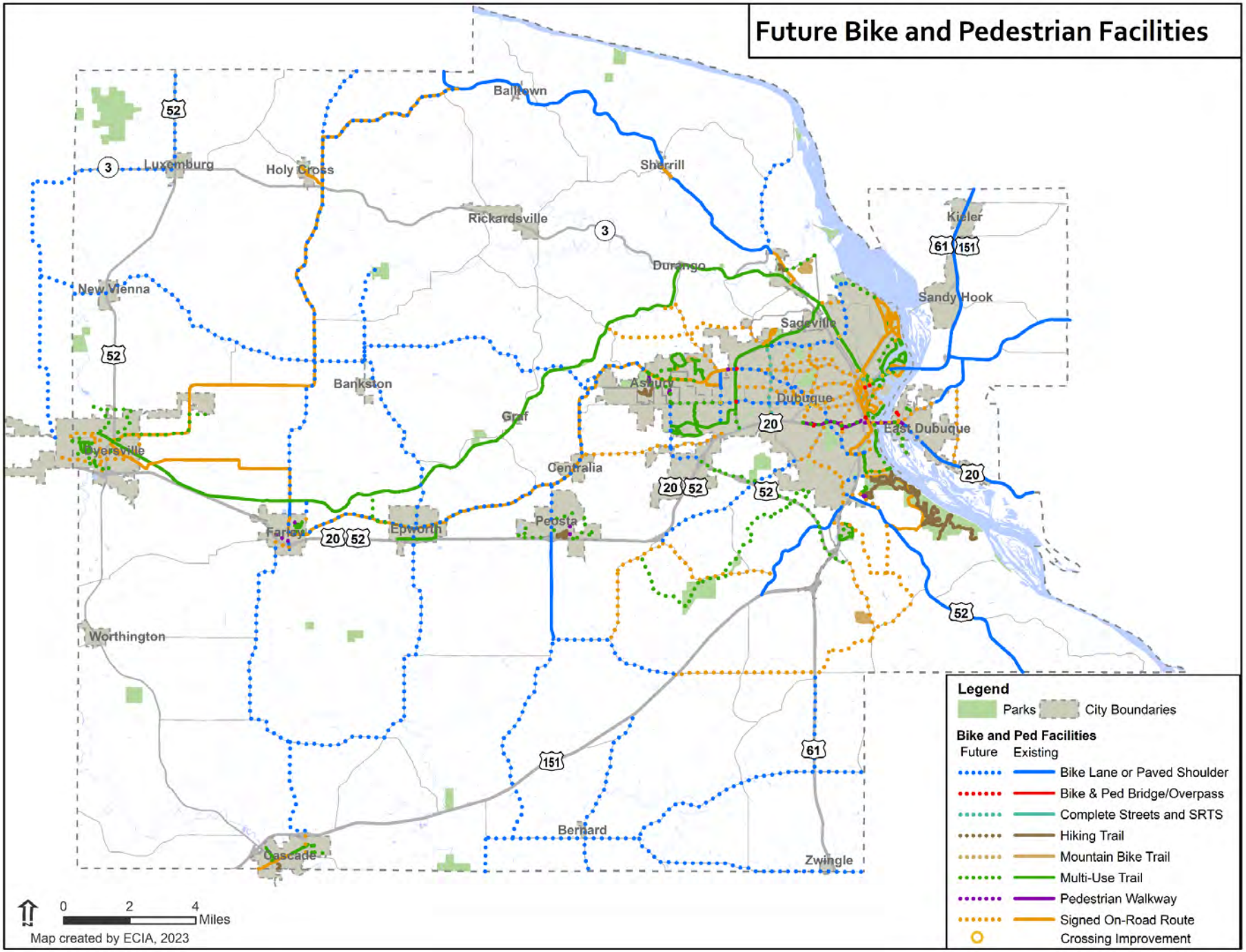
Interim Improvements

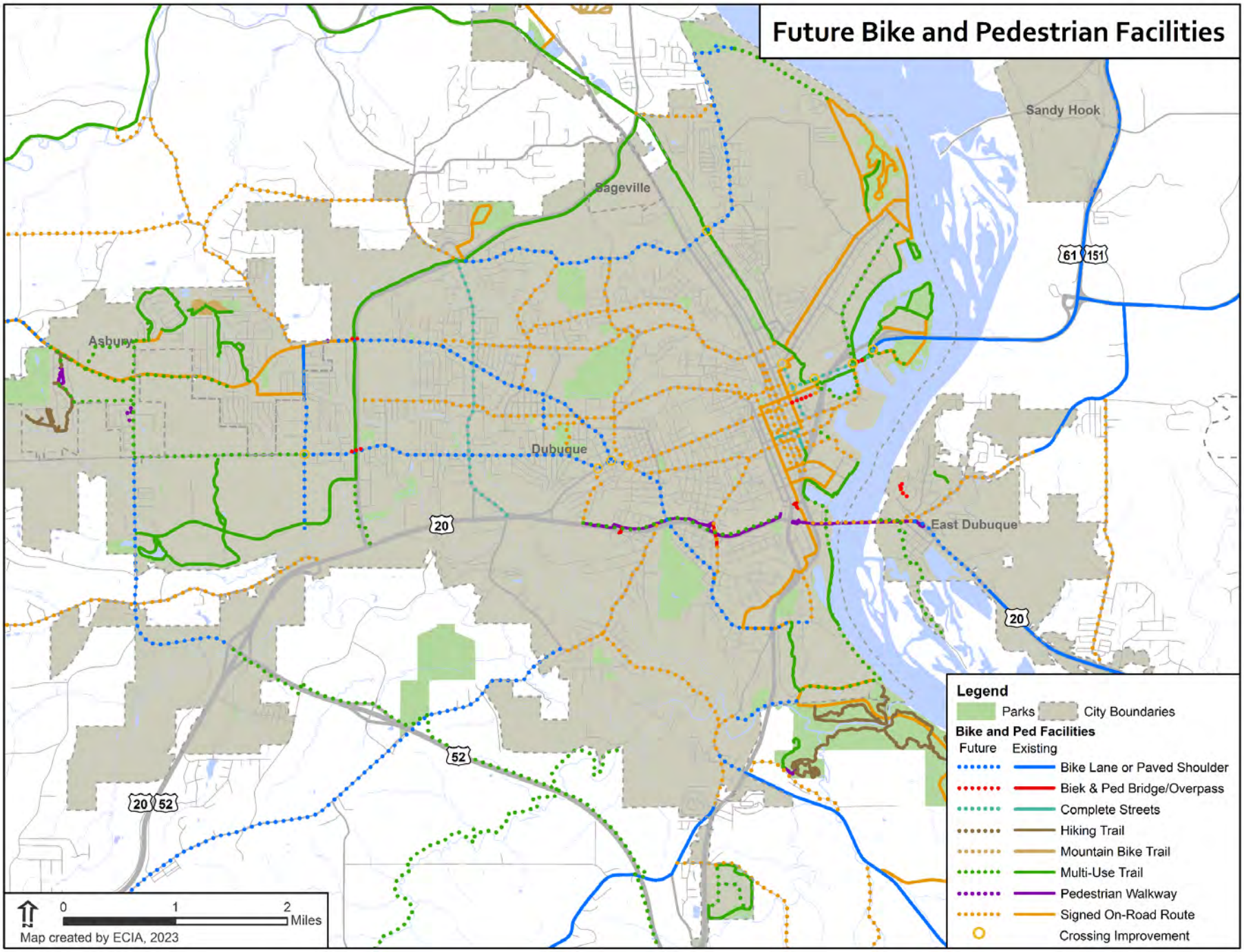
Full reconstruction of a street can take several years from planning to final construction, but a community may need to add safety improvements more quickly. Interim improvements use low cost, temporary materials to enable faster project delivery. The interim approach also allows the community to test the effectiveness of the improvement before committing to the full cost of reconstruction, such as with a pilot project.

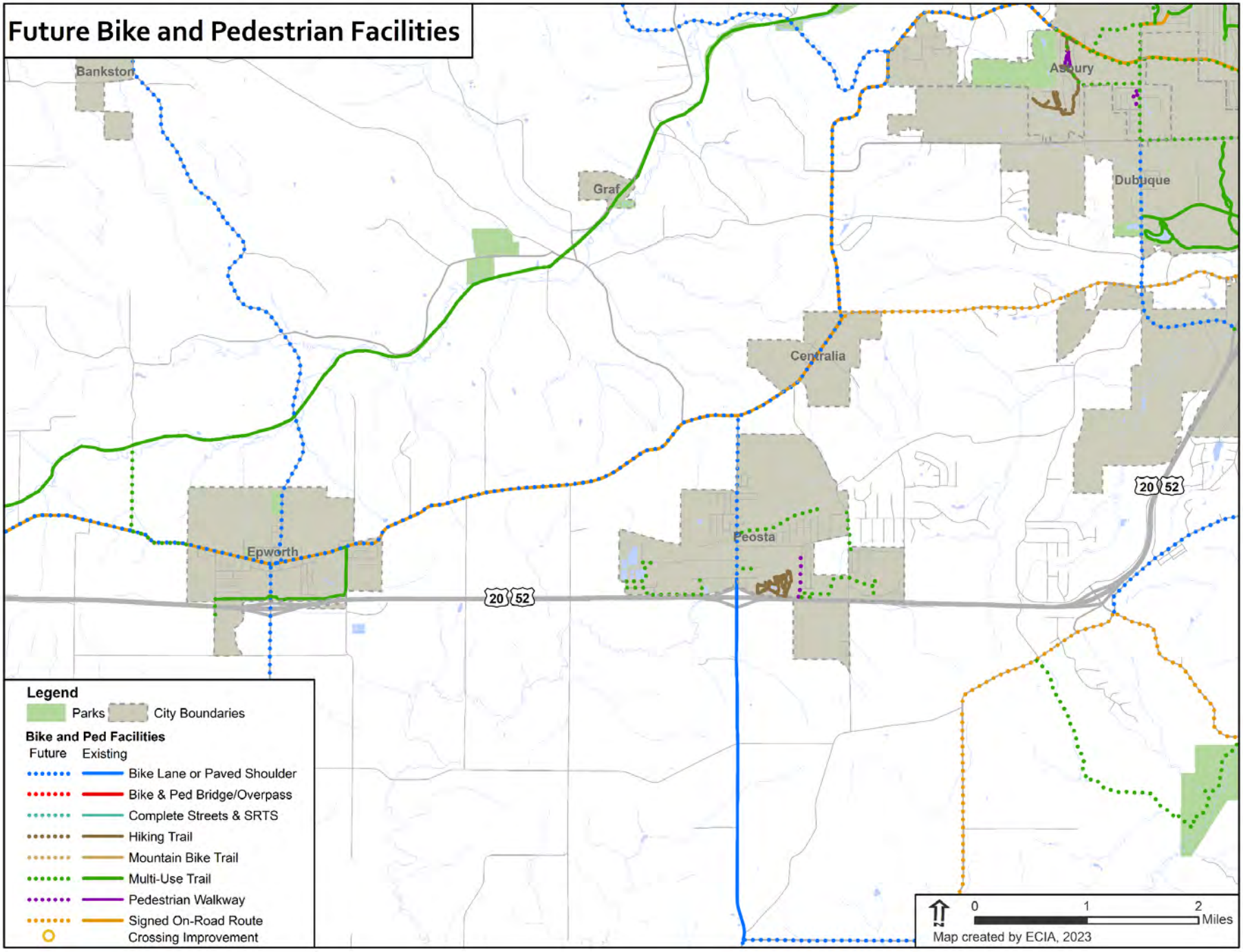
Priority Routes and Future Facilities Maps

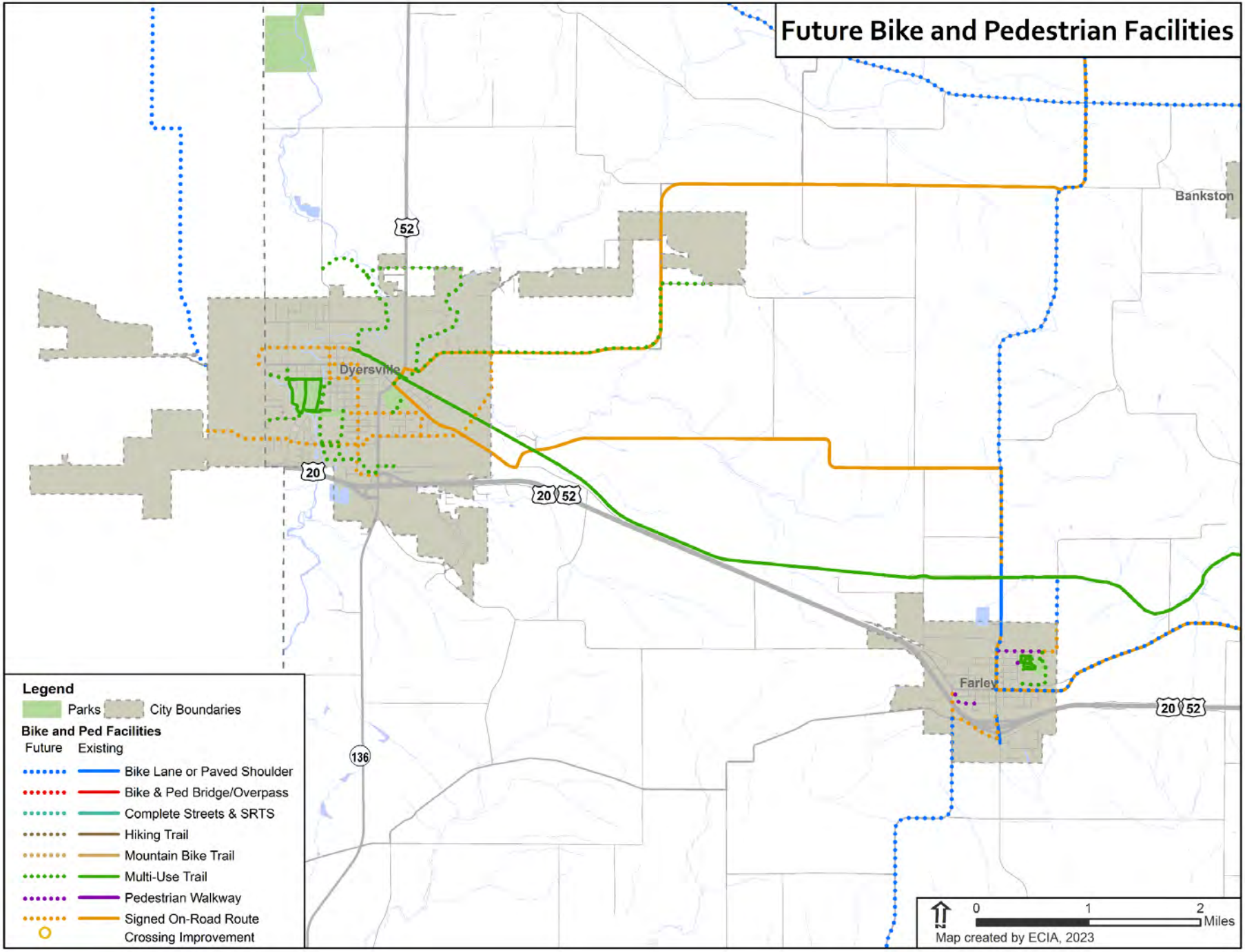
Due to the number of proposed projects, the Project Steering Committee has identified priority routes for the network that generally include those projects that are the easiest to implement and will have the greatest impact (see below). The six maps that follow show both future and existing facilities.

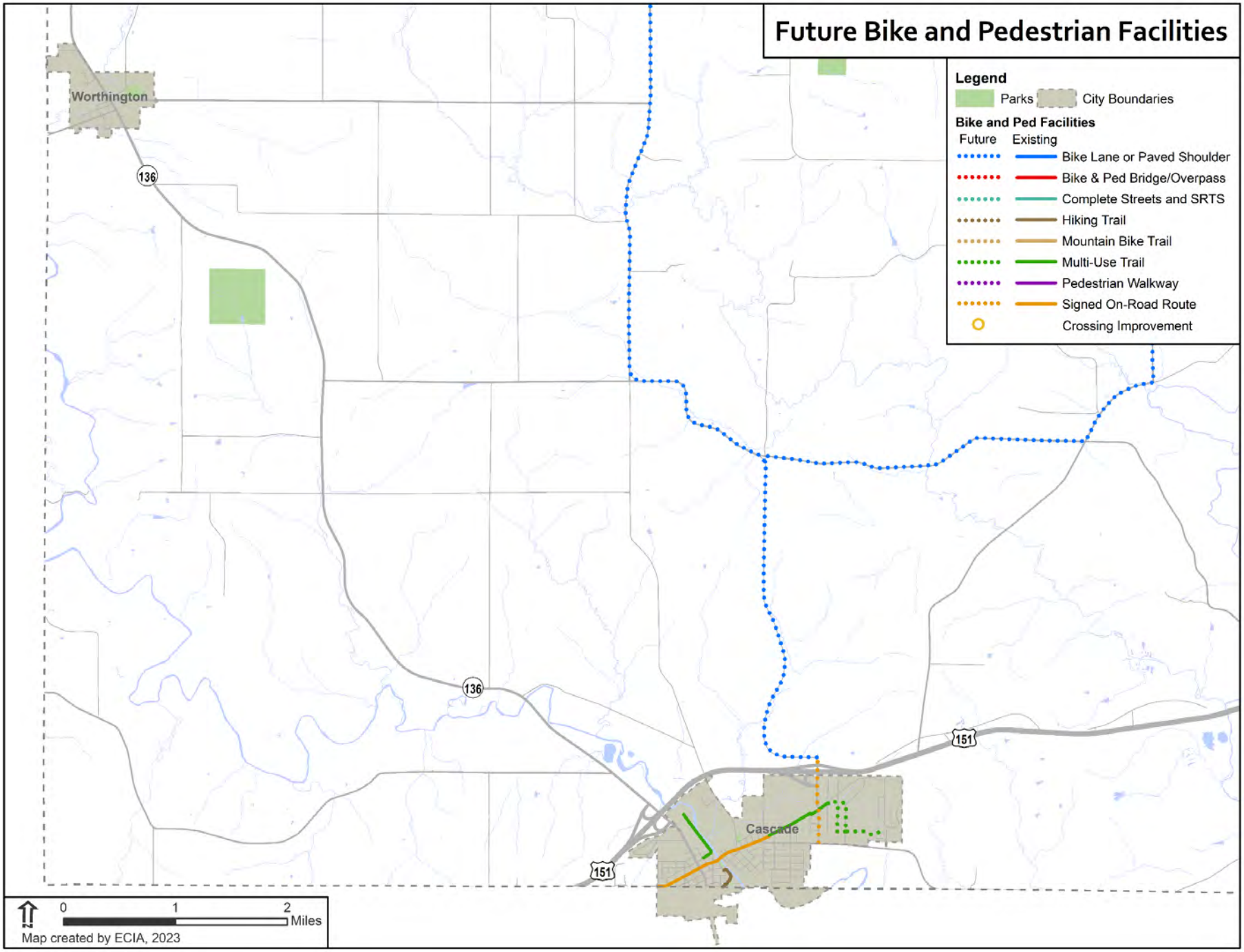

Priority Bike & Pedestrian Routes
Luxemburg
Holy Cross
Rickardsville
Durango
New Vienna
Bankston
Graf
Centralia
Peosta
Epworth
Farley
Worthington
Cascade
Bernard
Zwingle
Sherrill
Balltown
Kieler
Sandy Hook
Sageville
Asbury
Dubuque
East Dubuque
Legend
Parks
City Boundaries
Priority Routes
Bike and Ped Facilities
Future
Existing
Bike Lane or Paved Shoulder
Bike & Ped Bridge/Overpass
Complete Streets and SRTS
Hiking Trail
Mountain Bike Trail
Multi-Use Trail
Pedestrian Walkway
Signed On-Road Route
Crossing Improvement
0 2 4 Miles
Map created by ECIA, 2023


Future Bike and Pedestrian Facilities
Balltown
Luxemburg
Holy Cross
Sherrill
Rickardsville
Durango
Kieler
Sandy Hook
New Vienna
Sageville
Bankston
Asbury
Dubuque
East Dubuque
Graf
Dyersville
Centralia
Farley
Epworth
Peosta
Worthington
Bernard
Cascade
Zwingle
52
3
20
61
151
0 2 4 Miles
Map created by ECIA, 2023
Legend
Parks
City Boundaries
Bike and Ped Facilities
Future
Existing
Bike Lane or Paved Shoulder
Bike & Ped Bridge/Overpass
Complete Streets and SRTS
Hiking Trail
Mountain Bike Trail
Multi-Use Trail
Pedestrian Walkway
Signed On-Road Route
Crossing Improvement


Future Bike and Pedestrian Facilities
Sandy Hook
Sageville
Asbury
Dubuque
East Dubuque
61
151
20
52
0
1
2
Miles
Map created by ECIA, 2023
Legend
Parks
City Boundaries
Bike and Ped Facilities
Future
Existing
Bike Lane or Paved Shoulder
Biek & Ped Bridge/Overpass
Complete Streets
Hiking Trail
Mountain Bike Trail
Multi-Use Trail
Pedestrian Walkway
Signed On-Road Route
Crossing Improvement


Future Bike and Pedestrian Facilities
Bankston
Graf
Asbury
Dubuque
Centralia
Peosta
Epworth
20
52
Legend
Parks
City Boundaries
Bike and Ped Facilities
Future
Existing
Bike Lane or Paved Shoulder
Bike & Ped Bridge/Overpass
Complete Streets & SRTS
Hiking Trail
Mountain Bike Trail
Multi-Use Trail
Pedestrian Walkway
Signed On-Road Route
Crossing Improvement
0
1
2
Miles
Map created by ECIA, 2023


Future Bike and Pedestrian Facilities
Bankston
Dyersville
Farley
52
20
20 52
136
Legend
Parks
City Boundaries
Bike and Ped Facilities
Future
Existing
Bike Lane or Paved Shoulder
Bike & Ped Bridge/Overpass
Complete Streets & SRTS
Hiking Trail
Mountain Bike Trail
Multi-Use Trail
Pedestrian Walkway
Signed On-Road Route
Crossing Improvement
0
1
2
Miles
Map created by ECIA, 2023


Future Bike and Pedestrian Facilities
Legend
Parks
City Boundaries
Bike and Ped Facilities
Future
Existing
Bike Lane or Paved Shoulder
Bike & Ped Bridge/Overpass
Complete Streets and SRTS
Hiking Trail
Mountain Bike Trail
Multi-Use Trail
Pedestrian Walkway
Signed On-Road Route
Crossing Improvement
Worthington
136
136
151
151
Cascade
0
1
2
Miles
Map created by ECIA, 2023

Project Cost Estimates

ECIA has compiled projects from the regional communities to create the Dubuque Regional Bicycle and Pedestrian Plan. The project tables included in this section summarize the area's planned projects. The tables include the name of the project, the type of project, the length of the project, and a planning level project cost estimate.

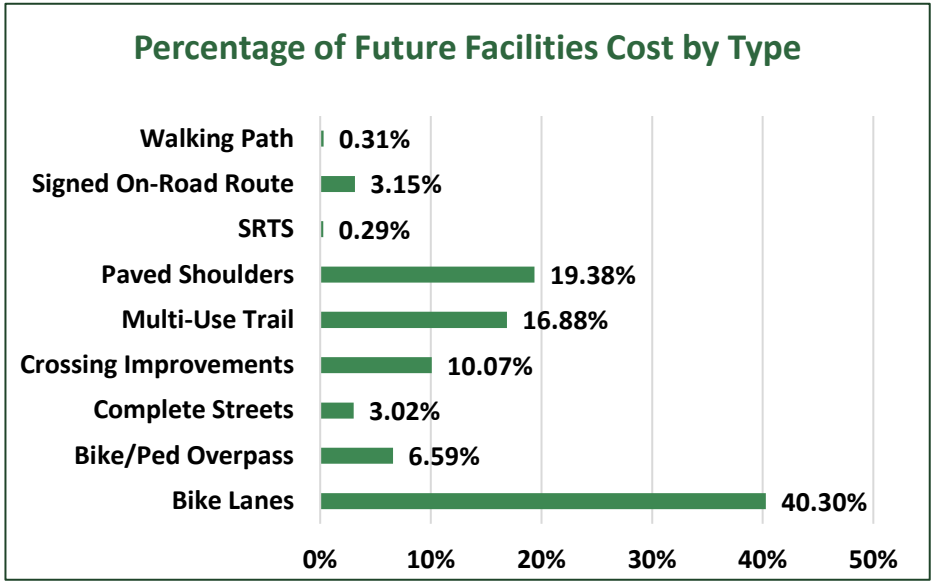
If a community had already completed a cost estimate for their project and/or right-of-way, ECIA has included that estimate in the plan.

The total estimated cost for the future bicycle and pedestrian facilities is nearly $142.5 million, which includes construction costs of nearly $133 million and right-of-way acquisition of nearly $9.6 million. The table here provides a breakdown of costs by facility type. The chart here shows the percentage of future facilities cost by type of facility.

For projects without sponsor cost estimates, ECIA calculated planning level cost estimates using the 2018 Iowa DOT Plan's typical per mile cost estimates shown on the next page.

The Iowa DOT created the estimates based on an analysis of historical project data. The table includes the typical per mile cost for different types of facilities. The modification factors are multipliers used to adjust the base cost per mile depending on area conditions. The overall estimates are approximate and intended for planning purposes only.

Facility Type	Construction	Right-of-Way	Total Estimate
Bike Lanes	$52,079,020	$5,338,536	$57,417,556
Bike/Ped Overpass	$9,385,000		$9,385,000
Complete Streets	$4,300,000		$4,300,000
Crossing Improvements	$14,031,993	$322,719	$14,354,712
Multi-Use Trail	$23,058,770	$1,000,000	$24,058,770
Paved Shoulders	$27,617,000		$27,617,000
SRTS	$416,257		$416,257
Signed On-Road Route	$1,578,460	$2,916,090	$4,494,550
Walking Path	$448,000		$448,000
Totals	**$132,914,500**	**$9,577,345**	**$142,491,845**



Facility Type	Typical Cost Per Mile	Modification Factors	
New paved multi-use trail on independent alignment, 10’ wide	$400,000	Former RR grade	0.5
		Flat terrain	0.6
		Rolling terrain	1.0
		Hilly terrain	1.2
		Along stream bank	1.2
		Densely developed area	2.0
New paved sidepath, 10’ wide	$300,000	Along urban roadway	1.0
		Along rural roadway	1.6
		Densely developed area	1.4
Unpaved multi-use trail	$200,000	Former RR grade	0.6
		Flat terrain	1.0
		Rolling terrain	1.2
		Hilly terrain	1.4
New paved shoulders, 5' wide both sides	$175,000[1]	Adequate shoulder width present	1.0
		Embankment widening required	2.0
		As a standalone project (not part of a larger 3R[2] project)	1.2
Shared Lane/Road	$500	Rural route generally follows one road with few turns (wayfinding signage)	1.0
		Rural route includes many turns onto different roads (wayfinding signage)	2.0
		Urban route (wayfinding signage and shared lane markings)	10.0
Bike Lane	$63,000[3]	Install new striping, pavement markings, and signs	1.0

[1] The probable course of implementation is to provide paved shoulders as part of future reconstruction work during which paved shoulders would likely be provided anyway based on traffic volume. Paved shoulders provide many benefits such as reduced maintenance costs, reduction in run-off-road crashes, etc., so these costs should not be seen as solely for the benefit of bicycling and walking.

[2] Resurfacing, restoration, or rehabilitation. These projects are less intensive than reconstruction projects and are typically budgeted and scheduled the same year that they are completed.

[3] Typical per mile cost adapted from the *Hennepin County 2040 Bicycle Transportation Plan*. The Iowa DOT Bicycle and Pedestrian Long-Range Plan does not include a typical per mile cost for bike lanes. The estimate used represents the low end of the cost range. Projects that involve lane reconfigurations, property acquisition, or new pavement will typically cost more.

Source: 2018 Iowa DOT Plan, page 115

Project Tables

The tables are arranged by jurisdiction, and list project number, name, type, description, length in miles, area, typical cost/mile, Mod (modification) factor, and planning level cost estimates, or sponsor-provided and right-of-way cost estimates if available.

Project #	Project Name	Project Type	Project Description	Length in Miles	Area	Typical Cost/ Mile	Mod Factor	Cost Estimates		
								Planning Level	Sponsor	Right-of-Way
City of Asbury										
ASB-1001	Althaus Pond Trail	Multi-Use Trail	Pave existing crushed stone trail around pond	0.2	DMATS	$400,000	0.6	$49,000		
ASB-1002	Asbury Road	Multi-Use Trail	Clover Ln to Antler Ridge DR	1.7	DMATS	$300,000	1	$519,000		
ASB-1003	Asbury Rd Walking Path	Walking Path	From existing sidewalk to City of Dubuque	0	DMATS	$300,000	1	$14,000		
ASB-1004	Forest Hills Pond Trail	Multi-Use Trail	Paved multi-use trail around pond	0.2	DMATS	$400,000	0.6	$54,000		
ASB-1005	Seippel Road Trail	Multi-Use Trail	Forest Hills to Pennsylvania Ave	1.2	DMATS	$300,000	1	$348,000		
ASB-1006	Wedgewood to Arrowhead Trail	Multi-Use Trail	Trail from Wedgewood Pond to Arrowhead Park and Seippel Rd	0.8	DMATS	$400,000	1	$302,000		
ASB-1006	Wedgewood to Arrowhead Trail	Multi-Use Trail	Trail form Wedgewood Pond to Asbury Road	0.1	DMATS	$400,000	1	$47,000		
ASB-1007	Wedgewood to Forest Hills Trail	Multi-Use Trail	Trail from Wedgewood to Forest Hills	0.6	DMATS	$400,000	1.2	$287,000		
ASB-1008	Hales Mill Road Bike Route	Signed On-Road Route	Asbury Rd to Sagewood Dr	0.7	DMATS	$500	10	$4,000		
ASB-1009	Arrowhead Park Path	Walking Path	Walking path around Arrowhead Park	0.2	DMATS	$300,000	1	$62,000		
ASB-1009	Arrowhead Park Path	Walking Path	Walking path around Arrowhead Park	0.1	DMATS	$300,000	1	$17,000		
ASB-1009	Arrowhead Park Path	Walking Path	Walking path around Arrowhead Park	0	DMATS	$300,000	1	$3,000		
City of Cascade										
CAS-1001	Cascade North/South Route	Signed On-Road Route	Industrial Park Rd and Fox St SE	0.8	RPA8	$500	10	$4,000		
CAS-1002	Cascade Trail	Multi-Use Trail	Mulberry Dr to 1st Ave E	0.7	RPA8	$300,000	1	$220,000		
CAS-1003	Cascade Trail Alt Route	Multi-Use Trail	Industrial St to Cascade Trail	0.3	RPA8	$300,000	1	$102,000		
City of Epworth										
EPW-1001	Bobcat Road / Highway 20 Overpass	Multi-Use Trail/Overpass	Trail along Bobcat Road and over existing US 20 overpass.	0.2	RPA8			$2,400,000		

Project #	Project Name	Project Type	Project Description	Length in Miles	Area	Typical Cost/ Mile	Mod Factor	Cost Estimates		
								Planning Level	Sponsor	Right-of-Way
City of East Dubuque										
EDB-1001	Badger Road	Signed On-Road Route	Illinois 35 to US 20 Frontage Rd	2.5	DMATS	$500	10	$12,000		EDB-1001
EDB-1002	Illinois Highway 35	Signed On-Road Route	East Dubuque River Trail to WI state line	1.5	DMATS	$500	10	$7,000		EDB-1002
EDB-1003	East Dubuque River Trail	Multi-Use Trail	Harbor Dr, Basten Rd, City Dike, Boat Ramp Rd	1.5	DMATS	$200,000	1	$304,000		EDB-1003
EDB-1004	Gramercy Park Bridge Connector	Bike/Pedestrian Bridge	South Gramercy Park to North Gramercy Park	0.2	DMATS				$2,185,000	EDB-1004
City of Farley										
FAR-1001	1st ST S	Walking Path	Sidewalk in front of Casey's	0	RPA8	$300,000	1	$5,000		
FAR-1002	3rd Ave NW	Walking Path	Sidewalk on north side of 3rd Ave SW	0.3	RPA8	$300,000	1	$95,000		
FAR-1003	4th St NE	Walking Path	5th Ave SE to Community Park Trail	0	RPA8	$300,000	1	$8,000		
FAR-1004	7th Ave NE	Walking Path	Sidewalk on north side of street	0.4	RPA8	$300,000	1	$120,000		
FAR-1005	7th Ave NE/ Cemetery Rd	Signed On-Road Route	7th Ave NE to Cemetery Rd to city limits	0.4	RPA8	$300,000	1	$113,000		
FAR-1006	Farley Community Park Trail	Multi-Use Trail	Community Park Trail to 7th Ave NE	0.2	RPA8	$300,000	1	$48,000		
FAR-1007	Farley Community Park Trail	Multi-Use Trail	Community Park Trail to Drexler School	0.6	RPA8	$300,000	1	$168,000		
FAR-1008	Olde Farley Rd	Signed On-Road Route	1st St S to Old Farley Rd to 7th Ave SW	0.9	RPA8	$500	10	$5,000		
City of Peosta										
PEO-1002	Industrial Park Trail	Multi-Use Trail	Multi-use trail through Peosta industrial park.	1.4	DMATS	$400,000	1	$576,000		
PEO-1003	Moose Lake Trail	Multi-Use Trail	Trail around Moose Lake	0.2	DMATS	$400,000	1	$89,000		
PEO-1004	NICC Drive	Multi-Use Trail	Peosta St to NICC Dr	0.1	DMATS	$300,000	1	$43,000		
PEO-1005	Peosta Community Pkwy	Walking Path	Planned for construction in 2022	0.4	DMATS	$300,000	1	$124,000		
PEO-1006	Peosta Trail	Multi-Use Trail	Moose Lake to Thunder Valley Estates	0.8	DMATS	$300,000	1	$237,000		
PEO-1006	Peosta Trail	Multi-Use Trail	Moose Lake to Thunder Valley Estates	0.1	DMATS	$300,000	1	$32,000		
PEO-1007	Rail Road Trail	Multi-Use Trail	Trail along south side of the railroad tracks.	0.8	DMATS	$400,000	1	$304,000		
PEO-1008	Sundown Road	Paved Shoulder	Old Highway Road to U.S. 20	1.3	DMATS	$175,000	1	$227,000		
PEO-1002	Industrial Park Trail	Multi-Use Trail	Multi-use trail through Peosta industrial park.	1.4	DMATS	$400,000	1	$576,000		

Project #	Project Name	Project Type	Project Description	Length in Miles	Area	Typical Cost/ Mile	Mod Factor	Cost Estimates		
								Planning Level	Sponsor	Right-of-Way
City of Dyersville										
DYE-1001	12th Ave	Signed On-Road Route	9th St SE to 5th Ave NE	1.6	RPA8	$500	10	$8,000		
DYE-1002	12th Ave	Signed On-Road Route	9th St SE to 332nd Ave	1.6	RPA8	$500	10	$8,000		
DYE-1003	16th Ave	Signed On-Road Route	6th St SE to 9th St SE	0.2	RPA8	$500	10	$1,000		
DYE-1004	16th Ave NE Trail	Multi-Use Trail	16th Ave NE	0.9	RPA8	$400,000	1	$343,000		
DYE-1005	1st Ave	Signed On-Road Route	2nd St SE to 6th St SE	0.3	RPA8	$500	10	$1,000		
DYE-1006	2nd Ave	Signed On-Road Route	12th Ave SE to 2nd Ave SE	0.2	RPA8	$500	10	$1,000		
DYE-1007	2nd St	Signed On-Road Route	Beltline Rd to 3rd Ave	0.3	RPA8	$500	10	$1,000		
DYE-1008	3rd Ave	Signed On-Road Route	2nd St SE to 6th St SE	0.3	RPA8	$500	10	$1,000		
DYE-1009	6th St	Signed On-Road Route	6th Ave Se to 1st Ave E	1	RPA8	$500	10	$5,000		
DYE-1010	8th Ave	Signed On-Road Route	4th St SE to 2nd Ave SE	0.7	RPA8	$500	10	$3,000		
DYE-1011	Beltline Rd	Signed On-Road Route	1st Ave W To Heritage Trail	0.9	RPA8	$500	10	$5,000		
DYE-1012	Commercial Club Park Trail	Multi-Use Trail	8th Ave SE to 2nd Ave SE past Aquatic Center	0.2	RPA8	$300,000	1	$66,000		
DYE-1013	Dyersville Trail	Multi-Use Trail	3rd Ave NE to 16th Ave NE	1.3	RPA8	$400,000	1	$503,000		
DYE-1014	Dyersville Trail	Multi-Use Trail	Heritage Trail to Christoph Rd	1.5	RPA8	$400,000	1	$584,000		
DYE-1015	Dyersville Trail	Multi-Use Trail	Trail Loop south from Candy Cane Park	0.8	RPA8	$400,000	1	$311,000		
DYE-1016	Dyersville Trail	Multi-Use Trail	East side of N. Fork Maquoketa River	0.3	RPA8	$400,000	1	$138,000		
DYE-1017	Dyersville Trail	Multi-Use Trail	West Side Park to 7th St SW via 3rd St and 9th Ave	0.4	RPA8	$400,000	1	$145,000		
DYE-1018	Dyersville Trail	Multi-Use Trail	Beckman sports fields to N. Fork Maquoketa River	0.9	RPA8	$400,000	1	$354,000		
DYE-1019	Dyersville Trail	Multi-Use Trail	Undeveloped area south of Candy Cane Park	0.3	RPA8	$400,000	1	$108,000		
DYE-1020	Dyersville Trail	Multi-Use Trail	West Side Park Trail to 1st Ave W	0.1	RPA8	$400,000	1	$56,000		
DYE-1021	Dyersville Trail	Multi-Use Trail	West Side Park Trail extension	0.2	RPA8	$400,000	1	$94,000		
DYE-1022	Field of Dreams Trail	Multi-Use Trail	Commercial Club Park to Field of Dreams	3.5	RPA8	$300,000	1	$1,060,000		

Project #	Project Name	Project Type	Project Description	Length in Miles	Area	Typical Cost/ Mile	Mod Factor	Cost Estimates		
								Planning Level	Sponsor	Right-of-Way
Dubuque County										
COD-1001	Airview Drive	Signed On-Road Route	Laudeville Rd to Skyline Rd	0.8	DMATS	$500	2	$800		
COD-1002	Derby Grange Road	Signed On-Road Route	JFK Rd to Hales Mill Rd	2	DMATS	$500	2	$2,000		
COD-1003	Derby Grange Road	Signed On-Road Route	Hales Mill Rd to Heritage Trail	2.6	DMATS	$500	2	$3,000		
COD-1004	Hales Mill Road	Signed On-Road Route	Existing Bike Lane to Heritage Trail	2.4	DMATS	$500	2	$2,000		
COD-1005	Kane Road	Signed On-Road Route	Lake Eleanor Rd to Schloth Rd	0.8	DMATS	$500	2	$800		
COD-1006	Kemp Road	Signed On-Road Route	Kane to US 52	1.6	DMATS	$500	2	$2,000		
COD-1007	Lake Eleanor Road	Signed On-Road Route	Kane Rd to Key West Dr	2.3	DMATS	$500	2	$2,000		
COD-1008	Laudeville Road	Signed On-Road Route	Airview DR to Olde Davenport Rd	1.4	DMATS	$500	2	$1,000		
COD-1009	Old Highway Rd	Signed On-Road Route	US 20 to Seippel Rd	1.8	DMATS	$500	10	$9,000		
COD-1010	Old Highway Rd	Signed On-Road Route	Seipple Rd to Sundown Rd	2.8	DMATS	$500	10	$14,000		
COD-1011	Olde Davenport Road	Signed On-Road Route	Laudeville to IA 32/Southwest Arterial	2.7	DMATS	$500	2	$3,000		
COD-1012	Schloth Lane	Signed On-Road Route	Kane to Schueller Heights	1	DMATS	$500	2	$1,000		
COD-1013	Schueller Heights Rd	Signed On-Road Route	Olde Davenport Rd to Schloth Rd	1.5	DMATS	$500	2	$2,000		
COD-1015	Skyline Rd	Signed On-Road Route	Airview DR to US 151	4.5	DMATS	$500	2	$4,000		
COD-1016	Swiss Valley Rd	Signed On-Road Route	Military Rd to North Cascade Rd	4.1	DMATS	$500	2	$4,000		
COD-1017	Mud Lake Rd	Paved Shoulder	Sherrill Rd to Mud Lake Park	3.3	DMATS	$175,000	2	$1,164,000		
COD-1018	Upper Fork of the Catfish Creek Trail	Multi-Use Trail	North Cascade Rd to Dubuque city Limits	9.6	DMATS	$400,000	1.2	$4,627,000		
COD-1019	North Cascade Road	Signed On-Road Route	New Melleray Road to Swiss Valley Rd	1.7	DMATS	$500	2	$2,000		
COD-1020	North Cascade Road Route	Paved Shoulder	Swiss Valley Rd to Tyra Ln	4.8	DMATS	$175,000	1.2	$1,001,000		
COD-1021	New Melleray Road	Signed On-Road Route	North Cascade Rd to Monastery Rd	2.2	DMATS	$500	2	$2,000		
COD-1022	Monastery/Skyline Rd Route	Bike Lane	US 151 to Sundown Rd	4.2	DMATS	$63,000	1	$262,000		
COD-1023	Sundown Road	Paved Shoulder	Asbury Rd to Peosta via Sundown Rd and Old Hwy Rd	4.2	DMATS	$175,000	1.2	$878,000		
COD-1024	Asbury Road	Paved Shoulder	Clover Ln to Twin Springs	3.2	DMATS	$175,000	1.2	$674,000		
COD-1025	Northern Dubuque County Route	Paved Shoulder	Ridge Rd from Tollgate Rd to N Buena Vista Rd	4.7	RPA8	$175,000	1.2	$994,000		

Project #	Project Name	Project Type	Project Description	Length in Miles	Area	Typical Cost/ Mile	Mod Factor	Cost Estimates		
								Planning Level	Sponsor	Right-of-Way
COD-1026	Curoe Road Trail	Bike Lane	US 151 to Whitewater Canyon	1.1	RPA8	$63,000	1	$67,000		
COD-1027	Farley/Cascade Route	Paved Shoulder	Y13 from Farley to Cascade	10.5	RPA8	$175,000	1.2	$2,203,000		
COD-1028	Fishpond Road Trail	Multi-Use Trail	Heritage Trail to Old Highway Rd to Epworth	1.3	RPA8	$400,000	1	$540,000		
COD-1029	300th Street Trail	Bike Lane	Higginsport Rd to County line via 300th St Washington Mills Rd Molony Rd	7.3	RPA8	$63,000	1	$459,000		
COD-1030	US 61 Route	Bike Lane	US 61 Route	3	RPA8	$63,000	1	$189,000		
COD-1031	Dubuque County N/S Route	Bike Lane	Sundown Rd from US 151 to Monastery Rd	5.1	RPA8	$63,000	1	$323,000		
COD-1032	Dubuque County N/S Route #2	Paved Shoulder	Y13 from Heritage Trail to Clayton County Line	14.1	RPA8	$175,000	1.2	$2,962,000		
COD-1033	Cascade to Bankston Park Route	Paved Shoulder	From Farley Rd to Bankston Park via Kearney Rd and Y17	19.3	RPA8	$175,000	1.2	$4,061,000		
COD-1034	Central Dubuque County Route	Paved Shoulder	D17 from Twin Springs to New Vienna	16.6	RPA8	$175,000	1.2	$3,486,000		
COD-1035	Old Hwy 20 Route	Paved Shoulder	Peosta to Farley	9.1	RPA8	$175,000	1.2	$1,903,000		
COD-1036	Higginsport Rd	Paved Shoulder	Curoe Rd to Olde Davenport Rd	12.1	RPA8	$175,000	1.2	$2,550,000		
COD-1037	Bernard Road	Paved Shoulder	Higginsport Rd to Twelve Mile Rd to US 151 across from Callahan Rd	4.2	RPA8	$175,000	1.2	$873,000		
COD-1038	Bernard Road South	Bike Lane	McDevitt Lane to Higginsport Rd	1.1	RPA8	$63,000	1	$69,000		
COD-1039	Cemetery Rd	Bike Lane	Heritage Trail to Farley city limits	0.4	RPA8	$63,000	1	$26,000		
COD-1042	W John Deere Rd	Multi-Use Trail	S John Deere Rd to Iowa Hwy 3	1.1	DMATS	$400,000	1	$451,000		
COD-1043	Driscoll Rd	Paved Shoulder	US 151 to Higginsport Rd	1.7	RPA 8	$175,000	1.2	$356,000		
Dubuque County and Delaware County										
COD-1040	Dyersville/Clayton Co Route	Bike Lane	Dyersville to Clayton Co via X49 to Iowa 3 to US 52	15.7	RPA8	$63,000	1	$988,000		
COD-1041	Delaware County Northern Route	Bike Lane	C64 from New Vienna to X49	2	RPA8	$63,000	1	$126,000		
Iowa DOT and Illinois DOT										
IAD-1001	US Highway 20 Bridge	Signed On-Road Route	Iowa DOT & Illinois DOT cost share	1	DMATS					
ILD-1001	US Highway 20	Paved Shoulder	Illinois DOT	0.9	DMATS	$175,000	1	$162,000		

Project #	Project Name	Project Type	Project Description	Length in Miles	Area	Typical Cost/ Mile	Mod Factor	Cost Estimates		
								Planning Level	Sponsor	Right-of-Way
City of Dubuque										
DBQ-1001	11th Street	Signed On-Road Route	Main Street to Kerper Blvd	0.9	DMATS	$500	10	$4,000		
DBQ-1002	14th Street	Signed On-Road Route	Iowa Street to Washington St	0.2	DMATS	$500	10	$1,000		
DBQ-1003	14th Street	Signed On-Road Route	From 14th St overpass to 16th St via Sycamore St	0.2	DMATS					
DBQ-1004	14th St Overpass	Bike/Pedestrian Overpass	Vehicular and pedestrian RR overpass east of Elm St	0.2	DMATS					
DBQ-1005	16th Street Corridor	Complete Streets	Elm St to Admiral Sheehy Dr/Greyhound Park Rd	0.8	DMATS				$4,300,000	
DBQ-1006	16th St Bike/Pedestrian Bridge	Bike/Pedestrian Bridge	New bike/pedestrian bridge adjacent to vehicular bridge	0.1	DMATS					
DBQ-1007	Elm Street Corridor	Complete Streets	11th St to 20th St	0.6	DMATS					
DBQ-1008	Kerper Blvd Trail	Multi-Use Trail	16th St to Hawthorne St	1.4	DMATS					
DBQ-1009	32nd St/Peru Road	Paved Shoulder	Northwest Arterial to Four Mounds	4.6	DMATS	$175,000	2	$1,595,000		
DBQ-1010	7th Street	Signed On-Road Route	Central Ave to Star Brewery Dr	0.7	DMATS	$120,000	1	$84,000		
DBQ-1011	9th St	Signed On-Road Route	Hill St to Kerper Blvd.	1	DMATS	$500	10	$5,000		
DBQ-1012	Asbury Road	Bike Lane	University Ave to John F Kennedy Rd	1.6	DMATS				$4,896,000	$1,262,178
DBQ-1013	Asbury Road West	Bike Lane	John F Kennedy Rd to Asbury city limits	1.3	DMATS				$115,020	$123,472
DBQ-1014	Bee Branch Creek Trail Phase 1	Multi-Use Trail	From Sycamore St to 12th St along detention basin	0.2	DMATS				$525,000	
DBQ-1015	Bee Branch Creek Trail Phase 2	Multi-Use Trail	From 12th St to 16th St along detention basin	0.4	DMATS				$825,254	
DBQ-1016	Bellevue Heights Road	Signed On-Road Route	Loop off U.S. 52	1.1	DMATS	$500	10	$5,000		
DBQ-1019	Carter Road	Signed On-Road Route	Asbury Road to 32nd St	1.3	DMATS	$500	10	$7,000		$400,000
DBQ-1020	Central Ave	Signed On-Road Route	4th St to 21st St	1	DMATS				$106,000	
DBQ-1021	White Street	Signed On-Road Route	4th St to 21st St	1.1	DMATS	$500	10	$5,000		
DBQ-1022	Chaney Road	Bike Lane	Asbury Road to St. Anne Drive	0.3	DMATS	$63,000	1	$19,000		
DBQ-1023	Chaplain Schmitt Island Trail Extension	Multi-Use Trail	From Waikiki Dr to east entrance of MacAleece Complex	0.4	DMATS				$443,516	
DBQ-1024	Clarke Dr	Signed On-Road Route	Asbury Rd to West Locust St/Grandview Ave	0.3	DMATS	$500	10	$2,000		

Project #	Project Name	Project Type	Project Description	Length in Miles	Area	Typical Cost/ Mile	Mod Factor	Cost Estimates		
								Planning Level	Sponsor	Right-of-Way
DBQ-1025	Devon Dr	Signed On-Road Route	Devon Dr to Mineral St to Gilliam St to University Ave	0.5	DMATS	$500	10	$3,000		
DBQ-1026	Eagle Mounds Trail	Multi-Use Trail	Eagle Point Park to Four Mounds	1	DMATS	$400,000	1.2	$465,000		
DBQ-1027	Foye Street	Signed On-Road Route	Foye to Almond to Ellis to Dorgan from W Locust to W 17th Street	0.5	DMATS	$500	10	$2,000		
DBQ-1028	Freemont Avenue	Signed On-Road Route	Cedar Cross Rd to U.S. 20	1.5	DMATS	$500	10	$8,000		
DBQ-1030	Hill St – Bryant St	Signed On-Road Route	University Ave to Grandview Ave	1.2	DMATS	$500	10	$6,000		
DBQ-1031	Hillcrest Rd	Signed On-Road Route	Admiral St to Asbury Rd	2	DMATS	$500	10	$10,000		
DBQ-1032	Iowa Street	Signed On-Road Route	5th Street to 15th Street	0.6	DMATS	$500	10	$3,000		
DBQ-1033	John F. Kennedy Rd	Signed On-Road Route	Northwest Arterial to Derby Grange Road	0.7	DMATS	$500	10	$4,000		
DBQ-1034	John F. Kennedy Rd	Signed On-Road Route	US 20 to NW Arterial	2.5	DMATS				$77,760	
DBQ-1035	John F. Kennedy Rd	Safe Routes to School	Asbury Rd to NW Arterial	1	DMATS				$416,257	
DBQ-1036	John F. Kennedy Rd	Complete Streets	US 20 to Asbury Rd	1.5	DMATS					
DBQ-1039	Julien Dubuque Drive	Multi-Use Trail	Alliant Powerline Trail to Southern Levee Trail	0.7	DMATS	$400,000	1.2	$353,000		
DBQ-1040	Kane Street	Signed On-Road Route	Carter Road to Kaufmann Avenue	1.7	DMATS	$500	10	$8,000		
DBQ-1041	Kaufmann Avenue/22nd St	Signed On-Road Route	Asbury Rd via Bonson Rd to North End Neighborhood Trail	3.3	DMATS	$500	10	$16,000		
DBQ-1042	Kelly Lane	Signed On-Road Route	Old Mill Rd to Fremont Ave	1	DMATS	$500	10	$5,000		
DBQ-1043	Kerper Blvd	Signed On-Road Route	16th Street to 11th Street	0.2	DMATS	$500	10	$1,000		
DBQ-1044	Loras Boulevard	Signed On-Road Route	University Ave to Iowa St	1.3	DMATS	$500	10	$7,000		
DBQ-1045	Main St	Signed On-Road Route	15th St to 17th St	0.1	DMATS	$500	10	$600		
DBQ-1046	Mar Jo Hills Rd	Bike Lane	Rockdale Road to Mines of Spain State Park	0.6	DMATS	$63,000	1	$39,000		
DBQ-1047	Middle Road	Multi-Use Trail	Seippel Rd to Radford Rd	1.5	DMATS				$1,000,000	$1,000,000
DBQ-1048	Mill Working Trail	Multi-Use Trail	9th St to 7th St	0.1	DMATS	$400,000	0.6	$36,000		
DBQ-1049	Mt Carmel Road	Signed On-Road Route	South Grandview to Harrison St	0.5	DMATS	$500	10	$2,000		
DBQ-1050	North Cascade Road	Paved Shoulder	Tyra Lane to Cedar Cross Rd	0.3	DMATS	$175,000	1	$45,000		
DBQ-1051	North Grandview Ave	Signed On-Road Route	32nd St to University Ave	2.1	DMATS	$500	10	$10,000		
DBQ-1053	NW Arterial Overpass	Bike/Pedestrian Overpass	Overpass at Pennsylvania Ave intersection	0.1	DMATS				$2,400,000	
DBQ-1054	NW Arterial	Multi-Use Trail	Chavenelle Rd to US 20	0.6	DMATS	$400,000	1.2	$307,000		

Project #	Project Name	Project Type	Project Description	Length in Miles	Area	Typical Cost/ Mile	Mod Factor	Cost Estimates		
								Planning Level	Sponsor	Right-of-Way
DBQ-1055	Old Mill Rd	Signed On-Road Route	Rockdale Road to Kelly Ln	0.4	DMATS	$500	10	$2,000		
DBQ-1056	Pennsylvania Ave	Bike Lane	University Ave to Hempstead High School entrance	2.7	DMATS				$45,876,000	$725,692
DBQ-1059	Pennsylvania Ave and Radford Rd	Crossing Improvement	Intersection Crossing Improvements	0.2	DMATS					
DBQ-1060	Radford Road	Bike Lane	Pennsylvania to City of Asbury limits	0.5	DMATS	$63,000	1	$32,000		
DBQ-1061	Radford Road	Bike Lane	Chavenelle Rd to Pennsylvania Ave	0.7	DMATS	$63,000	1	$42,000		
DBQ-1062	Rockdale Road	Signed On-Road Route	Old Mill Rd to Mar Jo Hills Rd	0.2	DMATS	$500	10	$900	$469,000	
DBQ-1063	Rockdale Road	Signed On-Road Route	Key West Drive to Old Mill Rd	0.8	DMATS				$468,000	$2,516,090
DBQ-1066	Seippel Road	Bike Lane	Old Highway Rd to SW Arterial	1.1	DMATS	$175,000	2	$391,000		
DBQ-1067	Seippel Road	Bike Lane	Middle Road to Bergfeld Park Trail	1.3	DMATS	$175,000	2	$457,000		
DBQ-1068	South Grandview Ave	Bike Lane	University Ave to Southern Ave	2.2	DMATS	$63,000	1	$139,000		
DBQ-1069	South Grandview Ave	Bike Lane	Mt. Carmel Rd to Alliant Powerline Trail	0.2	DMATS	$63,000	1	$11,000		
DBQ-1070	Southern Levee Trail	Multi-Use Trail	Mississippi River Recreational Trail to Mines of Spain State Recreation Area	1.9	DMATS	$400,000	1.2	$908,000		
DBQ-1071	SW Arterial Trail	Multi-Use Trail	Trail along the SW Arterial Corridor. Bridge sections already built.	6.4	DMATS				$2,600,000	
DBQ-1073	St. Anne Drive-Flora Park	Signed On-Road Route	From Channey Rd through Flora Park to Pennsylvania Ave	0.6	DMATS	$500	10	$3,000		
DBQ-1074	Tanzanite Drive	Signed On-Road Route	Peru Road to S John Deere Rd	0.7	DMATS	$500	10	$4,000		
DBQ-1075	Technology Park 2	Multi-Use Trail	Technology Park	0.6	DMATS	$4,000,000	0.6	$1,418,000		
DBQ-1076	Technology Park 3	Multi-Use Trail	Technology Park	0.3	DMATS	$400,000	0.6	$61,000		
DBQ-1077	Twin Valley Dr	Bike Lane	Rockdale Rd to U.S. 61/151	0.3	DMATS	$63,000	1	$17,000		
DBQ-1078	University Ave 1	Signed On-Road Route	Loras Blvd to 9th St	1.1	DMATS	$500	10	$6,000		
DBQ-1079	University Ave 2	Bike Lane	Pennsylvania Ave to Loras Blvd	0.3	DMATS	$63,000	1	$19,000		$3,227,194
DBQ-1081	U.S. Highway 20 Trail	Multi-Use Trail	Bluff Street to Devon Drive	1.8	DMATS	$400,000	1.2	$886,000		
DBQ-1082	Washington St	Signed On-Road Route	10th St to 7th St	0.2	DMATS	$500	10	$900		
DBQ-1083	West Locust St	Signed On-Road Route	North Grandview to 17th Street, 17th St to Washington St	1.6	DMATS	$500	10	$8,000		
DBQ-1084	Wilbricht Ln	Signed On-Road Route	Asbury Rd to Flora Park	0.1	DMATS	$500	10	$700		
DBQ-1085	NW Arterial Overpass	Bike/Pedestrian Overpass	Overpass at Asbury Rd intersection	0.1	DMATS				$2,400,000	

Project #	Project Name	Project Type	Project Description	Length in Miles	Area	Typical Cost/ Mile	Mod Factor	Cost Estimates		
								Planning Level	Sponsor	Right-of-Way
DBQ-1086	Heritage Trail Crossing	Crossing Improvement	Realign Heritage Trail Crossing at Peru Rd	0.2	DMATS					
DBQ-1087	Penn Ave and University Ave Intersection	Crossing Improvement	Roundabout at Pennsylvania Ave and University Ave	0.2	DMATS				$4,677,331	$107,573
DBQ-1088	Asbury Rd and University Ave Intersection	Crossing Improvement	Roundabout at Asbury Rd and University Ave	0.2	DMATS				$4,677,331	$107,573
DBQ-1089	University Ave and Loras Blvd Intersection	Crossing Improvement	Roundabout at University Ave and Loras Blvd	0.2	DMATS				$4,677,331	$107,573
DBQ-1090	Five Points	Crossing Improvement	Roundabout at the Five Points Intersection	0.2	DMATS					
DBQ-1091	Elm St and 16th St	Crossing Improvement	Roundabout at Elm St and 16th St Intersection	0.2	DMATS					
DBQ-1092	16th St and Sycamore St	Crossing Improvement	Roundabout at 16th St and Sycamore St Intersection	0.2	DMATS					
DBQ-1093	Kerper Blvd and 16th St	Crossing Improvement	Roundabout at Kerper Blvd and 16th St Intersection	0.2	DMATS					
DBQ-1094	16th St and Admiral Sheehy Dr	Crossing Improvement	Roundabout at 16th St and Admiral Sheehy DR Intersection	0.2	DMATS					

Project Contacts

Below is a table listing the primary points of contact for state, regional, and local agencies as well as local communities.

Agency/Community	Name	Title	Phone	Email
Iowa Department of Transportation	Sam Shea	District Transportation Planner	319-364-0235	sam.shea@iowadot.us
	Milly Ortiz	Bicycle and Pedestrian Coordinator	515-233-7733	milly.ortiz@iowadot.us
Illinois Department of Transportation	Doug DeLille	Metropolitan Planning Manager	815-284-5445	douglas.delille@illinois.gov
Wisconsin Department of Transportation	Francis Schelfhout	Urban/Regional Planner - Bicycle/ Pedestrian Coordinator	608.785.9947	Francis.Schelfhout@dot.wi.gov
East Central Intergovernmental Association (ECIA)	Daniel Fox	Senior Planner	563-556-4166	dfox@ecia.org
Blackhawk Hills Regional Council (BHRC)	Daniel Payette	Executive Director	815-625-3854	daniel.payette@blackhawkhills.com
Southwestern Wisconsin Regional Planning Commission (SWWRPC)	Troy Maggied	Executive Director	608-342-1636	t.maggied@swwrpc.org
Dubuque County, IA	Russell Weber	County Engineer	563-557-7283 ·	engineer@dubuquecountyiowa.gov
Jo Daviess County, IL	Steve Keeffer	County Engineer	815.591.2337	skeeffer@jodaviesscountyil.gov
Grant County, WI	Travis Kramer	County Engineer	608-723-2595	tkramer@co.grant.wi.gov
City of Asbury, IA	Elizabeth Bonz	City Administrator	563.556.7106	ebonz@cityofasbury.com
City of Cascade, IA	Lisa Kotter	City Administrator	563-852-3114	admin@citycascade.com
City of Dubuque, IA	Gus Psihoyos	City Engineer	563-589-4270	engineer@cityofdubuque.org
City of Dyersville, IA	Mick Michel	City Administrator	563-875-7724	mmichel@cityofdyersville.com
City of Epworth, IA	Janet Berger	City Clerk	563-876-3320	epworth@yousq.net
City of Farley, IA	Lory Young	City Administrator	563-744-3475	cityadministrator@farleyiowa.com
City of Peosta, IA	Annette Ernst	City Administrator	563-556-8755	aernst@cityofpeosta.org
City of East Dubuque, IL	Loras Herrig	City Manager	815-747-3416	lherrig@cityofeastdubuque.com
Jamestown Township, WI	Michael Boge	Township Clerk	563-599-3494	jamestownclerk@gmail.com

7. FACILITY SELECTION

Designing a bike and pedestrian network that is well-used by the community is often a matter of choosing the correct facility for a given location. The facility selection process often needs to strike a balance between factors that attract users, like safety and comfort with other factors, like cost and right of way availability. Recommended facility selection guides include:

- FHWA *Small Town and Rural Multimodal Network Guide* (FHWA Small Town Guide),
- Iowa DOT *Bike and Pedestrian Facility Selection Guide* (Iowa Facility Selection Guide), and
- FHWA *Bikeway Selection Guide*.

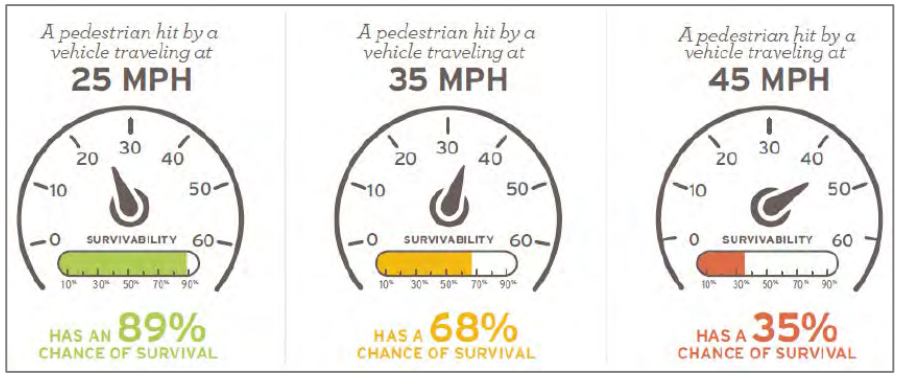
The following section describes facility selection and what factors should be considered. Designers should consult the latest version of their appropriate state DOT Design Manuals and related standards and specifications as well.

FHWA Small Town Guide

"The FHWA *Small Town and Rural Multimodal Network Guide* is a design resource and idea book to help small towns and rural areas support safe, accessible, comfortable, and active travel for people of all ages and abilities. The guide is intended to: Provide a bridge between existing guidance on bicycle and pedestrian design and rural practice; Encourage innovation in the development of safe and appealing networks for bicycling and walking in small towns and rural areas; and Provide examples of peer communities and project implementation that is appropriate for rural communities."[32]

Benefits of Reducing Speed

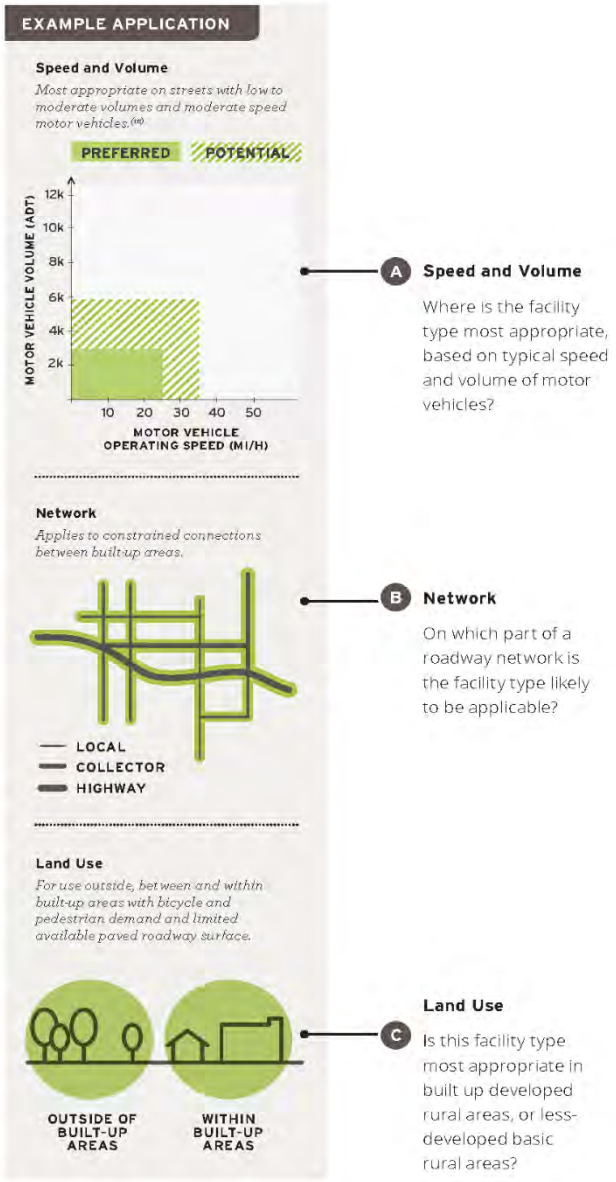
Speeding is a major contributing factor in crashes of all types, and increases severity in the event of a crash as shown here. Traffic-calming measures can reduce speed in urban and rural settings trough physical changes in the roadway, signs and marking, and operation changes. Due to small community populations and limited roadway connectivity, traffic-calming efforts in small town and rural areas tend to emphasize speed reduction measures rather than volume reduction.[33]



Vehicle Speed and a Pedestrian's Risk of Death (FHWA Small Town Guide, p. 5-3)

Facilities and Context

This guide provides design information for a variety of facility types applicable to small town and rural settings. Within the design chapters, the application context of each facility is identified within the sidebar graphics shown on the next page.[34]



Example Application (FHWA Small Town Guide, p. 1-9)

Speed and Volume

Vehicle speeds and volumes are important considerations in selecting the most appropriate bicycle and pedestrian facilities along a particular roadway. The greater the speed and volume of vehicle traffic, the greater the amount of separation is desired for comfortable biking and walking facilities. Where streets have low volumes and low speeds, the need for separation is less critical, and mixing modes may be appropriate.[35]

Network

The collection of roadways and multimodal facilities in a community creates a network. Networks are interconnected pedestrian and/or bicycle transportation facilities that allow people of all ages and abilities to get to where they want to go safely and conveniently. The network not only connects to destinations within a community, but also creates connections between communities and to external destinations. There are varying levels of comfort associated with roadways within the network, ranging from low-volume, low-speed local streets to high-speed, high-volume arterial roadways. Successful networks also provide equitable access regardless of income level.[36]

Land Use

Built-up areas, such as commercial districts in a small town, contain a higher density of attractions, destinations, and people, and may support a greater diversity of bicycle and pedestrian amenities. Outside of built-up areas, the land use patterns are much less dense, with more space between destinations.[37]

Iowa Facility Selection Guide

To help communities with the facility selection process, the 2018 *Iowa Bicycle and Pedestrian Long-Range Plan* established a Bike and Pedestrian Facility Selection Guide. The guide provides tools that communities can use to help determine the appropriate types of bike and pedestrian accommodations based on the context of a location.

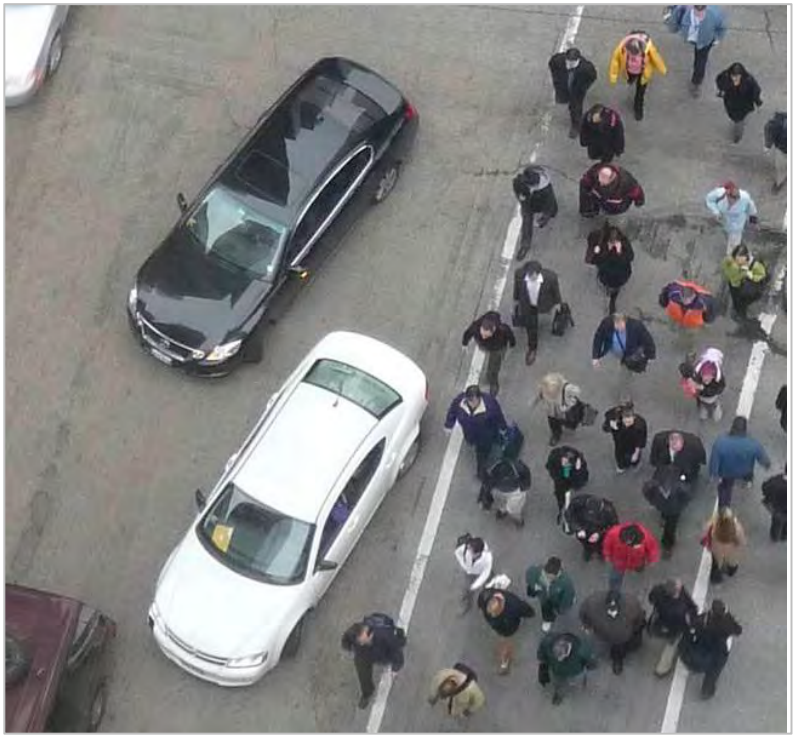
The Facility Selection Guide bases its recommendations on two primary contextual factors for bicycle and pedestrian safety and comfort: motor vehicle traffic volume and motor vehicle speed. Proximity to motor vehicle traffic is a significant source of stress, discomfort, and safety risks for bicyclists and pedestrians.[38]

The risk for bicyclist and pedestrian injuries and fatalities increases as traffic speed and volume increases. Streets with more vehicle traffic and higher vehicle speed will require more protection for bicyclists and pedestrians, while low speed, low volume streets may require little or no additional intervention.

Bicycle Facility Selection Matrices

The Bicycle Facility Selection Matrices are the primary tools provided by the Facility Selection Guide. There are two matrices, one for rural areas and one for urban and suburban areas. Both matrices provide guidance on selecting an appropriate facility type based on posted speed limit, traffic volume, and context.

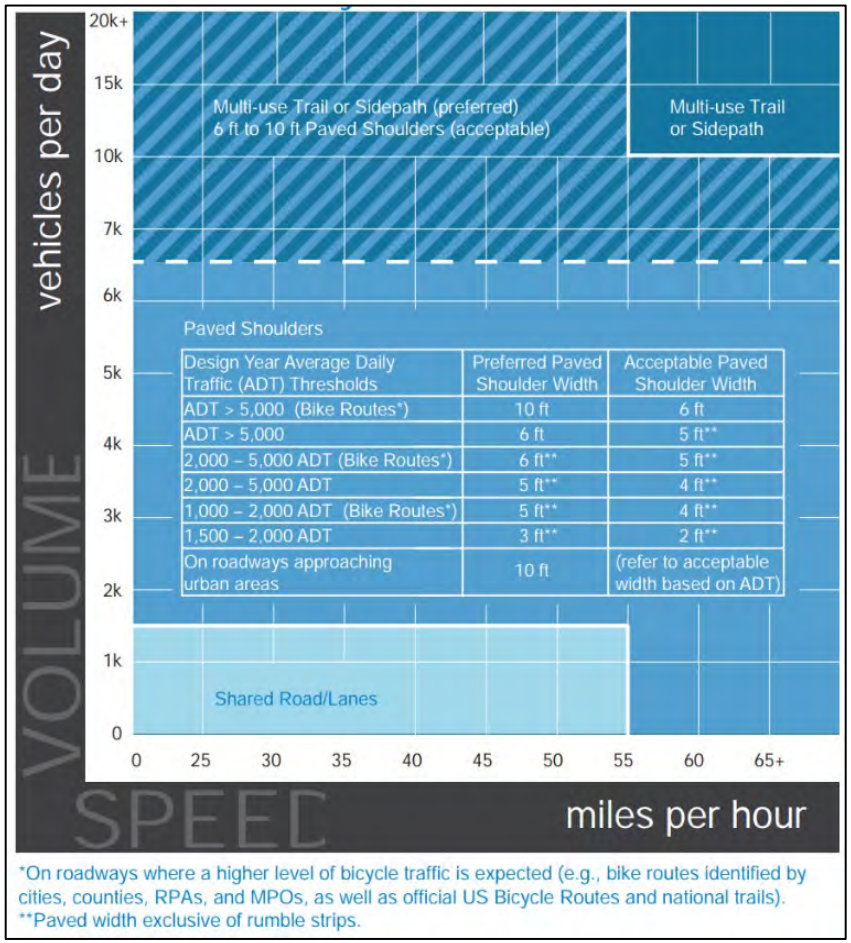
Both the Rural Facility Selection Matrix and the Urban and Suburban Facility Selection Matrix include preferred and acceptable values for each facility type. “Designers should utilize forecast traffic volumes if available. Additionally, designers should default to selecting the preferred facility over the



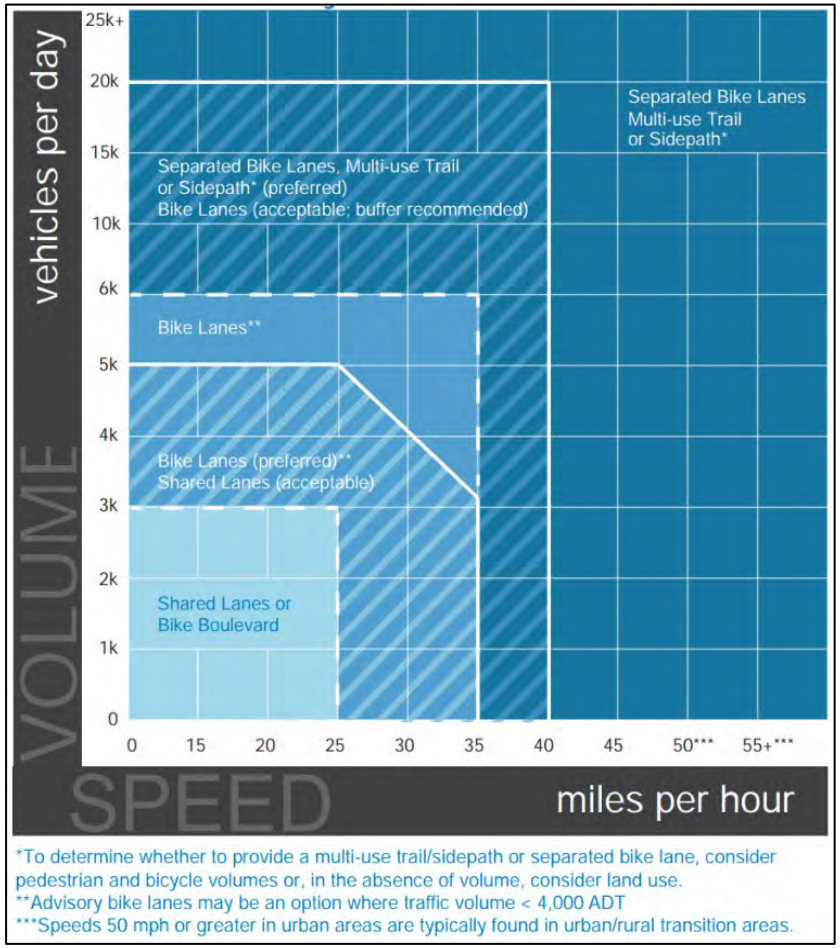
“As vulnerable users, pedestrians must be afforded certain protections, rights, and considerations. This is an example of a ‘standard’ style crosswalk. Other, more visible crosswalk styles put pedestrians in the spotlight.” (2014 Illinois DOT Plan, p. 27)

acceptable facility when possible."[39] The matrices were designed based on the concept that "speed and traffic volume are interrelated and must be considered together when selecting an appropriate facility for bicyclists. Typically, as speeds increase, the traffic volume threshold for providing separation decreases."[40] "Numerous types and widths of bicycle facilities are available and some are more appropriate than others for any given context. To select an appropriate facility based on traffic volume and speed, these matrices should be consulted.[41]

Rural Facility Selection Matrix



Urban and Suburban Facility Selection Matrix



Source: 2018 Iowa DOT Plan, p. 95

Context Characteristics for Common Facility Types

The Facility Selection Guide provides a more detailed table of context characteristics for common facility types as shown here. This table provides several pieces of critical information to guide the selection of appropriate types of facilities. Terms are explained on the next page.

Description – What facility type is and how it should be applied.

Intended Users – Accommodates bicyclists, pedestrians, or both.

	Multi-Use Trails and Sidepaths	Paved Shoulders	Shared Roads/Lanes
Description	Multi-use trails and sidepaths are typically designed as two-way facilities physically separated from motor vehicle traffic and used by bicyclists, pedestrians, and other non-motorized users. The term "sidepath" refers to a multi-use trail along a roadway.	Additional pavement width outside of the travel lanes that reduce crashes, aid maintenance, and provide space for bicyclists and pedestrians (although paved shoulders typically do not meet accessibility requirements for pedestrians).	Shared roads or shared lanes are standard travel lanes shared by bicyclists and motor vehicles. Signage and shared lane markings (also known as "sharrows") should be used on higher-traffic shared roads.
Intended Users	Bicyclists and Pedestrians	Bicyclists	Bicyclists
Context	Urban and Rural	Rural and Urban Periphery	Urban and Rural
Posted Speed Limit*	Urban: Any speed (typically 30 mph or higher) Rural: Any speed (typically 55 mph or higher)	Any speed (typically 45 mph or higher)	Urban: 25 mph or lower (preferred); 35 mph or lower (acceptable) Rural: 55 mph or lower
Motor Vehicle Traffic Volume*	Urban: Any volume (typically 15,000 ADT or greater) Rural: Any volume (typically 6,500 ADT or greater).	6,500 ADT or lower (preferred) Any volume (acceptable) Shoulder width to accommodate bicyclists depends on traffic volume. See Figures 4.14 and 4.15 for guidance on selecting appropriate width.	Urban: 3,000 ADT or lower (preferred) 5,000 ADT or lower (acceptable) Rural: 1,500 ADT or lower
Other Considerations	Sidepaths should be at least 10 feet wide (wider where higher bicycle and pedestrian traffic is expected, e.g., urban areas). Special consideration must be given to the design of roadway crossings to increase visibility, clearly indicate right-of-way, and reduce crashes. Alternative accommodations should be sought when there are many intersections and commercial driveway crossings per mile.	Provides more shoulder width for roadway stability. Shoulder width should be dependent on characteristics of the adjacent motor vehicle traffic. Placement of the rumble strip is critical to providing usable space for bicyclists and pedestrians.	May be used in conjunction with wide outside lanes. Explore opportunities to provide parallel facilities for less confident bicyclists. Where motor vehicles are allowed to park along shared lanes, place markings to reduce potential conflicts with opening car doors. On low speed (<25 mph) low traffic (<3,000 ADT) streets, traffic calming and diversion can be used to slow traffic or create a "bicycle boulevard.

* Speed and traffic Volume are interrelated and must be considered together when selecting inappropriate facility for bicyclists. Typically, as speeds increase, the traffic volume threshold for providing separation (e.g., via a multi-use trail or separated bike lanes) decreases. Refer to the matrices for guidance for both variables.

Source: 2018 Iowa DOT Plan, p.96

Context – Whether the facility type is appropriate in urban settings, rural areas, or both. Specific mention is made if the facility is appropriate in the urban periphery but not in true urban areas.

Posted Speed Limit – The maximum speed limit with which the facility type is compatible.

Motor Vehicle Traffic Volume – The maximum traffic volume (in average Annual Daily Traffic or ADT) with which the facility type is compatible. These thresholds are generalized.

	Separated Bike Lanes	Bike Lanes & Buffered Bike Lanes	Sidewalks
Description	Separated bike lanes, also known as cycle tracks, are physically separated by a vertical element from the adjacent motor vehicle lanes. Buffered bike lanes that do not include a vertical element are not considered separated bike lanes.	4- to 6-foot wide lanes designated for exclusive use by bicyclists. Typically applied to arterial and collector streets where volumes and/or speeds would otherwise discourage bicycling. May include striped buffers (typically 18 inches to 3 feet in width) for further separation.	A pedestrian walkway located within public right-of-way, typically adjacent to property lines. Sidewalks provide vertical and/or horizontal separation between vehicles and pedestrians and are the most common pedestrian facility type.
Intended Users	Bicyclists	Bicyclists	Pedestrians
Context	Urban	Urban	Urban and Urban Periphery
Posted Speed Limit*	Any speed, typically 30 mph or higher	35 mph or lower (preferred) 40 mph or lower (acceptable; buffer preferred above 35 mph)	Any speed
Motor Vehicle Traffic Volume*	Any volume (typically 6,000 ADT or greater)	6,000 ADT or lower (preferred) 20,000 ADT or lower (acceptable; buffer preferred above 10,000 ADT)	Any volume
Other Considerations	Separation can be achieved through a vertical curb, a parking lane, flexposts, plantings, removable curbs, or other measures. Special attention should be paid to intersection treatments. "Protected intersection" design should be incorporated to the extent possible.	Painted buffers are encouraged when roadway width allows, regardless of traffic speeds and volumes. Where on-street parking is adjacent to a bike lane, provide a bike lane of sufficient width to reduce probability of conflicts due to opening vehicle doors and objects in the road. In locations with high on-street parking turnover, consider placing buffers between the parking lane and bike lane. Analyze intersections to reduce bicyclist/motor vehicle conflicts.	Sidewalks should be provided as the default pedestrian accommodation within communities. When retrofitting sidewalks in a community, it is best to first concentrate on busier streets and around places where walking is more common: schools, transit stops, commercial areas, etc. Sidewalks should be a minimum of 4 feet wide in residential areas and 5 feet wide along arterial and collector streets.

Source: 2018 Iowa DOT Plan, p. 97

On-Road Bicycle Compatibility Rating for Rural Areas

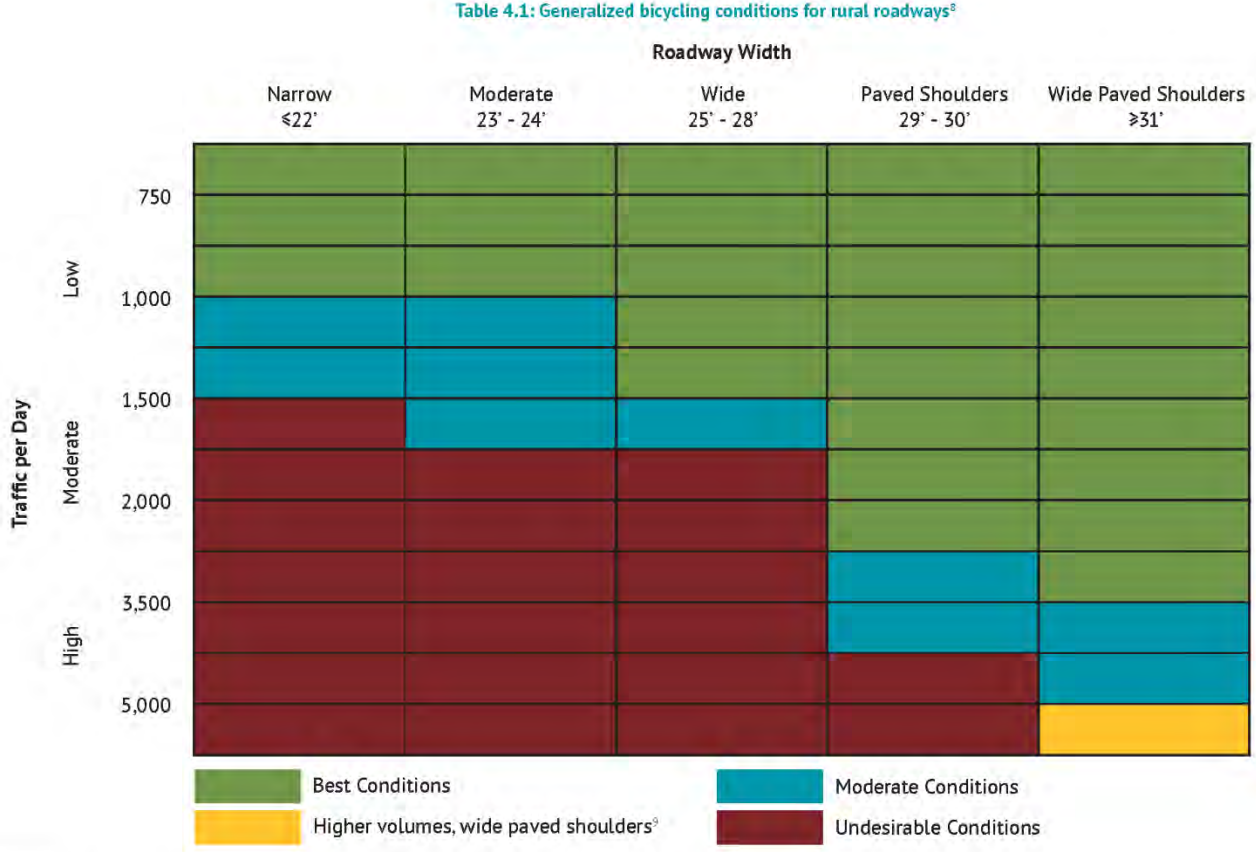
Bicycle Level of Service (BLOS) for bicyclists is dictated by variables affecting their safety (including speed, separation from motor vehicle traffic, and volume and size of passing vehicles). The Iowa DOT used a model developed by Wisconsin DOT designed to be sensitive to the conditions of low and moderate volume rural roadways.

"The model uses factors including average daily traffic volume, roadway width, percent yellow center line, and percent truck traffic. Based on a combination of these factors, roadway segments are rated 'good,' 'moderate,' or 'poor.' A generalized explanation of the methodology is displayed in Table 4.1"[42] of the 2018 Iowa DOT Plan, shown here.

Iowa DOT recommends that this Bicycle Compatibility Rating be used for paved rural Primary and Secondary roadways that are outside of cities and metro areas.

The Iowa DOT performed this assessment on all paved rural primary and secondary roadways (state and county highways, excluding Interstate highways). The majority receiving a "good" rating were part of the secondary road system due to very low traffic volumes. Primary roads without paved shoulders are generally not very compatible due to high traffic volumes.[43]

Table 4.1: Generalized bicycling conditions for rural roadways[8]



8 *Wisconsin Rural Bicycle Planning Guide*. Wisconsin Department of Transportation. April 2006. 15.

9 Not used for this analysis.

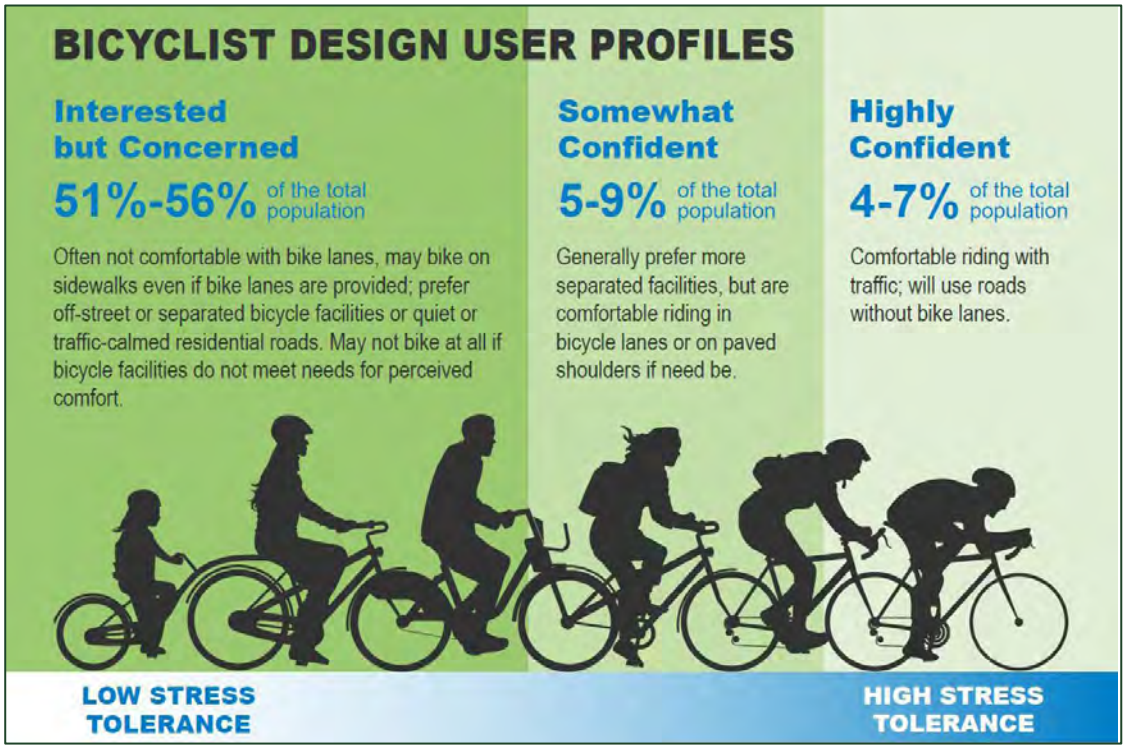
Source: 2018 Iowa DOT Plan, p. 65

FHWA Bikeway Selection Guide

The FHWA *Bikeway Selection Guide* notes: "The following are common questions to ask when selecting a bikeway that will be compatible with the bicycle network.

- **Where does this route fit within the bicycle network hierarchy?**
- **Does the route have a viable parallel alternative?** The land use context and transit access along the parallel route should appeal to and attract bicyclists from the primary route while offering a more comfortable bikeway type.
- **Does this route connect regional trails or other networks that are frequented by younger, older, or disabled cyclists?** The bikeway type should match the needs of users of all ages and abilities.
- **Is the route along a road that already supports low-stress bicycling and does not improve connectivity to the network?** The roadway may not need to be further improved for bicycling.
- **What are the safety implications and potential safety-related trade-offs for different bikeway types along this route?**

"Understanding the characteristics of different types of bicyclists helps to inform bikeway selection. Characteristics commonly used to classify user profiles are comfort level, bicycling skill and experience, age, and trip purpose. In addition to other factors, people who bicycle are influenced by their relative comfort operating near motor vehicle traffic. Of adults who have stated an interest in bicycling, research has identified three types of potential and existing bicyclists. Children were not included in the research and require special consideration in the design of bikeways. There is some overlap between these groups and the goal … is to better understand and account for the general needs of different types of bicyclists."[44] The 3 types are shown below.



Source: FHWA Bikeway Selection Guide, p. 13

Options for Reallocating Roadway Right-of-Way

When retrofitting existing roadways, it will often be necessary to evaluate options that reallocate space for motor vehicle lanes and bikeways. The FHWA selection guide lists some common strategies to reallocate roadway space for a preferred bikeway.

Narrowing Travel Lanes can create the width needed for bikeways. Lane widths as narrow as 10 feet do not result in an increase in crashes or reduce vehicle capacity on roads with speeds of 45 mph or less.

Removing Travel Lanes and reconfiguring the resulting roadway space (commonly known as a "road diet") can improve safety for all roadway users by reducing travel speeds, providing space for bikeways, shortening street crossings, adding turn lanes, or by providing wider sidewalks.

One-way streets: Many were originally two-way streets, and may offer opportunities to install bike lanes, separated bike lanes, or shared use paths through lane removal or narrowing.

Reorganizing Street Space: Without removing travel lanes, in some cases curbside on-street parking can be shifted away from the curb face to create parking-protected separated bike lanes.

Removing Parking on One Side: Adding bikeways may not require the removal of all on-street parking if the parking is not being used efficiently. Alternating parking from one side to the other can provide a traffic calming benefit.

Converting Diagonal Parking to Parallel Parking can generate road width for the creation of bikeways and improve bicyclist safety.[45]

A rendering of a potential transformation near the intersection of JFK Road and Wacker Drive in Dubuque depicts roadway reallocation within the existing 70-foot right-of-way. Improved pedestrian crossings at intersections and a complete sidewalk network on both sides would facilitate a more complete street with higher levels of mobility in the JFK corridor. (2017 Imagine Dubuque Plan, p. 8-15)

Bikeway Selection Analysis Tools

In addition to the factors for facility selection described in the FHWA Small Town and Rural Multimodal Network Guide, the Iowa DOT Bike and Pedestrian Facility Section Guide's Bicycle Facility Selection Matrices and Context Characteristics for Common Facility Types, and the Iowa Complete Streets Guide, the FHWA Bikeway Selection Guide uses the following analysis tools to help assess the comfort of the existing roadway conditions and analyze bikeway alternatives.

"FHWA's Shared Use Path Level of Service Calculator can help designers understand potential volume thresholds where passing movements between bicyclists and pedestrians will limit the effectiveness of a shared use path."[46]

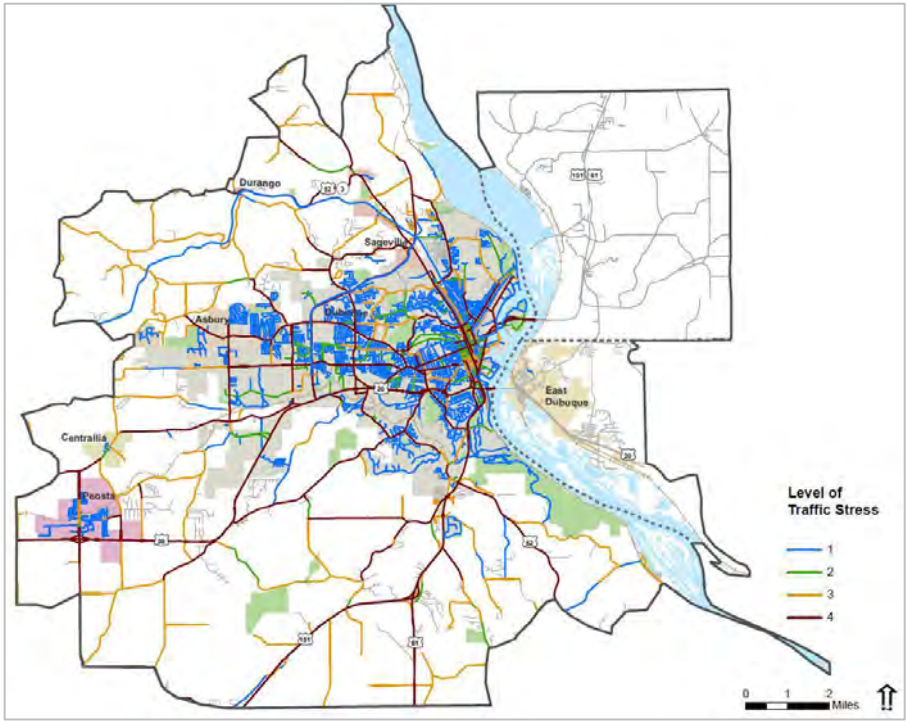
"Bicycle Level of Service (BLOS): BLOS can be used to evaluate the comfort of bike lanes and shared lanes, using an A through F rating with A being the best and F the worst. It is important to consider that this method of evaluation has significant limitations due to the fact that it was developed to analyze a limited set of bicycling conditions within shared lanes, paved shoulders, and bike lanes. It does not allow evaluation of shared use paths, separated bike lanes, or buffered bike lanes.

"Level of Traffic Stress (LTS): LTS was created to address deficiencies in the Bicycle LOS method. It is a method of classifying road segments and bikeway networks based on how comfortable bicyclists with different levels of confidence (using the user types discussed above) would feel using them.

"The LTS ratings are:

- LTS-1: Low Traffic Stress Bikeway comfortable for Interested but Concerned Bicyclists
- LTS-2: Moderate Traffic Stress Bikeway comfortable for Somewhat Confident Bicyclists
- LTS-3: High Traffic Stress Bikeway comfortable for Highly Confident Bicyclists
- LTS-4: Extreme Traffic Stress that is not comfortable for most bicyclists

"A bikeway that is LTS-1 is appropriate and comfortable for all user types and is known as an all ages and abilities bikeway."[47]



Level of Traffic Stress in DMATS Area, prepared by ECIA staff in 2018

8. FACILITY DESIGN

Communities have many design options at their disposal for improving pedestrian and bicycle facilities. Recommended design guidance documents that can help communities select the appropriate bicycle and pedestrian facilities include:

- American Association of State Highway and Transportation Officials *Guide to Bikeway Facilities* (AASHTO Bikeway Guide)
- AASHTO *Guide for the Planning, Design, and Operation of Pedestrian Facilities* (AASHTO Pedestrian Guide)
- FHWA *Manual on Uniform Traffic Devices* (MUTCD)
- FHWA *Small Town and Rural Multimodal Network Guide* (FHWA Small Town Guide)
- National Association of City Transportation Officials *Urban Bikeway Design Guide* (NACTO Guide).

The following section provides a brief description of some possible improvements and some guidance on how they should be designed. Designers should consult the latest version of their appropriate state DOT Design Manuals and related standards and specifications, as well as the national guidelines above.

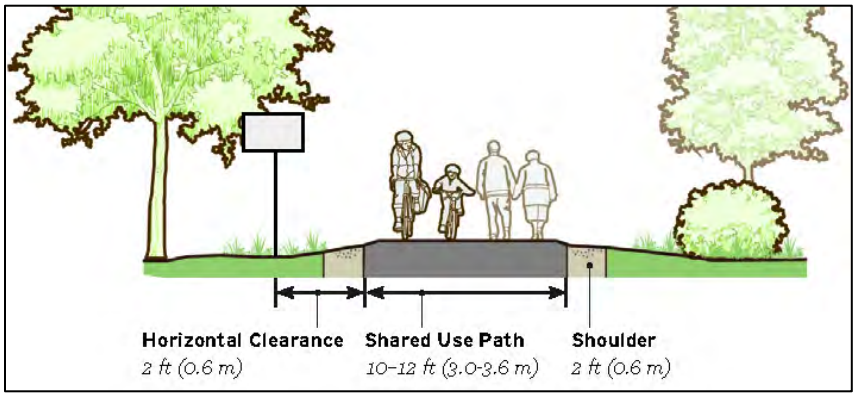
Also included in this section is information from the *Iowa Complete Streets Guide*. "This publication can be utilized by any community member, local business or Main Street volunteer that seeks to further understand how improvements can be made to become a more bicycle and pedestrian-friendly community."[48] A case study from Dubuque is highlighted.

Off-Road Facilities

Multi-Use Trails

A multi-use trail (or shared use path) is a two-way facility physically separated from motor vehicle traffic and used by pedestrians, bicyclists, and other non-motorized users. This type of facility provides transportation and recreation. The cost of multi-use trails typically greatly exceeds the cost of sidewalks and on-road bikeways since they often require right-of-way acquisition and drainage changes. Multi-use trails can be in an independent right-of-way or run parallel to a roadway.

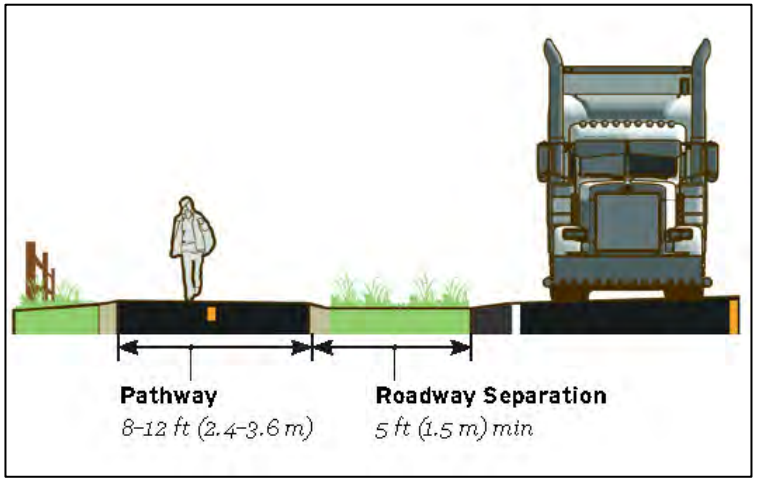
The minimum width is 10 feet; 12 feet is preferred. Additional width can be provided to accommodate high volumes and separated parallel paths can be provided to reduce conflicts between bicyclists and pedestrians. Multi-use trails must be designed with bicyclists in mind (e.g., designing curves based on an 18 mile per hour design speed).



Multi-Use Trail dimensions (FHWA Small Town Guide, p. 4-5)

Sidepaths

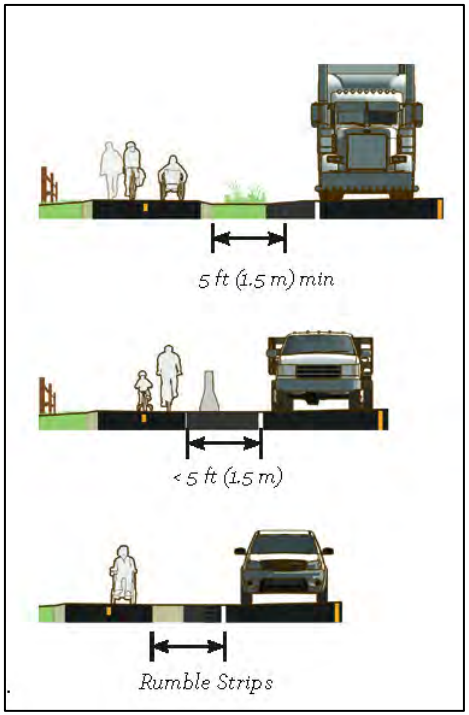
A sidepath is a multi-use trail located immediately adjacent and parallel to a street. Sidepaths can offer a low-stress experience "for users of all ages and abilities as compared to on-street facilities in heavy traffic environments, allow for reduced roadway crossing distances, and maintain rural and small-town community character."[49]



Sidepath dimensions (FHWA Small Town Guide, p. 4-13)

Sidepath width impacts user comfort and path capacity. As user volumes or the mix of modes increases, additional path width is necessary to maintain comfort and functionality. The minimum recommended pathway width is 10 feet. In low-volume situations and constrained conditions, the absolute minimum sidepath width is 8 feet. A minimum of 2 feet clearance to signposts or vertical elements is recommended.[50]

Sidepath separation from the street will vary based on the configuration and speed of the adjacent street and by available right-of-way as illustrated here. Where a minimum of 5 feet unpaved separation cannot be provided (top), then a physical barrier may be used between the sidepath and the street (center). In extremely constrained conditions for short distances, on-road rumble strips may be used for separation (bottom).[51] A regional example is the sidepath along Chavenelle Road in Dubuque.



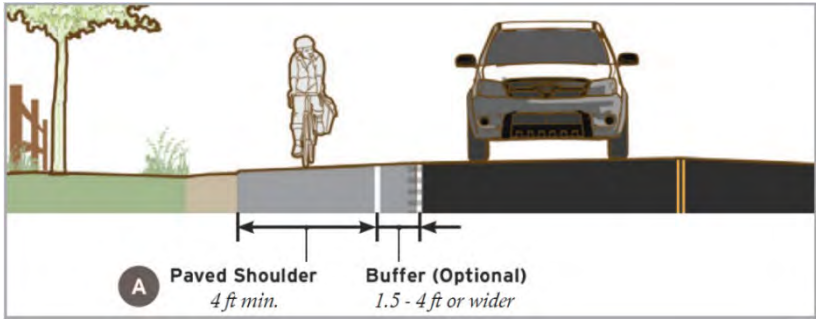
Sidepath separation (FHWA Small Town Guide, p. 4-13)

Sidepath along Chavenelle Road (City of Dubuque website)

On-Road Bicycle Facilities

Paved Shoulders

Roadway shoulders can be paved as space for bicyclists, and sometimes pedestrians when no sidewalk is provided. Paved shoulders are appropriate on roads with moderate to high traffic volumes and speeds. The minimum functional width for bicyclists is 4 feet (especially if placed between rumble strips and the edge of pavement). The width of a paved shoulder is dependent on traffic volumes and speeds.

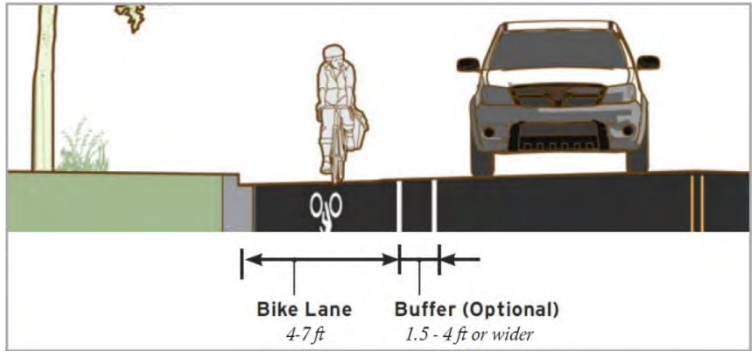


Paved Shoulder dimensions (FHWA Small Town Guide, p. 3-5)

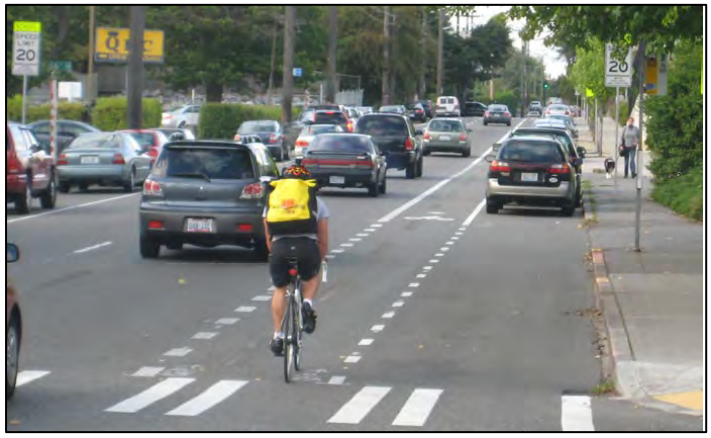
Pedestrians on paved shoulder in rural area (2018 Iowa DOT Plan, p. 77)

Bike Lanes

Bike lanes provide a dedicated space for bicyclists on the edge of a moderate to high speed and traffic volume roadway. Bike lanes are like paved shoulders. The difference is that bike lanes are intended for more urban applications and have additional pavement markings and signage. Bike lanes are typically 5 feet wide with a minimum width of 4 feet not including the gutter.



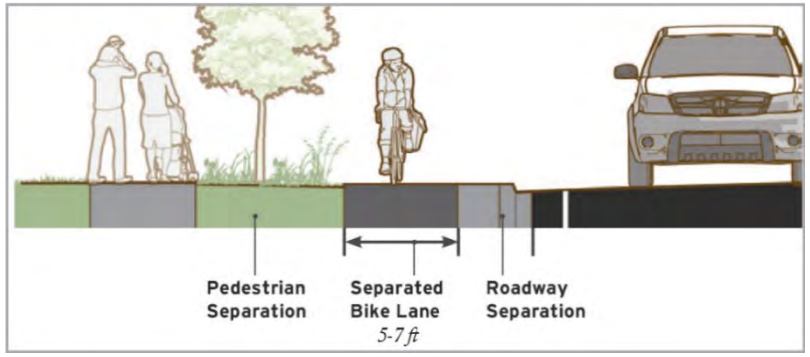
Bike Lane dimensions (FHWA Small Town Guide, p. 3-13)



Bike lane on street (2018 Iowa DOT Plan, p. 88)

Separated Bike Lanes

Sometimes called protected or buffered bike lane, or cycle tracks, separated bike lanes offer additional separation from vehicle traffic. "They are primarily applied to streets with high motor vehicle traffic volumes/speeds but may also be applied to streets with moderate motor vehicle traffic but high bicycle traffic."[52] Typically, the bike lane is separated by a buffer area, rumble strips, or a vertical element such as a curb, parked cars, decorative planting, or flex post.



Separated Bike Lane dimensions (FHWA Small Town Guide, p. 4-27)

Shared Roads

"Where traffic volumes and speeds are low, many bicyclists can comfortably share lanes with motor vehicles. In rural areas, no treatments are usually needed, although wayfinding signage is beneficial. In rural areas, shared roads should have traffic volumes below 1,500 Average daily Traffic (ADT). In urban areas, shared lanes should be provided on streets with posted speed limits of 35 miles per hour or less and ADT less than 3,000. Higher speeds and traffic volumes may discourage bicyclists."[53]

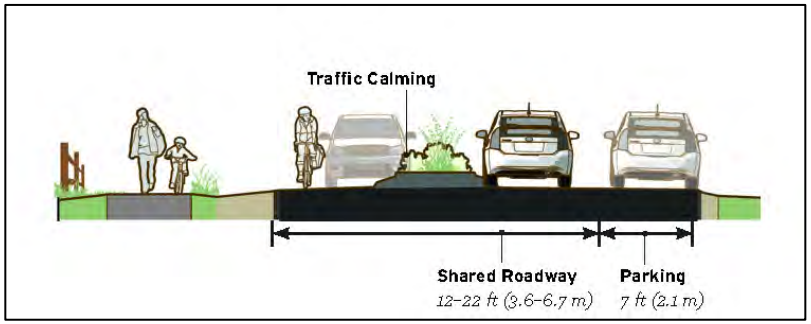
"Bicyclist on a separated bike lane on a 5-lane road. A separate sidewalk is provided for pedestrians." (FHWA Small Town Guide, p. 4-27)

"On urban streets with moderate traffic volumes, shared lanes usually include shared lane markings (or 'sharrows') to indicate preferred bicyclist lane positioning, act as wayfinding aids, and alert drivers to a greater expected presence of bicyclists."[54] "**Shared lane markings should not be considered a substitute for bike lanes, cycle tracks, or other separation treatments** where these types of facilities are otherwise warranted or space permits."[55]

Sharrow on shared road (2018 Iowa DOT Plan, p. 92)

Bicycle Boulevards

"Bicycle boulevards provide a bicycle-priority route designed to offer convenient, low-stress access to local destinations and through neighborhoods. Combinations of access management, traffic calming, and crossing treatments work in concert to enhance the bicycling experience."[56] The figure below shows common elements of a bicycle boulevard.



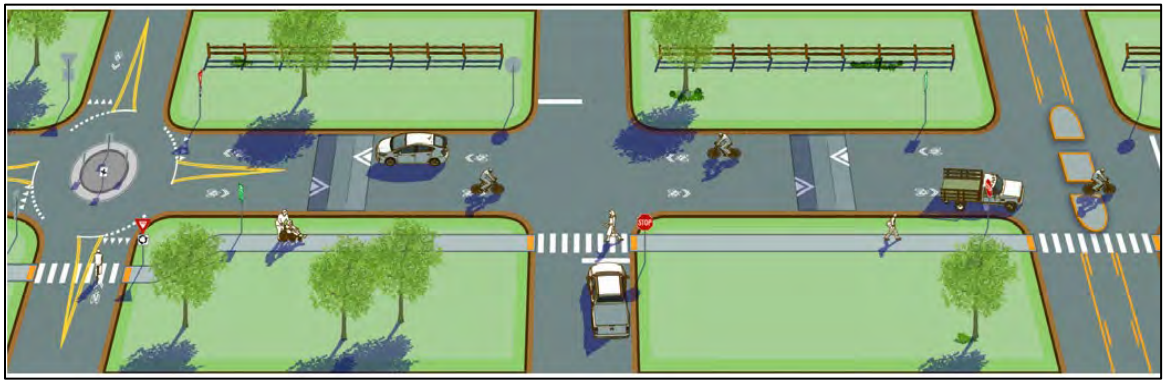
Bicycle boulevard dimensions (FHWA Small Town Guide, p. 2-11)

"Many small town or rural local streets may have existing low-speed and low-volume traffic conditions that are ideal for bicycle boulevard implementation. In cases where speeds and volumes do not meet preferred values, traffic-calming techniques may be used to improve conditions. Even in curvilinear local street networks without cut-through traffic, speeding can be a problem on long, wide streets.

"Speed reduction measures can help maintain vehicle speeds below 25 miles per hour and greatly improve bicyclists' comfort on a roadway by reducing the overtaking speed differential between motor vehicles and bicyclists.

"Bicycle boulevards combine road markings, traffic-calming measures, and crossing improvements designed to enhance the comfort and priority of bicyclists traveling along the route."[57]

"They are generally suited for people of all ages and abilities and are relatively easy and cost-effective to implement. Bicycle boulevards may simply include shared lane markings and 'bikes may use full lane' signage or can include traffic calming measures such as street trees, traffic circles, chicanes, and speed humps. Intersections should prioritize bicycle movement and minimize stops, where possible."[58]



Bicycle boulevard improvements (FHWA Small Town Guide, p. 2-11)

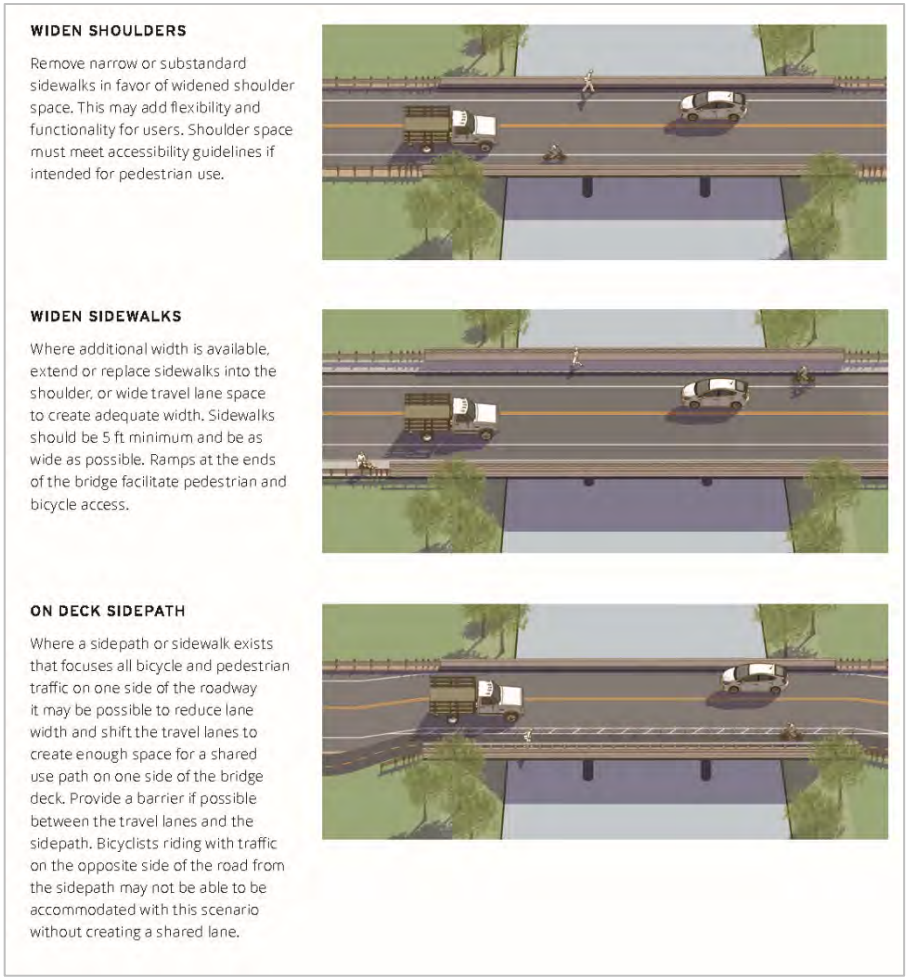
Bridges (Overpasses)

"Bridges are critical connections in any transportation network. Due to the high cost of bridge replacement or upgrades and the various existing and constrained bridge designs that exist, it is not always possible to have continuity in design approaches for multimodal facilities on bridges. It may take decades for older bridges to be replaced with a design that supports walking and bicycling. Rehabilitation of existing bridges presents opportunities for reconfiguring bridge decks and structures to better accommodate all the modes that need to use the connection in the network. The overall strategy for accommodating people walking and bicycling on bridges may vary depending on whether the bridge is being reconfigured, retrofitted, or replaced."[59]

Bridge Reconfiguration

"Rehabilitation generally falls into one of two categories, bridges that have some potential for space reconfiguration, and those that are so constrained that there is little to no potential to achieve separated pedestrian and/or bicycle space without widening the bridge.

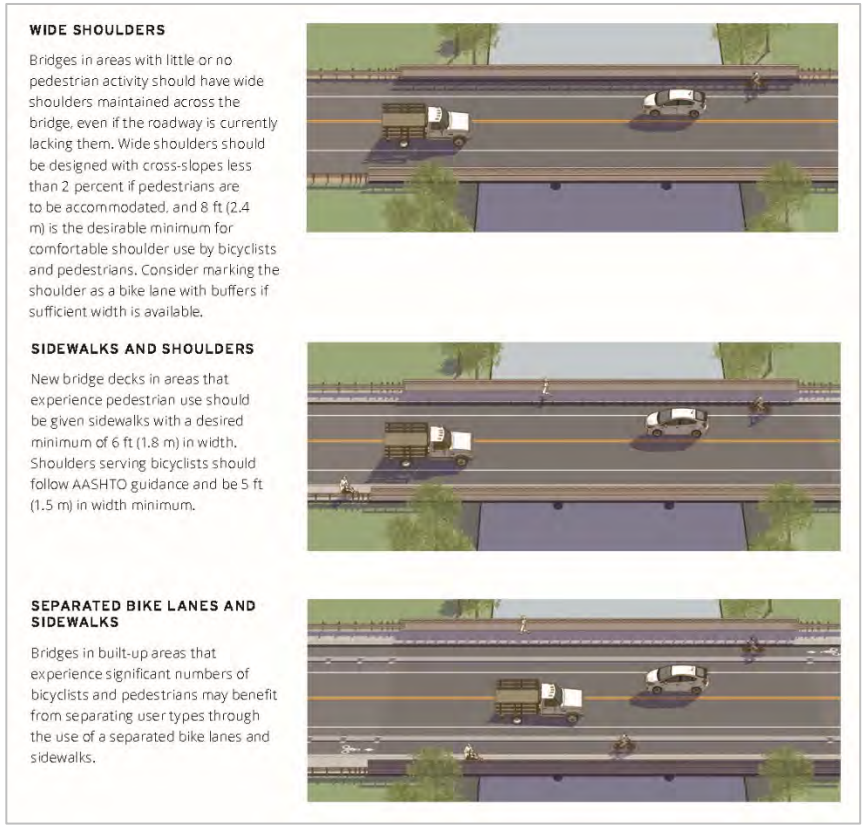
Candidate bridges have travel lanes greater than 11 feet, or some form of existing but substandard pedestrian facility or shoulder space. Many older bridges have narrow, 2- or 3-foot-wide curbs where pedestrians may be walking."[60]



Potential Designs for Bridge Reconfiguration (FHWA Small Town Guide, p.5-21)

Bridge Reconstruction

"New bridges or bridge reconstruction projects offer an opportunity to integrate high-quality and comfortable facilities for people walking and bicycling."[61]



Potential Designs for Bridge Reconstruction (FHWA Small Town Guide, p. 5-25)

New Bridges with Shared Use Paths

"Bridges along roadways with sidepaths, or roadways with planned sidepaths should be designed to maintain continuity. This configuration may also be desirable to provide greater separation from vehicle traffic for people bicycling over the bridge even if there is no sidepath along the corridor. This may be advantageous in built-up areas where bicyclists will have a greater variety of skills and comfort tolerances."[62]

Potential Design for Shared Use Paths on Bridge (FHWA Small Town Guide, p. 5-26)

Bicyclist Signs, Markings and Signals

"First and foremost, sign design and placement must be according to the MUTCD. Signs should state the direction and distance to important destinations. In addition, wayfinding can take the form of route signs, directing bicyclists at each turn. Wayfinding can enhance the usability of long-distance routes."[63]

"Green pavement markings used to highlight motorist/bicyclist points of conflict in the roadway." (2014 IL DOT Plan, p. 22)

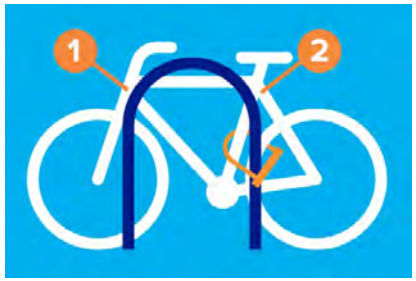
"Intersections should be optimized to accommodate bicyclists by enhancing pavement markings and ensuring signals serve the needs of bicyclists. Enhanced pavement markings warn users of potential conflict locations, help define expected behaviors, and encourage turning motorists to yield to bicyclists. Improved signal designs provide adequate time for bicyclists to clear signalized intersections, minimize bicyclist delay, and increase the likelihood that bicyclists will comply with the signal. The selection of specific treatments varies based on factors such as motor vehicle traffic volume, bicycle traffic volume, and intersection geometry."[64]

Bicycle Parking

Motorists expect parking when they reach their destination, and bicyclists should, too. Guidelines below are from the 2016 Strong Towns Journal article, ***What Makes A Good Bike Rack?***

Location: "Bicycle parking should be in an easily accessible area that is well-lit, secure, and preferably sheltered. It should be placed as close to the building entrance(s) as possible, or at least as close as the nearest car parking."

Security and Stability: "A bike should be able to rest firmly against a bike rack – two points of contact is ideal. The frame and front wheel, which can swivel, need to rest fully supported against the rack and be able to lock to the bike rack with a U-style or similarly secure lock."



Conditions: "When selecting bike parking, some basic questions will help determine a good solution: Is it intended for short-term use (less than 2 hours) or long-term (more than 2 hours)? Convenience trumps shelter for short-term parking, while protection from the elements is prioritized in long-term settings. How many bicycles need to be parked? What are the location and dimensions of the space? What is the budget? Bike lockers, shelters, and rooms are best for long-term bike parking for additional security and weather protection."[65]

Micromobility: E-Bikes and more

"FHWA broadly defines micromobility as any small, low-speed, human- or electric-powered transportation device, including bicycles, scooters, electric-assist bicycles, electric scooters (e-scooters), and other small, lightweight, wheeled conveyances. In response to the increasing demand for walking and bicycling facilities in cities and towns across the country, many jurisdictions are exploring micromobility as an alternative mode for short trips and active transportation.

"Based on feedback received during various outreach activities, FHWA developed a micromobility fact sheet (available at *www.fhwa.dot.gov/livability/fact_sheets/mm_fact_sheet.cfm*) and two USDOT and FHWA micromobility handouts (available at *www.fhwa.dot.gov/livability/resources/#micro*) to communicate FHWA's ongoing micromobility research and coordination activities."[66]

"E-bikes provide first-and-last mile solutions, reduce traffic and air pollution, and even offer options that can transport cargo and kids. Photo courtesy of Blix Bike." Source: Brown, Alex. ***The Year of the E-Bike****.*

The following information is from the 2022 article in Planning Magazine, **The Year of the E-Bike**.

"States, cities, and utilities have begun offering vouchers or rebates to help residents buy e-bikes. Some places are pairing such programs with a renewed effort to expand bike lanes and connect cycling corridors. That switch, leaders say, is cheaper, faster to implement, and requires fewer resources for manufacturing and charging than electric cars need.

"E-bikes have pedals but use an electric motor to help riders accelerate, maintain speed, and climb hills. That makes them easier to use than traditional bicycles, especially in hilly areas and for riders who might not want the intense workout of biking to work or other errands.

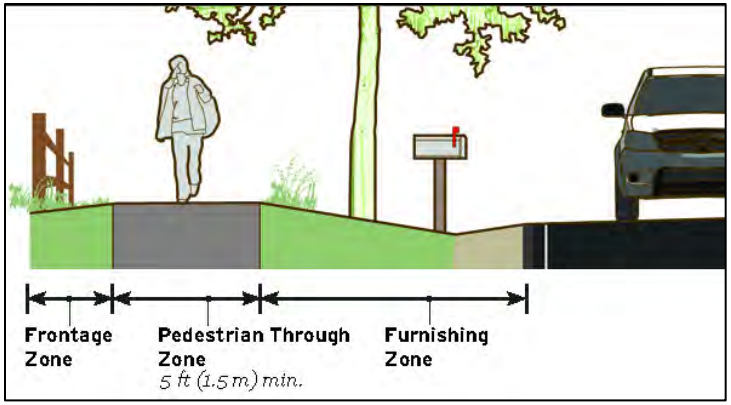
"Supporters of public incentives point out that widespread adoption of e-bikes for short trips would reduce air pollution in urban areas, cut down on greenhouse gas emissions, and ease traffic and parking woes. E-bikes also could help families with low incomes get places without the cost of owning a car. Many incentive programs offer extra funding for residents with low incomes, often defined as those making a certain percentage of an area's median income. The cheapest e-bikes cost upwards of $1,000, while more expensive models can reach many thousands of dollars.

"Advocates for public incentives acknowledge that e-bikes won't reach their potential without a simultaneous investment in safe bike lanes and infrastructure. Adoption also could be a challenge in areas with harsh climates, where snow and rain could deter ridership."[67]

Pedestrian Facilities

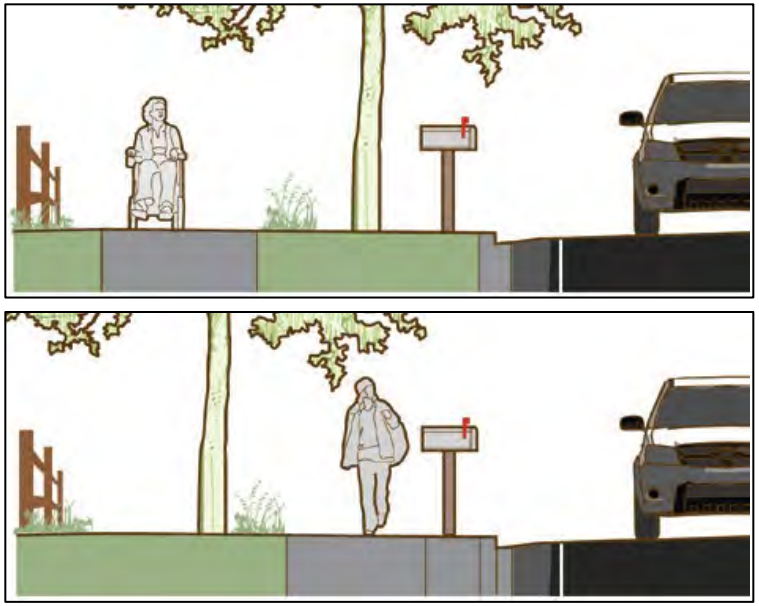
Sidewalks

For pedestrians, sidewalks are important design elements. Sidewalks improve pedestrian safety by providing a separate space from vehicles. The standard width for a sidewalk is 5 feet with 4 feet permitted to avoid obstructions. Sidewalks should be wider at schools, transit stops, downtowns, main streets, and anywhere else higher volumes of foot traffic occurs.



Sidewalk dimensions (FHWA Small Town Guide, p. 4-21)

Sidewalks on roads with curbs may feature an unpaved or paved furnishing zone separation (top), or may be constructed with curb and gutter, immediately adjacent to the roadway (bottom). Offering separation from the roadway is preferred in most areas for user comfort and design flexibility at intersections.



Preferred and alternative sidewalk locations (FHWA Small Town Guide, p. 4-21)

"Sidewalk width and parkway treatments such as landscaping and fencing can have a significant positive impact on actual and perceived safety of pedestrians, by buffering them from traffic and providing a more hospitable and welcoming environment." (2017 Imagine Dubuque Plan, p. 8-14)

Marked Crosswalks

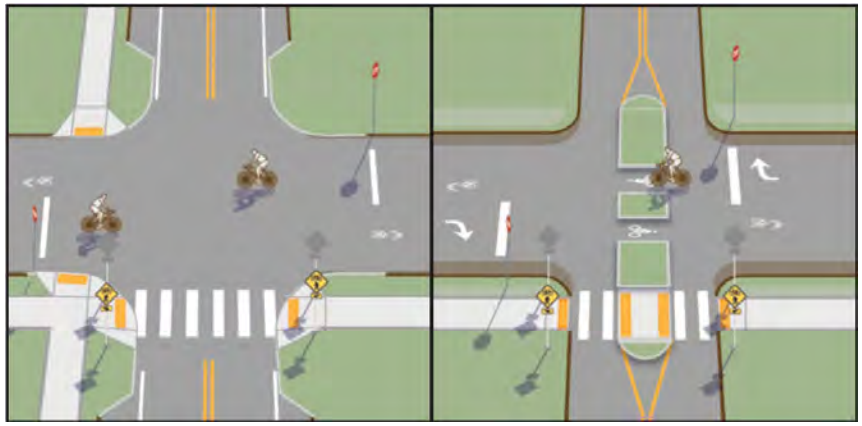
While pedestrians may be separated from motor vehicle traffic while on the sidewalk, they will eventually need to cross a street. The majority of pedestrian and motor vehicle interactions occur at street crossings and thus present a potentially dangerous situation.

Basic pedestrian crossing improvements such as signage and marked crosswalks can help improve safety at street crossings by providing a designated place to cross, alerting drivers to the presence of pedestrians, and reminding them to slow down.

Marked crosswalks and pedestrian refuge island (2018 Iowa DOT Plan, p. 82)

Pedestrian Refuge / Median Islands

Curb extensions and "pedestrian refuge" or median islands provide additional pedestrian protection by shortening the crossing distance. At unsignalized intersections and midblock crossings, refuge islands allow pedestrians to negotiate one direction of traffic at a time. Below are illustrations of a variety of crossing improvement examples.



Crosswalks, Curb Extensions, and Pedestrian Refuge / Median Islands (FHWA Small Town Guide, p. 2-14)

Curb Extensions / Bump-Outs

"Long crosswalks leave pedestrians exposed in the intersection for long distances. Pedestrians enjoy shorter crossing distances if possible. One way to shorten the crosswalk is extend or bump out the curb. Curb extensions / bump-outs can be created between the curb to the traffic through lane. If you bump out the curb area you shorten the crosswalk.

"Bump-outs can be done with mid-block crosswalks. In addition to the shorter crosswalk, more visibility exists for the pedestrian. A bump-out is much better than requiring the pedestrian to cross between two parked cars."[68]

Curb extensions/ bump-outs shorten the crosswalks in the Historic Millwork District (2107 Imagine Dubuque Plan, p. 5-16)

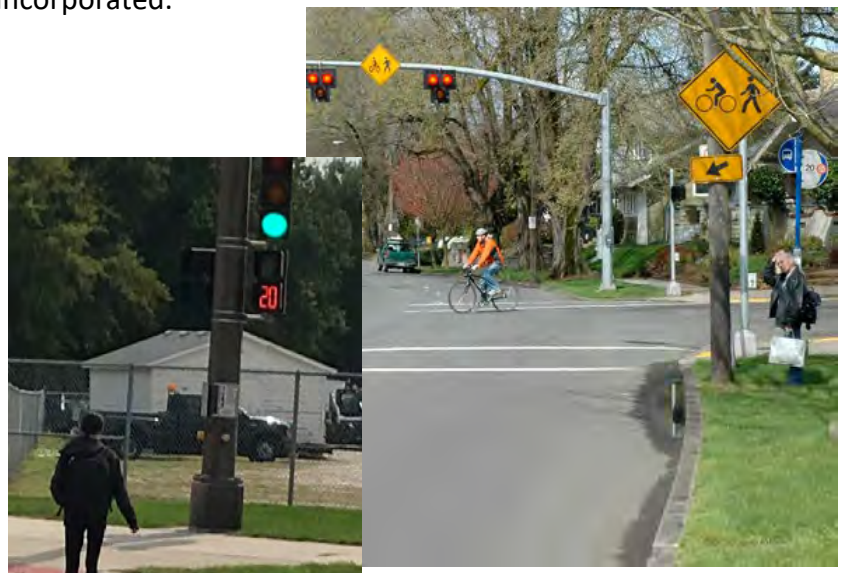
Curb ramps

Curb ramps serve as a transition between sidewalks and crosswalks. They must be installed at all intersection and midblock pedestrian crossings in accordance with the federal 1973 Rehabilitation Act and 1990 ADA. All newly constructed and altered roadway projects must use curb ramps. Agencies with more than 50 employees must have a transition plan in place for phasing in curb ramp upgrades.[69]

The design parameters for curb ramps are relatively complex and are found in the Iowa DOT Design Manual. "Separate curb ramps should be provided for each crosswalk at an intersection rather than a single ramp at a corner for both crosswalks. The separate curb ramps improve orientation for visually impaired pedestrians by directing them toward the correct crosswalk."[70]

Pedestrian Signals and Signs

"In addition to pavement markings, marked crosswalks may include pedestrian signals/beacons, warning signs, in-street signage, and raised platforms. Marked crosswalks are most important on multi-lane streets, areas of high pedestrian traffic (downtowns, schools) and midblock crossings."[71] "Pedestrian signals control the flow of foot traffic through intersections and across roads. They include traditional walk/don't walk signals, rapid-flash beacons, hybrid or HAWK signals, and other illuminated traffic control devices. Pedestrian signals reduce pedestrian crashes, especially when leading pedestrian intervals and/or countdown signals (shown in the image) are incorporated."[72]



HAWK signal (right) and pedestrian countdown signal (left) (2018 Iowa DOT Plan, p. 83)

NACTO Guide: Choosing an All Ages & Abilities Bicycle Facility

"This chart provides guidance in choosing a bikeway design that can create an All Ages & Abilities bicycling environment, based on a street's basic design and motor vehicle traffic conditions such as vehicle speed and volume. This chart should be applied as part of a flexible, results-oriented design process on each street, alongside robust analysis of local bicycling conditions as discussed in the NACTO Guide.

"Users of this guidance should recognize that, in some cases, a bicycle facility may fall short of the All Ages & Abilities criteria but still substantively reduce traffic stress. Jurisdictions should not use an inability to meet the All Ages & Abilities criteria as reason to avoid implementing a bikeway, and should not prohibit the construction of facilities that do not meet the criteria.

"* While posted or 85th percentile motor vehicle speed are commonly used design speed targets, 95th percentile speed captures high-end speeding, which causes greater stress to bicyclists and more frequentpassing events. Setting target speed based on this threshold results in a higher level of bicycling comfort forthe full range of riders.

"† Setting 25 mph as a motor vehicle speed threshold for providing protected bikeways is consistent with many cities' traffic safety and Vision Zero policies. However, some cities use a 30 mph posted speed as a threshold for protected bikeways, consistent with providing Level of Traffic Stress level 2 (LTS 2) that can effectively reduce stress and accommodate more types of riders."[73]

Contextual Guidance for Selecting All Ages & Abilities Bikeways

Roadway Context				All Ages & Abilities Bicycle Facility
Target Motor Vehicle Speed*	Target Motor Vehicle Volume (ADT)	Motor Vehicle Lanes	Key Operational Considerations	
Any		*Any*	*Any of the following:* high curbside activity, frequent buses, motor vehicle congestion, or turning conflicts‡	**Protected Bicycle Lane**
< 10 mph	Less relevant	No centerline, or single lane one-way	Pedestrians share the roadway	**Shared Street**
≤ 20 mph	≤ 1,000 – 2,000		< 50 motor vehicles per hour in the peak direction at peak hour	**Bicycle Boulevard**
≤ 25 mph	≤ 500 – 1,500			
	≤ 1,500 – 3,000	Single lane each direction, or single lane one-way	Low curbside activity, or low congestion pressure	**Conventional or Buffered Bicycle Lane, or Protected Bicycle Lane**
	≤ 3,000 – 6,000			**Buffered or Protected Bicycle Lane**
	Greater than 6,000			**Protected Bicycle Lane**
	Any	Multiple lanes per direction		
Greater than 26 mph†	≤ 6,000	Single lane each direction	Low curbside activity, or low congestion pressure	**Protected Bicycle Lane, or Reduce Speed**
		Multiple lanes per direction		**Protected Bicycle Lane, or Reduce to Single Lane & Reduce Speed**
	Greater than 6,000	*Any*	*Any*	**Protected Bicycle Lane**
High-speed limited access roadways, natural corridors, or geographic edge conditions with limited conflicts		*Any*	High pedestrian volume	**Bike Path with Separate Walkway or Protected Bicycle Lane**
			Low pedestrian volume	**Shared-Use Path or Protected Bicycle Lane**

Source: https://nacto.org/publication/urban-bikeway-design-guide/designing-ages-abilities-new/choosing-ages-abilities-bicycle-facility/

"Bicyclists, pedestrians, and transit users all feel comfortable utilizing this Complete Street corridor." (2014 IL DOT Plan, p. 19)

Iowa Complete Streets Guide

This publication provides examples of complete streets strategies that increase walking and bicycling within a community, and highlights unique considerations for historic commercial districts. It was created by the Iowa Bicycle Coalition for Main Street Iowa. **This is a good guide for the general public.**

What is a Complete Street?

The guide notes a Complete Street is "accessible for all users of the transportation system. This includes pedestrians, bicyclists, transit users, disabled users, automobile users, and freight.

"In areas with complete streets, you find sidewalks, curb ramps, crosswalks, bicycle lanes or facilities, transit stops, and automobile lanes. All users, regardless of age or ability, can access the same destinations by using different modes of transportation."[74]

What is a good Complete Streets policy?

"A good Complete Streets policy does not dictate the precise elements of a complete street but allows designers to engineer the best safety solutions within the context of the project. There is no 'cookie cutter' approach to complete streets.

"For example, a quiet, low-traffic, residential street may very well be complete as it is. It does not need a bike lane for safe bicycling, and crosswalks may not need paint to improve pedestrian safety. This same street design may be as safe for bicyclists and pedestrians on high-speed arterial roadways.

"Complete streets do not prescribe 'one size fits all' facilities."[75]

Traffic Calming and Road Diets

"Another technique to help improve the pedestrian and bicyclist experience is traffic calming. This typically utilizes engineering to make traffic move at a more consistent and safe speed."[76]

"A road diet converts an existing four-lane roadway into a three-lane roadway. There is a lane of traffic for each direction and a two-way, center turn lane for left-turning traffic. Often, there is space leftover for a paved shoulder or bike lane. A road diet improves safety for motorists. Turning traffic does not block a lane of through-traffic, so collisions are reduced. Through traffic travels at a more consistent speed. A road diet often moves the same amount of traffic with little additional wait time."[77]

Davenport reconfigured a four-lane road to a three-lane road diet. The center turn lane helps reduce collisions. The remaining space is used for bike lanes." (Iowa Complete Streets Guide, p. 7)

Traffic Circles and Roundabouts

Traffic circles are small islands in the middle of an intersection, like those on Washington Street in Dubuque. Roundabouts are larger circles that provide a one-way circular flow to an intersection. Both will slow down through traffic and allows left-turning traffic to follow around the circle before turning. The result is slower intersection speeds.[78]

The City of Peosta constructed a roundabout on Peosta Street at the entrance to Northeast Iowa Community College. The City of Dubuque constructed two roundabouts along Grandview Avenue. The City of Dubuque website explains roundabouts and offers links to videos and related resources at https://www.cityofdubuque.org/roundabouts.

Roundabout at University and Grandview Avenues in Dubuque (Source: ECIA using Dubuque County GIS)

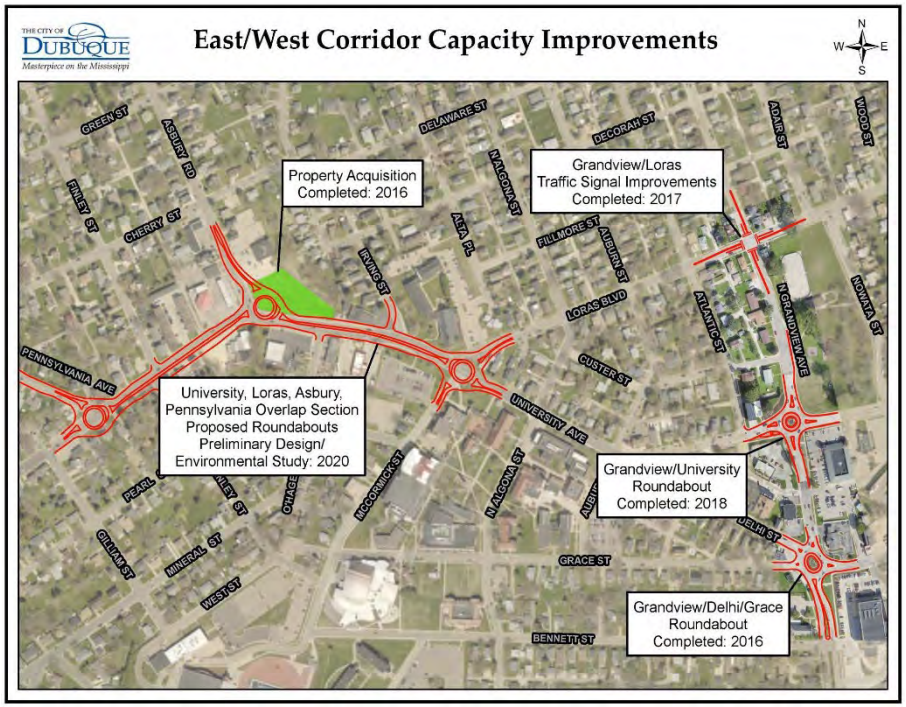
Complete Streets Case Study: East-West Corridor Connectivity Study: 2010

The purpose of this study was to analyze east-west traffic flow in the City of Dubuque and identify corridor improvements or modifications needed to support growing traffic demands. Additionally, consideration was given to Complete Streets, transit needs, pedestrian needs, and sustainability.

In addition to reviewing the east-west corridor needs for the City of Dubuque, Asbury Road west of the Northwest Arterial, including Asbury Road within the City of Asbury, was reviewed to determine recommended improvements for the corridor.

An interactive map on ECIA's wesite shows the corridor sections where fly-over videos are available to view the various design concepts recommended by the study by clicking on a section.

ECIA Interactive Map of East-West Corridor sections
https://www.eciatrans.org/DMATS/East_West_Corridor.cfm



East-West Corridor Capacity Improvements (City of Dubuque website)

The City of Dubuque has completed capacity and safety improvements as well as bicycle and pedestrian accommodations in the corridor as shown here. Recommended corridor improvements along University Avenue, Asbury Road, and Pennsylvania Avenue consider the Complete Streets approach of accommodating all roadway users. The study recommends street and intersection designs, road diets, and enhanced pedestrian accommodations to provide safe access for motorists, pedestrians, bicyclists, and transit users.

9. FACILITY MAINTENANCE

"Maintenance is the final piece in creating successful bicycle and pedestrian facilities. Maintenance programs make facilities last and allow for continued usage over time. Because ongoing maintenance is often not included in funding of the initial project, strategic planning is required to determine future maintenance needs and to identify effective policies, programs, and budgets to address these needs".

It is the role of partners such as DMATS, the RPA, and local jurisdictions to plan, acquire or allocate right-of-way, design, build, and maintain bicycle and pedestrian facilities in the regional network. While several federal and state funding streams are available for the planning, design, and construction of new trails, maintenance costs typically fall solely on the local jurisdictions. At a minimum, these costs must be understood and acknowledged by the participating governments, and a plan for the permanent maintenance of the bicycle and pedestrian facilities should be prepared. Recommended facility maintenance guides include:

- FHWA *Bicycle Facility Maintenance*,
- FHWA *Guide for Maintaining Pedestrian Facilities for Enhanced Safety* (FHWA Pedestrian Guide), and
- FHWA Report: *Noteworthy Local Policies That Support Safe and Complete Pedestrian and Bicycle Networks*.

The following section describes facility maintenance and what factors should be considered. Designers should consult the latest version of their appropriate state DOT Design Manuals and related standards and specifications as well.

Multi-Use Trail / Sidepath Maintenance

"Bicyclists rely on clean and smooth surfaces to balance and to negotiate turns and stops. Tire scraps, litter, broken glass, vegetation, and pavement damage all pose significant hazards for bicyclists, who are much more affected by these issues than motorists. Similarly, trails and paths must be clear of debris and tripping hazards for pedestrians, not only to enhance the operation of the pedestrian network but also to maintain ADA compliancy."[79] The table here from the 2018 Iowa DOT Plan "lists typical multi-use trail maintenance items that should be included in local and regional trail management plans."[80]

Trail Maintenance Activity	Frequency	Responsible Party
Mowing	Weekly or bi-weekly	Local jurisdiction
Weed control	Spring, then as needed	Local jurisdiction
Tree/branch trimming	Spring, then as needed	Local jurisdiction
Sweeping	Bi-weekly or as needed	Volunteers / local jurisdiction
Snow removal	As needed	Local jurisdiction
Garbage clean-up	Bi-weekly or as needed	Volunteers / local jurisdiction
Storm clean-up	As needed	Local jurisdiction
Striping/pavement markings	As needed, ~ 1-2 years	Local jurisdiction
Signage replacement	As needed, ~ 5 years	Local jurisdiction
Graffiti removal	As needed	Local jurisdiction
Shoulder grading	As needed, ~ 1-2 years	Local jurisdiction
Crack sealing	As needed, ~3-5 years	Local jurisdiction
Pavement repair patching	As needed, ~ 5 years	Local jurisdiction
Pavement replacement	As needed, ~ 25-50 years	Local jurisdiction

Source: 2018 Iowa DOT Plan, p. 109

FHWA *Bicycle Facility Maintenance* is Lesson 21 from the FHWA Course on Bicycle and Pedestrian Transportation. "This lesson describes maintenance programs and activities that are critical to successful bikeways, and recommends a step-by-step approach to solving common maintenance problems.

"Bicycles and bicyclists tend to be particularly sensitive to maintenance problems. Most bicycles lack suspension systems and, as a result, potholes that motorists would hardly notice can cause serious problems for bicyclists. In addition, since bicyclists often ride near the right margin of the road — sometimes as required by traffic law — they use areas that are generally less well maintained than the main lanes.

"Bike lane maintenance is particularly important." (FHWA Bicycle Facility Maintenance, p. 4)

"For the most part, satisfying bicycling maintenance requirements is a matter of slightly modifying current procedures. For example, if street-sweeping crews pay a bit more attention to the right edge of the road, it can benefit bicyclists greatly.

"In addition, using maintenance-friendly design and construction techniques can reduce the need for special — and sometimes costly — treatments later."[81]

"Finally, special bicycle facilities such as bike lanes or trails may require enhanced maintenance. This cost, along with a clear understanding of who has responsibility for maintenance, should be part of every project budget.

Objectives

"1. To maintain roadways and bikeways to a relatively hazard-free standard.

- By sweeping pavement edges and paved shoulders with sufficient care.
- By patching surfaces as smoothly as possible and by requiring other agencies or private companies to do likewise whenever they dig up a road or trail.
- By making sure pavement overlay projects feather the new surface into the existing one or otherwise do not create new linear joints.
- By replacing such hazards as dangerous grates or utility covers as the opportunity arises.
- By patching potholes in an expeditious manner.
- By routinely cutting back all encroaching vegetation, especially on trails or popular bike routes.

2. To encourage bicyclists to report maintenance problems and other hazards.

- By developing a "bicycle spot improvement" form and distributing copies throughout the bicycling community.
- By making sure returned forms are acted upon in a timely fashion.

3. To design and build new roadways and bikeways in such a way as to reduce the potential for accumulation of debris.

- By using edge treatments, shoulder surfaces, and access controls that reduce the potential for accumulation of debris.
- By using materials and construction techniques that increase the longevity of new trail surfaces.

4. To include maintenance costs and clearly spelled-out maintenance procedures in all bicycle facility projects.

- By including reasonable estimates of the maintenance costs in the project budget.
- By establishing clear maintenance responsibilities in advance of construction."[82]

Implementation Strategies

"Improving bicycle-related maintenance requires action on several fronts. First, maintenance policies used by all relevant agencies should be reviewed and changed, if necessary. Second, designers should be encouraged to "think maintenance" when they design: low-maintenance requirements should be the rule rather than the exception. And, finally, an outreach effort should be implemented to: (1) encourage bicyclists to report maintenance problems, and (2) identify existing maintenance problems, particularly on special bicycle facilities or popular bicycling routes."[83]

"Extending the paved area to include the shoulder would keep gravel and debris off the paved surface and prevent problems for bicyclists." (FHWA Bicycle Facility Maintenance, p. 3)

Resource Requirements and Schedules

"For the most part, bicycle-related maintenance tasks involve work an agency already does; little additional effort will be required. It may simply mean adding popular bicycling routes to the priority sweeping route network, for example. In some instances, however, additional equipment may be needed. For example, maintaining a particular trail may require purchasing special equipment–perhaps a small sweeper or a special attachment for a tractor. In regions with harsh winters, special effort should be made to clear the winter's accumulation of road sand and other debris early in the spring. Also, the periods

following high winds and flooding may require special attention."[84]

Online Route Maintenance

The 2014 Illinois DOT Plan notes: "It is crucial for governments to have processes in place to regularly update datasets in accordance with maintenance and construction activities. This process is typically more challenging for smaller municipalities, which often lack technical or financial resources. For all jurisdictions, however, maintaining current bikeway network data is an ongoing challenge that can only be partly solved through the implementation of regular update processes.

"Currently, real-time information on changing traffic conditions, roadway maintenance and weather information along state roadways is made available, but is primarily targeted towards motorists. There is thus a need for services that provide information on bikeway maintenance and conditions to bicyclists in real-time…there is great potential in technologies that facilitate data feedback loops: from governments to users, users to governments, and users to other users."[85]

Crowdsourcing Trip Data for Maintenance

The 2014 Illinois DOT Plan notes: "By establishing feedback loops with network users, governments can harness the knowledge of residents on a day-to-day (or even minute-to-minute) basis, providing updates on traffic conditions, road closures, parking availability, and a host of other topics that cannot be readily stored in a GIS dataset. This concept is known as *crowdsourcing,* and it thrives in circumstances where real-time information is required, yet cannot be reasonably provided by an individual or agency monitoring the situation.

"One way that crowdsourcing can be valuable to local governments and other agencies is in tracking trips. Whereas manual bicycle counts and travel surveys were once the only tools available to measure volumes of bike traffic at a given location, new technologies are now pointing the way toward higher-quality, richer data. Several technologies have emerged, including station-based tracking (lightweight electronic tags combined with roadside transponders) and a variety of potential applications based on Global Positioning Systems (GPS).

"By harnessing these technologies, information can be relayed accurately and instantaneously to network planners. This information can then be disseminated back to network users—completing the feedback loop—and integrated into robust analyses of bicycling conditions (e.g., gap analysis)."[86]

"Mobile apps could serve a dual purpose of providing both bicyclists and governments with up-to-date information and keeping datasets current. Simple mechanisms, like the ability to report a pothole or flag a problem intersection, are powerful engagement tools that also assist in tying maintenance work directly to the needs of citizens."[87]

In the Dubuque Region, community members are using various bike GPS-tracking technologies and mobile apps to track their biking trips and share information. This is a resource that could be tapped by cities and counties in the Dubuque Region to improve network maintenance for the safety and comfort of bicyclists and pedestrians.

Pedestrian Facility Maintenance

"The FHWA *Guide for Maintaining Pedestrian Facilities for Enhanced Safety* provides guidance for maintaining pedestrian facilities with the primary goal of increasing safety and mobility. The Guide addresses the needs for pedestrian facility maintenance; common maintenance issues; inspection, accessibility, and compliance; maintenance measurers; funding; and construction techniques to reduce future maintenance."[88]

The FHWA Report, *Noteworthy Local Policies That Support Safe and Complete Pedestrian and Bicycle Networks,* "provides local and state agencies with tools to develop policies that support the development of safe and complete bicycle and pedestrian networks for users of all ages and abilities. The guide is accompanied by case studies that showcase examples from across the country of how policies can support safe and complete street networks."[89]

A Part of the Transportation System

"Regardless of the primary means of transportation chosen (auto, bus, rail), nearly everyone is a pedestrian at some point in nearly every trip and pedestrian facilities serve nearly everyone. Because of this, it is important to provide dependable pedestrian facilities that are usable year-round by people of all abilities.

"In the same way that the maintenance for a street or roadway is considered, it is also important to consider maintenance for any adjoining sidewalk or path. In many states the definition of a street or highway is inclusive of everything within the public right-of-way including all the pedestrian facilities contained within that right-of-way. Maintenance of the street or highway should automatically cover the maintenance of the pedestrian facilities – sidewalks, curb ramps, pedestrian signals, and crosswalk markings.

"Pedestrian facilities provide a relatively low-cost mobility option that is available to nearly everyone if properly designed and maintained. Pedestrian facilities are also relied upon disproportionately by a significant segment of the public who cannot drive. Once constructed, it is important to maintain pedestrian facilities for varieties of reasons."[90]

- Maintenance is Critical for Safety
- Maintenance Improves Mobility
- Maintenance is Critical for People with Mobility Restrictions
- Liability Management
- Asset Management
    - Protect initial investment
    - Maintain level of service
    - Inspection, monitoring and analysis

"Continue handicap accessibility improvements" (2018 Dyersville Comprehensive Plan, p. 83)

Equity in Facility Management

"Who is responsible for facility maintenance?

"Many jurisdictions have laws or ordinances addressing pedestrian facility maintenance, which often require the adjacent property owner to repair deteriorated sidewalks adjacent to their property. More often ordinances require property owners to remove snow and ice and vegetation encroaching onto sidewalks."[91]

"Assessing abutting property owners for maintenance and repair of pedestrian facilities places a greater burden on homeowners in lower-income neighborhoods who are less able to pay. Many older parts of communities are the most affordable and housing is the least expensive and may be populated by those with lower incomes. However, sidewalks in these areas may need the most maintenance because they are older. This, coupled with the fact that these areas may have a lower density of cars per household and have more pedestrians that need to use the sidewalks for their daily trips to work, shopping, etc. contribute significantly to a need for the facilities among those who can least afford to maintain and repair it.

"Pedestrian facilities are part of a community's transportation network, and improvements to the facilities serve not only the abutting property owner, but the public at large. Maintenance and repairs of the travel and parking lanes of streets are rarely funded in this manner.

"If there are concerns about the equity of an assessment program, a shared or community-paid program may be the best way to fund maintenance and repairs. Municipalities should be creative in drawing on a variety of funding sources to keep their sidewalks in good repair. "[92]

The FHWA *Guide for Maintaining Pedestrian Facilities for Enhanced Safety* includes a funding chapter that discusses options for cities to fund sidewalk repair and maintenance instead of charging individual property owners for repairs.

Seek new funding mechanisms for sidewalk improvements. Many cities have elected to fund sidewalk improvement programs through the general fund and then assessed half of the cost to the landowner. Programs have been a successful approach for many communities, especially when the assessment to the landowner has been done over a 10-year period.

› Outside funding sources including grant funding for designated routes and beautification projects. The Transportation Alternatives Program (TAP) administered by the Iowa Department of Transportation provides 80% reimbursable funds with a 20% local match for infrastructure improvements within 2 miles of schools that serve children in grades K-8. The funds can be used for a variety of infrastructure projects that improve pedestrian safety, including the installation and improvement of sidewalks. The city should seek out these sources to avoid assessing the total cost for these links to the landowners.

Source: 2018 Dyersville Comprehensive Plan, p. 82

10. FUNDING PROGRAMS

The 2021 DMATS Plan and the 2022 RPA Plan provide extensive discussion of funding programs from previous federal transportation bills. This regional plan provides information and links to programs in the latest federal transportation bill.

Funding Overview for DMATS and RPA

The DMATS and RPA transportation system improvements are funded through a combination of federal, state, and local funds that flow through DMATS and RPA. These funding sources are available, subject to changes at the federal level:

- **Surface Transportation Block Grant Program (STBG)**
- **National Highway Performance Program (NHPP)**
- **Primary Road Funds (PRF)**
- **STP Highway Bridge Program (STP-HBP)**
- **Highway Safety Improvement Program (HSIP)**
- **Congestion Mitigation and Air Quality Improvement Program (CMAQ)**
- **Demonstration Funding (DEMO)**
- **TIGER Grants**
- **BUILD Grants**
- **Iowa's Transportation Alternatives Program (Iowa's TAP)**
- **Iowa Clean Air Attainment Program (ICAAP)**
- **State Recreational Trail Program**

Federal Funding Programs

"On November 15, 2021, President Biden the **Infrastructure Investment and Jobs Act (IIJA) (Public Law 117-58, also known as the "Bipartisan Infrastructure Law")** into law. The Bipartisan Infrastructure Law is the largest long-term investment in our infrastructure and economy in our Nation's history. It provides $550 billion over fiscal years 2022 through 2026 in new Federal investment in infrastructure, including in roads, bridges, and mass transit, water infrastructure, resilience, and broadband.

"This website will serve as your one-stop shop for FHWA's implementation of the Bipartisan Infrastructure Law, including everything from fact sheets and funding notices to guidance, regulations, and presentations."[93]

The FHWA will continue to add information to this webpage. https://www.fhwa.dot.gov/bipartisan-infrastructure-law/

"The Bipartisan Infrastructure Law provides the basis for FHWA programs and activities through September 30, 2026. It makes a once-in-a-generation investment of $350 billion in highway programs. This includes the largest dedicated bridge investment since the construction of the Interstate Highway System.

"New programs under the Bipartisan Infrastructure Law focus on key infrastructure priorities including rehabilitating bridges in critical need of repair, reducing carbon emissions, increasing system resilience, removing barriers to connecting communities, and improving mobility and access to economic opportunity.

"Many of the new programs include eligibility for local governments, Metropolitan Planning Organizations (MPOs),

Tribes, and other public authorities, allowing them to compete directly for funding."[94] Below are the links to Safety and Equity. Other topics available as of March 2023 are Bridges, Climate/Resilience, and Electric Vehicles. More to come.

SAFETY

Highway Safety Improvement Program

- Highway Safety Improvement Program (HSIP) Eligibility Guidance
- HSIP Special Rules Guidance: Vulnerable Road User, High Risk Rural Roads Rule and Older Drivers and Pedestrians Rule
- Vulnerable Road User Assessment Guidance

Complete Streets

- Moving to a Complete Streets Design Model: A Report to Congress on Opportunities and Challenges
- Waiver of Non-Federal Match for State Planning and Research (SPR) and Metropolitan Planning (PL) Funds in Support of Complete Streets Planning Activities

Railroad-Highway Crossings

- Railway-Highway Crossing Program Questions and Answer Guidance
- Railway-Highway Crossing Program Reporting Guidance
- Commuter Authority Rail Safety Improvement (CARSI) Program FY 2021-2022 Grant Awards

Safe Streets and Roads for All

- Safe Streets and Roads for All Grant Program
- Safe Streets and Roads for All Grant Program NOFO
- Safe Streets and Roads for All Grants: Webinar Series
- Safe Streets and Roads for All Fact Sheet (PDF 260 kb)
- SS4A 2022 Awards | US Department of Transportation
- Request for Information: Improving Road Safety for All Users on Federal-Aid Projects

Website: FHWA Safety Program

EQUITY

Reconnecting Communities Pilot Program

- Reconnecting Communities Pilot Program
- Reconnecting Communities Pilot Program NOFO
- Reconnecting Communities Pilot Program Additional Guidance
- Reconnecting Communities Pilot Program Webinars
- Reconnecting Communities Pilot Program FAQs
- Reconnecting Communities Pilot Program Fact Sheet

Other Resources

This weblink is to a table of potential eligibility for pedestrian and bicycle projects under USDOT surface transportation

funding programs. https://www.fhwa.dot.gov/environment/bicycle_pedestrian/funding/funding_opportunities.cfm

FHWA provides **technical assistance** for planning, design, construction, preserving, and improving public roads and in the stewardship of Federal funds under the new federal law.[95] https://www.fhwa.dot.gov/bipartisan-infrastructure-law/technical_support.cfm

Statewide Programs

Each state provides information about their transportation funding for local agencies on the websites for their respective Departments of Transportation (DOTs) and Departments of Natural Resources (DNRs). Resources from other state agencies and non-profit organizations also are available.

Iowa DOT

The **Funding Guide** provides basic information on the various state and federal transportation funding programs that are available to local public agencies and other entities in Iowa. https://iowadot.gov/grants-programs/Home

Three main programs: Federal Recreational Trails Program, State Recreational Trails Program, and Transportation Alternatives Program (TAP). https://iowadot.gov/iowabikes/iowa-trails/trails-funding

Iowa DNR

The Iowa DNR administers a variety of federal pass-thru and state funding programs, including the development of **multi-use trails** by cities and counties. https://www.iowadnr.gov/About-DNR/Grants-Other-Funding

Iowa Economic Development Authority (IEDA)

IEDA's Enhance Iowa program provides grants to assist projects with recreational, cultural, entertainment and educational attractions. https://www.iowaeda.com/enhance-iowa/

Iowa Natural Heritage Foundation (INHF)

INHF is a statewide 501 (c)(3) nonprofit conservation organization that works with private landowners and public agencies to protect and restore Iowa's land, water, and wildlife. INHF has been involved with many trails. https://www.inhf.org/

Illinois DOT

Illinois DOT provides links to the resources and information for county engineers, local public agencies, local planning agencies, and law enforcement. https://idot.illinois.gov/transportation-system/local-transportation-partners/index

Funding sources for **bicycle and pedestrian projects** include Economic Development Program (EDP), Illinois Transportation Enhancement Program (ITEP), and Safe Routes to School Program (SRTS). https://idot.illinois.gov/transportation-system/local-transportation-partners/county-engineers-and-local-public-agencies/funding-opportunities/ITEP

Illinois DNR

The Illinois DNR administers grant programs that can provide funding assistance to acquire, develop and, in some cases,

maintain trails for a variety of public recreation uses. https://www2.illinois.gov/dnr/AEG/pages/illinoistrailsgrantprograms.aspx

Illinois DNR also funds a **Bike Path Program:** https://www2.illinois.gov/dnr/grants/pages/bikepathprogram.aspx

Wisconsin DOT

Wisconsin DOT provides links to the new Bipartisan Infrastructure Act – Local Programs; assistance programs for roads, bridges, and transit; and other financial aid programs. https://wisconsindot.gov/Pages/doing-bus/local-gov/astnce-pgms/default.aspx

Funding programs for **bicycle and pedestrian facilities** include Transportation Alternative Program (TAP) and Safe Routes to School. https://wisconsindot.gov/Pages/doing-bus/local-gov/astnce-pgms/aid/funding-bp.aspx

Regional Technical Assistance

There are regional planning agencies and advocacy groups that help with planning for bicycle and pedestrian facilities.

Blackhawk Hills Regional Council (BHRC)

BHRC is a 501(c)(3) regional planning organization that provides community and economic development, natural resources conservation, and planning services in Carroll, Jo Daviess, Lee, Ogle, Stephenson, and Whiteside counties in Illinois. BHRC prepares trail plans, trail studies, trail sign plans, and community walkability assessments. https://www.blackhawkhills.com/

East Central Intergovernmental Association (ECIA)

ECIA provides community and economic development, housing assistance, special programs, transit, and transportation and planning services in Cedar, Clinton, Delaware, Dubuque, and Jackson Counties in Iowa. ECIA prepares trail plans, assists with grant and loan applications, and maintains a funding guide. https://www.ecia.org/pdf/Community_Project_Funding_Guide.pdf

Southwestern Wisconsin Regional Planning Commission (SWWRPC)

SWWRPC provides community and economic development, transportation planning, GIS mapping, management, administration, and planning services in Grant, Green, Iowa, Lafayette, and Richland counties in Wisconsin. SWWRPC helps communities to meet their transportation needs for walking and biking and Safe Routes to School. https://www.swwrpc.org/

Rails-to-Trails Conservancy (RTC)

RTC is a national 501(c)(3) nonprofit organization with chapters in Iowa, Illinois, and Wisconsin. The RTC Trail Grants Program emphasizes strategic investments that support significant regional and community trail development goals. https://www.railstotrails.org/our-work/grants/

11. RESOURCES AND ENDNOTES

Resources

A Guide for Maintaining Pedestrian Facilities for Enhanced Safety, U.S. Department of Transportation, Federal Highway Administration, 2013, https://safety.fhwa.dot.gov/ped_bike/tools_solve/fhwasa13037/fhwasa13037.pdf

Bicycle Facility Maintenance, U.S. Department of Transportation, Federal Highway Administration, Lesson 21, FHWA Course on Bicycle and Pedestrian Transportation, https://safety.fhwa.dot.gov/PED_BIKE/univcourse/pdf/swless21.pdf

Bikeway Selection Guide, U.S. Department of Transportation, Federal Highway Administration, 2019, https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa18077.pdf

Brown, Alex, "The Year of the E-Bike," *Planning Magazine,* American Planning Association, Dec. 2022, https://www.planning.org/planning/2022/fall/the-year-of-the-e-bike/

City of Asbury Parks and Trails Plan, East Central Intergovernmental Association, adopted by the Asbury City Council, Jan. 2023, https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_11896043/File/Asbury%202023%20Parks%20and%20Trail%20Plan%20Final.pdf

Complete Streets in FHWA, https://highways.dot.gov/complete-streets/implement-complete-streets-improvements. Accessed 8/29/2022.

DMATS 2050 Long Range Transportation Plan. Dubuque Metropolitan Area Transportation Study (DMATS), East Central Intergovernmental Association, Oct. 2021. https://www.eciatrans.org/DMATS/pdf/DMATS%20LRTP%202050%20Adopted%2010-14-21.pdf.

Dubuque Climate Action Plan 2020, Pale Blue Dot LLC, adopted by the Dubuque City Council, July 2020, https://www.cityofdubuque.org/DocumentCenter/View/46662/Dubuque-Climate-Action-Plan-2020_Full-Report_FINAL?bidId=

Dubuque County Comprehensive Parks, Trails, and Open Spaces Plan. Dubuque County, RDG Planning & Design, Sept. 2020, https://www.dubuquecountyiowa.gov/176/Comprehensive-Parks-Master-Plan.

Dubuque County Regional Comprehensive Plan. Dubuque County, East Central Intergovernmental Association, Jan. 2013, https://www.dubuquecountyiowa.gov/237/Dubuque-County-Regional-Comprehensive-Pl.

Dyersville Comprehensive Plan, RDG Planning & Design, adopted by Dyersville City Council, June 2018, https://www.dyersville.org/wp-content/uploads/2021/05/2018_06_01-Dyersville-Comp-Plan-high-res-1-compressed.pdf

East-West Corridor Connectivity Study, HDR Engineering, Inc., Sept. 2010 for the City of Dubuque, https://www.cityofdubuque.org/DocumentCenter/View/1831/FINAL-DRAFTEastWestCorridorStudy-?bidId=

Farley Comprehensive Plan, East Central Intergovernmental Association, adopted by the Farley Council, 2014, https://cdnsm5-hosted.civiclive.com/UserFiles/Servers/Server_15455573/File/Government/Planning/Comprehensive%20Planning/Farley_Comprehensive_Plan(1).pdf

Fineberg, Lou, "What Makes a Good Bike Rack?", *Strong Towns Journal*, Oct. 2016, https://www.strongtowns.org/journal/2016/10/17/what-makes-a-good-bike-rack#:~:text=SECURITY%20AND%20STABILITY%20ARE%20KEY,style%20or%20similarly%20secure%20lock

Grant County Comprehensive Outdoor Recreation Plan, Southwestern Wisconsin Regional Planning Commission, adopted by Grant County Board of Supervisors, May 2021, https://www.cityofdubuque.org/DocumentCenter/View/1831/FINAL-DRAFTEastWestCorridorStudy-?bidId=

Grant Wood Loop Master Plan. Grant Wood Mississippi River Region Board, RDG Planning & Design, 2016, ECIA update adopted by June 2022. https://www.ecia.org/pdf/GWLMP%202022%20Update%20Final.pdf

Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2nd Edition. American Association of State Highway and Transportation Officials (AASHTO), 2021, https://store.transportation.org/item/collectiondetail/224

Guide to Bikeway Facilities, 4th Edition. American Association of State Highway and Transportation Officials (AASHTO), 2012, https://nacto.org/wp-content/uploads/2015/04/AASHTO_Bicycle-Facilities-Guide_2012-toc.pdf.

Hennepin County 2040 Bicycle Transportation Plan. Hennepin County, MN, 14 Apr. 2015, https://www.hennepin.us/-/media/hennepinus/residents/transportation/biking/appendix-i-cost-assumptions.pdf. Accessed 5 Nov. 2021.

Imagine Dubuque 2037 Comprehensive Plan, Teska Associates, Inc., Adopted by the Dubuque City Council, Sept. 2017, https://www.cityofdubuque.org/2432/Imagine-Dubuque

Iowa Bicycle and Pedestrian Long-Range Plan. Iowa Department of Transportation, 11 Dec. 2018, https://iowadot.gov/iowainmotion/modal-plans/bicycle-pedestrian-plan.

Iowa Complete Streets Guide, created by Iowa Bicycle Coalition for the Iowa Department of Economic Development / Main Street Iowa, https://www.iowaeda.com/UserDocs/CompleteStreetsGuide.pdf

Illinois Bike Transportation Plan, Illinois Department of Transportation, 2014, https://idot.illinois.gov/transportation-system/transportation-management/planning/illinois-bike-transportation-plan

Illinois Bike Transportation Plan Technical Memorandums, Illinois Department of Transportation, 2014, https://idot.illinois.gov/transportation-system/transportation-management/planning/illinois-bike-transportation-plan

Jo Daviess County Greenways & Trails Plan, Fehr-Graham & Associates, adopted by the Jo Daviess County Board, Mar. 2009, https://www2.illinois.gov/dnr/recreation/greenwaysandtrails/ComprehensivePlans/JoDaviess.pdf

Manual on Uniform Traffic Control Devices, U.S. Department of Transportation, Federal Highway Administration, https://mutcd.fhwa.dot.gov/.

Northwest Illinois Trails Study, Blackhawk Hills Regional Council, Oct. 2020, https://www.blackhawkhills.com/wp-content/uploads/2020/11/2019-2020-BHRC-Trails-Study-Final-Report.pdf

Noteworthy Local Policies That Support Safe and Complete Pedestrian and Bicycle Networks, U.S. Department of Transportation, Federal Highway Administration, Nov. 2016, https://safety.fhwa.dot.gov/ped_bike/tools_solve/docs/fhwasa17006-Final.pdf

Peosta Forward! Comprehensive Plan/Parks & Trails Master Plan, RDG Planning & Design, adopted by the Peosta City Council, May 2021, https://www.cityofpeosta.org/uploads/documents/2021_05_08_Peosta_Forward_Plan.pdf

RPA 8 2040 Long Range Transportation Plan. Regional Planning Affiliation 8, 23 June 2023, https://www.eciatrans.org/RPA/pdf/Final%20RPA%208%20LRTP%202045%20Approved%206-23-22.pdf

Safe Routes to School Programs, https://www.transportation.gov/mission/health/Safe-Routes-to-School-Programs. Accessed 2/18/2023.

Safe Routes website*,* National Center for Safe Routes to School, https://www.saferoutesinfo.org. Accessed 9/30/2022.

Safe System Brochure, U.S. Department of Transportation, Federal Highway Administration, https://highways.dot.gov/sites/fhwa.dot.gov/files/2022-06/FHWA_SafeSystem_Brochure_V9_508_200717.pdf. Accessed 2/22/2023

Small Town and Rural Multimodal Network Guide. U.S. Department of Transportation, Federal Highway Administration, Dec 2016, https://www.fhwa.dot.gov/environment/bicycle_pedestrian/publications/small_towns/.

Smart Growth America – National Complete Streets Coalition, https://smartgrowthamerica.org/what-are-complete-streets/. Accessed 8/29/2022.

STAR Community Rating System Technical Guide, Version 2.0, STAR Communities, Oct. 2016, US Green Building Council, https://www.usgbc.org/resources/star-community-rating-system-technical-guide-v2

Tri-State Area Integrated Walking, Bicycling and Hiking Network Plan. Dubuque Metropolitan Area Transportation Study (DMATS), East Central Intergovernmental Association, 2010. https://www.eciatrans.org/pdf/Tri-StateAreaIntegratedWalkingBicyclingandHikingNetworkPlan8-08.pdf.

Urban Bikeway Design Guide. National Association of City Transportation (NACTO). Island Press, 2014.

Urban Street Design Guide. National Association of City Transportation (NACTO). Island Press, 2013.

US Department of Transportation (US DOT) Complete Streets, https://www.transportation.gov/mission/health/complete-streets#:~:text=Complete%20Streets%20are%20streets%20designed,bicyclists%2C%20or%20public%20transportation%20riders. Accessed 8/29/2022.

US DOT Policy Statement on Bicycle and Pedestrian Accommodation Regulations and Recommendations, U.S. Department of Transportation, Federal Highway Administration, https://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/policy_accom.cfm. Accessed 1/29/2023.

What Is a Safe System Approach? U.S. Department of Transportation, Federal Highway Administration, https://www.transportation.gov/NRSS/SafeSystem. Accessed 3/22/2023.

Zero Deaths and Safe System, U.S. Department of Transportation, Federal Highway Administration, https://highways.dot.gov/safety/zero-deaths#:~:text=There%20are%20six%20principles%20that,proactive%2C%20and%20redundancy%20is%20crucial. Accessed 4/1/2023

Endnotes

[1] 2013 Dubuque County Comprehensive Plan
[2] 2018 Iowa DOT Plan, p. 118
[3] Ibid
[4] Ibid
[5] 2022 Grant Wood Loop Master Plan Update, p. 2
[6] 2020 DCC Plan, p. 150
[7] ibid, p. 151
[8] 2018 Iowa Plan, p. 14
[9] https://www.fhwa.dot.gov/civilrights/programs/ada/
[10] 2014 ILDOT Bike Plan Technical Memos, p. 156
[11] https://www.fhwa.dot.gov/environment/bicycle_pedestrian/
[12] https://highways.dot.gov/complete-streets/complete-streets-fhwa
[13] https://smartgrowthamerica.org/what-are-complete-streets/
[14] Ibid
[15] https://www.transportation.gov/mission/health/Safe-Routes-to-School-Programs
[16] https://www.saferoutesinfo.org
[17] https://www.transportation.gov/NRSS/SafeSystem
[18] https://highways.dot.gov/safety/zero-deaths#:~:text=There%20are%20six%20principles%20that,proactive%2C%20and%20redundancy%20is%20crucial.
[19] Dubuque County Conservation website
[20] https://www.traveldubuque.com/listing/dubuque-1-bike-route
[21] https://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/shared-lane-markings/
[22] Climate Action Plan, p. 5.3
[23] FHWA Small Town Guide, p. 1-11
[24] Ibid, p. 1-8
[25] 2018 Iowa DOT Plan, p. 69
[26] https://www.fenelonplaceelevator.com/
[27] FHWA Small Town Guide, p. 1-11
[28] 2018 Iowa DOT Plan, p. 31
[29] Ibid, p. 154
[30] 2014 Illinois DOT Plan Technical Memos, p. 59
[31] 2018 Iowa DOT Plan, p. 155
[32] FHWA Small Town Guide, p. 1-4
[33] Ibid, p. 5-3
[34] Ibid, p. 1-9
[35] Ibid, p. 1-10
[36] Ibid

[37] Ibid
[38] 2018 Iowa Dot Plan, p. 94
[39] Ibid
[40] 2018 Iowa DOT Plan, p. 96
[41] Ibid, p. 94
[42] Ibid, p. 64
[43] Ibid, p. 66
[44] FHWA Bikeway Selection Guide, p. 12
[45] Ibid, pp. 26-27
[46] Ibid, p. 32
[47] Ibid, p. 35
[48] Iowa Complete Streets Guide, p. 1
[49] FHWA Small Town Guide, p. 4-11
[50] Ibid
[51] Ibid, p. 4-13
[52] 2018 Iowa DOT Plan, p. 91
[53] Ibid, p. 92
[54] Ibid
[55] https://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/shared-lane-markings/
[56] FHWA Small Town Guide, p. 2-11
[57] Ibid
[58] 2018 Iowa DOT Plan, p. 91
[59] Ibid, p. 5-19
[60] Ibid, p. 5-21
[61] Ibid, p. 5-25
[62] Ibid, p. 5-26
[63] 2018 Iowa DOT Plan, p. 92
[64] Ibid, p. 93
[65] https://www.strongtowns.org/journal/2016/10/17/what-makes-a-good-bike-rack
[66] https://highways.dot.gov/public-roads/spring-2021/02
[67] https://www.planning.org/planning/2022/fall/the-year-of-the-e-bike/
[68] Iowa Complete Streets Guide, p. 6
[69] 2018 Iowa DOT Plan, p. 81
[70] Ibid
[71] Ibid, p. 82
[72] Ibid, p. 83
[73] https://nacto.org/publication/urban-bikeway-design-guide/designing-ages-abilities-new/choosing-ages-abilities-bicycle-facility/
[74] Iowa Complete Streets Guide, p. 2
[75] Ibid
[76] Ibid, p. 7

[77] Ibid
[78] Ibid
[79] 2018 Iowa DOT Plan, p. 49
[80] Ibid, p. 109
[81] FHWA Bicycle Facility Maintenance, p. 1
[82] Ibid, p. 2
[83] Ibid
[84] Ibid, p. 4
[85] 2014 ILDOT Bike Plan Technical Memos, p. 76
[86] Ibid, p. 77
[87] Ibid, p. 86
[88] FHWA Guide for Maintaining Pedestrian Facilities, p. 3
[89] FHWA Report: "*Noteworthy Local Policies…",* p. 2
[90] FHWA Guide for Maintaining Pedestrian Facilities, p. 6
[91] Ibid, p. 1
[92] Ibid, p. 126
[93] https://www.fhwa.dot.gov/bipartisan-infrastructure-law/
[94] Ibid
[95] https://www.fhwa.dot.gov/bipartisan-infrastructure-law/technical_support.cfm