# Davenport
## IN MOTION

BUILDING A 21ST CENTURY TRANSPORTATION SYSTEM

# VOLUME 1

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# Chapter 1 Introduction

The City of Davenport has set the development of a balanced, sustainable, multi-modal Transportation Master Plan as a high-priority goal. This plan, called *Davenport in Motion*, is a vehicle for implementing the policies of Davenport 2025, which calls for a transportation system that is multi-modal, interconnected and supportive of a pedestrian-friendly urban community where residents can access daily needs and activities by foot, bike or transit. Beyond the utilitarian, the City envisions a local transportation system that enhances the character and appeal of the City, and helps to differentiate Davenport as a world-class place to live and do business. *Davenport in Motion* provides a ten-year transportation plan that prioritizes short- and long-term actions for the City to reach its economic development and livability goals.

The process of developing the *Davenport in Motion* plan and setting implementation priorities engaged key stakeholders and the community, and sought to balance residential, commercial, downtown and regional interests. The community is served by roadways and waterways of regional and national significance, including three interstate highways, and five bridges over the Mississippi. Residents are highly dependent on driving, but there is a desire to improve personal transportation options such as walking, bicycling, and transit, including a look at the viability of water-based transportation. Other concerns include a lack of connectivity among modes, traffic congestion, and a desire for neighborhood traffic calming.

### *Plan Purpose: Why Does Davenport Need a Multimodal Plan?*

It is likely that many residents in Davenport feel that the City's transportation system already meets their daily needs adequately. They may wonder, "Why does Davenport need a multimodal transportation plan and strategy?" Streets make up a significant portion of Davenport's land area, particularly in the urbanized parts of the City, and are one of its most utilized and most critical public assets. How the competing demands on those assets are balanced shape how the City grows and whether it thrives or declines in an increasingly competitive national and global economic environment. Particular themes that arose during the planning process and are addressed in the action plan include:

- **Davenport residents desire transportation options and connections.** As fuel costs have risen in recent years, there is an increasing realization that auto-dominated transportation systems are not sustainable. Furthermore, as people try out more active forms of transportation, such as bicycling, they are increasingly realizing the health and well-being benefits of active transportation (for more detail see the Davenport in Motion Fact Book sections 6F and 7D, included as Volume 4 of this plan).
- **Economic competitiveness relies on diverse and safe transportation options.** Across the United States there is an increasing race to attract young and educated citizens, often dubbed the "creative class," who are seen as the future leaders of economic and civic institutions. Research shows that these people like active streets and vital neighborhoods. The revitalization of Downtown Davenport and the Riverfront is well underway, but street life is still limited in part by high-speed traffic and a walking environment that is hostile to pedestrians. New companies or families looking to relocate pay great attention to a community's

civic center, recreation opportunities such as trails, transportation options including transit as well as congestion and opportunities for goods movement. Transportation is vital to Davenport's continued economic success (for more detail see Fact Book section 7B).

- **Rapidly emerging evidence of escalating global climate change will introduce new economic and social practices.** Transportation accounts for roughly 30% of our greenhouse gas emissions and any solution will require change not only in fuel efficiency and energy sources, but also how we travel and how we organize our lives. As is evidenced in some states already, a community or region's approach to reducing its carbon footprint may become an important criterion for transportation and other types of infrastructure funding (for more detail see Fact Book section 7A).

A network of attractive sidewalks is a key element of a successful downtown

*Source: U.S. EPA Smart Growth*

- **Our country is having a public health crisis and how we get around has a major influence on our physical health and well being.** Furthermore, a healthy citizenry reduces government costs, ensures our children grow up active and motivated and increases productivity in many areas. Safe and inviting streets and pathways are essential to encouraging active lifestyles and giving Davenport residents opportunities for recreation and to enjoy the outdoors (for more detail see Fact Book section 7D).

> "People look for the same things in a city that they look for in a company: energy, amenities, inclusiveness and a sense of fun. Talented and creative people want to be where the action is and where the interaction is. That is where they find unique life experiences – and that's where their ideas stand the chance of coming to fruition."
>
> – Richard Florida, *The Rise of the Creative Class (*Basic Books, 2002)

Investments that encourage walking and bicycling allow moderate levels of physical activity to be incorporated into daily routines. According to the Centers for Disease Control, there is no single better indicator of public health than rates of walking.

*Source: Nelson\Nygaard*

### *Plan Organization*

The plan identifies projects and policies to help Davenport address these themes over the next ten years. It prioritizes the projects and provides detailed design, implementation and policy guidance for specific parts of the transportation system. It is organized as follows:

**Volume 1: Building a Transportation System for the 21st Century**

- **Introduction (Chapter 1)**
- **Guiding Principles (Chapter 2):** Describes guiding principles for Davenport in Motion, developed in the early stages of the project
- **Mobility in Davenport (Chapter 3):** Describes the mobility challenges in building a balanced transportation system and the design principles and scales for thinking about mobility
- **Summary (Chapter 4):** Describes the key issues, principles, and recommendations identified by Davenport in Motion for each element of the transportation system
- **Project Prioritization (Chapter 5):** Identifies multimodal projects for implementation in four time frames: the first year, short-term (years 1-3), medium-term (years 3-10), and long-term (beyond 10 years)

**Volume 2: Elements of the 21st Century Transportation System**

- **Parking Element (Chapter 6):** Focuses on management of parking in downtown
- **Streets Element (Chapters 7 & 8):** Comprised of a street design guide and a street network plan, with descriptions and illustrations of street projects
- **Bicycle Element (Chapter 9):** Provides a blueprint for a citywide network of bicycle routes and lanes with descriptions of bicycle projects
- **Transit Element (Chapter 10):** Focuses on policy and implementation actions related to transit, leading to development of a priority transit network

**Volume 3: Appendices**

- **Northwest Area Plan (Appendix A):** Developed by Jeff Speck & Associates as an element of Davenport in Motion, this chapter provides a conceptual land use and transportation framework for the development of 25 square miles of Northwest Davenport, which will be open for development when a new sewer interceptor is completed
- **Northwest Area Nodal Cost Evaluation (Appendix B):** Analyzes direct and indirect costs and benefits of conventional development of the Northwest Davenport compared to the "nodal" approach exemplified by the Northwest Area Plan
- **Traffic Modeling (Appendix C):** Provides detailed traffic modeling for several major projects – the recommend two-way conversions of 3rd/4th Streets and Brady/Harrison Streets and intersection/safety projects along Kimberly Road west of Brady Street
- **Cost Estimation Methodology (Appendix D):** Provides high-level cost figures for use in estimating project costs

**Volume 4: Davenport in Motion Fact Book**

- Developed in the early stages of Davenport in Motion, the Fact Book documents existing conditions and best practices

# TRANSPORTATION AND ECONOMIC DEVELOPMENT

## How do transportation investments further Davenport's economic development goals and objectives?

As discussed in Section 7B of the Davenport in Motion Fact Book (Volume 4 of this plan), downtown infrastructure has benefited from many private and public investments in recent years. This level of attention and effort stands in contrast to years of urban disinvestment prior to 2000. To continue its successful redevelopment of downtown, Davenport must improve pedestrian safety and comfort, redesign "complete" streets that provide efficient access for cars, transit riders, walkers, and bikers, maximize the visibility and attractiveness of downtown businesses to customers, and ensure efficient goods movement. Smart transportation investments can help Davenport to achieve its economic development goals, summarized in Chapter 2 of this plan.

## How do Complete Streets, a balanced multi-modal transportation system, and effectively managed parking strengthen the local economy?

A sound transportation system comprised of a network of Complete Streets is a fundamental foundation for the local and regional economy, linking neighboring commercial, residential and activity centers throughout the community with accessible and efficient connections. Such a system contributes to a more vital business environment by providing access to educational, job training, and employment opportunities as well as retail and medical services, recreation, and entertainment. Research shows that Complete Streets can bolster the economy, increase property values, and lead to job growth. Key transportation system elements that support strong downtown and neighborhood business districts include:

- Effectively managed parking, priced to ensure that there is sufficient on-street parking available while minimizing the over-supply of parking, particularly in surface parking lots.
- Street designs that promote a range of convenient multi-modal transportation options, improving conditions for existing businesses and helping to revitalize neighborhoods and attract new development.
- Frequent high-quality transit service, which can attract development and investment, especially where transit services are perceived to be more permanent. Infill development will be more attractive if it is accessible to transit and inviting to pedestrians.
- Non-motorized transportation options and automobile speeds that are reduced to a comfortable level through traffic calming, improving economic conditions for business owners and livability for residents. Studies have found that increased levels of pedestrian and bicycling activity and other street modifications can increase retail sales.

## How have multi-modal transportation improvements and programs supported economic development in other cities?

As discussed in the Fact Book (Section 7B), economic benefits realized in other communities include:

- Pasadena (CA): Revenues from Parking Benefit Districts are reinvested in street maintenance, marketing, and streetscape improvements within the district. Sales tax revenues increased more than tenfold between 1992 and 1999, compared to stagnant revenues at a nearby shopping mall with free parking.
- Boulder (CO): Fully subsidized transit passes through the Eco-Pass program led to double digit increases in transit mode share, helping downtown businesses attract employees and save on the cost of providing parking, as well as freeing premium parking spaces for customers.
- San Francisco (CA): A 4-to-3 lane road diet and narrowed traffic lanes on Valencia Street in San Francisco's Mission District reduced traffic speeds and accommodated bicyclists. Local retailers reported increased sales and residents patronizing local businesses.
- Outer Banks (NC): 17% of visitors to the area (680,000 people annually) bicycled while visiting and spent over $60 million per year – compared to an estimated $6.7 public investment in off-street paths and widening roadway shoulders. These visitors are estimated to support over 1,400 jobs.

Additional positive economic benefits of a strong multi-modal system are that transit passengers, walkers, and pedestrians save money by driving less frequently, spending less on gas, insurance, and vehicle maintenance. As a result, this population has more money to spend and can reinvest it in the local economy.

# Chapter 2 Guiding Principles

An early phase of the DIM process was to develop a set of guiding principles by which to develop, evaluate, and prioritize transportation programs and improvements. Guiding principles were crafted with input from the public, the Stakeholder Advisory Committee and City staff. The identified guiding principles for Davenport in Motion are:

- **Transportation Options and Connections:** Transportation system investments should be oriented to enhancing accessibility to key destinations, increasing multi-modal options, and enhancing the connectivity between modes. Most of the other principles (following) are achieved as a result of efficient and fair improvements to the transportation system.
- **Riverfront and Downtown Public Space:** Focus on making Davenport's riverfront and Downtown great places for people. Objectives include creating a walkable environment and improving multi-modal access to key locations and activity centers in the Riverfront and Downtown.
- **Economic Vitality:** Support revitalization efforts and a climate that encourages growth of existing and new businesses. Objectives relate to maintaining freight capacity and supplier access in Downtown and improving parking management.
- **Land Use and Quality of Life:** Support improvements to quality of life in the Downtown and neighborhoods. This may include some things, such as land use decisions and open space development, which are not directly a result of a transportation improvement, but should be considered and coordinated when possible.
- **Public Health and Safety:** Maintain and enhance programs designed to promote health and ensure the safe, secure operations and utilization of transportation systems. Objectives including improving safety and security for all travel modes and enhancing public health through creating multi-modal travel options.
- **Environmental Quality:** Reduce negative consequences of transportation construction projects and operations, and optimize benefits that might occur by trip reduction and other transportation efficiencies (e.g. better air quality, reduced carbon footprint).

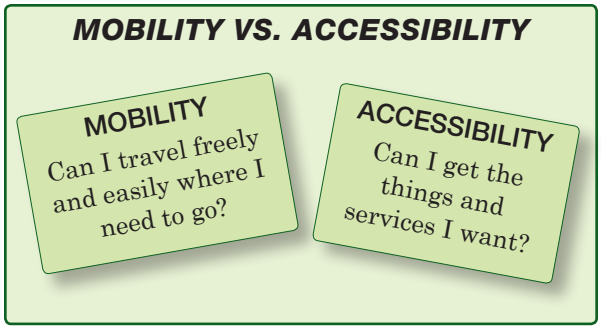
The matrix in Figure 2-1 describes key objectives that support the DIM guiding principles.

**Figure 2-1 Davenport in Motion: Guiding Principles and Objectives**

| Guiding Principles | Objectives |
|---|---|
| **Transportation Options and Connections:** Enhance accessibility to key destinations, increase multi-modal options, and enhance the connectivity between modes. | Create a balanced transportation system that provides high quality access to homes and destinations by all modes |
| | Increase transit ridership, by improving speed, reliability and the quality of fleet and facilities |
| | Increase bicycling and walking; enhance multi-modal connectivity and integration between modes |
| | Ensure efficient movement of freight and goods and delivery access |
| | Connect Davenport and Rock Island downtowns and improve non-automobile connections across the Mississippi River |
| **Riverfront and Downtown Public Space:** Make Davenport's Riverfront and Downtown great places for people. | Create a walkable downtown and riverfront |
| | Improve multimodal access to downtown jobs, services and activity centers (educational, cultural, and economic attractions) |
| | Make the riverfront and downtown accessible to all people, by all modes |
| **Economic Vitality:** Support revitalization efforts and create climate that encourages growth of existing and new businesses. | Maintain goods delivery and supplier access to downtown businesses; improve freight reliability and capacity |
| | Manage parking efficiently and ensure that it supports downtown business needs and promotes new development |
| **Land Use and Quality of Life:** Support improvements to quality of life in the downtown and neighborhoods. | Coordinate transportation and land use development to promote walkable neighborhoods (20-minute neighborhoods) |
| | Develop contiguous park and open space corridors through existing and proposed neighborhoods and link community amenities |
| **Public Health and Safety:** Maintain and enhance programs designed to promote health and ensure the safe, secure operations and utilization of transportation systems | Improve overall safety and security for all travelers |
| | Improve public health by creating safe options for active transportation |
| **Environmental Quality:** Ensure transportation system supports and protects natural resources. | Reduce transportation-related $CO_2$ emissions |
| | Minimize impacts of transportation construction and operations on air, land and water quality |

# Chapter 3 Mobility in Davenport

*Davenport in Motion* is a citywide transportation plan responding to the mobility needs articulated by Davenport residents in Davenport 2025 and the guiding principles for Davenport in Motion. This chapter describes the needs and challenges for mobility in Davenport today, and articulates design principles for meeting those challenges and the scales at which these principles can be applied: downtown, neighborhood centers, and corridors.




### *Challenges and Opportunities*

The City's comprehensive plan, Davenport 2025, articulates residents' transportation concerns, including:

> *lack of connections, the desire for congestion relief, the need for traffic calming measures; interest in an overall street hierarchy; design of parking lots; planning for phased development of streets; right-of-way concerns; beautification of gateway streets; consistent development policies for streets and transportation infrastructure; desire for the City to open land for development through construction of arterials and bridges over creeks; increased attention to pedestrians; trail system improvements; trolleys, light rail, and bus transit; linking the transit system to land development opportunities; requiring medians and boulevards within city streets; and requiring walks and paths in all residential neighborhoods.*

Some of these concerns are an unintended consequence of Davenport's post-World War II prosperity, economic growth, and outward expansion into new subdivisions, where workers depended on the automobile for access to downtown employment. Responding to this demand for access, many streets were widened or changed to one-way configurations. Aging downtown buildings were razed for surface parking or new parking ramps. In unforeseen ways, these changes contributed to the decline of the downtown and historic neighborhood centers such as the Hilltop District; older Hilltop area residents and business owners can still recall the decline of local business immediately following the conversion of Harrison and Brady Streets to a one-way couplet.

Most of the city's historic older neighborhoods and downtown lie south of Kimberly Road, the major arterial street running east-west through Davenport's geographic center. The lack of east-west street connectivity in the more recently developed areas north of Kimberly Road forces an imbalanced volume of traffic onto this corridor and creates a significant barrier between north and south Davenport. Unless the City's approach to meeting its residents' mobility needs changes, the increasing need to widen Kimberly to accept growing traffic demands will establish vehicular

travel as the only safe travel option through a broad cross-section of the City. A decision to maintain the status quo would come at the expense of pedestrian safety, the health of children with no safe travel option other than being driven to school, and possibly the long term economic vitality of the City, as many indicators show that real estate development is trending toward integrated communities with mixed land uses and transportation options. Recent years have seen an emerging shift in desires in cities nationwide. Aging Baby Boomers and younger generations alike increasingly seek to live in complete urban neighborhoods where it is possible to walk to a grocery store, for a child to walk or bicycle to school, or for parents to bicycle safely to work. In Davenport, this shift in emphasis can be seen in streetscape improvements on 2nd Street that have enhanced the pedestrian environment and helped encourage local business investment. Bike lanes on Marquette Street and Jersey Ridge Road and "shared street" bike routes on Gaines and Main Streets have created options for non-motorized travel, complementing the City's off-street trail network. Still, on a citywide basis a number of major streets are almost exclusively automobile-oriented and in many places walking and biking are unsafe.

Challenging bicycling and pedestrian environment: Kimberly Road

*Source: City of Davenport*

Transportation options: existing on-street bicycle lanes on Jersey Ridge Road.

*Source: City of Davenport*

This plan recommends a course of action to continue a pattern of change that the City has already initiated. The following two sections of this chapter discuss the design principles that are the building blocks for a comprehensive mobility system in Davenport, and how they can be applied at several different scales of the City: the downtown core, neighborhood centers, and transportation corridors.

## *Design Principles*

Within a city, there are a number of critical relationships and design elements that urban designers, engineers and transportation planners agree are critical building blocks of a healthy transportation system. As specific projects and policy initiatives recommended by Davenport in Motion are implemented, these basic principles should be considered the fundamental considerations of transportation and land use policy decisions:

**Urban form**: Scale is a critical design parameter that determines the size and amounts of several important street design elements that are fundamental to how a street is perceived by the user. The scale of a street relates to the proportion of the height of the adjacent buildings, related to their separation by the width of the streetscape itself. When this ratio is too big users can feel overwhelmed; when it is too small there is no sense of enclosure. In corridors that will be developed as important transit and pedestrian thoroughfares, increasing the density of development along the street not only focuses the transit market but can have the design advantage of improving the scale of the buildings to the street in a way that forms a coherent and interesting corridor.

Urban form: Buildings appropriately-scaled to the street create a sense of enclosure that is comfortable for pedestrians and serves as a visual cue for drivers to maintain slower speeds

*Source: Nelson\Nygaard*

**Speed**: A pedestrian typically walks approximately 4 feet per second and therefore has the opportunity to view building façade and streetscape details in a different manner than a motorized traveler. The basic idea that buildings create outdoor rooms and amenities is negated by automobile use. This doesn't mean that automobiles are irrelevant, simply that they should not be treated as the

primary and preferred entry vehicle into a city's downtown or urban living room. This is also not to say that vehicle speed is unimportant. People both inside and outside vehicles (pedestrians) have acute awareness of vehicle speed. Autos traveling over 25 miles per hour are likely to make pedestrians uncomfortable if there is a limited buffer between traffic and the street or insufficient design to control mixture at intersections. Conversely, higher speeds will decrease a driver's vision tunnel and eliminate opportunities for motorists to connect with visual cues created by buildings and businesses to capture patrons.

**Reliability and Redundancy**: While delay is often seen as the most frustrating aspect of travel, it is really a balance of reliability and speed that most people seek. People tend to be frustrated with travel conditions when they deviate from the norm. Well connected, multimodal transportation systems maximize options and limit delay when incidents occur by providing redundant systems and travel paths. Cyclists experience the best reliability of almost any urban users as they can almost always negotiate around an incident and are not subject to travel delays due to congestion. Many cities that have advanced their bicycle networks to serve a broad range of population are now seeing migration of transit commuters to bicycles due to travel time savings on trips less than 3 miles and greatly enhanced reliability.

**Connectivity**: The best street networks for both motorized and non-motorized travel are usually fully interconnected (no dead end or cul-de-sac streets), although continuous, interrupted routes are particularly beneficial for pedestrian and bicycle travel. Where the street network is interrupted there is great value in continuing walking paths or providing pedestrian/bicycle cut-throughs even if road lanes do not connect. From a driver's perspective, the most efficient means to increase capacity in an urban environment is a grid of smaller streets.

**Price**: One basic principle that transportation planners and city designers have long ignored is price, or standard principles of supply and demand. Decades of policy support to subsidize automobile travel have caused a skewed relationship between how we supply infrastructure, streets and parking to accommodate one type of user – the driver – compared with all other system users. This subsidy helped fuel widespread demand for one type of travel even as it suppressed demand for others, often with disastrous consequences for pedestrian-oriented businesses, neighborhood retailers and civic places designed for people and not their cars. This plan discusses the importance of pricing the City's most valuable access points – downtown curb spaces – and beginning to think about the real and external costs of disconnected suburban land development.

Speed: On-street parking, street trees and a wider sidewalk would help buffer pedestrians from the outer travel lane on this commercial section of Harrison Street.

*Source: City of Davenport*

Reliability and redundancy: for in-city trips under 3 miles, cycling is often the fastest and most reliable means of door-to-door travel

*Source: Nelson\Nygaard*

Connectivity: maintaining pedestrian and bicycle connections, even where streets are closed, improves the viability of non-motorized travel as well as transit, since every transit trip starts and ends on foot.

*Source: Nelson\Nygaard*

Price: abundant free parking can lead to inefficient land use and detract from the aesthetic appeal of the downtown area.

*Source: Dan Burden / pedbikeimages.org*

## *Design Scales*

This section briefly discusses how the above design principles are applied at three key "scales" of the City: the downtown, the commercial centers of its neighborhoods and the corridors that connect these defining places. A successful transportation and mobility plan for Davenport will reinforce the strongest elements of the existing city structure and improve those that contribute to inefficient travel patterns and land use impacts.

Figge Art museum.

*Source: Nelson\Nygaard*

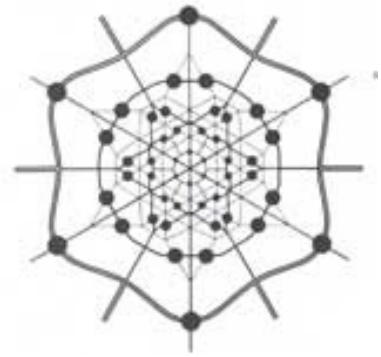
### DOWNTOWN

Attractive, highly accessible and compact downtowns build community, increase personal opportunity, reduce costs and improve the environment more than any other strategy for city or regional growth.[1] In recent years downtown Davenport has seen many exciting investments in civic infrastructure including the Figge Art Museum, streetscape improvements and private housing redevelopment. Although the number of projects recommended in this plan that are in or touch the downtown core may seem disproportionate, the emphasis is intentional. Downtown is the one place within the City that all residents share, and for this reason investments at the center create the highest return on public investment. Even a company considering investing on the outskirts of the community will care about the quality and vitality of downtown.

To continue the successful redevelopment of downtown, Davenport must improve pedestrian safety and comfort, redesign streets to provide efficient access for cars, transit riders, walkers and bikers alike, and ensure that businesses can receive and move goods efficiently. Strengthening the downtown area will be supported by a range of convenient transportation options as well as innovative parking management strategies.

### NEIGHBORHOOD CENTERS

The term "center" is used to describe a concentrated and compatible mix of urban land uses that serves as a node of activity within a city. The historical expression of this concept is the downtown or neighborhood commercial district that contains a variety of land uses usually centered on retail services. The scale, or size, of a neighborhood is critical to its quality as experienced by its residents and visitors. In Davenport, the Hilltop District and the Village of East Davenport are good examples of historic neighborhood centers.



The famous Austrian architect, Victor Gruen, developed this conceptual diagram to show the potential to have numerous centers of varying sizes in a city connected by urban thoroughfares or transit lines.

*Source: Victor Gruen*

Where basic planning principles, such as good access, compact form, mixing of land use types, and internal circulation cannot or are not being applied, older centers often fail or decline. Or, they, along with potential new centers, sprawl well beyond any ability to function effectively. Much of Davenport's land development in the last several decades either lacks any neighborhood commercial center or the necessary compactness, accessibility, and ease of internal circulation required to make historic centers effective. The results are levels of congestion, cost, confusion and discomfort (for pedestrians) that greatly limit their ability to function as positive civic spaces.

The Hilltop District and the Village of East Davenport (photo) are examples of neighborhood centers in Davenport.

*Source: City of Davenport*

Many of the places we most like to vacation were laid out long before the advent of the automobile and with the primary intent of serving pedestrian mobility, organizing all needed services within walking distance.

1 mixedusecores.com

While we lost sight of this principle in transportation planning, the fact remains that all people are pedestrians and that (almost) all travel is at least in part made on foot. Around the nation, desires for sustainable living, decreased energy consumption, support for local businesses, and more active and healthful mobility has led to an interest in fostering the development or redevelopment of walkable communities, or 20-minute neighborhoods (see sidebar).

## Walkable Urbanism and the 20-Minute Neighborhood

Recent research shows that housing in mixed use environments, with pedestrian friendly street designs and quality access options, produces 30% to 50% fewer vehicles miles traveled than a conventional suburban development. The idea that sustainable, healthy neighborhoods are places where one can walk or bike to most daily life needs in 20 minutes or less is captured in the terms "urban village" or "20-minute neighborhood." The latter term was coined in Portland, OR and has caught on with private developers who have successfully used it to sell real estate as a lifestyle choice, enticing customers to live in a place near great urban amenities, walkable streets, parks and public transit. The defining characteristics of such "walkable urbanism" include:

- **Distance,** directly related to how easy it is to travel by foot or bike. A 20-minute walk equates to about one mile walking at a fast pace. Studies show that the average person would walk between a quarter to half a mile, or about 5 to 10 minutes, under safe, conducive walking conditions (e.g. sidewalks and short blocks). Distance is also influenced by the presence of slopes over 20%, and transit service, which gives access to more distant destinations.
- **Destinations,** referring to the quality and diversity of nearby businesses (grocery stores, eating and drinking establishments, and neighborhood-serving retail) and public facilities (schools, parks, and libraries).
- **Density,** needed to provide residents and employees in sufficient numbers to support these businesses and public facilities. Higher residential densities are needed to support a walkable urban neighborhood than those typically found in areas where the car is the dominant mode of travel – 12 to 18 dwelling units per acre according to some studies.

At its heart, the 20-minute neighborhood concept is a return to an urban scale that puts auto mobility in its proper urban context. Walkable environments – or 20-minute neighborhoods –generally include the following key characteristics:

- Distinct and identifiable centers and public spaces
- Mixed-use and dense development near neighborhood services and transit
- Building scales that are comfortable for pedestrians
- A variety of connected transportation options
- Lower-speed streets designed to be accessible for all street users
- A street grid or other frequently connected network of local streets

Walk- and bike-friendly traditional neighborhood with a mix of uses.

*Source: Nelson\Nygaard*

Residents in walkable neighborhoods benefit directly from reduced overall household transportation expenditures, which consume between 15% and 30% of most household incomes in the U.S. A recent study by the Victoria Transportation Policy Institute (VTPI) shows that living in a walkable area near transit can reduce annual vehicle, parking and road cost savings by an average of $1,040 per capita, plus other benefits including reduced congestion, reduced pollution, increased safety, improved mobility for non-drivers, and improved fitness and health.*

**Raise My Taxes, Please! Evaluating Household Savings From High Quality Public Transit" ( http://www.vtpi.org/raisetaxes.pdf )*

*References: City of Portland, Status Report: 20-minute Neighborhoods, 5/26/2009 . http://www.portlandonline.com/portlandplan/index.cfm?a=246917&c=46822*

## CORRIDORS

Major roadways connecting cities and centers are also key elements of our urban form and have long attracted commercial development due to the exposure and ease of access by high volumes of people and the ease of goods movement. As cities develop and redevelop, these corridors are a key focus of land planning, personal mobility and economic investment. A corridor can be seen as a series of centers or "cores" connected by one or more means of transportation. However, in Davenport as in other cities, many centers or corridors have become oriented to access and travel by the automobile, redesigned to encourage fast vehicle speeds at the cost of creating unsafe and unpleasant pedestrian environments.

Harrison and Brady Streets are the historical transportation corridors along which Davenport expanded outward from the Mississippi River. Then as today they connect a variety of institutional, civic, and residential uses. As with other corridors, the key challenge for Harrison and Brady is to serve the important commercial function of a neighborhood center, in the Hilltop District for example, while providing critical through travel. Detailed in the next chapter, the recommendations of this plan are intended to balance the need for movement of people and goods with the need for safe pedestrian travel and slower speed access to local businesses.

A successful, traffic calmed corridor that balances the needs of motor vehicles, buses, pedestrians and businesses. A parallel route provides the primary through bicycle access, however there is plentiful bicycle parking adjacent to storefronts.

*Source: Nelson\Nygaard*


3rd Street, 1952.

*Source: City of Davenport*

# Chapter 4 Summary of Davenport in Motion

This chapter summarizes the key issues, design principles, and recommendations for each element of the transportation system. Each section of this chapter notes where a more detailed discussion of each element can be found in Chapters 6-10 of this plan.

## *a. Downtown Parking Management*

See the **DIM Parking Element (Chapter 6)** for details about downtown parking

### KEY ISSUES

One of the key transportation (and economic development) issues for Davenport is that there is excess parking in downtown. Most visibly, vacant on-street parking spaces convey a lack of interest in downtown and are bad for economic vitality. An overbuilt public system of parking ramps and oversupply of surface parking contributes to low utilization of on-street parking and detracts from an interesting and pleasant walking environment. Plentiful free or low cost parking means commuters have one less incentive to use alternate modes of transportation, particularly transit, inhibiting the ability of CitiBus to attract a higher share of downtown travel and the necessary demand to support higher levels of transit service.

As recently as 2006, on-street parking meter rates were increased to encourage use of Davenport's parking ramps. An inventory of downtown parking conducted in mid-2009 as part of *Davenport in Motion* showed that these rates were higher than and the parking meter zone broader than demand warrants. A "Right-Pricing" pilot program was initiated in late-2009 to temporarily allow free parking in downtown with a two-hour limit, allowing the City to determine when and where meters are needed. The outcome of this program confirmed that there is excess parking and highlighted a conflict between the short-term need to attract sufficient parking revenue to pay down

RiverCenter ramp: the Parking Element recommends steps to increase utilization of the most popular city ramp.

*Source: Nelson\Nygaard*

"Right-pricing" parking and eliminating excess surface parking will help increase on-street parking utilization; vacant meters create a sense of lost interest in downtown.

*Source: City of Davenport*

debt service on the City's parking ramps and the recommendation to manage the City's parking resources based on the principle of matching meter pricing and locations to actual demand. A follow-up survey of downtown parking conducted by the City in June 2010 showed that there has been an 8% increase in parking downtown from the prior year, including decreased parking in the ramps and increased parking on-street.

## PARKING MANAGEMENT PRINCIPLES

This plan focuses on three primary objectives related to parking:

- Recapture the value of downtown's on-street parking supply by increasing curb utilization rates
- Provide a long-term plan to capture as much parking activity within the combined public supply – curbs, lots, and ramps – as possible
- Establish a long-term parking policy that supports the revitalization of downtown by focusing management on maintaining access and appeal, and directly linking rates and revenue to demand

## RECOMMENDATIONS

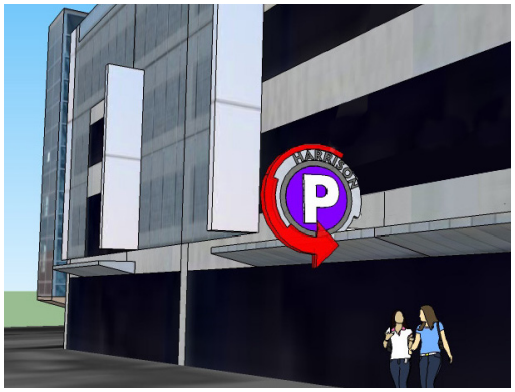
Several of the key actions related to parking are listed below, with a full set of recommendations and additional detail contained in the Parking Element of this plan (Chapter 6):

- **Manage on-street parking based on an 85% occupancy goal.** The key recommendation of Davenport in Motion is that on-street parking should be priced based on market demand. The zone and price for metered parking should be based on a goal of 85% parking occupancy on any given block (or 15% of spaces vacant). This encourages trips downtown since drivers can be assured of easily finding a convenient parking spot near their destination, and eliminates traffic caused by drivers searching for parking. Reducing the price of on-street parking should result in more spaces occupied, which helps demonstrate that people want to be downtown, maintains consistent parking revenues, calms traffic, and separates pedestrians from vehicle traffic. These outcomes are good for business owners as well as drivers and pedestrians downtown. A number of supporting steps outlined below help improve management of Davenport's parking resources and encourage parking on-street, where it is most beneficial.

Optimum parking meter rates and zones should be set so that on-street parking is well-utilized with one to two free spaces per block

*Source: Nelson\Nygaard*

- **Adopt a formal "Park-Once," shared parking management policy.** Encouraging drivers to park in one place and walk between multiple downtown destinations provides maximum exposure for businesses and fosters a sense of vitality downtown.
- **Improve wayfinding and branding for downtown parking ramps.** Placing signage at ramp entrances (as shown) and providing directional wayfinding signage to the ramps on major routes entering downtown would direct drivers to the ramps, whose inconspicuous design makes them difficult to find, and support the "Park Once" policy.





To increase the visibility of Davenport's parking ramps, the City created and installed wayfinding signage mounted on light posts and traffic signal mast arms (right photo) to direct drivers to downtown parking opportunities. The left image illustrates one of the design options for signage at ramp entrances, scheduled for installation by Fall 2010.

*Source: City of Davenport*

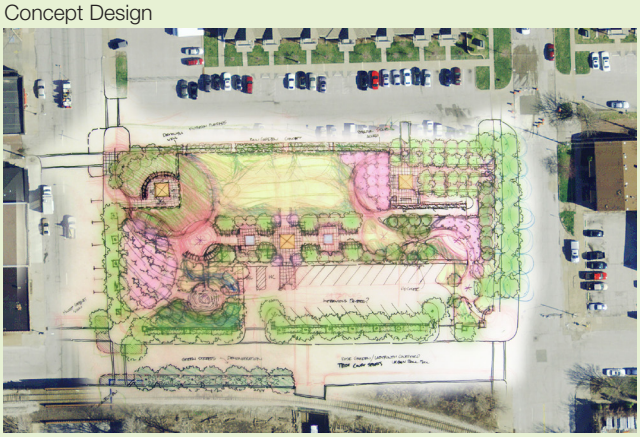
- **Eliminate excess surface parking lots in downtown and improve their appearance, signage, and access.** Given that the City has plenty of both on- and off-street parking capacity (in its parking ramps), excess surface parking lots in downtown contribute to under-utilization of on-street parking. The City should identify and promote redevelopment of underperforming surface lots. Where short-term opportunities are not available, the City should convert portions of parking lots to green space, bicycle parking, or active sidewalk uses (see concept plan and photos below). Pedestrian paths through these lots would also reduce walking distances and improve safety. Information on the hours, rates, and availability of permits/passes should be prominently displayed at each lot.

**5th and Brady Lot Green Space Concept**

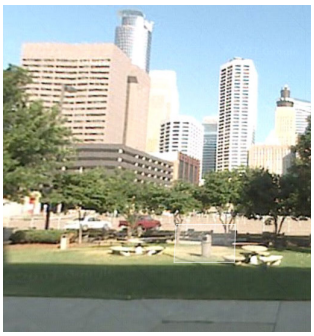
The City is working on plans to convert a substantial portion of the 5th and Brady surface parking lot into "green space." An aerial photo of the existing lot and an initial design concept are shown below.

Existing

Initial Concept Design



*Source: City of Davenport*



A park created along the edge of a downtown parking lot in Minneapolis attracts downtown office workers at lunchtime.

*Source: Google Street View*


Food carts along the edges of many surface parking lots in Portland (OR) turn them into attractive public spaces.

*Source: Nelson\Nygaard*

## *b. Street Design*

See the **DIM Street Design Guide (Chapter 7)** and **Street Network Plan (Chapter 8)** for details about street design and proposed street projects

### KEY ISSUES

Over the past forty years, street design focused primarily on motor vehicle movement, and the emerging discipline of traffic engineering worked to safely integrate cars and trucks into pre–existing urban forms. While there were clear benefits to accommodating automobile movement through the city, the negative effects have become increasingly evident. The focus on automobiles has resulted in a different form of land development patterns, emphasizing vehicle access (and not person access), and has come at the expense of other uses of the street, other transportation choices, vitality of businesses, and safety.

The key role for Davenport's downtown streets is to support a vital urban environment. They must bring people downtown by all modes (auto, transit, bicycle, and walking) and provide an attractive and safe walking environment for people within downtown. Two of the major downtown corridors (3rd/4th Street and Brady/Harrison Streets) run one-way, limiting visibility of and access to businesses. All downtown streets should have a safe and attractive pedestrian environment that promotes walking downtown.


Harrison Street, 1952, as a two-way street. The conversion of Harrison/Brady Streets and 3rd/4th Streets to one-way streets in the mid-1970s decreased the visibility of businesses to drivers, while increased traffic speeds also made the streets less attractive for pedestrians.

*Source: City of Davenport*

In contrast to the well-developed street grid in older parts of Davenport, newer parts of the City were not designed with a street grid, particularly along and north of Kimberly Road. As a result, travel even between adjacent neighborhoods must occur on major connecting arterials, creating increasing traffic demand on these streets. These major streets are difficult and/or unpleasant for pedestrians and bicyclists and with a lack of alternative through routes, Davenport residents who would like to access destinations by walking or bicycling lack good, safe transportation options.


Although this downtown building on 4th Street is now being revitalized, its current state is a legacy of 25 years of urban disinvestment. The City's policies since 2000 have created momentum for investment in downtown, however Davenport's downtown one-way streets remain a disincentive to private investment and are a significant obstacle to restoring the vibrancy of downtown.

*Source: Nelson\Nygaard*

In both older and newer parts of the city a number of arterial streets have four vehicle travel lanes. At one point in time, widening undivided urban roadways with moderate traffic volumes from two to four lanes was a common practice in Iowa, but four-lane undivided roadways have since been shown to have negative safety impacts and negligible traffic benefits. In Davenport, as in other cities in Iowa, converting these roadways to three-lane roadways (two travel lanes with a center turn-lane) presents an opportunity to rebalance the allocation of roadway space for the benefit of all roadway users.

## STREET DESIGN PRINCIPLES

The fundamental goals of Davenport in Motion are to change how street space is allocated within the existing street right-of-way, designing each street for the appropriate context to ensure safe vehicle travel speeds and mobility for all travel modes. Where the street grid is not well developed in parts of the City, Davenport in Motion identifies opportunities for completing missing street connections. This section explains the recommended techniques for achieving these goals.

### Create Complete Streets

"Complete Streets" are designed to accommodate all travel modes (see sidebar and the Davenport in Motion Fact Book, page 6B-5). Although the travel needs of each street are unique, complete streets are designed to balance multimodal access and mobility, enhance the pedestrian environment, and calm traffic to improve both safety and livability.

### Characteristics of a Complete Street

- Provides a complete range of travel choices
- Connects to a network that offers choices
- Is fully accessible to all children, seniors and people with disabilities
- Is an important element of our public space & contributes to our social fabric

This part of 2nd Street is an example of an existing complete street in downtown Davenport.

*Source: Jeff Speck*

### Complete Street Projects on Four-Lane Undivided Roads

A number of the Complete Street projects recommended by Davenport in Motion are on four-lane undivided roadways. A two-year before and after study of US 61 through Ft. Madison, Iowa (10,000 to 14,000 Average Daily Traffic) before and after it was widened to four lanes demonstrated that the four-lane configuration creates negative safety impacts without providing capacity or travel time benefits.

- Mid-block 85th% Speed: Increased 2.5 mph
- Traffic Traveling More than 5 mph Over Speed Limit: Increased from 0.5% to 4.2%
- Accident Rate Increased 14%
- Injury Rate Increased 88%
- Total Value Loss Increased 280%
- Traffic Volume: Increased 4%
- Corridor Travel Delay: Increased 4%

*Source: Thomas M. Welch. The Conversion of Four Lane Undivided Urban Roadways to Three Lane Facilities, Office of Transportation Safety, Engineering Division, Iowa Department of Transportation. Presented at TRB/ITE Urban Street Symposium, 1999.*

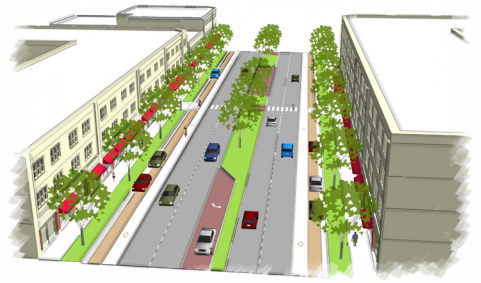
On an undivided four-lane road, cars waiting to turn left can block the travel lane, creating delays during peak travel periods and causing following drivers to change lanes as they go around turning cars

*Source: Nelson\Nygaard*

### *Complete Street Design Factors*

Complete Street designs for new and retrofitted streets provided in the Davenport in Motion Street Design Guide seek to balance the following three design factors to create specific street design types for Davenport's downtown and citywide streets. Different factors are prioritized based on the context of each street. For example, a downtown or business district street needs on-street parking and wide sidewalks.

**Livability**: A street emphasizing the livability factor serves the widest range of users – motorists, pedestrians, bicyclists, and adjacent land uses. Street design addresses livability through a street's dimensions (lane widths), aesthetics, and furnishings.



**Access/Mobility:** Access refers to the role of a street in providing access to local land uses, while mobility refers to traveling from point A to point B. A street design focused on mobility does not necessarily imply high vehicle travel speeds or exclude the safety and livability factors.

**Safety:** Although safety is an overriding concern in street design, it is of particular importance near schools, hospitals, and other community-oriented land uses that generate pedestrian traffic and at intersections and other major points of interaction between pedestrians and motor vehicles.

## DUBUQUE RECEIVES $5.6 MILLION GRANT FOR COMPLETE STREETS

The City of Dubuque, IA, recently received a $5.6 million TIGER (Transportation Investment Generating Economic Recovery) grant to create complete streets in its Historic Millwork District in downtown, to spur revitalization and economic development. It is estimated that up to 60% of residents in the new mixed-use district will travel to work downtown, and the project will allow them to more conveniently and safely walk, bike, or take transit to work. The project includes creating green streets and conversion to two-way or traffic calming of several existing one-way streets in the district.

Source: http://www.completestreets.org/policy/federal/tiger-awards-many-complete-streets-projects/

## RECOMMENDATIONS

### Emphasize Complete Downtown Streets

Redesigning complete downtown streets will attract people to downtown, encourage pedestrian-oriented businesses, and enhance street life and economic vitality. Downtown streets are among the City's most valuable resources and the only streets truly shared by all residents, and therefore are a major focus of Davenport in Motion. The color-coded map of Davenport's downtown streets shows the proposed design type(s) for each street. The cross-section illustration of one part of Main Street on the following page is an example of the illustrations provided in Section 2 of the Davenport in Motion Street Design Guide (Chapter 7) for each downtown street type.


**Urban 2-Lane Median High Street**
Applied specifically to: Main Street from 4th to 7th

**Urban 2-Lane High Street**
Applied specifically to: Main Street from River to 4th

**Urban 3-Lane Avenue**
Applied specifically to: Brady and Harrison; 3rd and 4th

**Urban 2-Lane Parking Street**
Applied specifically to: Western, Scott, Ripley, Perry, Brown, Pershing, Iowa and Leclaire. These are two-lane local streets designed to maximize parking yield.

**Urban 2-Lane Street**
Applied specifically to: 2nd Street between Western and River Drive; Western between River and 2nd. This section retains a substantial parking yield but allows sufficient space in the traveled way for left turn lanes at intersections.

**Urban 4-Lane Transition Street**
Applied specifically to: 2nd between Gaines and Western; Gaines between 3rd and 4th. This section is intended to provide transition from a multi-lane cross section to a two-lane downtown-specific section.

**River Drive**
This section is defined specifically because of a median design and construction project being implemented by Iowa DOT and the City of Davenport.

## 2.1 STREET DESIGN: URBAN 2-LANE MEDIAN HIGH STREET

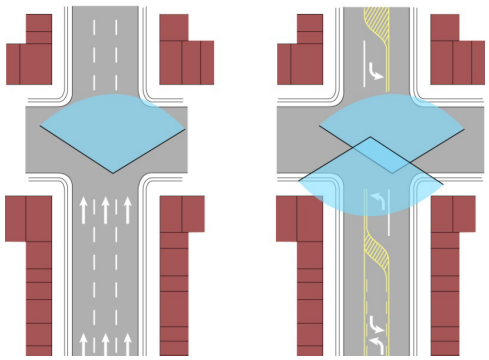
IN THIS CONTEXT: **MAIN STREET FROM 4TH TO 7TH**


| Design Element | Typical |
|---|---|
| **Right-of-Way** | **80'** |
| Design & Posted Speed | 25 mph |
| Number of Travel Lanes (per direction) | maximum 1 |
| Travel Lane Dimensions | 13' |
| Turn Lane Dimensions | no turn lanes |
| Medians | 13' |
| Median Openings | cross streets only |
| Bicycle Lanes | available envelope does not allow bike lanes while preserving parking, refer to Section 4.2 for design details on use of sharrows |
| On-Street Parking | 7.5' including gutter pan |
| Curb | existing dimensions (6" to reflect/replace existing curb types) |
| Planting and Furniture Space | 7.5' |
| Sidewalk | 5' |
| Mid-block crossings | permitted only in front of civic facilities |
| Intersection Control | signals or stops. Refer to guidance on Page 7-49 |
| Lighting | Pedestrian and vehicle/street recommended. Minimum horizontal clearance from back of curb should be 1.5'. |
| Block Length | 350' |

### Convert One-Way Streets to Two-Way Traffic Flow

Davenport's downtown one-way streets encourage speeding, allow dangerous high speed turning movements, discourage walking, and negatively impact businesses. Two-way streets provide a number of important benefits compared with one-way streets:

- Businesses are more visible to potential customers who arrive from two directions, instead of just one direction and at one time of day as with a one-way street (see diagram)
- Customers can access businesses from both directions and on-street parking, if not present, can be provided when a street is converted back to two-way operation
- There is better transit access to certain locations where two-way bus service is possible following a conversion to two-way travel
- Lower average travel speeds compared to one-way streets can make bicyclists and pedestrians more comfortable and reduce the likelihood of severe injury to pedestrians where collisions occur (i.e. pedestrians' chance of surviving a collision is greater at lower speeds)



One-way streets (right) provide visibility and access for motorists traveling in only one direction, meaning that businesses would not be seen from the opposite direction as on a two-way street (right).

In some cases, a small reduction in motor vehicle traffic volume will result due to decreased roadway capacity (where congestion results from the conversion) or motorists switching to alternative routes or modes (i.e. potential increase in bicycling and walking). Davenport in Motion recommends specific conversion projects on:

- 3rd and 4th Streets, with bicycle lanes added.
- Brady and Harrison Streets, with on-street parking added. The area south of Central Park Avenue was selected based on the economic revitalization potential for the Hilltop District and downtown. Two options for converting Brady and Harrison Streets are a "balanced" approach where each street has one travel lane in each direction and an "imbalanced pair" approach, where each street has two travel lanes in the current one-way direction and one lane in the opposite direction. A majority of City Council members supported the conversion but were split between the two alternatives.

Curb extensions or bulbouts separate parking areas from travel lanes and, when used at intersections, shorten crossing distances for pedestrians.

*Source: Nelson\Nygaard*

### Employ Traffic Calming to Enhance Safety

Traffic calming refers to street design techniques used to re-create safe, slow neighborhood and commercial streets without significantly changing vehicle capacity and to mitigate the impacts of traffic on neighborhoods and business districts where a greater balance between safety and mobility is needed. Traffic calming seeks to influence driver behavior through physical and psychological means, resulting in lower vehicle speeds or through traffic volumes. Physical traffic calming techniques include:

- Narrowing the street such as by providing curb extensions or bulbouts (see photo), or mid-block pedestrian refuge islands
- Deflecting the vehicle path vertically, such as by installing speed humps, speed tables, or raised intersections
- Deflecting the vehicle path horizontally, such as with chicanes, roundabouts, and mini-roundabouts

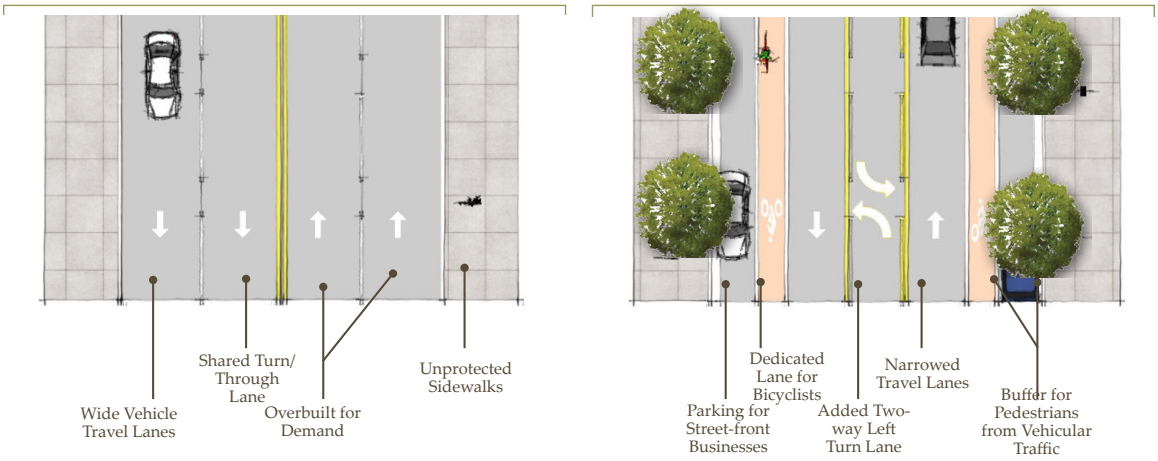
Landscaped medians with pedestrian refuges, as recently installed on Locust Street, not only enhance the street aesthetically but calm traffic speeds and alert motorists to look for pedestrians. Refuges can also be used mid-block to provide a protected space in the street median for pedestrians to cross.

*Source: City of Davenport*

Narrowing travel lanes and providing visual cues such as placing buildings, street trees, on-street parking, and landscaping next to the street also create a sense of enclosure that prompts drivers to reduce vehicle speeds. As illustrated in the next two principles, traffic calming techniques can also be used to achieve other community goals.

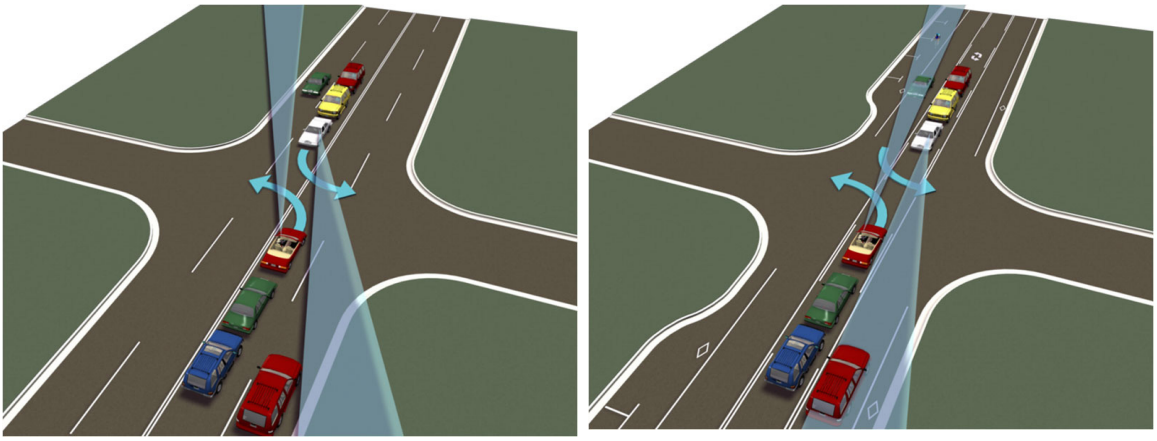
### Use "Road Diets" to Calm Traffic and Improve Safety

Road diets are one traffic calming technique recommended for several Davenport streets and would reduce the number of lanes from two in each direction to one in each direction with a two-way center turn lane. Their benefits are to calm traffic and provide additional space for bicycle lanes, wider sidewalks, and/or on-street parking. As a general rule, a road diet can be used on streets that carry 15,000 to 20,000 vehicles per day, although many of the Davenport streets where road diets are proposed carry significantly lower traffic volumes.




A 4-to-3 lane road diet as depicted in the diagrams replaces a four-lane roadway with two travel lanes and a two-way left turn lane, along with additional space for sidewalks, bicycle lanes, and/or on-street parking.

The addition of the center turn lane allows streets to handle comparable traffic volumes (demonstrated in a number of cities) and improves safety since drivers can wait to turn left out of the flow of traffic and have better visibility of oncoming traffic.



The significant safety benefit of a 4-to-3 lane road diet is increased visibility to all oncoming traffic. In a four-lane section (left image), vehicles in the inside oncoming lane may impede a turning motorist's view of the outside oncoming lane. In a three-lane section (right image), vehicles waiting to turn left are directly offset, providing turning vehicles with a view of all oncoming traffic.

Davenport in Motion recommends road diets on the following streets with undivided four-lane cross-sections and daily traffic volumes within the typical ranges for road diets on the segments where road diets are suggested:

- Sections of Central Park Avenue, 35th Street, Pine Street, Lincoln Avenue, Hickory Grove Road, Marquette Street, 46th Street, Eastern Avenue and Jersey Ridge Road, with the space used to stripe bike lanes.
- Locust Street west of Brady Street and a section of Hickory Grove Road, with the space used to create on-street parking and widen sidewalks.

Division Street, which was widened to four lanes just prior to this project, can also be restriped to 3 lanes with on-street parking.

## Effects of Four-to-Three Lane (4-3) Road Diets

Before and after studies of road diets in Iowa and in cities nationwide show that they achieve clear safety benefits without significantly affecting the ability of the converted roads to handle traffic demand. As illustrated in the following examples, road diets have been successful in cities of varying sizes and on streets with a range of traffic volumes:

Iowa (multiple cases statewide): Collision rates decreased an average of 40% (23% to 48%) in 4-3 lane conversions conducted by the Iowa DOT in the early to mid-1980s on seven roads with Average Daily Traffic (ADT) of 5,400 to 13,500 vehicles per day.[1]

Sioux City: A 4-3 lane conversion of US 75 (ADT of 14,500) in Sioux City's commercial business district to a three-lane cross section, with on-street parallel parking retained, resulted in a peak travel time increase from about 50 seconds to 68 seconds and a decrease in overall average travel speeds (including delay at traffic signals) from about 28/29 mph to 21 mph. The average free-flow or uncongested speed was reduced from about 35 mph to about 32 mph. The percentage of vehicles traveling more than five mph over the posted speed limit decreased from about 43% to 13%, or a 70% decrease. There were 30 total crashes prior to the conversion compared to 13 crashes the year after the conversion, or a reduction of about 57%.[2]

Helena, MT. Following the 4-3 lane conversion of US 12 (ADT of 18,000) in a commercial area with numerous commercial access points and rear-end and sideswipe collisions, safety was improved with no notable decrease in travel speed. The Montana state engineer stated that the "number of accidents decreased, good traffic flow was maintained, and community residents prefer the three-lane facility over the former four-lane roadway." [1]

Portland, OR. Significantly above the general guidelines of 15,000 to 20,000 ADT suggested for Davenport, a 4-3 lane conversion on Tacoma Street (ADT of 30,000) calmed traffic and enabled pedestrian crossings with curb extensions and landscaped median refuge islands across a major route to a river crossing through a residential neighborhood, resulting in decreased speeding and minimal traffic diversion. It also allowed on-street parking to be provided on one or both sides of the street. Turn-lanes were used at two signalized intersections to handle peak turning movements and a parallel "bicycle boulevard" was implemented to accommodate bicycle traffic.

*Sources: (1) Thomas M. Welch. The Conversion of Four Lane Undivided Urban Roadways to Three Lane Facilities, Office of Transportation Safety, Engineering Division, Iowa Department of Transportation. Presented at TRB/ITE Urban Street Symposium, 1999; (2) Keith K. Knapp and Karen Giese, Guidelines for the Conversion of Urban Four-Lane Undivided Roadways to Three-Lane Two-Way Left-Turn Lane Facilities, Center for Transportation Research and Education, Iowa State University (Sponsored by Iowa DOT Office of Traffic and Safety), Final Report, 2001.*

Evidence of roadway restriping for a recent 4-to-3 Road Diet is still visible on South Grand Blvd. in St. Louis (MO)

*Source: Nelson\Nygaard*


The Neighborhood Arterial street design type is intended as a model for several of the 4-to-3 lane conversion street retrofits, including those recommended for Central Park Avenue and Pine Street.

### Green Streets

Green Streets incorporate street infrastructure that holds and filters stormwater on site, mitigating the environmental impacts of street runoff. Green street features such as curb extensions (photo) and planters concurrently improve safety and livability. Main Street between 7th Street and Vander Veer Park is recommended as a green street.


Green street features provide environmental, stormwater management, and traffic calming benefits.

*Source: Nelson\Nygaard*

### Improve Street Connectivity

While many older parts of Davenport have good street connectivity, some of the more recently developed parts of the City lack a strong street grid – streets do not connect or are circuitous. Davenport also has both natural and manmade barriers (creeks and railroad tracks) that act as barriers to connectivity. A lack of street connectivity increases walking distances or forces inefficient routes to be taken. It makes both origins and destinations more difficult to serve with transit, discourages walking and bicycling, and puts significant pressure on those streets which do connect. A fully developed street grid distributes vehicle travel across a network of streets to increase overall capacity of the system. Where streets cannot be continued or cul-de-sac street patterns are developed, continuing walking paths or providing bicycle/pedestrian cut-throughs is highly beneficial for non-motorized travel.


A walking trip to a shopping center using the available route is 4,200 feet (over 3/4 of a mile) and would take about 16 minutes.


A more desirable walking route is only 800 feet (much less than 1/4 of a mile) and would take about 3 minutes.

*Source: City of Davenport*

The graphics below illustrate the significant difference in distance and time between the route neccessary to make a walking trip in a typical suburban development in northwest Davenport (left) and the desired direct route (right).

Several examples of street connectivity projects recommended by Davenport in Motion include:

- Extending Tremont and Elmore Avenues to Veterans Memorial Parkway. The City has already applied for and received grant funding for this project.
- Connecting several segments of 46th Street citywide, allowing a key east-west bike route to be created
- Connecting two segments of Marquette Street north of 46th Street, allowing an extension of bike lanes into the far northern part of the City

Street connectivity in Northwest Davenport is addressed in a separate concept plan for the area, summarized in this chapter and included in full as Appendix A.

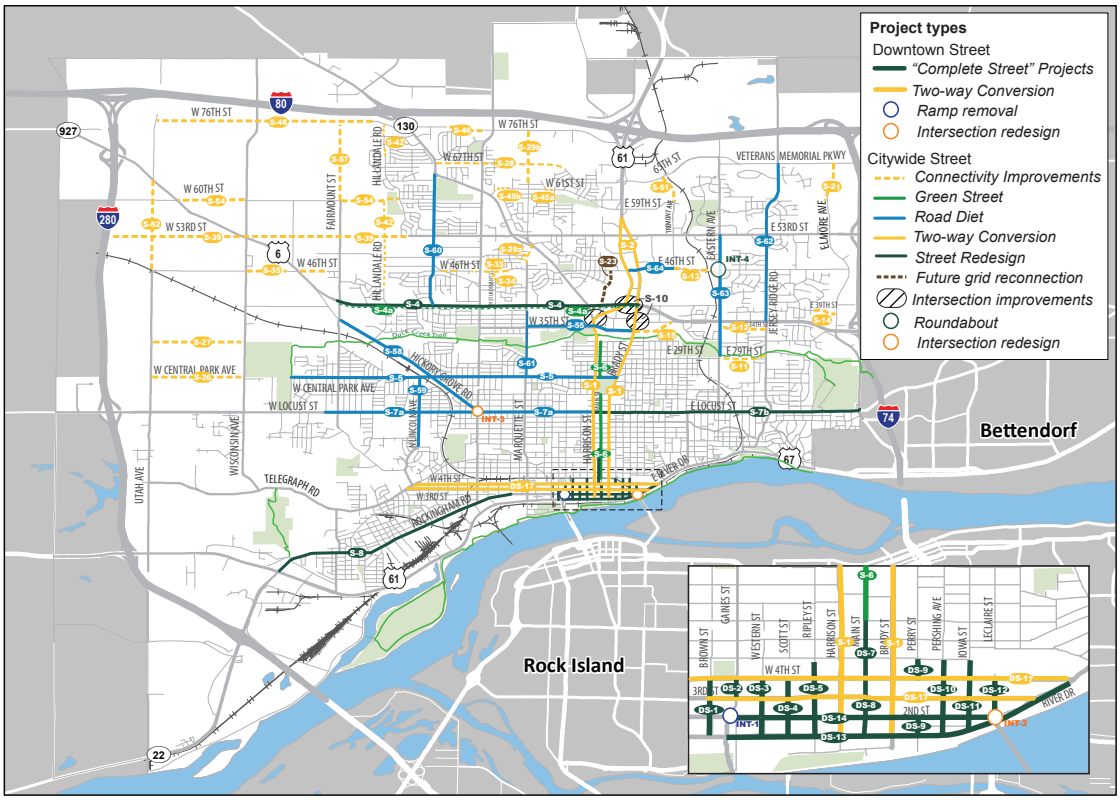
### Employ a network approach: the case for 100 small projects

When a major arterial corridor such as Kimberly Road becomes congested, a typical response is to further widen and expand the corridor. However, such a response creates an ever-larger barrier in the community and has significant fiscal, community livability, human health and safety impacts.

Davenport in Motion recommends an alternative approach: completing a large number of smaller projects over the next ten years to redesign a number of the City's major transportation corridors and streets based on the principles in this plan – to better accommodate multiple travel modes, make connectivity improvements to the supporting street network, and create a comprehensive bicycle network. These are all steps that increase overall transportation system capacity. In the longer term, this plan also makes the case that achieving the goals of *Davenport in Motion* requires a new approach for building transportation infrastructure in developing parts of Davenport – one that is included in the City's long-range planning effort for the Northwest Area. The following map shows the recommended street projects.

The street projects numbered on the map below are described briefly in Chapter 5 and more fully in Chapter 8. The project numbers are denoted as either a downtown street project ("DS") or citywide street project ("S"). A full-page version of the map is included in Chapter 8.

**Figure 4-1 Recommended Street Projects**




Nelson|Nygaard consulting associates

GIS Data Source: City of Davenport, IA

## Funding Complete Streets

The current system of funding roadway projects in Iowa is a challenge to communities such as Davenport that would like to create Complete Streets on state highways through urban areas or on a network of complementary roadways. Although creating such a network can save money by avoiding expensive roadway widening projects, highway funding is generally not available for this purpose.

A currently pending bill in the Iowa House would enact an "Iowa Complete Streets Act" (HF 2506).[1] The legislation would require highway projects in urban areas to accommodate "all users of the road including motorists, public transit users, bicyclists, and pedestrians of all ages and abilities." The bill could help cities such as Davenport fund Complete Streets projects and/or develop a network of complete streets in two ways:

- The bill would set up a complete streets fund to facilitate projects on secondary and municipal roads.
- The bill provides several criteria for roadway facilities to be exempted from the policy, including a network of complete streets in proximity to a highway project that fulfills the purpose of the policy. This criteria could make it cost-effective for a state DOT to allocate funding for such an alternative network of streets.

[1] http://coolice.legis.state.ia.us/Cool-ICE/default.asp?Category=BillInfo&Service=Billbook&ga=83&hbill=HF2506

### *c. Bicycle Facilities*

The Davenport in Motion Bicycle Master Plan recommends a network of bicycle facilities as a key element of a balanced transportation system that provides safe and high quality bicycle access throughout the city.

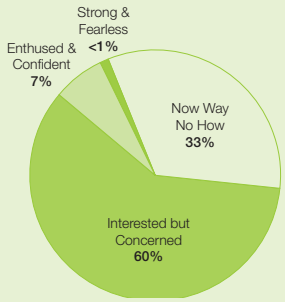
See the **DIM Bicycle Element (Chapter 9)** for details about bicycle facilities and programs

## KEY ISSUES

The DIM Bicycle Master Plan identified the following key cycling concerns through discussions with stakeholders and staff:

- North-south bicycle connections are currently limited and need to be expanded.
- Cycling needs to appeal to a broad cross-section of the community, including cyclists who are confident riding in traffic on urban streets and those who prefer to ride on quieter on-street routes or off-street trails.
- Bicycle connections to downtown provide an important transportation option and are a means of reducing auto trips into and out of downtown.
- Bicycle access is needed outside of Davenport's historic center, in less-served parts of the city. Safe crossings of major arterials that divide older and newer parts of the City are a particular concern.

**Portland Cyclist Typologies**




In its recent Bicycle Master Plan update, Portland tried to appeal to the majority of "interested but concerned" residents who like to ride a bicycle but are primarily concerned about the safety of riding in traffic. *(See page 2B-4 of the DIM Fact Book for details.)*

*Data source: City of Portland Bureau of Transportation*

- The bicycle network needs to be expanded as the city grows – with bicycle lanes provided on new arterial or collector streets and other thoroughfares.

## BICYCLE PLAN DESIGN PRINCIPLES

*Davenport in Motion* recommends expanding the network of on-street bicycle routes as the key action to increase acceptance of bicycling in Davenport, making it possible to safely access destinations throughout the City by bicycle. This plan emphasizes completing the network using bicycle lane or shared street projects that can be striped within existing street cross-sections and recommends coordinating the creation of bicycle facilities with roadway projects that help achieve the City's broader livability, mobility, and accessibility goals.

Davenport's existing off-street trails are a valuable asset and are particularly instrumental in providing long-range connections and for recreational riding, however this plan recommends that the City's short-term *transportation* priority should be to complete the on-street bicycle network.

Outreach efforts conducted in parallel with implementing the bicycle network are also critical to expanding awareness of the benefits of cycling and educating drivers and cyclists in sharing the road safely and responsibly.

## RECOMMENDATIONS

### Bicycle Facility Types

The recommended bicycle network is a combination of bicycle lanes, shared street routes with pavement markings, and to a lesser extent, multiuse paths.

- **On-Street Bicycle Lanes:** Bicycle lanes striped on roadways define a separated space for bicycles and are the most visible means of encouraging cycling on-street. They help novice and inexperienced bicyclists feel more comfortable biking and are therefore the most effective at creating acceptance of bicycling as an option for meeting transportation needs.

Bicycle lanes are the preferred bicycle facility if sufficient roadway space exists

*Source: Nelson\Nygaard*

- **Shared-use Street:** Bicycle routes on shared-use streets are designated with "sharrow" pavement markings and complement the on-street bicycle lane network. They are employed in established urban areas on streets where it is not practical to stripe bike lanes without significant cost or community impact, such as where there is on-street parking on a narrow residential street. Although cyclists are allowed to ride on any street, a designated route indicates to both cyclists and motorists that a street is intended for bicycle use and helps assure cyclists that there is a safe bicycle route to their destination.
- **Multi-use Path:** Multi-use paths include recreational trails where cyclists can travel without needing to worry about traffic and help facilitate longer distance connection. Multi-use paths can also provide non-motorized travel options along busy streets where it is not practical to accommodate bicyclists and reasonable alternative routes are not available. Examples of these type of paths suggested in this plan include along Elmore Avenue parallel to I-74, Kimberly Road west of Brady Street, and along Welcome Way near Northpark Mall.

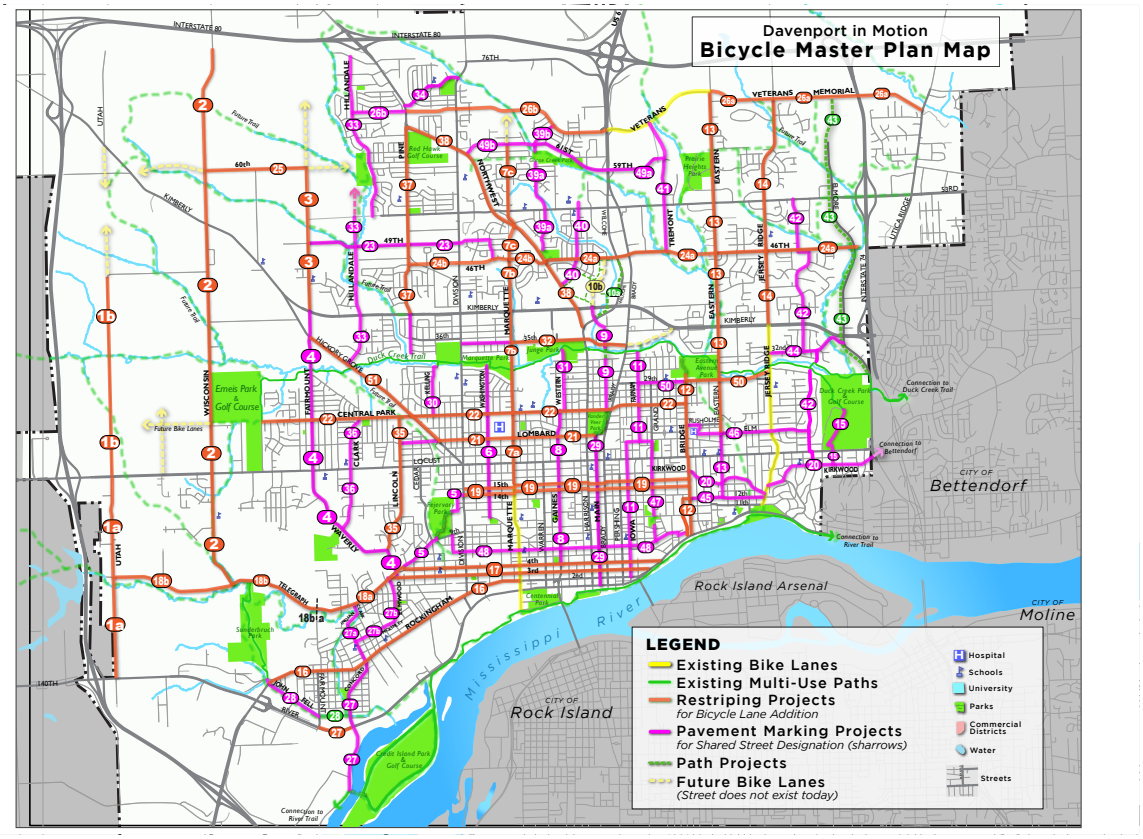
Sharrow pavement markings are used to designate shared-street bicycle routes. They would be used to mark existing routes along Gaines and Main Streets, advertising the routes to potential cyclists and alerting motorists that roadway space needs to be shared with bicyclists.

*Source: AECOM*

## Recommended Bicycle Network

The map below, displayed on a full page in Chapter 9, shows existing multi-use paths and bicycle lanes, on Marquette Street and Jersey Ridge Road, and recommended bicycle lane striping, pavement marking, and path projects. It also identifies some of the areas for bicycle lane expansion as the City grows. The bicycle projects numbered on the map below (prefaced with a "B-" elsewhere in this plan) are listed in Chapter 5 and are described more fully in Chapter 9.

**Figure 4-2 Bicycle Master Plan Map**




*Source: AECOM*

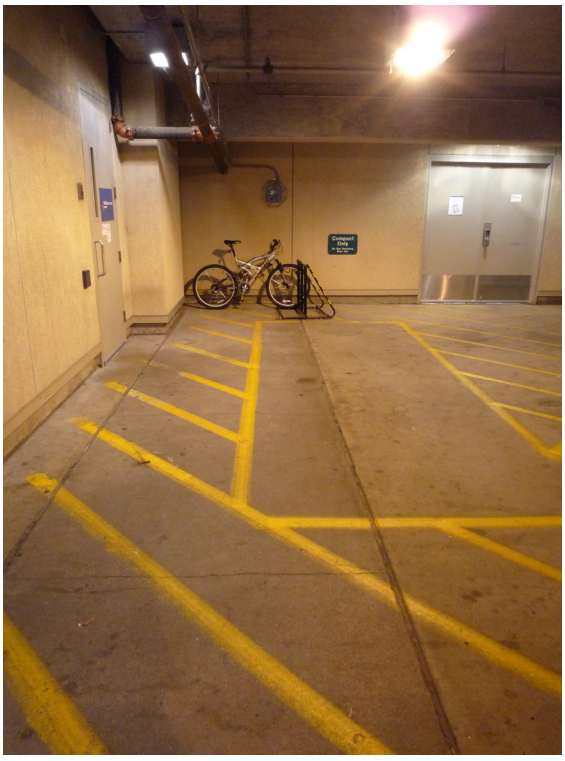
## Programs and Policy to Enable Cycling

To fully realize the benefits of an expansive bicycle network, the City of Davenport and its partner organizations need to work to establish a stronger culture of bicycling in the city. There must be a commitment to reward cycling, not just to make it available as an option. Some possible actions to bring about this shift include:

- Involving motorists and potential bicycle system users of all ages in learning about the benefits of cycling, how to cycle safely and responsibly, and how to safely and respectfully share the street
- Establishing a Bicycle and Pedestrian Advisory Committee to advise the City Council on bicycle policy issues and implementation of this plan
- Formalizing a mechanism for providing both short-term and secure, long-term bicycle parking, such as requiring minimum levels of bicycle parking for certain land uses and/or zoning districts

Bicycle and pedestrian wayfinding signage, as shown on Davenport's riverfront trail, can enhance a sense of place. Chapter 9 provides examples of standard on-street wayfinding signage, which can include these elements: direction (arrows), destination, distance, and travel time.

*Source: City of Davenport*

A combination of short- and long-term bicycle parking will better support cycling in Davenport and make it an attractive, sensible mode choice. Davenport's parking ramps have underutilized space that could be repurposed to provide parking for bicycle commuters.

*Source: Nelson\Nygaard*

### *d. Transit*

The transit recommendations of Davenport in Motion will, together with other complementary elements of the plan and regional initiatives, help Davenport achieve a transit system that serves the travel needs of its residents.

See the **DIM Transit Element (Chapter 10)** for details

Transit is a set of services that allows passengers to conveniently complete most of their daily activities without owning a car (or allows households to save money by getting by with one less car), provides comfortable access to the system, and offers a high level of security at the stop and on-board.

#### KEY ISSUES

Several of the key issues affecting public transit in Davenport include:

- **Resources are allocated to coverage at the expense of productivity (ridership).** CitiBus provides infrequent service during limited hours of operation but covers a broad geographic area. Although transit serves transit-dependent populations, it is unattractive for people who have other choices. This is known as coverage-based service and is illustrated in the top graphic at right. Alternatively, productivity-based service offers high quality service in the most promising corridors (bottom graphic). Given limited resources, the City must choose how to allocate its resources along a continuum between these two models of service.
- **Inefficiencies in service have built up over time.** CitiBus routing is circuitous, repetitive and inefficient. This is in part a result of poor pedestrian facilities on and poor access to key arterials that force transit to operate on residential streets, and of years of minor system adjustments without a ground up service restructuring. Significant improvements in efficiency and service quality (frequency and hours of service) could be achieved by comprehensively restructuring service.
- **Land use and parking policies need to support transit use.** Increasing the transit mode share will require increasing density along transit corridors and removing disincentives to transit use, including plentiful and low-cost downtown parking.

**Figure 4-3 Coverage-Based Service Model**

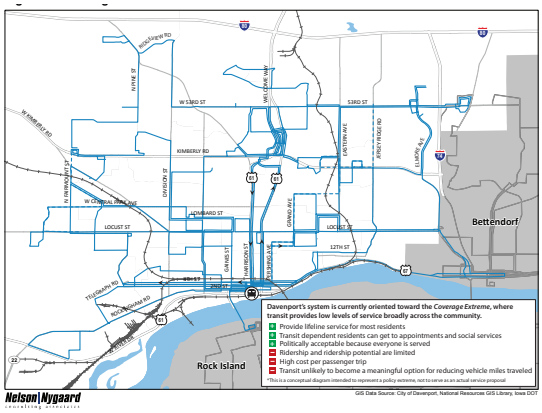
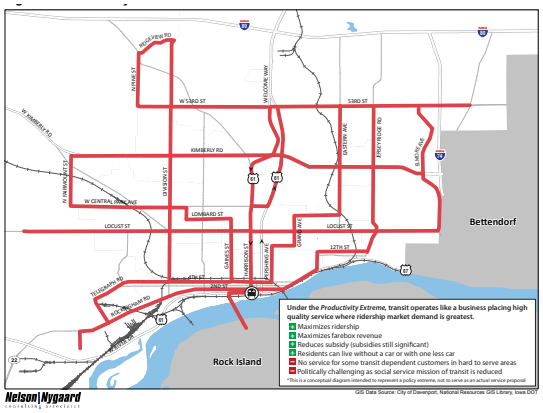



**Figure 4-4 Productivity-Based Service Model**




Larger versions of these maps can be found in Chapter 10 (Figures 10-10 and 10-11).

## TRANSIT DESIGN PRINCIPLES

While the design and quality of transit service are important, zoning and community design decisions are fundamental to the future success of transit. Better transit in Davenport will require denser, mixed-use corridors with excellent access to transit stations. The diagram below illustrates three of the major determinants of transit demand, described in the following bullet points.

- **Service Quality:** Transit service operating every 15 minutes or better is considered the point where riders do not need to rely on a schedule and are comfortable heading to the bus stop without consulting a schedule.
- **Density and Land Use:** Transit demand tends to increase most dramatically when residential land use density is between about 6 and 12 households per acre. Average density in most Davenport neighborhoods outside the downtown is below this range today (4.5-5 units per acre in historic neighborhoods), but this threshold could be met quickly with modest infill development. Density must also be organized in a transit-supportive way; a 50-unit apartment complex surrounded with surface parking and built in an outlying area is difficult to serve with transit.
- **Pedestrian and Bicycle Access:** Good pedestrian and bicycle access to transit stops, including safe street crossings, and a complete network of connected streets are needed to allow riders to conveniently access transit stops and allow for efficient bus routing.


Determinants of transit demand: Since Davenport is likely to remain a low- to moderate-density community even as infill development occurs, transit's success will rely heavily on service quality and access improvements.

*Source: Nelson\Nygaard*

## KEY RECOMMENDATIONS

The Transit recommendations of Davenport in Motion are organized in five primary areas:

1. **Develop a Service Allocation Policy Based on Local Values.** As discussed in the issues section above, this plan recommends that the City consciously allocate a portion of its resources to address productivity – providing high quality service on key corridors – while also providing for coverage – serving transit-dependent residents in hard-to-serve areas. There is no right or wrong answer to this decision, however a formal policy would help CitiBus balance these tradeoffs.
2. **Conduct a Comprehensive Service Restructuring.** Transit agencies typically conduct a comprehensive operational analysis (COA) of their services every five to eight years. The detailed understanding of the system that would result from this effort would allow CitiBus to:
   - *Align service to the most important transit markets*. With information from a COA, a redesign of the system can adjust resources to meet community needs. For example, eliminating a low-productivity route may provide an opportunity to provide evening service on one or more of the most productive downtown-service routes.
   - *Increase transit speed and reliability*. If traveling by transit takes significantly longer than driving or is not reliable, meaning buses do not stay on schedule or do not arrive often so that missing the bus entails an extended wait, transit mode share simply will not grow.


Shelters for high frequency "Go Line" in Washington State advertise the high frequency of service

*Source: Whatcom Transit Authority*

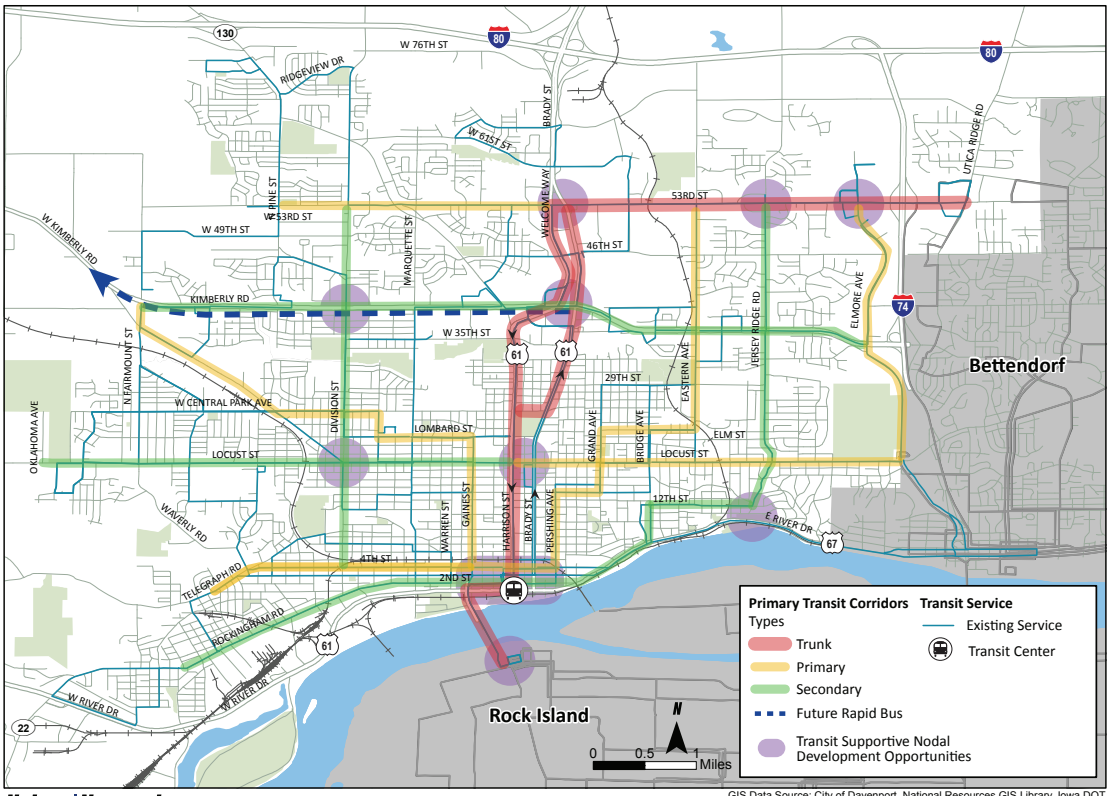
Low-rise multifamily homes as pictured and single family homes on narrow lots can lead to modest density increases. Adding two- to four-story mixed use buildings to an existing urban fabric can increase density to rates supportive of high quality bus service.

*Source: Nelson\Nygaard*

– *Gain more service for the same funding*. The financial benefits of a COA could be substantial over the next five years. A more productive system will return more fare revenue, but more importantly an effective redeployment of service could return a 10% to 20% improvement in operating efficiency.

3. **Develop and Implement a Davenport Primary Transit Network (PTN).** The Primary Transit Network is a long-term policy tool to guide future service development and land use policy. The PTN service goal is transit that operates every 15 minutes, at least 15 hours per day, has a high level of reliability and operates at speeds competitive with auto travel. The PTN is not intended to be a route system or a service plan, but rather a key set of transit corridor segments and connections that, no matter how they are served, will form a high-quality network of transit services in Davenport. The PTN is supported by other transit services that include lower frequency collector routes, regional express routes that enter Davenport from other parts of the region and non-scheduled transit services, such as CitiBus' paratransit service. The map below identifies the recommended PTN corridors.

**Figure 4-5 Primary Transit Network Corridors**




GIS Data Source: City of Davenport, National Resources GIS Library, Iowa DOT

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Two of the actions to implement the PTN are:

A. **Develop a PTN Overlay Zoning Classification**. This addition to Davenport's zoning code is designed to maximize ridership potential along the corridors and around the key "nodes" where the City would like to have high quality transit, and to avoid creating new transit demand away from the PTN. These policies include allowing increased density, encouraging mixed uses, and providing incentives for high quality walking environments.

**B. Develop U.S. 61/53rd Street Rapid Bus Trunk Line**. The U.S. 61/53rd Street Corridor has the land use characteristics closest to being able to support intensive transit service and good potential for transit- and pedestrian-friendly infill or redevelopment. The city should make special efforts to encourage further development and densification of this corridor through its use of zoning, development incentives, and infrastructure improvements. The illustration below shows the features of a potential rapid bus station along this corridor.


Illustrative Rapid Bus Station

4. **Improve Capital Facilities: "Super Stops."** Consistent with using the primary transit network to prioritize transit investments, this plan recommends identifying "Super Stops" to set top priorities for capital investments in stop amenities and information. Super stops would be located at points where PTN corridors meet today and/or in the future and treated with top quality stop amenities and pedestrian crossings. These stops, illustrated in the concept drawing below, should facilitate transfer activity outside of downtown and improve travel for those who are making cross town trips. The map on the opposite page identifies the top 10 recommended Super Stops along with the recommended PTN corridors.

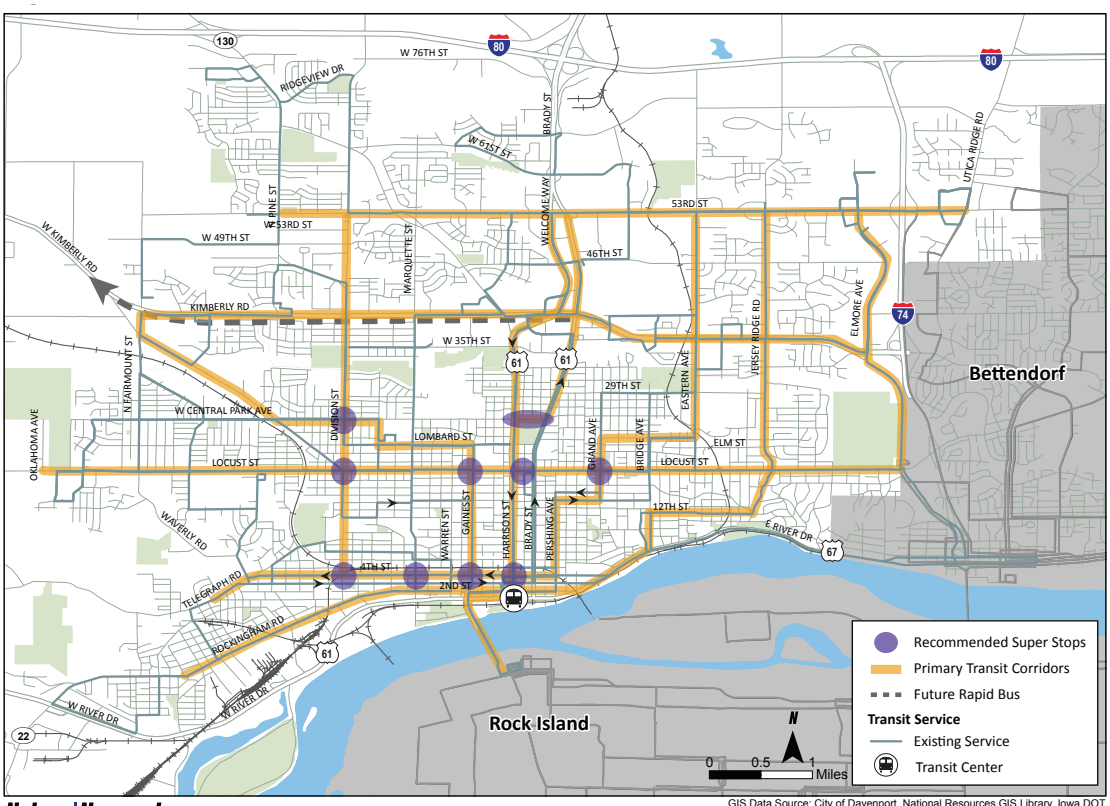
5. **Develop Transit Supportive Policies.** This final set of transit recommendations deals with incentives for using transit, both positive and negative.

   A. **Reduce the supply of downtown surface parking.** As discussed in the Parking section above, there is an oversupply of downtown parking, making the market cost of parking minimal and the cost of using transit relatively high in terms of both time and dollars.

   B. **Develop Transit Demand Management (TDM) programs to provide incentives for using transit.** TDM programs include a variety of strategies. One of the most effective would be a universal transit pass for downtown workers, provided in partnership with major employers and large institutions.

   C. **Prioritize pedestrian investments around transit corridors.** In addition to key destinations such as schools, libraries and other major public venues, pedestrian improvements connecting to primary transit corridors and super-stop locations should be prioritized.

**Figure 4-6 Super Stops and Primary Transit Network**

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GIS Data Source: City of Davenport, National Resources GIS Library, Iowa DOT

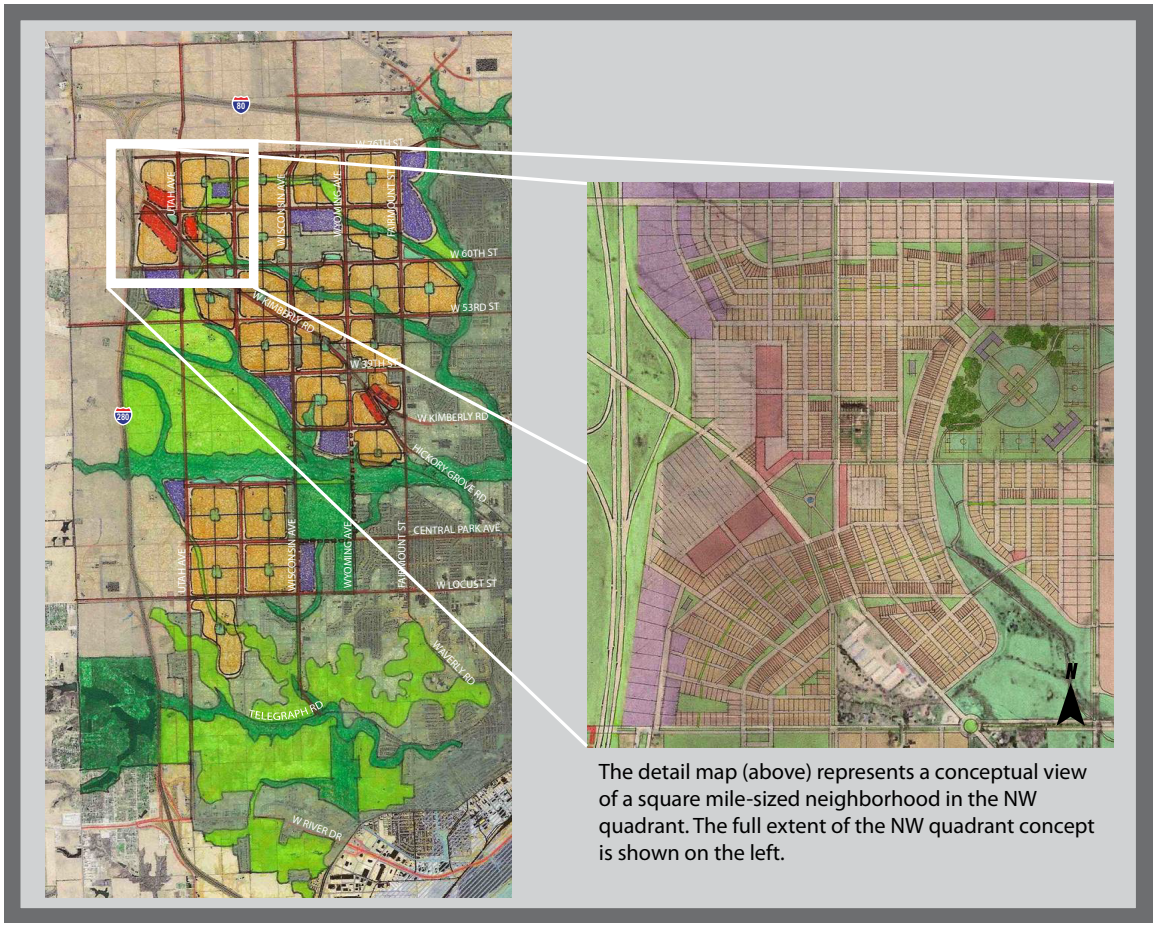
## *e. Northwest Area*

See **Appendix A** for the complete Northwest Area Plan

### NORTHWEST AREA PLAN

When the City of Davenport completes a major sewer interceptor in the City's Northwest (NW) area, over 25 square miles of land will be available for development, and new roadway infrastructure will be needed to provide access to homes and businesses. Jeff Speck & Associates developed a conceptual plan for the NW area as an element of *Davenport in Motion*. The illustrations below show the plan's framework of arterial roadways, none wider than three lanes, and minor streets that provide connectivity between numerous neighborhood centers, which would offer local retail and jobs. Shown in dark green, stream tributaries would form a continuous greenbelt comprised of open space or trails. The light green areas are the lowest priority for development, due to environmental and other constraints. The remaining purple areas indicate potential neighborhood school sites. The detail area in the illustration shows a single square-mile neighborhood.

**Figure 4-7 Illustrations of Northwest Area Plan: Overview and Single Neighborhood**




The detail map (above) represents a conceptual view of a square mile-sized neighborhood in the NW quadrant. The full extent of the NW quadrant concept is shown on the left.

*Source: Speck & Associates*

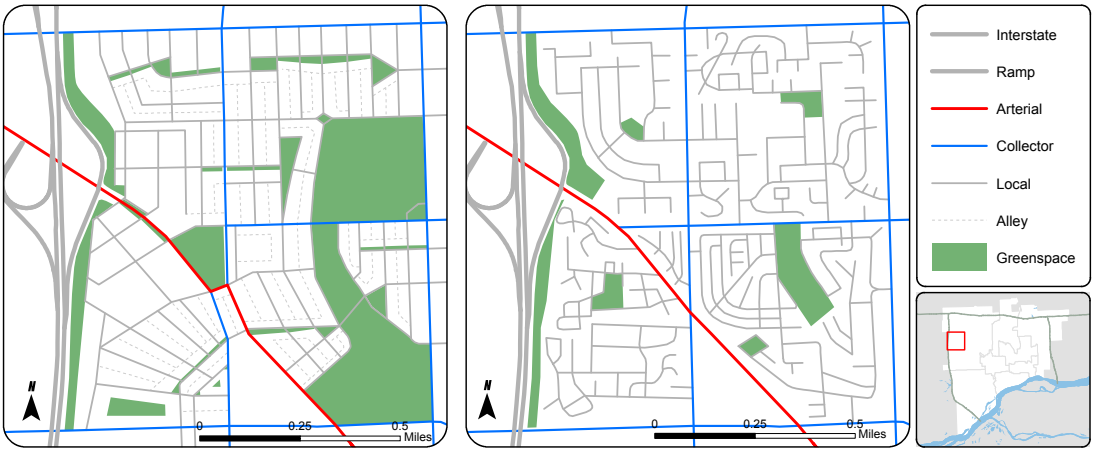
## NODAL COST EVALUATION

See **Appendix B** for the complete Northwest Area Nodal Cost Evaluation

The city will face a series of important decisions over how to develop the land and the transportation system in the NW area that will impact not only travel patterns in the quadrant and the city overall, but the area's health, economy and environment. *Davenport in Motion* evaluates the impacts of two potential development scenarios for the NW area, illustrated in the figure below:

- Unmanaged conventional development within the NW area resembling typical suburban street networks and single uses. This is the pattern that growth is likely to follow in the NW area without a structured land use plan and policies.
- Nodal development within strategic portions of the NW area with simultaneous infill growth on existing developable land. This could be considered a "Smart Growth" approach to neighborhood design, based on a traditional grid system, and is exemplified by the Speck Northwest Area Plan (summarized above).

**Figure 4-8 Comparison of Nodal and Conventional Development Scenarios**




*Nodal Development Scenario*

**Network typology:** Traditional grid
**Total lane miles:** 47.4
**Lanes by class:** Arterial = 4 lanes, Collector = 2 lanes, Local = 2 lanes
**Net residential density:** 4.8 du/acre on 1,616 lots (assuming that 25% of eligible lots build granny units and the town center is surrounded by two stories of apartments over ground floor retail)
**Greenspace coverage:** 22.7%
**Connectivity Index (Intersections per square mile):** 88 4-way intersections (including alley intersections); 132 3-way intersections (including alley intersections)
**Block length:** 250 - 600 feet
**Through capacity:** 7,200 vehicles per hour

*Conventional Development Scenario*

**Network typology:** Discontinuous suburban grid loosely based on street networks in northern Davenport
**Total lane miles:** 68.1
**Lanes by class:** Arterial = 4 lanes, Collector = 4 lanes, Local = 2/3 lanes
**Net residential density:** 2.2 du/acre on 1,293 lots (assuming single family detached housing only and 20% less residential capacity than the nodal scenario due to road configuration and large lot sizes)
**Greenspace coverage:** 6.3%
**Connectivity Index (Intersections per square mile):** 26 4-way intersections; 76 3-way intersections (not including intersections connecting cul-de-sacs)
**Block length:** 250 - 1,200 feet
**Through capacity:** 7,200 vehicles per hour

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Note: Both scenarios are conceptual in nature and reflect typical nodal and conventional development patterns
Source: Speck & Associates

- Comparing these two approaches, the conventional network pattern consists of 30% more roadway lane miles, yet accommodates half of the net residential density and an equal amount of vehicle through capacity as the nodal scenario. The nodal scenario has 70% more greenspace, shorter block lengths and a greater density of pedestrian connections. The table below summarizes the direct long-term costs of developing roadway infrastructure and providing transit in the NW area under both scenarios.

**Figure 4-9 Direct Costs of Conventional and Nodal Development Patterns**

| Cost area | Conventional cost | Nodal cost |
|---|---|---|
| 30-year capital and maintenance for new construction | $404,400,000 | $230,100,000 |
| Annual roadway maintenance and pavement preservation | $5,500,000 | $2,600,000 |
| Annual transit operations and capital needs | $11,900,000 | $5,200,000 |
| 30-year annualized capital, operation, and maintenance cost estimates | $44,00,000 | $23,700,000 |

Note: These costs should be used as points of comparison between scenarios, not actual cost estimates.

In addition to direct fiscal costs, different development patterns also have an effect on a range of issues important to Davenport. The table below summarizes these indirect impacts, including congestion, public health, economic development, and the environment.

**Figure 4-10 Indirect Impacts of Conventional and Nodal Development Patterns**

| Indirect Impact | Common Factor | Conventional | Nodal |
|---|---|---|---|
| **Traffic Generation** | Induced Travel | Creates initial congestion relief; induces vehicle trips and vehicle miles traveled (VMT); increases transportation related costs (i.e. parking, maintenance) | Induced travel is far less pronounced; VMT decreased by increasing access to employment and services as well as making walking, biking and transit more convenient |
| | Trip Reduction Variables | Automobile trips increase as density and land use mixing decrease | Density, mixed uses and pedestrian-friendly design reduce vehicle miles traveled by automobiles and often total trips generated |
| | Non-Motorized Transportation (NMT) | Less likely to walk or bike as a form of transportation due to lack of connections and required travel on major arterial streets | Connectivity and complete street designs facilitate NMT |
| **Transportation System Efficiency** | Transportation Diversity | Land uses and transportation system rely on automobile travel | Land use mixing and intensity promote use of several transportation modes (walk, bike, transit, car) |
| | Street Connectivity/ Accessibility | Disconnected street network increases travel time for all modes; promotes single occupant vehicle use | Highly connected street network decreases travel time and increases access for all modes |
| **Transit Efficiency** | Ridership/Access | Dispersed population diminishes ridership pool | Higher residential/job densities positively influence ridership |
| | Service Quality | Decreases service frequency and increases travel times due to need for circuitous routing; often forces one-way loop routes which are unattractive to riders | Compact development increases transit's productivity by allowing buses to serve most residents without diverting from major arterials |
| **Equity and Social Cohesion** | Housing + Transportation Affordability | Housing distant from services increases transportation costs; on average owning and maintaining one vehicles costs a household $9,000 per year | Denser development increases affordability by locating closer to jobs and services and by lowering transportation costs |
| | Community Cohesion | Greater emphasis on the private realm can decrease social interactions | Increases the chances for social interaction; greater emphasis on the public realm |
| **Economic Development** | Development Incentives | Emphasizing automobile travel will increase parking requirements for developers, potentially making development less attractive | Decreased parking requirements due to presence of transportation options can reduce development costs and increase the viability of small local businesses |
| | Property Value/ Tax Revenue | Increases in property value and tax revenue highly dependent on local housing and retail markets | Property values and sales tax revenues increase in walkable and accessible neighborhoods |
| | Employment/ Retail/Service Access | Initial increase in job creation; lack of access to services and employment does not attract employers, young professionals, or older populations | More likely to attract employers, young professionals, and older populations because of dense, walkable and transit-served nature |
| **Health Impacts** | Environmental Health Risks (Obesity, Asthma, Heart Disease, etc.) | Built environment increases the likelihood of physical inactivity, obesity and various diseases | Nodal development promotes active lifestyles and walking to destinations, thereby decreasing levels of obesity and other diseases |
| | Traffic Injury/Death | Severity of traffic incidents increase due to speeds and roadway design | Number of traffic incidents increases, but injuries and deaths decrease due to lower vehicle speeds |

| Indirect Impact | Common Factor | Conventional | Nodal |
|---|---|---|---|
| **Environmental Impacts** | Climate Change/GhG Emissions | Increased VMT leads to higher levels of GhG emissions | Associated with most cost-effective emissions reductions |
| | Air Pollution | Low-density land use environment encourages driving, which increases transportation-related air pollution | Less reliance on vehicles and lower VMT, decreases the amount of air polluting emissions |
| | Stormwater Runoff/Water Pollution | Higher levels of impervious surfaces lead to increased stormwater runoff and polluted water | Less roadway and more greenspace creates less stormwater runoff |
| | Greenspace, farmland, wildlife preservation | Greater loss of greenspace, agricultural land, and wildlife habitat; degrades aesthetic appeal and ecological services | Better manages loss of greenspace and preserves aesthetic, recreational, and ecological benefits |

# Chapter 5 DIM Ten-Year Transportation System Priorities

This purpose of this chapter is to assign recommended projects to a time frame or priority, based on a project's contribution to achieving the goals of Davenport 2025. The recommended priorities also attempt to balance implementation considerations. For example, complex and costly capital projects might be disfavored compared with implementation of low cost projects that require only restriping and that can have more immediate impacts and can spread investment benefits city-wide. As with any plan, project priorities will change as economic, demographic and real estate dynamics shift. The plan attempts to balance a forward-looking transportation system that can help the City to thrive economically, while focusing near-term priorities on improvements that can have immediate positive impact on residents, businesses, and visitors to Davenport.

This chapter first reviews existing projects in the regional short- and long-term transportation plans, to identify areas of overlap where proposed projects can be coordinated with those already moving forward or areas of potential conflict. It then recommends projects within several different priority/time horizons:

- First year: these are projects of utmost priority in meeting City goals, particularly economic and safety goals, and those projects that are funded and ready to proceed. The 2011 calendar year is envisioned as the first year of the plan.
- Short-term: projects recommended for implementation in the 1 to 3 year timeframe.
- Medium-term: projects recommended for implementation in the 3 to 10 year timeframe.
- Long-term: projects likely to be implemented beyond 10 years from the time of this plan; these are projects that are important for the development of the City transportation network, but are unlikely to be funded in the next 10 years.

Within each time horizon, projects are both illustrated on a map and listed in a summary table. This chapter concludes with a summary of policy measures, which are particularly critical in the areas of parking and transit. It provides guidance for integrating the Davenport in Motion guiding principles with City policy to provide full support for these goals and fully leverage the City's investments in infrastructure projects.

Graphical depictions and narrative descriptions of the recommended projects are included in the transportation system "elements" of Davenport in Motion, in particular the Streets Element (Chapters 7 and 8) and Bicycle Element (Chapter 9).The DIM transportation system elements are:

- Downtown Parking Management Element – Chapter 6 – provides a Parking Management Plan for downtown
- Streets Element, comprised of:
  - **Street Design Guide - Chapter 7** – provides guidance in making streets work for all modes
  - **Street Network Plan** – Chapter 8 – provides detailed descriptions and graphical depictions of proposed improvements to Davenport's street network
- **Bicycle Element - Chapter 9** – provides a Bicycle Master Plan for the City
- **Transit Element - Chapter 10** – provides a transit strategy for CitiBus

### *Project Categories*

Taking the network approach to transportation system improvements, the projects in this plan fall within one of several categories, illustrated briefly in the previous Davenport in Motion Summary (chapter 4) and discussed in greater detail in the Davenport in Motion Transportation System Elements (Chapters 6-10):

- **Downtown or Citywide Complete Streets** – include numerous "Complete Streets" projects, defined here as adapting an existing street (including the full right-of-way) to balance its unique multimodal access and mobility needs, enhance the pedestrian environment, and calm traffic to improve both safety and livability. Some specific subcategories of streets projects include:
  - *Two-way Conversions* in conjunction with Complete Streets projects aim to calm traffic, increase safety, and improve access, visibility, and street parking provision for businesses
  - *Road Diets* on streets with high capacity but low traffic volumes calm traffic by reducing the number of lanes from four (two in each direction) to three (one in each direction with a center turn lane (often known as a 4:3 conversion)
  - *Connectivity Improvements* fill in missing sections of the street grid, often in more recently developed parts of the City. A fully developed street grid distributes vehicle travel across a network of streets to increase overall capacity of the system
  - *Intersection Improvements* address safety, connectivity, or capacity issues at specific locations
  - *Green Streets* incorporate street infrastructure that mitigates the environmental impact of stormwater runoff while concurrently improving safety and livability
- **Citywide Bicycle Network** – includes an integrated network of bicycle lanes and marked on-street routes that facilitates convenient bicycle access citywide
- **Downtown Parking** – includes actions (focused mostly on policy) to ensure that parking contributes to the vitality of Davenport's downtown
- **Transit** – includes actions (also focused mostly on policy) leading to development of a network of high-quality transit routes

### *Community Priorities*

The projects and/or policies in these categories aim to achieve the guiding principles for Davenport in Motion, and in particular the community-identified priorities of economic development and enhancing safety. The downtown Complete Streets projects and parking management policies are most important for economic vitality, while the citywide Complete Streets projects and Bicycle Network are key to improving safety. The table below illustrates the relative benefit of each category in relation to the DIM guiding principles.

**Figure 5-1 Relationship between Projects/Policies and Guiding Principles**

| Project/ Policy Category | DIM Guiding Principles | | | | | |
|---|---|---|---|---|---|---|
| | Economic Vitality | Public Health & Safety | Transportation Options & Connections | Waterfront & Downtown Public Space | Land Use & Quality of Life | Environmental Quality |
| Downtown Complete Streets | ⇧⇧⇧ | ⇧⇧ | ⇧⇧ | ⇧⇧⇧ | ⇧⇧ | ⇧ |
| Downtown Parking Management | ⇧⇧⇧ | | | ⇧⇧ | ⇧ | |
| Citywide Complete Streets | ⇧⇧ | ⇧⇧⇧ | ⇧⇧ | ⇧⇧ | ⇧⇧⇧ | ⇧ |
| Citywide Bicycle Network | ⇧ | ⇧⇧⇧ | ⇧⇧⇧ | ⇧ | ⇧⇧ | ⇧⇧⇧ |
| Citywide High Quality Transit Network | ⇧ | ⇧ | ⇧⇧⇧ | ⇧ | ⇧⇧ | ⇧⇧ |

⇧ = Beneficial ⇧⇧ = Moderately Beneficial ⇧⇧⇧ = Highly Beneficial

### *Existing Projects*

This section reviews programmed and planned transportation projects in the City of Davenport, to identify overlap with projects recommended in this plan, synergies in timing (such as bicycle projects that can most cost effectively be implemented in conjunction with planned roadway projects) and projects that do not complement the goals of Davenport in Motion.

Figure 5-2 identifies projects documented in the Bi-State Regional Commission's Transportation Improvement Program for 2010-2013 (TIP) and a subset of 2035 Long Range Transportation Plan (LRTP) projects, and assesses possible linkages or conflicts. Figure 5-3 depicts the projects in the TIP and LRTP on a map. (Note: The table does not include freeway projects.) The City of Davenport can incorporate updates resulting from the Davenport in Motion plans as part of the Bi-State Commission's standard, periodic processes for updating the TIP and LRTP.

Of particular note, a "Complete Street" reconstruction of Harrison and Brady Streets is already programmed in the TIP, although not with an identified funding source. As a general rule, this plan recommends that the City consider bicycle and pedestrian improvements in conjunction with all major street resurfacing, reconstruction, or new construction projects. As discussed above, many cities have adopted Complete Streets policies that require such evaluation for all street projects.

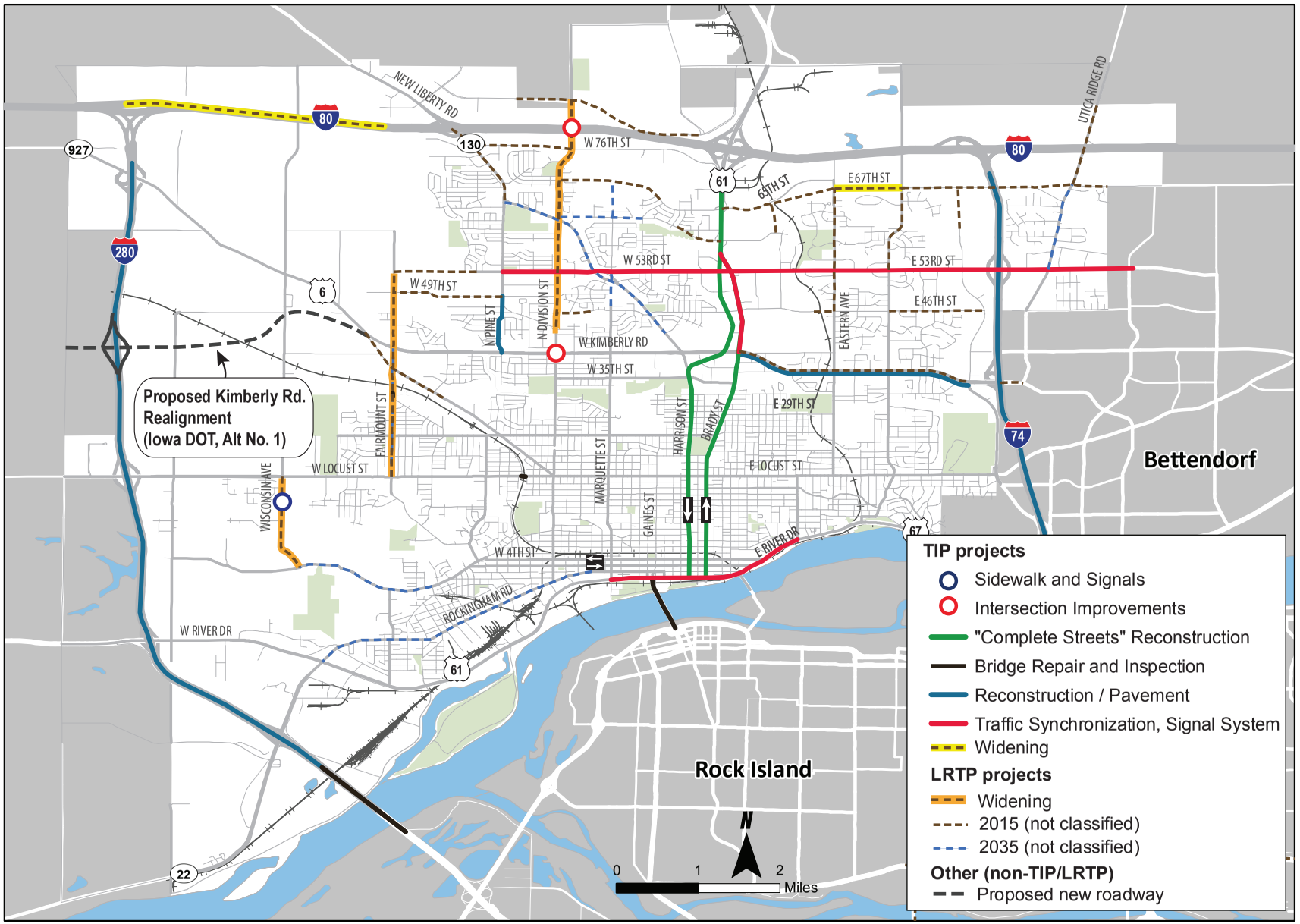
**Figure 5-2 Programmed/Planned Projects (TIP/LRTP)**

| Existing Planned/Programmed Projects (LRTP/TIP) | | | Davenport in Motion Proposed Projects | |
|---|---|---|---|---|
| Project Source | Project Description | Assessment relative to DIM | Proposed Project | Time Frame |
| TIP | W. 53rd, 10 Signals on 53rd and 2 Signals on Brady | Possible coordination | Hwy 61/53rd PTN Corridor | Short-term |
| TIP | N. Pine St., Reconstruction | Coordination recommended | B-37, Bike Lanes, and S-60 Road Diet | Medium-term |
| TIP | E. 67th St., Widening | Coordination recommended | B-26, Bike Lanes | Medium-term |
| TIP | E. River Dr., Signals | Possible coordination | DS-13 | Short-term |

| Existing Planned/Programmed Projects (LRTP/TIP) | | | Davenport in Motion Proposed Projects | |
|---|---|---|---|---|
| Project Source | Project Description | Assessment relative to DIM | Proposed Project | Time Frame |
| TIP | Harrison/Brady "Complete Streets" Reconstruction, River Dr. to 53rd St | Complete project per DIM recommendation | S-1 and S-2 | Short/Medium-term |
| TIP | Kimberly Rd., Paving/Reconstruction, Elmore to Brady | Widening is not recommended | N/A | N/A |
| TIP | Kimberly Rd., Intersection of Division | Possible coordination | S-4, Intersection/ Safety | Medium-term |
| TIP | Wisconsin, Sidewalk/Signals near school | Likely not possible to coordinate | B-2, Bike Lanes | Long-term |
| LRTP | W. and E. 46th St. | Coordination recommended as phasing permits | B-24a, Bike Lanes; S-13 and S-33, Grid Connections | Short- and Medium-term |
| LRTP | W. 49th St. | Possible coordination if phasing permits | B-23, Bike Route | Short-term |
| LRTP | W. 53rd st. | Coordination recommended | S-39, Street Extension | Long-term |
| LRTP | Telegraph Road | Coordination recommended | B-18a/b, Bike Lanes | Medium-term / Long-term |
| LRTP | Rockingham Road | Coordination recommended | B-16, Bike Lanes, and S-8, Street Redesign | Medium-term |
| LRTP | W. 61st St. | Possible Coordination | B-49a/b, Bike Route; S-45a/b, Street Connections | Medium- and long-term |
| LRTP | W. & E. 65th/67th St. | Possible Coordination | B-26a/b, Bike Lanes; S-28 Street Extension | Medium- and long-term |
| LRTP | Northwest Blvd | Possible Coordination | B-38, Bike Lanes | Medium-term |
| LRTP | W. 76th St. | Possible Coordination | S-46, Street Extension | Long-term |
| LRTP | Eastern Ave. | Possible Coordination | B-13, Bike Lanes, and S-63, Road Diet | Medium-term |
| LRTP | Elmore Ave. | Possible Coordination | B-43, Multiuse path, and S-21 Street Extension | Medium-term |
| LRTP | Jersey Ridge Rd. | Possible Coordination, if timing permits | B-14, Bike Lanes, and S-62, Road Diet | First year |
| LRTP | Tremont Ave | Project is already funded | B-41, Bike Route, and S-51, Street Extension | First year (funded project) |
| LRTP | Wisconsin Ave, Widening | Possible coordination | B-2, Bike Lanes | Long-term |
| LRTP | Fairmount St, Widening | Possible coordination | B-4, Bike Route<br>B-3, Bike Lanes | Medium-term<br>Long-term |
| LRTP | Division St, Widening | Possible coordination | Secondary PTN Corridor | Medium-term |
| IDOT | Kimberly Rd Realignment | Realignment is not recommended | N/A | N/A |

TIP/LRTP Data Source: Bi-State Regional Commission, 2008-2012 TIP Projects and 2015/2035 LRTP Projects

**Figure 5-3 TIP/LRTP Projects**




GIS Data Source: Bi-State Regional Commission

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### *First-year Projects*

The first year projects recommended in this plan consist of both "quick wins" that can be readily accomplished using available funds and the initial phases of more involved projects that will take more time to complete. Many of the projects prioritized in the "First Year" category are those that will promote economic development and improve pedestrian safety and walkability in downtown and near-downtown neighborhoods. In a sense the first year projects are selected as "Demonstration Projects," which will help to illustrate the many benefits of developing "Complete Streets" that provide walkers and bikers a dignified and safe travel path. These projects are recommended as building blocks for other elements of Davenport in Motion; the success of these projects should help the city build momentum for toward developing complete streets and a fully multimodal transportation system.

Figure 5-4 depicts the recommended first-year projects on a map and Figure 5-5 summarizes them in a table. As noted above, detailed project descriptions are included in the relevant modal element for each category of project. Note: In the project numbers referenced in the discussion and the map, "DS" refers to downtown streets projects, "S" refers to citywide streets projects, and "B" refers to bike projects.

#### COMPLETE DOWNTOWN STREETS

First-year projects include several key downtown streets projects that are critical to expanding multimodal travel options, enhancing safety and livability, and contributing downtown economic vitality.

**Convert 3rd and 4th Streets to two-way operation (DS-17 and B-17):** Along with Harrison and Brady Streets, 3rd and 4th Streets are currently designed to maximize automobile throughput during peak travel hours. This configuration was put in place decades ago when downtown Davenport was the job center for the entire city and much of the region and the national planning mentality was to accommodate rapid travel from new suburban neighborhoods to downtown job centers. However, the one-way configuration increases vehicles speeds and reduces sight lines, to the detriment of safe pedestrian and bicycle travel as well as the viability of businesses along these streets. The 3rd/4th pair of one-way streets is recommended as a top implementation priority as it will allow Davenport to assess the benefits of two-way conversion prior to undertaking the recommended, but more complex conversion on Harrison/Brady. The recommended design for 3rd and 4th Streets includes one travel lane in each direction with a center left-turn lane. Bike lanes are recommended for both streets in conjunction with the two-way conversion, providing a needed continuous east-west bike route through downtown. 3rd Street is intended as the primary street for bicycles, but 4th Street would also have bike lanes to provide better bicycle circulation and to calm traffic on the new two-way street.

Proposed Design for 3rd and 4th Streets

**Main Street between 4th and 7th Streets (DS-7):** While Main Street does not carry a high volume of traffic, it is a fundamentally important downtown street, connecting the core of the downtown with educational and civic uses atop the hill. It is also the primary north-south bicycle connection into downtown. This project would replace the center turn lane on this segment of Main Street with a landscaped median and add street trees to improve the quality of the pedestrian experience. Of several improvement projects along Main Street, this segment is recommended as a first-year project since it has funding.

Proposed Main Street

#### CITYWIDE BIKEWAY NETWORK

In addition to the implementation of bike lanes on 3rd Street and 4th Street (B-17), key east-west connections extending bike lanes on Marquette Street north of 14th Street (B-7) and on Jersey Ridge north of Kimberly (B-14) are recommended as first year projects. Extending bike lanes on both streets across Kimberly would significantly improve north-south bicycle connectivity in Davenport, identified as one of the top concerns in the Bicycle Network Plan (Chapter 9). Depending on available funding, the Marquette project could be completed in two phases.

## STREET NETWORK IMPROVEMENTS

An initial project to improve the street grid in the northeast quadrant of the City will connect Tremont Avenue between 59th Street and Veterans Memorial Parkway (S-51). This is a funded project (grant) slated for the first year of this plan and will be part of a network of bicycle routes in this part of Davenport.

## TRANSIT

The Davenport in Motion Transit Element (Chapter 10) provides recommendations for enhancing CitiBus service and improving the operating environment for transit. The key step recommended for the first-year of this plan is to initiate a Comprehensive Operational Analysis (COA) of the CitiBus system. A COA would include a discussion of how CitiBus should balance "coverage" and "productivity" and identify areas for efficiency improvements, thereby allowing CitiBus to direct resources to meeting needs such as evening and weekend service. Davenport should also identify a Primary Transit Network (PTN) of key transit corridors and adopt a PTN overlay zone to encourage higher residential densities, mixed uses, and good pedestrian access along these corridors..

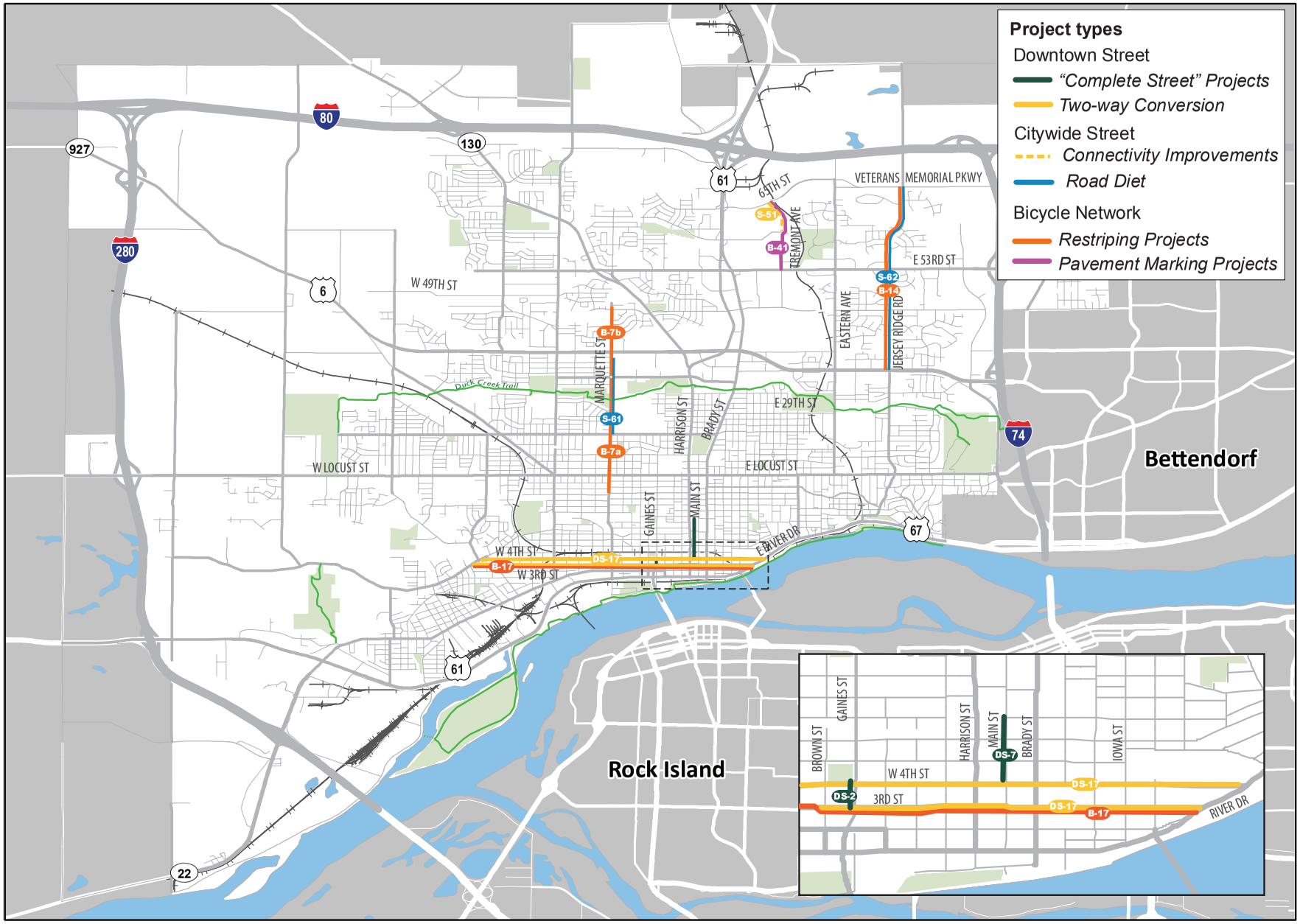
## DOWNTOWN PARKING MANAGEMENT

The Davenport in Motion Parking Element (Chapter 6) contains a number of steps for improving the management of downtown parking in the first year of this plan, aimed at improving the vitality of downtown. Several of the steps are to conduct a one-year "Right Pricing" program to re-price on-street parking in downtown based on actual demand (underway as of the Spring of 2010), improve utilization of Davenport's parking ramps, and consider converting excess surface lot capacity to uses such as parks that enhance the downtown environment.


In contrast to vacant parking spaces, well-occupied on-street parking creates a sense that people want to be downtown.

*Source: Nelson\Nygaard*

**Figure 5-4 First-Year Projects**




Nelson|Nygaard consulting associates

GIS Data Source: City of Davenport, IA

**Figure 5-5 First Year Project Matrix**

| Map # | Project Description | Project Extent | Street Design Type / Project Elements | Priority |
|---|---|---|---|---|
| ***Downtown Streets Projects*** | | | | |
| DS-2 | Gaines St. "Complete Street" | 3rd St. to 4th St. | Urban 4-Lane Transition Street. Recommended for first year since it involves only a single block and can most easily be coordinated with the 3rd/4th two-way conversion (DS-17). | ⇧ |
| DS-7 | Main St. "Complete Street" | 4th St. to 7th St. | Urban 2-Lane Median High Street with shared bicycle route pavement markings. (Funded project.) | ⇧⇧ |
| DS-17 | 3rd St. / 4th St. Two-Way Conversions | Telegraph Rd. to River Dr. | Urban 3-Lane Avenue with bike lane striping | ⇧⇧⇧ |
| ***Citywide Streets Projects*** | | | | |
| S-51 | Extend Tremont Ave. to Veterans Memorial Parkway | 59th St. to Veterans Memorial Pkwy (67th St.) | Industrial Collector/Street. (Funded project – grant.). See also bicycle project B-41. | ⇧ |
| S-61 | Marquette Street Road Diet | Central Park Ave. to Kimberly Rd. | Road diet to allow for bicycle lane extension on Marquette north of 14th St. | |
| | Jersey Ridge Rd. Road Diet | Kimberly Rd. to Veterans Memorial Pkwy (67th St.) | Road diet from Kimberly Rd. to approximately 57th St. to allow for bicycle lanes on Jersey Ridge to be extended north of Kimberly Rd. | |
| ***Bicycle Projects*** | | | | |
| B-7 (a/b) / S-61 | Marquette St. Bike Lanes, Phases 1 & 2 | 14th St. to 35th Street and 35th St. to 46th St. | Bike lane striping, including a road diet between Central Park Avenue and 35th St. Phase 2 (B-7b) could be done separately, based on available funding. Phase 3 (B-7c) (medium term) depends on streets project S-29a. | ⇧⇧ |
| B-14 | Jersey Ridge Rd. Bike Lanes | Kimberly Rd. to Veterans Memorial Pkwy (67th St.) | Bike lane striping. This project includes a road diet, S-62 | ⇧ |
| B-17 | 3rd St. Bike Lanes | Telegraph Rd. to River Dr. | Bike lane striping in conjunction with two-way conversion(DS-17) | ⇧⇧⇧ |
| B-41 | Tremont Ave. Bike Route | 46th to Veterans Memorial Pkwy (67th St.) | Pavement markings in conjunction with S-51. | |

Relative Priority: ⇧ Beneficial ⇧⇧ Moderately Beneficial ⇧⇧⇧ Most Significantly Beneficial

Map Codes: DS = Downtown Streets Projects, S = Citywide Streets Projects, B = Bicycle Projects, INT = Intersection Projects

### *Short-term Projects and Actions (1-3 Years)*

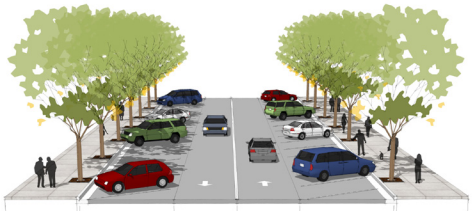
The short-term recommendations (1-3 year time frame) in this plan build upon the first-year projects and aim to complete core improvements in downtown, continue to expand citywide travel options, and begin to enhance network connections within the City's neighborhoods, particularly in the NE Quadrant of the city where very limited street connectivity is putting significant pressure on east – west arterials such as Kimberly Road and 53rd Street.

The short-term projects are discussed briefly below, shown on a map in Figure 5-6, and listed in a table in Figure 5-7. Detailed project descriptions are included in the relevant modal element chapters.

#### DOWNTOWN STREETS

In the one to three-year time frame, Davenport should complete the identified downtown "complete streets" projects to the extent permitted by available funding. The downtown Street Typology section in the Street Design Guide (Chapter 7, Section 2) describes the design concepts for these streets in more detail.

- **North-South Parking Streets:** Between River Drive and 5th Street (varies), the following streets would have a two-lane cross-section with angle parking on both sides: Brown, Western, Scott, Ripley, Perry, Pershing, Iowa, and Leclaire. Between River Drive and 2nd Street, Western Avenue would transition from a four- lane cross-section (two lanes in each direction) to the two-lane cross section shown.



Low-volume north-south streets with angle parking

- **2nd Street:** Between Gaines Street and Western Avenue, 2nd Street would transition from a cross-section with two lanes in each direction to a cross-section with one lane in each direction between Western Avenue and River Drive, with a center turn lane at intersections.
- **Main Street:** This project would continue the first-year improvements on this important downtown street from 4th Street south to River Drive, removing the center turn-lane and emphasizing the pedestrian and bicycle function of the street.

Main Street between 4th Street and River Drive

- **Intersection improvements:** On the east side of downtown, redesigning the intersections of 2nd Street and Leclaire Street/River Drive and removing the ramp at Gaines Street and 2nd Street are recommended to improve the walkability of downtown and may be most easily accomplished in conjunction with improvement projects affecting those streets.

#### CITYWIDE STREETS

Several key citywide streets projects are included in the short-term projects:

- **Convert Brady and Harrison Streets to two-way operation (S-1):** Building upon the conversion of 3rd/4th Streets to two-way operation, this plan recommends converting the Harrison/Brady pair of one-way streets to two-way operation between River Drive and Central Park Avenue, to improve safety and restore vitality to downtown businesses and the Hilltop business district. Each street would have a three-lane cross section (two travel lanes and a center two-way left turn lane) and would transition back to a one-way configuration north of Central Park until the completion of a second phase of the project (see medium-term). Alternatively, the two streets could be developed as an imbalanced pair where each street retains two travel lanes in the dominant direction and one lane in the opposite direction; the majority of City Council members (seven out of eight) who supported this project were about evenly split between the two alternatives. This project will help to revitalize the Hilltop District as a neighborhood-serving commercial center and dramatically improve pedestrian safety and the quality of the pedestrian environment. This outcome has particularly high value to the community given the concentration of local school, higher education, civic, and ecumenical uses in this corridor.
- **Implement a "road diet" for Central Park Avenue (S-5):** This project would reduce Central Park from two lanes in each direction to one travel lane in each direction and add bike lanes, providing a major east-west on-street bike connection. Central Park represents the

best opportunity to construct a cross-town bicycle route north of downtown. Intersections with the Marquette, Main, and other bike routes will begin to form a network of bicycle pathways in the historic city, connecting many residential neighborhoods with important educational, institutional and civic uses as well as the downtown employment center. Central Park is a secondary arterial corridor and therefore does not carry volumes of traffic significant enough to merit a four-lane cross section. The four-to-three lane conversion can be achieved with paint at a relatively low cost and will help to slow traffic speeds in this largely residential section of the city.

- **Enhance street grid through connectivity improvements:** In line with the network approach recommended by Davenport in Motion, several grid enhancements opportunities are recommended for the short-term, to begin to distribute traffic from both the north segment of Harrison/Brady, allowing for its future conversion to two-way operation, and Kimberly Road, to alleviate the need for future widening. This plan recommends that the City carefully review plans to widen Kimberly Road and enhance connections to interstate highways at the eastern and western edge of the City, and where possible seek alternative management approaches to accommodate growth in travel demand. The connection of 46th Street east of Tremont Avenue to Eastern Avenue is a top priority connection (S-13) that would begin to establish 46th Street as a continuous, traffic calmed street and bicycle connection north of Kimberly Road. As shown in the illustration below, the plan also recommends the implementation of a roundabout at the intersection of 46th Street and Eastern Avenue (INT-4) in conjunction with this new connection. The roundabout would help to meter traffic volumes and control neighborhood traffic speeds. Roundabouts have been shown to decrease automobile crashes in similar environments and would reduce the potential for increased accidents at this intersection. The City has already developed a traffic calming strategy for this corridor that could be implemented to reduce concerns about high-speed cut through traffic.

Proposed creek and railroad crossing on 46th Street, with roundabout at Eastern Avenue.

## CITYWIDE BIKEWAY NETWORK

Continuing to expand the bikeway network as funding allows, the short-term projects target the primary concerns identified in the Bicycle Network Plan, including improving connections to downtown, expanding north-south connections, extending the bicycle network to the north and southwest neighborhoods. The projects, discussed more specifically below, include several bike lane projects that provide major citywide connections and a larger number of shared street bike routes that expand connectivity to neighborhoods very cost-effectively.

**Additional east-west connections north of downtown:** Several major east-west bike connections are recommended, north of the 3rd Street bike lanes (suggested for the first year of this plan).

- **Bike lanes on 14th/15th Streets (B-19):** Bike lanes are recommended and would extend to Bridge Avenue. Between Grand Avenue and Bridge Avenue, 14th and 15th would have one travel lane in each direction due to a narrower right-of-way and lower traffic volumes. A shared street route (B-20) would extend the bike lanes along Kirkwood Blvd. / Middle Road east of Bridge Avenue.
- **Bike lanes on Central Park Avenue (B-22):** In conjunction with project S-5 above, bike lanes on Central Park would run between Emeis Park and Bridge Avenue.
- **Bike lanes/route on 46th/49th Streets (B-24a and B-23):** A major east-west connection north of Kimberly Road would be provided by a bike lane (B-24a) striped on E. 46th Street (taking advantage of project S-13 that would connect E. 46th Street between Tremont and Eastern Avenues). West of Marquette Street, the connection would transition to 49th Street at Fillmore Lane, continuing as a shared street route.

**Additional North-South Connections:**

Complementing the first-year bicycle lane extension on Marquette Street, several recommended projects would provide shared street bike routes to the north of downtown, providing clear indication that these lower traffic volume streets are designed to accommodate bicycle traffic:

- East of Brady Street, a bike route on Iowa and Farnum (B-11) would connect the proposed east-west routes on 3rd Street, 14th/15th Streets, and Central Park Avenue.
- Adding markings to the existing Main Street bike route (B-29), coordinated with street reconstruction planned for approximately 2012, would strengthen this important north-south connection. A bike route on Fair Avenue (B-9) would continue north of Vander Veer Park and cross over Duck Creek on a new bicycle-pedestrian bridge (B-9).
- West of Harrison Street, bike routes on Gaines Street and Western Avenue (B-8 / B-31) would connect to the Duck Creek Trail. An existing bike route on Washington Street would be enhanced with pavement markings and additional signage (B-6).
- Project B-5 through Fejervary Park would connect the 14th/15th and 3rd Street bike lanes.

Washington Strreet bicycle route connects to a pedestrian bridge in Marquette Park

*Source: City of Davenport*

Connections to the southwest and northwest of downtown: A bicycle route along Concord Street (B-27) would connect the southwest neighborhoods to downtown. From the 3rd Street bike lanes it would extend to the southwest to the planned Credit Island pedestrian bridge. North of Rockingham, one route (B-27a) would use Concord/Indian/Clark between Rockingham and Telegraph (serving Hayes Elementary School) while B-27b would use Concord / McKinley / Elmwood (serving Van Buren Park). Project B-4 would provide a connection to northwest Davenport, using Waverly Road and Fairmount Street between 3rd Street and Kimberly Road.

Connections To and Through Northpark Mall: The Fair Avenue bike route (B-9) would connect to Northpark Mall from the south and bike routes on Ripley Street (B-40) and Brown Street/Appomattox Road would improve access to the mall from the north. The City of Davenport is currently negotiating with Northpark Mall to jointly provide bicycle route signage and stripe bicycle lanes

on the existing private streets around the mall, connecting to existing multiuse paths linking to surrounding neighborhoods.

### CITYWIDE HIGH-QUALITY TRANSIT NETWORK

The top priority transit action is to conduct the Comprehensive Operational Analysis (COA) of the CitiBus system initiated in the first year of this plan. The COA will provide the detailed understanding of the current system needed for the City to eliminate inefficiencies built up over years of minor service changes and potentially reallocate resources between limited service over a broad geographic area and high quality service along corridors with the highest potential ridership.

Other specific actions discussed in detail in the Transit Element (Chapter 10) include:

- Begin to develop a Primary Transit Network (PTN) trunk corridor along Hwy. 61/53rd Street and consider the feasibility of federal funding to develop it as a "Rapid Bus" corridor.
- Take additional steps to improve facilities along the PTN, including developing "Super Stops" that receive the highest level of amenities and completing a bus stop inventory and stop improvement program with annual funding to gradually make stop improvements throughout the City.

"Super Stop" features.

### TRANSIT-SUPPORTIVE PROGRAMS

Davenport can take several short-term steps to support transit and other transportation options, as discussed in more detail in the Transit Element:

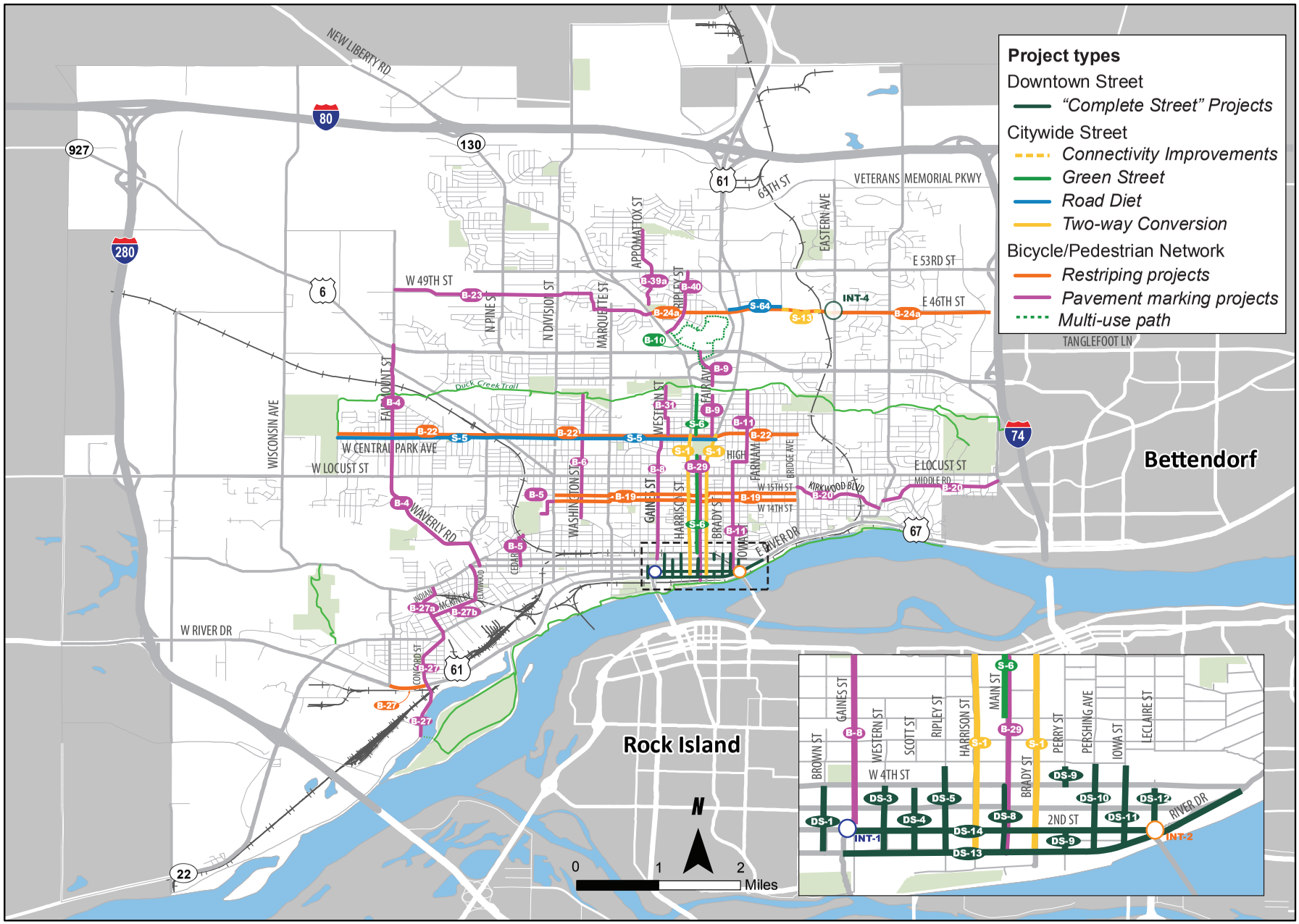
- Consider developing a downtown Transportation Management Association to support employees and businesses interested in commuting alternatives, either as a separate organization or as a branch of Davenport One.
- Study options for a downtown transit pass program, which along with parking management has significant potential to increase transit ridership for downtown employees.

### DOWNTOWN PARKING MANAGEMENT

In the first three years of Davenport in Motion, the City should implement the Downtown Parking Management Element. Following on the demand-based pilot, actions for the City include:

- Establish a final on-street parking pricing zone based on the final six months of surveys from the pilot
- Remove all parking meters outside of the pricing zone
- Monitor parking utilization on an ongoing basis and respond as per the Parking Management Element
- Refine management of the City's off-street parking ramps as per the Parking Management Element, including creating and promoting bicycle parking in underutilized space within these facilities

**Figure 5-6 Short-term Projects**

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GIS Data Source: City of Davenport, IA

**Figure 5-7 Short-Term Project Matrix**

| | Project Description | Project Extent | Street Design Type / Project Elements | Priority |
|---|---|---|---|---|
| ***Downtown Streets Projects*** | | | | |
| DS-1 | Brown St. "Complete Street" | River Dr. to 4th St. | Urban 2-Lane Parking Street | |
| DS-3 | Western Ave. "Complete Street" | River Dr. to 2nd St. / 2nd St. to 5th St. | Urban 2-Lane Street / Urban 2-Lane Parking Street | |
| DS-4 | Scott St. "Complete Street" | River Dr. to 4th St. | Urban 2-Lane Parking Street | |
| DS-5 | Ripley St. "Complete Street" | River Dr. to 5th St. | Urban 2-Lane Parking Street | |
| DS-8 | Main St. "Complete Street" | River Dr. to 4th St. | Urban 2-Lane High Street | ⇧⇧ |
| DS-9 | Perry St. "Complete Street" | River Dr. to 2nd St. / 4th St. to 5th St. | Urban 2-Lane Parking Street | |
| DS-10 | Pershing Ave. "Complete Street" | River Dr. to 5th St. | Urban 2-Lane Parking Street | |
| DS-11 | Iowa St. "Complete Street" | River Dr. to 5th St. | Urban 2-Lane Parking Street | |
| DS-12 | Leclaire St. "Complete Street" | River Dr. to 4th St. | Urban 2-Lane Parking Street | |
| DS-13 | River Dr. (median redesign and construction) | Gaines St. to 4th St. | River Drive Special Street Type | |
| DS-14 | 2nd St. "Complete Street" | Gaines St. to Western Ave. / Western to River Dr. | Urban 4-Lane Transition Street / Urban 3-Lane Avenue | ⇧ |
| ***Downtown Intersection Projects*** | | | | |
| INT-1 | Intersection redesign at 2nd St./ River Dr. and 2nd St./Leclaire St. | | | |
| INT-2 | Gaines/2nd Approach Ramp Removal | | | |
| ***Citywide Streets Projects*** | | | | |
| S-1 | Brady and Harrison Streets Two-way Conversion (Phase I) | River Dr. to Central Park Ave. | Urban 3-Lane Avenue | ⇧⇧⇧ |
| S-5 | Central Park Ave. Road Diet | Brady St. to Emeis Park | Neighborhood Arterial | ⇧⇧⇧ |
| S-6 | Main St. Green Street | Non-Downtown Portion (7th St. to Vander Veer Park) | | ⇧ |
| S-13 | 46th St. New Street Connection | E. of Tremont Ave. to Eastern Ave. | Neighborhood Arterial and Neighborhood Arterial Bridge, coordinated with project INT-4 to a roundabout at 46th and Eastern for traffic calming. This project would support bike project B-24a (short-term) | ⇧⇧ |
| S-64 | 46th St. Road Diet | Welcome Way to Tremont Ave. | Neighborhood arterial. Road diet from 4 to 3 lanes, with bike lanes. Connects to S-13 and supports B-24a | |
| ***Intersection Projects*** | | | | |
| INT-4 | 46th St. & Eastern Ave. Roundabout | | Roundabout installation as traffic calming measure in conjunction with S-13 | ⇧⇧ |
| ***Bicycle Network Projects*** | | | | |
| B-4 | Waverly Rd. / Fairmount St. Bike Route | 3rd St. to Kimberly Rd. | Pavement markings | ⇧⇧ |

| | Project Description | Project Extent | Street Design Type / Project Elements | Priority |
|---|---|---|---|---|
| B-5 | Cedar St. / Fejervary Park / Davies St. /14th St. Bike Route | 3rd St. to Division St. | Pavement markings | |
| B-6 | Washington St. Bike Route | Riverview Terrace Park to Duck Creek Trail | Pavement markings | |
| B-8 | Gaines St. Bike Route | 4th St. to Central Park Ave. | Pavement markings | ⇧ |
| B-9 | Fair Ave. / 37th St. Bike Route (with Duck Creek overcrossing) | Central Park Ave. to Kimberly Rd. | Pavement markings and basic pedestrian bridge over creek | ⇧⇧ |
| B-10 | Northpark Mall Bike Lanes/ Paths | | City of Davenport is negotiating a cooperative effort with the mall to stripe bike lanes on private streets around the mall | |
| B-11 | Iowa St. / High St. / Farnam St. Bike Route | 2nd St. to Duck Creek Trail | Pavement markings | ⇧ |
| B-19 | 14th St. & 15th St. Bike Lanes | Division St. to Bridge Ave. | Bike lane striping. 14th/15th would narrow to one travel lane between Grand Ave. and Bridge | ⇧⇧ |
| B-20 | Kirkwood Blvd. / Middle Rd. Bike Route | Bridge Ave. to Kimberly Rd. (connecting to Bettendorf) | Pavement markings | ⇧ |
| B-22 | Central Park Ave. Bike Lanes | Emeis Park to Bridge Ave. | Bike lane striping, in coordination with streets project S-5 | ⇧⇧⇧ |
| B-23 | 46th St. / 49th St. Bike Route | Fairmount St. to Northwest Blvd. | Pavement markings. After completion of street connectivity project S-29a, Marquette St. can be used to transition from 46th to 49th Streets. | ⇧⇧ |
| B-24a | 46th St. Bike Lanes | Fillmore Ln. to Elmore Ave. | Bike lane striping, coordinated with street connectivity improvements between Tremont and Eastern Avenues (S-13) and roundabout installation at Eastern Ave. (INT-4). S-64 highlights a 4-3 Road Diet east of Welcome Way. B-24b (medium-term) would continue bicycle lanes to the west. | ⇧⇧⇧ |
| B-27 | Concord St. Bike Route using Concord / Clark / Indian and/or Concord / McKinley / Elmwood | Credit Island Park to Telegraph Rd. | Pavement markings. B-27a shows the Indian/Clark option and B-27b shows the McKinley/Elmwood option. Provide pavement markings and signage on existing shoulders of River Dr. between Fairmount St. and Concord Ave. | ⇧⇧ |
| B-29 | Main St. Bike Route | River Dr. to VanderVeer Park | Shared pavement markings. Coordinate with planned street reconstruction planned for approximately 2012. | ⇧ |
| B-31 | Western Avenue Bike Route | Central Park to Duck Creek Trail | Pavement markings | |
| B-39a | Brown St./Appomattox Rd. Bike Route (Phase 1) | Slattery Park to Goose Creek Park | Pavement markings | |
| B-40 | Ripley St. Bike Route | Northwest Blvd to N. of 53rd/Future Goose Creek Trail | Pavement markings. Pursue connection to a future Goose Creek Trail. | |

Relative Priority: ⇧ Beneficial ⇧⇧ Moderately Beneficial ⇧⇧⇧ Most Significantly Beneficial

Map Codes: DS = Downtown Streets Projects, S = Citywide Streets Projects, B = Bicycle Projects, INT = Intersection

## *Medium-Term Projects and Actions (3-10 Years)*

The medium-term recommendations (3-10 year time frame) continue to focus on key citywide streets and expanding citywide travel options, but place an increasing emphasis on network improvements within the City's neighborhoods particularly in the northeast quadrant of the city.

Project priority in this timeframe is much more fluid and may depend on availability of funding, but all projects included in this plan are deemed important priorities for the City of Davenport. Figure 5-8 provides a map of the projects and Figure 5-9 lists them in a table. Detailed project descriptions are included in the relevant modal element for each project category.

### DOWNTOWN STREETS AND PARKING MANAGEMENT

In the 3-10 year time horizon, Davenport prioritizes any of the identified downtown streets projects which could not be funded in the first three years of the plan and continues to apply the principles contained in the Downtown Parking Management Element, aimed at increasing the vitality of downtown.

### CITYWIDE STREETS

- **Convert Brady Street and Harrison Street / Welcome Way to two-way operation – Phase 2 (S-2):** This project would complete the conversion of Brady/Harrison/Welcome Way to two-way operation between Central Park Avenue and 53rd Street.
- **Kimberly Road (S-4 and S-4a):** This project would implement improvements at select intersections to improve capacity, including Division and Marquette Streets, while leaving the typical cross section of Kimberly unaltered. The project incorporates an off-street multi-use path to increase bicycle and pedestrian use and improve safety. A multi-use path is also possible as a separate option (S-4a). In addition, Davenport in Motion recommends that features of the Transitional Commercial Arterial cross-section be adopted in any reconstruction project along Kimberly. As discussed below, this plan identifies network improvements in both the medium- and long-term time frames to alleviate the need for further widening of Kimberly.
- **Locust (S-7):** This project recommends a road diet on Locust Street west of Brady Street to calm traffic, improve safety, and enable streetscape improvements. A three-lane cross-section in this part of Locust Street would allow protected left turns, and wider sidewalks and on-street parking around commercial nodes. Both west and east of Brady Street, reconstructed sidewalks and streetscape improvements focused around commercial nodes would improve the pedestrian environment. Detailed concepts for Locust Street are identified in the Traditional Corridors Plan.
- **Rockingham Road (S-8):** This project would make streetscape improvements to Rockingham using a three-lane cross-section (two travel and a center left-turn lane) based on the Industrial Collector street design type, and implement bike lanes between Marquette and John Fell Drive (B-16). Detailed concepts for Rockingham Road are identified in the Davenport Traditional Corridors Plan.
- **Road Diets on 35th Street (S-55), Hickory Grove Road (S-58), Lincoln Avenue (S-59), Pine Street (S-60), and Eastern Avenue (S-63):** As discussed in detail elsewhere in this plan, a number of Davenport's streets have four vehicle travel lanes (two lanes in each direction) but carry lower traffic volumes that can be accommodated using a three-lane cross section. Accordingly, these streets would be converted to one vehicle travel lane in each direction with a center turn-lane. The additional right-of-way on these streets would calm traffic on these streets to improve safety and would be used to provide bicycle lanes which would have a further traffic calming effect on these streets.

### ENHANCE STREET GRID THROUGH CONNECTIVITY IMPROVEMENTS

In the medium-term, the plan continues to implement the network approach to connectivity initiated in the short-term phase. All of the identified improvements help facilitate bike connections:

- East-west grid connections include 29th Street between Eastern Avenue and Jersey Ridge Road (S-11), 35th Street between Brady Street and Kimberly Road (S-15), 46th Street between Marquette and Pine Streets, allowing the 46th Street bicycle lanes to be extended as far west as Pine St. (S-33), and 61st Street between Marquette Street and Appomattox Rd. (S-45a).
- North-south connections include Marquette Street between 46th Street and Northwest Blvd. (S-29a) and Elmore Street between 60th and Veterans Memorial Parkway (S-21).

### CITYWIDE BIKEWAY NETWORK

The medium-term projects continue to target the primary concerns identified in the Bicycle Network Plan:

- **Improving connections to downtown:** Additional north-south connections would be provided on Kelling Street (B-30), connecting to George Washington Blvd. and an existing bridge over Duck Creek, and Grand Avenue (B-4), connecting to the Iowa/Farnam route at High Street. An additional east-west route near downtown is suggested along Lombard Street, connecting the Lincoln Avenue and the Main Street bike routes.
- **Connections in north/northeast part of the City:** North-south bike lanes would be implemented along Bridge Avenue (B-12) and Eastern Avenue (B-13). A multiuse path or bike lanes along Elmore Avenue (B-42) would provide a parallel route to I-74. In the east-west direction, bike lanes along Veterans Memorial Parkway east of Eastern Avenue and a bike route along 61st/59th Streets would expand bicycle routes in the far northern part of the City.
- **Connections in north/central part of the City:** Bike lanes on Marquette Street would be extended from 46th Street to 60th St. in conjunction with a new street connection (B-7c / S-29a) and bike lanes on 46th Street would be extended from just west of Marquette Street to Pine Street in conjunction with several street connections (B-24b / S-33). Bicycle lanes would be striped on Pine Street in conjunction with a road diet (B-37 / S-60). In addition, bicycle lanes on Northwest Blvd. would provide an on-street option for confident cyclists (B-38).
- **Connections in west/southwest of downtown:** In conjunction with streets project S-8, bicycle lanes would be implemented on Rockingham between Marquette and John Fell Drive, connecting to several bike routes suggested for short-term implementation (B-27). Bike lanes would also be extended from 3rd Street to Fairmount Street along Telegraph Avenue (B-18a) and striped on Lincoln Avenue in conjunction with a road diet (B-35 / S-59).

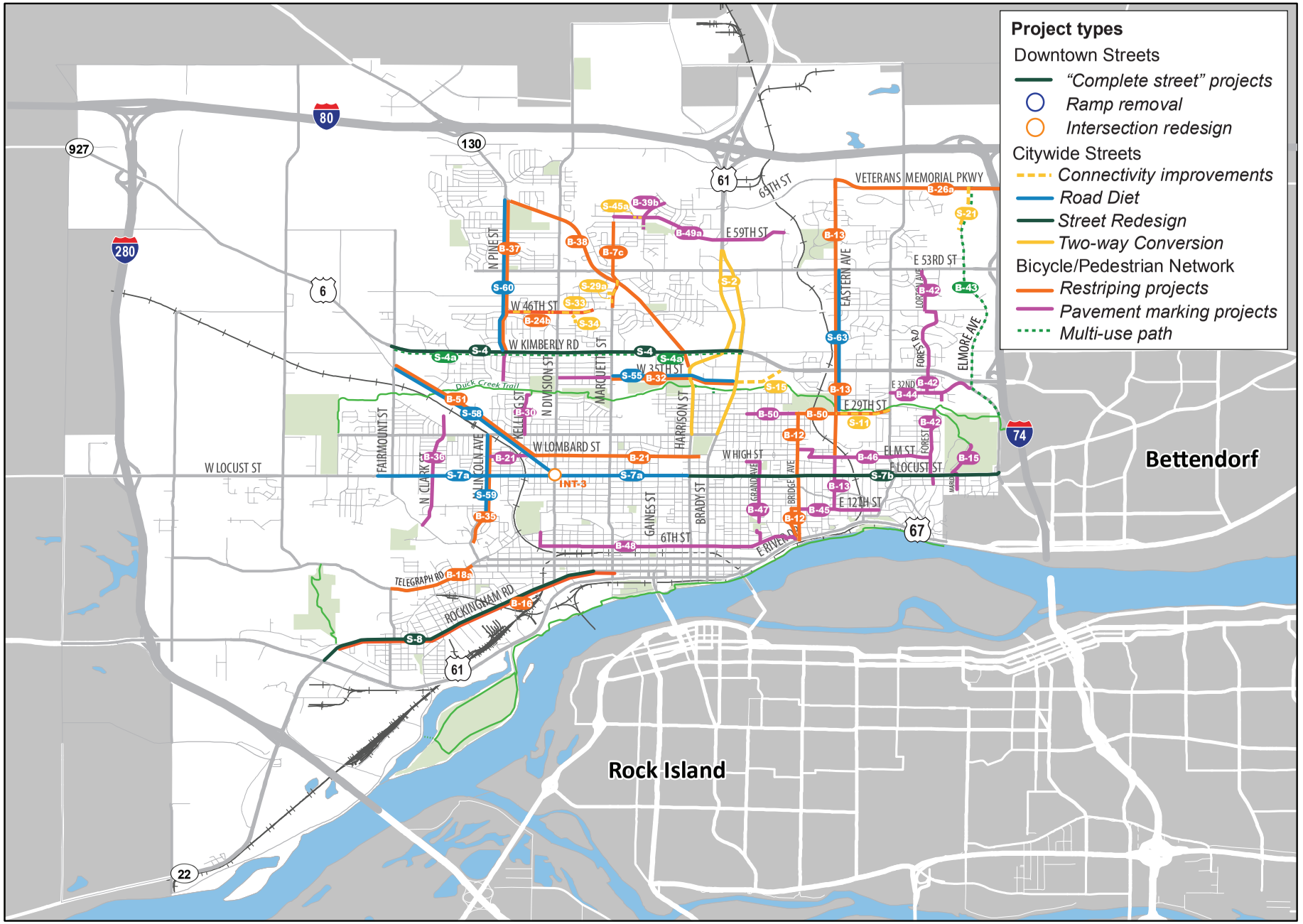
### CITYWIDE HIGH-QUALITY TRANSIT NETWORK AND TRANSIT-SUPPORTIVE PROGRAMS

Building on first-year and short-term actions, in years 3-10 of this plan Davenport can continue to develop a Rapid Bus route along Hwy. 61 and 53rd Street, expand the Priority Transit Network (PTN), and increase density along the PTN. It can also develop a Community-based Social Marketing (CBSM) program to conduct individualized marketing of transit (and other transportation options), starting with a small pilot program focused on one to two residential neighborhoods.

### PARKING

Key steps for the City in the medium-to-long term are to upgrade meter technology when and where demand-based rates surpass $1 per hour and to remove time limits when and where meters are replaced with pay stations. It should also formalize a policy of investing meter revenues in downtown and improve links to shared parking opportunities.

**Figure 5-8 Medium-term Projects**

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GIS Data Source: City of Davenport, IA

**Figure 5-9 Medium-term Project Matrix**

| Map # | Project Description | Project Extent | Street Design Type / Project Elements | Priority |
|---|---|---|---|---|
| ***Downtown Streets Projects*** | | | | |
| | Any not completed in first-year/short-term | | | |
| ***Citywide Streets Projects*** | | | | |
| S-2 | Brady and Harrison Streets Two-way Conversion (Phase II - North) | N. of Central Park Ave. | Urban 3-Lane Avenue | ⇧⇧ |
| S-4 | Kimberly Rd. Intersection Improvements and Street Redesign | Fairmount St. to Brady St. | Improvements at Division and Marquette Intersections. Recommend Transitional Commercial Arterial design type in conjunction with any other improvements planned. | ⇧ |
| S-4a | Kimberly Rd. Multi-use Path | Fairmount St. to Brady St. | Multi-use path in conjunction with improvements in S-4 or as a standalone project | ⇧ |
| S-7 | Locust St. Road Diet and Streetscape Improvements | Kimberly Rd. to Fairmount St.; Road Diet west of Brady St. | Road diet west of Brady St. only, with wider sidewalks and on-street parking; Sidewalk reconstruction and streetscape improvements on full extent | ⇧⇧ |
| S-8 | Rockingham Rd. Street Redesign | River Dr. to 2nd St./Fillmore St. | Incorporates bike project B-16 and signal replacement at Concord. Project incorporates recommendations from Traditional Corridors Plan. | ⇧⇧ |
| S-55 | W. 35th St. Road Diet | Marquette St. to Brady St. | Commercial Collector. Road diet from 4 to 3 lanes, with bike lanes. Connects to S-15 | ⇧⇧ |
| S-58 | Hickory Grove Rd. Road Diet | Locust St. to Kimberly Rd. | Road diet for traffic calming; Coordination with INT-3 (5-way intersection) | |
| S-59 | Lincoln Ave. Road Diet | Iroquois Dr. to Central Park Ave. | Road diet to enable bicycle lanes (B-35) | |
| S-60 | Pine St. Road Diet | Kimberly Rd. to Northwest Blvd. | Road diet to enable bicycle lanes (B-37) | |
| S-63 | Eastern Ave. Road Diet | 29th St. to north of 53rd | Road diet to enable bicycle lanes (B-14) | |
| ***Citywide Intersection Projects*** | | | | |
| INT-3 | Locust St. / Division St. / Hickory Grove Rd. 5-Way Intersection | | Redesign of intersection in conjunction with road diets of Locust St. and Hickory Grove Rd. | ⇧ |
| ***Connectivity Improvements*** | | | | |
| S-11 | E. 29th St. New Street Connection | Eastern Ave. to Belle Ave./Jersey Ridge Rd. | Neighborhood Collector | |
| S-15 | E. 35th St. Extension - New Street Connection | Brady St. to Kimberly Rd. | Commercial Collector. See also B-32 | ⇧ |
| S-21 | Elmore St. New Street Connection | E. 60th St. to Veterans Memorial Pkwy. | Commercial Collector | ⇧ |
| S-29a | N. Marquette St. New Street Connection | W 46th St. to Northwest Blvd. | Neighborhood Arterial. Note: 2-lane section to address concerns with traffic at Northwest/53rd Triangle. Required for bike project B-7c. | ⇧⇧ |

| Map # | Project Description | Project Extent | Street Design Type / Project Elements | Priority |
|---|---|---|---|---|
| S-33 | W. 46th St. New Street Connections | Fillmore Ln. to Division St. and Division St. to Pine St. | Neighborhood Collector. Supports bike project B-24b | |
| S-34 | N. Sturdevant St. New Street Connection | Lambs Ln. to W. 46th St. Extension | Neighborhood Local. Would improve north-south connectivity in conjunction with S-33 | |
| S-45a | W. 61st St. New Street Connections | Appomattox Rd. to Marquette St. | Relates to B-49a. Includes bicycle/pedestrian bridge over Goose Creek | |
| ***Bicycle Network Projects*** | | | | |
| B-7c | Marquette St. Bike Lanes, Phase 3 | 46th St to 60th St. | Bike lane striping. Depends on completion of streets project S-29a. | ⇧⇧ |
| B-12 | Bridge Ave. Bike Lanes | River Dr. to Garfield Park | Bike lane striping | ⇧ |
| B-13 | Eastern Ave. Bike Lanes / Route | Garfield Park / Duck Creek Trail to 67th St. | Bike lane striping Garfield Park / Duck Creek Trail to 67th St. and pavement markings Elm St. to 12th St. | ⇧ |
| B-15 | Marlo Ave. / Duck Creek Bike Route | Middle Rd. to Duck Creek Trail | Pavement markings | ⇧ |
| B-16 | Rockingham Rd. Bike Lanes | Marquette St. to John Fell Dr. | Bike lane striping, in coordination with streets project S-8 | ⇧ |
| B-18a | Telegraph Rd. Bike Lanes (Phase 1) | 3rd St./Elmwood Ave.to Fairmount St. | Bike lane striping | ⇧ |
| B-21 | Lombard St. Bike Lanes | Lincoln Ave. to Main St. | Bike lane striping Main St. to Hickory Grove Rd. and pavement markings Hickory Grove to Lincoln Ave. | |
| B-24b | 46th St. Bike Lanes (Phase 3) | Fillmore Ln. to Pine St. | Bike lane striping. This project depends in part on street connectivity project S-33 | |
| B-26a | Veterans Memorial Parkway (67th St.) Bike Lanes | Eastern Ave. to Utica Ridge Rd. | Bike lane striping | |
| B-30 | Kelling St. Bike Route | Central Park Ave to George Washington Blvd (Duck Creek Trail) | Pavement markings | |
| B-32 | 35th St Bike Lanes | Division St. to Brady St. | Pavement markings or bike lanes connecting to proposed S-15. This would need to be done in conjunction with a 4-3 road diet (S-55). Note: costs of bike lane striping between Brady St. and Kimberly Rd included with S-15. | ⇧⇧ |
| B-35 | Lincoln Ave. Bike Lanes | Waverly Rd. to Central Park Ave. | Bicycle lane striping in conjunction with Road Diet (S-59) | |
| B-36 | Clark St. Bike Route | Waverly Rd. to Duck Creek Trail | Pavement Markings. Connection to Duck Creek Trail on north end via new multi-use path. Pavement markings south of Kimberly. | |
| B-37 | Pine St. Bike Lanes | Duck Creek to Northwest Blvd. | Bike lane striping in conjunction with Road Diet (S-60) | |
| B-38 | Northwest Blvd. Bike Lanes | Harrison St. to Pine St. | Bike lane striping in conjunction with road diet or surfacing/marking of shoulders as appropriate. | |

| Map # | Project Description | Project Extent | Street Design Type / Project Elements | Priority |
|---|---|---|---|---|
| B-39b | Brown St. /Appomattox Rd. Bike Route (Phase 2) | Goose Creek Park to Hoover Rd. | Pavement markings and Goose Creek Bridge | |
| B-42 | Forest Rd. / Lorton Ave. Bike Route | Middle Rd. to 53rd St. | Pavement markings and connections to bridge over Duck Creek. Likely use of Fernwood and 32nd to connect on north side of Duck Creek trail back to Forest Rd. | |
| B-43 | Elmore Ave. Bike Route | Veterans Memorial Pkwy. to Duck Creek Trail | West side multiuse path paralleling I-74 and connecting to new I-74 bridge path. Bicycle lanes are an alternative,but would require significan drainage and intersection reconstruction. | |
| B-44 | E. 32nd St. Bike Route | Jersey Ridge Rd. to Elmore Ave. | Pavement markings. | |
| B-45 | 12th St. Bike Route | Bridge Ave. to Jersey Ridge Rd. | Pavement markings. | |
| B-46 | E. Rushholme / Elm St. Bike Route | Farnam St. to Forest Rd. | Pavement markings. | |
| B-47 | Grand Ave Bike Route | 6th St. to High St. | Pavement markings. | |
| B-48 | 6th St. Bike Route | Fejervery Park to Oneida/ Bridge Ave. | Pavement markings. Using Carey/Charlotte on east end and connecting to MRT; using Wilkes on west end with possible future trail connections and/or railroad crossings. | |
| B-49a | W. 61st / E. 59th St. Bike Route | Tremont Ave. to Marquette St. | Pavement markings; Depends on S-45a | |
| B-50 | E. 29th St. Bike Route / Lanes | Farnam St. to Jersey Ridge Rd. | Pavement Markings Farnam to Bridge; Bike lane striping Bridge to Jersey Ridge | |
| B-51 | Hickory Grove Road Bike Lanes | Lombard Street to Fairmount Avenue | Bicycle lane striping in conjunction with Road Diet (S-58) | |

Relative Priority: ⇧ Beneficial ⇧⇧ Moderately Beneficial ⇧⇧⇧ Most Significantly Beneficial

Map Codes: DS = Downtown Streets Projects, S = Citywide Streets Projects, B = Bicycle Projects, INT = Intersection

### *Long-Term Projects and Actions (Beyond 10 Years)*

The projects and actions outlined within the 10-year scope of this plan will make significant progress toward creating travel options and connecting Davenport's neighborhoods. If the City is able to implement a majority, or even half of the 10-year plan projects, a decade from now Davenport residents will have access to a safer, more balanced multimodal transportation network. More importantly, downtown and commercial centers on the City's traditional corridors will see new economic vitality and civic life as a benefit of improved access.

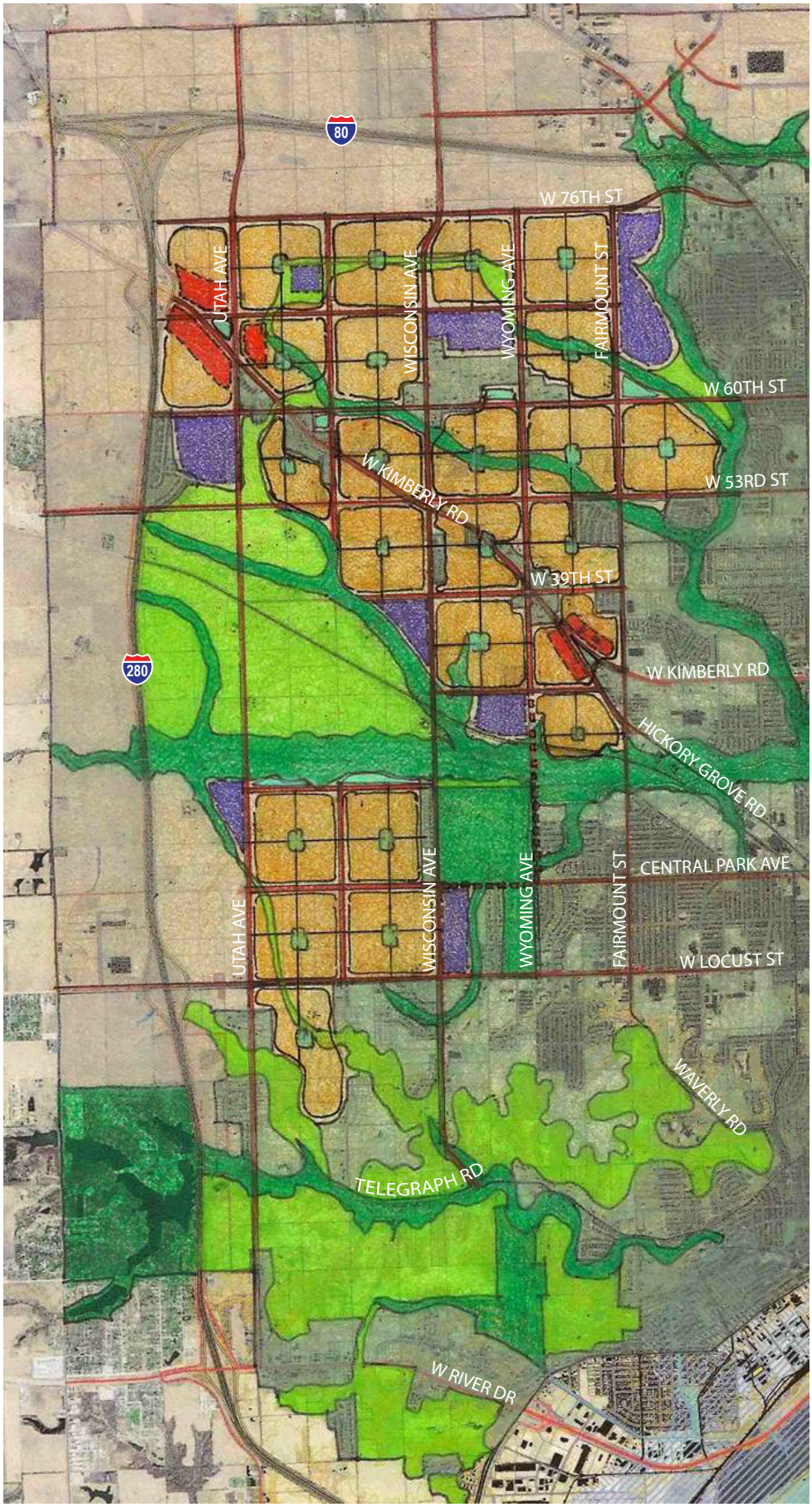
This section includes identified projects that likely fall beyond the 10-year scope of the plan, but many of which are critically important. Some of these projects will require funding and resources beyond what is available in the time frame of this plan. Others are contingent upon redevelopment (or performance targets) that make it possible to create currently missing infrastructure, such as grid connections. Another set of projects anticipate the requirements of future development in currently undeveloped parts of the City, particularly the Northwest Area, and map out elements of a multimodal transportation system for these areas.

Figure 5-11 shows the long-term projects on a map while Figure 5-12 lists them in a table. The Streets Element of the plan (Chapter 8), provides more detailed project descriptions.

- **Citywide Streets:** The long-term focus for the street network is connectivity improvement opportunities that can enhance livability while alleviating pressure to widen the City's major arterials. The Davenport in Motion Street Design Guide (Chapter 7) is intended as a resource for creating complete streets of different types as new development occurs in Davenport.
- **Enhance street grid and transportation options through connectivity improvements:** The map and table below identify a number of opportunities to connect the street grid in Davenport, particularly in the north/northwestern parts of the City. Some of these projects are extremely long-term, contingent on redevelopment. One important connection is on W. 65th/67th Streets where project S-28 would provide a continuous street connection between Brady and Pine Streets, allowing bicycle lanes on Veterans Memorial Parkway to be extended as far west as Pine Street (and further west as a shared street route).
- **Northwest Area Plan:** A number of the long-term connectivity improvements illustrated in the long-term projects map (Figure 5-11) are roadway grid improvements identified in the long-term concept plan that the City is currently developing for the Northwest Quadrant. Figure 5-10 is a concept drawing that illustrates the proposed grid road network. The concept plan lays out a framework of arterial roadways, none more than three-lanes in width, to provide network connectivity and numerous neighborhood centers connected by a minor street network. Shown in light green, stream tributaries would form a continuous greenbelt comprised of open space or trails. The dark green areas are the lowest priority for development, due to environmental and other constraints. This plan is included as a technical appendix to the plan (Volume 3, Appendix A).
- **Citywide Bikeway Network:** The remaining bicycle network projects identified in the Bicycle Master Plan are included here, including bike lanes in the northwest quadrant on Fairmount, Wisconsin, and Utah. In the southwest, an additional bike route along John Fell Drive is suggested, connecting Concord and the Credit Island pedestrian bridge to Sunderbruch Park (B-28); the portion of the route between Fairmount and Concord would depend on the City's ability to acquire right-of-way for flood mitigation purposes, which could be used to provide an off-street path north of an existing drainage canal.

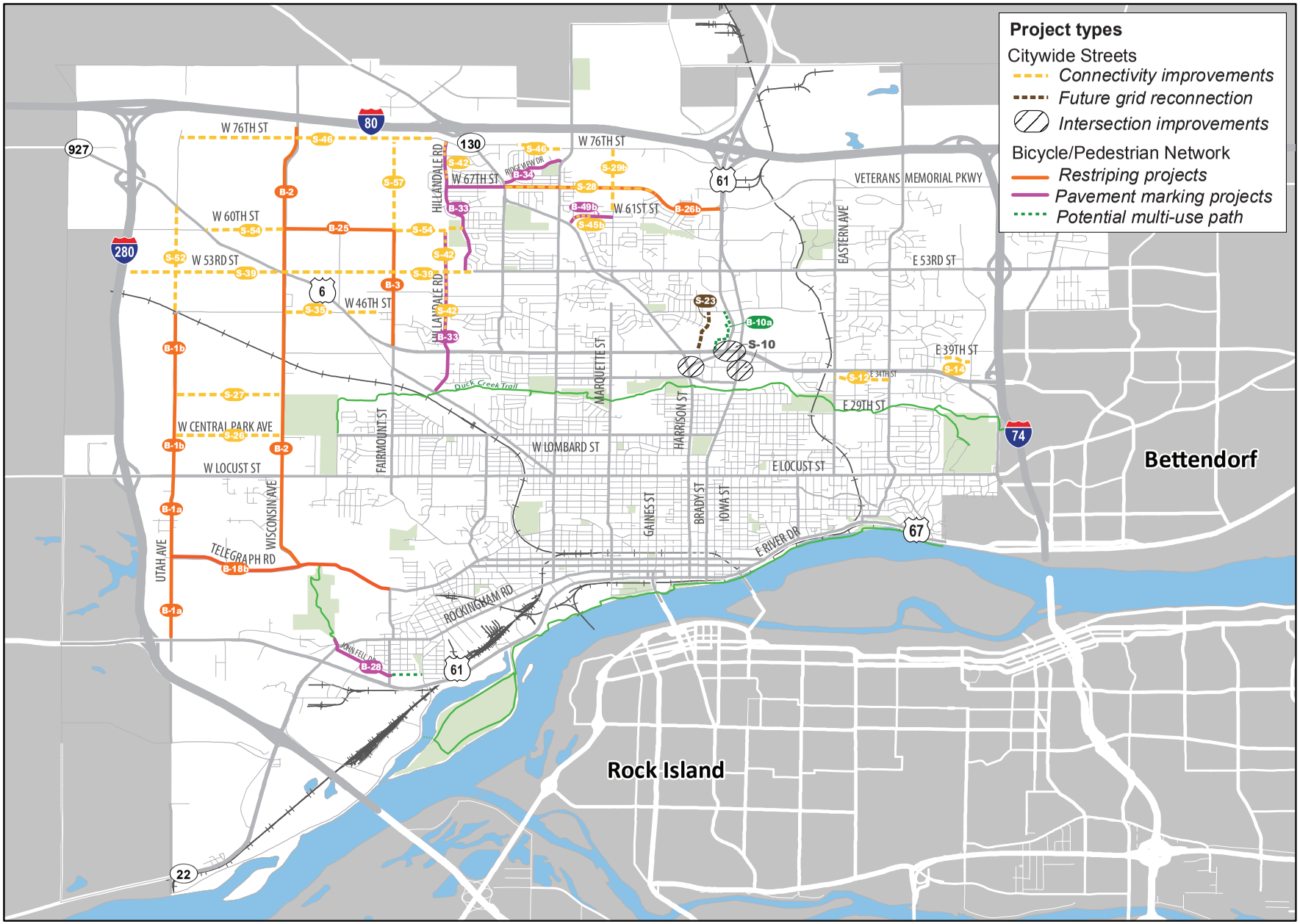
  Beyond the 10-year time frame of the plan, additional bicycle facilities can be provided as the street network is built out in undeveloped parts of the City, particularly in the Northwest Quadrant, and the City can look to expand the route network on additional streets to make it more convenient to reach destinations by bicycle.
- **Citywide High-Quality Transit Network:** The City can continue to improve service levels along priority transit network (PTN) corridors (see Transit Element, Chapter 10) and expand rapid bus service. Kimberly Road west of Brady Street is a potential future rapid bus corridor. In addition, the City can implement stop enhancements on the PTN, based on the stop improvement program.
- **Downtown Parking Management:** In the medium-to-long term, replacement of downtown parking meters with state-of-the-art meters that can accept credit card transactions may be practical once parking rates (set based on demand) exceed $1 per hour in a contiguous 10-block zone.

**Figure 5-10 Northwest Area Plan**




*Source: Speck & Associates*

**Figure 5-11 Long-term Projects**

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GIS Data Source: City of Davenport, IA

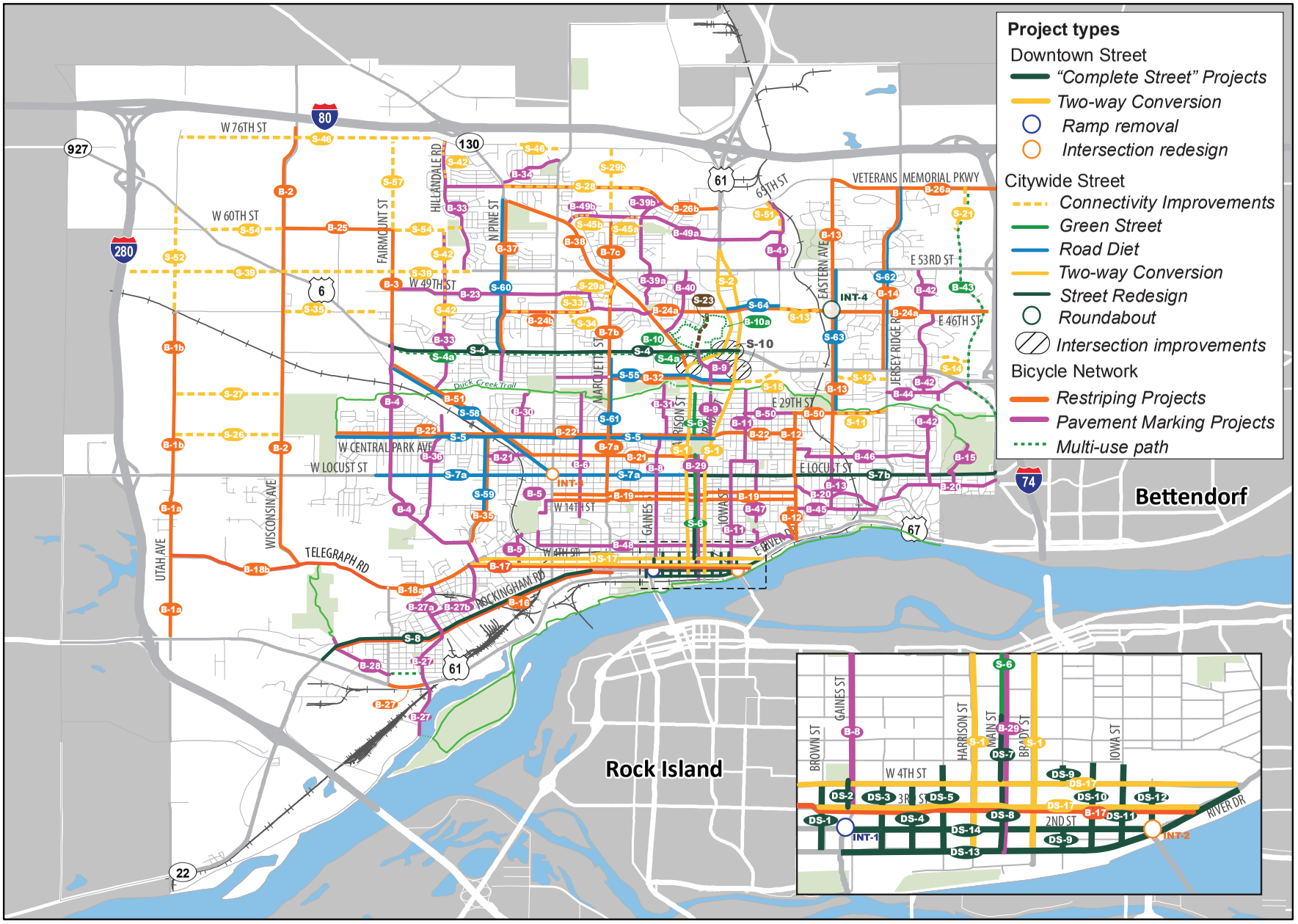
**Figure 5-12 Long-term Project Matrix**

| Map # | Project Description | Project Extent | Street Design Type / Project Elements | Priority |
|---|---|---|---|---|
| ***Connectivity Improvements – Northeast*** | | | | |
| S-14 | E. 39th St. New Street Connection | Fernwood Ct. to Elmore Ave. | Neighborhood Local. Requires creek crossing and resolution of private property issues at retail development. | |
| ***Connectivity Improvements - Southeast*** | | | | |
| S-12 | E. 34th St New Street Connection<br>(Very long term) | Eastern Ave. to Jersey Ridge Rd. | Commercial Collector | |
| ***Connectivity Improvements - Central*** | | | | |
| S-10 | S. of Kimberly Rd. / 35th St. Intersection/Connectivity Improvements | Approximate area bounded by Kimberly Road, Harrison Street, Brady Street, and 35th Street | | ⇧ |
| S-23 | Northpark Mall Street Connection / Restore Grid | Northpark Mall / North of Kimberly Road | Commercial Collector | |
| S-28 | W. 67th St. New Street Connection | Northwest Blvd. to Hoover | Neighborhood Arterial. Would require relocation of gas/electric infrastructure | ⇧ |
| S-29b | N. Marquette St. New Street Connection | 61st St. to 76th St. | Neighborhood Collector and Neighborhood Arterial Bridge | ⇧ |
| S-45b | W. 61st St. New Street Connections | Marquette St. to Sturdevant St./ Northwest Blvd. | Neighborhood Collector. Relates to B-49b. | |
| ***Connectivity Improvements – Northwest*** | | | | |
| S-26 | W. Central Park Ave. New Street Connection | Utah Ave. to Emeis Park | Neighborhood Arterial | ⇧ |
| S-27 | New Street Connection (Next Major Grid North of Central Park) | Utah Ave. to Emeis Park | Neighborhood Arterial | |
| S-35 | W. 46th St. New Street Connection | Wisconsin Ave. to Fairmount St. | Neighborhood Arterial | |
| S-39 | W. 53rd St. New Street Connection | Thornwood Ave. to I-280 | Neighborhood Arterial | |
| S-42 | Hillandale Rd. New Street Connections | W. 40th St. to W. 60th St. Extension, W. 67th St. to W. 72ndSt., W. 73rd to 76thSt. | Neighborhood Collector | |
| S-46 | W. 76th St. Extension - New Street Connection | W. of Division St. to existing 76th St. and W. of Northwest Blvd. (at Silver Creek) to Utah Ave. | Industrial Collector/Street | |
| S-52 | N. Utah Ave. Connector - New Street Connection | Existing Kimberly Rd. to 46th St. | Neighborhood Arterial | |
| S-54 | W. 60th St. New Street Connections | Fairmount St. to Hillandale St. / Wisconsin Ave. to Kimberly Rd. | Neighborhood Arterial | |

| Map # | Project Description | Project Extent | Street Design Type / Project Elements | Priority |
|---|---|---|---|---|
| S-57 | N. Fairmount St. New Street Connection | 60th St. to 76th St. | Neighborhood Arterial | |
| ***Bicycle Network Projects*** | | | | |
| B-1a/b | Utah Ave. Bike Lanes | (a) U.S. 61 / W. River Dr. to Locust St. and (b) Locust St. to 46th St. | Bike Lanes. North of Locust St. bike lanes require the addition of shoulders and should be provided as part of redevelopment or reconstruction | |
| B-2 | Wisconsin Ave. Bike Lanes | Telegraph Rd. to I-80 | Bike Lanes | ⇧ |
| B-3 | Fairmount St. Bike Lanes | Kimberly Rd. to 60th St. | Bike Lanes | ⇧⇧ |
| B-10a | Northpark Mall / Bike Connection. Wide sidewalk/multi-use path may be possible on west side of Welcome Way | Kimberly Rd. to 46th St. | Wide sidewalk/multi-use path | ⇧⇧ |
| B-10b | Northpark Mall / Bike Connection with future redevelopment. | Kimberly Rd. to 46th St. | Bike Lanes in conjunction with S-23 (refer to S-23 label on map) | |
| B-18b | Telegraph Rd. Bike Lanes (Phase 2) | Fairmount St. to Utah Ave. | Bike Lanes | |
| B-25 | 60th St. Bike Lanes | Wisconsin Ave. to Fairmount St. | Bike Lanes | |
| B-26b | 67th St. Bike Lanes (Phase 2) | Brady St. to Pine St. / Hillandale Rd. | Bike Lanes from Brady St. to Pine St., continuing with pavement markings from Pine to Hillandale Rd. | |
| B-28 | John Fell Dr. Corridor Bike Route | Rockingham Rd. to Concord St. | Pavement markings | ⇧⇧ |
| B-33 | Hillandale Rd. Bike Route | 76th St. to Hickory Grove Rd. / Duck Creek Trail | Pavement Markings in conjunction with S-42 | |
| B-34 | Ridgeview Dr. Bike Route | Northwest Blvd. to future Goose Creek Trail | Pavement Markings | |
| B-49b | W. 61st St. / E. 59th St. Bike Route) | Marquette St. to Northwest Blvd. | Depends on S-45b | |

Relative Priority: ⇧ Beneficial ⇧⇧ Moderately Beneficial ⇧⇧⇧ Most Significantly Beneficial
Map Codes: DS = Downtown Streets Projects, S = Citywide Streets Projects, B = Bicycle Projects, INT = Intersection

**Figure 5-13 All Projects**

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consulting associates

GIS Data Source: City of Davenport, IA

### *Policy and Program Development Priorities*

This section identifies several areas where the City of Davenport should adopt policies to help achieve the goals of Davenport in Motion and complement the projects recommended in this plan. Discussed briefly below and further developed in transportation system elements provided in the second volume of this plan, key policy recommendations include:

- **Demand-based Management of Parking:** The downtown Parking Management Plan (Chapter 6) includes steps to increase utilization of on-street parking in downtown, maximize utilization of both on- and off-street parking and help revitalize downtown Davenport by focusing on access and appeal and directly linking rates and revenue to demand. The key parking policy recommendation is to manage and price downtown parking based on actual demand.
- **Complete Streets:** Adopt a Complete Streets policy to ensure that when streets are built or rebuilt, they are designed to accommodate all modes of travel. The Davenport in Motion Street Design Guide (Chapter 7) is a resource for designing streets that balance livability, access/mobility, and safety. Several cities in Iowa, including Iowa City and Des Moines, have adopted Complete Streets Policies. The DIM Fact Book (Volume 4, Section 6B) provides additional information on Complete Streets.
- **Network-based Approach to Streets:** Pursue a Street Network Strategy (Chapter 8) to provide a network of arterial streets that will facilitate efficient travel in Davenport's existing and developing neighborhoods, as the City is currently planning in the Northwest quadrant. A network approach can facilitate more efficient travel patterns and alleviate traffic impacts on major arterials and the impetus to respond with expensive widening projects that degrade community livability.
- **Bicycle Network Improvements:** The Bicycle Master Plan (Chapter 9) provides a blueprint for developing a citywide network of bicycle lanes, routes, and multi-use paths. A local funding commitment is essential, including as a match for funding grants. It is also important to keep in mind that while the bicycle network facilitates travel citywide, many bicycle trips will start and end on other streets. Therefore adopting a Complete Streets policy and pursuing connectivity of the street network as described above would complement designated bicycle routes..
- **Bicycle Outreach and Encouragement:** the Bicycle Master Plan outlines several actions that would help establish a stronger bicycling culture in Davenport. These include: establishing a formal relationship with one of the existing advocacy groups in the Quad Cities to promote bicycle education and safety; establishing a Bicycle and Pedestrian Advisory Committee to advise the City Council on bicycle funding and policy decisions, including implementation of this plan; and formalizing bicycle parking requirements for different land uses and zoning districts.
- **Primary Transit Corridors:** A number of transit policy recommendations can be found in the Transit Element (Chapter 10). The Transit Element recommends key transit corridors that should comprise a Primary Transit Network (PTN) that will receive the highest level of transit service (goal of 15-minute headways). The PTN is not a route network or service plan, but is a mechanism for targeting transit-supportive policies along the most important transit corridors, such as:
  - Land use: allow densities of at least 6-12 residential units per acre and mixed uses along the PTN
  - Parking management: eliminate or reduce minimum parking requirements along the PTN
  - Bicycle and pedestrian access: provide development incentives for high-quality bicycle/pedestrian access and bicycle parking along the PTN
  - Transit operations: adopt a three block stop spacing standard on PTN routes and for new service
- **Transportation Demand Management Programs:** The Transit Element recommends several important steps in boosting downtown transit ridership: establishing a downtown Transportation Management Association (TMA), possibly as a branch of Davenport One; evaluating downtown transit pass options; and developing a community-based social marketing program to market transit and other transportation options to residents.