

# 3

## GOALS, STRATEGIES & INITIATIVES



# REGIONAL GOALS, STRATEGIES & INITIATIVES

The high-level goals and supporting strategies outlined on the following pages work as a system to direct Greater Des Moines toward a vibrant future of lasting value. Any one of these individual strategies can simultaneously move a variety of these goals forward. An overview of the plan's goals and strategies are described on the subsequent pages, and further information about the specific strategies and implementation steps can be found in the *Detailed Strategies* portion of this chapter. All of the plan's goals, strategies, and initiatives spring from the Guiding Principles for a Greener Greater Des Moines mentioned earlier in the plan.

## THE TOMORROW PLAN TERMS

**GOALS** are broad aspirations for the region.

**STRATEGIES** are approaches for accomplishing the goals.

**INITIATIVES** are crosscutting, collaborative ideas for implementing the plan's top priorities.

# GOAL 1:

## Create a Resilient Regional Economy

A healthy economy provides the foundation upon which a more sustainable future can be constructed. Greater Des Moines was fortunate to have weathered the last economic downturn better than most other regions in the country. The Tomorrow Plan aims to build on the strengths that helped Greater Des Moines weather the last economic downturn and to compete in a changing global marketplace. Nonetheless, there are areas that can be improved. An economic analysis shows that the existing regional economy is overly dependent on a limited number of economic sectors, making it more vulnerable in the long term. Pursuing a more diverse economic development strategy that builds on the strengths of current sectors, leverages the work of other planning efforts, and expands the capacity for entrepreneurship will serve our region well.

The economic development approach laid out in The Tomorrow Plan harnesses existing infrastructure. By encouraging development in strategic locations around the region, cities can enjoy the benefits of continued growth and a larger tax base while reducing the costs often associated with traditional development patterns. Furthermore, this approach strikes a balance and promotes a range of economic sectors. It supports both agriculture and high-growth sectors, such as professional and business services, financial activities, and construction.



A healthy, diversified economy is possible because of the strength of a region's residents. One component of a strong workforce is the education of future workers in the skills and ways of thinking needed to stay competitive during rapid change. The second component is making sure residents have access to places of work and play. Together, these qualities contribute to high quality of life.

A number of strategies can help Greater Des Moines create a resilient regional economy:

- A.** Develop a system of vibrant, walkable employment and residential nodes dispersed throughout Greater Des Moines and connected by multimodal corridors
- B.** Provide multimodal access throughout the region
- C.** Create an innovation core in the heart of Iowa at the crossroads of advanced manufacturing, biotechnology, and information technology
- D.** Enhance the digital infrastructure of Greater Des Moines
- E.** Encourage the growth and retention of existing companies
- F.** Expand and enhance preparation for the world of work across all age ranges



# GOAL 2:

## Improve the Region’s Environmental Health and Access to the Outdoors

The health of people, the economy, and the environment are connected; when one is damaged, the others suffer as well. Extreme weather situations are becoming an increasing concern in Iowa. Over the past few years, Greater Des Moines has experienced both drought conditions and flooding. The loss of tree canopy has exacerbated both, and only recently were Iowa’s severely damaged streams seen as a problem caused by excess runoff. Other environmental challenges are coming: loss of cropland and productive soil, tree loss due to insect infestation and disease epidemics, more endangered species, not enough parkland, poor access to parkland, and concerns about energy sources and efficiency. The health of people, the economy, and the environment must be elevated together, or none of these issues can realistically be addressed.

Our region has made huge strides in the last seventy-five years. We now protect floodplains and wetlands to store runoff and floodwater. Parkland and conservation easements have protected thousands of acres of land, giving residents access to lakes, streams, scenic forests, and quiet vistas in remote valleys in the process. Residents have access to a dispersed park system, and the central Iowa trail system is a driver of healthy lifestyles and the local economy. It also attracts national recognition.

Greater Des Moines’s location at the confluence of two major rivers that drain the nation’s western Corn Belt is both an opportunity and a challenge. It is an opportunity in that it provides connectivity via a large river and tributary system. It is a challenge because the system is unstable and polluted. We cannot continue to use conventional drains, pipes, and retention basins alone if we want a healthy water environment. Solving the instability and pollution is our great task over the next forty years, but there is opportunity even in that challenge. A regional approach to stormwater management that uses nature-based



best practices, such as green infrastructure, will improve water quality, create a more sustainable stormwater management system, and address persistent and hazardous situations for future generations.

A healthy environment for future generations necessitates the preservation of the region’s natural resource areas, including urban tree canopies, forests, wetlands, prairies, woodlands, and savannas. Directing resources toward the best and highest quality natural resource areas would build a network of natural lands and corridors and would protect green infrastructure on 55,000 acres, with another 55,000 acres needed to connect and buffer that network. A complete network will include not just space for stormwater management but also room for new parks, land for trails and wildlife, high-quality natural areas, and buffers that preserve water quality.

A number of strategies will help Greater Des Moines reach the goal of improving the region’s environmental health and access to the outdoors:

- A.** Promote the reduction of energy consumption, especially from non-renewable energy sources
- B.** Minimize the waste stream, emphasizing waste reduction in addition to reuse, recycling, and repurposing
- C.** Build a region-wide connected system of natural resource areas and corridors
- D.** Develop a regional stormwater approach emphasizing the use of natural processes
- E.** Expand regional park capacity, in terms of acreage, facilities, programs, services, and connections



# GOAL 3:

## Further the Health and Well-Being of All Residents in the Region

Improving the health and well-being of all residents in Greater Des Moines furthers the vision of our region as one of lasting value, equity, and diversity. The way in which we live influences our health, from the choice of walking versus driving to the accessibility of local foods to the ability to engage in one's community.

Housing matters in shaping the way we live. Community health depends dramatically on all residents being able to find housing that meets their needs — in terms of the home's footprint and function, as well as its relationship with transit and other services. The plan encourages the development of diverse housing and transportation types, including housing located near transit, jobs, grocery stores, and other basic services. One of Greater Des Moines' key competitive advantages is the relative affordability of housing when compared to other regions. The region needs to maintain this advantage while providing a broader range of housing types.

The early research stages of The Tomorrow Plan quickly demonstrated the value residents place on their access to the rest of the region. This section emphasizes the connections between where people live, work, learn, and play, and the importance of developing those connections consistently across the region. These connections prove critical to supporting public health planning that builds upon a sense of community, access to health care, and local food networks.

The plan also continues to support the region's growing reputation in education, life sciences, arts, culture, and entertainment — characteristics that foster community energy, mutual support, and wide-



ranging opportunities for all. The region's reputation has been largely built on its great quality of life, as manifested in its empowered young professionals, its recognition as a great place to raise a family, and, increasingly, its role as a focal point for the arts, creativity, and healthy living. During public outreach interactions, the community indicated that it wants to maintain this trajectory.

A number of strategies will help Greater Des Moines reach the goal of furthering the health and well-being of all residents in the region:

- A.** Ensure diverse housing choices – in terms of cost, style, and location – throughout the region
- B.** Make walking, biking, and public transportation a normal part of daily life
- C.** Make the healthy choice the easy choice
- D.** Provide access to healthy food using a regional food system approach
- E.** Encourage and celebrate placemaking and community building opportunities
- F.** Celebrate the unique heritage and character found throughout the region by promoting historic preservation
- G.** Create Zest



# GOAL 4:

## Increase Regional Cooperation and Efficiency at All Levels

Having a multitude of municipal governments and regional entities offers residents a multitude of choices about how they live, work, learn, and play. We must celebrate and maintain these choices. However, the sheer number of governments and regional entities creates challenges across Greater Des Moines: redundancy, competition, and inefficient use of taxpayer dollars.

Organizations like the MPO, Metro Waste Authority, Wastewater Reclamation Authority, and others offer some of the region's best examples of cooperative progress. A mix of efficiencies, expanded service, and resilience have resulted from these broad-based, thoughtful efforts to cross the boundaries of seventeen communities and four counties to embrace a regional view. For any of The Tomorrow Plan's goals to succeed, increased regional collaboration is essential.

These collaborations lead to cost, time, and material efficiencies without sacrificing the character and particular advantages of each of the local communities or counties in the region. The approach to this goal



involves identifying and setting priorities for the many opportunities for collaboration, developing the appropriate structure for each effort, and finding appropriate ways to keep the key players engaged and moving forward. Finally, when regional entities work well together, they create collective assets that set Greater Des Moines apart from other regions in the country.

A number of strategies will help Greater Des Moines reach the goal of increasing regional cooperation and efficiency at all levels:

- A.** Leverage the ongoing work of the MPO to serve as the entity to address monitoring and implementation of The Tomorrow Plan
- B.** Develop a Regional Infrastructure Coordinating Committee (RICC)
- C.** Maintain ongoing educational efforts for the development and maintenance of healthy communities
- D.** Leverage The Tomorrow Plan to secure and award funding for regional benefit
- E.** Explore the merits of regional alternative revenue sources



## WHAT DO THE COLORED CIRCLES MEAN?

The following table uses a color-coded system to help demonstrate that the goals and strategies of The Tomorrow Plan are much more integrated than they first appear. Most of the strategies serve more than one goal. Each goal has its own color. A strategy with a solid red circle, for example, means that it supports Goal 1: Economic Resilience. A strategy with a half-filled red circle means that it has a role to play in supporting Goal 1 - but not as big a role as one with a solid red circle.

	STRATEGIES	GOAL 1	GOAL 2	GOAL 3	GOAL 4
Goal 1: Create a resilient regional economy	1A. Develop a system of vibrant, walkable employment and residential nodes dispersed throughout Greater Des Moines and connected to one another by multimodal corridors				
	1B. Provide multimodal access throughout the region				
	1C. Create an innovation core in the heart of Iowa at the crossroads of advanced manufacturing, biotechnology, and information technology				
	1D. Enhance the digital infrastructure of Greater Des Moines				
	1E. Encourage the growth and retention of existing companies				
	1F. Expand and enhance preparation for the world of work across all age ranges				
Goal 2: Improve the region's environmental health and access to the outdoors	2A. Promote the reduction of energy consumption, especially from non-renewable energy sources				
	2B. Minimize the waste stream, emphasizing waste reduction in addition to reuse, recycling, and repurposing				
	2C. Build a region-wide connected system of natural resource areas and corridors				
	2D. Develop a regional stormwater approach emphasizing the use of natural processes to carry out the functions of built systems				
	2E. Expand regional park capacity in terms of acreage, facilities, programs and services, and connections				

STRATEGIES		GOAL 1	GOAL 2	GOAL 3	GOAL 4
<p>Goal 3: Provide the framework to further the health and well-being of all residents in the region</p>	3A. Ensure diverse housing choices — in terms of cost, style, and location — throughout the region				
	3B. Make walking, biking, and using public transportation driving a normal part of daily life				
	3C. Make the healthy choice the easy choice				
	3D. Provide access to healthy food using a regional food system approach				
	3E. Encourage and celebrate placemaking and community building opportunities				
	3F. Celebrate the unique heritage and character found throughout the region by promoting historic preservation				
	3G. Create Zest				
<p>Goal 4: Increase regional cooperation and efficiency at all levels</p>	4A. Leverage the ongoing work of the MPO to serve as the entity to address monitoring and implementation of The Tomorrow Plan				
	4B. Develop a Regional Infrastructure Coordinating Committee (RICC)				
	4C. Maintain ongoing educational efforts for the development and maintenance of healthy communities				
	4D. Leverage The Tomorrow Plan to secure and award funding for local and regional benefit				
	4E. Explore the merits of regional alternative revenue sources				



# GOAL 1:

## Create a Resilient Regional Economy

A healthy economy provides the foundation upon which a more sustainable future can be constructed. Economic analysis shows that the existing regional economy is overly dependent on a limited number of economic sectors, making it more vulnerable in the long term.

Another pillar of a healthy economy is an educated workforce. Residents must also have access to the places they live, work, learn, and play. Everyone who wants to live in Greater Des Moines should have access to a good job, be able to live affordably, and enjoy a high quality of life.

## Strategy 1A

### **Develop a system of vibrant, walkable employment and residential nodes dispersed throughout Greater Des Moines and connected to one another by multimodal corridors**

The Greater Des Moines region reflects a commitment to support and strengthen the character and resilience of existing communities and neighborhoods. Developing nodes can increase employment opportunities, housing options, and overall community health and services near key neighborhoods while leaving neighborhood character intact. Over the last few decades, development in the region has been predominantly auto-oriented. This has resulted in a transportation system that has benefited the region through reduced congestion and travel times. However, this development has limited choices in the way we live. Projections show a population of approximately 750,000 people in Greater Des Moines by the year 2050. This means that around 250,000 additional people will call the region home over the next forty years and that Greater Des Moines will need nearly 150,000 new housing units by 2050, as shown in Strategy 3A.<sup>1</sup>

Anticipated changes in the demographics of the region also show that future residents will demand a greater range of living options resulting from both different lifestyle preferences and the escalating costs of private automobile travel. How the region grows to accommodate these additional people will be a major factor in the future success of the region's economic, environmental, and social characteristics.

Focusing redevelopment in certain areas and connecting those areas furthers all aspects of sustainability:

- Targeting specific nodes throughout the region allows developers and local governments to use existing infrastructure, thereby reducing the need for costly infrastructure expansion and minimizing the costs to taxpayers that growth often creates;
- Developing mixed-use, mid-rise (two to five story) buildings at targeted nodes and corridors substantially increases the tax base of local communities;<sup>2</sup>
- Building mixed-use, mid-rise developments helps support the maintenance of aging infrastructure through increased revenue;<sup>3</sup>
- Creating a mixed-use, walkable environment at nodes and along corridors helps reduce vehicle miles traveled (VMT), improves air quality, and supports lifestyles that are more active. Use of these nodes and corridors allows existing residential

neighborhoods to remain relatively unchanged while increasing the diversity of housing options across the region;

- Focusing these nodes and corridors on employment, commercial uses, and residential activity makes it easier for DART and others to provide multimodal transportation options.; and,
- Increasing fuel/transportation costs will make these nodes and corridors increasingly attractive over the coming decades and will help promote the region's competitive edge.

Redeveloped nodes should include a mix of retail and other services, commercial and light industrial employment opportunities, and a diversity of housing types, including apartments above shops, live-work units, townhomes, duplexes, triplexes, fourplexes, and mansion-apartments. These housing types should be available at a variety of price points, and a percentage of the total units should be affordable to low income families. The provision of workforce housing within the identified nodes will ensure a high level of access to service sector jobs, reduce transportation costs, and promote an active lifestyle.

Ideal candidates for targeted redevelopment include locations with under-used infrastructure capacity or aging facilities in need of renovation or replacement:

- Old town centers, such as the Highland Park Neighborhood in northeast Des Moines or Valley Junction in West Des Moines, that already exhibit pedestrian-oriented characteristics;
- Auto-oriented shopping centers that have reached the end of their life cycle and present a prime redevelopment opportunity, such as Southridge Mall;
- Strip shopping centers along identified corridors that can be redeveloped to bring buildings to the street and create a pedestrian-oriented environment; and,
- Existing developments that can be easily retrofitted to be more pedestrian-oriented.

Implementing the following actions can help achieve this strategy:

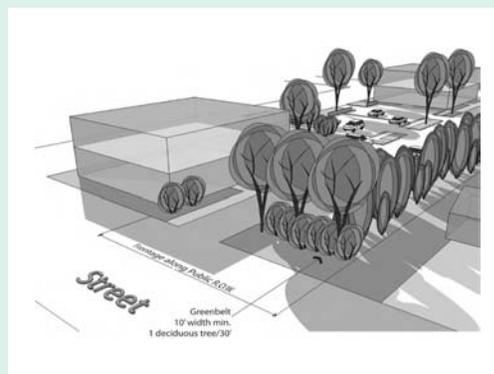
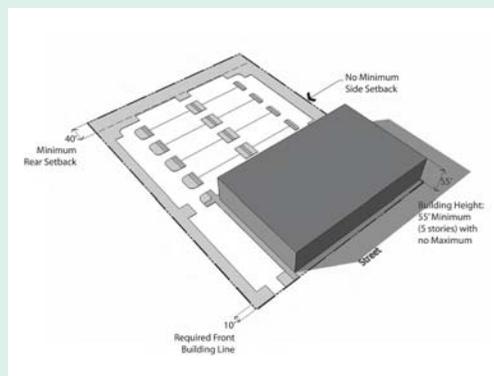
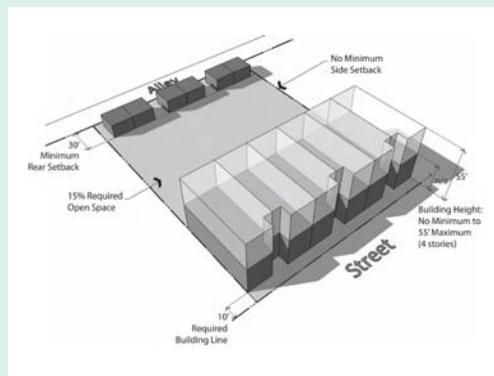
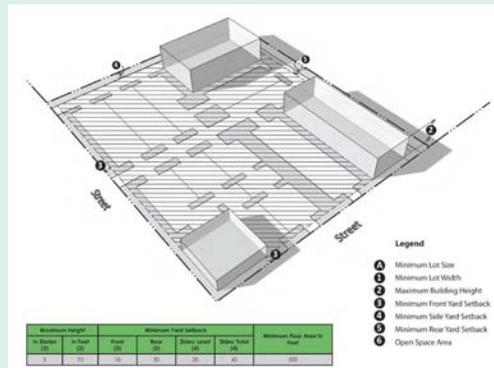
- Work with communities to identify areas that are potential candidates for development/redevelopment as walkable nodes and corridors.
- Educate banks, developers, real estate professionals, and appraisers about nodes and infill opportunities.
- Adopt a strategy that focuses half of future development within the identified nodes to promote the efficient use of taxpayer dollars.

## FORM-BASED CODES

For the past half century, land use regulations have focused more on controlling land uses than on the physical form of development. Form-based codes reverse this emphasis by better directing the physical form of development while allowing for a greater mix of uses.

Zoning that aims to separate land uses originates from a desire to keep incompatible uses, like factories and homes, apart from each other. While some uses should, in fact, be separated, others have been needlessly segregated, like grocery stores and residential neighborhoods. This use-based zoning leads to excessive reliance on automobiles for unnecessarily far daily trips. It also leads to segregation by income and the absence of vibrant, mixed-use downtowns.

Form-based codes, on the other hand, regulate the forms of buildings and the space around them, and allow for a greater mix of uses that can occupy these forms. These regulations control things like how far a building can be from the street, where parking can be placed, how high a structure can be in relation to street width, and how much window area a façade must have. These are not guidelines but actually regulations that can lead to more diverse and physically desirable forms of development.



EXAMPLE FORM-BASED CODE FROM TROY, MICHIGAN

Source: <http://www.troymi.gov/Portals/0/Files/Planning/AdoptedTroyZoningOrdinance04282011.pdf>

- Identify ways to remove the barriers that currently prevent nodes from being developed or redeveloped.
- Target street improvements at identified nodes/corridors to create a more pedestrian-oriented environment. These improvements can include narrowing travel lanes, reducing speed limits, installing planted medians, adding on-street parking, widening sidewalks, and planting street trees along medians and sidewalk.
- Develop a planning strategy that anticipates future market demand and guides building construction to create thriving, vibrant nodes that promote accessibility, provide a sense of community, and enhance overall health.
- Provide incentives for development at nodes. See Strategy 4D for more information.
- Develop model form-based code and transit-oriented development overlays for the proposed nodes and corridors to make sure communities achieve vibrant, mixed-use, walkable environments.

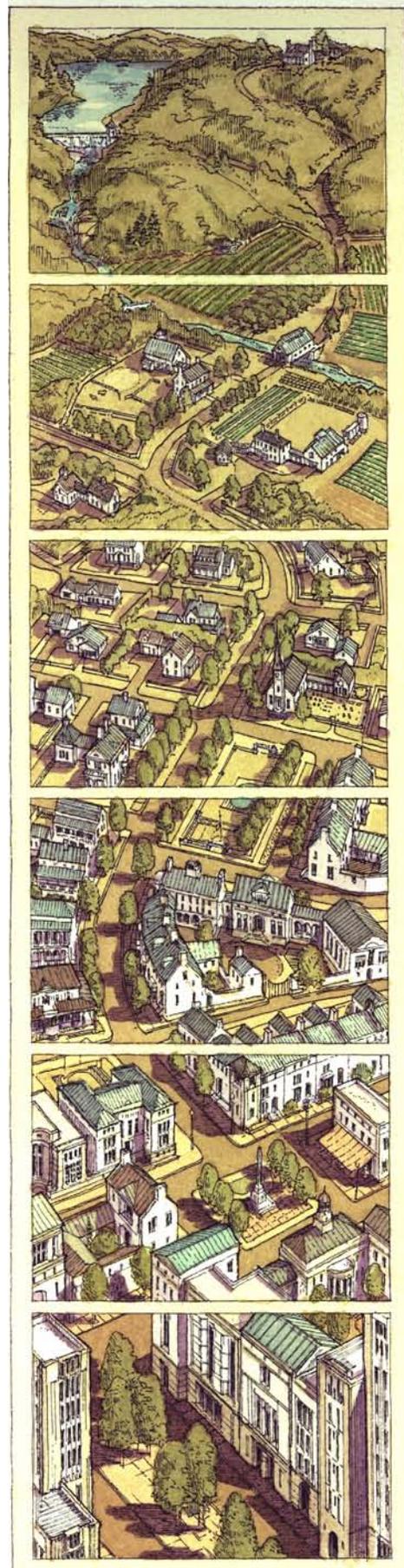
**STRATEGY 1A  
POTENTIAL CHAMPIONS:**

Communities

DART

Greater Des Moines Partnership  
(and other chambers)

Developers



## Strategy 1B

### Provide multimodal access throughout the region

In the study area, personal vehicle trips account for 92 percent of all trips. Today, the average vehicle trip within the planning area takes 25 minutes and covers a distance of 15 miles.<sup>4</sup> The natural and historic reaction to growth trends is toward the expansion of roadway capacity. The Tomorrow Plan envisions shifting from that historic model due to changing demographics, travel patterns, and rates of car ownership.<sup>5</sup> This strategy proposes a greater mix of transportation choices, including a robust transit network, an active carpool culture, multiple Transportation Demand Management programs, and land use and design that support walkability. To shift this perspective, The Tomorrow Plan recommends a multi-step approach.

#### **Invest in a complete transportation system that serves the region and prioritizes the nodes and multimodal corridors.**

The region's roadway network operates at enviable levels. In 2005, only 0.1 percent of streets in the study area experienced unstable or broken flows. As of 2010, 72.1 percent of the roads operated in a free flowing manner. To this day, traffic flows at or above the posted speed limit, and all motorists have unrestricted mobility between lanes while also enjoying a high level of physical

and psychological ease. The network operates with significant capacity — in effect, as many people can move throughout the region as want to with almost no perceptible delay. Though the region expects to see a significant population increase by 2050, research conducted as part of The Tomorrow Plan shows that without any future capacity enhancements to the street system, the road network would still not experience unstable or broken flows. Over half of the roadways would still operate at a free flow.<sup>6</sup>

While the road network provides efficient commutes and creates conveniences for motorists, this oversupply of capacity hinders the further development of other transportation modes. Greater Des Moines must invest in a complete transportation system — beyond one geared towards automobiles only — if it is to become a more sustainable region. The region should:

- Invest in the rehabilitation of existing infrastructure in order to maintain regional traffic operations and to make the most of significant investments made over the past decades.
- Reprioritize transportation funding to maintain the current transportation infrastructure but also increase the availability of funding that can be used to improve the transit, pedestrian, and bicycle networks. Applying transportation funds across the whole system will allow travelers the option of using multiple modes. This gives drivers additional options for getting around

### “THINK LIKE A FARMER”<sup>7</sup>

In today's strained financial climate, local governments must consider the impact of different development patterns on their revenue streams. A Sonoran Institute-commissioned study outlines the differences in revenue generation between auto-oriented and pedestrian-oriented development. The study analyzes property tax revenue for nine communities in Colorado, Idaho, Montana, and Wyoming. The study points out that, when cities are considering different development options, a major factor in their decision should be the potential tax revenue the development will produce. The problem with this approach is that the total annual tax revenue per development generally provides the basis for the decision. This would be like comparing farmland productivity by yield per farm. In actuality, farmers use yield per acre to compare farmland. Perhaps we can make development decisions in the same fashion by comparing revenue per acre.

A comparison of two different development types in the City of West Des Moines demonstrates this concept. The first site is a Super Target located at 5405 Mills Civic Parkway, which brings in a total of \$468,742 in annual property tax revenue. The second site is located at 138 5th Street in Valley Junction and

brings in modest property tax revenues of \$13,418 annually. On total tax revenue per year, the decision is clear; the large big box development brings in substantially more revenue than the smaller development in Valley Junction. However, when comparing these two sites by revenue per acre, the results change. The 16.6-acre Super Target results in \$28,237 per year, while the 0.064-acre site in Valley Junction results in \$209,656 — a difference seven times greater. If developed in the style of Valley Junction, the 16-acre Target site could bring in over \$3 million annually.

By using revenue profiles, local governments can make decisions that are more efficient when it comes to the type of development patterns they promote in their communities. Focusing economic development in areas with existing infrastructure could increase the amount of revenue collected by local governments. Increased revenues could help meet the long-term liabilities of the existing infrastructure, thus making our cities more financially viable over time.

*Image Source: Center for Applied Transect Studies*

and gives non-drivers a feasible way to move through the region. The goal of reprioritizing transportation funding is to ensure that travel times in the region remain at or near current levels and population growth doesn't lead to increased traffic.

**Leverage the investment in public transportation and in the bicycle and pedestrian networks by co-locating land uses and making these modes user friendly.**

Transportation and land use directly affect one another; the placement of a roadway has implications for the adjacent land uses and vice versa. The same is true for other modes, including public transportation, biking, and walking. As we move toward 2050, we have the opportunity to take advantage of this relationship.

The DART Forward 2035 Plan recommends route alignments based on existing and planned densities of residents and employees. Matching transit service with where people live and work is the best way to maximize access and to operate a system most efficiently. It is also important that the transit stops are accessible by bicycle and by foot. In both the short- and long-term, the geography of future development across the region should align with the region's transit routes, and it should be linked to the bicycle and pedestrian networks. To accomplish these aims, Greater Des Moines should:

- Promote employment and residential infrastructure along transit corridors to ensure a critical mass of riders.
- Increase transit service as density increases.
- Reduce municipal parking requirements as transit service schedules increase.
- Promote regional equity through increased access to public transportation and multimodal options in neighborhoods where automobile ownership is at reduced levels.
- Acquire the old Rock Island Railroad Depot for use as a passenger rail station.<sup>8</sup>

Riding transit should be easy for everyone to figure out. In the short-term, schedules and maps should be available at all stops, online, via phone, and in hard copy at prominent locations like libraries. In the longer-term, employers, residential brokers, and building managers/superintendents should provide schedules and maps to new employees and new residents. Material should be available in all of the major languages spoken in the region. Anyone who moves to Greater Des Moines should be able to understand the system on his or her first day.

Greater Des Moines has already made significant investments in its bicycle and pedestrian networks. The region should build

upon this base in order to enhance its multimodal transportation options. Linking these networks with public transit will also ensure that these facilities serve as viable commuting options in addition to being recreation outlets. Greater Des Moines should:

- Ensure the presence of sidewalks on both sides of existing and future roadways.
- Identify, complete gaps, and make connections within the regional bicycle and pedestrian networks.
- Explore bicycle and pedestrian network management options and promotion that support year-round use.
- Offer a share-the-road educational series as part of a larger marketing campaign.

**Enhance the region's freight network to support goods movement and economic development.**

The freight and goods movement network within Greater Des Moines should be safe, reliable, and efficient. Freight is critical to the success of the economy of Greater Des Moines and of the State of Iowa. Greater Des Moines sits at a crossroads of North American freight traffic through the intersection of Interstates 80 and 35. The area's freight network includes an inland port, four Class 1 railroads, and cargo operations at the Des Moines International Airport, and four Class 1 railroads, which are large freight railroad companies, as classified based on operating revenue. Currently, those revenues must be \$250 million or more after adjusting for inflation using a Railroad Freight Price Index developed by the Bureau of Labor Statistics.

Freight systems need to efficiently move both import and export goods. Greater Des Moines exported approximately \$2.5 billion in goods and services in 2012, making it the 82<sup>nd</sup> largest exporter region in the United States. Greater Des Moines's export growth rate is a high 10.7 percent, giving it the 51<sup>st</sup> highest growth rate in the nation and indicating a need for continued support of goods movement.<sup>9</sup> Providing the freight industry with a safe, reliable, and efficient freight network can keep Greater Des Moines on a path of economic viability. To achieve these aims, Greater Des Moines should:

**STRATEGY 1B  
POTENTIAL CHAMPIONS:**

DART  
Des Moines Bicycle Collective  
Downtown Community Alliance  
Communities

- Promote air, rail, and truck freight options, and explore the development of an inland port where goods can transfer among modes.
- Work with the freight industry to reduce regional impediments to freight and goods movement.
- Maximize the efficiency of goods movement in Greater Des Moines.
- Identify opportunities to expand the goods movement system.

#### **Prepare for changes in the transportation system**

The Tomorrow Plan looks nearly forty years into the future. Much can change in that time. We are potentially at the cusp of major transportation shifts — in terms of what the system looks like and how it is powered. The Greater Des Moines region must be able to adapt to these changes by tracking shifts in technology and related trends and by forming teams to address future infrastructure needs.

“My generation wants the freedom to move about our community without having to be tied down to an automobile. We want to be able to have the flexibility to travel and engage with people without being locked in a solitary, metal tube shooting around the city on four wheels. This is much more than a ‘green’ thing, it’s a freedom thing.”

**Alexander Grgurich**  
*TEDxDesMoines organizer +  
DART Transit Riders  
Advisory Committee member*



“The Innovation Core encompasses entrepreneurs, large corporations, educational institutions, and government to create a vibrant entrepreneurial ecosystem across biotechnology, advanced manufacturing, and information technology... The innovation core creates a ‘creative commons’ where innovators in different sectors can create, meet, and collaborate on new products and companies that leverage uniquely Iowan skills and areas of expertise.”

**Christian Renaud**  
Principal at StartupCity Des Moines



## Strategy 1C ● ○ ● ●

### **Create an innovation core in the heart of Iowa at the crossroads of advanced manufacturing, biotechnology, and information technology**

Innovation is a driving force in an ever expanding, more competitive, and increasingly complex global market. To address innovation effectively, many in Greater Des Moines have put forward the notion of competing as part of a mega region that also includes the Kansas City and Omaha regions.<sup>10</sup> Besides thinking of this broader notion of “region,” an emphasis on innovation also requires building on Greater Des Moines’s existing strengths.

In 2005-2006 and again in 2010-2011, the Iowa Economic Development Authority (formerly the Iowa Department of Economic Development) commissioned work by the Battelle Institute to identify three targeted clusters: biotechnology, advanced manufacturing, and information technology (IT), which together constitute nine percent of all Iowa employment.<sup>11</sup>

State leaders are seeking to break down the silos between these three clusters, to leverage opportunities in their overlapping areas, and to facilitate knowledge exchange among industry experts. This process can begin by building upon the existing entrepreneurial scene in Greater Des Moines, which has taken off over the past several years, thanks in part to the Great Recession of 2008 that helped drive entrepreneurial activity.

Though not one of Iowa’s major industries, IT has been the focus of much of this activity. For example, StartupCity Des Moines is a business incubator that supports the growth of early-stage technology-based companies. As of the third quarter of 2012, StartupCity Des Moines housed eight startups, most of which had launched and were scaling sales and marketing. StartupCity Des Moines leaders assert that there is little barrier to entry for IT entrepreneurs, which enables startups to make more progress than the advanced manufacturing and biotechnology entrepreneurial sectors.

Despite the absence of significant activity in the biotechnology and advanced manufacturing entrepreneurial scene, a deep competence in both of these areas is present in Greater Des Moines. These clusters can benefit from and expand in the region thanks in part to the presence of large industry, an educated workforce, Silicon Sixth Avenue, nationally recognized educational institutions, and the existence of already strong manufacturing and bioscience sectors.

To break down the silos between the state’s three target clusters, to leverage opportunities in their overlapping areas, and to facilitate knowledge exchange among industry experts, Greater Des Moines should take the following actions:

- Develop a cluster of hybrid biotechnology, advanced manufacturing, and IT incubators in the region. This collaborative cooperative — the innovation core — would be a place where entrepreneurs could grow, sharpen ideas, and leverage existing equipment from, for example, Des Moines Area Community College (DMACC). The incubators would apply world-class research at regional educational institutions; provide outsourced/locally sourced products, research, and development for regional companies (i.e., large businesses could look to local startups first); and, create opportunities at the intersection of biotechnology, advanced manufacturing, and IT.
- Connect local startups with large businesses in Greater Des Moines to promote local sourcing of goods and services.
- Leverage Greater Des Moines Partnership studies on biotechnology and advanced manufacturing incubators to inform the development of the innovation core.
- Provide support to communities and startups through technical assistance and relationship building.
- Identify cluster sites around Greater Des Moines. Early sites could benefit from proximity to StartupCity Des Moines or the bioeconomy corridor stretching between Greater Des Moines and Iowa State University.
- Connect local startups with Iowa State University, DMACC, Drake University, Des Moines University, Grand View University, and Simpson College so these schools serve as academic feeders for the innovation core.

**STRATEGY 1C**  
**POTENTIAL CHAMPIONS:**

StartupCity Des Moines

Higher education institutions

Greater Des Moines Partnership and other chambers

Iowa Economic Development Authority

- Leverage existing equipment from institutions and industry that results in pop-up shops for biotechnology and advanced manufacturing.
- Provide the complete package of amenities, including varied transportation options, cultural opportunities, retail services, parking, and market rate housing, in the innovation core.

Even with the success of StartupCity and other entrepreneurial activity taking place in the region, moving the needle of the entrepreneurial community in Greater Des Moines has proven a challenge. Only about one in 100 people in Greater Des Moines identifies as being an entrepreneur.<sup>12</sup> Creating an “innovation-friendly” environment — an environment emphasizing trust; mentorship; the sharing of ideas and services; and, a willingness to risk, fail, and try again — requires attention to business culture, social networks, quality of life, and more.

Prerequisites for attracting the talented labor on which innovative firms depend include maintaining the existing environmentally friendliness, safety, fun, and increasing accessibility of the region. In this case, accessibility includes air travel, private vehicles,

POTENTIAL INNOVATION CORE INDUSTRIES<sup>13</sup>

BIOTECHNOLOGY: INFORMATICS/ GREEN/RED/WHITE	ADVANCED MANUFACTURING: MATERIALS AND MANUFACTURE	INFORMATION TECHNOLOGY: TECHNOLOGY AS PLATFORM
Bioinformatics (Proteomics, Functional, Structural Genomics)	Nanoscale Manufacturing	Internet of Devices
Agricultural Biotechnology	Composites Development	Sensor Networks
Biomedical Devices, Pharma	Bespoke Prototyping/3D Printing	Electronic and Mobile Commerce
Industrial Bio, Bioremediation	Industrial Bio, Bioremediation Robotics	Wireless Broadband/Communications
	Green Manufacture (Process/Field)	Quantum Computing

# Silicon Sixth

Here are some of the tech companies and hangouts on Sixth Avenue in Des Moines:

## LIBERTY BUILDING

418 6th Ave.



## BANK OF AMERICA BUILDING

317 6th Ave.



## FINANCIAL CENTER

666 Walnut St.



## MIDLAND BUILDING

206 6th Ave.



Source: Des Moines Register

public transportation, biking, and walking. Additionally, a key element to being “innovation-friendly” is developing a culture of collaboration that still benefits from the expertise of existing regional industries. This culture is about accepting and supporting startups while recognizing the benefits that well-established banking and insurance industries can provide in terms of expertise and professional services. Well-established service providers know how to evaluate the factors that make new businesses

more likely to survive and grow. They have experience judging the quality of human capital, the visions of the founders and executive management team, the competition within the industry, the business models and strategies employed, the legal framework, and the financing.

## CROSS-POLLINATION IN THE CORE

Much advanced manufacturing work takes place in front of a computer, including 3D printing, which further supports the idea of a hybrid incubator and of co-locating advanced manufacturing and IT. This hybrid model would promote cross-pollination between the two sectors. It would provide:

- **Mentoring** — Leveraging the best minds from the academic and private sector would help young companies succeed and grow.
- **Education** — Relevant, topical spot education would support projects currently under development.
- **Community** — Providing a nexus for entrepreneurs, educators, the private sector, and public sectors to coalesce around would move innovation forward.
- **Space** — Flexible operating space (e.g., fabrication or laboratory) would be used by incubator companies as well as select private firms.



The existence of approximately 2,200 comparable incubators throughout the country and 12,000 worldwide prove the strength of this hybrid approach.<sup>14</sup> Dominant hybrid models are often housed in university annexes or are driven by economic development initiatives. Greater Des Moines could leverage the numerous biotechnology firms located in the region as well as programs such as the World Food Prize.



Danforth Center- Kansas City	Helix Center- St. Louis	Advance- Green Bay
<p><b>Green Biotechnology</b>                      Monsanto Partnership                      \$60M gift from Danforth Fndn, \$50M Monsanto                      \$25M tax credit allocation State of Missouri                      Plant Sciences and Biofuels                      New BDRG annex to provide incubation</p>	<p><b>Green Biotechnology</b>                      Monsanto Partnership                      \$20M received EDA                      Subsidized lab space and offices                      Donated initial equipment by Monsanto                      Mentoring and Training onsite</p>	<p><b>Advanced Manufacturing</b>                      Economic Development (Wisconsin) + University                      \$2.5M/yr x 7 years (so far)                      Subsidized offices and manufacturing                      No equipment on site until recent additions                      Hybrid of general and manufacturing space</p>

## Strategy 1D

### Enhance the digital infrastructure of Greater Des Moines

Telecommunication infrastructure affects the connectivity of individuals, firms, and institutions to the global marketplace and with one another. A significant volume of commerce, collaboration, and learning already occurs digitally. A positive relationship exists between broadband infrastructure investment and economic growth. Additionally, a digitally skilled workforce is becoming a prerequisite to attract and retain industries and employers that face national and global competition. The importance of broadband infrastructure and the quality of service in Greater Des Moines will likely intensify as the global economy evolves and as society makes further advances in technology. Simultaneously, competitive broadband infrastructure enhances quality of life by improving the delivery of healthcare services, the provision of emergency services, access to educational opportunities, and even the efficiency of the existing electrical grid.

Greater Des Moines connects globally through its core industries, which include major agricultural-related firms, biotechnology corporations, and financial service providers; examples include Kemin Industries, DuPont Pioneer, Wells Fargo, John Deere Financial, and Principal Financial Group. Improvements to the region's broadband infrastructure would support these existing industries as their telecommunication and data transmission needs change. Improvements should also position the region as a suitable, digitally connected location that meets the requirements of emerging IT-intensive activities. Tier 7 broadband service, with maximum download/data transfer speeds of 10 to 25 megabits per second, serves most of Greater Des Moines.<sup>15</sup>

- Monitor the telecommunication needs of businesses and collectively address broadband and fiber optic expansion as part of comprehensive planning for growth and infrastructure development through the Regional Infrastructure Coordinating Committee (RICC). Goal 4 provides more information about the RICC. This will help the region achieve economies of scale and improve the efficiency of any public investment in broadband infrastructure.

- Work with municipalities and the RICC to remove barriers to local rights-of-way (ROW) access and to help streamline the deployment process.
- Connect broadband deployment with other public infrastructure, especially in new growth areas. Leverage fiber optic expansion with the development of other public infrastructure through the RICC to maximize development potential and to minimize cost.
- Foster cooperative relationships with broadband vendors to expand the regional fiber optic network in concert with the planning and development of other infrastructure. Look at the partnership between the City of West Des Moines and Iowa Network Services (INS) as a model to complete an expansion of the fiber optic network.
- Complete a cost-benefit analysis on endowing or directing investments in fiber optic infrastructure expansion. Consider public investment in areas underserved or completely lacking broadband and where it is not feasible for private telecommunication providers to install or upgrade infrastructure due to a high fixed cost.
- Support existing initiatives, such as Connect Iowa, to expand broadband access and quality throughout the region.

#### **STRATEGY 1D POTENTIAL CHAMPIONS:**

Iowa Network Services  
Connect Iowa

## Strategy 1E ● ○ ● ●

### Encourage the growth and retention of existing companies

Traditional economic development efforts by local, county, and state governments tend to employ tax and financial incentives and usually include marketing efforts that try to recruit existing businesses from other regions. While it is important to bring in new businesses to the region, this approach has the tendency of providing subsidies to firms that do not derive inherent competitive advantages from being in Greater Des Moines. As a result, they tend not to grow as quickly or stay as rooted as firms that do benefit from the location.

The Tomorrow Plan recommends a strategy to identify and support existing industries that derive benefits from the region. Firms that benefit from industry agglomeration in the region include the insurance and financial sectors. The Tomorrow Plan recommends policies and government programs that encourage existing firm growth and retention. The recommendations do so primarily by ensuring that the civic, social, and physical infrastructure conditions help local industries adapt and remain successful.

Most firms cannot afford to make location decisions based purely on historic precedence or civic loyalty. Instead, they must select locations where they can be most productive and innovative. The globalization of markets exerts pressure on regions and the firms and industries within them because globalization eliminates the relative protection of competing primarily with only other firms in the region. As a result, it is more effective to focus economic development on non-land based factors, such as:

- The quality of the labor base;
- Transportation linkages;
- Cost and quality of needed infrastructure and services;
- A positive business climate; and,
- The public and private sectors' ability to adapt to changing technologies.

By focusing on creating conditions that help local businesses derive advantages from the locality, inter-firm linkages are strengthened and greater multiplier effects result. In addition, growing evidence suggests that, over the long run, policies aimed at enhancing the economic environment spur the formation of

“I opened RAYGUN as a one-man outfit in 2005. Since then, RAYGUN has added 23 full time positions, reached sales of \$3 million annually, and expanded its brand well beyond Des Moines and Iowa. During that same period, Urban Outfitters was brandished about as a company we really need in our city, but it has created zero jobs in Des Moines and sold \$0 annually in Des Moines. Of our 23 employees, 20 were born and raised in Iowa. We have the talent and potential here and now. There is no way to be a great city or great economy without growing and nurturing existing companies.”

Mike Draper  
RAYGUN founder



more new businesses and bigger growth of existing businesses than incentives to recruit businesses from outside the relevant market area do. As a result, Greater Des Moines should:

- Commit to a regional economic development strategy. Competition to attract new firms — or the expansion and relocation of existing firms to specific jurisdictions within a region — can lead to inefficient policy decisions. An example of counterproductive intraregional competition is when communities in the same region each offer property tax abatements or other financial incentives to induce companies to select their jurisdiction. Such intraregional competition between neighboring communities may lead to a reduction in communication and cooperation among communities. Despite this intraregional competition, the region as a whole still faces even greater competition from other regions, states, and countries, and this type of tax abatement war tends to lead to a zero-sum game or “race to the bottom” between players. Such outcomes ignore the regional nature of economies and can result in the shifting of jobs and other resources within the region rather than the creation of new jobs and growth of assets in the region.

### STRATEGY 1E POTENTIAL CHAMPIONS:

Communities  
Developers  
Greater Des Moines Partnership  
(and other chambers)

- Support existing small businesses in leveraging resources targeted at small businesses.
- Create the kind of built environment required for firms to remain competitive and to attract and retain the talented labor on which they depend.
- Support the creation of a versatile, well-skilled labor force through educational policies and resources that include retraining and continual, life-long learning.
- Create a diverse mix of appropriately priced housing options and provide the community amenities and services that attract

## STEM + ART = STEAM

Following the Great Recession, the country is turning to innovation as a route to a prosperous future. In the past, innovation focused on the STEM subjects — science, technology, engineering, and math. Art and design, though, are poised to transform our economy in the 21st century just as science and technology did in the last century. We need to transform STEM into STEAM.<sup>16</sup>

The objectives of the STEAM movement are to:

- Transform research policy to place art and design at the center of STEM;
- Encourage the integration of art and design into K-20 education; and,
- Influence employers to hire artists and designers to drive innovation.

STEAM is already finding an outlet through cooperative fabrication studios, such as NextFab Studio in Philadelphia (images at right).



Source: NextFab Studio



Source: NextFab Studio

and retain the talented labor on which innovative, growing industries depend. Increasing the diversity of the housing stock will help preserve property values at all price points and will provide advantages in attracting and retaining businesses in an era of intense inter-jurisdictional competition for economic development.

- Encourage mixed-use developments that can enhance productivity more than conventional, single-use, stand-alone, corporate sites do.
- Remove any constraints that prevent a variety of housing and mixed-use developments from being built. For example, communities could implement objective review standards, revise parking requirements to allow for shared parking opportunities, and reduce setback and buffering requirements in exchange for greater pedestrian and bicycle amenities.
- Encourage communities to review comprehensive plans and smaller area plans, along with zoning regulations and capital improvement plans, to ensure that they facilitate the provision and maintenance of a competitively priced, diverse housing stock, as well as mixed-use activity centers served by technology and civic, social, and physical infrastructure. Providing this infrastructure will help local firms create and sustain their competitive advantages.
- Ensure the proper policies are in place to enhance private sector capabilities and opportunities. The wave of change produced by globalization and the technological revolution is just beginning. To navigate through this transition successfully, the public and private sectors in Greater Des Moines must collaborate on creating economic development policies and actions that enhance private sector capabilities and opportunities.

## WHO IS THE CREATIVE CLASS?

The creative class<sup>17</sup> contributes to the development of innovative new technologies, services, and products and helps companies maintain their competitive advantages. The highly skilled individuals who comprise the creative class are not as compelled to relocate to follow jobs, and knowledge-based companies will tend to consider where creative class workers prefer. These individuals prefer distinctive housing types that accommodate a variety of household compositions, that develop organically, and that are close to retail and entertainment outlets.

## Strategy 1F ●○○●●

### Expand and enhance preparation for the world of work across all age ranges

The Tomorrow Plan envisions the continuing growth of jobs in the financial and insurance sectors while also working to develop entrepreneurship and attract new businesses in sectors of anticipated growth such as healthcare, biotechnology/life sciences, advanced manufacturing, and technology. These are four of six clusters of job growth identified through a gap analysis conducted with the business community.<sup>18</sup> Increasingly, students pursue studies that do not directly link with job opportunities, and this results in debt, frustration, and under-employment, all while excellent jobs needing specific skill sets go unfilled. This is a story told across the country, and this region is no exception.

Greater Des Moines needs to prepare a work force that meets the demands of current and future jobs, but this preparation will not happen through curriculum adjustments alone. Success will depend on continuing the rich partnerships among government, educational institutions, libraries, and businesses. Besides developing and executing a high-level curriculum, the region needs to coordinate, share resources, and build a strategic infrastructure. To accomplish these aims, Greater Des Moines should:

- Collaborate with local schools to provide more extensive focus on the STEAM subjects: science, technology, engineering, arts, and math. With mandates to boost school test scores in subjects like reading and math, schools dedicate less time to science, history, art, and even physical education. However, research shows that the arts and music complement and strengthen students' ability to absorb everything from math to science to history.<sup>19</sup> Teaching the arts alongside the other STEAM fields emphasizes the creativity inherent in scientific discovery and the rigor of the creative process. Further, a study by the National Endowment for the Arts shows that students from lower socioeconomic backgrounds who actively participate in the arts tend to score better in science and writing and were more likely to aspire to go to college.<sup>20</sup>
- Leverage existing resources such as the Evelyn K. Davis Center for Working Families and Central Iowa Works to strengthen the workforce, especially in terms of soft skills – those personal qualities, habits, attitudes, and social graces that make someone a good employee.
- Partner with local libraries to further education focused on the STEAM subjects through programming.

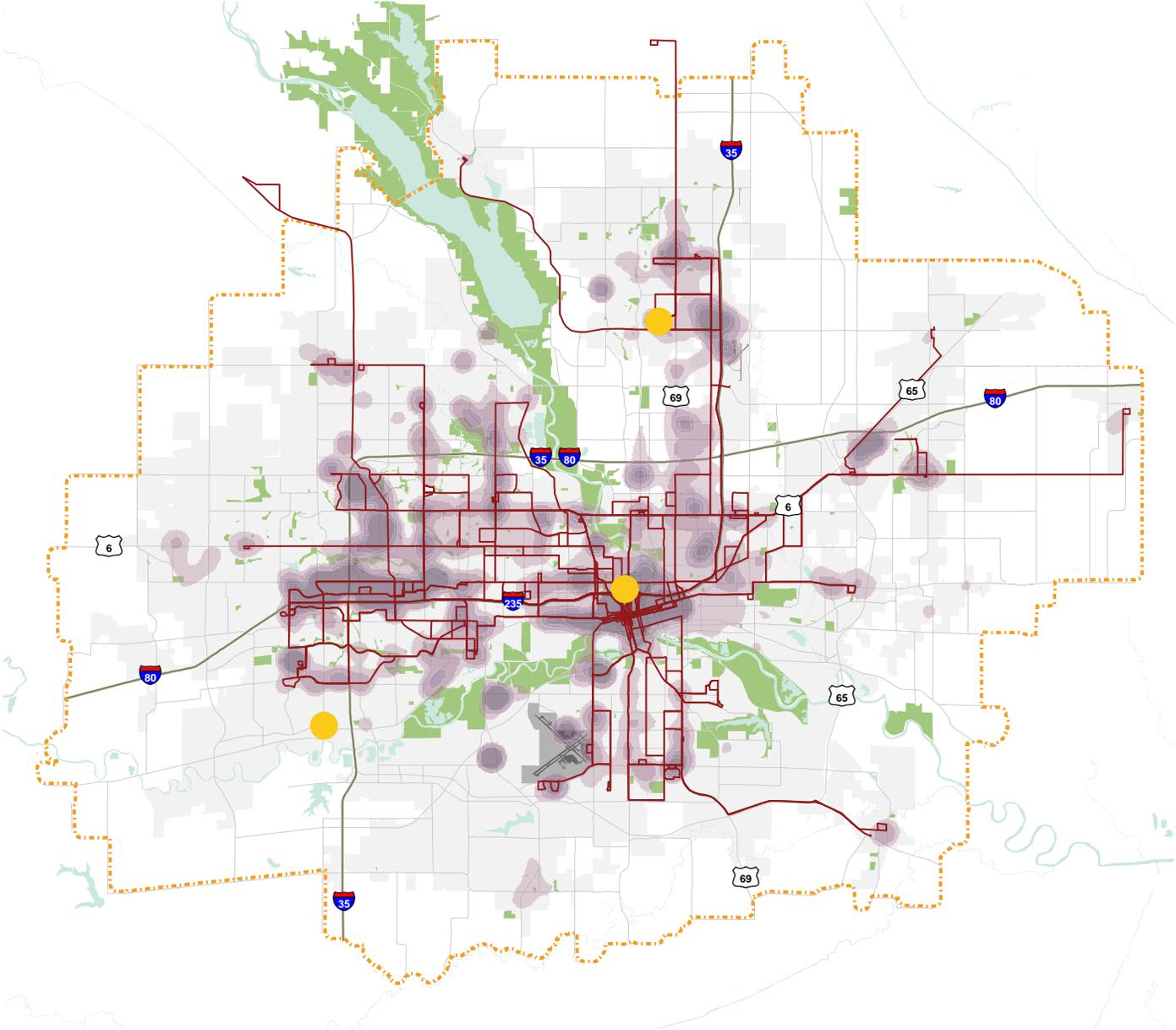
“A high quality education is the prerequisite to a viable and productive future for all. Investments in the public schools, as well as increased focus beyond high school, will yield a brighter and more bountiful future for our rapidly diversifying population of children, grandchildren, and great-grandchildren coming to Iowa from all around the world.”

**Bobbretta Brewton**

*Adjunct Instructor at Des Moines Area Community College*



DMACC CAMPUSES IN RELATION TO JOBS AND TRANSIT



- DMACC CAMPUSES IN STUDY AREA
- JOB CLUSTERS
- DART BUS ROUTES
- LAKES + RIVERS
- PARK SPACE
- AIRPORT
- CITY BOUNDARIES
- MAJOR ROADS
- - - STUDY AREA BOUNDARY

Sources: DART, DMACC, Iowa Workforce Development

- Grow mentoring and job shadowing opportunities throughout Greater Des Moines.
- Support accessible skilled trade sites. Currently, the region has two skilled trade sites for middle and high school students — Des Moines Public Schools' Central Campus and a facility through Urbandale Public Schools. Central Campus serves the region, though it poses a transportation challenge in regard to timing and access for students who participate. Urbandale's facility has primarily accommodated Urbandale students so far. The Tomorrow Plan pictures four to six such sites strategically located throughout the region that support regular and affordable transportation. Tapping into the expanding distribution of DMACC campuses could help with identifying ideal locations and transportation mechanisms.
- Support accessible professional education sites. Blue Valley School in Overland Park, Kansas, enhances STEAM education through a professional education program.<sup>21</sup> Direct involvement of the business community incorporates internships, shadowing, mentoring, and other practicum/education opportunities. A similar collaboration with the business community and the identification of a discreet number of sites could create a similar professional-approach curriculum in Greater Des Moines.
- Leverage libraries and the access they offer to technology for educational purposes.
- Continue research on the role of technology in education and expand its use as appropriate. Doing so will benefit students by not only educating them in technology but also by using technology for education. Physically moving students from point A to point B as part of their school day can constitute a meaningful challenge to connect them to the world of work. Technological enhancements might substitute for that physical connection. At the same time, technology continues to develop as a growth field for jobs, and our curricula and infrastructure must deliver that education.
- Develop high-level coordination for effective work preparation approaches. Historically, one of the key barriers to effective work preparation in Greater Des Moines has been the lack of meaningful coordination. One of the biggest obstacles is scheduling. For the business community to connect to the education world, it needs access to students beyond one short class period at a single school.
- Explore sharing resources across school districts. Currently, dollars follow students, often creating duplicative or exclusionary facilities that are really best handled on a regional scale. Education professionals and decision makers should develop tools to share resources that would help them achieve regional workplace education goals.

**STRATEGY 1F**  
**POTENTIAL CHAMPIONS:**

Local school districts

Area education agencies

Higher education institutions



# INITIATIVE 1 | NODES & CORRIDORS

## ENCOURAGE DEVELOPMENT IN AREAS OF MAXIMUM IMPACT AND CONNECT THESE AREAS TO ONE ANOTHER WITH MULTIMODAL CORRIDORS.

The Nodes and Corridors Initiative emphasizes a strategic regional approach to encourage growth in locations — nodes — where certain attributes exist or could be developed over the period of time covered by The Tomorrow Plan. These locations offer opportunities for mixed-use development providing a variety of employment, services, and housing at a concentration or density that supports the goals of The Tomorrow Plan. This initiative encourages the connection of these nodes across neighborhoods, communities, and the region, and enhances transportation choices. Encouraging growth in nodes will result in numerous benefits for the region, including improved water and air quality, reduced vehicle miles traveled, more housing and transportation choices, reduced infrastructure and maintenance expenditures, reduced impact on agricultural lands and natural resource areas, and the creation of vibrant places to serve our community today and tomorrow.

Nodes are the economic and cultural focal points of a region, while corridors are circulation routes that connect them and link the region to the larger world. Nodes play a critical role in the region's economy. These areas have high concentrations of jobs and businesses and help attract new residents to the region. Even the most rural communities are beneficiaries of the region's nodes and corridors, which also provide cultural attractions, major transportation infrastructure, and institutions, like government, hospitals, and universities

Nodes exist today; however, they are predominately automobile-oriented places. Downtown Des Moines is a major employment center in the region and exhibits many of the aspects that make a place walkable. Currently, though, downtown Des Moines features a surplus of nearly 8,000 parking spots.<sup>22</sup> Parking is a complex issue that can both help draw people to an area but also harm the pedestrian realm by depressing street life. Jordan Creek Town Center is a regional draw but currently lacks the traditional neighborhood structure essential for creating a walkable place. Many existing community centers, such as the Delaware Avenue

corridor in Ankeny and the 8th Street corridor in Altoona, have big box centers that discourage pedestrian life. While these areas have a concentration of commercial uses, they lack a variety of uses and discourage walkability due to their layout. Other examples include Valley Junction in West Des Moines, the Beaverdale shopping district, the East Village, the Highland Park shopping district, and the Polk City Town Square — the only town square in Polk County. These places contain remnants of the traditional neighborhood pattern that was prevalent prior to the mid-twentieth century.

Nodes should include a wider range of housing types than are typically available in conventional residential areas. They should have townhouses, apartment buildings, and housing above shops. The unique identity of nodes and their urban amenities are particularly appealing to a wide range of residents. With their mix of housing types and density of activity, nodes could accommodate approximately half of the future population growth in Greater Des Moines, potentially limiting costly infrastructure expansion and preserving the rural and agricultural character of other parts of the region while meeting demands for housing types not currently offered in the regional market.

Anticipated changes in the demographics of the region show that future residents will demand a greater range of living options due to changing lifestyle preferences and the rising cost of automobile travel. Estimates show that the nation will need to rebuild or replace over fifty billion square feet<sup>23</sup> of non-residential space over the coming decades. This national estimate provides a unique opportunity to create walkable, vibrant places that will attract and retain future residents here in this region. How we grow and accommodate these additional residents will be a major factor in the future success of our region from an economic, environmental, and social perspective.

Nodes and corridors become a component of a broader neighborhood, community, and region that represent the current and future growth areas of our region. The nodes become a focal point to serve those larger areas and take on a more prominent role in increasing population and employment density while at the same time serving larger areas. The larger areas around the nodes will benefit from the growth and can take advantage of many of the same essential elements that make attractive places for people to live, work, learn, and play. Initiative 4: Resilient Neighborhoods provides more information about how these other areas can enhance their character and livability across our region. Together, nodes, corridors, and neighborhoods work together to create a resilient region.

It is important to note that some industry types are not suitable for the mixed-use, walkable nodes outlined in this initiative. However, these industries should not be excluded from the Greater Des Moines region. Heavy industry and manufacturing that is not compatible with the mixed-use, dense nature of the nodes is better suited for special districts. Special districts might not have residential uses in direct proximity; however, every effort should be made to make strong connections between work force housing and the special district, including the provision of public transportation. These special districts can be major job centers and are important to the local economy. However, they are not the focus of this initiative.

## Defining Nodes and Corridors

There are several important factors to consider when locating nodes. Potential node locations should have the ability to support a mixed-use neighborhood structure, and they require infrastructure and utilities that can be reused or upgraded to accommodate additional growth. Potential nodes should have the capacity to phase in economic growth over time. Existing commercial areas are prime locations for node development for a number of reasons:

- These locations are likely to experience the most change over the next forty years due to the short lifespan of commercial structures;<sup>24</sup>
- The ownership structure of these areas is typically concentrated in a few hands, making land acquisition less challenging; and,
- Development in these locations is likely to be more acceptable to residents because it leaves the character of existing residential areas relatively undisturbed.

Other potential node locations could include areas that are currently undeveloped. These areas should meet the same criteria discussed above: potential for mixed uses, access to infrastructure and utilities, and economic development potential. They should also be located on or near transit lines. In several areas around

the region, communities have already planned for development and have made infrastructure investments. In these types of areas, such as near the intersection of Alice's Road and University Avenue in Waukee, communities should revisit their plans for these places to make sure they incorporate the node criteria.

Currently, the majority of potential node locations in Greater Des Moines, with a few exceptions, lack the essential characteristics of vibrant walkable places. Single-use building types and separated uses make daily activities inaccessible by any other means than the automobile. The absence of a distinguishable block structure and the existence of excessive parking requirements further jeopardize walkability. Current conditions at these locations lead to an inefficient use of land and energy and increase VMTs. This type of development places an unnecessary burden on residents through increased housing and transportation costs, and it makes public transit less viable because of the spread-out nature of development.

Potential nodes should function as complete communities based on the neighborhood unit model. The neighborhood is the basic unit of development that persisted throughout human history up to World War II. The organizing principle of the neighborhood unit is the human on foot. Therefore, the geographic size of the neighborhood is limited to the distance a person can walk in ten minutes, or roughly one-half mile edge-to-edge. The neighborhood unit consists of a variety of building types connected by a network of streets that are designed to disperse traffic across the network. In this model, people have the option to live and work in the same neighborhood, and basic daily needs are within close proximity. Developing nodes based on the traditional neighborhood model will conserve energy, reduce VMTs, lower combined housing and transportation costs, promote active living, increase the viability of public transit, and preserve valuable agriculture and natural areas.

## Types of Nodes

Although nodes share similarities in density, their mixed-use nature, and concentrations of employment, they do not all play the same role. Generally, nodes fall into one of four categories based on the role they play in the region: Downtown, Regional, Community, and Neighborhood nodes. Even within these categories, each node has its own distinct character, each node type does functions at a different scale. These are the conditions of the proposed nodes:

- **The Downtown Node** possesses uniquely urban characteristics and is a key to the region's vibrancy. The service area for this node extends far beyond the Greater Des Moines region, and office capacity is much higher than in the other nodes. The downtown node needs to compete with other Midwest cities, such as Kansas City and Omaha, in ways that the regional

## TYPICAL CHARACTERISTICS OF NODES

	DOWNTOWN NODE	REGIONAL NODE	COMMUNITY NODE	NEIGHBORHOOD NODE
<i>Typical Characteristics</i>				
Service area (miles) <sup>25</sup>	20+	10-20	4-6	1-2
Population in service area	500,000+	150,000+	120,000-160,000	5,000-15,000
Retail/office space (square feet) <sup>26</sup>	30,000,000+	900,000+	250,000-500,000	30,000-90,000
Employment capacity (number of employees)	80,000+	4,000+	1,000-3,000	100-500
Size of node (gross acres) <sup>27</sup>	2,000+	120-160	80-120	10-30
Population in node <sup>28</sup>	15,000+	5,000+	2,000-4,000	300-2,000
Average housing density (net dwelling units per acre) *	25-140	20-30	15-25	10-20

\* This is the average net density, which excludes open space and right-of-way due to the level of variability of these two factors.

nodes do not. If a mall or major big box retailer fails in one of the regional nodes, our region can still be strong; if downtown Des Moines fails, Greater Des Moines is in trouble.

- Regional Nodes** are spatial concentrations of employment and housing that are drivers of the regional economy. Regional nodes are mixed-use urban districts that contain a variety of commercial, office, and light industrial uses (heavy industry is better suited for special districts that provide buffers between certain manufacturing types and residential uses). Regional nodes are the largest kind of nodes, and they serve the widest geographic area. It is important to note that downtown Des Moines offers uniquely urban characteristics, and its success is key to that of the entire region.
- Community Nodes** are mid-sized centers that provide a range of daily needs and specialized services within a traditional neighborhood context. Community nodes should consist of a mix of office, service sector, and light industrial/manufacturing jobs. However, it is important that light industrial uses mesh with the urban fabric of the community node. Uses that have spatial arrangements that do not fit the desired characteristics of the community node are better suited for special districts.
- Neighborhood Nodes** are local centers that serve a local population. These are the smallest nodes and should include a convenience or drug store that provides basic daily needs. These nodes are often the remnants of historic trolley-stop

business districts and can include restaurants, shops, and smaller-scale businesses.

The intensity of uses within each node type varies. The downtown node and regional nodes will have more of an emphasis on employment, while the emphasis in neighborhood nodes is more likely housing. Community nodes should typically have more of a balance between employment and housing. Regardless of node type, the provision of housing is essential to the development of walkable nodes. If housing options are not included, the area does not meet the definition of a 'node' in The Tomorrow Plan.

The design of the nodes is critical as well. Important design considerations include building height and placement, active ground floor uses, block size, the amount and location of parking, and the street design quality (for additional design consideration, see *Criteria for Walkable Centers* in the appendix). The table below provides some general characteristics of each type of node. These numbers provide guidelines for developing walkable places and are not prescriptive.

## Locating Nodes and Corridors

Nodes and corridors work together to create an inter-linked system, and we must consider their placement together. The potential nodes should be located along existing commercial corridors. These correspond with the placement of corridors, the placement of which was guided by existing and future transit routes. The map on page 73 shows potential locations for the development or redevelopment of targeted future node areas into complete neighborhoods.

## Potential Node Locations in Greater Des Moines

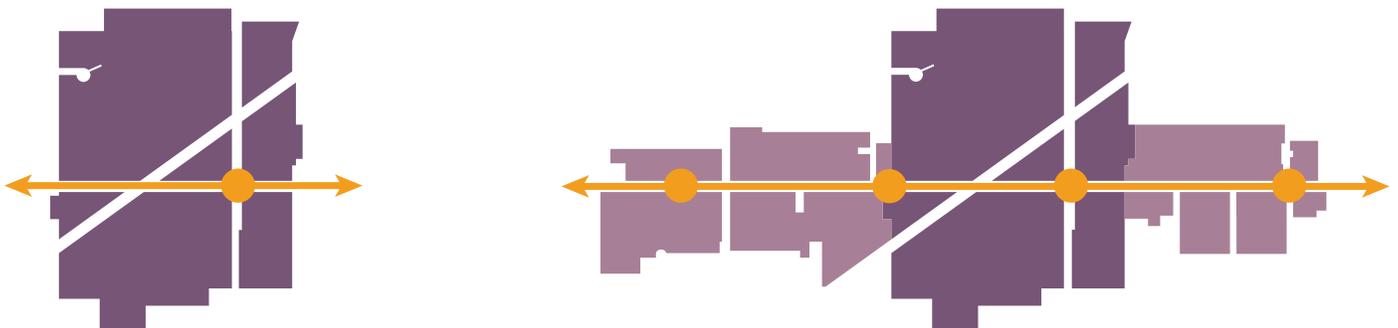
There are additional considerations for choosing the locations of nodes. These locational criteria apply to the three different types of nodes and provide a consistent means of evaluating new areas for development as changes occur in the future.

1. **The ability to create a compact, walkable structure:** The ability to create traditional neighborhood structure within the potential nodes is essential. This includes the creation of a connected network of streets network, the introduction of blocks, a mix of commercial and residential uses, and a variety of building types.
2. **Capacity for employment and economic vitality:** Nodes play a primary role in the region's economy and should be located to maximize impact on economic and fiscal health. Therefore, it is logical to locate nodes in already existing commercial areas where the capacity for additional development exists. Excessive parking requirements currently mandate that more space is used for storing automobiles than for revenue generating uses. This creates an opportunity cost to the private and public sector through lost revenue associated with the inefficient use of land. The ability to increase the density and diversity of building types allows for higher profit margins for developers and creates a higher return on infrastructure investment for local

government. Infrastructure capacity is vital and must exist or have the ability to be upgraded. Infrastructure capacity includes having comfortable pedestrian environment along streets, having the appropriate water and sewer capacity, and providing technological infrastructure (high-speed fiber optic, etc.).

3. **The ability to provide housing in close proximity to jobs:** The inclusion of a variety of housing in a variety of types and at a range of price points at within nodes is critical. A percentage of the housing at each node location should be affordable, which would spread housing opportunities for lower income residents spreading options across the Greater Des Moines region and would provide a greater likelihood that workforce housing is in close proximity to jobs.
4. **Access via transit and other alternative modes of transportation:** Nodes should be accessible through a variety of transportation modes, including automobiles, bicycles, walking routes, and public transit. The location of DART bus routes should be a major consideration when locating nodes to maximize transportation options. Special attention should be paid to the design of corridors that connect nodes in Greater Des Moines. These corridors should be designed to accommodate a variety of users and should create a comfortable and appealing environment for pedestrians.

### NODE + CORRIDOR DEVELOPMENT PRIORITY

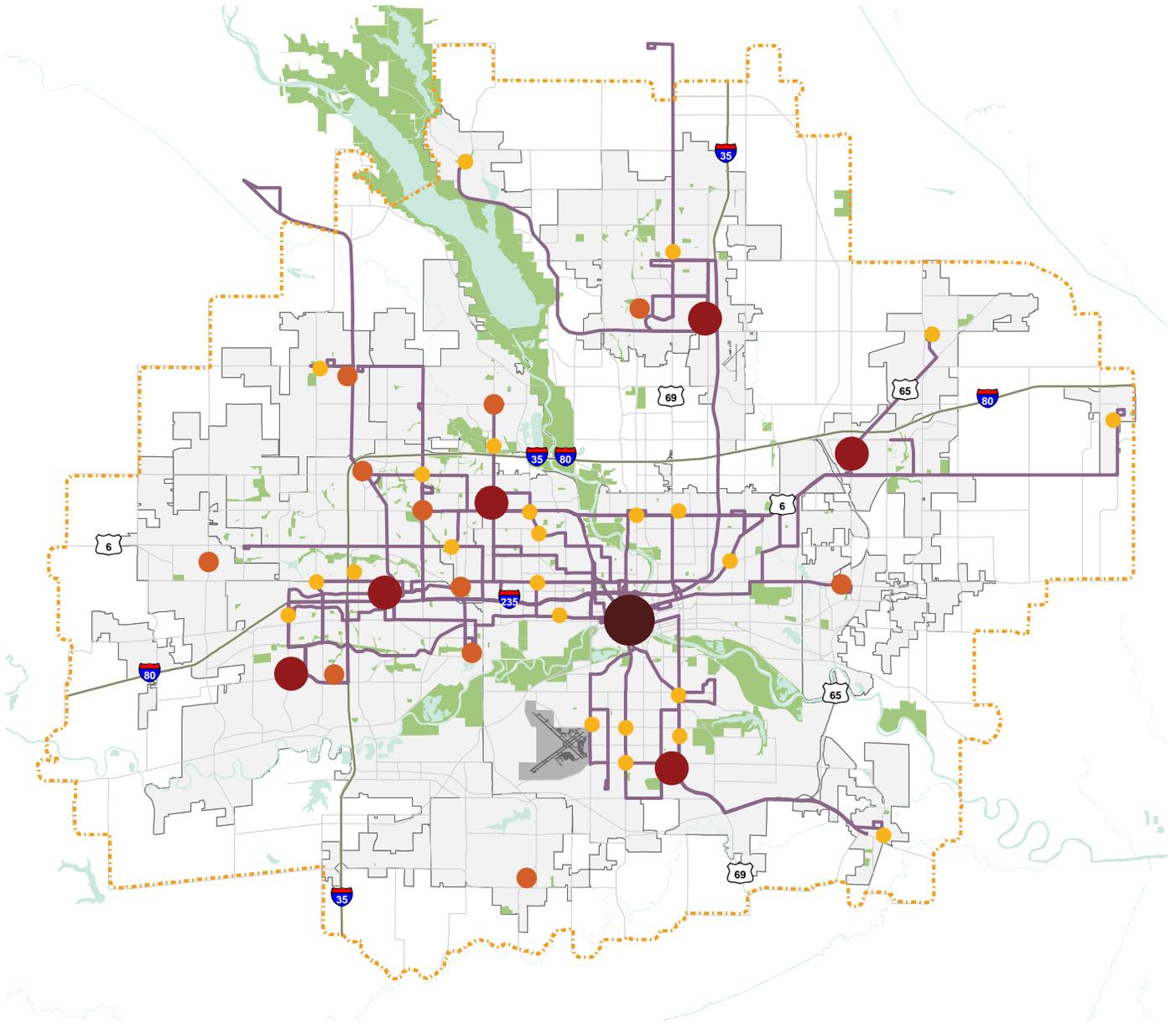


DEVELOPMENT SHOULD BE CONCENTRATED WITHIN THE NODE. ONCE THE NODE HAS FULLY DEVELOPED, ADDITIONAL DEVELOPMENT CAN BEGIN TO WORK ITS WAY OUT FROM THE NODE ALONG THE DESIGNATED CORRIDOR. THIS WILL ENSURE THAT A PEDESTRIAN-ORIENTED ENVIRONMENT IS CREATED OVER TIME.

## UNDERSTANDING NODES

	DOWNTOWN + REGIONAL NODES	COMMUNITY NODE	NEIGHBORHOOD NODE
Purpose within the regional network	Unique economic cluster	Mix of daily needs and specialized services	Daily needs and activities
Capacity for employment and economic vitality	MAJOR ECONOMIC AGGLOMERATIONS (Offices, industry, major institutions)		
		SERVICES (Mid-sized businesses)	
			SERVICES (Small businesses)
	MAJOR INSTITUTIONS (Hospital, higher education)		
			LOCAL INSTITUTIONS (Grade schools)
Populations	RESIDENTS FROM ACROSS THE REGION		
	VISITORS		
	WORKERS FROM OTHER REGIONS (Commuters)		
			LOCAL RESIDENTS
Relationship to residential areas	<b>Some distance apart</b> (Access by transit/car)	<b>Through point</b> (Access by car)	<b>Adjacent</b> (Access by foot/bike)
Frequency of use	<b>Everyday</b> for students/workers; <b>Occasional</b> for others	<b>Once a week</b>	<b>Nearly everyday</b>
Access to Inter-Modal Transportation	TRANSIT		
	BIKE + WALK		
	CAR		
Intra-mode Mobility	TRANSIT		
	BIKE + WALK		
			CAR
Capacity for development	<ul style="list-style-type: none"> <li>▪ <b>Catalytic project</b> in short-term</li> <li>▪ <b>Significant development</b> in long-term</li> <li>▪ <b>Infill</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Catalytic project</b> in short-term</li> <li>▪ <b>Significant development</b> in long-term</li> <li>▪ <b>Infill</b></li> </ul>	<ul style="list-style-type: none"> <li>▪ <b>Infill</b></li> </ul>

POTENTIAL NODES + CORRIDORS



- DOWNTOWN NODE
  - REGIONAL NODE
  - COMMUNITY NODE
  - NEIGHBORHOOD NODE
- LAKES + RIVERS
  - PARK SPACE
  - AIRPORT
  - CITY BOUNDARY
- STUDY AREA BOUNDARY
  - DART FORWARD 2035 BUS ROUTE
  - MAJOR ROAD

THE POTENTIAL NODES DEPICTED ABOVE ARE LOCATIONS THAT EXHIBIT SOME OF THE CHARACTERISTICS OF A DEFINED NODE. HOWEVER, NO NODE IN GREATER DES MOINES FULLY EMBODIES THE ELEMENTS NEEDED TO CREATE A WALKABLE PLACE. FOR EXAMPLE, A NODE MAY CURRENTLY HAVE A SUFFICIENT AMOUNT OF RETAIL SPACE BUT LACKS A DIVERSE HOUSING STOCK WITHIN CLOSE PROXIMITY.

# Multiway



## The Role of Corridors

Corridors make connections between nodes and with other areas across the region and beyond. Corridors are linear travel routes that move people and goods from one location to another. They come in a variety of forms and can include major roadways, rail lines, and waterways. There are many corridors within the region. This initiative focuses on corridors within the region that are multimodal — corridors that have the potential to move people using a variety of transportation modes. The locations of The Tomorrow Plan's proposed corridors are based on a combination of the DART Forward 2035 Plan — completed in September 2011 — and other high use corridors in the region. The locations of these routes were derived from:

- Data analysis that illustrated demographic context, ridership information, and transportation decisions;<sup>29</sup>
- Market assessment that showed market context and opportunities for increasing ridership;
- Service evaluation that revealed use of the DART network prior to February 2011; and,
- Public outreach, including two rounds of public meetings and an online survey, that conveyed resident desires.

Transit requires certain levels of density to make it efficient and viable. Regular bus service requires 7 to 15 residential dwelling units per acre (equivalent of small lot detached homes, duplexes, or townhomes)<sup>30</sup> or 25 employees per acre in commercial centers, while BRT requires at least 20 dwelling units per acre or around 50 employees per acre.<sup>31</sup> Current development along these important corridors consists of predominantly low-density, single-use commercial strips not yet at the critical threshold to support transit. The purpose for strategically locating nodes along these corridors is to provide the critical mass needed for efficient transit operation. Once the nodes are developed, additional development can begin to work its way out from the nodes and along the corridors. Through this process, nodes and corridors create a development pattern that strengthens the transit system. As the density along these corridors increases, the viability of high quality, higher frequency transit, such as BRT, increases.

The primary role of corridors is to provide mobility and access. Today, automobiles move efficiently and with little regard to other modes of transportation in. The existing corridors, which are dominated by low-density development that, when coupled with large setbacks and the lack of on-street parking, creates a situation where each development needs its own access point. Many of the commercial corridors in Greater Des Moines developed around state highways that were originally designed for long-distance travel and with few access points. Each additional access point

# Boulevard



that has since been constructed along one of these corridors compromises mobility. However, ways of designing these rights-of-way can increase mobility and serve the increasing amount of development that borders them. A multi-way boulevard is an option that allows for high levels of mobility and access within the same right-of-way. It does this by having two to three center travel lanes in each direction and a slip-lane in either direction, all of which is divided by a tree-lined. The center travel lanes provide a high level of mobility for through-traffic while the slip-lanes provide on-street parking and direct access to adjacent properties to local traffic.<sup>32</sup>

## Node + Corridor Development Challenges

There are a number of challenges to overcome in developing vibrant, walkable nodes. These challenges include:

- The lack of a connected transportation network;
- The predominance of excessive parking regulations;
- The existence of land use regulations that mandate low-density, separated uses;
- The lack of traditional neighborhood structure;
- The scale of initial investment needed;

- The complicated nature of financing and appraising mixed-use development; and,
- The existence of design guidelines that promote development in conflict with the characteristics of walkable places.

The financial aspect of developing mixed-use, walkable nodes is among the greatest obstacles to overcome. It is challenging for developers to build this type of development in Greater Des Moines due to the lack of experience that financial institutions and appraisers have in valuing this type of development. There are a number of ways to overcome this obstacle. Developers who wish to pursue mixed-use, walkable development can take out two kinds of loans. One loan can cover the residential component of the development, while the second loan can cover the commercial component. The second important requirement for overcoming existing financing obstacles is having an appraiser that understands the value of mixed-use developments. This need may require hiring an experienced appraiser from a national firm that understands mixed-use development, or it may require time to educate a local appraiser.<sup>33</sup> In general, an educational campaign targeting developers, financial institutions, and appraisers that focuses on changing trends and the value of walkable neighborhoods is essential.

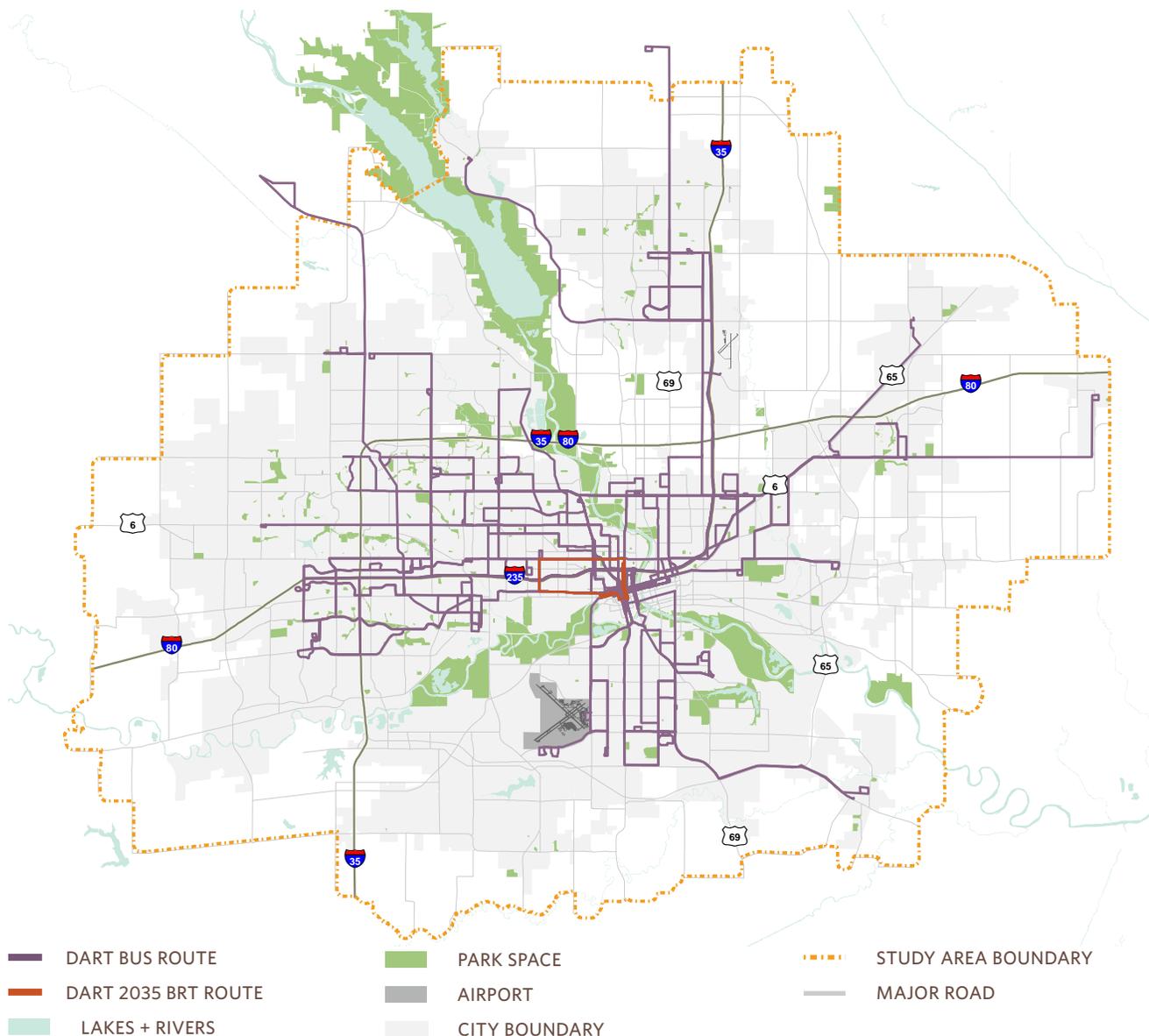
On top of these challenges, the development of properties in these types of nodes can require substantial initial investment. To overcome the challenge of high up-front capital cost, developers can make the current landowners equity investors. Rather than paying the landowner for the developable land up-front, developers make payments over time as the development comes to fruition. This challenge can also be addressed by attracting a group of developers who can pool their resources.<sup>34</sup> This approach has the added benefit of ensuring that the development incorporates a variety of approaches, as each developer brings something unique to the project.

Local governments can best address the remaining obstacles to creating vibrant, walkable nodes by implementing form-based codes and standards that support this type of development. It

is ideal to make these changes at the beginning of the node's development process so that the stage is set for private development from the start.

Local governments also need to reconsider how they implement design standards for street design and layout. Current design standards lead to overly wide travel lanes, excess curb return radii, and intersections that are not pedestrian friendly. To address some of these issues, municipalities could start by following the minimum rather than the maximum standards in the American Association of State Highway Transportation Officials (AASHTO) manual *A Policy on Geometric Design of Highways and Streets* or by adopting the Institute of Transportation Engineer's (ITE) *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach*. These manuals provide guidance for the development of streets that are

#### DART FORWARD 2035 NETWORK



walkable and pedestrian friendly. Many communities in Greater Des Moines follow the Statewide Urban Design and Specifications (SUDAS) published by the DOT. The elements of *Designing Walkable Urban Thoroughfares* should be integrated into SUDAS.

The development of walkable nodes is not something that will happen overnight. This is a long-term initiative to create more complete places, and the full benefits are most apparent when viewed over the long-term. Node development will be phased over the coming decades; however, it is essential that local governments begin laying the groundwork today.

## How to Create and Improve Nodes and Corridors

Land use policy, including zoning and special overlay districts, can encourage development patterns that support the development of mixed-use, walkable nodes. In addition, financial incentives can attract new businesses, retain existing ones, and encourage complementary activities. Finally, workforce development is yet another important issue for creating economic agglomeration. An educated workforce makes the region more productive and resilient over the long term.

Developing and enhancing the regional network of nodes and corridors has four distinct components:

1. Encouraging growth towards nodes
2. Improving the physical character of nodes
3. Developing parking strategies for nodes
4. Enhancing existing corridors, emphasizing those with transit

Each of these components involves a variety of stakeholders, operates under its own timeframe, and can be achieved with a variety of tools.

### 1. Encouraging Growth towards Nodes

After first identifying target nodes, the next step towards maximizing the economic and social benefits of nodes is to encourage businesses and developers to work within nodes rather than elsewhere in the region. Doing so requires cooperation around the region.

#### *Regional Action Steps*

The MPO can help in this area in several key ways. First, regional infrastructure coordination can help encourage development in nodes while reducing development pressure on rural landscapes. Second, the MPO should create model codes for zoning and define development targets for each of the node types. The

MPO should also work with local communities to identify node locations, help them apply the nodes and corridors initiative to their comprehensive plans, and work with them to create a vision for development in those places. This public engagement process should lead to the development of master plans tied to a form-based code or other similar tools that ensure the implementation of the community's vision. Finally, the MPO should encourage member governments to prioritize investment in the existing areas that display the elements of the various nodes, create new node areas using the strategies identified, and enhance the connecting corridors to make them attractive and convenient for all users. This will help to attract more investment by private developers and will make the region more resilient as the market demands change.

#### *Implementation Tools*

To be successful, nodes — especially regional and community nodes — generally require a two-pronged policy approach. Policies that encourage growth within nodes are coupled with policies that reduce development pressure on undeveloped land outside of nodes. Together, these kinds of policies redirect growth from low-density, dispersed forms of development into higher density nodes.

At a minimum, all kinds of nodes should be prepared physically and legally for desired density levels. Municipalities should zone target areas for a mix of uses and an appropriate level of density based on the node type, and basic infrastructure like water, energy, and roads should be adequate to support future growth.

Transportation infrastructure and service are also important for nodes' success, especially for regional and community nodes. These types of upgrades greatly support transit-oriented development. Because of the importance of accessibility in creating a successful node, the provision of quality walking, biking, and public transportation infrastructure is essential. Countless redevelopment projects around the world have used new transit infrastructure as the backbone for urban district revitalization. BRT routes identified in the DART Forward 2035 Plan could accomplish a similar end result in Greater Des Moines.

In addition to these baseline actions, municipalities can provide incentives for residents, businesses, and developments to locate within nodes by taking additional steps:

- **Transfer of Development Rights (TDR):** This type of program would establish an open market for selling development rights. Under a TDR program, farmers could sell the development value of their land, allowing them to continue to farm the land and getting money to keep the property undeveloped. Meanwhile, the buyer of those development rights could build the amount of development that would otherwise be allowed on the farmer's

property within specific development zones elsewhere in the area. Establishing a TDR program would allow communities to shift development from the periphery to priority node locations and preserve rural landscapes. This policy would likely require state enabling legislation.

- **Comprehensive plan updates:** Local comprehensive plans can set development priorities that identify node locations as priority development areas. This would focus development within identified nodes and limit the outward expansion of low-density development. Matching the zoning code to the vision of the comprehensive plan is essential for this strategy to be successful; in some cases, current zoning codes prevent the very types of development envisioned in this plan.
- **Upgrade digital infrastructure:** Support key industries through infrastructure investment. IT is an important industry to Greater Des Moines, so connecting the region's nodes with corridors of high-bandwidth internet cable would have a tremendously positive economic impact. Retrofitting target areas with upgraded digital infrastructure would provide a powerful locational incentive for many types of businesses.
- **Overlay districts:** Overlay districts are a zoning technique that can allow for more flexibility and density in an area. For instance, a transit-oriented overlay district could allow for reduced parking requirements, higher building densities, and more mixed uses than the underlying zoning code otherwise would. The City of Des Moines's Downtown Overlay District, created in 2011, was established to ensure "that new uses and development within the district are compatible with the vision for the downtown area regarding the location and design of uses set forth in the 'What's Next Downtown Plan.'"
- **Land banking and parcel assembly:** Fragmented parcels with obsolete structures can inhibit the creation of high density, contiguous development. Assembling small parcels and recombining them can provide new opportunities for redevelopment. An example of this is the Des Moines Redevelopment Company's purchase of an abandoned building and of a majority interest in a parking lot near the Iowa Events Center in late 2012. This combined land acquisition set the stage for the development of a convention hotel.
- **Limiting new infrastructure:** Taking steps to preserve the region's rural landscapes can incentivize growth within all kinds of nodes. Making growth more expensive or more difficult in rural areas discourages low-density development at urban fringes. Limiting new infrastructure like roads, water, and sewer systems in rural or agricultural areas can reduce development pressures on these lands by making it more costly

for developers to build in those locations. See Strategy 4B and Regional Initiative 4 concerning the importance of regional cooperation on infrastructure.

## 2. Improving the Physical Character of Nodes

Directing growth into nodes is only one factor that will lead to their success. Another key component is improving the characteristics of the nodes themselves to make them attractive, pedestrian-oriented, areas.

Essential Components of nodes include:

- Transportation infrastructure including a high level of access to public transportation;
- Creating a safe and inviting pedestrian realm at all node scales; and,
- The ability to support density and multiple uses.

Density provides economic benefits for businesses through the proximity that it enables to people and activity. Density generates the critical mass of people that supports active street life, in the form of cafes, restaurants, and retail stores. However, density alone does not create vibrant pedestrian-oriented places. The design and placement of the public spaces and buildings plays as important a role as density in determining the success of a node's pedestrian friendliness. A variety of building types and successful engagement of those buildings with the public realm creates a high quality pedestrian environment.

In addition, quality urbanism requires different kind of uses and amenities that keep people interested, that provide visual variety, and that support walkers and bikers. Amenities could include bike racks, benches, sidewalk lighting, planters, crosswalks, pedestrian-scale signage, and shade trees, among many elements. Uses could include art venues, pocket parks, restaurants, bars, cafes, and unique retail. A survey of existing amenities and needs would help guide investment. For example, other local plans have identified a need for a mid-sized music venue, which could become an anchor for an existing or emerging community node.

### *Regional Action Steps*

The MPO can assist with the development of nodes in two ways. First, the MPO could provide training opportunities, advice, and information to municipalities, businesses, developers, and others about tools and strategies for creating walkable, vibrant districts. Second, the MPO could take a more active role by providing technical assistance and/or peer review on master plans or codes for nodes.

## Density generates the critical mass of people that supports active street life, in the form of cafes, restaurants, and retail stores. However, density alone does not create vibrant pedestrian-oriented places

### *Implementation Tools*

A variety of tools are useful for developing nodes. Land use regulations, for instance, can create desired patterns for nodal development. In places where the market already supports high density, reducing setbacks, shrinking parking requirements, eliminating building gaps, and setting minimum and maximum height limits can create a more urban, pedestrian-oriented environment. Additional details about these concepts are available in the *Creating Walkable Town Centers* document in the Implementation Toolbox. Typically, municipalities adopt and use these tools, but the MPO can also provide more information about potential tools and their relative advantages and disadvantages. Some of the land use tools that encouraging walkable, attractive environments include:

- **Form-Based Codes:** These codes can help create walkable, mixed-use town centers. They regulate the physical form, rather than the uses, of buildings and shape how building facades meet the public realm, how buildings relate to one another, and what scale and form streets take. They may include provisions to reduce building setbacks from the street, set maximum parking requirements, create shared parking ratios, move parking to the backs of buildings, require on-street parking, eliminate building gaps, decrease block sizes, and set minimum and maximum building heights. Like zoning codes, form-based codes are legally binding.
  - **Street design standards:** These guidelines provide direction for the physical character of streets and typically set standards for street and sidewalk widths, on-street parking, curb-return radii, centerline radii, street trees, and landscaping standards. Well-designed standards can be incorporated into form-based code regulations. Greater Des Moines communities should revise SUDAS to reflect these new standards.
  - **Urban design guidelines and pattern books:** Urban design guidelines aim for similar goals as form-based codes do but are somewhat more flexible. Pattern books are documents that describe and categorize the existing buildings in a community,
- especially residential ones. They explain what architectural elements define the local character and can guide future development so that it maintains a certain feel. Prairie Trail, a new neighborhood in Ankeny, uses a pattern book to guide the architectural character of development.<sup>35</sup> West Des Moines developed a pattern book for their neighborhoods that can serve as an example for other communities in the region.<sup>36</sup>
- **Parking standards:** There is an excess supply of parking throughout Greater Des Moines, especially within its major regional nodes that could otherwise support higher densities and public transportation. Reducing minimum parking requirements and establishing shared parking ratios would lower development costs and free up valuable space for higher value land uses. Reducing excess parking would be especially valuable when coupled with the transit improvements recommended laid out in this and the DART Forward 2035 Plan.
  - **Overlay, special, and historic districts:** These are zoning techniques that provide additional standards for development. For example, cities can require the protection of historic facades or can alternatively create financial incentives to developers or business owners to protect the historic character of the region.
  - **Density bonuses:** This zoning technique offers increased height and/or density to developers in exchange for the provision community benefits. Benefits could include affordable housing, open space, or transportation infrastructure. To receive the additional allowance, developers can typically provide the benefit directly on their site or can make a specified monetary contribution to a city fund that provides these benefits.
  - **Neighborhood associations:** These groups can help implement local improvements. For example, the Sherman Hill Association in Des Moines has helped preserve the historic character of their neighborhood through efforts like installing historic street lighting, creating an annual walking tour, and supporting rehabilitation projects.

### 3. Developing Parking Strategies for Nodes

The provision and management of parking plays an enormous role in the appearance of streets, in the travel mode that people choose, and in streets' congestion levels. Parking spaces are a valuable commodity, and like any commodity, they are subject to the laws of supply and demand. Typically, however, the region supplies parking without much thought to actual demand – or demand for any form of parking other than free parking. This results in the transformation of large swathes of real estate into asphalt that sits largely empty for much of the day. Parking is hugely influential in determining whether a place becomes walkable because widely available parking is a disincentive for people to walk and also creates an unpleasant streetscape with big gaps between activity. Ultimately, the amount of parking in an area has a significant impact on density and the urban fabric. Sufficient parking supply is necessary for supporting residents and businesses; however, an oversupply of parking results in a degraded urban environment, lost opportunities for economic growth, and increased dependence on the car. In too many places, the proper role of pricing in determining “sufficiency” has given way to the common assumption that the user should not have to pay for parking. For this reason, having a strategic plan that provides adequate parking without creating so much as to be a detriment to walkability is essential.

#### *Regional Action Steps*

Appropriately managing parking starts from an understanding that the conventional approach has resulted in too much asphalt and distorted transportation markets, making it almost impossible to run efficient transit systems or to simply walk or bike safely across much of the country. We must shift this approach to a strategy

The benefits of quality street design are far reaching and include increased property values and tax base; more active lifestyles due to better walkability; and environmental benefits from better stormwater management and reduced urban heat island effect.

that acknowledges the true costs of accommodating private vehicles at the expense of alternate modes. The implementation tools section below outlines several ways that Greater Des Moines can still provide sufficient parking while ensuring a more rational demand-supply balance that embraces traditional urban mobility assets, supports a sustainable future, and maximizes the value of limited land resources.

#### *Implementation Tools*

This region can implement a variety of tools and strategies within nodes (and other parts of the region) to ensure that adequate is provided while a high quality pedestrian environment is maintained. These tools are outlined below:

- **On-street parking provision:** Providing on-street parking is essential for creating a quality pedestrian environment within nodes. On-street parking provides a buffer between pedestrians and vehicles traveling on the street, and it provides direct access to shop fronts. It should, therefore, count towards total parking requirements.
- **Location of parking:** Surface parking lots should be located at the back of a property. This allows building to front the public streets and create a continuous environment between sidewalks and storefronts and between buildings themselves.
- **Elimination of minimum parking requirements:** An oversupply of parking results in part from minimum parking requirements. Studies of suburban business parks have found that, while the zoning codes often demand 3-4 parking spaces per 1,000 square feet of development or one space per employee, the actual average parking utilization rate is 2.2 spaces per 1,000 square feet.<sup>37</sup> This equates to a 26 percent oversupply. Removing minimums would not ban new parking from being built; it would simply allow market forces to determine the necessary amount of parking.
- **Establishment of parking maximums:** Parking maximums set an absolute upper limit on how much parking can exist at any given building or site. Maximum ratios are especially effective in areas with suburban development patterns where, for example, developers of big box retail build far more supply than is needed. Communities may use area-wide limits called parking caps as well.
- **Flexible standards:** The major drawback of current parking requirements is their inflexibility. For example, some communities apply minimums rigidly to every land use regardless of context. A building constructed next to a bus stop and bike route would need the same amount of parking as one located far from any non-auto transportation modes. Many

communities have begun including “discounts” to minimum requirements based on factors that reduce auto use.

- **Shared parking ratios:** Shared parking means that two or more land uses share one parking supply. Shared parking reduces the number of parking spaces built and is particularly successful when the lot is shared by developments that need parking at different times of day, such as an office and a movie theater. Shared parking encourages a “park once” mentality and increases walking, rather than driving, between destinations. In Greater Des Moines, where every development has its own parking lot, shared parking for different land uses has major potential to accommodate growth without requiring a significantly number of new parking lots. In mixed-use nodes, shared parking ratios can be set to make sure that parking does not dominate the land use of the area.
- **Land subdivision:** When re-platting land in targeted nodes, lot widths should be set at increments of six feet. This will generate lot sizes that are compatible with standard parking stall sizes of 9 to 12 feet. The minimum lot width should be 18 feet, accommodates two rear loaded parking spaces and one on-street space. Platting in this manner allows developers to maximize the efficiency of their development while meeting parking requirements. Additional lot widths that maximize the efficiency of land are 24, 30, 36, 54, 72, and 144 feet.<sup>38</sup>

These are just a few of the potential implementation tools that can be used to manage parking in Greater Des Moines. Additional information is included in the Parking Management memo in the toolbox.

#### 4. Enhancing Existing Corridors, Emphasizing Those with Transit

The overall goal of corridors is to provide convenient, safe, and affordable access to the region’s nodes for all people while minimizing the impact on the environment. Transportation choice is essential in accomplishing this goal. Not everyone chooses or is able to drive a car, so being able to access through other modes of transportation is important. Key priorities for corridors are:

- Designing them in a way that is pedestrian friendly and that supports alternative modes of transportation;
- Minimizing the number and length of single-occupancy trips;
- Minimizing congestion; and,
- Decreasing emissions.

The most important priority when developing corridors that support alternative modes of transportation is design. Currently,

the design of many Greater Des Moines corridors centers on the automobile. By contrast, narrow travel lanes (maximum of 11 feet), sidewalks, on-street parking, build-to-lines, and street trees create corridors that support alternative transportation. These elements all work together to create the sense of place that is essential for walkability and transit, and many of these elements are absent from our corridors today. Improving the design of our streets is the first step toward encouraging people to walk and take transit.

Building corridors will require coordination and cooperation among many different groups. DART, Iowa DOT, and municipalities are key players, but they cannot build effective corridors alone. Businesses can help put incentives in place that encourage people to take public transit or bike to work through subsidized transit passes or the inclusion of bike facilities at offices, for example. In the end, supporting corridors is something everyone in the region can help further. An individual’s decision to take a bus to work instead of driving, or to walk to lunch, or to work from home can have a big impact, collectively. A well-designed public transit network does not improve accessibility unless people decide to use it. More ridership, in turn, supports service that is more frequent.

Corridors relate to several strategies discussed earlier in The Tomorrow Plan, including:

- Strategy 1B: Provide multimodal access throughout the region
- Strategy 2A: Promote the reduction of energy consumption, especially from non-renewable energy sources, and their resulting emissions.
- Strategy 3B: Create a region where walking, biking, and using public transportation is a normal part of daily life.

#### *Regional Action Steps*

Local governments should adopt street design standards that support walkable urban streets. To accomplish this, local governments and the MPO should advocate for updates to SUDAS that reflect the desired street design standards. The benefits of quality street design are far reaching and include increased property values and tax base; more active lifestyles due to better walkability; and environmental benefits from better stormwater management and reduced urban heat island effect. The ITE manual *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* provides a comprehensive overview of good walkable street design practices. Designing the public right-of-way as a place for people should be the ultimate goal when developing or redeveloping corridors in the region.

At the start, increasing multimodal transportation options and reducing congestion can be voluntary measures championed by

the MPO, county, or local municipality and adopted by employers, residents, and employees; however, communities should adopt official policies or programs that require transportation demand management (TDM) and give it legal standing over time.

Incorporating TDM into municipal ordinances with requirements and incentives benefits everyone, as TDM works best when implemented region-wide. TDM ordinances, like zoning ordinances, define terms and standards and establish to which projects the ordinance applies. The most important aspect of creating an ordinance is the participation of all employers and commercial uses in the local Transportation Management Association (TMA). The TMA typically consists of representatives from the affected area, and the annual fees ensure the agency is self-sustaining. Responsibilities include administering TDM programs, conducting outreach and ensuring buy-in from stakeholders and the public, and supporting other regional smart growth efforts. Incorporating major employers and new developments into the TMA creates the crucial link between making alternate modes available and having employers incentivize them through building amenities, for example. Finally, MPOs can support implementation of TDM programs through technical assistance grants.

### *Implementation Tools*

Developing corridors for all modes will involve many groups and multiple tools. Additional information about many of the tools described below is available through a series of memos that are accessible in the Implementation Toolbox. Some of the main strategies are:

- Regional Systems Approach: Transportation Demand Management;
- Regional Systems Approach: Inter-Regional Connectivity; and,
- Transit Supportive Policies.

Transportation improvements often have long time horizons. Funding, designing, and constructing improvements take many years. As a result, finding interim solutions that can be implemented cheaply until long-term solutions are completed is important. For instance, creating a BRT network could take ten years or more, but immediately introducing an express bus service along the future BRT route could provide faster service than a conventional bus route could in the meantime.

### *Automobiles*

While a primary goal in creating corridors is to encourage the use of non-auto travel modes, many people will continue to drive. There are still opportunities to reduce congestion and decrease

the environmental impacts for those who drive. The main push in this area should be to reduce the number of single occupancy trips, especially during peak hours, and to reduce emissions. DOTs, municipalities, and businesses can all help achieve these goals.

A variety of approaches can encourage people to rely on non-single occupancy vehicle travel. Potential incentives include rideshare programs, carpools, vanpools, guaranteed rides home, and parking cash-out programs that offer employees monthly financial benefits for giving up parking. All of these techniques reduce the total number of cars on the road. Employers can also help by offering flexible hours or telecommuting options for employees, which reduce the number of cars on the road during peak commuting times. Further, increasing the cost of driving and parking generally makes it more likely that people will choose alternative modes of transit. Techniques for changing the cost of driving and parking include variable price parking and mileage-based user fees.

Reducing the number of vehicles, trip lengths, and congestion, as described above, all reduce the environmental impact of travel. An additional opportunity for reducing the environmental impact of private vehicle travel without significantly changing travel patterns is to encourage alternative fuels. Introducing electric vehicle infrastructure could be one way of promoting the adoption of alternative fuel.



Source: DART

## BUS RAPID TRANSIT: A NEW TAKE ON AN OLD STANDARD

Bus rapid transit (BRT) service often is described as rail-like service that is delivered with buses. It can include many features to improve the level of service along a bus route, such as stations with real-time arrival and departure information, on-street fare boxes to speed up boarding times, separate branding, and technology to change stoplights to accelerate travel times. DART identified a loop between Ingersoll and University Avenues between downtown Des Moines and 42nd Street as a priority BRT corridor.

Though increasing alternative travel options for existing drivers is important for reducing the negative environmental impact and wasted time that comes with high levels of private vehicle use, increasing transportation choice for everyone is important. Not everyone can afford to own a car, but increasing access to cars for this segment of the population is possible. Car sharing programs like Zipcar, Flexcar, and RelayRides provide options for short-term vehicle rental. For those without cars, these services provide access to geographies and opportunities that might otherwise be nearly impossible to access. Additionally, a robust car sharing system can enable existing car owners who don't require regular use of a private vehicle to give up their vehicles.

### *Non-motorized Transportation*

Promoting and enabling non-motorized transportation access to nodes — through on-street bicycle lanes, sidewalks, off-street trails, bike share programs, and bicycle parking — is critical to establishing a successful nodes and corridors network in Greater Des Moines. Travel by foot or bicycle should be safe and convenient. Municipalities will be key players in implementing these types of transportation infrastructure. The Ingersoll Avenue lane reconfiguration in Des Moines is an example of a street retrofit designed to accommodate alternative modes of travel. Reducing the number of vehicle lanes from four to three allows for the addition of a bicycle lane.

### *Regional Public Transit (DART)*

Increasing the use of public transportation requires a system that is convenient, affordable, and easy to use. DART and TMA are the key players in this sphere. The foundation of a good public transit network includes:

- Stops that are safe and conveniently located;
- Routes that connect destinations;
- Travel times that are reliable and satisfactory;
- Affordable fares; and,
- Development densities that are high enough to support transit ridership.

Building a robust, well-used transit network has multiple components. One incentive program used to encourage public transit use is a discounted transit pass program for large employers and institutions. By making transit use less costly for the user, these programs encourage commuters to ride public transit instead of driving. Another approach is implementing BRT systems with dedicated travel lanes and designating express routes. Making rider information easily accessible lowers the barrier to entry for potential riders and encourages people to try public transportation for the first time. Making the wait for public transit and the transfers between different services more appealing is another way of increasing the use of transit. Mobility hubs can offer comfortable locations through which to transfer between routes, and real-time information about bus locations helps reduce anxiety and help people plan their trips as efficiently as possible.

### *Inter-Regional Public Transit (Bus + Rail)*

Nodes, especially the downtown and regional nodes, attract people from outside of the region in addition to those from within. These nodes can be accessed by car, but increasing access by other modes is important at this scale as well. Currently, Burlington Trailways, Jefferson Lines, Greyhound, and Megabus provide inter-regional bus service to the region. Discussions about a future regional passenger rail network are also ongoing. To be most effective, inter-regional transit should be convenient for passengers, providing service at reasonable frequency that connects to desired places outside of the region. Links to local bus service are important as well so that passengers can reach their specific final destinations. Transfer points between inter-regional and local bus services should be available in a consolidated location.



## GOAL 2:

### Improve the Region's Environmental Health and Access to the Outdoors

Creating and maintaining natural resource corridors, natural stormwater management systems, urban forest canopies, and parks embody the concept of natural stewardship. Good land stewardship ensures long-term environmental and economic health, and its effects improve the mental and physical well-being of people.

A green infrastructure network gives people access to nature, recreation, quiet, and views. Trees and other green infrastructure mitigate the negative environmental and economic impacts of natural disasters, climate change, and poorly designed developments. Ultimately, green systems make communities more resilient and help to attract people and employers.

## Strategy 2A

### Promote the reduction of energy consumption, especially from non-renewable energy sources

The use of energy — to power homes, transportation, and industry — plays an important role in a region's health and economic prosperity and is present in nearly every aspect of daily life. Energy consumption affects air quality and impacts global climate as a result of emissions. Different methods of generating and acquiring power have different levels of impact on the natural environment. The cost of energy impacts the pocketbooks of people and industries. On a higher level, the quest for energy can lead to international political and military conflicts. Identifying and promoting innovative solutions that reduce overall consumption of energy — and especially consumption of energy from non-renewable sources — would help the Greater Des Moines region maintain its current air quality. That in turn will support the region's growing economy by improving efficiency and lowering associated costs. The region should take several steps to help it become **first in the nation for energy conservation** and a model for other regions to emulate.

The following are strategies for reducing energy consumption, especially from non-renewables, in Greater Des Moines:

- Establish baseline energy consumption metrics. The development of energy consumption metrics specific to the Greater Des Moines region will better enable the area to monitor energy reduction goals. Benchmarking the energy consumption of public buildings may be a key first step.
- Assess local building and zoning codes for potential opportunities, and remove the barriers to developing alternative energy infrastructure and conservation uses. Additionally, update codes to have higher energy efficiency standards.
- Use the strategies above to develop a framework for achieving regional energy efficiency goals — the first in the nation for energy conservation. Meanwhile, collaborate with the State Building Code Bureau and the International Code Council on training and enforcement of the energy code.
- Support a grassroots approach to energy conservation by working with neighborhood associations and individual communities to develop competitions, education, and marketing around energy conservation.
- Continue to develop demonstration projects that highlight best practices for residential, commercial, and industrial buildings.

- Reinvigorate, expand, and enhance the ongoing demonstration of energy conservation and efficiency projects by re-launching the Share Good Energy collaborative — a partnership between Ankeny, Des Moines, Urbandale, and West Des Moines aimed at highlighting energy conservation practices.
- Support the region's governments in developing ambitious energy conservation goals, allowing them to lead by example.
- Understand the value of natural resources, including shade trees that reduce energy use, green medians that mitigate the heat island effect, and green roofs that lessen heating and cooling needs, among others.
- Create a regional heat mitigation plan to address the heat island effect and other heat-related issues.
- Work with local utilities to provide an increasing amount of energy from renewable sources.
- Explore the use of distributed energy (i.e., wind and solar power) around Greater Des Moines.
- Quantify the impacts of public transportation and other transportation options, such as biking and walking.

Greater Des Moines can function with greater efficiency and cleaner fuels. To do so, the region should:

- Promote alternatives to single occupancy vehicles. Single occupant vehicles not only use the most road space per traveler of any mode, but they also consume the most fuel per person. Carpooling, using public transportation, biking, and walking all reduce, or eliminate, the amount of fuel used per person and, therefore, reduce emissions. Implementation of the DART Forward 2035 Plan and the Central Iowa Bicycle-Pedestrian Action Plan (Connect) will assist with this strategy.
- Promote transit-friendly development patterns. Some people enjoy driving private vehicles, but others drive simply because development patterns in certain areas are not conducive to walking, biking, or using public transportation. More transit-friendly development would provide individuals with choices and better allow them to choose to reduce their transportation-related energy consumption. Encouraging compact, transit-friendly development in certain places has the greatest opportunity to reduce transportation-generated emissions.
- Invest in alternative and renewable fuel infrastructure. Gasoline and diesel form the core of Greater Des Moines's transportation fuel infrastructure. However, initial investment in alternative fuel infrastructure has taken place in recent years and could lead to a

bigger market for alternative fuel vehicles. While alternative fuel may reduce emissions at the tailpipe, it is important to consider the comprehensive carbon footprint associated with these fuels, from production to final use.

- Encourage alternative fuel vehicle acquisition and alternative/renewable fuel use in business and government fleets.
- Develop a campaign with local governments to connect residents and businesses with incentives for the use of alternative fuels and for the development of alternative fuel infrastructure.
  - Encourage training of local officials on alternative fuel infrastructure;
  - Explore the creation of financial incentives for the adoption of alternative fuels by individuals and companies; and,
  - Reduce the barriers to alternative fuel adoption.



#### **STRATEGY 2A POTENTIAL CHAMPIONS:**

MidAmerican Energy  
Communities  
Transition Des Moines  
DART  
Trees Forever

“This strategy shifts our attention and our resources away from our dependence on fossil fuels and their disruptive effects on our health, climate, and economy. It encourages our investment in more efficient energy sources instead of oil, gas, and coal that are demanding steadily higher oil prices to make their production cost-effective. It leads us toward clean air that is essential to life and good health. This strategy empowers us to support local development and jobs in the renewable energy sector.”

Margaret Weiner  
*Transition Des Moines*

## Strategy 2B

### Minimize the waste stream, emphasizing waste reduction in addition to reuse, recycling, and repurposing

The amount of municipal solid waste produced in the United States has nearly tripled over the past fifty years,<sup>1</sup> and the waste stream is complex in its composition. It includes plastics, leather, paper, tires, food, wood, batteries, glass, yard trimmings, electronics, and paper. Though some see waste as mere “trash,” waste management and disposal are a significant and costly challenge for municipalities. Many residents do not give waste another thought after it is removed from the curb. However, municipalities across the country must continue to deal with waste after it leaves the curb. Given the increasing attention paid to cost, sustainability, and efficiency, municipalities are developing creative strategies for dealing with waste.

Municipal waste strategies vary considerably, depending on the locations of disposal and recycling facilities, available funding, and public and political support. Some municipalities are pushing plans to have zero-waste, while others toil to create cost-effective and publicly supported curbside recycling programs.

Numerous programs are springing forth to reduce solid waste in Greater Des Moines. These programs not only benefit the environment but also the economy, by lowering operating costs

and creating jobs. A study from the EPA demonstrates how a dedicated waste reduction strategy can drastically reduce organizational costs. The following action steps can further these efforts:

- Promote the expansion of the Environmental Management System (EMS), a statewide initiative that addresses cost-effective natural resource management strategies for maximum positive impact on air, water, and land. Build support for this continuous improvement program across public and private institutions. It is currently in use among 11 solid waste agencies or service areas covering 23 counties across Iowa, including Metro Waste Authority. At a minimum, this initiative should be incorporated into education initiatives for the region.
- Create a centralized database of drop-off locations for the reuse and recycling of materials such as clothing, building materials, and kitchenware. Expand on-site educational efforts about the impact of recycling on reducing the amount of waste; these efforts need particular bolstering at apartment buildings and at other multi-family residential complexes.
- Provide convenient, affordable business recycling options, like Recycle Me Iowa, for small and medium-sized businesses.
- Provide disposal choices for hard-to-recycle items, including electronic waste. The EPA reports that the proportion of electronics discarded into the waste stream is increasing two to three times faster than any other waste segment.<sup>2</sup> Greater Des Moines municipalities should take steps to increase consumer awareness about proper disposal, provide electronic waste collection services and resources, and lead by example by requiring Environmentally Preferable Purchasing — green purchasing — and recycling of city-owned electronics. The region should also back the use of The Freecycle Network for hard to recycle items.
- Launch professional and consumer education efforts to target food waste reduction at the source, and support development of local and/or regional food rescue program(s) – programs that deliver food that would otherwise hit the waste stream to those in need of food. Broadly defined as uneaten or inedible portions of food from homes, restaurants, grocery stores, cafeterias, and commercial food establishments, food waste comprises 12 percent of municipal solid waste and costs the country approximately \$1 billion per year for disposal.<sup>3</sup>
- Develop a building deconstruction strategy across the region. Deconstruction is the systematic dismantling of a building that allows for the reuse and/or recycling of building materials. The EPA estimates that, in 2003, building-related construction and demolition debris totaled around 170 million tons. Not only does deconstruction reduce waste going into landfills, it

### DON'T THROW IT AWAY – FREecycle!

The Freecycle Network<sup>4</sup> is “a grassroots and entirely nonprofit movement of people who are giving (and getting) stuff for free in their own towns. It’s all about reuse and keeping good stuff out of landfills.” The Freecycle Network is an online platform that houses a registry of items people no longer want and connects them with local individuals who have the option of taking and reusing any of those items for free. Local volunteers moderate each group, and membership is free.

The Freecycle concept has expanded to over 85 countries since its inception in Arizona. The organization keeps over 500 tons of waste out of landfills each day. When stacked in garbage trucks, this is the equivalent of five times the height of Mt. Everest in just one year.

## “As we change our perspectives and behaviors, we must also change our logistics.”

Ciji Mitrising

*Recycle Me Iowa Chief Recycling Officer*

also creates considerable economic opportunities through job training programs and support of local salvage and repurpose businesses.<sup>5</sup>

- Explore a pay-as-you-throw strategy: Variable-rate programs charge customers for waste disposal based on the amount of waste generated rather than a flat-fee, thus creating an incentive for customers to reduce, reuse, or recycle items. Thousands of communities have implemented a pay-as-you-throw policy using a variety of rate structures.<sup>6</sup>
- Provide education to residents, businesses, and municipalities regarding waste.
  - Produce a video and/or infographic showing where waste goes if composted, recycled, or landfilled.
  - Create materials outlining how to recycle and how to compost.
  - Create a graphic showing the phased steps of replacing a large trash dumpster with recycling and composting dumpsters next to a smaller trash dumpster.
  - Deliver training on reducing and reusing waste to municipalities.
  - Expand education for the public and businesses about yard waste, cardboard, electronic waste, and hazardous materials.
  - Encourage state and national decisionmakers to facilitate corporate product stewardship/take-back programs (e.g., returning waste oil to oil manufacturers for reuse/recycling).
  - Encourage, educate, and train people to engage in production strategies that reduce waste and allow for demanufacturing and recycling. Demanufacturing allows for the efficient deconstruction of items for component part reuse and recycling. This is part of manufacturing with full lifecycle considerations in mind.
- Expand single-stream recycling services.
- Develop a regional zero waste plan.
- In partnership with Metro Waste Authority, Keep Iowa Beautiful, and others, provide training and education to businesses and civic leaders about waste-friendly events.



- As much as is practical, generate biofuel from organic waste.
- Support the expansion of methane recovery programs similar to the Metro Methane Recovery Facility.
- Support MWA's ongoing efforts to encourage the reduction of waste generated, particularly at the source. See the toolbox for guidance on environmentally preferable purchasing policies. These policies should address minimizing waste and toxicity.
- Continuously explore the potential positive impacts of technology on both waste reduction and education about waste reduction strategies.

### **STRATEGY 2B POTENTIAL CHAMPIONS:**

Metro Waste Authority  
Recycle Me Iowa  
GreenRU

“It has been said that the human spirit needs places where nature has not been rearranged by the hand of man. While it is easy to understand how this holds true in our rural wild places, it is easy to forget that this is equally important in our urban spaces. Wild places are as important to urban dwellers as they are to the bird and the deer and the squirrel. These places cool our air, clean our water, and provide **refuge at no expense** to us. In turn, we are provided with places to escape the noise and bustle of the city, if for a short walk, a long bike ride, or a relaxing picnic lunch. These places are more than just recreational amenities; they are corridors to the greater natural world that bring life and resources into the urban fabric of our cities.”

Ryan Ellsworth  
*OPN Architects*



## Strategy 2C

### **Build a region-wide connected system of natural resource areas and corridors**

A regional green infrastructure network of natural lands and corridors will establish Greater Des Moines as a leader among communities that value a healthy population, economy, and environment. The questions to ask are about which lands to include, how much land to incorporate, and what steps are needed to get there.

The region is already below EPA thresholds<sup>7</sup> for healthy lands and waters. Ecologists largely agree that the removal of 50 to 75 percent of a region’s natural vegetation drives many species to extinction and damages the remaining forests, wetlands, and prairies. Covering just 10 percent of a watershed’s land area with rooftops and pavement (examples of impervious or hard cover) begins to deteriorate streams. With around 25 percent of connected impervious cover, the natural streams become urban streams — flashy (i.e., fast moving with fluctuating water levels and volatile stream flow) and polluted. In some cases, agricultural land acts as impervious cover, sending runoff quickly to downstream water bodies.

A regional green infrastructure network aims to prevent further deterioration of the natural environment and, taken further, can re-establish lost natural ecosystem functions and provide new opportunities for well-being and prosperity. To do so, the Greater Des Moines region must ask itself what land it wants to include, how much land is enough, and what else needs to be done to support the system.

Deciding where and how to create this system is not just an issue for habitat and species experts. The framework for the region’s green infrastructure must prioritize conservation of existing natural lands and corridors, and make room for expansion of the network in a way that will buffer and connect lands. Both the conservation and expansion of green infrastructure entail costs. The region must prioritize those pieces of land that create the most beneficial and effective green infrastructure network possible given the realities of funding, geography, regulatory power, existing conditions, and projected growth. For example, it is far easier to incorporate an existing wetland into a natural stormwater utility than to build one from scratch. Far less money is required to put a conservation easement on a viable forest than to buy cropland and plant trees. Such realities shape the design of the green infrastructure network.

To build this system, Greater Des Moines should:

- Develop green infrastructure collaborations and champions.
  - Conduct — and update on a regular basis — a regional tree inventory.
  - Identify and prioritize natural areas in the natural resource corridors.
  - Develop Water Works Park.
  - Connect existing resources, including Water Works Park, Gray's Lake, Principal Riverwalk, and upstream public lands.
  - Prioritize areas for a natural stormwater utility.
  - Leverage the trails network (river, paved, and unpaved) and isolated parks and communities by filling in gaps in the trail system.
  - Identify funding mechanisms to complete and maintain the regional network of natural lands and corridors.
- Build perpetual maintenance into project costs.
  - Develop concepts for ecological buffers.
  - Develop tools to establish greenways.
  - Develop a model ordinance for a region-wide natural resource overlay district using the prioritized natural areas.
  - Assess and plan the need for parks and open space.
  - Ensure adequate parks level-of-service as the region grows.
  - Enhance the regional treescape.

**STRATEGY 2C  
POTENTIAL CHAMPIONS:**

Communities  
Central Iowa Greenways  
Trees Forever

## WHAT IS GREEN INFRASTRUCTURE?

“Green infrastructure” sometimes refers to constructed or site-based features that connect the natural and built environments. This can include streetscapes, rain gardens, green roofs or walls, street trees, and permeable pavement. At the regional level, “green infrastructure” refers to a connected network of larger scale open spaces and natural areas like greenways, stream buffers, wetlands, parkland, connected tree canopies, forest preserves, and native plant vegetation that, in combination, conserve natural ecosystem functions; improve water and air quality; and, provide enjoyment, health, and safety benefits to people. Site-based green infrastructure systems complement and work in conjunction with the regional green infrastructure network but are not a substitute.

*Image Source: US Environmental Protection Agency*



## Strategy 2D

### Develop a regional stormwater approach emphasizing the use of natural processes to carry out the functions of built systems

With foresight and collaboration, the Greater Des Moines region of the future will depend more on the natural functions of watersheds to manage stormwater runoff and less on the gray infrastructure of storm sewers and detention ponds. Where conditions are created for infiltration strategies, using the natural functions of watersheds may save 10 to 50 percent on the cost of most stormwater infrastructure projects.<sup>8</sup> Municipalities will have to adopt a watershed perspective that corresponds with natural rather than political boundaries to establish these natural stormwater utilities.

In some ways, a natural stormwater utility is not that different than a conventional stormwater utility. It is a designed system, occupies a specific location, and requires maintenance. Street and property assessments pay for both kinds of utilities. The main differences are in the methods used and the effect on downstream water resources. Street trees, rooftop disconnections, bioswales, rain gardens, permeable paving, and created wetlands are among

the possible methods for managing stormwater runoff rather than curbs, gutters, storm sewer inlets, and pipes. Natural swales and existing wetlands also are important parts of a natural stormwater utility. Because they have been widely used for only a couple of decades, some see these techniques as experimental. Others do not like their look, which is not as tidy as a curb, gutter, and mowed boulevard edge. That said, the outcomes are profoundly different. With little filtering and volume reduction, rivers, streams, ponds, and lakes downstream of conventional stormwater systems are usually damaged and polluted. Bringing green infrastructure into stormwater systems tends to make downstream water bodies cleaner and more stable.

Nearly all municipalities in the Greater Des Moines region have conventional stormwater utilities that charge users of the stormwater management system according to the area of pavement and rooftop on their land. Cities like Minneapolis,<sup>9</sup> Urbana,<sup>10</sup> and Portland<sup>11</sup> use best practices modeled on green infrastructure to offset stormwater utility charges. Some cities like Seattle mandate the use of green infrastructure for stormwater management in developments.<sup>12</sup> Municipalities in Greater Des Moines could modify their stormwater utilities to favor best practices using green infrastructure. In this expanded utility, developers could earn credits for preserving natural lands that infiltrate runoff.

For Iowa, retaining 90 percent of precipitation from all rainfall events equates to holding back all storms of up to 1.25 inches.<sup>13</sup> These kinds of storms occur many times every year and are responsible for most of the pollution that washes into streams, lakes, and rivers. The *Iowa Stormwater Management Manual* describes dozens of approaches for holding back this amount of rainfall, mostly via green infrastructure methods. Some object on the grounds that Iowa's heavy soils do not allow for serious infiltration strategies. In fact, infiltration strategies are used across the country in many different soils — the design of the system can compensate for slow infiltration. As an alternative, some municipalities remove the first amount of rainfall that carries the most pollution. This is called the “first flush.” While it helps with water quality, downstream waters are still damaged by the extra runoff generated by impervious cover and drainage systems.

Tools already exist to improve water quality and stream stability in the region. When implemented, they will reduce the runoff, flooding, and soil erosion that presently damage waterways and communities. Five tools are essential:

- Complete a regional soil-type analysis to identify areas that are suited for stormwater management via infiltration practices. For areas that are not suitable for infiltration practices, identify alternative stormwater management practices.

### A COOL EXAMPLE: VERMILLION RIVER WATERSHED TROUT STREAM

The Vermillion River Watershed Joint Powers Organization (JPO) in Dakota County, Minnesota, worked with municipalities to develop ordinances that support one of the best trout fisheries of any urban area in the country. The JPO recommended that all new developments retain 98 percent of all rainfall on site, primarily by infiltrating the runoff.<sup>14</sup> Besides virtually eliminating pollution, this standard replenishes the groundwater that keeps the stream cold and trout alive despite summer heat. Municipalities and the JPO developed a watershed plan in 2005, standards in 2006, and rules in 2007. At each step of the way, municipalities weighed in, setting the tone and modifying the requirements. This collaborative approach resulted in the adoption of the standards and rules by all 20 municipalities in the watershed.

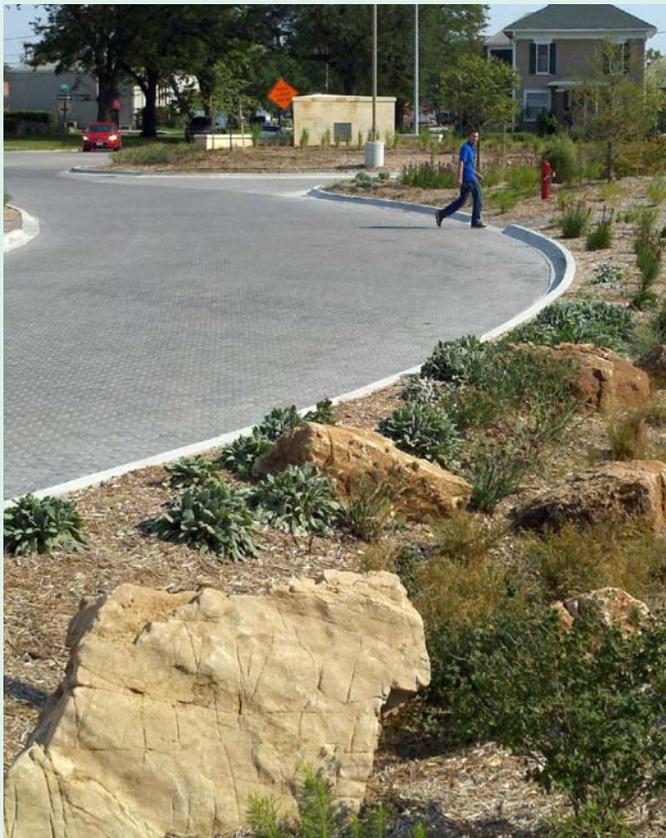
# GREENING THE GRAY



AN EXAMPLE OF PUBLIC EDUCATION THAT DEMONSTRATES THE CONNECTION BETWEEN STORMWATER AND WATER QUALITY IN OUR RIVERS AND STREAMS



YET ANOTHER EXAMPLE OF A VEGETATED INFILTRATION SYSTEM, MEANING A SYSTEM THAT ALLOWS WATER TO SOAK THROUGH IT



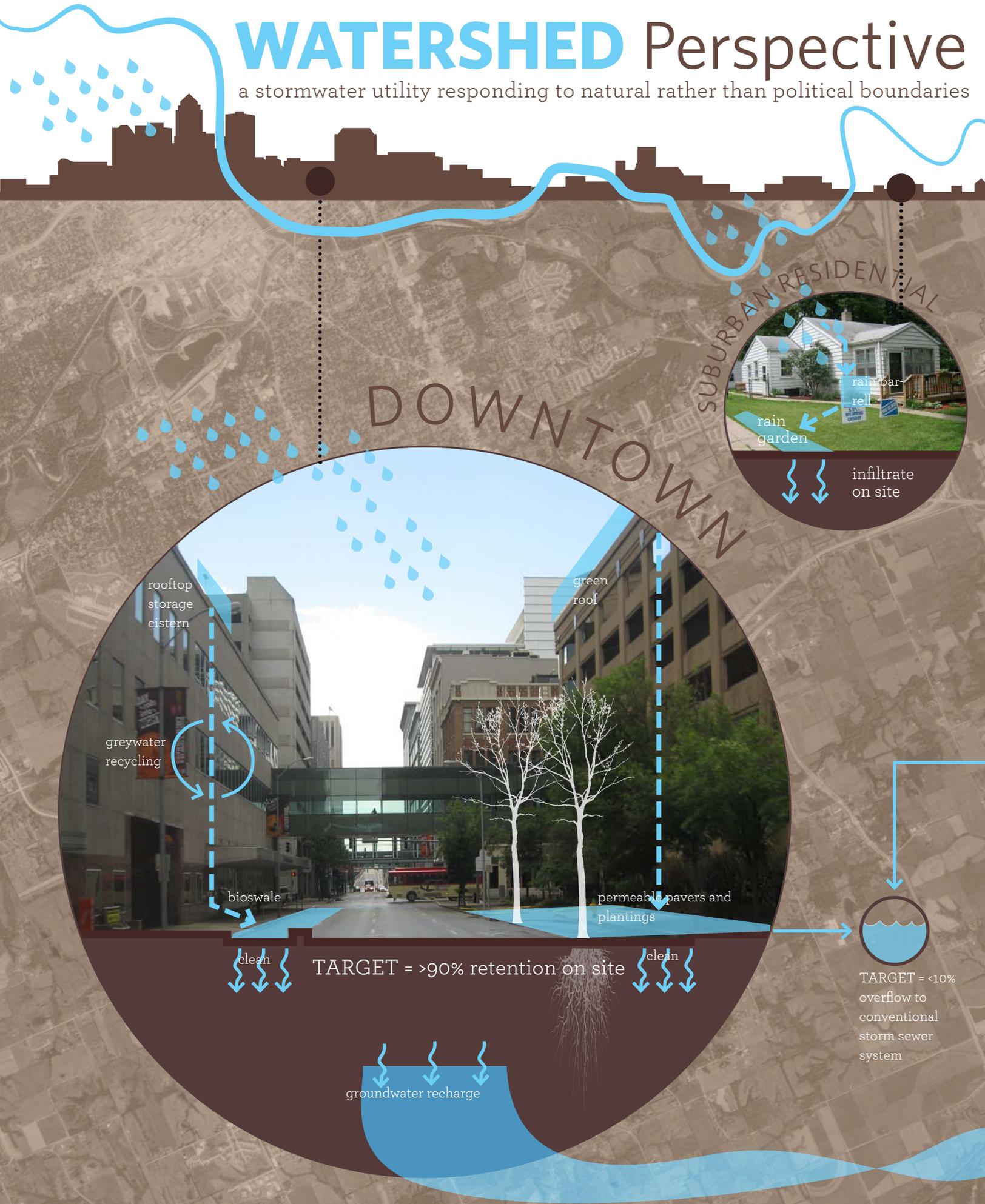
A SYSTEM OF NATIVE VEGETATION USED TO HELP ABSORB WATER AND CLEANSE IT AS IT IS SLOWED DOWN AND MOVES THROUGH THE SOIL PROFILE BEFORE REACHING A RIVER OR STREAM



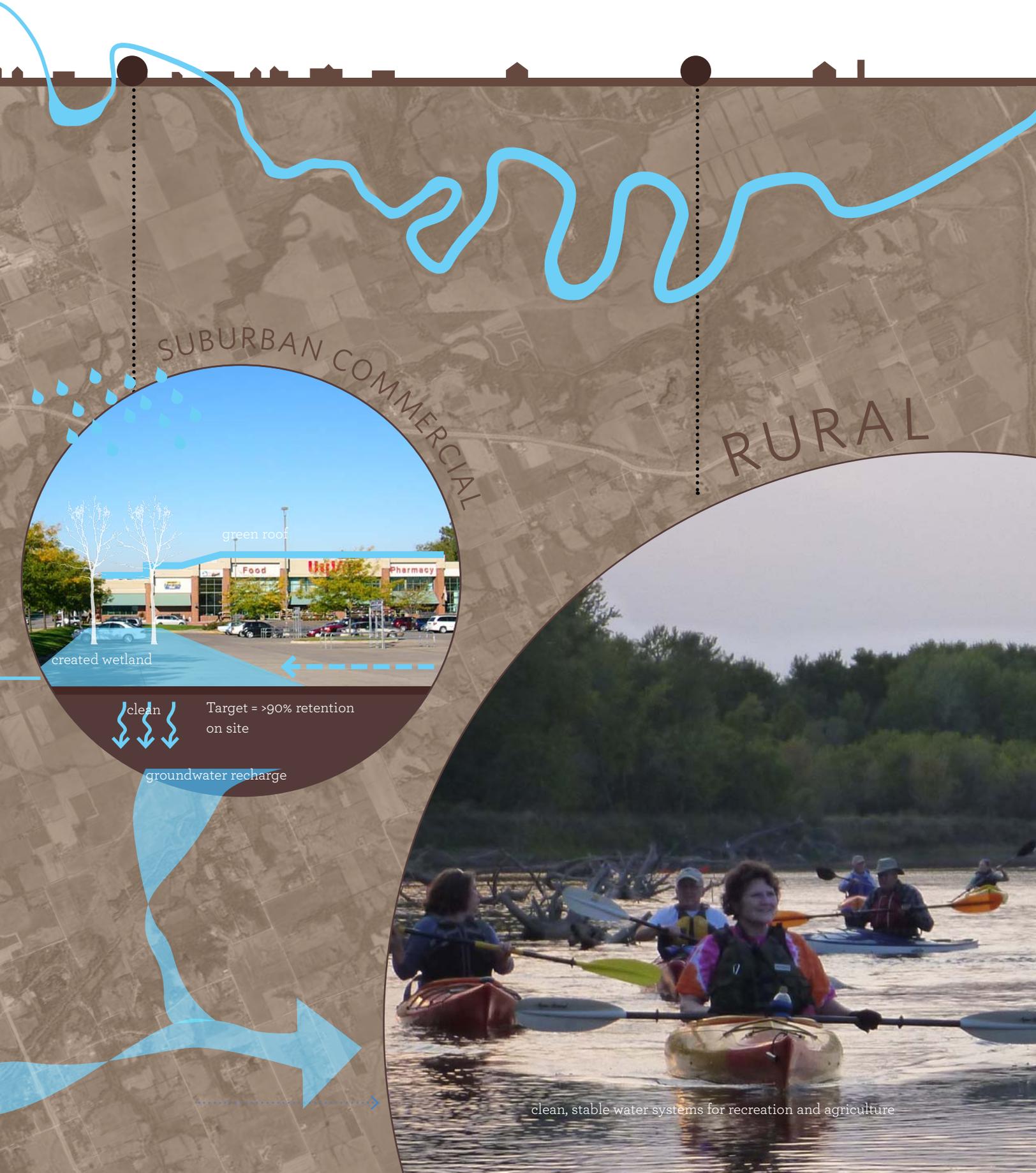
PERMEABLE PAVING - UNDERNEATH THESE PAVERS IS A POROUS SYSTEM OF SOIL AND GRAVEL READY TO FILTER WATER AND SLOW IT BEFORE IT REACHES RIVERS OR STREAMS

# WATERSHED Perspective

a stormwater utility responding to natural rather than political boundaries



This graphic explores how a regional stormwater approach could use natural processes to carry out the functions of traditionally built systems resulting in cleaner, more stable waterways. Typologies along an urban-rural gradient show general solutions. Exact application depends on context.



- Develop watershed management authorities (WMA). Recently allowed under Iowa statutes, several WMAs exist or are forming. A WMA can work across municipal borders, develop an implementation plan for a watershed, receive and distribute funds to complete projects, and monitor water quality improvements. It is an ideal tool for selecting and executing the best projects to improve water quality and stream stability. In the Greater Des Moines region, collaborations of several jurisdictions have established the Fourmile Creek WMA, the South Raccoon River WMA, and the Middle South Raccoon River WMA. These will serve as models for Walnut Creek, Beaver Creek, North and Middle Rivers, and the other major watersheds in the region. The region should prioritize those watersheds that cross jurisdictional boundaries.
- Manage stormwater runoff via natural stormwater utilities. Stormwater utilities, as described above, are a tool that the region’s municipalities already use to manage stormwater runoff. Expanding these utilities will promote best practices and enhance the green infrastructure network. The Iowa Stormwater Management Manual describes dozens of best practices that include green infrastructure.
- Investigate the range of policy options that exist to develop a regional natural stormwater utility.

- Develop a model ordinance for best stormwater practices. In order to comply with Phase II of the Clean Water Act,<sup>15</sup> most municipalities in the Greater Des Moines region have changed their stormwater ordinances. Some communities in the region have excellent stormwater ordinances, and dozens of other examples exist across the country. At a minimum, a good package of stormwater ordinances addresses the items outlined in the table below.<sup>16</sup>

**STRATEGY 2D**  
**POTENTIAL CHAMPIONS:**  
 Communities  
 Polk Soil & Water Conservation District

STORMWATER ORDINANCE ELEMENTS

ORDINANCE	BENEFIT
Construction Erosion & Sediment Control	<ul style="list-style-type: none"> <li>■ Prevents sediment from construction sites from washing into storm sewers or streams, wetlands, and other waters</li> </ul>
Post-Construction Stormwater Volume Control	<ul style="list-style-type: none"> <li>■ Prevents excessive, destabilizing runoff from reaching streams and other water bodies</li> <li>■ Caps the total annual runoff that can leave a site from small, moderate, and large storms. Volume control reduces flooding but does a better job than flood-control in stabilizing water bodies</li> </ul>
Post-Construction Water Quality Control	<ul style="list-style-type: none"> <li>■ Prevents the worst pollutants — sediment, phosphorus, organic matter, and nitrogen — from reaching water bodies</li> <li>■ Stops other pollutants — hydrocarbons, heavy metals, and road salt</li> <li>■ Requires a stormwater treatment series of different practices in sequence, each performing an important pollutant-removing function</li> </ul>
Water Quality and Stream Buffers	<ul style="list-style-type: none"> <li>■ Prevents pollutants from nearby lands from washing into streams and other water bodies through filter strip buffers</li> <li>■ Creates corridors for wildlife, trails, erosion control, and stormwater management projects through habitat buffers</li> </ul>

## Strategy 2E

### Expand regional park capacity in terms of acreage, facilities, programs, services, and connections

The Greater Des Moines Region has seen low levels of investment in open space over the last 40 years, with 88 percent of all current public interest land established before 1970.<sup>17</sup> The Tomorrow Plan estimates a population increase of 50 percent by 2050, emphasizing the need for investment in lands for public access.

Studies show that parks trails, greenways, and open space register remarkable benefits. At the most basic level, these include cost avoidance: the healthcare costs avoided as a result of more active lifestyles and the infrastructure savings as a result of natural flood mitigation. A more proactive case can be made as well: property value increases up to 20 percent,<sup>18</sup> mental health benefits, water quality and quantity improvements, soil erosion reductions, habitat protection, and better air quality. Economic churn from recreation exists, and natural resources are a driving force for overall community attractiveness and regional character.

Without adequate investment in parks and natural resources, the region will fail to appeal to what the workforce employers need and want.

We already enjoy many fine parks and a remarkable trail system. With the right actions, we can create a regional network of parks and open space that will be world class, attracting families, young workers, and new companies. Within the boundaries of

The Tomorrow Plan, nearly 20,000 acres of regional parkland already exist. To maintain the current level of regional service with a 50 percent increase in population, the region must secure an additional 10,000 acres of regional parkland. The specific parks created from this land can be a combination of natural open spaces, where residents can be immersed in the outdoors, and more traditional parklands, where residents have more structured recreational opportunities.

In addition to the parks that are entirely within The Tomorrow Plan boundary listed in the above below, a number of existing or potential regional parks, such as the Chichaqua Bottoms Greenbelt to the northeast of the region and Badger Creek State Park to the southwest, lie just beyond The Tomorrow Plan boundary. Nonetheless, these regional parks are important assets to Greater Des Moines.

Regional parkland benefits public and personal health, protects and connects habitat, conserves energy, cleans air, provides entrepreneurial and economic opportunities, allows for outdoor education and skills-building, enhances social and family health, mitigates flooding, and improves water quality.

A multi-faceted approach will be required to expand regional park capacity in terms of acreage, facilities, programs, services, and connections. The region should:

- Develop a mechanism for ongoing regional park, greenway, trail, and open space planning and implementation. The MPO already facilitates the Central Iowa Bicycle and Pedestrian Roundtable (Bike-Ped Roundtable), an example for future regional work around parks and connections. Parks directors and conservation

#### REGIONAL PARKS + OPEN SPACE

ENTITY	REGIONAL ACRES	COMMUNITY, NEIGHBORHOOD, MINI PARK ACRES	OPEN SPACE & GREENWAY ACRES	OTHER PARK/OPEN SPACE RELATED ACRES
All Cities in MPO Region	1,883	2,855	1,973	3,283
Des Moines Water Works	746	-	746	-
IA Dept. of Natural Resources	5,778	119	5,898	-
Dallas Co. Conservation Board	1,235	141	1,376	-
Polk Co. Conservation Board	3,519	-	3,519	506
US Army Corps of Engineers	6,831	-	6,831	16
<b>TOTAL</b>	<b>19,993</b>	<b>3,115</b>	<b>20,342</b>	<b>3,805</b>

Note: Other park/open space-related acres include uses such as cemeteries, golf courses, sports facilities, and other special uses

professionals of Greater Des Moines should convene at quarterly or semi-annual summits to discuss regional park and greenway strategies.

- Acquire future parkland, trail rights-of-way, and natural areas when possible. As development pressures continue, the costs for acquiring these areas will only rise; the development of these lands will be most cost effective the sooner these lands are secured.
- Provide sufficient financial support for the maintenance of existing parks, trails, and natural areas.
- Educate residents and decision makers on the multiple benefits of parks, trails, and open space to develop the political will to expand the capacity of these areas.
- Implement greenways and buffers, as immersion experiences will emerge as a greenway and buffer system becomes reality. Planning regional parks in the context of this network takes advantage of existing large natural acreages.
- Develop and support recreational programs and facilities for all ages.
- Prioritize connections to adjacent regional features, beginning with those outlined by the Polk County Water and Land Legacy.<sup>19</sup> While it is a priority to expand regional parks within the planning area, creating links to existing parks outside of The Tomorrow Plan boundary deserves equal weight.
- Identify future park locations that enhance the connections between parks in the regional park system. The Tomorrow Plan identifies many large, connected natural lands on the western side of the region and few in the east. A number of existing parks could be expanded and become regional parks. Fourmile, Spring, Mud, and Camp Creeks afford opportunities. Polk County's Thomas Mitchell Park and Gay Lea Wilson Trail in the far eastern area of the region could fill a gap in that portion of the study area. Brenton Slough in the northwest and the Maffitt Reservoir in the southwest could serve similar roles. Carlisle's Scotch Ridge Nature Park offers a prime example of future flood mitigation, ecosystem preservation, and watershed planning.
- Leverage trail connections and the gateway opportunities of regional portals. Meaningful trail connections, regional parks, and places where parks and trails meet can serve as meaningful

points of entry to the region. While the High Trestle Trail Bridge is technically outside The Tomorrow Plan boundary, it is an example of the portal concept, attracting many visitors to the region and serving as an initial hub of discovery for residents.

- Develop Water Works Park as an example of a multi-benefit regional park. Community leaders and experts are already planning for the development of Water Works Park as the result of an international design competition.<sup>20</sup> Development concepts envision expanded civic and event spaces, a paddleboard course on a created water circuit, kayaking on the Raccoon River, horseback riding, expanded hiking trails, adventure play, nature education, and remote camping. However, even with these many activities, the intent is to keep the majority of the park's



1,500 acres natural. The park is designed to provide water quality protection, flood mitigation, wildlife habitat, and public health benefits associated with active play and "wild" experiences. The economic benefits of a dynamic public space with iconic features in further defining the region reinforce the notion of Water Works as an exceptional example of a regional park generating multiple benefits.

## PARKITECTURE

A two-stage international design competition, Parkitecture focused on the design of connections in and around Water Works Park and the Raccoon River, as well as the role Des Moines Water Works plays in providing the water supply for the region. The competition was framed around the question, "How do you define connection(s) relative to Water Works Park and second, how is this understanding realized?"

**STRATEGY 2E  
POTENTIAL CHAMPIONS:**  
Communities  
Conservation boards and staffs  
Iowa Natural Heritage Foundation  
Sierra Club of Central Iowa



# INITIATIVE 2 | GREENWAYS

## BUILD A FULLY-CONNECTED SYSTEM OF NATURAL RESOURCE AREAS BY SELECTIVELY EXPANDING THE EXISTING NETWORK OF PARKS, CONSERVATION AREAS, OPEN SPACE, AND TRAILS.

The Tomorrow Plan envisions a region with a functional network of green space — green space that provides habitat, protects waterways, supports regional stormwater infrastructure, expands recreational opportunities, and contributes to the region’s identity. Together, these green spaces establish a logical system of multi-functional greenways — a concept already in use around the country. Greenways are synonymous with natural resource corridors or green infrastructure.

Water Works Park in Des Moines is an example of a greenway. This 1,500-acre park near the confluence of the Raccoon and Des Moines Rivers is at the bottom of a 3,600 square mile watershed. The Raccoon River and a three-mile-long infiltration gallery, which serves as a major source of drinking water for Greater Des Moines, bisect the park. However, Des Moines Water Works manages the park for more than just municipal water. The park is connected to hundreds of miles of trails, through which residents, workers, and visitors can experience nature, stop for coffee at a neighborhood shop, or commute to the office. As a result of the recent Parkitecture design competition, community leaders and experts are planning to include expanded civic and event spaces, a paddleboard course on a created water circuit, kayaking on the Raccoon River, horseback riding, expanded hiking trails, adventure play, nature education, and remote camping at Water Works Park. At the same time, over 1,200 acres of the 1,500-acre park will remain wild, quiet, and serene, with large core habitats and connections for wildlife. Additionally, the land links to large habitats upstream, ensuring enough space for animals that need refuge to thrive in the heart of the region. In these ways, Water Works Park serves many purposes: generating drinking water, meeting recreation needs, protecting wildlife habitat, and supporting rare regional wildlife.

### Defining the Greenways Network

Potential greenways incorporate areas shown in the following map that already contribute to the regional goals of enhancing

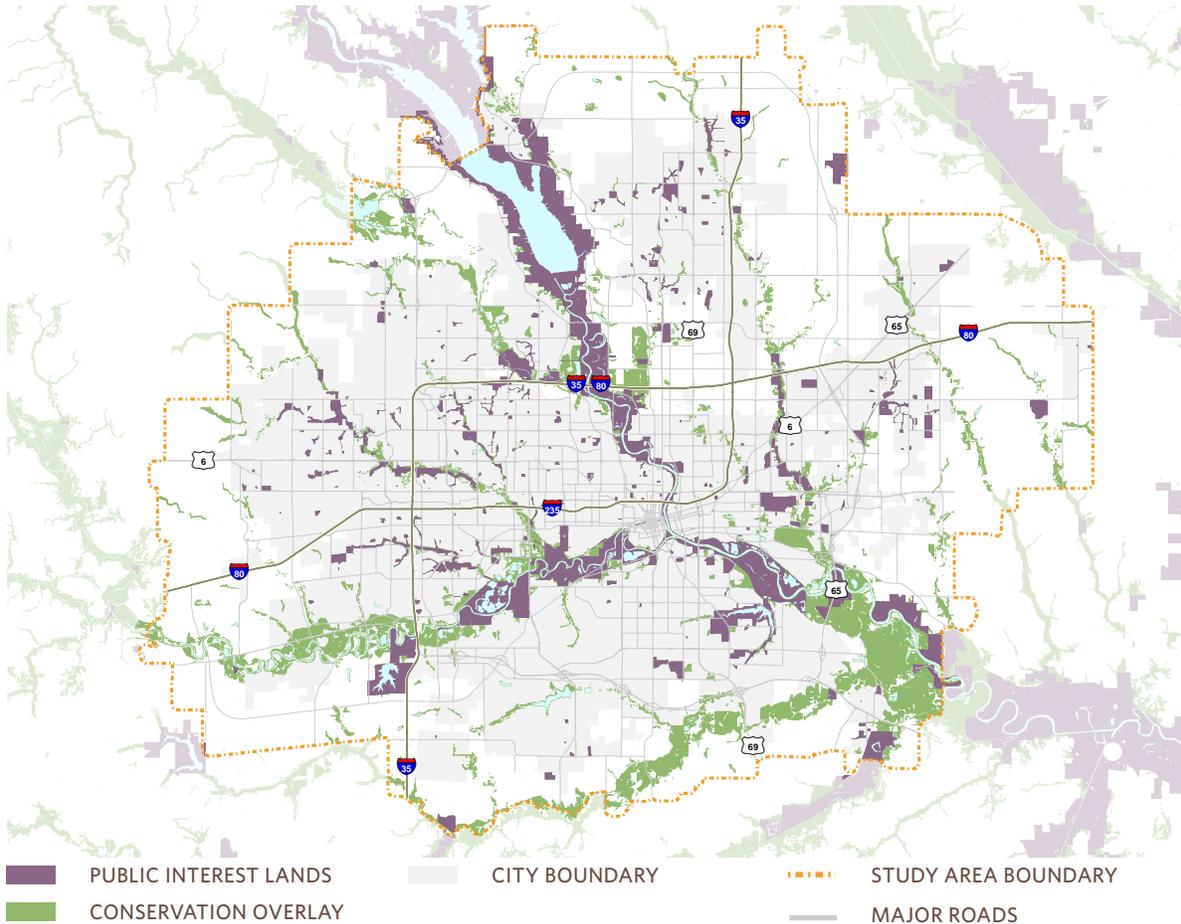
environmental health, preserving and expanding green infrastructure, and increasing access to the outdoors. The map shows a vision of what could be — a combination of protected lands, existing vegetation, wetlands and floodplains, steep slopes — with potential connections among them. Each community must decide for itself how to best treat these areas within local context. This vision is intended as a guide based on existing conditions.

### Implementation

Many places in the region that support healthy land and water are located within greenways. For the most part, greenways follow the region’s rivers, streams, wetlands, and steeply sloping lands. If communities maintain greenways going forward, these systems will benefit residents by managing stormwater runoff, stabilizing streams, controlling erosion, improving water quality, supporting a variety of wildlife, and becoming desirable areas to live near.

The proposed greenway system for Greater Des Moines was informed by information on natural resources collected by several scientists. The greenways combine existing habitats that are small in size, places with rare features, existing streams, wetlands and floodplains, and existing protected areas and conservation land. Despite the wealth of data that was used to create this proposed system, Greater Des Moines’ lack of a comprehensive inventory of natural areas — a catalog of the best locations for the region’s biological diversity — seriously impedes the setting of regional priorities.

In Greater Des Moines, about 55,000 acres of the primary greenways shown on the map already exist. Half of this land is publicly owned, conserved via easements, or regulated as floodplains and wetlands. Implementing a regional system of greenways across the study area will require a coordinated effort among stakeholders and communities over many years. A multi-step approach that identifies, prioritizes, acquires, and manages natural resource lands and water will enable the region to realize this system of greenways. The work on greenways dovetails with



efforts to promote natural stormwater utilities and more parkland and trails. Following is a list of actions that will help Greater Des Moines build a successful network of greenways.

**1. DEVELOP COLLABORATIONS AND CHAMPIONS.** Champions are organizations and individuals that rally support for the region’s natural resources. The MPO already works with communities and stakeholders to maximize the benefit of regional efforts. The organization should continue to build these relationships. Essential partners to involve include counties and cities, private landowners, county conservation boards, conservation non-profits and colleges, and state and federal agencies. The right tools and attitudes can enable people to jointly envision and plan the future, find and share financial and technical resources, and devise incentives.

WMAs and a regional parks collaborative are collaborators and champions that would be immediately beneficial. WMAs can be formed across central Iowa at the Hydrologic Unit Code (HUC) 10 or 12 scale. A few WMAs already exist around the region, including in the Fourmile Creek, the Lower Raccoon River, and the Middle-South Raccoon River.

Additionally, the ongoing collaboration of park directors and conservationists started as part of The Tomorrow Plan should be supported in the future. This will improve the environmental health of the region and help in planning future regional parks and greenways.

**2. COMPLETE A NATURAL AREAS INVENTORY (NAI) TO IDENTIFY AND PRIORITIZE NATURAL AREAS IN THE GREENWAYS.** Existing natural resources, their conditions, and their protection status are foundational in shaping the region’s greenways system. A NAI could significantly advance greenway creation by providing data for setting protection priorities. The Tomorrow Team compiled and interpreted much data as part of The Tomorrow Plan, but greenway priorities could be refined further through detailed, site-specific data. Helpful data would identify the region’s natural areas, their ecological integrity, their ecological threats, their wildlife populations, and their restoration potential. Overlaying this information with parks and public interest lands — floodplains, wetlands, and conservation easements, for example — would identify gaps in the greenways system as well as opportunities to restore natural landscapes.

## A HUC OF A LOT OF WATER

According to the US Geological Survey (USGS),<sup>21</sup> “The United States is divided and sub-divided into successively smaller hydrologic units which are classified into four levels: regions, sub-regions, accounting units, and cataloging units. The hydrologic units are arranged or nested within each other, from the smallest (cataloging units) to the largest (regions). Each hydrologic unit is identified by a unique hydrologic unit code (HUC) consisting of two to eight digits based on the four levels of classification in the hydrologic unit system.”

The first level of classification divides the nation into 21 major geographic areas, or regions. These areas contain either the drainage area of a major river or the combined drainage areas of a series of rivers.

The second level of classification divides the 21 regions into 221 sub-regions, which include areas drained by a river system, a reach of a river and its tributaries in that reach, closed basins, or a group of streams forming a coastal drainage area.

The third level of classification subdivides many subregions into accounting units, of which there are 378.

Finally, the fourth-level unit — the cataloging unit — includes part of a surface drainage basin, a combination of drainage basins, or a distinct hydrologic feature. There are 2,264 cataloging units, or watersheds, in the country.

3. **DEVELOP WATER WORKS PARK AND CONNECT EXISTING RESOURCES, INCLUDING WATER WORKS PARK, GRAY’S LAKE, PRINCIPAL RIVERWALK, AND UPSTREAM PUBLIC LANDS.** Plans to develop Water Works Park, one of the largest urban parks in the nation, could create a sustainable park model for the region. The park lies west of Gray’s Lake on the Raccoon River. Water Works could spur the development of a regional network of connected open space due to its large size, its location at the center of the region, and its role as a regional hub for trails and public open space.

The park will focus public education on water and land use in the Raccoon River watershed, which is among the nation’s most polluted.<sup>22</sup> Besides creating a regional identity, the enhanced park will be an economic driver, better protect a drinking water source, restore natural lands, and preserve the wild character of much of the land, all while providing education through recreation and experience. The process of developing and connecting Water Works Park to up- and downstream public lands and programs will begin to create the regional greenways network.

4. **PRIORITIZE AREAS FOR A NATURAL STORMWATER UTILITY BY MODELING HOW WATER FLOWS THROUGH WATERSHEDS.** This will identify the locations most

important to install best practices and other elements of a natural stormwater utility. Properly used, low-lying areas can relieve pressure on engineered stormwater and floodwater management systems. When properly treated, they also work with greenways to expand recreation, protect wildlife habitat, and stabilize neighborhood property values. Together, these areas form the region’s green infrastructure. In most cases, green infrastructure reduces the construction and maintenance costs for curbs, gutters, storm sewers, and other gray infrastructure. Green infrastructure often results in more on-site stormwater retention; lower stream volatility; reduced downstream flooding; less sediment; and, better water quality in streams, lakes, and ponds. New and developing WMAs can coordinate across jurisdictions in water planning, which municipalities have trouble doing in isolation.

5. **LEVERAGE THE TRAILS NETWORK AND THE REGION’S DISCONNECTED PARKS TO FILL IN GAPS IN THE TRAIL SYSTEM.** For several years, the MPO’s Bike-Ped Roundtable has coordinated and built a regional trail system that is rapidly becoming a major tourist destination. Many in the area, including municipal parks directors, want to build on that success. These individuals envision using the *Communication Master Plan for Central Iowa Trails* for regional branding and promotion; coordination of connections; and, a collaborative approach to obtaining resources, conducting trail management, and delivering services and programs.



NEW JERSEY TEA GROWS IN OPEN, SEMI-WOODED SETTINGS OF SAVANNAS AND THE EDGES OF PRAIRIES. THE LOSS OF THESE HABITATS HAS REDUCED THE DISTRIBUTION OF THIS PLANT IN IOWA



WOODLAND PHLOX ONCE BLOOMED IN MOST WOODLANDS AND SAVANNAS OF IOWA, BUT ITS RANGE HAS SHRUNK BECAUSE OF THE DEVELOPMENT OF DENSE UNDERSTORIES IN IOWA'S WOODS

Despite the success of the Bike-Ped Roundtable, the trail system is incomplete. Finding resources to complete connections falters due to a lack of political will, and federal funding is limited and perhaps dwindling. Connecting regional parks through recreational trails is essential. For example, Jester Park in the northwest portion of the region and Yellow Banks in the southeast lack trail connections with the rest of the network and prevent these existing resources from being harnessed for the system.

**6. IDENTIFY FUNDING MECHANISMS TO COMPLETE AND MAINTAIN THE REGIONAL NETWORK OF NATURAL LANDS AND CORRIDORS.** There are several ways to fund land acquisition and easements. The most common are capital funds for parks and open space, park construction requirements for development projects, sales tax funding such as the Resource Enhancement and Protection (REAP) program, and private land donations and fundraising. Zoning codes and ordinances can designate floodplain or conservation districts with a natural resource overlay district, which also helps add to protected park space. Another mechanism for adding green space is market trading in environmental credits. Land owners can generate credits by sequestering carbon, avoiding downstream stormwater pollution, and implementing practices to reduce runoff in municipalities with stormwater utilities. Unfortunately, the economics of credit generation and sale are complicated and usually challenging to implement. The region would have to conduct a rigorous analysis of this opportunity.

Another source of project funding is federal and state programs for stormwater management and natural resource protection and enhancement. These funds target specific projects and require matching funds. For example, the 319 program provides matching funds to complete final designs and carry out stream and lake restoration projects in impaired waters.

Greater Des Moines has historically accepted the water quality it is given by upstream landowners and communities, reacting with expensive infrastructure projects, such as the nitrogen-removing equipment at Des Moines Water Works, to obtain desired water quality. Instead, the region can seek to influence the actions of farmers, federal agencies, and researchers so that cleaner water comes into the region. Initiatives like the Raccoon River Watershed Water Quality Master Plan are serious attempts to improve water resources, but they lack a significant enforcement mechanism because the Clean Water Act does not regulate cropland agriculture. A united effort by Greater Des Moines communities could have greater influence in changing the runoff of agricultural land than any single act by independent organizations. Another approach would be to develop a pollution marketplace system, in which credits for pollution mitigating efforts at one site could be sold to polluters at another location. Other places around the country already use pollution removal credits.<sup>23</sup> Finally, the Greater Des Moines region could simply pay upstream landowners to alter their land use practices in ways that improve water quality. The region should assess these ideas and make a decision as to whether to pursue any. Politically, an initiative by the state legislature

has the greatest chance of succeeding in bringing urban and rural interests together to find a solution to Iowa’s damaged waterways. The first step to such an initiative would be to create a blue ribbon commission of state and regional leaders, as was recently done to advance the state park system.

**7. BUILD PERPETUAL MAINTENANCE INTO PROJECT COSTS.**

Dollars for building a system have proved more accessible than dollars to maintain a system. This is particularly true of trails. Funds were readily available to build Greater Des Moines’s vast system, but keeping the system running is up to municipalities, which face shrinking budgets.

The region should establish a consensus on maintenance standards for the regional trail system. Then, Greater Des Moines can define, identify, and earmark funds up-front for the maintenance of parks, trails, natural lands, and corridors. Municipalities and counties can set aside money for a perpetual stewardship fund at the time of capital budgeting. Developments usually set up a stewardship fund to manage the open space, with tenant and landowner dues maintaining the fund levels. The region should perform an analysis of potential funding sources and methods for managing stewardship funds over the long term.

**8. DEVELOP CONCEPTS FOR ECOLOGICAL BUFFERS.** Ecological buffers that also serve as connections are shown in the greenways map. Research has documented the importance of ecological buffers to improve water quality, increase wildlife populations, and preserve ecosystem functionality. For instance, a 10 to 20 meter wide grass filter strip can remove most of the sediment and phosphorus from parking lot runoff before it reaches a nearby stream.<sup>24</sup> Many of the region’s rare wildlife



THE REGAL FRITILLARY WAS A COMMON INSECT IN IOWA’S PRAIRIES AND ACROSS THE NATION’S MIDCONTINENT. LAND CLEARING AND POOR MANAGEMENT OF REMNANT PRAIRIES HAVE ELIMINATED OR GREATLY REDUCED IT THROUGHOUT ITS RANGE

species need space — up to 400 meters — from development in order to raise offspring. Buffer concepts and model ordinances already exist in some places. For example, the City of Pleasant Hill recently adopted a stream buffer ordinance. Other communities should integrate such buffers into their zoning codes and ordinances as well.

**9. DEVELOP TOOLS TO ESTABLISH GREENWAYS.** The above steps build the framework for the greenways system. Municipalities must then determine how to implement them locally. The following *Tools for Municipalities to Implement Greenways* section describes how a greenway system could be completed, using Brenton Slough as a hypothetical example. One tool is a management plan that each municipality writes. A management plan explains to landowners and developers how their own actions can help complete greenways and provides tools for doing so. A municipality may also use a management plan to coordinate among its departments and with outside groups.

**10. DEVELOP A NATURAL RESOURCE OVERLAY DISTRICT.** A natural resource overlay district is a big tool that combines several environmental features in one area for zoning protection. These districts protect specific habitats and associated functions of waterways, riparian corridors, wetlands, and regulated wildlife habitat. The City of Cedar Falls<sup>25</sup> combined all floodplains, wetlands, steep slopes, forests, prairies, parks, and public interest lands in its natural resource overlay district.

Municipalities can develop district-specific ordinances. The region could create a model ordinance as a template, which could then be adopted and modified by municipal staff and elected officials. The major parcels of land and the water that makes up the existing greenways in Greater Des Moines covers 55,000 acres. This amounts to 17 percent of the 542-square mile study area and could be included in a natural resource overlay district. Some 27,000 acres are already in some form of protection, via public ownership, easements, or regulations.

**11. ASSESS AND PLAN FOR THE NEED OF PARKS AND OPEN SPACE.** The inventory of existing parks in The Tomorrow Plan is an initial baseline of public lands and easements, greatly augmented by data from several municipalities that collaborated by refining their own geographic information systems (GIS) data. The task of adding data for all municipalities, adopting a common GIS park classification language, and adding natural resource data still remains. The City of Des Moines provides a model with its natural resources inventory of parks. The result is a clear picture of the type, extent, and condition of natural resources in parks, a useful tool in identifying gaps in the greenways.



A NATURAL RESOURCE OVERLAY DISTRICT CAN HELP PROTECT SPECIFIC HABITATS AND ASSOCIATED FUNCTIONS OF RIPARIAN CORRIDORS.  
 Source: Iowa State University

**12. ENSURE ADEQUATE PARKS LEVEL-OF-SERVICE AS THE REGION GROWS.** With a growing population, park level of service (LOS) becomes important. Since 1983, the National Recreation and Parks Association standard has been to provide 10 acres of parkland for every 1,000 people.<sup>26</sup> This standard is strictly for game-based field recreation and does not include parkland used for biking, camping, water recreation, nature study, dog runs, the quiet contemplation of nature, and other similar activities. Many municipalities provide more parkland for residents than the recommended standard because of a growing understanding of the complex ways in which people interact with parks and open space. The average LOS in the region is currently over 19 acres per 1,000 people but ranges from 3 to 60 acres per person within this region's 17 municipalities. At a minimum, LOS should not fall below the current level as population grows, but LOS should rise in areas that are underserved. Ensuring adequate bike and pedestrian

access to parks and open space region wide should also be considered. The collaboration of the region's parks managers that began with The Tomorrow Plan should continue to guide the quest for higher than average park LOS in this area.

**13. ENHANCE THE REGIONAL TREESCAPE.** The region's tree canopy covers roughly 23 percent of the land surface, with most trees located near streams and rivers and in more affluent neighborhoods. A scientific definition of a woodland tree canopy is more than 50 percent of the land surface. According to one study, tree canopy cover in 20 American cities ranges from 10 percent (Denver) to 54 percent (Atlanta), and tree canopy cover has decreased in all but one of those cities during the 2000s.<sup>27</sup>

Trees help reduce stormwater runoff, the urban heat island effect, and energy costs. They also enhance the emotional

well-being of residents. They make communities more walkable and invite outdoor activities. While municipalities require tree planting during construction of new development, future development could still result in a reduced number of trees. Further, the likelihood of more diseases and pests, such as the Emerald Ash Borer, entering the region suggests that enhancing the tree canopy is a vital step for the region.

A regional urban forestry plan should be developed that includes a tree inventory system with common reporting methods, public-private partnerships to support the work, educational programs to assist land owners with tree maintenance, and stakeholder involvement.

**14. IMPLEMENT TOOLS IN THE PROPER SEQUENCE.**

Completing the greenways and natural stormwater utilities will take 30 to 40 years and become the work of future generations. One of the first tools to implement is the NAI of environmentally sensitive lands. Another is to establish WMAs across the region. The regional park collaborative also should continue to meet and point the way to a park system that meets the future and diverse needs of the region’s population. By aggressively taking on these three items, small initial steps will lead to momentous steps within a decade.

**Targets**

An effective way to gain support for project goals and to communicate accomplishments is to develop a suite of metrics. Metrics objectively measure performance from a variety of perspectives, and targets quantify progress toward success. Targets for improving the region’s environmental health and access to the great outdoors are:

**Greenways**

- Regional Natural Areas Inventory completed by 2014
- Forest management plans completed in all municipalities by 2014
- Fifty percent of municipalities with natural resource overlay districts to establish greenways by 2020 and 100 percent by 2040
- Fifty percent of high-quality natural areas protected by 2025 and 100 percent by 2050
- Fifty percent of greenways with management plans by 2020 and 100 percent by 2035
- By 2040, populations of wildlife indicator species up to numbers that ensure long term persistence

**Treescape**

- Regional tree inventory completed by 2015
- Forestry plan completed by 2016

**Natural Stormwater Utilities**

- WMAs established across all the planning area by 2016
- Post-construction ordinances requiring a significant percent of annual precipitation in new developments be infiltrated on site (or alternative standard which controls volume and manages water quality) enacted by municipalities by 2016
- Plans that address retrofitting existing developments to improve stormwater management adopted by municipalities by 2016
- Stream volatility at 13 existing USGS/DNR stations reduced by 25 percent in 2025 and 50 percent in 2040
- Sediment levels at 13 existing USGS/DNR stations in spring and summer reduced by 90 percent in 2025

**Parks**

- At least 20 acres per 1,000 residents maintained as a regional average through 2050 assessed at five-year intervals
- Fifty percent of residents with safe bike or pedestrian access to greenways by 2020 and 100 percent by 2040

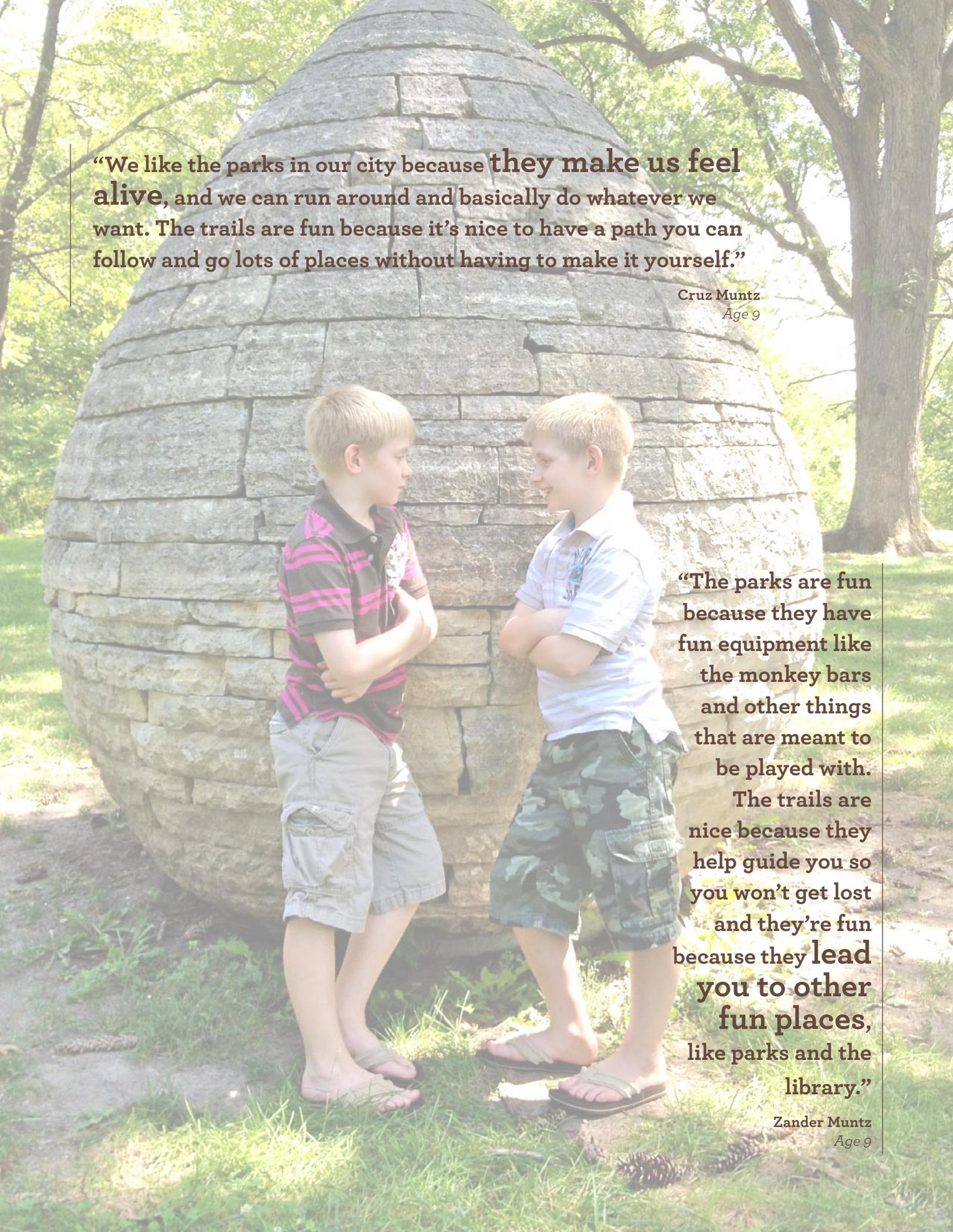
**Tools for Municipalities to Implement Greenways**

Tools for implementing greenways are in use throughout the country. The example of Brenton Slough, a wetland complex near the City of Grimes in northwest Greater Des Moines, illustrates the application of these tools.

The greenway system proposed in this plan covers a wide geography. Actual implementation, though, will happen community by community. For example, the City of Ankeny’s greenways map includes more greenways than The Tomorrow Plan corridor map of the same area because the city uses more detailed information.

In this example, there are three types of areas the municipality considers : a) areas of no development, b) areas of no new development, and, c) areas where development proceeds with zoning and ordinance guidance.

**NO DEVELOPMENT.** These areas have the highest value natural resources at Brenton Slough. These areas would be publicly or privately owned lands regulated by floodplain and wetland laws.

A photograph of two young boys standing in front of a large, conical stone structure made of stacked grey stones, resembling a beehive. The boy on the left is wearing a black and pink striped polo shirt and light grey cargo shorts. The boy on the right is wearing a light blue polo shirt and camouflage cargo shorts. They are both looking at each other and smiling. The background shows green trees and a grassy area.

**“We like the parks in our city because they make us feel alive, and we can run around and basically do whatever we want. The trails are fun because it’s nice to have a path you can follow and go lots of places without having to make it yourself.”**

**Cruz Muntz**  
*Age 9*

**“The parks are fun because they have fun equipment like the monkey bars and other things that are meant to be played with. The trails are nice because they help guide you so you won’t get lost and they’re fun because they lead you to other fun places, like parks and the library.”**

**Zander Muntz**  
*Age 9*

In other words, these lands are already protected by law in some way. Available tools for preserving land for no development are:

- Land purchases with REAP grants or bonding initiatives for corridor and habitat acquisition.<sup>28</sup>
- Parkland dedication and other land donations. Allow transfer of dedications from other locations to priority conservation areas and corridors. Consider increasing park dedication requirement.

**NO NEW DEVELOPMENT.** These lands have natural resource value but are already partly developed or partly used for agriculture. Conservation easements could limit future development on these lands while acknowledging current development patterns. Tools for accomplishing this goal include:

- Donation or purchase of easements, with a non-profit conservation group as intermediary.
- Publicly-funded land conservation programs, federal or state (e.g., Conservation Reserve Program).

**DEVELOPMENT IN THE CORRIDOR.** These lands buffer and connect streams, lakes, wetlands, and natural areas in order to protect their natural resource values. Development proceeds but does so in a way that preserves the healthy functioning of lands and waters by using best management practices. In this context, conservation must be incorporated into the development process. Tools include:

- Conservation design and low impact development. Encourage conservation design and low impact development practices through ordinances. Examples include the City of Lino Lakes, Chisago City, Marine on St. Croix, and St. Croix County, Wisconsin. These kinds of examples of conservation development designs and approaches are widely available.<sup>29</sup> They also preserve large natural areas, manage stormwater ecologically, minimize land clearing and grading, reduce infrastructure costs (e.g., sewers, curbs, gutters, irrigated turf grass, pavement, utility run lengths), and promote stewardship of natural resources. Low impact development practices often focus on stormwater management, and performance standards can be established to address specific needs with regard to rate, volume, infiltration, and water quality. Incentives to landowners include accelerated permitting, variances, and increased density.
- Natural resource protection ordinances include structural setbacks and ecological buffers based on best available science. Examples exist for streams, shorelands, and wetland buffer ordinances; floodplain ordinances; forest and woodland protection; and, erosion control.

- Easements for stormwater, trails, and natural areas, which allow landowners to use the land within the terms of the easement.
- Deed restrictions and covenants in development projects. These dedicate open space in developments for conservation purposes, and they are governed by a management plan and protected from development in perpetuity.

## Governance of Greenways

Cities use different approaches to implement greenways. Lessons can be learned from four examples in the Midwest, from simple institutional initiatives to multi-pronged regional approaches.

**INSTITUTIONAL INITIATIVE, MILWAUKEE.** To avoid building new storm sewer infrastructure in its watersheds, the Milwaukee Municipal Sewerage District identified locations that could store stormwater runoff. The District then used part of its capital improvement budget to purchase easements over those potential runoff storage locations. It then restored infiltration functionality on several thousand acres of land through its Greenseams program, which is managed by a non-profit organization that



charges service fees. By using green infrastructure, the approach stores an acre-foot of water for \$3,500 to \$4,000 versus \$20,000 to \$100,000 per acre-foot for a conventional stormwater projects.<sup>30</sup>

**REGIONAL VISION AND MODELS, KANSAS CITY.** The 3,000-square mile transportation planning region administered by the Mid-America Regional Council (MARC) was comprehensively mapped for natural resources in 2003 and 2004. By making the maps widely available, integrating GIS systems among communities, and providing model stream buffer and stormwater best practice ordinances, MARC has helped shift the region's valuation of natural areas and greenways. MARC also promotes MetroGreen, a proposed 1,144-mile public-private open space and greenway trail system. The same natural resource maps also are used for MARC's transportation planning to mitigate transportation impacts.

**REGIONAL VISION AND HUBS, CHICAGO.** The Chicago Wilderness Project, a consortium of agencies and non-profits begun in the 1990s to protect and connect natural areas, was the impetus behind the green infrastructure element of the GO

TO 2040 plan developed by the Chicago Metropolitan Agency for Planning (CMAP). CMAP establishes coordinated strategies, including those on open space and the environment, for 284 municipalities and seven counties. With GO TO 2040, CMAP is building consensus for a green infrastructure system. The heart of this system is two dozen large natural areas and significant holdings on several rivers owned and managed by the Cook County Forest Preserve District. Building on the Forest Preserve Districts, CMAP intends to help communities realize its vision for the green infrastructure system.

**REGIONAL AUTHORITY, MINNEAPOLIS-ST. PAUL.** The Metropolitan Council provides guidance for and approves municipal comprehensive plans in the seven-county Twin Cities region. Just as important, the Met Council has authority over public transportation, wastewater treatment, and regional parks in the region. Regional parks maintained by the Met Council are important elements of the greenway and natural areas system, together with stream and river corridors and wetland complexes. In the latest round of comprehensive plans, a regional natural areas and greenway system map, developed by the Minnesota DNR, influenced local decisions about new transportation and wastewater infrastructure. The Minnesota DNR's comprehensive natural areas inventory of the seven counties was used to prioritize the greenways system.

Source: Applied Ecological Services





# GOAL 3:

## Further the Health and Well-Being of All Residents in the Region

One of Greater Des Moines's key competitive advantages is its high quality of life. The region is consistently recognized for its affordability, access to the outdoors, and family-friendly atmosphere. However, this way of life is being challenged by impediments to fair housing, the area's car-centered transportation system, and decreasing levels of physical activity. For residents to be able to truly enjoy the high quality of life for which Greater Des Moines is known, health and well-being, in all senses of those terms, need to be actively promoted throughout the region.

## Strategy 3A

### Ensure diverse housing choices – in terms of cost, style, and location – throughout the region

National experts repeatedly recognize the Greater Des Moines region for its high quality of life and moderate cost of living. Anticipated growth through the year 2050 poses challenges to the region's ability to maintain a relatively affordable cost of living. Additionally, anticipated growth will bring an increase in the diversity of residents in terms of racial, cultural, and economic backgrounds.

A portion of the area's perceived affordability is the low price of housing compared to other regions of the country.<sup>1</sup> Another portion of the region's affordability is typically identified as the low cost of transportation, partly due to short commute times and low levels of congestion. The desire to maintain affordability for all residents in the face of anticipated growth necessitates equal access to housing opportunities and consideration of housing location in relation to the job centers they serve.

It is important to note that, while the region is considered affordable to some, other residents rely on housing assistance programs even now. Housing affordability is not limited to just the cost of housing itself but also includes secondary costs, such as transportation costs and access to jobs, schools, and basic goods and services. The region should strive to ensure that diverse housing choices are available in locations near major employment and commercial centers.

Housing challenges can be broken into three components: impediments to fair housing, lack of workforce housing, and changing demographics.

#### Impediments to Fair Housing

According to *The Greater Des Moines Metro Area Regional Analysis of Impediments to Fair Housing Choice* (Regional Analysis of Impediments), prepared by Iowa State University as a component of The Tomorrow Plan, a majority of communities in Greater Des Moines have not taken action on any measures aimed at increasing the diversity of housing stock. For example, 70 percent of the communities had taken no action to promote affordable housing. The Regional Analysis of Impediments identifies the following eight impediments to fair housing in Greater Des Moines:

1. *Affordability*: Affordability is the biggest issue impeding housing choice in the region. This category can be further broken down into sub-areas that include: the high cost of housing compared to the incomes of many households, the lack of subsidized

housing in the region, the lack of affordable housing in close proximity to minimum to low wage job centers, the lack of affordable housing for seniors and people with disabilities, and the lack of units for large and extended family households.

2. *Language and cultural barriers*: The region is experiencing a slow change in demographic makeup, with a steadily increasing minority and immigrant population. Language poses a significant barrier for these groups, as there is a shortage of home buying professionals, mortgage brokers, and Realtors who are bilingual and bicultural. Compounding the issue is a lack of culturally sensitive and safe housing options for immigrant communities.
3. *Education (Fair housing rights)*: Approximately 40 percent of the Regional Analysis of Impediments survey respondents<sup>2</sup> indicated a lack of knowledge in regard to fair housing rights, laws, and processes. This lack of knowledge presents a key challenge, especially for low income population groups, immigrants, and people with limited English proficiency.
4. *Concentrations of subsidized housing*: Historically, public housing has been located in the City of Des Moines. The Section 8 voucher program provides rental assistance to low income families, the elderly, and the disabled based on guidelines developed by HUD. Section 8 voucher holders also are concentrated in the City of Des Moines and areas just outside the city limits. While Section 8 trends may be a reflection of availability of affordable housing in the region, the growth of suburbs in the recent decades — along with a shift of jobs to these areas — demands a fresh investigation of the housing policies and an increased regional approach to siting affordable housing.
5. *Landlord screening*: Increased screening by landlords using criminal background checks, credit scores, and eviction history is a common reason that people are excluded from housing options in the region. Screenings also have a negative impact on persons with intellectual and physical disabilities in terms of their ability to acquire housing and obtain credit.
6. *Support services*: Most rental assistance, public housing, and affordable home ownership programs require complementary support services to assist residents when unexpected challenges occur that may prevent them from making timely rent or mortgage payments. These programs also may target homeowners to ensure compliance with code regulations. Certain population groups such as seniors, low income households, refugees, individuals with criminal backgrounds, and individuals with intellectual, mental, or physical disabilities may require more specialized case management services. The primary cause cited for this gap is lack of resources.

7. **Zoning:** Certain land use and development policies and zoning provisions affect the range of housing choices available in certain jurisdictions. Some local jurisdictions limit the amount of land that can be developed into multi-family and multi-structure housing units, while other jurisdictions limit the number of non-family members living together. Large minimum lot sizes and restrictions on accessory dwelling units further impede choice and affordability.

8. **Homelessness:** Chronic homelessness and near homelessness remain causes for concern in Greater Des Moines. The lack of adequate support services to help these groups find and maintain suitable housing in a timely manner creates an additional barrier as these individuals and families seek housing. The homeless sheltering system in the region plays a key role in providing housing options but is more of a temporary solution to the problem.

### Workforce Housing

The second set of challenges stems from the workforce housing needs as economic growth continues in Greater Des Moines over the coming decades. The Iowa Finance Authority's 2012 Iowa Housing Study<sup>3</sup> reviews housing data for the eight county central Iowa region and makes projections to the year 2020. The study indicates that a majority of new households in central Iowa will be located in Polk and Dallas counties. The share of owner-occupied and rental units will remain similar to today. As a result, the current disconnect between lower priced rental unit demand and high priced rental unit supply will continue through 2020. This underscores the need for a comprehensive review of the region's strategy for supplying affordable housing units.

### Changing Demographics

The number of single-person households is expected to increase by 2050. It is anticipated that most of those households will be comprised of people under the age of 35 and over the age of 55. This shift in demographics necessitates the need to review housing availability to ensure the region can meet future housing demands. Most of the current housing stock is designed for the traditional family size and type. The Tomorrow Plan's quantitative survey respondents indicated a strong desire to be able to easily stay in their neighborhoods after they retire, which is often hard to do without a range of housing types. Additionally, results indicated that residents desire to live in a diverse community. Survey results and changing demographics indicate an opportunity to expand housing choice within a neighborhood. Doing so would ensure that residents can maintain their desired lifestyle in the same neighborhood as they age.

Currently, 28 percent of households nationwide are single person households; Greater Des Moines follows this trend. Projecting national trends forward, 40 percent of households in 2050 will be single person households. Assuming the Greater Des Moines region continues to follow suit, projections show a need for over 82,000 new single person units. It should be noted that total housing units reflects a 5 percent vacancy rate.

These three components — impediments to fair housing, lack of workforce housing, and changing demographics — underscore the magnitude of future regional housing needs and the need for a diverse regional housing stock. Addressing the need for more diverse housing at the regional level will ensure that housing is available for all residents. The goals of such an effort would be to:

## ACCESSORY DWELLING UNITS

A Regional Coalition for Housing – ARCH – defines an Accessory Dwelling Unit (ADU) as “an extra living unit on your property, complete with kitchen, bathroom and sleeping facilities. Subject to local regulations, ADUs may be located inside, attached to, or detached from the primary home on your property. Another common term for ADU is ‘Mother in Law’ apartment.” ARCH<sup>4</sup> notes that the benefits of owning an ADU include:

- **Extra Housing:** ADUs can help meet a family need for extra housing or can enable a tenant to live nearby.
- **Companionship, Security, and Home Help:** ADUs allow caretakers to live nearby and provide companionship and an extra hand.
- **First Time Homebuyers:** ADUs can help first time homebuyers qualify for a larger home loan and earn extra income.
- **Income:** ADUs can help all types of homeowners earn extra cash for mortgage payments, home repairs, or any other expense.

## A GHOST IN THE SYSTEM

I left prison after 25 years of incarceration with a bus ticket, all my personal belongings (in a box), a \$10 bill, and a check for \$90. But I'm not upset with anyone because I'm guilty of what they accused me of.

When I entered the work release center, one of the first things they did was take the \$90 check, so there I stood on ground zero, quasi free, overwhelmed by circumstances, elated to be where I was.

Most newly released prisoners are met by their family and loved ones; I was met by a counselor I went to high school with who welcomed me back and promised to do all he could to help me succeed. That was invaluable information. This counselor actually set up a job interview, took me to it, and sat in on the interview with me.

I started work on a Friday. After the first day, I was asked if I wanted to work Saturday. Eager to impress my new employer, I committed before I knew buses ran on a late schedule on weekends. Therefore, I was confronted with my first real dilemma. Not wanting to start off on a bad foot with my employer, I borrowed \$40 and took a cab as far as it could get me to my job in Ankeny.

When I got off work that day, I went to assess the bus routes and discovered there was no bus that would get me to work on time. The bus would only take me to East 14th and Aurora in Des Moines, but I still had to get to Ankeny before 8:00 am. So I went on a crusade to secure a bike. God must have heard my prayers because an old friend just happened to have a bike he wasn't using until the weekend. For the next two months, I would catch a bus and ride a bike approximately 10 miles to work and back to the Fort Des Moines halfway house.

Due to the fact I had done so much time incarcerated, I became a "ghost" in the system, meaning I had no work history, no credit history, or social or civic history. There was basically no record I could reference. Therefore, I was compelled to stay in the halfway house three extra months because no one would rent to me.

Finally, a friend had a cousin who was looking for an older man who would be willing to rent a room and share the bathroom and kitchen with two other renters. It was ideal for my situation, but I was laid off in December due to seasonal work. I was supposed to receive workman's compensation, but I hadn't worked enough months to be eligible.

Once again I found myself in a situation I couldn't have prepared myself for while I was in prison. Yet I had to pay rent as well as other debts. Urban Dreams was instrumental in helping me connect with needed resources. I cannot emphasize enough how important it is for ex-offenders to be connected with information to emergency resources and how to obtain immediate assistance.

The number of ex-offenders is predicted to increase as the mandatory minimum sentences expire. We must prepare situations to facilitate their inevitable return, so they can find jobs with livable wages, affordable housing, and transportation assistance.

Dennis Henderson  
*Ex-offender Coordinator, Urban Dreams*

## WORKING THE NUMBERS

Between 2010 and 2020, central Iowa is projected to add 74,300 jobs, according to Iowa Workforce Development.<sup>5</sup> This job growth will result in approximately 41,500 net new workforce households over the decade, with three-quarters of those in Polk and Dallas counties.

The mix of housing in 2010 was 70 percent owner-occupied units and 30 percent renter-occupied units. Thus, keeping the same proportions, approximately 29,000 owner-occupied and 12,000 rental units will be needed between 2010 and 2020 to accommodate this new workforce housing demand. However, the majority of net new workforce households added are expected to be single- and two-person householders. Thus, the distribution of housing by price point needed to meet this demand is likely to be quite different from what exists in today's market.

HOUSING CHARACTERISTICS

2010 BASELINE HOUSING CHARACTERISTICS <sup>6</sup>						
	HOUSEHOLDS	HOUSING UNITS	POPULATION	AVG HH SIZE	HH SHARE OF TOTAL	POP SHARE OF TOTAL
1 person	52,094	54,699	52,094	1.00	28%	11%
2+	136,906	143,751	427,906	3.13	72%	89%
Total	189,000	198,450	480,000	2.54	100%	100%

2050 HOUSING CHARACTERISTICS				2010-2050 NEW GROWTH			
	HOUSEHOLDS	HOUSING UNITS	POPULATION	AVG HH SIZE	NEW HOUSEHOLDS	UNITS NEEDED	POP. GROWTH
1 person	130,434	136,956	130,434	1.00	78,340	87,257	78,340
2+	197,944	207,841	619,566	3.13	61,039	64,090	191,660
Total	328,378	344,797	750,000	2.28	139,379	146,348	270,000

CURRENTLY, 28 PERCENT OF HOUSEHOLDS NATIONWIDE ARE SINGLE-PERSON HOUSEHOLDS. GREATER DES MOINES FOLLOWS THIS TREND. PROJECTING NATIONAL TRENDS FORWARD, 40 PERCENT OF HOUSEHOLDS IN 2050 WILL BE SINGLE PERSON HOUSEHOLDS. ASSUMING THE GREATER DES MOINES REGION CONTINUES TO FOLLOW SUIT, PROJECTIONS SHOW A NEED FOR OVER 82,000 NEW SINGLE PERSON UNITS.

- |   |   |
|---|---|
| <ol style="list-style-type: none"> <li>1. Address the geographic concentration of traditional affordable housing options.</li> <li>2. Promote and encourage the development of affordable housing near low-wage job centers and near public transit routes.</li> <li>3. Promote a diverse housing stock that provides housing choices for individuals of all races, cultures, ages, and economic backgrounds.</li> <li>4. Promote the development of neighborhoods and housing options that can serve different generations throughout their lifecycle.</li> <li>5. Increase the awareness and develop education regarding a variety of housing issues, including fair housing rights.</li> <li>6. Promote the development and redevelopment of diverse housing choices.</li> </ol> | <p>Greater Des Moines should take several specific actions to achieve these goals:</p> <ul style="list-style-type: none"> <li>■ Continue a regional housing dialogue involving housing agencies, transportation organizations, developers, municipalities, and other stakeholders.</li> <li>■ Create zoning ordinances that allow for a variety of housing types, such as accessory dwelling units, cottage housing developments, shared housing sites, and live-work units.</li> <li>■ Create a regional affordable housing plan, including targets for various housing types throughout the region.</li> <li>■ Prioritize the development review process for projects that include affordable units.</li> <li>■ Create incentives and reduce barriers for developers to increase affordable housing for households with an income of less than 30 percent of the region’s median income.</li> <li>■ Prioritize the use of transportation funds to enhance transportation choice near affordable housing.</li> </ul> |
|---|---|

- Encourage unions and retirement fund managers to use pension funds to invest in affordable housing units.
- Balance the mix of income restricted and market rate rentals throughout the region, focusing immediately on the urban core.
- Increase residential densities by removing or reducing minimum lot size requirements.
- Engage and educate neighborhoods on the benefits of embedded affordable housing.
- Encourage a mix of land uses near transit corridors.
- Promote infill development and the rehabilitation of vacant structures.
  - Step up enforcement on vacant and abandoned buildings where codes are in violation.
  - Set up a community land trust (CLT) that maintains ownership of land portion of property.
  - Adopt rehabilitation building codes that make converting old structures and creating infill housing more feasible for developers.
  - Adopt financial incentives that make converting old structures more profitable for developers.
- Improve educational resources and programs related to housing.
  - Assist individuals with the purchase, rental, and maintenance of housing through employer-assisted housing programs, such as match down-payment assistance and the leveraging of housing development financing.
  - Provide education on the cost of living, and encourage residents to consider transportation costs when making housing choices.
  - Expand knowledge of fair housing rights complaint procedures in the region.
- Engage the state on preferred housing policies and programs, such as limiting tax abatements for new housing developments; continuing funding of the Vision Iowa program, Community Attraction and Tourism program, and Riverfront Enhancement program; and, incentivizing brownfield redevelopment.

**STRATEGY 3A  
POTENTIAL CHAMPIONS:**

Polk County Housing Trust Fund  
HUD  
Communities

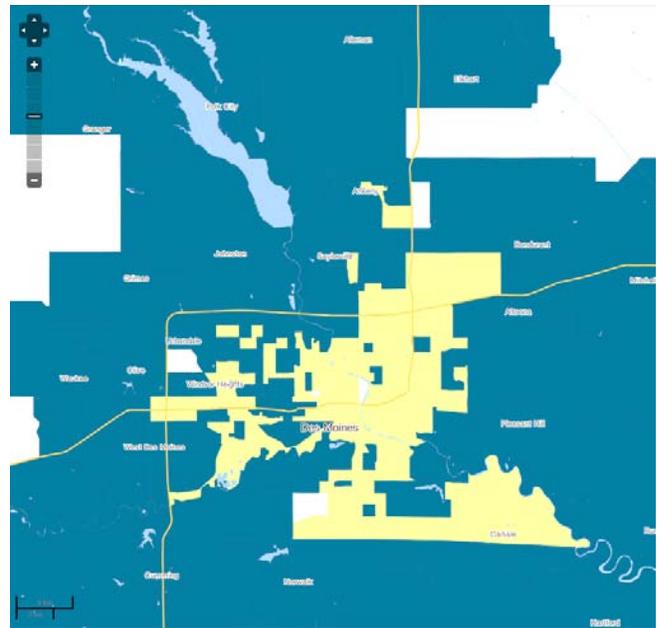
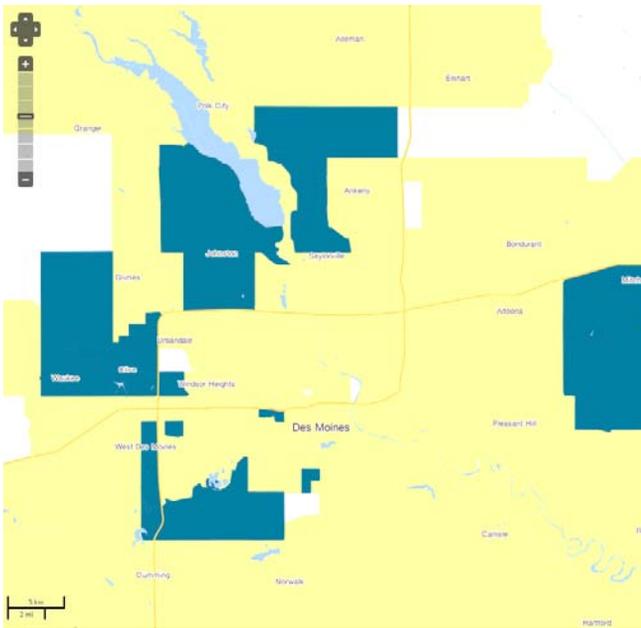
## THE HIDDEN COST OF HOUSING

When considering housing costs, people often think only of the rent or mortgage payments. In reality, though, that's only half of the picture. Consideration must also be given to the costs associated with where housing is located.

In 2008, the Center for Neighborhood Technology (CNT) introduced its H+T Affordability Index<sup>7</sup> “that measures the true affordability of housing choice by factoring in both housing and transportation costs in a neighborhood.” The formula for determining affordability is:

$$\text{H+T Affordability Index} = \frac{\text{Housing Costs} + \text{Transportation Costs}}{\text{Income}}$$

Traditionally, households spending more than 30 percent of their income on housing fall into a “cost burdened” category. Using this criteria, 76 percent of US neighborhoods are “affordable.” Applying this classification to Greater Des Moines shows that most areas fall into the “affordable” classification, shown in yellow in the accompanying maps. This categorization doesn't take into account transportation costs as a result of housing location.



The H+T Affordability Index, in contrast, defines “affordable” as a household that spends less than 45 percent of its income on housing and transportation. Using this approach, the number of affordable neighborhoods in the country drops to 28 percent, and the number of cost burdened households in Greater Des Moines – shown in blue – increases dramatically.

The accompanying visualizations underscore the importance of taking a holistic view of affordability that includes housing location.

# THE MISSING Middle

## TOWNHOUSE



Townhouses, terrace houses, or row houses are attached units in groups larger than four. These are typically two to four story buildings set close to the street with separate entries for each unit. Well-designed townhomes provide access to garages from a rear lane or alley allowing for a continuous street frontage that is unbroken by driveways. This design allows for a higher number of on-street parking spaces. The shared walls of townhomes make them more energy efficient than similarly constructed detached units. Townhomes can be built as part of a homeowners association or as individual parcels under single ownership.

This type of townhouse consists of four stories with a two-story unit above another two-story unit. Stacked townhouses maintain the same feel as the traditional four story townhouse while doubling the density. The four story height allows for a well-defined street and creates a sense of enclosure that is essential to placemaking.

## STACKED TOWNHOUSE



## FOURPLEX



Fourplexes are semi-detached units that share a common wall. They resemble duplexes except that each side consists of two units stacked over each other for a total of four units.

## LIVE-WORK UNITS



Live-work units combine a person's living space with their work space, with the housing generally located above the first floor work space that faces the street. However, this flexible housing type can be arranged in a variety of fashions. It works well as a transition between single-use and mixed-use buildings.

Mixed-use apartments consist of apartments above commercial or office space. These buildings may have retail on the ground floor, offices on the second floor, and residential units on the remaining floors. Mixed-use apartments work well along commercial corridors where communities are trying to create a main street atmosphere.

In 2011, the National Association of Realtors conducted a study<sup>8</sup> that shows that the majority of Baby Boomers and Millennials desire to live in communities that are walkable and transit friendly. Communities that want to attract and retain these population groups need to provide a variety of housing that supports walking and transit.

One way to ensure these types of neighborhoods exist is to build “missing middle” housing types. These housing types include cottages, townhouse, duplexes, triplexes, fourplexes, small apartment buildings, mansion apartments, live-work units, and apartments above shops. These building types have actual densities ranging from 16 to 35 dwelling units per acre, but their perceived density is much lower. The lower perceived density of these buildings make them generally acceptable to most people while allowing for the required density to make walking and transit viable.

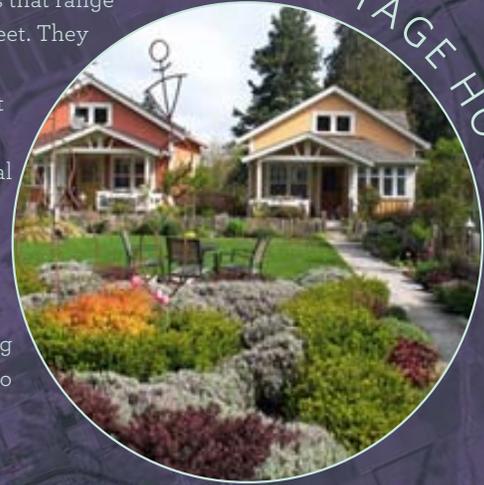
## DUPLEX



Duplexes are semi-detached units that share a common wall but are located on individual lots. In Greater Des Moines, these are commonly known as double houses; the region contains many fine examples of this housing type.

There are additional types of duplexes where units are stacked over each other. This type of duplex is most common in large single-family homes that have been converted to two units.

Cottage houses are detached units that range from around 400 to 1,200 square feet. They typically have a small footprint and can be arranged along a street or around a central courtyard. Cottages blend well into residential neighborhoods while increasing density due to the small lot sizes that accommodate this style. Cottage housing can provide an affordable option for singles, young families, and for retirees wishing to age in place.



## COTTAGE HOUSING

## SMALL APARTMENTS

Small apartments usually contain six to eight units on a small building footprint. The small building size makes them compatible in residential neighborhoods.



## TRIPLEX



Triplexes, or triple deckers, consist of three units stacked one above the other. Triple deckers are economical in that the cost of land and basement + roof construction is spread over three units.

## MIXED-USE APARTMENTS



Mansion apartments resemble large detached houses from the street but, in reality, consist of four to six apartments. The physical character of mansion apartments is compatible with detached single-family housing and adds options to a neighborhood.

## MANSION APARTMENTS





Source: *Bicycling Magazine*

ACTIVITY <sup>9</sup>	CALORIES BURNED PER MINUTE
Drive alone in a vehicle	3.125
Walking to and riding the bus*	1.625 (6.000)
Bicycling (leisure)	8.500
Walking (leisure pace)	4.375
Walking (brisk 3.5 MPH)	5.375
Wheelchair use (manual)	4.000

## Strategy 3B

### Make walking, biking, and using public transportation a normal part of daily life

Looking to the year 2050, we know that Greater Des Moines will experience significant demographic changes. Nearly 140,000 Baby Boomers call the region home. The “graying” of the region will have implications for the transportation system, land use, and the placement of homes, businesses, and stores. Perhaps an even larger impact, though, could come from Generations X, Y, and Z — generally those under the age of 45 and who comprise nearly two-thirds of the region’s population. These generations have demonstrated different lifestyle choices and preferences than older generations. For instance, the share of new vehicles purchased by those aged 18 to 34 dropped 30 percent in the last five years. With these anticipated demographic shifts, creating a region where walking, biking, and using public transportation are as viable as driving will be imperative.

Greater Des Moines currently enjoys short commute times and little to no congestion, even during peak travel times. A report by Nelson/Nygaard<sup>10</sup> found that, in 2010, nearly three-fourths of the roads operated with free flowing traffic. Even without roadway capacity additions, projections for the year 2050 do not show any significant deterioration in commute times or increased congestion around Greater Des Moines. Given this abundance of roadway capacity, Greater Des Moines can still grow while shifting funding priorities to those modes that increase transportation choice.

The region can place new emphasis on walking, biking, and public transportation such that they become options as viable as driving. Pedestrians who can walk to different land uses, such as retail establishments, parks, and community facilities, in under 10 minutes are more likely to visit those places.<sup>11</sup> Placing daily goods and services, as well as recreational destinations, within walking distance of residences increases the incentives for residents to avoid using their cars.

Another strategy would be to further the use of bicycle infrastructure for commuting. Complete streets have been implemented around the globe and result in multimodal access to the places we live, work, learn, and play. They typically include shared lanes, bike lanes, or cycle tracks. Complete streets should be implemented throughout Greater Des Moines, as they are accessible and friendly to users of all modes, including drivers, bicyclists, and public transportation riders.

Furthering the use of public transportation has and will continue to be a challenge for Greater Des Moines, due in large part to

the lack of congestion and the short commute times, which provide little incentive to switch from private vehicles. Though bus service frequency has improved, it is often still quicker to travel by personal vehicle. Considering that future congestion is projected to be minimal, our region can at least redirect resources from private vehicle infrastructure to public transportation infrastructure in order to provide a positive incentive to switch modes.

Not only are walking, biking, and using public transportation key to increasing the mobility of Greater Des Moines residents, they are central to furthering residents’ health and well-being. Every walk or bike ride is a chance for exercise and social interaction, which create a healthy and welcoming community. Additionally, walking and biking require little space for each person engaged in those activities; the more people who walk and bike, the more space can be dedicated to other uses chosen by each community. People who use wheelchairs also benefit from increased pedestrian facilities when designed to Americans with Disabilities Act (ADA) standards.

Every trip starts and ends as a pedestrian trip. As a result, improvements to the pedestrian experience benefit everyone. Additionally, no forms of travel are healthier than walking and bicycling. Providing all residents with the option of walking and biking is at the heart of supporting the region’s health and well-being. To do so requires safe, comfortable environments with all users in mind. The following six fundamental pedestrian conditions should be provided, especially in mixed-use districts, around schools, and at connections to transit. It should be noted that these conditions benefit cyclists and users of other transportation modes as well.

- **Safety:** Pedestrians are well protected from road hazards such as vehicles.
- **Security:** Pedestrians are not susceptible to real or perceived robberies or other crimes.
- **Directness:** Pedestrian paths minimize distances traveled. People will always find the most direct route anyway, regardless of where a path leads.
- **Ease of Entry:** Walking is not onerous, so steep inclines and staircases are avoided.
- **Comfort:** Paths provide high quality space appropriate to the location and destinations.
- **Aesthetics:** Environments are pleasing to the eye and inspire a person to walk to the next corner.

Creating a region where walking, biking, and taking public transportation are as viable as driving will be an incremental process that includes numerous entities and action steps.

### **Educate residents and workers on the importance of a multimodal system**

- Provide training for engineers and planners.
- Adopt nationally-accepted standards on bicycle and pedestrian facilities.
- Encourage the development of municipal-level bicycle and pedestrian plans.
- Work with DART to ensure that transit stops are more accessible to pedestrians.
- Implement a public education and marketing campaign to increase understanding and awareness related to a multimodal transportation system and to increase the knowledge of the relationship between the built environment and health and well-being.

### **Create a more walkable region**

- Connect, install, and repair sidewalks.
- Plant and maintain trees and landscaping.
- Build wide sidewalks in areas of high pedestrian activity.
- Improve street crossings near schools and commercial areas.
- Enforce right-of-way priority and motorist travel speeds in high pedestrian volume areas.
- Review pedestrian planning procedures, particularly concerning construction of sidewalks in new residential and commercial developments.
- Provide land use opportunities that allow people to be within walking distance of commercial and retail activity destinations.
- Improve pedestrian accessibility at and to transit facilities.
- Improve intersection traffic signalization and crossing times for all users, including persons with disabilities, children, and the elderly.

### **Expand the network of on-road bicycle friendly facilities in Greater Des Moines**

- Locate directional and informational signage along trails, as lane markings, and adjacent to roads.
- Reconfigure roads to allow all bicyclists to ride comfortably and safely, including the addition of shared lanes, bike lanes, or cycle tracks.
- Install more short- and long-term bicycle parking facilities.
- Provide clearly defined, safe, comfortable, and accessible bicycle commuter routes.
- Provide bicycle commuter amenities such as parking, showers, dressing rooms, and other end-of-trip facilities.
- Establish short- and long-term bicycle parking facilities near bus stops.
- Encourage the presence of paved shoulders on rural roadways.

### **Encourage compact, mixed-use development policies that create a more human-scale environment**

- Promote the use of shorter block lengths in new developments, resulting in a fine-grained street network that features more intersections.
- Minimize the use of cul-de-sacs in order to maximize connectivity.
- Foster higher density development.
- Implement traffic calming methods to create bicycle and pedestrian friendly corridors.
- Install street furniture to create a more inviting pedestrian environment.

#### **STRATEGY 3B POTENTIAL CHAMPIONS:**

Communities  
DART  
Downtown Community Alliance  
Des Moines Bike Collective  
Developers

“This strategy incorporates health into our daily lives through a supportive community infrastructure. **Health becomes part of the way we live** instead of a choice our brains struggle to make. The healthiest choice becomes the easiest choice. As a result, we become more active, eat better, and come together more often as a community. This seems like an easy choice to me!”

**Amy Jennings**  
*Greater Des Moines Leadership Institute  
 Executive Director*



## Strategy 3C

### **Make the healthy choice the natural choice**

A number of health initiatives are currently underway around the state and the region. Governor Terry Branstad wants Iowa to become the nation's healthiest state. He launched the Healthiest State Initiative in an effort to reach that goal. The Minnesota-based Blue Zones project has become a major player in that initiative. Blue Zones principles stem from founder Dan Buettner's research of communities across the globe with the greatest longevity. Healthy Polk 2020, which encompasses much of but not the entire region, works with ten community-driven approaches in a grassroots movement to promote health. At the same time, a contingent of local leadership wants to see the region known as the "Wellness Capital of the World."

This strategy aims to complement these many exceptional efforts with the fundamental recognition that we cannot speak of health without addressing all the goals of The Tomorrow Plan. We cannot be truly healthy, as individuals or as a public, unless we have healthy resources, economies, and options that enable residents to make the healthy choice instinctively. Healthy Polk 2020 notes that "existing societal norms require people to make an intentional decision (as opposed to the default decision) to make a healthy choice." Strategies to achieve these goals include:

- Tap grassroots issues to promote conversations about health between the public and decision makers. The public and decision makers often engage over issues of health without realizing the connections. They may discuss a proposed zoning change, a road widening, or a proposed economic development project without realizing how it affects health. The conversations rarely turn to which choices promote public health or elevate public health to the same level as other considerations. Working with representatives from health-focused initiatives, the region should develop a set of questions for the public and decision makers to consider in these conversations.
- Provide youth with more ways to be physically active in school. The importance of physical activity and getting young people outdoors has increasingly been documented. At the same time, school resources have been stretched thin, and an emphasis has been placed on fundamental academics, often at the expense of creativity and outdoor play. This strategy proposes a convening of educators, health professionals, private philanthropists, and designers to address the physical and programmatic aspects

of traditional recess and in-classroom activities to find better approaches to integrating physical activity into the school day — indoors and outdoors.

- Create more opportunities for everyone to walk or bike to their respective destinations. A recent study in the American Journal of Preventive Medicine<sup>13</sup> found that biking for transportation appears more helpful in losing weight and promoting health than working out at the gym. Besides fighting weight gain, walking and biking for transportation purposes boosts overall health, including a healthier level of most of the cardiovascular risk factors. These opportunities should be created through land use choices, density levels, and the maintenance and installation of infrastructure that allows walking and biking to be a safe and comfortable choice.
- Tap the Don't Smile Movement as a means of building awareness of healthy behaviors and of broadening engagement in the pursuit of a healthier region.

- Recruit champions to model healthy choices.
- Develop a promotional campaign to broaden the reach of the champions.
- Engage diverse populations to better understand their barriers to healthy behaviors and choices, to involve them in developing an action plan to overcome those barriers, and to implement that action plan in coordination with those populations.

### **STRATEGY 3C POTENTIAL CHAMPIONS:**

Local health departments  
Iowa Department of Public Health  
Healthiest State Initiative

## THE HEALTHIEST STATE INITIATIVE

The Healthiest State Initiative<sup>12</sup> is “a privately led public initiative intended to inspire Iowans and their communities throughout the state to improve their health and happiness.” To achieve this goal, individuals, families, businesses, faith-based organizations, not-for-profits, and the public sector have united in a community-focused effort to make Iowa the healthiest state in the country by 2016.

The initiative measures the state’s progress with the Gallup-Healthways Well-Being Index, which tracks six areas that comprise well-being: life evaluation, emotional health, physical health, healthy behaviors, work environment, and basic access. While our 2012 ranking as the ninth healthiest state in the country is a step in the right direction, we can do better.



## HEALTHY POLK

Every ten years, people who live and work in Polk County have the opportunity to participate in the development of a community health plan, *Healthy Polk*, which guides the use of community resources to support improved health and quality of life for the subsequent decade. The latest plan, *Healthy Polk 2020*, focuses on community involvement. The process began with 54 community conversations during which 750 people voiced their opinions about what a healthy Polk County might look like. Additionally, 1,200 people completed an online survey, and nearly 400 were interviewed over the phone.

From those conversations, a list of more than 900 priorities emerged. The Healthy Polk 2020 Data Team narrowed that list down to 190 measurable priorities. The 274 individuals who registered for the Community Caucus winnowed that list down to 27. Finally, in early 2009, a traditional Iowa caucus took place, and participants developed the final list of 10 priorities:

- Devote additional resources to prevention and wellness.
- Provide youth with more ways to be physically active every day in school so they learn to become active adults.
- Increase the availability of accessible, affordable public transportation.
- Make sure that all people living in Polk County have health care insurance coverage.
- Expand health coverage and services for families who can't afford private insurance but don't qualify for public programs.
- Ensure equal access to health care for all.
- Encourage medical providers to focus on prevention, education, and wellness.
- Empower more people to take responsibility for maintaining their health.
- Advocate for affordable, quality, and safe housing.
- Ensure access to affordable, healthy food for everyone.



## DON'T SMILE AT ME

The simple act of smiling is an indicator of one's outlook on life and one's emotional health. However, we often overlook the importance of smiling. The Don't Smile Movement continues efforts associated with Healthy Polk 2020, and it measures the progress the county is making in terms of healthy behaviors.

The movement's goal is to count smiles across the county. Smile Spies hold signs that say things such as, "Don't smile at me," at events such as the Dam to Dam race, Pride Festival, PechaKucha, and Yoga in the Park. Other Smile Spies simultaneously tally if people are already smiling, if the sign provokes a smile, or if no smile is observed. By counting smiles, the Don't Smile Movement builds awareness of healthy behaviors and broadens engagement in the pursuit of a healthier Polk County.

## Strategy 3D

### Provide access to healthy food using a regional food system approach

Currently, the State of Iowa does not provide access to **healthy** food sources within its own borders; the state currently imports 90 percent of its food.<sup>14</sup> This matters because the regional food system spans numerous sectors — transportation, air quality, health, land use, infrastructure, etc.

A regional food system approach “would include the development of a food system that includes all of the actors, the technology, and the resources involved in the production-through-the-final-consumption (and waste management) of food.”<sup>15</sup> The goals of this approach are to:

- Enhance residents’ ability to obtain enough healthful food to lead an active, healthy life;
- Support diverse endeavors to produce and provide healthful food products within the region in an efficient and effective manner; and,
- Encourage the production of food that grows well in Greater Des Moines.

The key to reaching these goals in Greater Des Moines is to build upon and use already existing networks and collaborations, such as the one led by the Des Moines Area Religious Council (DMARC).

A regional food system approach would allow the region to become more self-reliant by producing more of its own food. Additionally, this approach could help increase the access of healthy food for regional residents, especially those facing economic challenges. An awareness of one’s connection to food — where it comes from, its nutrient value, and its production process — would benefit Greater Des Moines as a result of this strategy. Furthermore, this approach would help build a sense of community for residents and could help immigrant populations better assimilate into the community.

To move this strategy forward, the region must consider multiple aspects of food production, including scale of production. Is an individual producing just enough food for oneself in his own backyard, or is the production occurring on a much larger scale and aiming for profitability? The distribution of food must be considered as well. Will food from the region be farm to table food, or will the food be exported across the globe? This strategy aims to build upon the solid foundation laid by numerous groups around the region to address these questions.



“As a Midwesterner, I’ve always been proud of our farming heritage. To preserve our crucial role of feeding the world, we need to start by feeding our communities healthy, fresh food... We must take a stand now. We must stand by our values and say that it is unacceptable for anyone in our Iowa family to not have access to healthy, safe food. We must insist that the majority of our food is raised by farmers we know. We must encourage and support the people trying to bring forth the next generation of the American farmer. **We must be the example for the world.** There’s no better place to start that than in Greater Des Moines.”

**Katie Ketelsen**

*Better Homes and Gardens Online Garden Editor + Maverly Lands  
Co-owner and Co-founder*

## RE-ENVISIONING LOCAL FOOD

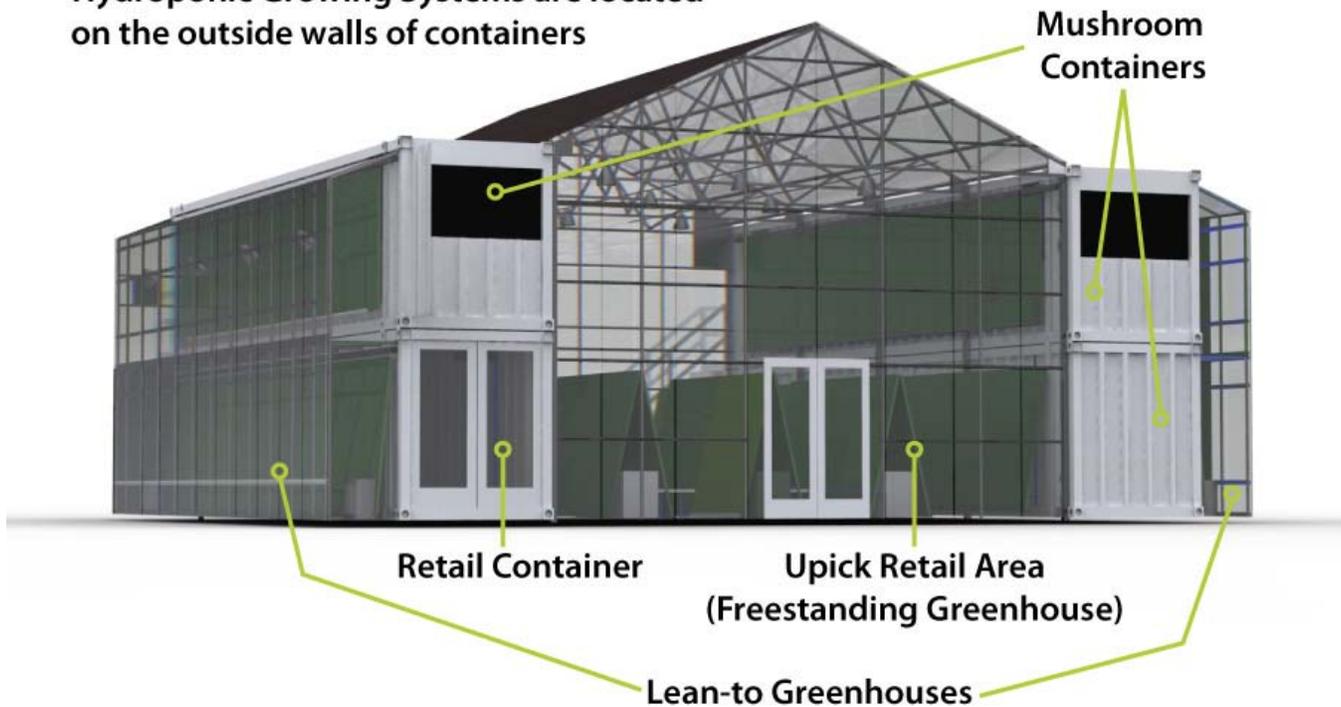
Traditional agricultural practices can pose challenges because of their low profit margins, their environmental degradation, and a disconnect between consumers and food. Raleigh, North Carolina's The Farmery,<sup>16</sup> though, presents a completely new approach to farming: one that looks for interdependence rather than the optimization of individual components.

The Farmery's "integrated retailing and growing system for locally grown food raises the value of the produce through a stimulating retail experience and reduces the costs of the produce by consolidating the entire food distribution system." The Farmery raises the value of its crops by putting the growing process on display, accommodating small hobby and backyard farmers for product diversity, offering fresher food, providing a unique "u-pick" experience, and using organic disease control and nutrients.

The Farmery is constructed of stacked shipping containers and greenhouses oriented to form a vertical farm and u-pick market in an urban neighborhood. The Farmery uses a proprietary growing system to grow edible plants on the sides of the shipping containers, while the interior space of the shipping container is used to cultivate gourmet mushrooms.

Is Greater Des Moines ready to re-envision local food?

**\*Hydroponic Growing Systems are located on the outside walls of containers**



- Work with local experts to understand what food system resources already exist in Greater Des Moines.
- Create a local food system council that markets the regional food system, raises awareness of it, and seeks to grow participation in existing community gardens.
- Create a regional food system clearinghouse that contains a database of where to access food (grocery stores, restaurants, pantries, farmers markets), and a database of food deserts as well as land and facilities that can be used for growing, warehousing, processing, and distributing food. Examples include vacant lots, licensed kitchens that are not used full time, empty warehouses, and companies that currently distribute food and may be interested in collaborating with local growers.
- Create a network of faith-based, school, and community gardens.
- Continue educational efforts related to the regional food system. A hands-on educational program should start in elementary schools. Through school gardens, this program could introduce children to a greater variety of foods and would enable them to understand the food system in a more meaningful way. Adult education programs should focus on growing fruits and vegetables, as well as implementing more sustainable farming practices for both row crops and fruits and vegetables.

- Create a food rescue program throughout Greater Des Moines that includes collections from gardens, restaurants, and events for food bank and pantries.
- Support the development of urban farms in Greater Des Moines as an anchor for the local food movement. Consider vertical growing as part of this step.
- Support the creation of food hubs or other means to aggregate and distribute products. This would support and enhance the competitiveness of locally and regionally grown products.
- Develop the capacity and facilities to support a four-season harvest (year-round growing).

**STRATEGY 3D**  
**POTENTIAL CHAMPIONS:**  
 Eat Greater Des Moines  
 Iowa Department of Public Health  
 Communities  
 Farmers

## EARTH HEROES

Is it possible to influence people’s mindset to the point that convenience comes before health in regards to their food? Absolutely, and the work has already started. Two community organizations are collaborating on their own strategic effort to explore, explain, and celebrate the world of plants with local youth.

The Levitt Boys and Girls Club serves 250 kindergarten through fifth grade children every day. Most youth involved in the program do not have many opportunities to experience truly healthy or nutritious food. Because of the club’s Earth Heroes program, offered each spring and summer at the Des Moines Botanical Center, many of these youth have that chance. They get to plant, grow, harvest, eat, and play with their food. They learn about seeds, soil, sun, and shovels. Participants have even been able to take home fresh produce to their parents and siblings, further promoting healthy foods and the reach of the Earth Heroes program.

One can easily see the program’s influence on youth who beg to take home another batch of potatoes or carrots. One can see it in those who draw pictures of sunflowers or tuck small onions, radishes, or peas in their pockets. Because of their participation in the Earth Heroes program, these youth hold a more realistic understanding of where food comes from and recognize that eating healthy can be both tasteful and fun.

## Strategy 3E ○○○●○

### Encourage and celebrate placemaking and community building opportunities

According to the Project for Public Spaces,<sup>17</sup> placemaking is “a multi-faceted approach to the planning, design, and management of public spaces. Put simply, it involves looking at, listening to, and asking questions of the people who live, work, and play in a particular space to discover their needs and aspirations. Then, a common vision for that place is created using this information. The vision can evolve quickly into an implementation strategy, beginning with small-scale, do-able improvements that can immediately bring benefits to public spaces and the people who use them. Placemaking capitalizes on a local community’s assets, inspiration, and potential, ultimately creating good public spaces that promote people’s health, happiness, and well-being.”

Not only does placemaking promote health, happiness, and well-being, it promotes economic growth. Over the course of the year, Greater Des Moines witnesses the energy and economic engine that accompanies farmers markets, amphitheaters, art fairs, and music festivals, to name a few. These elements provide evidence of — and create — a thriving region.

Bravo Greater Des Moines’ 2012 economic impact study<sup>18</sup> focuses on 53 arts, culture, and heritage organizations the organization supports financially. The study concluded that central Iowa arts, culture, and heritage organizations contribute \$114.4 million in annual economic output. It also found that these organizations employ over 2,100 Iowans each year and that they generate \$6.64 million in local, state, and regional taxes and charges.

While we begin to recognize the economic value of the arts and placemaking, government support continues to dwindle. The State of Iowa now ranks 40<sup>th</sup> of fifty states in spending for the arts at \$0.37 per capita. This places the state and, thus, Greater Des Moines, at a potential disadvantage when compared to neighboring states; Illinois ranks 29<sup>th</sup>, while Minnesota ranks first in the nation.<sup>19</sup>

Despite the challenges in funding these features, there is no doubt the region has achieved significant success. One cannot look exclusively at government support of the arts and placemaking. Private dollars play a critical role in Greater Des Moines’s art and culture scene, and significant gifts have been part of the region’s cultural vitality for some time. Private contributions of note include the Kruideniers’ catalytic gift for Gray’s Lake and the donation from the Pappajohns that created their namesake sculpture park in downtown Des Moines housing \$40 million worth of art.



Source: Drew Matthew Maifeld



Big Four Classic



I'll Make me a World in Iowa Festival



Living History Farms Race



IMT Marathon



World Food Festival



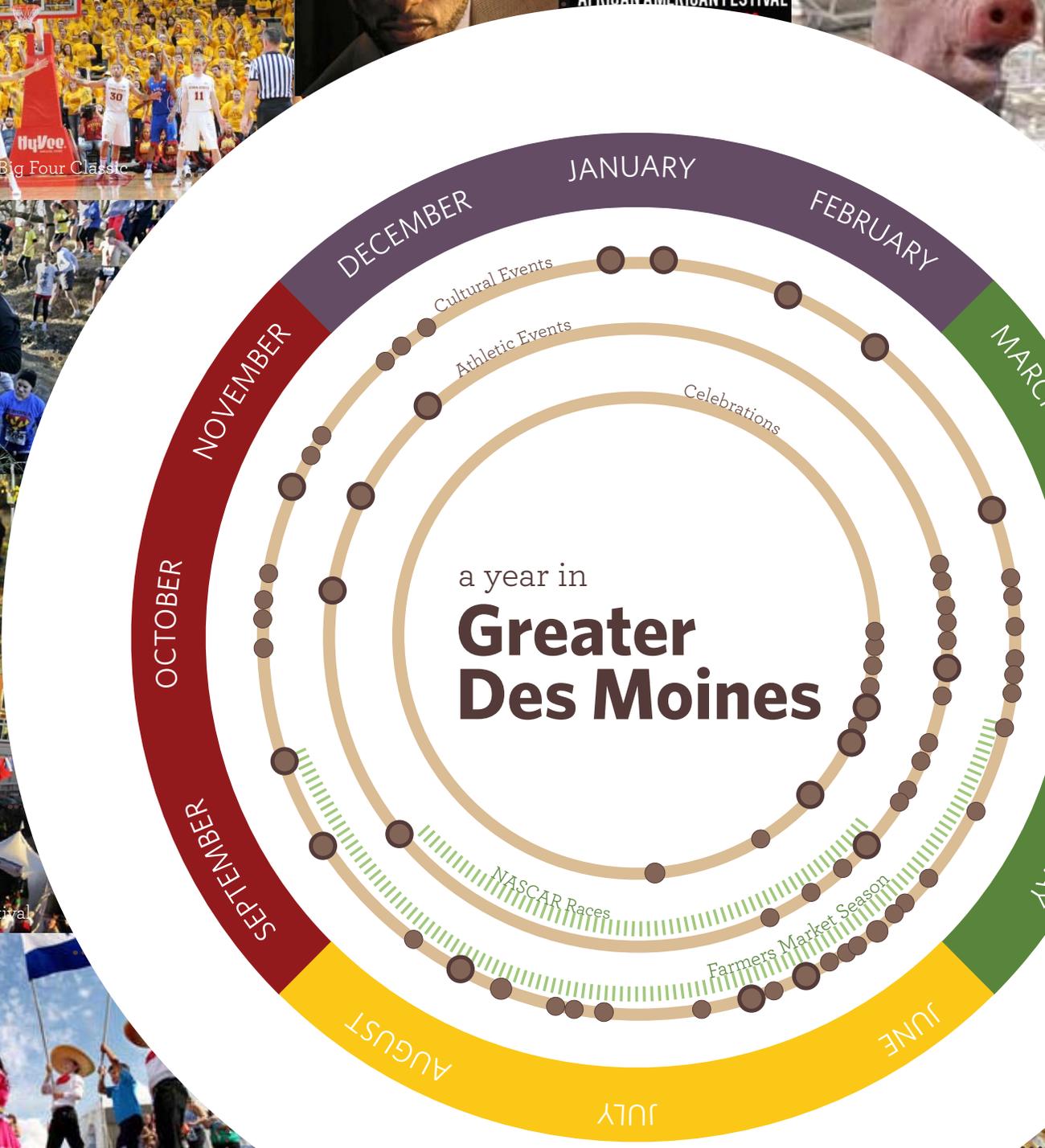
Latino Heritage Festival



Hy-Vee Triathlon



Iowa State Fair



a year in  
**Greater  
 Des Moines**



Blue Ribbon Bacon Festival



Catch Des Moines Release Party



Marketing and Media Panel

CH  
APRIL  
MA



Drake Relays



CelebrAsian Heritage Festival



Mothers Day Tea



Pridefest



Des Moines Art Festival



Juneteenth



Source: Bethany Wilcoxon

## PLACEMAKING BY PLANTING SCULPTURES

Open to visitors since September 2009, the John and Mary Pappajohn Sculpture Park features artwork by 21 of the world's most celebrated artists. The 4.4-acre park, located adjacent to a major crossroads of the urban grid, creates a pedestrian friendly entranceway to downtown Des Moines. This accessible setting, coupled with the skilled landscape design and high caliber of the art, makes it unlike any other sculpture park in the United States. The Pappajohns' contribution of 27 works for the park is the most significant donation of artwork ever made to the Des Moines Art Center.

To continue to set our region apart and ensure that it continues to be a place where people want to live, work, learn, and play, we must continue to value local gathering spaces and events that support arts, culture, and natural heritage, and that build a sense of community. The region should work to embrace the Power of 10 concept.<sup>20</sup> Greater Des Moines already has seventeen interesting communities. Now, we must work to provide great places within these communities that offer at least ten things to do or ten reasons to be there.

### A Juncture for Placemaking

An increasing number of examples demonstrate the placemaking value created by the intersection of people, art, and green space. Just consider the High Trestle Trail Bridge near the study area. It's a remarkable artistic treatment of the fifth largest pedestrian bridge in the nation.<sup>21</sup> The artistic achievement honoring the region's coal mining history brings more than 90,000 annual visitors to the Ankeny-Woodward corridor.<sup>22</sup>

Social gathering places, such as parks, libraries, and community centers, are ideal locales for displaying art and sponsoring lectures and programs on arts, culture, and green space. These places already attract a diverse range of residents, and many libraries and other gathering places around the region exhibit unique architectural qualities. We should leverage these gathering places to continue to grow the sense of community in Greater Des Moines.

Linear art exhibits connected by trail in Clive, the Urbandale Art Park that features interchangeable sculptures, and the Des Moines Social Club's proposed Art Walk are examples of efforts that support convergent placemaking in the region. For our region to continue to set itself apart and to draw top talent and businesses, we must nurture and grow these places where people can interact with art and green space. To get there, Greater Des Moines should:

- Enrich social gathering places, including parks, libraries, and community centers, through the convergence of placemaking, the arts, and conservation.
- Integrate art into streetscape and infrastructure projects.
- Identify "lighter, quicker, cheaper"<sup>23</sup> development strategies to jumpstart placemaking. Examples include temporary use of abandoned buildings for art exhibits or pop-up restaurants.
- Enhance community partnerships to provide support for placemaking and to get projects off the ground.
- Support communities in creating places that are accessible, engaging, comfortable, and sociable.

### Encourage via Education

Greater Des Moines organizations, schools, and libraries already provide educational programming related to the arts and environmental conservation. The Tomorrow Plan seeks

“Placemaking’ is both an overarching idea and a hands-on tool for improving a neighborhood, city, or region. It has the potential to be one of the most transformative ideas of this century.”

Metropolitan Planning Council of Chicago

to work with these groups to provide continued programming that embraces the convergence of these two areas and furthers placemaking and community building.

The GreenArts program offered by the Metro Arts Alliance seeks to increase knowledge of conservation and environmental science using art. Available to central Iowa students in kindergarten through twelfth grade, GreenArts uses a partnership among the Metro Arts Alliance, Polk County Conservation, and the Urban Environmental Partnership, which involves Metro Waste Authority and Des Moines Water Works. Over 400 students participate annually in programs ranging from “Mammals, Myths, and Masks” to “Water in Art.” These programs offer hands-on connections between culture and conservation and have long waiting lists, which speaks to the needs of tomorrow.

Groups like Art Noir, the Des Moines Social Club, and the Des Moines Music Coalition, along with the developing Adopt-A-Stream program, enhance the opportunities for young adults to embrace and engage in the arts and conservation as well. To further support them, Greater Des Moines should:

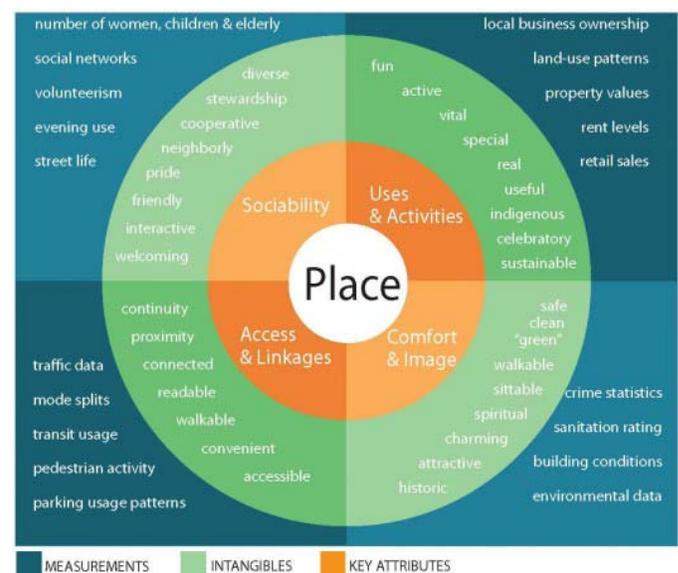
- Identify public-private partnerships between educational resources and industry to expand access to the arts.
- Work with businesses to provide opportunities for students and the public to view private art collections.
- Expand the number and diversity of artists involved in the arts and conservation programs.
- Gather more community partners to further the reach of existing arts and conservation programs.
- Introduce a year-round program that involves temporary art installations and programming at local parks. This could consist of monthly or bimonthly events that bring local, regional, and national artists into Greater Des Moines parks.
- Create a Strategic Wonder and Teaching (SWAT) team that dispatches to rare, short-lived wildlife phenomena in the region, such as seasonal eagle or trumpeter swan gatherings along

rivers. The SWAT team could be equipped with a teaching vehicle setup to display interpretive and educational material and could be staffed with trained representatives from county conservation groups, the DNR, local nature clubs, and other interested stakeholders.

- Leverage input from ArtPlace America, a collaboration of thirteen leading national and regional foundations dedicated to accelerate creative placemaking across the country. Through ArtPlace, creative placemakers are generating ideas and potential resources for arts expansion across the country. Bravo Greater Des Moines is currently working with ArtPlace to garner ideas for the region. Officials expect that these ideas will be available in 2013.

### Grow from the Roots

In addition to the high-level fundraising performed by Bravo Greater Des Moines, our region must provide grassroots support for arts, conservation, placemaking, and community building.



Source: *Project for Public Spaces*

## LIGHTER, QUICKER, CHEAPER

“Lighter, quicker, cheaper” (LQC)<sup>24</sup> describes a local strategy used to produce some of the world’s most successful public spaces. They are projects that are low risk and low cost, and take advantage of creative energy to produce new uses and to generate revenue in transitional places. LQC solutions can relate to basic amenities, public art, events, or light development such as adaptive reuse or temporary structures.



Consider the success of the Detroit SOUP program, a monthly dinner that funds micro-grants for creative projects in Detroit. SOUP<sup>25</sup> is a powerful tool to start conversations, practice democracy, and fund new projects, people, and ideas in a neighborhood, community, or city. Greater Des Moines should:

- Instigate a SOUP program in Greater Des Moines modeled after the Detroit SOUP program as a funding mechanism to support grassroots arts, conservation, placemaking, and community building efforts.
- Develop a mentorship program that pairs established arts organizations with burgeoning studios and artists.
- Expand the focus of the Greater Des Moines Public Art Foundation to be a truly regional group investing in a variety of arts endeavors.
- Explore traditional funding mechanisms, such as the Polk County Water and Land Legacy bond, as tools to further grassroots arts, conservation, placemaking, and community building efforts.
- Develop a local arts incubator.
- Support a framework for connecting and dispersing art, theater, and music districts across the region. The East Village, Art 316, Valley Junction, and the Crane Artist Lofts provide early examples of arts entrepreneurs that have collaborated or congregated. These vital hubs of cultural activity enrich the region and create built-in audiences for larger arts and placemaking events. The region needs more hubs that are accessible to all ethnic and demographic classes from across the region.

### Tactical Urbanism: Short Term Action, Long Term Change

Urban interventions such as guerrilla gardening, pavement to parks, and open streets are quick, often temporary, cheap projects that aim to make a small part of a region more lively or enjoyable. These types of projects have become more widespread in recent years and are collectively known as tactical urbanism — as in tactics used to improve the urban environment.

These tactics tend to be replicable across cities and, in certain instances, have become worldwide phenomena. The goal is not to simply do a cool project but to make something — even temporary — that will change how a place works and is perceived. Tactical urbanism features the following five characteristics:

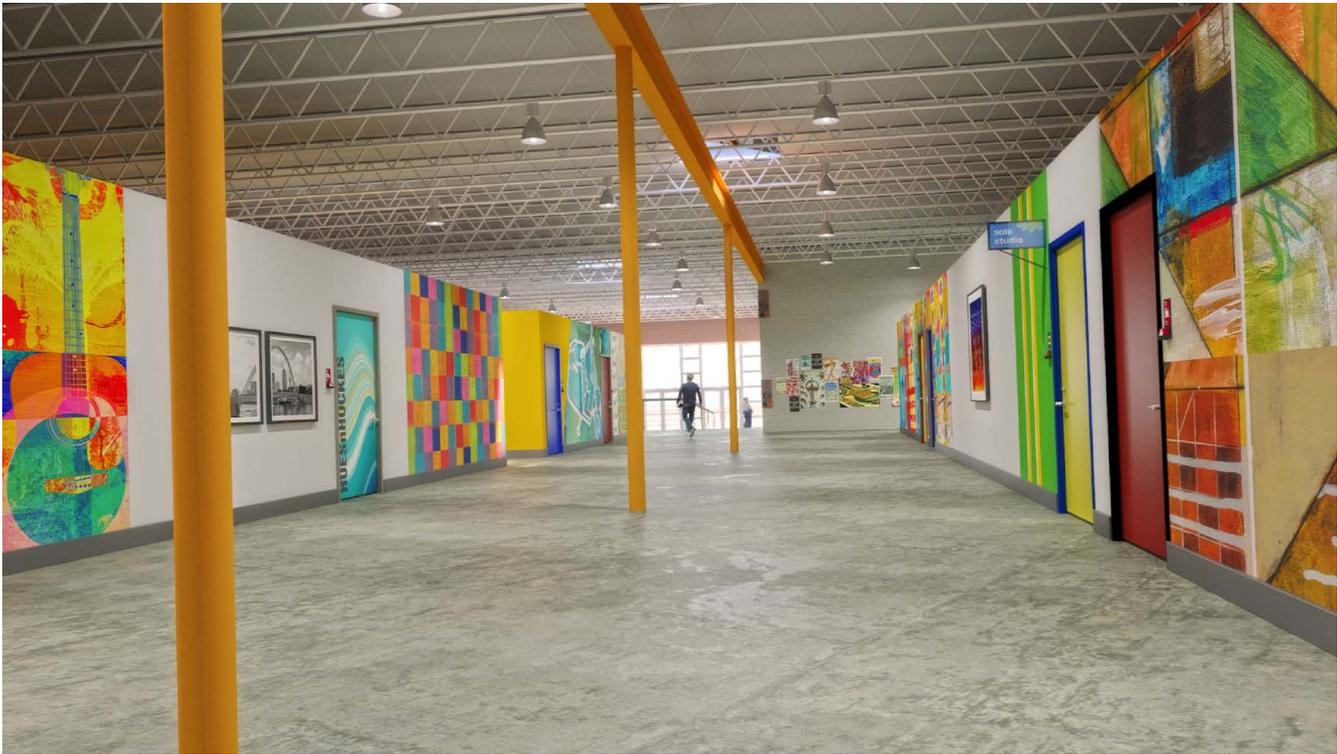
- A deliberate, phased approach to instigating change;
- The offering of local solutions for local planning challenges;

## DESMOINESARTS

The Des Moines Art Center, the Des Moines Arts Festival, and the Pappajohn Sculpture Park are significant attractions that have put Greater Des Moines on the arts map. The next challenge is to turn our attention to promoting local arts. With the local arts scene gaining momentum as downtown has redeveloped over the last decade, the region has a unique opportunity to convert an existing warehouse into a permanently affordable, non-profit space for the local arts. Programming could include non-residential workspace for artist studios, arts-related non-profit office space, galleries and exhibition space, classrooms, a theater, specialty arts spaces, and more. This space can serve as an incubator for local arts and could firmly establish Greater Des Moines as a leading region known for its support of all the arts.

DesMoinesArts has already taken a few taken steps to create this local arts incubator, having already engaged Bravo Greater Des Moines, the Community Foundation of Greater Des Moines, arts groups including the Des Moines Social Club, and individual artists. Modeled after the Western Avenue Studios project<sup>26</sup> in Lowell, Massachusetts, the incubator will be one of the largest concentrations of artists working under one roof in the country.

The incubator project has proved demand exists, with nearly 400 local artists registering their support through a demand survey. DesMoinesArts has completed floor plans, renderings, and budgets, and is currently proceeding with a fundraising feasibility study. The project is designed to be financially self-sustaining, with positive annual cash flow that eliminates the need for continuous fundraising and gives the project the financial strength to last.



Source: DesMoinesArts

## OPEN STREETS, OPEN MINDS

Open streets events encompass a variety of activities. Following are just a few examples from around the country. Think about what open streets events could look like in Greater Des Moines.



Source: Flickr/bradleyjohnson



Source: Open Streets Minneapolis



Source: Chicago Loop Alliance



GREATER DES MOINES HAS IMPLEMENTED PARK(ING) DAY STRATEGIES IN THE PAST.  
 Source: RDG Planning and Design

- Short-term commitment and realistic expectations;
- Low risks, with possibly high rewards; and,
- The development of social capital among residents and the building of organizational capacity among public-private institutions, non-profits, and their constituents.

When residents engage directly in creating their immediate environments, even when temporary, it’s both empowering and energizing. Park(ing) Day — a day dedicated to temporarily converting parking spaces to park spaces — is one example of tactical urbanism that has already been explored in Greater Des Moines. A scan around the globe should inspire Greater Des Moines to engage in more tactical urbanism efforts.

Beyond the action steps outlined below, other examples of tactical urbanism include guerilla gardening, park mobiles, yarn bombing, guerilla wayfinding, edible bus stops, weed bombing, camps, ad busting, front yard or street libraries, alley art, pothole gardening, mobile farmers markets on buses, billboards as urban gardens, and projects such as those by Candy Chang.

- Build on previous park(ing) day efforts and expand the event to include all communities in the region.
- Deploy park(ing) day techniques at the parcel or parking lot scale to increase the supply of park space.

- Implement open streets and play streets events around the region. Open streets events temporarily provide safe spaces for walking, biking, skating, and social activities (think of a block party); promote local economic development; and, raise awareness about the detrimental effects of the automobile on urban living. Play streets create public playgrounds within spaces formerly used for the movement and storage of automobiles.

- Promote livable streets and neighborhood vitality through Build a Better Block programs, which encourage community builders and property owners to temporarily activate vacant storefronts and public space.

- Support pop-up retail spaces, restaurants, and cafes through public-private partnerships to promote the temporary use of vacant spaces and parking lanes.

- Reclaim underused asphalt as public space without large capital expenditures through a pavement to plazas initiative, a la Times Square. These interventions begin with the use of temporary, inexpensive materials to reassign excessive motor vehicle space for the use of pedestrians or bicyclists. In New York, injuries to motorists and their passengers declined by 63 percent after these plazas were installed, while pedestrian injuries decreased 35 percent and even as pedestrian volumes increased.<sup>27</sup>

“Arts and culture act as an economic driver for our regional economy in terms of visitors, locals, and those relocating here. More and more visitors are realizing Greater Des Moines has an artful vibe, and because of that, new visitor dollars are coming into our city. Central Iowans benefit from those visitor expenditures and from the arts and culture community in our city. Put simply, our vibrant arts and culture scene makes our city stronger.”<sup>28</sup>

Greg Edwards  
*Greater Des Moines Convention and Visitors  
 Bureau President and CEO*

- Position parklets throughout the region to increase the balance of public space. Parklets typically consist of a platform that sits flush with the sidewalk in place of two or three parking spaces. Parklets help reclaim underused asphalt as public spaces and can serve as laboratories for testing a more permanently designed public space.
- Follow the model of Depave to incrementally reduce stormwater pollution by surgically removing unnecessary pavement around the region. Depave promotes the removal of unnecessary pavement from urban areas to create community green spaces and mitigate stormwater runoff. Through community partnerships and volunteer engagement, Depave strives to overcome the social and environmental impacts of pavement with the use of action-oriented educational events, community stewardship, and advocacy to reconnect people with nature and inspire others. Depave is a nonprofit organization based in Portland, Oregon.
- Update ordinances to allow for food carts and trucks that provide low cost food, incubate small businesses, and activate underused sites.
- Temporarily employ a previously inactive, underused lot to bring a mix of art, food, and retail to a single location. This generates revenue for redevelopment, raises community awareness, builds community, and supports local entrepreneurs.
- Provide spaces for pop-up town halls at which people from many backgrounds can come together to discuss the future of the region. These town halls often benefit from happening simultaneously with conferences or festivals.
- Offer informal bike parking throughout the region.
- Repurpose neighborhood street intersections as community space. Such intersections encourage neighbors to interact with one another and generate a sense of ownership.
- Educate property owners about how to reclaim setbacks and activate the space between the structure and sidewalk to create a more engaging environment.
- Ensure that ordinances allow for mobile vendors, who offer needed commercial services, activate public spaces, and provide opportunities to earn income.

- Promote “micro-mixing” — the co-location of mutually supportive uses — to incubate new businesses and sustain existing entities.
- Nurture an environment that continues to allow artists to flourish.

### **Celebrate Community Character**

Arts, culture, and conservation tend to build the identity of the whole region rather than of individual neighborhoods and communities. Part of the region's strength, though, comes from the unique identity of each community. Each community's special events and traditions create a rich fabric for the region. As a result, Greater Des Moines should:

- Highlight community events, celebrations, and traditions in the community calendar outlined in Strategy 4C.
- Develop an annual regional event that highlights the unique traditions of each community while also recognizing the strength of the region as a region.

#### **STRATEGY 3E POTENTIAL CHAMPIONS:**

Des Moines Social Club  
 Bravo Greater Des Moines  
 DesMoinesArts  
 Des Moines Art Center  
 Metro Arts Alliance  
 Communities  
 Art Noir  
 Des Moines Music Coalition  
 Metro Waste Authority  
 Greater Des Moines Public Art Foundation

## **BUILD A BETTER BLOCK DALLAS: BEFORE + AFTER<sup>29</sup>**







# REPURPOSING in the

The City of West Des Moines repurposed the historic 1905 brick storefront that originally housed the Valley Junction Fire Department and City Hall as a community center. The space includes a community welcome center, a multi-purpose classroom, and a meeting room. The city retained historically significant design elements while introducing new technology and mechanical systems.



RIVERPOINT LOFTS

Originally designed in 1902, the Riverpoint Lofts building south of downtown Des Moines was the longtime home of Schmitt and Henry Manufacturing, one of the largest furniture manufacturers in the west. Today, the Riverpoint Lofts function as affordable one- and two-bedroom lofts that use original architectural elements and are located in a walkable neighborhood.



WEST DES MOINES COMMUNITY CENTER

# Region

A nearly \$30 million renovation transformed the century-old Des Moines Public Library Building into the Dr. Norman E. Borlaug World Food Prize Hall of Laureates. The renovation retained and repaired existing finishes to the greatest extent possible, and the building achieved Leadership in Energy and Environmental Design (LEED) Platinum status in 2013.

Open to the public since the spring of 2012, the Hall serves as a world-class museum to recognize great achievements in agriculture and in fighting hunger; as a convocation center at which to hold events during the World Food Prize International Symposium; as a home for the expanding Global Youth Institute; as an educational facility; and, as a conference and meeting space.

## WORLD FOOD PRIZE HALL OF LAUREATES



## NORWALK CITY HALL



In June 2011, the City of Norwalk reopened its renovated city hall. The \$1.6 million renovation and expansion of the existing structure — the former fire station — saved the city millions of dollars in construction costs. Apparatus bays of the original building were converted to office space and city council chambers, and the site was completely reconfigured to provide a significant amount of green space and landscaped areas, providing a more aesthetically pleasing presence.

## Strategy 3F

### **Celebrate the unique heritage and character found throughout the region by promoting historic preservation**

Historic preservation protects our history and sense of place. Once those things are lost, they're lost forever. People are attracted to historic buildings, districts, and places for numerous reasons. One is that the scale is comfortable to humans. Another is that older buildings were designed with consideration to how they interact with their surroundings. Older built structures tend not to have the cookie-cutter designs or vast parking lots around them that much contemporary development does. Additionally, historic structures and districts keep a living record of where we, as a region, have been, and they teach future generations of the region's collective history.

Finally, historic buildings often have high environmental and economic value. The high quality materials often used in historic buildings means they tend to last longer than contemporary structures. These same buildings provide environmental benefits in that they already exist and, therefore, require no new materials or production for construction. They also tend to sit in the center of communities and in close proximity to other functions. In these ways, the most cost-effective and environmentally friendly way to develop is to take advantage of these existing structures rather than to push into greenfield farmland for development. Although not often recognized, rehabilitating existing structures often saves on construction costs, preserves desired open space, and demands less new infrastructure cost outlays than developing untouched farmland does.

As a result, the region should:

- Prioritize development and redevelopment in areas with existing infrastructure.
- Change the public's perception of preservation by conveying the broad scope of what is considered a historical or cultural resource and by communicating how these resources can be identified, protected, and appropriately used.
- Increase partnerships between preservationists and non-traditional partners to broaden the constituency for preservation and to maximize resources.
- Promote historic preservation through the creation of local historic districts and individual landmarks, and through partnerships with property owners, cities and counties, state agencies, and the public.

- Develop incentives for the preservation and repurposing of historic buildings. Repurposing historic buildings maintains an area's character while also reducing environmental degradation.
- Support local communities in incorporating Main Street's four-point approach, as appropriate. The four steps include organization, promotion, design, and economic restructuring.<sup>31</sup>
- Offer historic preservation outreach and education, including a Preservation Academy to host lectures, workshops, and events promoting historic preservation around Greater Des Moines. Libraries could serve as partners in furthering this outreach and education through their existing resources.
- Create a regional network of signage and information on historic properties.
- Educate people on the value of the historic tax credits. Across the country, historic tax credit programs help offset the costs of the rehabilitation of buildings. The State Historic Preservation Tax Incentive Program ensures "character-defining features and spaces of buildings are retained and helps revitalize surrounding neighborhoods."<sup>32</sup> Greater Des Moines must work as a region to identify additional incentives for individuals who recycle or repurpose buildings.

**STRATEGY 3F  
POTENTIAL CHAMPIONS:**

Communities  
Iowa Economic Development Authority  
Department of Cultural Affairs



# Strategy 3G ○○●○

## Create Zest

**ZEST** n **1** keen relish; hearty enjoyment; gusto **2** an agreeable or piquant flavor imparted to something **3** anything added to impart flavor, enhance one’s appreciation, etc. **4** piquancy; interest; charm **5** liveliness or energy; animating spirit

Throughout this entire goal of furthering the health and well-being of all residents in the region and throughout the entire plan, there is a desire to build on robust relationships, to celebrate inimitable characteristics, and to shift long-held ideologies about the ways in which Greater Des Moines develops. Simply put, The Tomorrow Plan is about building on synergies of the region and creating zest in Greater Des Moines.

As demonstrated throughout the plan, Greater Des Moines has a solid foundation in place. The region must continue to push the proverbial envelope in order to not only compete in a global marketplace but also to be one of the, if not **the**, top places to live, work, learn, and play. To do so with zest, Greater Des Moines should:

- Identify grassroots advocates for housing, alternative transportation, health, local foods, parks, arts, placemaking, community building, and historic preservation.
- Create and foster Zest, a regional committee bringing together advocates and advisors on housing, alternative transportation, health, local foods, parks, arts, placemaking, community

building, and historic preservation. Zest will reflect and celebrate the diversity of the region.

- Identify regional efforts, such as public arts celebrations, regional relays, restaurant crawls via trails, etc., for Zest to spearhead. These efforts will become signature Zest events that celebrate the seventeen individual communities along with the region in its entirety.
- Create the Best of the Zest - an annual awards program recognizing achievements in creating community and furthering the vitality of Greater Des Moines.

**STRATEGY 3G  
POTENTIAL CHAMPIONS:**

Polk County Housing Trust Fund  
 Eat Greater Des Moines  
 Des Moines Social Club  
 Center on Sustainable Communities



# INITIATIVE 3 | RESILIENT NEIGHBORHOODS

## SUPPORT THE CONTINUED PRESENCE OF STRONG, UNIQUE NEIGHBORHOODS THAT PROVIDE A RANGE OF HOUSING AND TRANSPORTATION CHOICES.

Greater Des Moines already contains many different kinds of neighborhoods - from agricultural homestead areas, to suburban neighborhoods, to urban areas, to downtowns comprised of apartments. Each neighborhood offers a different set of housing options, amenities, economic opportunities, and general character. The region as a whole benefits from this range because people prefer different lifestyles. Having this range ensures that Greater Des Moines can accommodate many different lifestyle preferences.

As economic, social, or environmental conditions change over time, neighborhoods must adapt or show resilience. In the context of neighborhoods, the word "resilient" means that a community is able to easily recover from difficult conditions. Having a patchwork quilt of multiple resilient neighborhoods — each with different characteristics, assets, and strengths — makes a region flexible and able to adapt to any challenges it may face. In other words, the cumulative effect is that a region composed of resilient neighborhoods is sustainable and able to withstand the many pressures it may face over the long term.

This initiative has important connections to Initiative 1: Nodes & Corridors and Initiative 2: Greenways. Nodes of activity and strong neighborhoods connected by greenways and multi-use corridors work together to create a resilient region.

### Increasing Neighborhood Resiliency

Multiple programs exist for assessing neighborhood sustainability and livability, each with its own set of indicators and metrics. These programs include LEED for Neighborhood Development, the Federal Partnership for Sustainable Communities, and STAR Communities, among others. Looking across these systems, several common themes emerge to describe sustainable, livable, and resilient neighborhoods:

- They are diverse, allowing them to adapt more easily to changes over time.
- They are cohesive, with strong social bonds that unite residents and help them work together towards a common vision.
- They are appealing places to live.
- They have elements of self-sufficiency, making them less vulnerable to outside changes.

Although different kinds of neighborhoods may look different and face different challenges, their ability to thrive in the long-term rests on the same elements:

1. Housing Choice
2. Transportation Choice
3. Recreation + Retail
4. Education + Jobs
5. Assured Health and Safety
6. Strong Sense of Community
7. Minimal Environmental Impact
8. Self Sufficiency
9. Inclusive Governance

Identifying and describing these nine elements of resiliency is an important step towards strengthening neighborhoods in Greater Des Moines, as it helps identify specific initiatives that would be beneficial.

Working towards neighborhood resiliency requires cooperation from many different groups. This initiative outlines regional action

steps, but municipalities and neighborhoods can support these efforts through local planning efforts, projects, and programs. Private, non-profit, and faith-based institutions can also play a role in this process. These groups play an important role in bringing additional, non-governmental resources to the neighborhood. Expanding opportunities and partnerships with these groups should be supported.

For example, the City of Des Moines has the most extensive program for neighborhood sustainability and livability in the region. The city's Neighborhood Revitalization Program (NRP) initiated a neighborhood recognition process in 1990 that has resulted in fifty-seven neighborhood organizations. City staff, along with the City of Des Moines's Neighborhood Revitalization Board (NRB), select several neighborhoods every few years to be the focus of revitalization efforts. Since its inception, the NRP has worked with twenty-eight neighborhood groups to analyze neighborhood conditions and develop goals and strategies for ongoing maintenance and improvement. Several of these neighborhoods exist in areas identified as Racially Concentrated

Areas of Poverty (RCAP) and as Ethnically Concentrated Areas of Poverty (ECAP) in the Regional Analysis of Impediments. They have included Capitol East, Chautauqua Park, Drake, King Irving, and Martin Luther King, Jr., Park.

In 1990, a partnership between the City of Des Moines, Polk County, and the private sector created the Neighborhood Finance Corporation (NFC) as the vehicle for housing rehabilitation and new construction funding assistance in designated and low-moderate income neighborhoods. The NFC receives between \$800,000 — \$1,000,000 from the City of Des Moines and Polk County annually to fund home improvement forgivable loans, closing cost assistance, loan guarantees, and construction assistance. The Polk County portion of the funds has allowed for the extension of NFC programs to other Polk County communities. Since 1990, the NFC has provided over \$222 million in loans and grants that have assisted more than 4,000 housing units in 27 designated neighborhoods in Des Moines and West Des Moines. The following table shows the amount of NFC funding provided in RCAP/ECAP neighborhoods since 1991.

## EXISTING PROGRAMS FOR NEIGHBORHOOD SUSTAINABILITY AND LIVABILITY

**STAR Communities: Sustainability Tools for Assessing and Rating Communities** is a rating system that assesses livability and sustainability in US communities. The rating framework has seven major categories: built environment; climate & energy; economy & jobs; education, arts, & community; equity & empowerment; health & safety; and, natural systems. Des Moines is currently one of 30 cities and counties participating in STAR's Community Pilot Program to test and evaluate the rating system. The pilot is underway and will wrap up in 2013. STAR has been under development since 2008 through a partnership of ICLEI-Local Governments for Sustainability USA, the US Green Building Council, the National League of Cities, and the Center for American Progress.

**LEED for Neighborhood Development (LEED ND):** LEED ND is a sustainability rating system for neighborhoods. Neighborhoods earn points towards certification by fulfilling credits. Credits fall in three major categories: smart location & linkage, neighborhood pattern & design, and green infrastructure & buildings. Whole neighborhoods, portions of neighborhoods, or multiple neighborhoods can be evaluated with the tool. LEED ND was developed by the US Green Building Council (USGBC) in collaboration with the Congress for New Urbanism (CNU) and the Natural Resources Defense Council.

**Federal Partnership for Sustainable Communities:** The Partnership for Sustainable Communities is an interagency partnership between HUD, DOT, and the EPA. The Partnership for Sustainable Communities aims to promote a range of transportation and housing choices, reduce negative impacts on the environment, and create strong local economies. The Partnership has developed a set of livability principles to guide its work:

- Provide more transportation choices.
- Promote equitable, affordable housing.
- Enhance economic competitiveness.
- Support existing communities.
- Coordinate and leverage federal policies and investment.
- Value communities and neighborhoods.

*The Tomorrow Plan was made possible, in part, by a 2010 HUD Sustainable Communities Regional Planning Grant. For more information, visit <http://www.sustainablecommunities.gov/>.*

NEIGHBORHOOD	# OF LOANS	LOAN AMOUNT	FORGIVABLE LOAN	TOTAL AMOUNT
Capitol East	152	6,160,445	965,124	7,125,569
Chautauqua Park	53	1,806,293	349,119	2,155,412
Drake	211	12,065,366	1,435,514	13,500,880
King Irving	68	4,419,783	387,707	4,806,839
Martin Luther King Jr. Park	2	60,675	13,181	73,856
<b>TOTAL</b>	<b>486</b>	<b>\$24,512,562</b>	<b>\$3,150,645</b>	<b>\$27,662,556</b>

## Overarching Action Steps

### For the Region: Resilient Neighborhoods Council for Greater Des Moines

Create a regional council for neighborhood resiliency. No regional organization with a mission aligned with this initiative currently exists. This group could be based on the above example of the City of Des Moines NRB, which links neighborhood residents, the City of Des Moines, Polk County, local business leaders, and the NFC. This regional council could encourage similar partnerships across the entire region. Membership would be comprised of city planners, neighborhood association representatives, and other stakeholders. The group could meet twice annually, with goals of:

- Encouraging connections and partnerships;
- Sharing information and best practices;
- Strengthening ties between adjacent communities; and,
- Connecting communities across the region that face similar issues.

### For Neighborhoods: Neighborhood Challenge

Building on the existing neighborhood work by the City of Des Moines, the City of Ankeny, and others, neighborhoods throughout the region should develop plans that consider their own unique qualities. With assistance from the Resilient Neighborhoods Council and their respective communities, neighborhoods can conduct a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis that identifies the characteristics of neighborhood resiliency. As a first step to this analysis, communities could create neighborhood asset maps identifying successful qualities. For more information on analyzing neighborhood strengths, weaknesses, opportunities, and threats,

see the appendix for an overview of potential key issues relating to neighborhood resiliency by neighborhood type.

Neighborhoods could look to this appendix for examples of how to consider resiliency elements in their local context. Based on the SWOT analysis, each neighborhood can then prioritize issues and identify action steps to build upon strengths, take advantage of opportunities, and address weaknesses and threats. Neighborhoods can harness community energy to target specific neighborhood projects and motivate volunteers to implement a vision.

Though neighborhood selection is generally left to communities, the Resilient Neighborhoods Council should prioritize RCAP/ECAP neighborhoods that have not previously been targeted for revitalization studies. These include the southern portion of the Historic East Village and an area south of the Capitol East neighborhood that is not part of a recognized neighborhood.

## Addressing the Elements of Resilient Neighborhoods

### 1. Housing Choice

Different people need, desire, and can afford different types of housing. Choice includes physical design options — whether the home is an apartment, single-family home, townhouse, or live/work unit — as well as price, tenure options, and neighborhood amenities. Young, single adults and senior residents may desire smaller apartments in close proximity to a transit stop, restaurants, and shops. Families may want larger homes with access to high-quality schools. Ideally, a sufficient range of quality, affordable housing exists within each neighborhood to meet current demand.

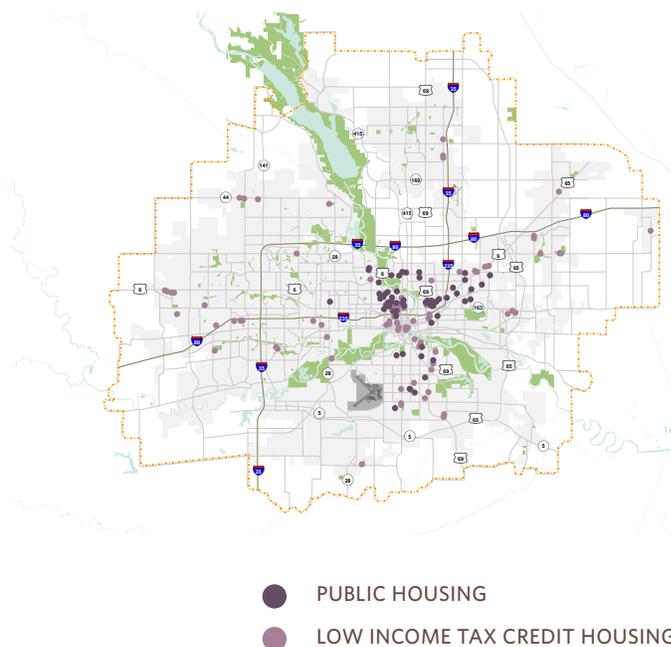
Providing a range of physical housing options, at different costs and with opportunities to own or rent, can help communities retain and attract residents. People have different housing needs throughout their lives. Housing diversity can help ensure that when existing residents are looking for a new kind of home, they can remain within the neighborhood instead of having to move away. In addition, neighborhoods with a more diverse mix of housing options are better able to adapt to changing economic conditions and continue to attract new residents as housing markets and demographics change.

Nodes, described in Initiative 1, will be the densest residential areas, with the greatest variety of housing options. Density in these areas will support public transit and provide opportunities to live close to jobs. Of course, other neighborhoods can also take steps to increase the range of options that they offer.

The Regional Analysis of Impediments examines the current barriers to fair housing in the region. Key findings are that affordability is the primary impediment to housing choice, especially for low- and moderate-income families, senior citizens, and people with disabilities. Other impediments include:

- A lack of knowledge about fair housing rights, laws, and processes. Language barriers are one component that contribute to information disparity.
- The spatial concentration of existing affordable and subsidized housing in the City of Des Moines, which concentrates poverty and limits economic opportunity. The MPO's *Horizon Year 2035 Metropolitan Transportation Plan (MTP)* analyzes socioeconomic conditions in Greater Des Moines and shows that the greatest concentration of the elderly, persons with disabilities, and persons in poverty is in the City of Des Moines. Further, this housing is not located in close proximity to low wage job centers.
- Scarcity of affordable housing for the elderly, disabled residents, and large, multi-generational families.
- Landlord screening requirements that can have the impact of excluding seniors, the disabled population, and low income individuals.
- Shortage of support services for homeowners.
- Zoning requirements — large minimum lot sizes, minimum parking requirements, and lack of inclusionary zoning (not required in Iowa) — that tend to increase housing prices and concentrate poverty in the urban core by precluding options for lower income residents in suburban areas.

### CONCENTRATION OF AFFORDABLE HOUSING IN GREATER DES MOINES<sup>34</sup>



#### Action Steps:

- Develop regional targets for increasing the cost spread of housing and variety of types (e.g., apartments, senior living, duplexes, townhouses, condominiums, live/work spaces) according to neighborhood type. These targets will be guides, not mandates, and based on market projections for the regional housing need, the existing balance of housing types in each municipality, and the type of development deemed appropriate for the area.
- Support municipalities by introducing incentives to encourage a diversity of housing choices, particularly in and along identified nodes and corridors.
  - Create incentives for private developers to invest in the development and rehabilitation of affordable housing by creating programs that provide flexibility in meeting code compliance requirements while ensuring the health and safety of residents.
  - Leverage private dollars and work with not-for-profit, faith-based organizations, and private agencies to provide the required subsidies for rental housing.
  - Create partnerships with non-governmental service providers, private sector partners, and existing minority and

ethnic community groups to encourage links between tenants and existing services.

- Evaluate existing zoning, subdivision, and building regulations for barriers to housing choice and mixed-use neighborhood centers; provide sample ordinances and regulations that address the regulatory barriers identified in the Regional Analysis of Impediments; and, support the expansion of housing choice and mixed-use neighborhood centers into areas that currently include:
  - Minimum parking requirements;
  - Subdivision requirements (like high minimum lot sizes and wide setbacks);
  - Design standards (like lawn maintenance requirements);
  - Occupancy standards that limit the number of unrelated family members who can live together; and,
  - Zoning that allows low density in all residential zones, even those zoned for higher residential.
- Make infill housing and redevelopment easier and more attractive for developers by reducing uncertainty and expediting the permitting process.
- Develop educational materials on fair housing laws, rights, and processes, and work with non-profits, faith-based organizations, and private agencies to distribute this information. Cities also should develop information on the community benefits of affordable housing. Groups should ensure education is available in multiple languages.
- Advocate to change the State's tax credit incentives for affordable housing (IFA/low income tax credits).
- Undertake mini-market studies to gauge housing preferences and make these results widely available to developers to ensure that new housing stock meets the desires of the population and addresses changing demographic trends.
- Create a task force for affordable housing to build consensus on regional strategies to provide affordable housing choices that align with The Tomorrow Plan's recommendations. This group should include representatives from the communities, county housing trusts, and social service sectors, and it should be ethnically and racially diverse. Given the Regional Analysis of Impediments and its findings, discussions should touch on:
  - The geographic distribution of affordable housing and its relationship to transportation, especially in corridors;

- Inclusionary zoning for municipalities within the region or on a case-by-case basis for new Planned Unit Development projects;
- Housing types for large families, the elderly, and disabled residents;
- Improving quality of existing affordable housing stock as needed; and,
- The overall quantity of affordable housing.
- Create a task force for homelessness to agree upon a regional approach to preventing and reducing homelessness and to providing resources. This task force should discuss opportunities for implementing the action steps relating to the reduction of homelessness identified in the Regional Analysis of Impediments, including:
  - Adding more emergency shelter beds in more locations across the region;
  - Creating more permanent supportive housing opportunities for the chronically homeless; and,
  - Expanding the mandate of the Homeless Coordinating Council and the Continuum of Care Board to include coordination with regional planning efforts.

## 2. Transportation Choice

Although single occupancy vehicles account for many of the trips in the region today, providing transportation alternatives is important. What if driving is not always as convenient or inexpensive as it is now? What if a flood damages a major bridge? What happens when a senior resident is no longer able to drive? Are friends, work, school, grocery stores, and other destinations still accessible? A variety of transportation options gives people different ways to access destinations, so they can still get around even if conditions change. Providing choice includes two key components: modes of transportation and the arrangement of destinations.

Choice means offering different modes for moving around the region — bicycling, walking, carpooling, carshare programs, links to regional rail and air networks, buses, and other public transportation options. It also means making these options convenient, safe, and affordable. For instance, adding a guaranteed ride home, like that found in the Des Moines Commuter Club, can make carpooling more attractive. Adding electric charging stations can make owning an electric vehicle more viable. Designing neighborhoods with a gridded network of streets provides more possible routes and can help spread traffic out. A telecommuting option offered regularly also can improve choice.

The desire to maintain an affordable cost of living for all residents necessitates equal access to transportation opportunities. It necessitates considering the relationship between housing, job centers, and transportation.

Communities can increase choice through thoughtful land use planning. Planning can help ensure that destinations both within and outside a neighborhood are more convenient to access. Linking the DART Forward 2035 Plan with The Tomorrow Plan is an example. Nodes and corridors, described in Initiative 1, support the implementation of new transportation choices. The initiative outlines approximately 40 higher-density, mixed-use nodes connected by multimodal corridors and is based on the corridors outlined in the DART Forward 2035 Plan.

Nodes and corridors provide sufficient density to support public transit. Increasing housing choice — the first resiliency element — can help support transportation choice by making public transit possible. Nodes are the parts of neighborhoods that have the greatest potential for public transit service and that will act as transfer points between multiple transportation modes. Corridors link neighborhoods to destinations — an adjacent neighborhood, a different part of the region, or even a different region entirely — via multiple modes.

The desire to maintain an affordable cost of living for all residents necessitates equal access to transportation opportunities. It necessitates considering the relationship between housing, job centers, and transportation. Cost of living measures need to consider the price of transportation, housing, and food, for example. The region should strive to provide strong connections between housing, job centers, and multiple transportation modes.

Transportation choice, however, is not just about getting from Point A to Point B. Transportation choice can help communities become healthier places to live. Bicycling and walking make residents healthier. Shorter commutes improve quality of life. Choosing shorter trips and alternative modes that generate fewer greenhouse gas emissions helps mitigate climate change and helps improve the health of the planet and residents. Like housing choice, providing transportation choice makes a community more attractive, and making a community a more desirable place to live helps it remain resilient over time.

#### Action Steps:

- Identify key neighborhood locations for pilot projects that encourage alternative modes of transportation:
  - Pedestrian-friendly retrofits;
  - Complete streets;
  - Traffic calming;
  - Bicycle facilities; and,
  - Mixed-use development near transit stops.
- The most appropriate type of pilot project will depend on the neighborhood type. For example, installing raised intersections as a traffic calming measure could help make bicycling and walking safer for neighborhood children, while adding bicycle lanes could encourage alternative modes of commuting to work or running errands.
- Ensure future MPO planning expands transportation choice.
- Include more stakeholders in the decision making of projects affecting adjacent communities and, in regional projects, affecting local communities. Ensure impacted parties are involved in deciding the location of projects and in discussions about mitigating any adverse impacts.
- Support The Tomorrow Plan through neighborhood/housing-related land use decisions and potential transit-supportive zoning that bolster the relationship between housing, job centers, and transportation.

### 3. Recreation + Retail

This element focuses on strengthening and supporting recreational and retail opportunities in neighborhoods. Neighborhood recreation and retail opportunities provide conveniently accessible amenities for residents, such as options for shopping, running errands, enjoying nightlife, and dining. Having these options nearby encourages walking and bicycling,



OHIO CITY FARM, CLEVELAND. JOB INCUBATOR, COMMUNITY EVENTS, URBAN LAND REUSE.  
Source: Ohio CityFarm



Source: LAND studio



Source: Keith Berr Productions, Inc.

reduces the need to drive, promotes active lifestyles, and offers employment opportunities for residents.

The location of recreation and retail opportunities within a neighborhood frequently corresponds with the existence of either a node or a corridor. The higher densities of these areas support small-scale neighborhood recreation and retail. Neighborhood nodes are particularly important in providing neighborhood recreation and retail options for local residents.

**Action Steps:**

- Update local zoning codes, if needed, to allow for recreation and retail opportunities in ways appropriate to neighborhood character.
- Encourage self-supported municipal improvement districts (SSMIDs) to strengthen ties with the local neighborhood.

**4. Education + Jobs**

Education and jobs are key components of good neighborhoods. Providing abundant opportunities within a neighborhood for quality education, meaningful employment, and lifelong learning opportunities helps attract and retain residents. Educational initiatives should enhance K-12 schools for neighborhood children, make access to community colleges or universities convenient for young adults, and provide adults with a wide range of educational opportunities, like language classes, basic education, and even art or cooking classes. High quality schools provide strong foundations for students to excel and later find work, even if economic conditions change.

Aspects of a strong neighborhood economy could include summer employment programs for youth, job training programs, living wage jobs suitable for community residents, and live/work units. Children are more likely to remain in or return to the neighborhood where they grew up if they can find a desirable job nearby. In addition to retaining existing residents, jobs and education can help attract new residents.

Jobs within a neighborhood are especially valuable for promoting resiliency, but not all kinds of jobs will be available in every neighborhood. Corridors connect neighborhoods to jobs outside of the neighborhood, especially to those found in nodes. In this way, corridors play an important role in linking residents to economic opportunity.

**Action Steps:**

- Expand the work of the Greater Des Moines Partnership to develop an economic gardening program focused on training and support for all types of business startups, including very small-scale entrepreneurship that might encourage sustainable business cycles within neighborhoods.
- Convene education experts from across the region and charge them with creating a lifelong learning system that enhance life skills and encourage entrepreneurial activity after graduating from K-12 schools.
- Support and expand after-school programs for neighborhood youth, including young adults (programs for older students could include job skills components to attract greater participation). For example, the After School Arts Program

(ASAP) offers supplemental arts education for 3<sup>rd</sup> through 6<sup>th</sup> graders in the City of Des Moines.

- Promote facility-sharing programs among schools and with community uses.
- Use Capital Crossroads “Cradle to Career” recommendations<sup>35</sup> for more general strategies for strengthening education and workforce development across the region. For example, Capital Crossroads recommendations with implications for neighborhoods include:
  - Enhance partnerships among Greater Des Moines education, training, government, private, and non-profit constituencies to foster positive academic results for students from “cradle to career;”
  - Develop a collaborative tutor-recruitment effort for Greater Des Moines schools; and,
  - Expand and better promote Central Iowa’s internship placement programs.

## 5. Assured Health and Safety

For an existing neighborhood to thrive over time, it must remain attractive to both existing and prospective residents. Safety and health are key aspects of that attractiveness.

Resilient neighborhoods are free of crime and enjoy a sense of safety that results partially from activated buildings and well-lit streets. Healthy environments ensure quality housing in safe locations and improve substandard housing.

Healthy environments also have clean air, soil, and water, and they support healthy lifestyles. Environmental quality is important because living near environmental hazards can negatively affect health. Legacy contamination from industry, toxic spills, lead poisoning, and air pollution can cause cancer, birth defects, cardiovascular and respiratory illness, and other adverse health impacts. Improving environmental quality, by contrast, can involve:

- Reducing releases of pollution into the air, water, and soil;
- Reducing the use of pesticides, fertilizer, and other chemicals;
- Undertaking habitat restoration projects;
- Remediating brownfields;
- Installing natural stormwater utilities; and,
- Promoting low impact development for new construction.

Lifestyle decisions like diet and exercise are key aspects of wellness. Neighborhoods should provide access to convenient recreation opportunities, affordable health care, and reasonably priced, healthy food. Healthy, active lifestyles help existing residents live longer and make a neighborhood attractive for new residents.

### Action Steps:

- Develop a resource guide for the management of vacant property, thus providing local governments with tools and suggestions for how to manage these types of properties. The guide should include information about maintenance best practices, code enforcement options, and potential reuse options, including infill, urban agriculture, and natural stormwater utilities. The guide should link local municipalities with available resources and be integrated with the clearinghouse outlined in Strategy 3D.
- Explore the creation of a land bank authority in Greater Des Moines.
- Encourage communication between neighborhoods, municipalities, and the larger region to identify sites for projects that promote healthy lifestyles (e.g., trails, parks, community centers, aquatic centers, sidewalks).
- Dedicate 25 percent of Transportation Alternative Program (TAP) funds for Safe Routes to School<sup>36</sup> projects that improve pedestrian safety along highly traveled student routes.
- Encourage neighborhoods to take steps that make walking and bicycling to school safer and more convenient. The Walking School bus serves as one example.
- Encourage partnerships with nonprofit organizations and nonprofit housing developers like Habitat for Humanity that replace substandard housing with units that meet basic health, safety, and welfare standards.
- Undertake local studies to identify food deserts in the region, and work with existing area businesses to increase local access to healthy food.
- Encourage healthy lifestyles. The Iowa Healthiest State Initiative includes many ideas for creating healthy communities. For example, the initiative’s Live Healthy Iowa program encourages residents to choose active lifestyles, and the Blue Zone Project strives “to make healthy choices easier through permanent changes to environment, policy, and social networks.”<sup>37</sup>

## 6. Strong Sense of Community

Creating and enhancing a neighborhood's sense of place can strengthen social ties between residents and can help the neighborhood remain intact over time. The people who live in a neighborhood, the activities that take place in a neighborhood, and the physical environment of a place all shape community identity. A neighborhood may include residents with a shared heritage, collective interest, or common school district. Special events, such as annual festivals or summer movie nights, can provide unique moments that define neighborhoods. Arts and culture help increase a sense of community while also bringing substantial economic benefits.

A neighborhood's physical characteristics, like building style and street pattern, also define it. Distinct landmarks like churches, historic buildings, parks, natural features, art installations, and special streets all contribute to neighborhood character. Edges and boundaries are important; they distinguish the neighborhood from its surroundings. While edges might be sharp physical boundaries like a highway or a river, they do not always have to be. The physical or social changes between neighborhoods may be quite subtle, and residents may have different perceptions about where their neighborhood begins or ends.

Importantly, resilient neighborhoods are welcoming and inclusive. Creating distinct neighborhoods does not mean developing enclaves; edges should not be defined with tall walls and gated entrances. Neighborhoods need a wide range of people to thrive over time. Promoting both shared interests and diverse viewpoints is important.

### Action Steps:

- Identify opportunities to simultaneously hold related series of events in neighborhoods across the region to strengthen both individual neighborhoods and the region-wide community.
- Pursue the potential designation of arts districts across Greater Des Moines as a strategy to enhance local arts and culture.
- Improve the physical and social character of a place with inexpensive solutions that can offer potentially high rewards with low risk.
- As part of the Neighborhood Challenge, encourage neighborhoods to study the qualities that give them their character. Community energy should be harnessed to target specific neighborhood projects and to motivate volunteers to implement the vision. For instance, *A Pattern Book for West Des Moines Neighborhoods* guides exterior home improvements so

that the design integrity of older neighborhoods is preserved. Other neighborhoods could adopt similar approaches to maintain neighborhood character.

## 7. Minimal Environmental Impact

Neighborhoods impact and are impacted by the natural environment. The long-term resiliency of a neighborhood depends on its relationship with its surrounding environment. Initiative 2 provides more information about the links between development, the environment, regional cooperation, and resiliency at the regional scale. Positive interactions are more likely when neighborhoods create places by conserving land and resources and by improving environmental quality. Promoting resiliency through reduced environmental impact involves two key pieces:

1. Conserving land and resources
2. Planning for natural disasters

First, neighborhoods can conserve land, energy, water, and physical materials through overall development patterns, infrastructure decisions, and building design. Conservation might take the form of energy efficient buildings, land conservation that preserves habitat for wildlife, recycling programs and composting opportunities, water-efficient landscaping practices, or development patterns that encourage walking and reduce the need to drive. In existing neighborhoods, additional natural stormwater utilities that reduce runoff can improve water quality. Individuals and families can help by making decisions to reduce overall consumption, use less water and energy, increase recycling and composting, and reduce single-occupancy vehicle trips.

Conserving resources helps avoid shortages, especially during times of scarcity. For instance, encouraging water conservation as standard practice can prevent more drastic water use restrictions during droughts.

Furthermore, reducing environmental impacts can yield economic benefits. Conservation can reduce the need to build new infrastructure, allowing for significant cost savings. Finally, a community's natural setting (overall landscape, vegetation, and wildlife) is often a critical component of its character. Preserving identity depends on respecting the environment. Preserving the environment today helps preserve it for future generations.

Second, natural disaster preparation and mitigation can help communities reduce the likelihood and severity of damage. Neighborhood risks include flooding, fire, ice, wind, severe weather (tornadoes, hail, snowstorms, etc.), drought, and mine subsidence.<sup>38</sup> Evaluating where and how damage is likely to occur can reveal opportunities for reducing the risk of damage. Some

parts of a neighborhood, like a floodplain, may be at greater risk for damage. Keeping future development out of these areas will help avoid damage when a natural disaster does occur. The greenways described in Initiative 2 keep this goal in mind. Strategies must also address existing houses and businesses located within floodplains and identify opportunities to reduce the risk of damage to people and structures. The City of Des Moines undertook a limited voluntary buy-out program in a few flood areas following the severe flooding in 2008.<sup>39</sup> Similar programs or policy changes can help remove existing residents and business owners from floodplains on a voluntary basis.

In addition to limited buyout programs, the City of Des Moines has mitigated flood damage through a substantial investment in protective levees and other flood protection improvements at the Birdland levee, the Riverpoint area south of downtown, West Grand Avenue/Walnut Creek area, and other flood-prone areas. The City of Ankeny provides an example of upstream best practices planning in its Fourmile Creek Blue Belt project.

Some types of damage may be more likely than others, and measures like updated building codes can help protect against these. Communities can also take more proactive steps to reduce the intensity of the damage. For instance, natural stormwater utilities and low impact development, which decrease stormwater runoff, can be helpful tools for flood mitigation. Readiness will become increasingly important in the future, as climate change leads to changes in weather patterns and more frequent and severe natural disasters. The Midwest is likely to see increased frequency and severity of heat waves, drought, and floods.<sup>40</sup> Resiliency is about anticipating these changes and taking proactive steps now. Resiliency must also include reducing greenhouse gas emissions to mitigate climate change.

### Action Steps:

- Use regional infrastructure planning to guide development and redevelopment to areas that help conserve open space and agricultural land. See Initiative 4 for more information.
- Encourage neighborhoods to review a municipality's disaster readiness plan and understand how their neighborhood can take steps to be more prepared in the event of a disaster.
- Work with MidAmerican Energy, Consumers Energy, and other power providers to create a region-wide standard for more efficient street lighting types and levels.
- Take part in a Mayor's Team Challenge to reduce municipal buildings energy usage.
- Work with Metro Waste Authority to create more opportunities

## SAY NO TO H<sub>2</sub>O?

In May 2013, Des Moines Water Works asked its customers to “manage seasonal irrigation for several weeks, even as drought conditions throughout the state continue[d] to improve.”<sup>41</sup>

Water Works CEO and General Manager Bill Stowe stated, “Although drought conditions are no longer an immediate threat to central Iowa, increased nitrate levels from agricultural run-off, coupled with high demand, puts Des Moines Water Works in a difficult position. With the assistance of all metro customers using water wisely, Des Moines Water Works can effectively and efficiently use the available water supply to provide safe drinking water that does not violate nitrate standards.”

According to Water Works, “due to the recent historic nitrate concentrations found in the Raccoon and Des Moines Rivers, Des Moines Water Works is not currently pulling water from either river. The utility is able to meet current demand by relying on other water sources, including Maffitt Reservoir, Crystal Lake, and aquifer storage wells. If demand increases, Des Moines Water Works will have no choice but to start taking water from the heavily polluted rivers, and may be unable to remove nitrate in a manner that keeps up with high demand.”

for neighborhood collection centers for recycling and composting if curbside programs do not already exist. Evaluate whether to process these items locally or at regional hubs.

- Convene a technical group to evaluate, revise, and recommend the adoption of a comprehensive regional standard along the lines of the Iowa Stormwater Management Manual, with additions that address FEMA National Flood Insurance Program requirements and EPA erosion, sediment control, and post-construction requirements.
- Create a regional framework for the evaluation of downstream impacts of upstream improvements. The Ankeny Blue Belt project is a good example of this.
- On a voluntary basis, remove flood prone properties from the flood plain and return the land to uses that support flood mitigation. Incorporate the already completed work for the Polk County Multi-Jurisdictional Hazard Mitigation Plan, and expand it to include Warren, Dallas, and Madison counties. FEMA and other flood buy-out funding could be helpful resources.

## 8. Self-Sufficiency

Neighborhoods typically rely on outside sources to meet basic needs like food and energy. Supplementing outside sources with local products can provide security against outside changes. Food can be supplied through community gardens or farm shares, which link local consumers with local farmers. Local food reduces transportation costs and the need to use preservatives and excess packaging. In the energy sector, electricity can be produced throughout the neighborhood with wind turbines or solar panels.

Self-sufficiency at the neighborhood scale helps increase resiliency at the regional scale by providing additional local capacity in regional food, energy, and other networks. Many aspects of neighborhood resiliency touch on these same aspects and have similar goals of increasing local jobs and locally produced energy and food.

### Action Steps:

- Continue to encourage local spending. Spending locally creates greater economic impact and keeps more money within the community. The Greater Des Moines Partnership's Buy Into the Circle program encourages Greater Des Moines area businesses to shift five percent of their current out-of-area spending back into the local economy. The Buy Fresh Buy Local campaign encourages the purchasing of locally grown food. The same idea could be expanded beyond local food and business spending to encourage residents to support locally owned businesses as well.
- Support the development of regional food plans and of urban agriculture in neighborhoods. The success of local farmers'

Residents have their own ideas about what factors make their community or neighborhood successful, as well as ideas about what efforts would make it a better place. Decision-making at the community and neighborhood levels should be inclusive, transparent, and effective.

markets shows that interest in local food is already high. Hosting nearly 300 vendors and drawing 20,000 visitors each Saturday, the Downtown Des Moines Farmers' Market has been listed as one of the nation's largest, best, and "must-see" farmers markets.<sup>42</sup> Build on the work of Eat Greater Des Moines and similar organizations and continue to identify opportunities to link farmers in central Iowa with local consumers. Buying local food lowers transportation costs, reduces the need for preservatives and packaging, and supports the agricultural economy. See Strategy 3D for more information.

- Convene a technical group to develop a model code or code amendment that provides for water saving and re-use techniques, such as local water storage (like cisterns or rain barrels), and for energy production. This could include suggestions for model language additions to local zoning codes, as necessary, that would allow for alternative energy production in ways that are consistent with neighborhood character.
- Ensure power companies accommodate a two-way flow of energy, both distributing electricity and allowing for individual inputs into the system. This will enable distributed energy production.

## 9. Inclusive Governance

Residents have their own ideas about what factors make their community or neighborhood successful, as well as ideas about what efforts would make it a better place. Decision making at the community and neighborhood levels should be inclusive, transparent, and effective. Inclusive governance requires diverse, engaged residents, and competent local leaders. Decision making groups should be representative of the population of the community or neighborhood so that decisions help the whole, not just one sector of the population. Successful governance also requires the capability to implement residents' visions, which may require volunteers, donations, or other funding sources.

By helping to increase the cohesion of residents and the sense of community, governance can be a key factor in resiliency. Local enthusiasm, vision, and leadership are critical to sustaining and improving communities and neighborhoods. Local initiatives can often respond to desires and concerns more quickly and effectively than high levels of government can.

### Action Steps:

- Identify opportunities to create or expand leadership development within communities and neighborhoods. Inventory existing leadership programs and explore opportunities for connections to common programming. Assist in linking community and neighborhood leadership with programs at schools and community colleges. Opportunities for

intergenerational interaction and learning are especially important.

- Support the implementation of Capital Crossroads recommendations for cultivating local leadership:
  - Develop a program that offers a credential to confirm potential leaders' acquisition of key knowledge and skills that would support their work in the community.
  - Optimize young professional networking and programming.
  - Engage students in next-generation leadership development efforts.
  - Develop a formalized regional mentorship program.
  - Create a minority leadership development program to ensure that the region's leadership reflects the demographics of the community.
- Develop a regional grant review process to help neighborhoods undertake projects that further goals of The Tomorrow Plan. For additional information and a proposed review process, see Strategy 4D.
- Develop a mini-grant program to support cross-boundary community or neighborhood initiatives. Awards could go to projects that benefit two or more communities or neighborhoods.
- Identify a suite of metrics for community and neighborhood resiliency, and encourage communities and neighborhoods to track these data points. Identify which metrics are required and which are optional, ensuring that data is readily available. Metrics allow for consistent benchmarking and tracking of key data to gauge progress over time.
- Use a new or existing regional forum for identifying cross-boundary improvement projects that are beneficial to all.
- Coordinate with local planning initiatives on cross-boundary projects.

## Additional Action Steps

In addition to the action steps specific to each characteristic of resiliency, increasing cooperation among communities and neighborhoods in the region is an important component of overall regional sustainability. The following actions will help support cooperation and coordination:

## TURNING GREEN INTO GREEN

According to an August 2013 report from the *Business Record*, Hubbell Realty Company took a risk in 2006 by building its first conservation community in Grimes. The conservation community featured smaller lots with houses closer to streets and to one another, making way for larger expanses of green space. Additionally, stormwater was managed by planting prairie grasses and wildflowers, both of which have deep roots that soak up water runoff. Given the success of the Grimes conservation community, similar areas have been developed in Altoona, Carlisle, Johnston, and Wauke.

“When it comes to sustainability, when it comes to green concepts, that part of the environment, the [development] market understands that part. A conservation development where they can actually see prairie grass and see how it works, they understand that,” said Rick Tollakson, Hubbell’s President and CEO.

Between 2008 and 2011, conservation lots averaged 43 percent of all Hubbell lot sales. In 2012, they accounted for 56 percent of Hubbell lot sales. In 2013, Hubbell expects that 60 percent of its lot sales will be in conservation communities.



# GOAL 4:

## Increase Regional Cooperation and Efficiency at All Levels

The Steering Committee and public discussions point to the need to continue building on an already productive regional framework. Some of the region's best examples of cooperative progress include organizations like the MPO, Metro Waste Authority, and the Wastewater Reclamation Authority. They demonstrate a mix of efficiencies, expanded services, and resilience stemming from these broad-based, thoughtful efforts to cross the boundaries of seventeen communities and four counties to embrace a regional view.

## Strategy 4A ○○○●

### Leverage the ongoing work of the MPO to serve as the entity to address monitoring and implementation of The Tomorrow Plan

As with all plans, the implementation strategy is a key component of The Tomorrow Plan’s success. Without a realistic implementation strategy, the best conceived plan will be relegated to the proverbial shelf. Key to the implementation strategy is determining who “owns” the plan, What entity is charged with following up on the many recommendations and with coordinating the implementation and update process?

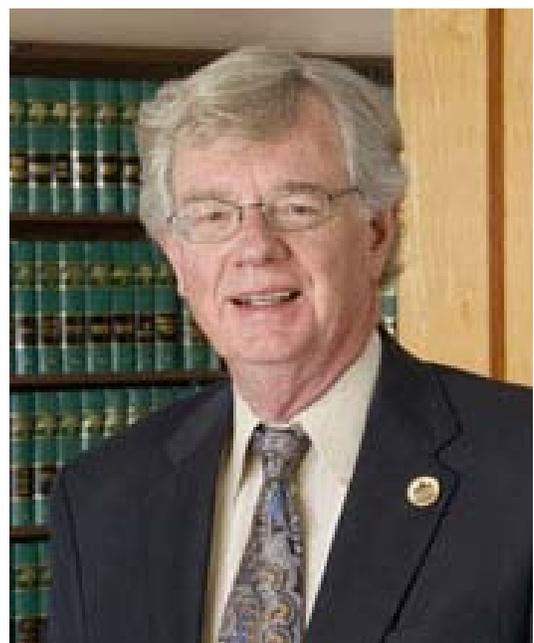
In all other areas of Iowa, this ownership responsibility would naturally fall to the long-established Councils of Governments (COGs) or Regional Planning Affiliations (RPAs). However, Greater Des Moines and the surrounding counties are unique in that it is the only area in the state not covered by a regional planning association. While the Central Iowa Regional Association of Local Governments (CIRALG) disbanded in the late 1970s, the core transportation planning activities continued under the purview of the MPO.

The MPO serves the same seventeen communities and four counties involved with The Tomorrow Plan. It is the official metropolitan planning organization for the Des Moines Urbanized Area under Federal Law 23 CFR 450. The organization formed under Chapter 28E of the Iowa Code to do transportation planning for the region, as required by state and federal transportation funding programs. Chapter 28E permits “state and local governments in Iowa to make efficient use of their powers by enabling them to provide joint services and facilities with other agencies and to cooperate in other ways of mutual advantage. This chapter shall be liberally construed to that end.”<sup>1</sup> Federal funds from several programs supported about two-thirds of the 2011 annual budget of approximately \$1.4 million, while local governments funded the remaining third.<sup>2</sup>

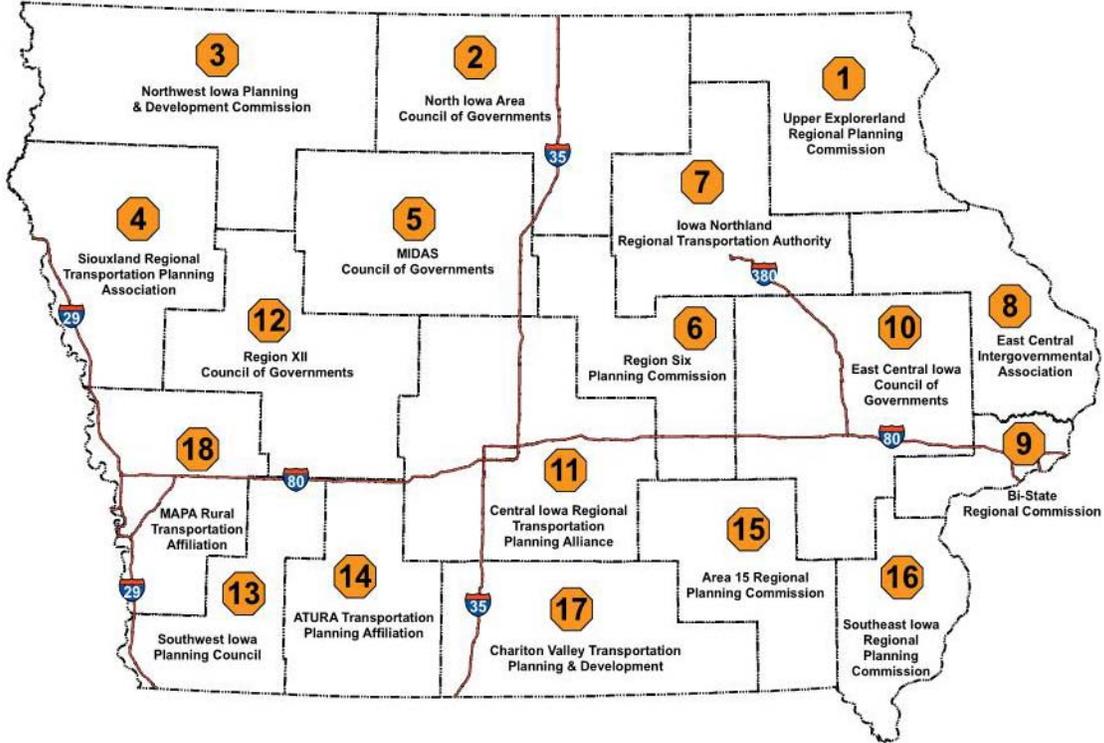
Three designated committees form the primary structure of the MPO. Planners and engineers from MPO member governments comprise the Transportation Technical Committee (TTC). The TTC offers technical guidance and recommendations to the Executive Committee. The Executive Committee receives this guidance and offers its recommendations to the Policy Committee. With these recommendations, the Policy Committee takes formal action on transportation issues. The Policy Committee includes city council members, county supervisors, mayors, and city managers. The member governments and participating agencies appoint their own representatives. The organization structure and the stakeholders involved in the MPO enable it to carry The

“Here in central Iowa, we have made significant advances in establishing a regional cooperative framework. However, as time passes, we must pursue and improve local systems. The demand for services will increase in breadth and depth due, in part, to federal and state pressures. The most meaningful way we can maintain the quality we enjoy at reasonable costs, is to do more together with less. This is an effort in which all of us must be involved.”

EJ Giovannetti  
Former Polk County Supervisor



REGIONAL PLANNING AFFILIATIONS



Tomorrow Plan forward, though a review of staffing and budgeting needs to occur in order to ensure effective implementation of the plan.

The MPO led the effort to apply for and secure the \$2 million grant that supports The Tomorrow Plan from HUD’s Sustainable Communities Regional Planning Grant program. The staff continues to spearhead the effort, working on the plan, building relationships across the region, and navigating the intricacies associated with working across jurisdictional boundaries. To further this type of cooperative approach, the region should:

- Formally recognize the MPO as the body to carry forth the work of The Tomorrow Plan.
- Work with the communities to adopt resolutions of support for The Tomorrow Plan.
- Explore additional funding mechanisms that enable the implementation of The Tomorrow Plan.
- Incorporate data from The Tomorrow Plan into the Greater Des Moines Regional GIS dataset.

- Develop an online resource to provide access to regional datasets in collaboration with the Greater Des Moines Regional GIS group.
- Use The Tomorrow Plan in the development of the MPO’s long-range transportation plan.
- Assist local governments in using The Tomorrow Plan in their own planning efforts.
- Develop annual reports to address implementation progress.

**STRATEGY 4A**  
**POTENTIAL CHAMPIONS:**  
 MPO  
 DART  
 Communities  
 Greater Des Moines Partnership  
 Greater Des Moines Regional GIS group

# Strategy 4B

## Develop a Regional Infrastructure Coordinating Committee (RICC)

Infrastructure coordination is important to Greater Des Moines for several reasons. First, infrastructure forms the backbone of the region’s economy and quality of life. Secondly, continued investment in regional infrastructure is essential to the economic growth of the region. Finally, efficient provision of infrastructure is critical to the sustainability of the region.

Regional infrastructure coordination has occurred in Greater Des Moines for decades and has typically focused on specific infrastructure. For example, the creation of the Wastewater Reclamation Authority (WRA) in 1979 under Chapters 28E and 28F of the Iowa Code established a regional wastewater treatment facility and distribution system. Seventeen local communities — those that are part of The Tomorrow Plan excluding Carlisle, Grimes, and Mitchellville — participate in this regional infrastructure authority today. Other examples of regional infrastructure coordination include Des Moines Water Works, the MPO, DART, and the Metro Waste Authority (MWA).

All of these coordinated efforts are examples of formally established agencies or organizations serving Greater Des Moines. In addition, informal coordination of infrastructure has occurred on a periodic basis, often initiated by the regional utility companies.

Nonetheless, adjacent communities in the region often make decisions about land use and zoning without the benefit of coordination with the aforementioned service providers. At times, this results in inefficient, higher cost infrastructure — or delayed responses to emergencies. Currently, Polk, Warren, and Dallas counties; the City of Des Moines; and Westcom, a collaboration between Clive, Urbandale, and West Des Moines, operate independent emergency communications systems that are neither compatible or interoperable.

While these ongoing infrastructure coordination efforts focus on a single type of infrastructure or service, this strategy challenges the region to begin coordinating across a range of infrastructure types. Further, the inter-relatedness of infrastructure systems and land use must be recognized and incorporated into local and regional land use planning. A step towards accomplishing this more comprehensive — and proactive — infrastructure coordination would be the establishment of a Regional Infrastructure Coordinating Committee (RICC). Steps in this direction would include:

- Develop a Regional Infrastructure Coordinating Committee (RICC) to discuss public infrastructure improvements and to further infrastructure coordination.
- Invite representatives of regional utility companies and other infrastructure/service providers, along with city public works directors, city administrators, and, when appropriate, local planners to the RICC.
- Dedicate MPO staff to facilitate RICC meetings on a quarterly basis.
- Work to consolidate voice and data communications systems so that all emergency response agencies can seamlessly share information.

**STRATEGY 4B  
POTENTIAL CHAMPIONS:**

MPO

DART

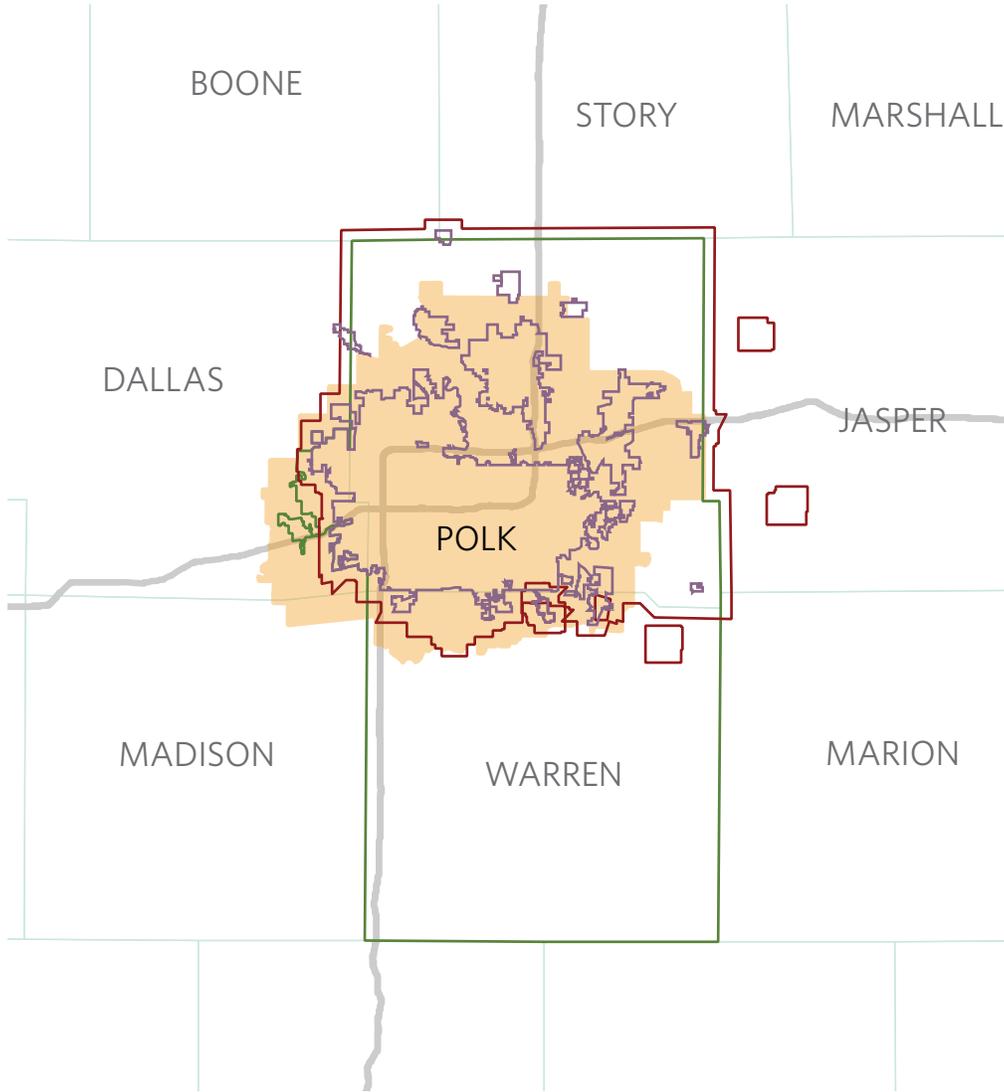
Metro Waste Authority

Des Moines Water Works

Wastewater Reclamation Authority

MidAmerican Energy

DART, DMWW, WRA, AND MWA JURISDICTIONS COMPARED TO STUDY AREA



- DART
- WRA / DMWW
- MWA
- STUDY AREA BOUNDARY
- INTERSTATES

# Strategy 4C

## Maintain ongoing educational efforts for the development and maintenance of healthy communities

The Tomorrow Plan covers many communities and several counties. The fundamental motivation of this plan is the belief that the whole is greater than the sum of its parts. How we get those different parts to work together effectively is the challenging part of this effort. Coordination requires ongoing and ever-increasing understanding on the part of local residents and decisionmakers at the highest levels of business and government. All of us need to know more about what it takes to create and maintain regions that are economically, environmentally, and socially healthy.

The foundation for this work has been created through the planning process. More than 26,000 contacts were made through the public engagement process. The ongoing work of the numerous committees and working groups has created an ever-expanding understanding of what’s involved in getting multiple constituencies together and working together. In fact, the first component that gave this plan traction was a concerted public education effort about the planning and design principles that lead to healthy communities. This strategy recommends we keep this approach going through the following actions:

- Continue the ongoing educational series about sustainable communities by developing a mechanism for the MPO to expand the reach of speakers coming to the region.
- Provide a quarterly forum for local elected officials, including

planning and zoning commission members, and staff to exchange ideas.

- Select and train a corps of professionals from across the region to speak about sustainability and The Tomorrow Plan.
- In partnership with community partners, develop and maintain a community calendar that provides a one-stop look at sustainability-related events around the region.
- Design a marketing approach and action strategy for ongoing educational efforts. Structure the plan to leverage social media, relationships with community partners, and the best of what has already occurred through this planning process.
- Maintain current web and social media tools, including Facebook and Twitter.
- Create an online toolbox as an up-to-date source on the progress of The Tomorrow Plan, as well as on best practices, examples, and technical resources.

**STRATEGY 4C**  
**POTENTIAL CHAMPIONS:**  
 MPO  
 Center on Sustainable Communities  
 Greater Des Moines Partnership  
 Communities  
 Neighborhood associations



## Strategy 4D

### Leverage The Tomorrow Plan to secure and award funding for regional benefit

A foundational idea underlying The Tomorrow Plan is that, by communicating regularly, the region can address some of its toughest challenges and can create an economy built to last based not on individual projects but on collaboration and a shared vision. Though the planning process has already furthered these efforts, the region will continue to promote a prosperous future for all by leveraging the plan to secure and award funding for regional benefit. While the plan does not dictate specific funding strategies or policy decisions that are within the authority of stakeholder organizations and 28E organizations, the region can leverage The Tomorrow Plan in multiple ways, including for:

- Transportation funding;
- Housing funding;
- State grant programs;
- Integrated Planning and Implementation Strategies;
- Community Challenge grants;
- Preferred Sustainability Status Community grant opportunities; and,
- Other federal sustainable communities grant programs.

### Transportation Funding

#### Surface Transportation Program (STP) + Transportation Alternative Program (TAP) Funding

Each year, the MPO allocates approximately \$12 to \$14 million to member governments and participating agencies. This flexible funding is available for projects addressing any federal-aid highway, bridge projects on public roads, transit capital projects, intra-city and intercity bus terminals and facilities, bicycle and pedestrian facilities, and streetscape projects.

Currently, STP and TAP funding applications must meet a fifty-point threshold to be eligible for funding. These points are calculated based on technical criteria set by the MPO. If a project meets the fifty-point threshold, it is presented to the STP funding subcommittee, which recommends funding amounts to the MPO Executive and Policy Committees. The MPO Policy Committee makes the final decision on allocations. To further the implementation of The Tomorrow Plan and to better prepare

Greater Des Moines to compete in a global marketplace, the MPO should review its funding process. The MPO's funding process should encourage communities to identify and develop projects and plans reflecting The Tomorrow Plan's guiding principles.

#### Design Node Assistance (DNA)

STP funds currently available for planning projects should transition to support appropriate node and corridor development. We envision a grant program — Design Node Assistance (DNA) — that addresses walkability, transit-oriented development, and excess automobile use, among other features, in order to shape a future of more resilient and community-oriented nodes and corridors across the region.

Elements of this grant will require a community match. A DNA program that streamlines grant programs will support appropriate visioning activities, strategic direction, master planning, and the creation of an implementation checklist. Funding that can support this effort in at least three to five nodes in the region should be available annually.

The grant criteria should include community, developer, and property owner support for investigating the design possibility of a node and/or corridor.

#### Iowa Clean Air Attainment Program (ICAAP) Funding

The Iowa Clean Air Attainment Program (ICAAP) provides flexible funding in support of improved air quality. The purpose of ICAAP is to help finance transportation projects and programs that result in the attainment of national ambient air quality standards. ICAAP funds are awarded to projects and programs with the highest potential for reducing transportation-related congestion and air pollution.

In order to fully leverage these transportation funding sources, Greater Des Moines should take multiple action steps. It should:

- Explore dedicating additional STP funding to transit and prioritizing the implementation of BRT, while ensuring that smaller communities are not disadvantaged due to less transit in their communities.
- Dedicate additional TAP funding to greenways that relate to transportation priorities.
- Work with member governments and participating agencies to identify projects for ICAAP funding.

- Within the Statewide Urban Design and Specifications (SUDAS), identify preferred design elements, propose amendments, and create guidelines to complement as needed.
- Modify the scoring criteria to give preference to projects that feature the preferred design elements at node locations and along identified corridors.
- Identify a list of prioritized regionally significant projects through the MPO's long-range planning process. Ensure smaller communities maintain their access to funds.
- Fund requests for regionally significant projects in order of the prioritization laid out in the MPO's long-range transportation plan.
- Establish the DNA program, an accessible, streamlined grant program designed for ease of use by communities. Look at programs from the Iowa Architectural Foundation, the American Planning Association, and the American Institute of Architects as models.

## Housing Funding

### Iowa Economic Development Authority

The Iowa Economic Development Authority (IEDA) offers numerous programs that support community development and housing. Since 2008, IEDA has helped improve over 1,100 homes. Through the Community Development Block Grant (CDBG) program, IEDA seeks to foster vibrant communities by offering decent housing and suitable living environments. IEDA annually sets aside 25 percent of its CDBG funds for housing. These funds go to owner-occupied rehabilitation of single-family homes used

as principal residences. IEDA uses the following eligibility criteria for these funds:<sup>3</sup>

- Projects must primarily benefit low- and moderate-income persons (per HUD's definition);
- Projects must incorporate and support Iowa's state sustainable principles;
- Rehabilitation of all houses must be in accordance with any locally adopted building and housing codes, standards, and ordinances. If local building codes do not exist, houses must be in accordance with the Iowa Minimum Housing requirements;
- Projects using IEDA funds must follow rehabilitation standards. Rehabilitation projects have a maximum per unit subsidy of \$37,500, including but not limited to the hard costs of rehabilitation, technical services costs (including lead hazard reduction carrying costs), lead hazard reduction costs, and temporary relocation;
- Rehabilitation hard costs are limited to \$24,999 of the total maximum subsidy of \$37,500; and,
- Applicable technical services costs (including any lead hazard reduction carrying costs) are limited to \$4,500 per unit of the total maximum subsidy of \$37,500.

Furthermore, IEDA offers the Residential Landlord Business Support Program and Jumpstart Iowa, which are housing assistance program distributed through its disaster recovery program; housing enterprise zones; historic downtown resources; the neighborhood stabilization program; and, tax increment financing (TIF) variances for low- and moderate-income assistance.

### Iowa Finance Authority

The Iowa Finance Authority (IFA)<sup>4</sup> offers a diversity of programs that benefit Iowans. The State Housing Trust Fund (SHTF) helps ensure decent, safe, and affordable housing for Iowans. Local housing trust funds receive at least 60 percent of the SHTF provision, while the remaining funds support the Project-Based Housing Program that aids the development of affordable housing. IFA also offers technical assistance to housing-related organizations supporting these programs.

The Main Street Mortgage Loan Program — a partnership between Main Street Iowa, the Federal Home Loan Bank of Des Moines, and IFA — provides funds for lending to Main Street communities in the state. Loans support the rehabilitation of upper floor housing or commercial properties, along with new construction and infill in downtown areas.

## THE INFRASTRUCTURE FUNDING TIMEFRAME

With the increasing cost of transportation infrastructure, it is important to develop funding strategies that efficiently use the limited funding resources currently available. Suppose a project costs \$1,000,000. Using a standard 4 percent inflation rate, the project cost increases by \$170,000 to \$1,170,000 over a five-year period. Existing funding strategies typically spread federal funds across multiple years, resulting in a decrease in the purchasing power of federal funds. The decrease in purchasing power, coupled with increasing project costs, results in a higher taxpayer burden.

The Emergency Solutions Grant (ESG) is a HUD program aimed at assisting people in quickly regaining stability in permanent housing after facing a housing crisis or homelessness. IFA manages the state's allocation of these funds, while some cities also manage their own allocations from HUD.

IFA's Shelter Assistance Fund (SAF) uses state funds to back the rehabilitation, expansion, and operation costs of group home shelters for the homeless and victims of domestic violence. City and county governments are eligible for this funding, as are nonprofit service agencies.

Finally, IFA manages the state's federal allocation of the Housing Opportunities for Persons with AIDS (HOPWA) program. This HUD program aims to assist persons with HIV/AIDS and their families who are homeless or at-risk of homelessness.

### **Polk County Housing Trust Fund**

The Polk County Housing Trust Fund (PCHTF)<sup>5</sup> is the comprehensive planning, advocacy, and funding organization for affordable housing in Polk County. Founded in 1995, the Trust Fund is responsible for allocating state and local funds aimed at increasing and preserving the inventory of affordable units in the county. It is also responsible for funding non-profits that assist low income persons in obtaining and retaining affordable housing. This enables the PCHTF to create and sustain a broad, integrated vision of affordable housing inventory and the supportive services necessary to maximize the impact of that inventory.

The PCHTF is the only organization operating in Polk County whose focus is on the entire continuum of affordable housing – from homelessness to home ownership. Because its view is broad, the PCHTF is able to help the community formulate and execute a unified strategic plan to address affordable housing needs.

The PCHTF also takes a critical, long-range view. Needs, circumstances, and funding opportunities change, and anticipating and planning for these changes is one of the very valuable services that the PCHTF brings to the community.

The broad and long-range vision of the PCHTF makes it uniquely positioned to engage in advocacy activities for affordable housing on the local, state, and national levels. State and local decision makers are members of the Board of Directors. Strategic relationships with government and business groups allow the PCHTF to ensure that good housing policy is included in unified national policy statements that come from the Greater Des Moines region.

## **FUNDING CATEGORIES**

Recognizing that different regions are at different stages of their goals for sustainability, HUD established two funding categories<sup>6</sup> as part of its Sustainable Communities Regional Planning Grant program:

Category 1 grants like the one received by Greater Des Moines support the creation of a regional plan for sustainable development. These plans address housing, economic development, transportation, energy, water, and environmental quality in an integrated fashion where such plans do not currently exist or where they exist but need to be significantly revised or enhanced.

Category 2 grants facilitate detailed execution plans and programs. They support efforts to fine-tune existing regional plans so that they address the full complement of livability principles in an integrated fashion. Further, these grants support the preparation of more detailed execution plans for an adopted sustainable development regional plan, as well as reduce pre-development hurdles for catalytic projects that are a significant aspect of the regional plan.

### **US Department of Housing and Urban Development**

The US Department of Housing and Urban Development (HUD) offers much support related to housing. HUD's website offers assistance in the areas of home buying, foreclosure avoidance, affordable housing, rental assistance, the Real Estate Assessment Center access, housing counselors, grants, fair housing discrimination complaints, Limited Denials of Participation list, local public housing agencies, and jobs. HUD's current priority initiatives relate to the Making Home Affordable Program, the American Recovery and Reinvestment Act of 2009, disaster recovery resources, and the Energy Star program, which is a benchmark of energy efficiency.

### **State Grant Programs**

The State of Iowa maintains an online clearinghouse of grants offered by various departments at [www.iowagrants.gov](http://www.iowagrants.gov). This site allows interested parties to search for grants available from numerous state agencies, including the DOT, the Department of Cultural Affairs, the Department of Public Health, the Department of Natural Resources, and the Iowa Economic Development Authority.

## Integrated Planning and Implementation Grant

In the spring of 2013, President Barack Obama introduced his FY 2014 Budget Proposal that included \$47.6 billion for HUD, \$75 million of which will support a new Integrated Planning and Implementation (IPI) Grant program.<sup>7</sup> These grants will build on HUD's Regional Planning and Community Challenge grants, help make America a magnet for jobs, and create ladders to opportunity in American communities. The Integrated Planning grants will coordinate housing, land use, and transportation investments to address the growing cost burden faced by working families. It will also allow existing dollars to more effectively increase economic competitiveness, strengthening the American middle class.

## Community Challenge Grants

HUD also offers Community Challenge Grants, which "foster reform and reduce barriers to achieving affordable, economically vital, and sustainable communities."<sup>8</sup> These grants may support amending or replacing local master plans, zoning codes, and building codes, either jurisdiction-wide or in a specific neighborhood, district, corridor, or sector in an effort to promote mixed-use development, affordable housing, and the reuse of older buildings. All of these activities are done with the goal of promoting sustainability at the local level. This program also supports the development of affordable housing through the adoption of inclusionary zoning ordinances.

## Preferred Sustainability Status Community Grant Opportunities

Because of The Tomorrow Plan, HUD designated the MPO and Greater Des Moines as a Preferred Sustainability Status (PSS) Community.<sup>9</sup> PSS is a special designation provided by HUD to recognize communities taking extraordinary steps toward strategic planning and development for their region in a way that aligns with the federal Partnership for Sustainable Communities livability principles.

PSS entitles grant applicants from Greater Des Moines to two primary benefits. First, the region can take advantage of several technical assistance opportunities that will help advance sustainable planning and development in the region. Secondly, a growing number of HUD discretionary grant programs recognize PSS in their competitions, providing additional bonus points for those that have earned the designation. The programs in which this is the case are:

- Asthma Interventions in Public and Assisted Multifamily Housing Grant Program
- Brownfields Economic Development Initiative (BEDI)
- Capital Fund Education and Training Community Facilities Program
- Choice Neighborhoods
- Continuum of Care
- Fair Housing Initiatives Program
- Healthy Homes Production
- Healthy Homes Technical Studies
- Hispanic Serving Institutions Assisting Communities (HSIAC)
- Historically Black Colleges and Universities Program (HBCU)
- HOPE VI Main Street
- HOPE VI Revitalization
- Housing Counseling Program
- Lead-Based Paint Hazard Control Program
- Lead Hazard Reduction Demonstration
- Housing for Persons with AIDS (HOPWA)
- McKinney-Vento Homeless Assistance Programs Technical Assistance
- Multifamily Energy Innovation NOFA
- Rural Innovation Fund
- Section 4 Capacity Building for Community Development and Affordable Housing
- Section 202 Supportive Housing for the Elderly
- Section 811 Supportive Housing for Persons with Disabilities Program
- Self-Help Homeownership Opportunity Program (SHOP)

To receive the bonus points, applicants must include a HUD Form 2995 that demonstrates the applicant's relationship to the region. With this in mind, the region should adopt a process for the MPO to participate in the review of any application that seeks HUD

bonus points to assure that they are adequately addressing the goals and priorities established by The Tomorrow Plan.

Other regional planning grant initiatives have implemented this process. The process outlined in the toolbox has been adapted from one created by the Roanoke Valley-Alleghany Regional Commission in Virginia.

HUD also is working with other federal partners that will be unveiling their own plans to recognize PSS.

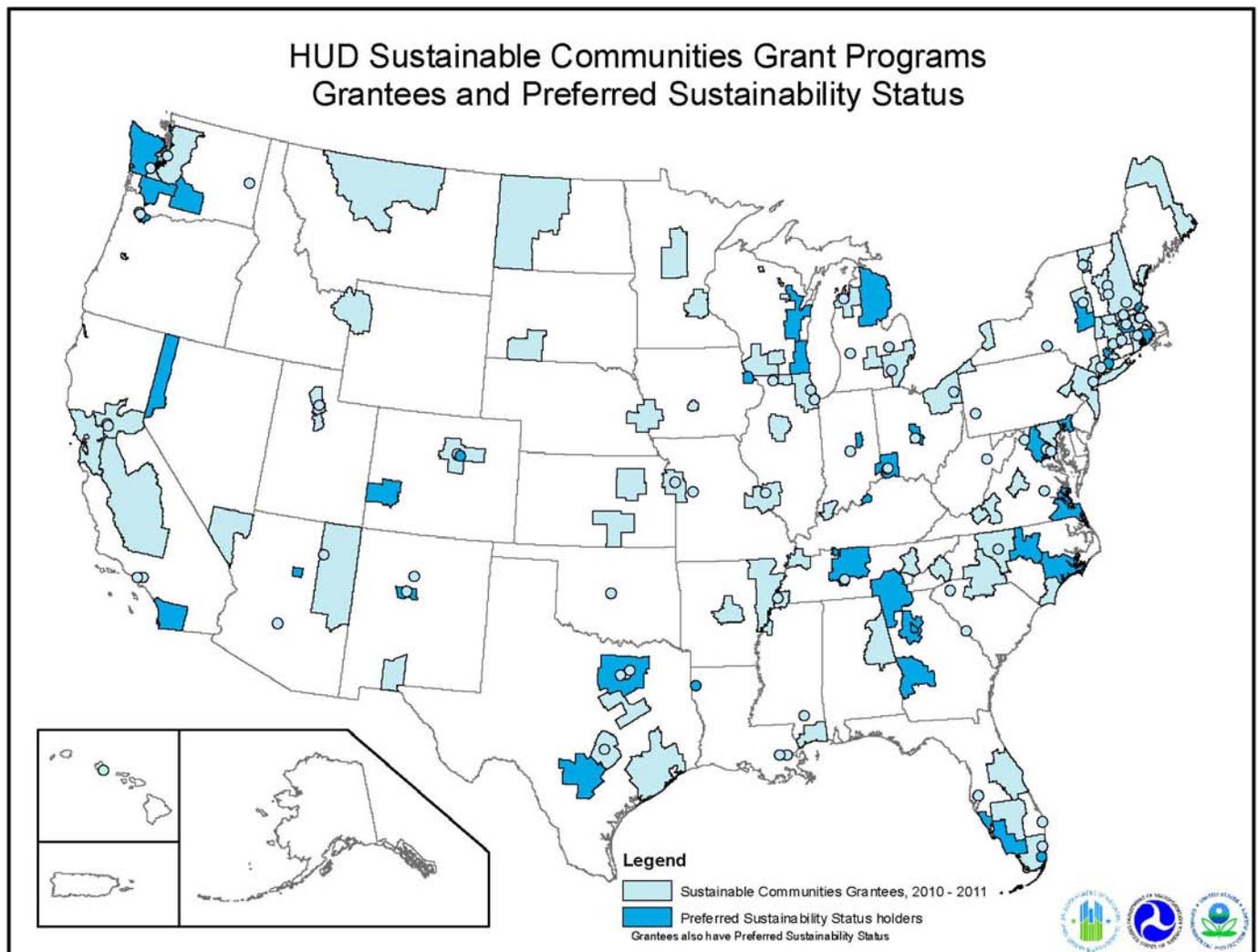
those from regions that have not gone through a similar planning process.

Funding is available for a variety of uses, including community planning, affordable housing finance, technical assistance, research, and capital infrastructure investments. The matrix in the toolbox provides information on potential federal funding opportunities, including eligibility requirements, program descriptions, and deadlines. The list of federal grant programs changes regularly. The MPO will continually update this matrix so that it continues to serve as a resource for the region in advancing

### Other Federal Sustainable Communities Grant Programs

The Tomorrow Plan can be a valuable resource for communities in Greater Des Moines seeking federal assistance. HUD, DOT, EPA, and several other agencies have made millions of dollars in funding available to support the planning and implementation of projects that promote sustainable communities. By addressing the goals of The Tomorrow Plan in federal grant applications, federal agencies are likely to look more favorably on these applications than

**STRATEGY 4D  
POTENTIAL CHAMPIONS:**  
MPO  
Communities



## Strategy 4E

### Explore the merits of regional alternative revenue sources

One of the driving themes behind The Tomorrow Plan is the notion of using limited resources as efficiently and effectively as possible. In a climate of declining funding availability, including changes to the way in which businesses are taxed, fiscal disparity and unhealthy competition are poised to increase in Greater Des Moines.

A look at current area property tax rates reveals a range from under \$8.00 per \$1,000 to almost \$17.00 per \$1,000.<sup>10</sup> Tax abatement programs range from ten-year abatements to 100-percent abatements to no abatements. These fiscal disparities cause hardships for taxpayers in communities with high tax and abatement rates.

Difficulty with raising the gas tax and with passing local option sales taxes compounds the challenge. Implementing new revenue sources in Greater Des Moines, if appropriate, could save taxpayers a significant amount.

Greater Des Moines should explore the merits of regional alternative revenue sources. These could include revenue sharing, a local option sales tax, and a regional asset tax. Specific actions include:

- Review potential revenue sources, including revenue sharing, local option sales tax, and regional asset tax programs around the country.
- Research necessary legislative actions to bring alternative revenue sources to Greater Des Moines.

## “GEOGRAPHY HAS MADE US NEIGHBORS... ECONOMICS HAS MADE US PARTNERS.”

– JOHN F. KENNEDY

The Minneapolis-St. Paul region provides a nearby example of successful tax-base sharing. The program, commonly referred to as the Fiscal Disparities Program<sup>11</sup> and passed in 1971, provides a way for communities to share in the region’s growth, to reduce competition for tax base, and to work within the existing system of local governments and local decision making. Further, tax-base sharing promotes better planning by encouraging regional cooperation, by making resources available for early development and redevelopment, and by encouraging environmental protection.

In Minneapolis-St. Paul, forty percent of each community’s commercial-industrial property tax base growth goes into a regional pool. Then, the region redistributes this pool based on population and the market value of all property in each community. Thus, communities with relatively low market value per capita (fiscal capacity) receive a larger share of the regional tax base.

Tax-base sharing has proven successful in the Minneapolis-St. Paul region. Nearly twice as many cities gain revenue as lose revenue. For cities with population above 10,000, tax-base sharing reduces fiscal disparities from 10:1 to 3:1. In 2012, the shared tax base totaled \$390 million and resulted in \$553 million in tax revenue. Greater Des Moines would be expected to see similar kinds of returns and reductions in disparities if it implemented a similar model.



## “WE STAND HERE TODAY, UNITED, WITH ONE VOICE.”

– RON CORBETT

The issue of how to fund infrastructure projects resonates throughout the state. The eastern Iowa communities of Cedar Rapids, Marion, Hiawatha, Robins, and Fairfax banded together in 2009 to collect a local option sales tax. The tax helps these communities fund infrastructure projects.<sup>12</sup>

While the communities don’t always see eye to eye, they all support the extension of the current 1 percent tax for 10 years to help fund infrastructure projects. If passed, Cedar Rapids would use the funds for streets, according to Mayor Ron Corbett. Meanwhile, Hiawatha would fund streets as well as other city departments, including police, fire, water, parks, the library, and City Hall, while Marion would use the funds for streets, a fire station, upgrades to parks and trails, and sewer and water management projects.

A local option sales tax provides a pay-as-you-go approach, meaning that communities have revenue each year without the need to take on debt for street projects. The people who work, shop, dine, and recreate in the area but live elsewhere also pay the sales tax, meaning that everyone who uses the area helps contribute to its maintenance.

# INITIATIVE 4 | REGIONAL COOPERATION

## ENGAGE IN REGIONAL COOPERATION TO SUPPORT STORMWATER MANAGEMENT AND INFRASTRUCTURE

A recently enacted state law, Iowa Code 466B.22, established WMAs in Iowa. This now allows stormwater runoff to be managed at a watershed level. Working through a WMA, cooperating municipalities can assess conditions, diagnose problems, and propose solutions for places upstream and downstream of their own boundaries. Municipalities can opt out of a WMA, but, by doing so, they miss the opportunity to influence the management of stormwater runoff upstream of them and to share the responsibility for stormwater management with others.

### Implementation

The action steps here overlap with some actions in the greenways section. This is expected. Greenways often contain green infrastructure, such as storage areas in the form of wetlands and floodplains, constructed stormwater treatment drains to manage runoff from streets and buildings, and vegetated open space that reduces the need for stormwater management at that location.

#### 1. Establish Watershed Management Authorities

Fourmile Creek became the first WMA in Greater Des Moines when the Polk County Board of Supervisors, with the agreement of municipalities in that watershed, approved its creation. Additionally, a watershed alliance is taking steps to form a WMA along the Raccoon River. Although just west of the region, a Middle-South Raccoon WMA would be a boon to the region's water quality. Within Greater Des Moines, the Calhoun, Beaver, and Walnut Creeks, as well as the North and Middle Rivers, are potential areas around which WMAs would likely form.

Once created, a WMA can assess flood risks and water quality issues and can propose options for addressing those issues. They can also engage in education, the monitoring of federal flood risk planning, and the distribution of money and contracts.

Perhaps the most influential role a WMA can play is developing and implementing a comprehensive watershed management plan. This type of plan takes a long-term, comprehensive approach to

water management at a watershed scale. The development of a watershed management plan promotes:

- Collaboration between municipalities and other organizations;
- Data collection and analysis;
- A greater understanding of the watershed's issues and opportunities;
- Identification of solutions;
- Prioritization of initiatives; and,
- Cooperation during implementation.

Participation in watershed planning by public and private landowners and by other stakeholders leads to holistic and sustainable solutions and creates a sense of plan ownership and watershed stewardship. This approach to watershed planning and management provides fertile ground for establishing greenways and making plans for green infrastructure.

#### 2. Create natural stormwater utilities throughout the region.

Creating natural stormwater utilities will be achieved in part by establishing the region's greenways system. Municipalities can implement the system through their planning and zoning commission, with ordinances and overlay districts approved by municipal boards. Beyond this framework, there are other areas where natural stormwater utilities can be protected, restored, or created. For example, plowed and drained wetlands make excellent sites for restoring the storage and filtration functions of natural systems. When a new development is planned, the developer can identify and build around such areas so that they can manage the site's stormwater runoff and provide open space.

The region needs stormwater utilities to fund stormwater management programs, many of which the Clean Water Act mandates. The City of Des Moines is the only community in the

region that is covered under Phase I of the US EPA's National Pollutant Discharge Elimination System (NPDES) permit program because it operates a municipal separate storm sewer system (MS4) for a population over 100,000. The NPDES permit program controls water pollution by regulating point sources that discharge pollutants into waters in the US. Point sources are discrete conveyances such as pipes or manmade ditches. The Phase II NPDES program requires smaller MS4s not covered in Phase I, and it also requires developments that disturb 1 to 5 acres of land to implement programs and practices to control polluted stormwater runoff and obtain an NPDES permit. Many communities around Greater Des Moines are small MS4s. Phase II requires small MS4s to follow six minimum control measures:

- Public education and outreach;
- Public participation/involvement;
- Illicit discharge detection and elimination;
- Construction site runoff control;
- Post-construction runoff control; and,
- Pollution prevention and good housekeeping.

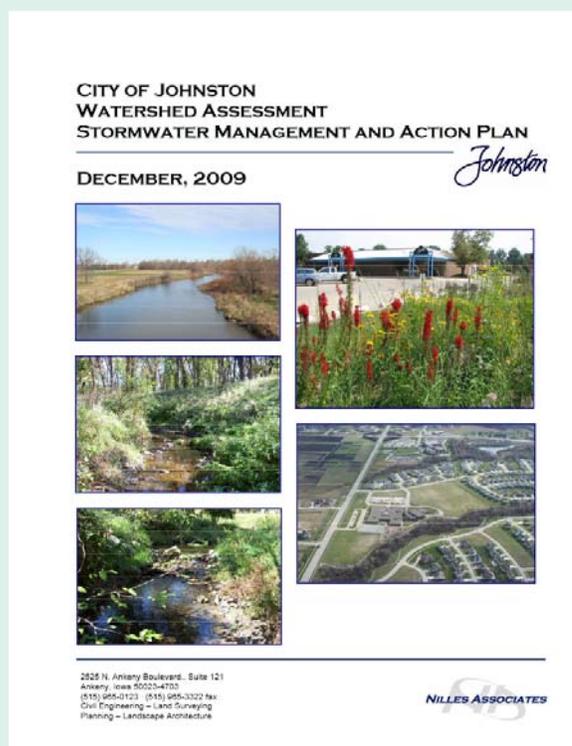
Development and implementation of these programs requires funding, which is typically provided by stormwater utilities. Many municipalities in the planning area already have stormwater utilities. The City of Ankeny's stormwater utility, established in 2009, explicitly addresses green infrastructure. This acknowledgement of the role of green infrastructure in stormwater management is a growing trend that will help expand the understanding and benefits of natural stormwater utilities. As a point of reference regarding the financial implications of such a utility, Ankeny's stormwater utility fees are typically around \$4/month for residences and around \$15/month for commercial properties that have more impervious cover. These fees vary widely across the region and state, however.

**3. Promote ordinances for best stormwater practices in new developments, redevelopment areas, and existing developments.**

A variety of ordinances have been developed for Greater Des Moines communities addressing stormwater before, during, and after construction projects. Before any dirt is moved, effective stormwater management requires planning and often requires quantitative modeling to ensure that stormwater will be managed effectively. During construction, erosion and sediment control is a priority due to the presence of disturbed or bare ground. Most Greater Des Moines municipalities already have ordinances that address construction-related erosion and sediment control.

**A MODEL PLAN FOR THE REGION**

In 2009, the City of Johnston published its Watershed Assessment Stormwater Management and Action Plan.<sup>13</sup> The plan provides insight into the existing conditions of watersheds in Johnston that could have an impact on flooding, stream bank stability, water quality, and habitat for fish and wildlife. The City of Johnston is using this knowledge to guide its stormwater mitigation efforts.



Following construction and redevelopment projects and after a site has been stabilized, ordinances often require that runoff is retained during different types of storms.

The region should explore the development of a uniform standard across the region and of a single agency to perform all stormwater management inspections. It is difficult for smaller communities to have that specific expertise on staff.

The City of Ankeny's ordinances serve as good examples of holistic stormwater management. Ankeny has a post-construction site runoff control policy ordinance. It promotes the use of stormwater detention and retention, grass swales, bioretention swales, riparian buffers, and proper operation and maintenance of these facilities. Ankeny also conducts a site plan review of post-construction runoff controls and inspects runoff control devices to ensure compliance. This combination of regionally-appropriate standards, thoughtful planning and design, proper implementation, and monitoring makes it a successful stormwater management program.

■ **Construction Erosion and Sediment Control Standard.**

Most Greater Des Moines municipalities have construction requirements for erosion and sediment control. What is sometimes lacking is adequate inspection of installed Best Management Practices (BMPs), ongoing monitoring for the duration of the project, and prompt corrective action when warranted. Ensuring compliance with existing ordinances produces significant stormwater improvements. Some communities have found that a third to half of the sediment entering water bodies comes from uncontrolled runoff during construction.

■ **Post-Construction Stormwater Volume Control Standard.**

Volume controls are a relatively simple and effective means of achieving flood reduction, the protection of water bodies, and water quality improvement. The power of this approach is its focus on performance and outcomes, rather than on prescribing specific practices for specific situations. Consequently, a broad range of techniques and design flexibility are possible. The size of best stormwater practices are often determined in order to achieve volume control for what is termed a water quality design storm. The Iowa Stormwater Management Manual defines the water quality design storm as a rainfall amount that would include 90 percent of all rainfall events. These events recur every three to four months and drop less than 1.25 inches of rain. Multiple communities in Greater Des Moines have stormwater ordinances that require that the 1.25-inch water quality event be fully treated. This requirement is appropriate for the remainder of Greater Des Moines as well.



EXAMPLE OF A STORMWATER TREATMENT TRAIN

Source: University of Wisconsin, Milwaukee <http://www4.uwm.edu/pps/Sustainability/CampusInit/storm-water.cfm>

- **Post-Construction Water Quality Control.** Volume control by itself is not enough to fully improve water quality to desired levels, but it goes a long way. In addition, a well-designed stormwater treatment train (STT) can receive runoff and can produce very high quality water. STTs use a variety of BMPs to manage water flowing across and through a site. The individual treatment elements are selected to work best for the site and to address specific pollutants. STT elements can include constructed features that mimic natural structures, such as vegetated swales, treatment wetlands, wet prairies, upland prairies, and rain gardens. Other hard structural components, such as level spreaders or subsurface infiltration galleries, are useful where space is limited. Dense urban areas may require even more highly engineered and structured solutions, such as tree planters and subterranean or rooftop storage and treatment systems, including green roofs. Hybrid systems of natural and hard elements are often best because they take advantage of a site's specific conditions.
- **Water Quality and Stream Buffers.** Buffers provide a variety of services. Historically, buffers focused primarily on stream protection and consisted mostly of vegetated filter strips. Filter strips of 10 to 20 meters prevent surface runoff from washing directly into streams and other water bodies. Habitat buffers are generally wider, at 400 meters or more.<sup>14</sup> They provide corridors for wildlife movement, walking trails, erosion control, and stormwater management projects. Buffers, in combination with greenways, make it possible to achieve multiple objectives in the same area, often with single sources of funding. Among those benefits are the addition of wildlife habitat, recreational greenways, stormwater treatment trains, and stream buffers.

## Green Infrastructure Tools for Municipalities

Green infrastructure is an integral part of a municipal stormwater management system. These examples of green infrastructure are adapted from the Iowa Stormwater Management Manual:

- **Infiltration systems.** These capture a certain amount of runoff and let the water infiltrate it into the ground. They can be engineered sand/gravel beds, underground cells, or vegetated surface features, such as rain gardens and bioswales. Infiltration systems are often the most effective way to manage stormwater, as they simultaneously address runoff volume, help with water quality, and replenish aquifers.
- **Detention systems.** These capture a certain amount of runoff and temporarily hold it back for release at a later time. They reduce discharge rates to downstream receiving waters, thus reducing erosion, pollutant loadings, and habitat degradation. Historically, detention systems were often used for flood control.
- **Wet-detention systems (stormwater ponds).** These capture a certain amount of runoff and hold it until it is displaced by the next storm's runoff. Water is lost to evaporation, infiltrates into soil and the water table, or is withdrawn for non-potable use. These systems also play a significant role in nutrient removal, especially nitrogen. They were an early, and for many years the only, BMP used in conventional sewer and pipe systems.
- **Constructed wetlands (stormwater wetlands).** These are similar to detention systems, except that much of the area is wetland vegetation, with channels or swales to move water. They have many of the same benefits as wet-detention systems but also create habitat and are more attractive.
- **Filtration systems.** These use some combination of a granular filtration media (sand, soil, organic material, carbon) or a membrane to remove runoff pollutants. They focus on water quality. Their effectiveness is often affected by flow rates, with lower flows generally being easier to manage.
- **Vegetated systems (bioswales, biofilters).** Typically installed as swales and filter strips, these are designed to convey and treat runoff as either shallow flow in swales or sheet flow in filter strips. Deep-rooted, perennial, native species are often used because they create soil and vegetation conditions that, in many cases, remove more pollutants than turf does.
- **Minimizing connected impervious cover (CIC).** Also called directly connected impervious area (DCIA), CIC is the source of most pollutants in developed areas. Rooftops, pavement, and other hard surfaces collect pollutants and then shed them

during rainstorms. CIC is a pollution delivery train, with rooftops and parking lots draining to drives, which drain to street gutters, which then flow into storm sewer pipes flowing to streams, ponds, and wetlands. There are a variety of ways to reduce the amount of CIC. Above all, minimizing or eliminating traditional curbs and gutters can make the difference. Design breaks, such as curb cuts, ribbon curbs, street planters, parking lot islands, and so forth can break the connections among these surfaces. Simply redirecting rooftop downspouts to lawns goes a long way in breaking up connected impervious cover, reducing the volume of runoff and improving water quality.

- **Miscellaneous and vendor-supplied systems.** These include a variety of proprietary and miscellaneous systems. One example is the SAFL Baffle, developed by the University of Minnesota.<sup>15</sup>

## Green Infrastructure Tools for Municipalities

### Natural Stormwater Utilities

- WMAs are established across the entire planning area by 2016
- By 2018, municipalities have post-construction ordinances requiring 90 percent of annual precipitation in new developments be infiltrated on site
- By 2018, municipalities have plans to improve stormwater management on existing developments
- Stream volatility at 13 existing stations is reduced by 25 percent in 2025 and 50 percent in 2040
- Sediment levels at 13 existing stations in spring and summer are reduced by 90 percent in 2025