

INITIATIVE 1:

Nodes + Corridors

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.²² 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 feet²³ 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;²⁴
- 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) ²⁵	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) ²⁶	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) ²⁷	2,000+	120-160	80-120	10-30
Population in node ²⁸	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

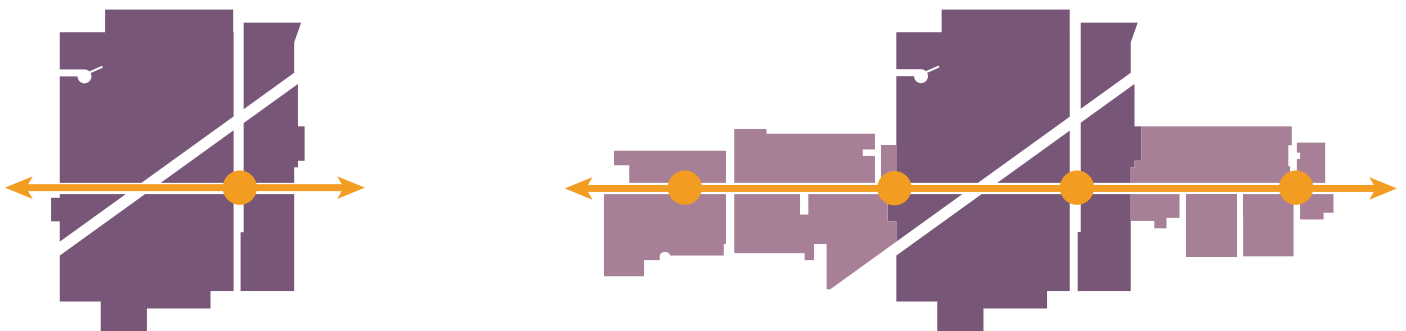
There are additional considerations for choosing the locations of nodes. These locational criteria apply to the three different types of nodes and provide a consistent means of evaluating new areas for development as changes occur in the future.

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

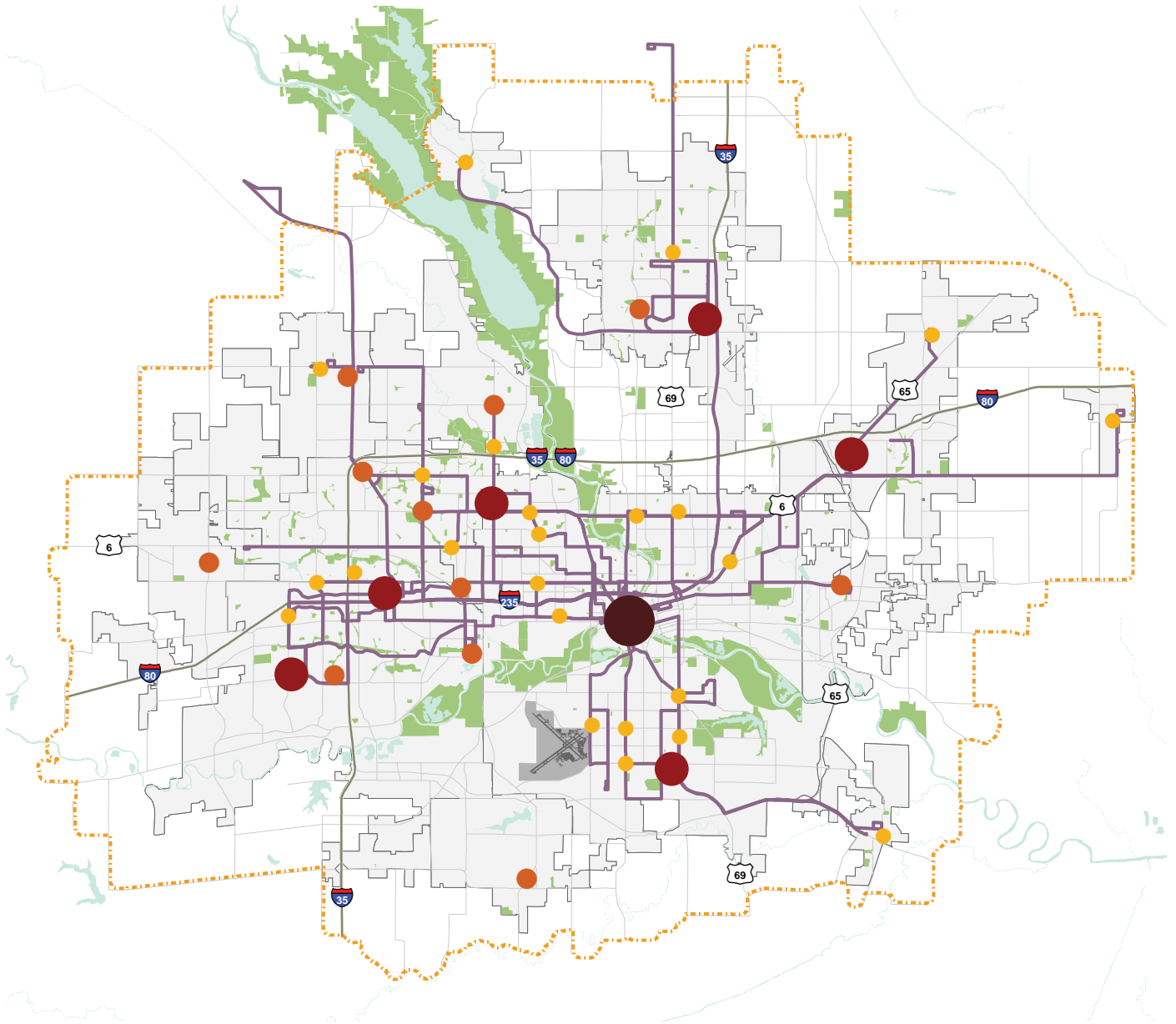


DEVELOPMENT SHOULD BE CONCENTRATED WITHIN THE NODE. ONCE THE NODE HAS FULLY DEVELOPED, ADDITIONAL DEVELOPMENT CAN BEGIN TO WORK ITS WAY OUT FROM THE NODE ALONG THE DESIGNATED CORRIDOR. THIS WILL ENSURE THAT A PEDESTRIAN-ORIENTED ENVIRONMENT IS CREATED OVER TIME.

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)		
Populations			LOCAL INSTITUTIONS (Grade schools)
	RESIDENTS FROM ACROSS THE REGION		
	VISITORS		
	WORKERS FROM OTHER REGIONS (Commuters)		
			LOCAL RESIDENTS
Relationship to residential areas	Some distance apart (Access by transit/car)	Through point (Access by car)	Adjacent (Access by foot/bike)
Frequency of use	Everyday for students/workers; Occasional for others	Once a week	Nearly everyday
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"> ▪ Catalytic project in short-term ▪ Significant development in long-term ▪ Infill 	<ul style="list-style-type: none"> ▪ Catalytic project in short-term ▪ Significant development in long-term ▪ Infill 	<ul style="list-style-type: none"> ▪ Infill

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;²⁹
- 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)³⁰ or 25 employees per acre in commercial centers, while BRT requires at least 20 dwelling units per acre or around 50 employees per acre.³¹ 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.³²

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.³³ In general, an educational campaign targeting developers, financial institutions, and appraisers that focuses on changing trends and the value of walkable neighborhoods is essential.

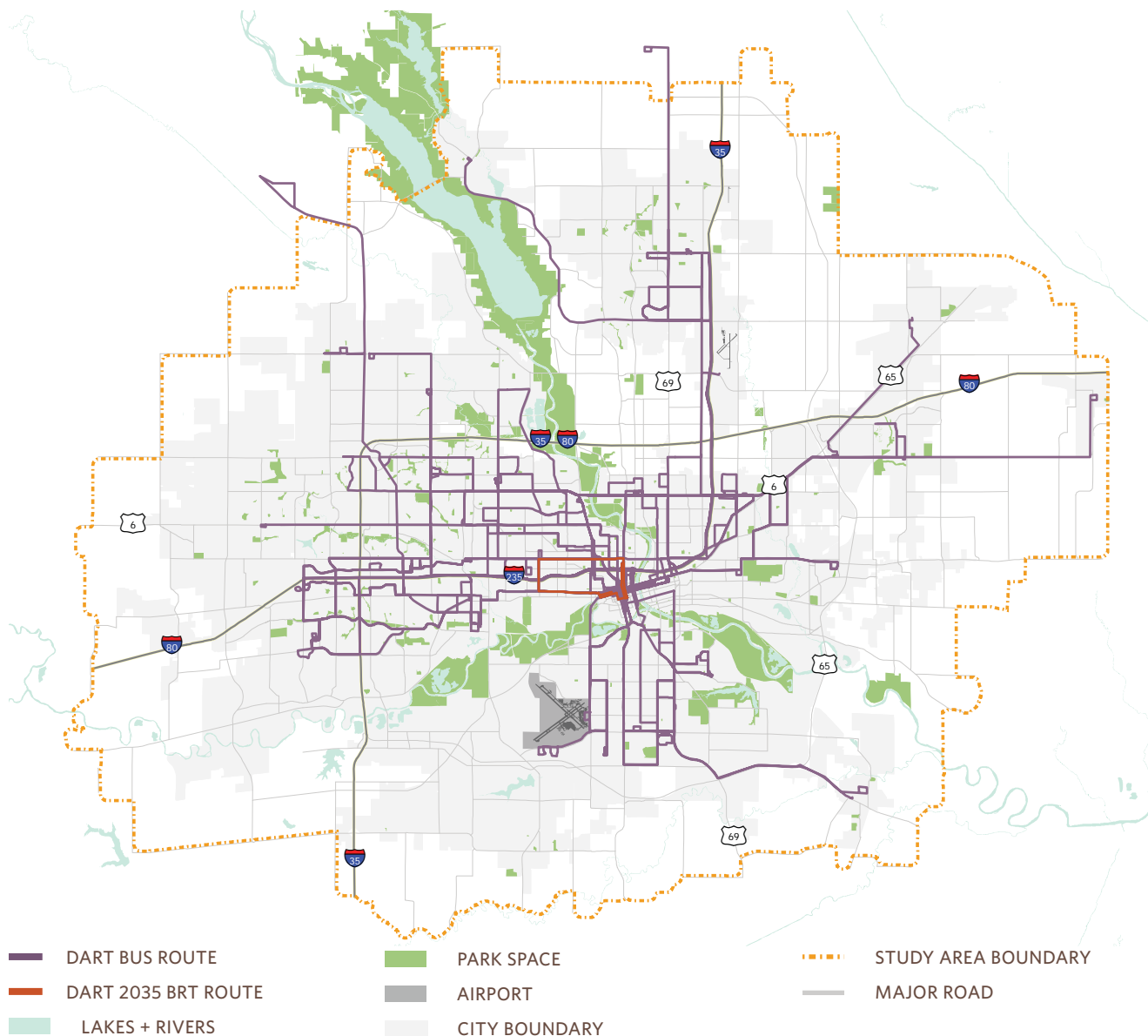
On top of these challenges, the development of properties in these types of nodes can require substantial initial investment. To overcome the challenge of high up-front capital cost, developers can make the current landowners equity investors. Rather than paying the landowner for the developable land 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.³⁴ 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 issue, 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.³⁵ West Des Moines developed a pattern book for their neighborhoods that can serve as an example for other communities in the region.³⁶
- **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.³⁷ 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 significant 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.³⁸

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.