

4

TAKING
ACTION

TAKING ACTION

Mobilizing Tomorrow is a plan to guide the future development of the transportation system. This chapter outlines policy recommendations and capital projects to move the region towards achieving the goals and performance targets outlined in this plan.

Policy Toolkit

MPO member governments have a prime opportunity to mold the transportation network into a more robust system that offers more choices. The following section identifies a number of policies that the region and communities can adopt to improve the transportation system. While the MPO recognizes these policies may work differently in different communities, MPO members are encouraged to consider them and adopt them in full or part, which may streamline and thus decrease the cost of development, expand transportation choices, and mitigate environmental issues.

Chapter 5 includes more technical specifications for many of the policies included in this section.

Multimodal Access

Looking to the year 2050, 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.

As noted in Chapter 2, the region’s roadway network observes very low levels of congestion today, and forecasts indicate it will maintain a low level of congestion into the future. 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. 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, thereby reducing traffic and wear-and-tear on the roads.

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 wellbeing. 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 to create 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. Multiple steps are necessary to achieve this shift, as summarized in the following steps.

Invest in a complete transportation system

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 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.

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 82nd largest exporter region in the United States. Greater Des Moines's export growth rate is a high 10.7 percent, giving it the 51st highest growth rate in the nation and indicating a need for continued support of goods movement.⁹ 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:

- 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.

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.

Enhance human service/public transportation coordination

The MPO annually works to promote joint, coordinated transportation planning programs that further the development of the local and regional public transportation systems by developing a Passenger Transportation Plan. The goal of the coordination effort is to limit service duplication, identify gaps in service, and identify opportunities for organizations to partner for services geared towards persons with disabilities, elderly individuals, low-income persons, and other transportation disadvantaged populations. The Passenger Transportation Plan should be consulted to better understand specific coordination efforts underway.

Nodes + Corridors Initiative

As proposed in The Tomorrow Plan, the region should develop a system of vibrant, walkable employment and residential nodes dispersed throughout Greater Des Moines and connected to one another by multimodal corridors. 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 leads to limited housing and transportation options. 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.

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;
- Building mixed-use, mid-rise developments helps support the maintenance of aging infrastructure through increased revenue;
- 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.

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.
- 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 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.

Additional design recommendations for implementing the nodes + corridors initiative can be found in Chapter 5.

Complete Streets Policy

The MPO and its member communities should develop and adopt Complete Streets policies, complemented by roadway design standards. Complete Streets are roadways designed to safely and comfortably accommodate all users, of all ages and abilities, including but not limited to motorists, cyclists, pedestrians, transit users, school bus riders, delivery and service personnel, freight haulers, and emergency responders.

Building complete streets provides many benefits to residents, business owners, developers, and the community as a whole. First and foremost, embracing the complete streets concept will help create balanced transportation systems by providing accessible, safe, and efficient connections between destinations. It will bolster economic growth and stability while increasing property values. It will enhance job growth, improve safety, improve public health and fitness, reduce harmful emissions, and reduce the overall demand on our roadways by allowing people to replace motor vehicle trips with active transportation options. Secondly, integrating sidewalks, bike facilities, transit amenities, and safe crossings into the initial design of a project spares the expense and complications of retrofits implemented at a later date. Thirdly, proactively planning for a multimodal transportation system can promote its integration with land use policies to encourage sustainable development.

MPO Complete Streets Policy

A MPO Complete Streets Policy should be adopted to create a safe, balanced, and effective transportation system where every roadway user can travel safely and comfortably and where multi-modal transportation options are available to everyone. The policy would encourage projects funded with STP and TAP funds within the MPO Planning Area Boundary, including all roadway and/or intersection reconstruction projects, added travel lane(s) projects, new roadways, and new or rehabilitated bridges (including bridge decks reconstructed over the Interstate and underpasses under reconstructed/new interchanges), to consider complete streets principles.

Applicable projects under this policy would be required to include at least:

- A continuous ADA-compliant sidewalk on one side of the roadway/bridge, or
- Designated on-street bicycle facility within the roadway project, if the inclusion of a sidewalk is anticipated to be overly burdensome to the project and therefore infeasible, or
- A multi-use trail of a sufficient width to accommodate both pedestrian and bicycle travel simultaneously.

Projects located along corridors already served by a continuous sidewalk or multi-use trail on at least one side of the roadway would be considered to be compliant. Improvements to ensure good condition and ADA compliance are encouraged. If designated on-street bicycle facilities are included, the design for their width, markings, and treatment at intersections and crossings should follow the design guidance of the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide, found online at <http://nacto.org/cities-for-cycling/design-guide/>.

If the planned facility currently has fixed route transit, or is proposed to have fixed route transit in the Long Range Transportation Plan, then the project sponsor would be required request comments from the local transit agency (DART) during the project development process to ensure that collaboration occurs with these agencies and that accommodation of transit vehicles and opportunities to access transit facilities are provided.

While the MPO policy should strive for maximum integration of complete street principles, it should also allow for flexibility in certain cases. An exemption process should be included to navigate these situations.

A proposed MPO Complete Street Policy, as well as recommended street design criteria, can be found in Chapter 5.

Community Complete Streets Policy

All communities in the metropolitan area are encouraged to adopt complete streets policies at the city or county level to help ensure complete street principles are considered by all transportation projects – not just those built with federal funds. To date, the City of Des Moines and the City of Carlisle have adopted Complete Streets policies. Chapter 5 includes a sample policy for communities to consider.

Environmental Resiliency

As the Greater Des Moines area grows it will be faced with the challenge of how to do so in a way that limits the impact to sensitive environmental areas. The information below outlines best practices the region can embrace to ensure the transportation system can help avoid, minimize, or mitigate negative impacts to the environment.

Floodplain Management

Greater Des Moines has seen significant damage from floods. The adoption of a floodplain management policy can help the region prepare for more extreme weather events that cause flooding and increase water flow along creeks and rivers. Floodplains provide beneficial natural functions essential for water resources, wildlife habitat, and human interaction. Some of these functions include temporarily storing flood waters; filtering sediments and nutrients to improve water quality; recharging the groundwater supply; supporting natural vegetation that reduces soil erosion; and, providing fish and wildlife habitat. A floodplain management policy should consider and protect these functions.

No Adverse Impact (NAI) Floodplain Management is an approach that ensures the actions of any community or property owner, public or private, do not adversely impact the property and rights of others while protecting natural and beneficial functions of floodplains. An adverse impact can be measured by an increase in flood stages, flood velocity, flows, the potential for erosion and sedimentation, degradation of water quality, or increased cost of public services. NAI promotes responsible floodplain development through community-based decision making. Principles of NAI include:

- Prevent the worsening of flooding and increase flood peaks / stages
- Avoid diverting flood waters onto other properties
- Prevent reducing the size of natural channel and overbank conveyance areas
- Prevent altered water velocities
- Prevent increased erosion and sedimentation
- Prevent filling in floodplain storage areas
- Reduce the community's liability

Implementing NAI principles when planning roads can result in cost savings over time due to reduced infrastructure damage. The MPO encourages local community to integrate NAI principles in the development of the community's transportation system and comprehensive plan in order to manage development that identifies acceptable levels of impact, specifies appropriate measures to mitigate adverse impacts, and establishes a plan for implementation.

Green Streets

Streets are the largest single category of public impervious cover, accounting for roughly 32% of the impervious cover within the MPO area. To mitigate the impact of this impervious area, the MPO recommends adoption of green streets to provide stormwater management, while maintaining the primary function of the street for vehicles and pedestrians. The MPO encourages the implementation of green streets where appropriate throughout the metro's right-of-ways, public streets and sidewalks to maximize water quality improvement opportunities.

Urbanization has altered the natural landscape and affected the hydrologic cycle. Where the natural hydrologic cycle maintains a balance of water circulation through evaporation, precipitation, infiltration/groundwater recharge, and absorption and transpiration by plants, urbanization has resulted in an altered hydrologic cycle through construction of impervious surfaces such as buildings, roads and parking lots. The amount of groundwater recharge has been reduced while the volume and rate of runoff has been increased.

A green street uses a combination of vegetated and engineered strategies to manage rain or melting snow, (stormwater runoff), at its source. Green street designs incorporate various green stormwater infrastructure tools, including stormwater tree trenches, stormwater planters, stormwater bumpouts, and pervious pavement. Using these tools, a green street captures stormwater runoff from streets and sidewalks, infiltrates it into the soil to recharge groundwater and surface water, reduces the amount of polluted stormwater runoff going into the sewer system, carbon sequestration and serves as an urban greenway segment that connects neighborhoods, parks, recreation facilities, schools, mainstreets, and wildlife habitats. In addition, green streets can be combined with complete street designs to improve pedestrian and bicycle safety, improve air quality and enhance the aesthetics of the right-of-way. Green Streets can foster unique and attractive streetscapes that protect and enhance neighborhood livability and integrate, rather than separate, the built and natural environments.

Electric Vehicle Readiness

The future of transportation is in a fundamental shift to cleaner, more efficient fuels. Energy consumption affects air quality and impacts global climate as a result of emissions. The Tomorrow Plan recommended a strategy of promoting the use of renewable energy and

reduced energy consumption. One of the more efficient and sustainable fuels is that of electric drive systems. Des Moines area cities and counties can play a critical role in promoting strategies to decrease transportation related greenhouse gas emissions through the deployment of both public and private charging infrastructure. Given this, the MPO has identified three main recommendations for municipal governments to support the next steps in early adoption of electric vehicles for private use in the metro area:

- Take the lead in the installation of publicly sited electric vehicle supply equipment
- Incentivize local installation of electric vehicle supply equipment at the workplace and multi-unit residential facilities
- Integrate electric vehicle infrastructure into comprehensive plans

Natural Areas Map

The Natural Areas Map is a tool to provide local communities, developers and regional infrastructure providers the data to make informed quality growth and conservation decisions. The Natural Areas Map provides planners with a wide variety of data in order to develop the best possible scenario for development by understanding resources and challenges for a given location. The MPO invites communities to use the Natural Areas Map to help make informed decisions regarding actions that affect our region's resources.

Parking Management

The provision and management of parking play an enormous role in the look and feel of streets, traveler mode choice, and congestion levels. Parking spaces are a valuable commodity; like any commodity, they are subject to the laws of supply and demand. Typically, however, parking has been supplied without much thought to actual demand — or demand for any form of parking other than free parking — resulting in swathes of real estate being reduced to asphalt that sits largely empty for much of the day.

The concept of parking management starts from the understanding that the conventional approach has resulted in too much asphalt and distorted transportation markets, which make it almost impossible to run efficient transit systems or to simply walk or ride a bike safely across much of the country. This approach must be shifted to strategies that acknowledge the true costs of accommodating driving at the expense of alternate modes.

On-street parking and municipal parking lots and garages typically represent just a small portion of the overall supply of parking in any community. These spaces, however, tend to have an outsized impact on travel behavior and traffic impacts. These spaces are usually found downtown, or in other significant commercial centers, and tend to include the most popular parking options in these areas. This is particularly true of on-street spaces, which, more often than not, include the space that is closest to the front door of any given driver's destination. The following overarching principles should guide parking policy and implementation.

- Manage supply as a comprehensive system. On-street, off-street, public, and private resources should be managed collectively. Standardizing pricing and payment mechanisms makes the system easier to understand for the user.
- Share parking. Most parking is sized to cater to a single use or business, resulting in oversized lots. The customer wants to be assured of a parking space; whether that space is in front of the destination or 50 feet to one side in front of a different retailer makes no difference. In mixed-use areas, different land uses have different peak periods; thus, shared parking accommodates peaks for both uses.
- Use parking as a tool to manage congestion. Each parking space encourages at least one trip on the region's roads; thus, managing parking is a powerful way of controlling congestion.
- Incorporate good design. Zoning codes can include design standards for parking facilities to reduce parking garage blank walls and large parking lots in front of buildings, and to increase pedestrian access. Environmental innovations such as porous pavements can also be incorporated.

Parking management is not a one-size-fits-all technique. Strategies for suburban areas do not work in downtowns and vice versa. Rather than applying suburban parking requirements on mixed-use places, let the strengths and weaknesses of a location determine its parking supply. For instance, people are attracted to downtown mixed-use areas precisely because the streets are walkable and blocks compact; building parking lots in these places ruin their character.

Congestion Management

The MPO is required to have a Congestion Management Process that works in conjunction with the long-range transportation plan. A Congestion Management Process (CMP) is a systematic approach, collaboratively developed and implemented throughout a metropolitan region that provides for the safe and effective management and operation of new and existing transportation facilities through the use of demand reduction and operational management strategies. The MPO's current Congestion Management Process was adopted in 2013, but will need to be updated following adoption of Mobilizing Tomorrow.

A Congestion Management Process defines desired congestion-related performance targets for the region, methods for how to monitor the transportation system for changes in congestion, and strategies to address any areas of concern. Congestion management strategies can include operational improvements, growth management, and capital intensive strategies, which are described below. As noted in Chapter 2, the Greater Des Moines area does not currently observe high levels of congestion, nor is it forecast to see significant increases by 2050. However, when congested areas are present, it is recommended that the MPO's Congestion Management Process require the evaluation of all potential strategies, favoring lower cost operational solutions prior to pursuing higher-cost lane additions.

Operational Strategies

Operational management strategies are those that involve collaboration and coordination between transportation and public safety agencies. These strategies aim at improving service efficiency, enhancing public safety and security, reducing traveler delays, and improving access to information for travelers. Examples of operational improvements include the following:

- **Traffic Operational Improvements:** relatively small investments in time, money, and labor made at key locations, such as intersections. Examples include improves to traffic signalization, channelization, and highway geometrics;
- **Access Management:** established standards to driveway spacing and median openings;
- **Incident Management:** activities to help mitigate non-recurring congestion, such as rapid detection and response to accidents and stalled vehicles, provision of congestion-related information to drivers, management of construction and maintenance activities, and management of traffic for special events.
- **Intelligent Transportation Systems:** technology applications that provide user services such as travel planning, traveler information, emergency management, and advanced vehicle control.
- **Ramp Metering:** signals placed at freeway on-ramps to control the amount of traffic able to enter the flow of traffic.

Growth Management

As noted previously, the type and location development can impact transportation. Growth management refers to specific regulatory policies aimed at influencing how growth occurs. These policies affect density, availability of land, mixtures of uses, and timing of development, which can ultimately influence the type of transportation services needed. Local jurisdictions have control over growth in the MPO area and play a critical role in generation and management of congestion.

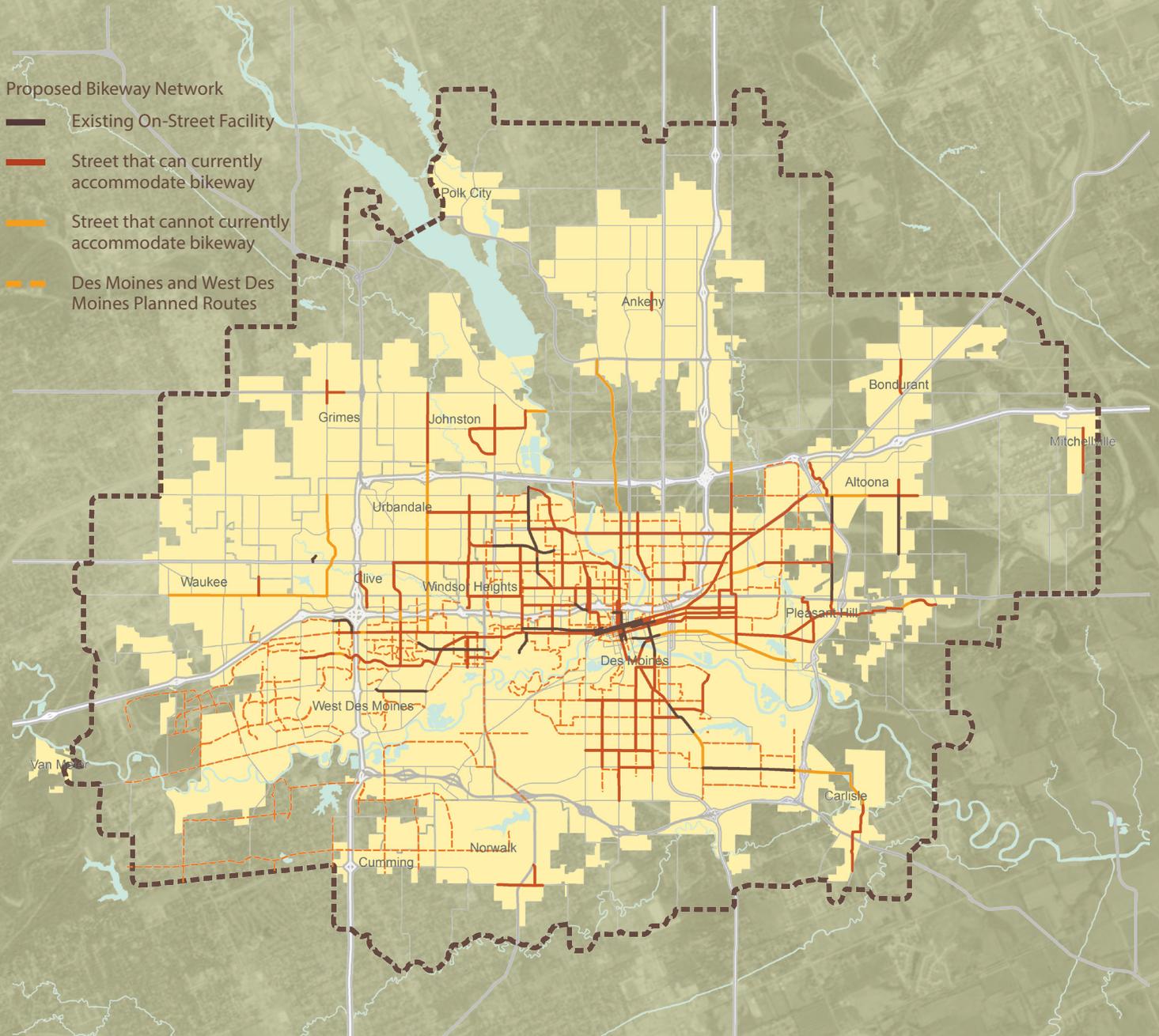
Capital Intensive Strategies

Capital intensive strategies include higher-cost additions to the roadway and transit systems. Lane additions are among the more common methods employed to address congestion. However, research indicates that these improvements typically produce only short-term benefits and may ultimately induce more traffic and, therefore, more congestion. Transit capital improvements is another strategy that may be employed, which includes procurement of additional transit vehicles and/or the implementation of new services.

Capital Projects

Beyond the policies that communities can adopt, the MPO annually funds capital projects that will enhance the regional transportation system. For a project to be eligible for this funding, it must be included in or be consistent with Mobilizing Tomorrow. As mentioned in Chapter 3, Investment Strategies, the MPO used an in-depth scoring process to determine which projects would most positively impact the region between now and 2050. The following section describes capital projects that would support this plan's goals and performance targets, as well as projects identified by partner agencies such as the Iowa DOT, DART, and the Des Moines International Airport.

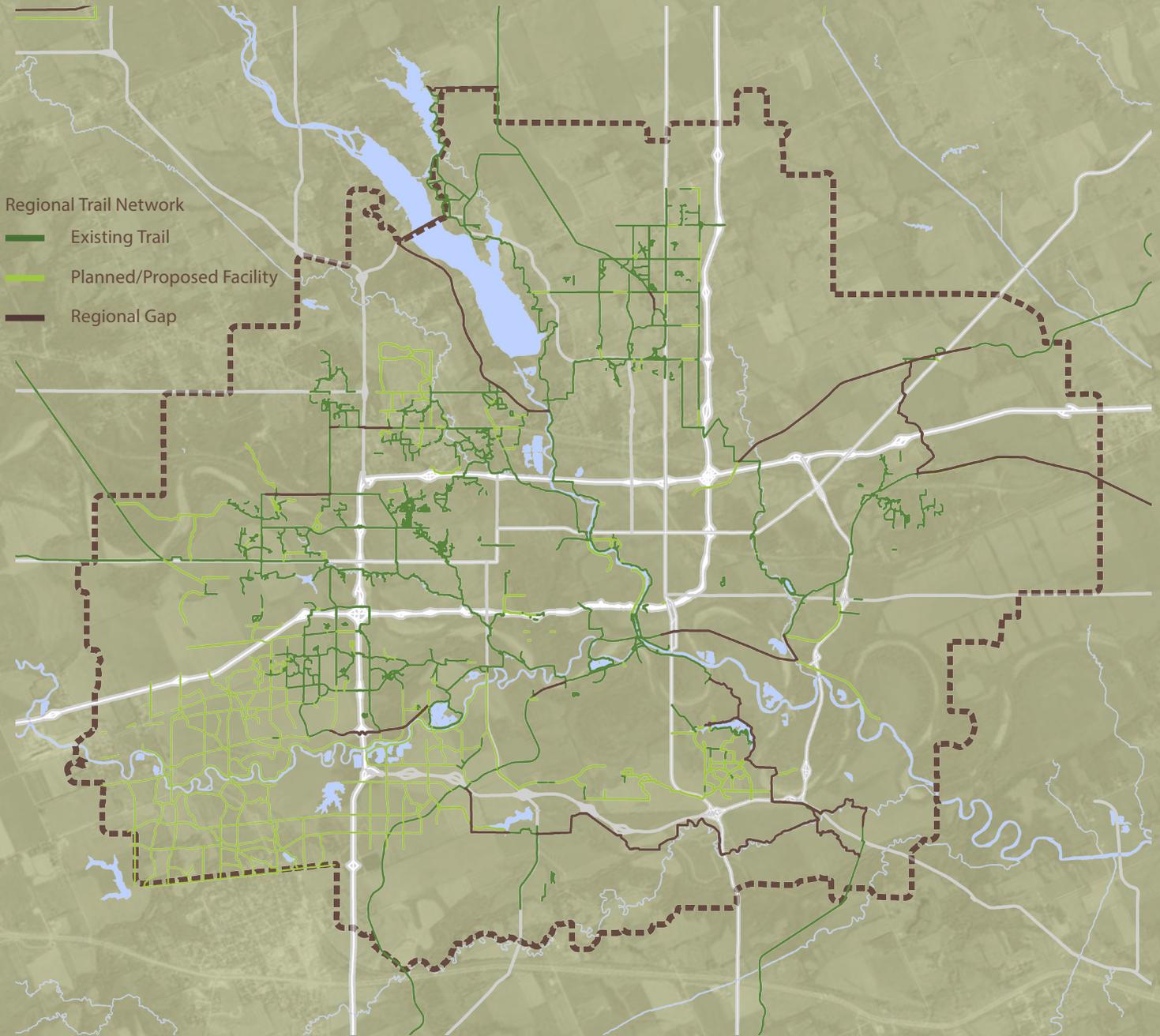
BIKE + PEDESTRIAN System



TO BUILD OUT THE PROPOSED BIKEWAY NETWORK, IT WOULD COST AN ESTIMATED

\$12-20 MILLION

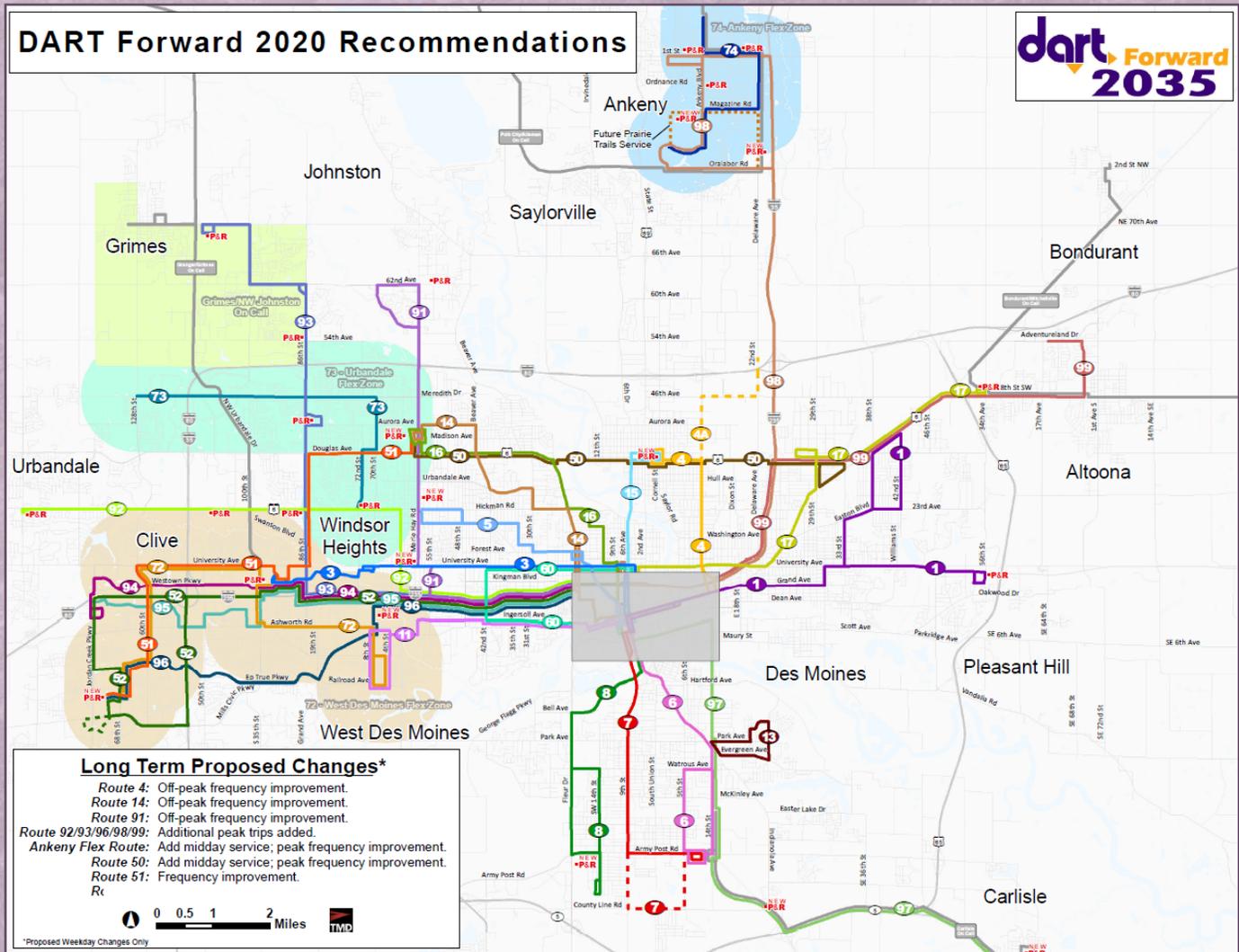
As discussed in Chapter 3, the MPO receives TAP funds annually. With these TAP funds, the MPO will target bicycle and pedestrian projects. To help achieve performance targets, the MPO should prioritize the completion of identified trail gaps and the implementation of on-street bicycle facilities. Other eligible uses of TAP funds are streetscape projects, safe route to schools projects, and other projects eligible for TAP funds per US Code.



\$27 MILLION

IS THE AMOUNT IT WOULD TAKE TO FILL IN ALL
REGIONAL GAPS

PUBLIC Transportation

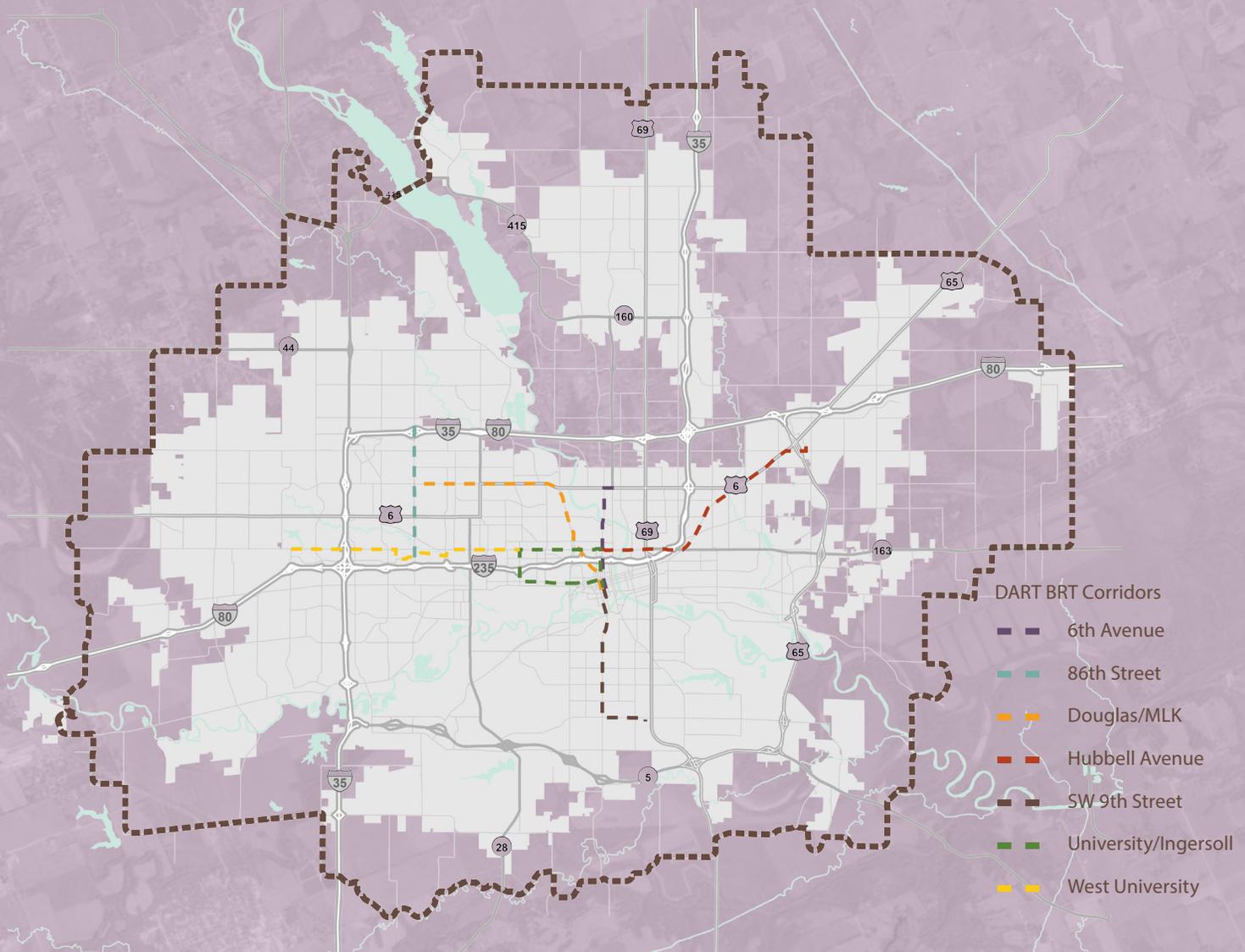


EXPANDED SERVICES

DART Forward 2035 identifies numerous services improvements to be implemented in the coming years. Implementation of the plan began in 2012 and include improvements to service frequency as well as the introduction of new routes.

Appendix E includes a detailed list of projects DART plans to carry out to expand services, as well as to maintain its existing fleet and operations.

DART Forward 2035 identifies numerous services improvements and capital needs necessary to improve the public transportation system. The MPO will aide in this effort by providing at least 15 percent of its STP funding to transit activities, such as vehicle purchases and other capital projects. Additional information about DART Forward 2035 is available at <http://ridedart.com/media/dart-forward-2035-plan>.

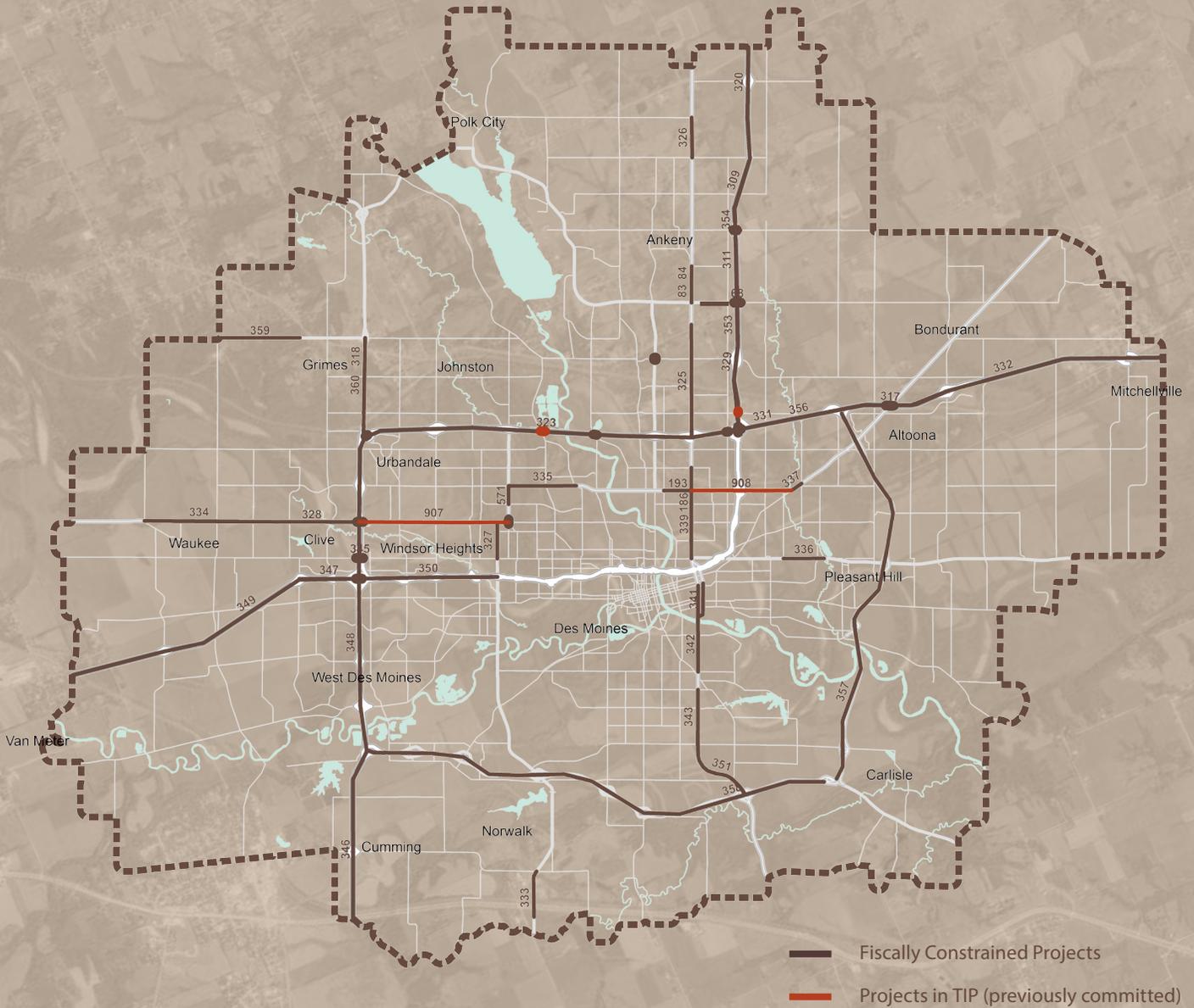


LOCALLY PREFERRED ALTERNATIVE

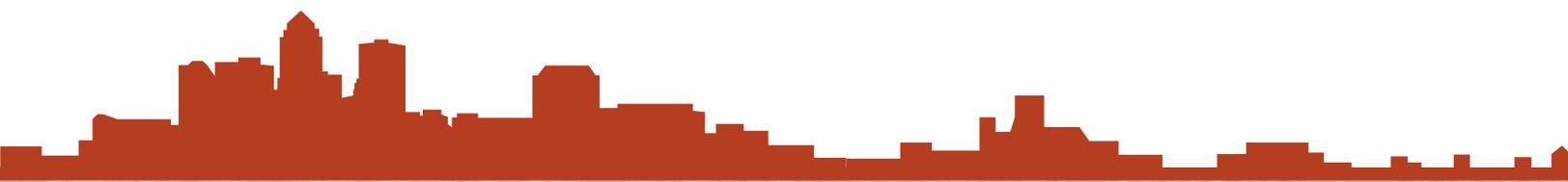
DART has administered an Alternatives Analysis that complies with the FTA's requirement for New Starts funding. An Alternatives Analysis is the first step in the planning process needed to be able to use Federal funds for a transit project's construction. The Alternatives Analysis examined a number of modal alternatives, including a no-build alternative, enhanced express bus service, and Bus Rapid Transit (BRT) in the University/Ingersoll Corridor, as illustrated in the above map. Based on the results of the study, BRT is the locally preferred alternative. DART plans to begin BRT service on the University/Ingersoll Corridor (Route 60) by 2020, pending FTA New Starts funding, followed by BRT service on Southwest 9th, 6th Avenue, and Douglas/MLK by 2035. See Appendix E for a full list of BRT projects and anticipated years.

The MPO's member governments, as well as the Iowa DOT, identified hundreds of roadway projects to help improve the region's transportation system. The MPO's fiscally-constrained list identifies projects that could be implemented with anticipated STP funds, as discussed in Chapter 3. The Iowa DOT's fiscally-constrained list identifies projects within the MPO planning area that the Iowa DOT could include implement using its anticipated state and federal funds.

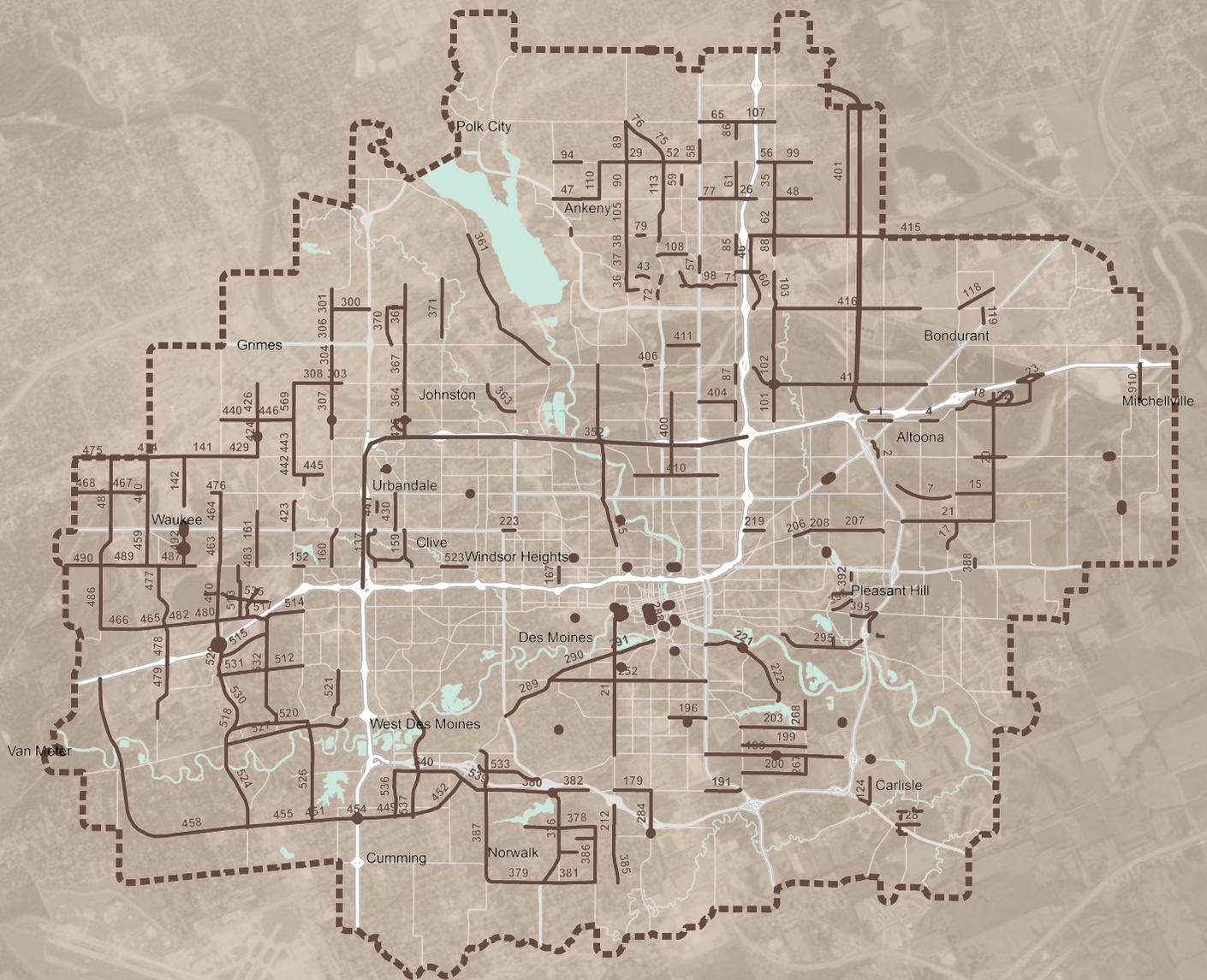
IOWA DOT'S FISCALLY CONSTRAINED PROJECTS



STREETS + Highways



ILLUSTRATIVE PROJECTS





TOTAL COSTS OF SUBMITTED
PROJECTS OUTWEIGHED
ANTICIPATED REVENUES BY NEARLY

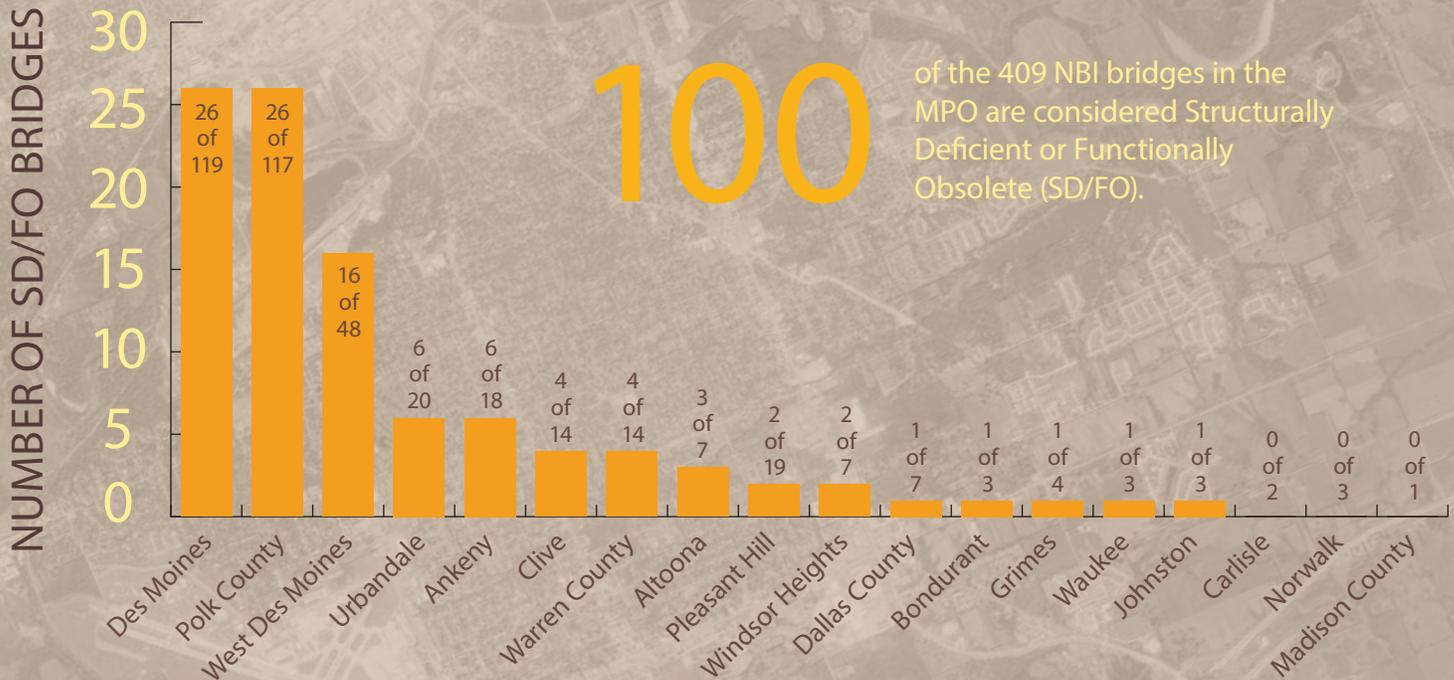
\$1.6 BILLION

SYSTEM Maintenance

BRIDGE FUNDS

The MPO will set aside at least 15% of its STP funds to create a new Bridge Program. This program will be modeled after the Iowa DOT's City Bridge Program. Bridges must be classified as structurally deficient or functionally obsolete to be eligible for funds. Bridges with the lowest sufficiency rating will be prioritized.

15 PERCENT OR MORE OF STP FUNDS TO BRIDGES



Nearly all MPO member communities have bridge projects that would qualify for STP Bridge funds. Bridge condition information is updated regularly, and the MPO will use the latest information when making a decision on which bridges to fund.

Maintenance of the current transportation system is of critical importance to the MPO. While some maintenance projects are included in the roadway projects submitted by MPO member governments and the Iowa DOT, the MPO will set aside at least 25 percent of its funds for maintenance-related activities.



10

PERCENT OR MORE
OF STP FUNDS TO
PRESERVATION

PRESERVATION FUNDS

The MPO will set aside at least 10% of its STP funds for projects that maintain and preserve the transportation system. These projects typically will include non-capacity projects such as overlays and full-depth reconstruction. These projects will be identified on an annual basis using the latest condition information available. However, communities must be able to demonstrate that they are not solely relying on MPO STP funds for their maintenance needs.

\$40

MILLION FOR
MAINTENANCE
ANNUALLY

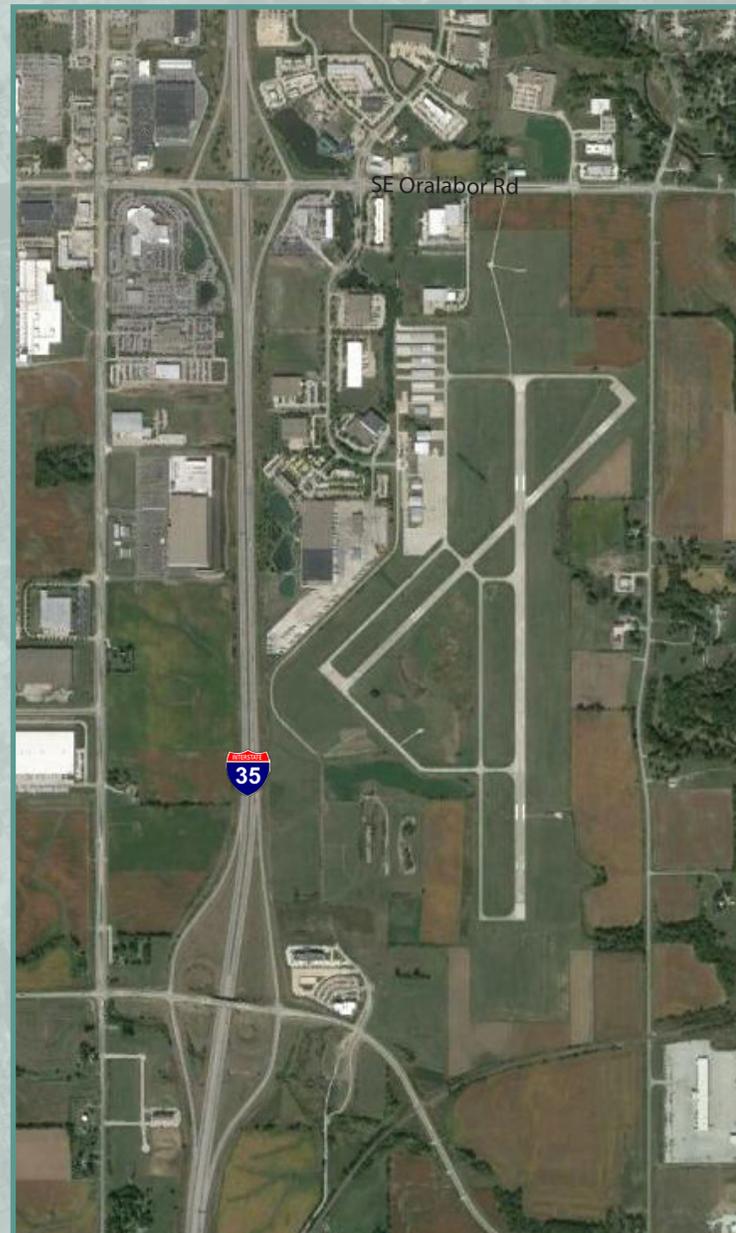
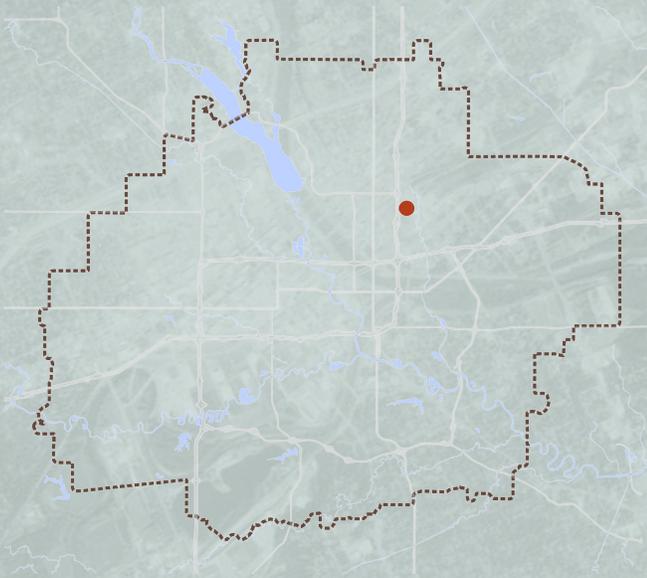
MAINTENANCE INVESTMENT

To achieve the MPO's target of maintaining no more than 18% of roadways in poor or very poor condition, the region would need to invest \$40 million annually in maintenance. Currently, the region spends only \$30 million in maintenance. The MPO calls on its member governments to be proactive in maintaining a state of good repair with their local funds.

AVIATION

ANKENY REGIONAL AIRPORT

The Ankeny Regional Airport (IKV) is considered an Enhanced Service Facility that provides general aviation needs for the Des Moines region as a business airport and as a reliever to the Des Moines International Airport. The IKV is owned and operated by the Polk County Aviation Authority and accounts for personal and business travel, as well as just-in-time shipping, law enforcement, agriculture, and medical transport.



The Des Moines region is served by seven airports, including two public airports and five general private airfields. The following section will focus on the two principal airports in the MPO planning area - the Des Moines International Airport and the Ankeny Regional Airport. The Iowa DOT's Iowa Aviation System Plan 2010-2030 includes individual airport summaries for Iowa airports.

DEVELOPMENT NEEDS + OTHER POTENTIAL PROJECTS

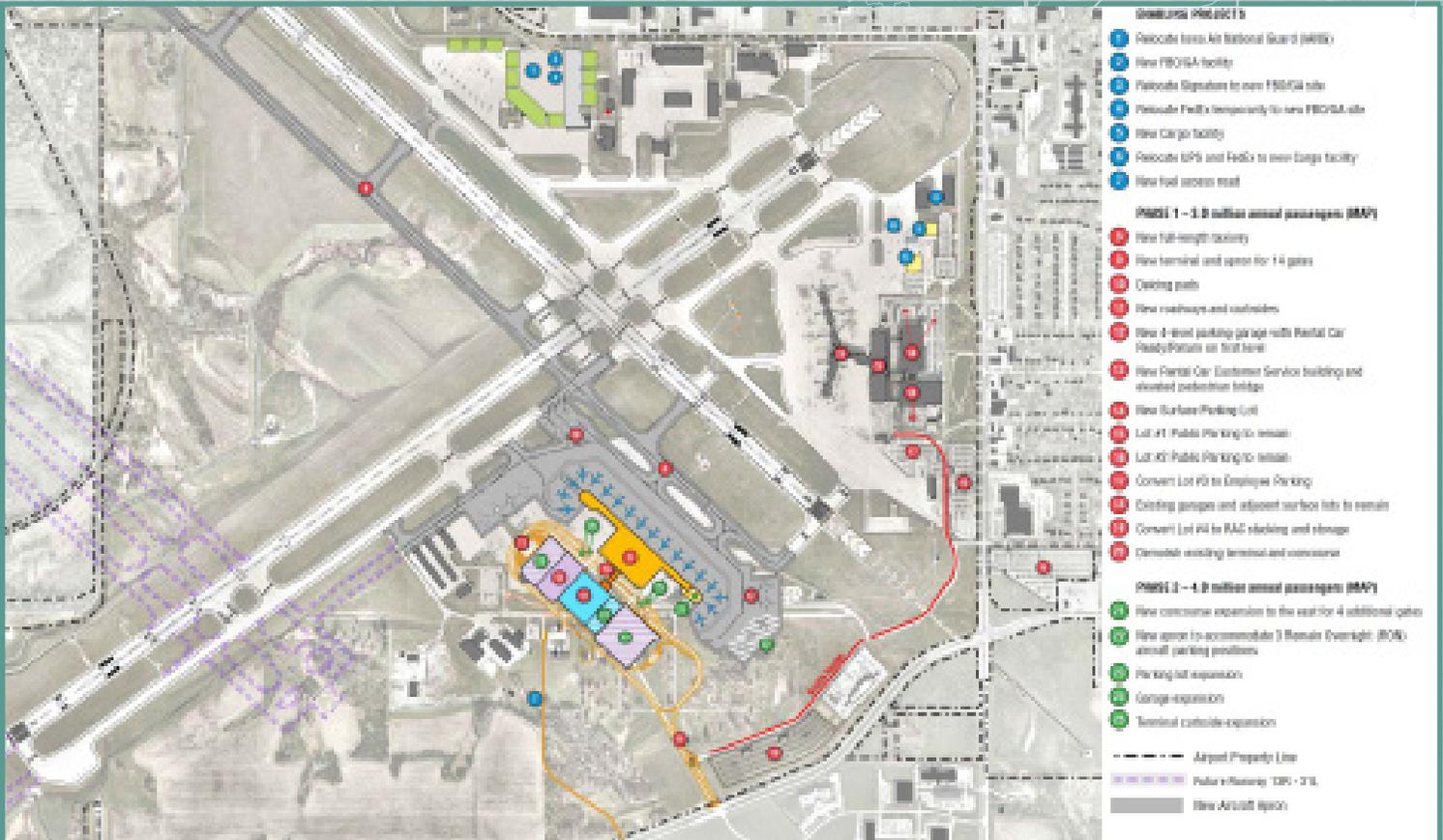
PROJECT DESCRIPTION	FUNDING NEEDED
2011-2030 Development Needs	
Airport Layout Plan (ALP) updates (2013, 2021, 2029)	\$1,350,000
Total	\$1,350,000
2011-2030 Other Potential Projects	
Land acquisition for Runway 22 runway protection zones, object free area, and runway safety area	\$5,339,038
Relocate NE 29th St, relocate Runway 22 threshold	\$850,000
Replace AWOS equipment	\$131,580
Rehabilitate Runway 4/22	\$201,425
Rehabilitate taxiway	\$107,737
Acquire a 4x4 truck with dump box and blade	\$130,000
Replace MIRL with HIRL system	\$506,220
Install Runway 36 MALSR	\$900,000
Construct airport access road (Phase I) - Corporate Woods Business development to south corporate apron area	\$230,168
Pave south corporate apron	\$1,050,000
South corporate apron - grade and drain	\$710,000
SRE equipment	\$150,000
Improve access road	\$982,998
SRE building	\$167,200
Land acquisition - Runway 18 extension	\$2,699,235
Runway 18 extension	\$724,000
Total	\$14,879,601

AVIATION

DES MOINES INTERNATIONAL AIRPORT

The City of Des Moines owns and operates Des Moines International Airport (DSM). The airport is governed by a five member Airport Authority Board, composed of representatives appointed by the Des Moines Mayor and approved by the Des Moines City Council. DSM serves as the major air passenger and airfreight service center for central Iowa. In addition, DSM serves as a base for the Iowa Air National Guard.

Future Plans — In April 2014, the Des Moines Airport Authority published the [Des Moines International Airport Terminal Area Concept Plan Technical Report](#). This report outlines the airport authority's plans to relocate and expand the terminal based on growing demand and inadequacies associated with the current terminal location and facilities. The preferred alternative identified in the study would cost approximately \$467 million in 2014 dollars. The figure below shows the layout of the proposed terminal development.



DES MOINES INTERNATIONAL CAPITAL IMPROVEMENT PROGRAM AND LONG-RANGE NEEDS ASSESSMENT

PROJECT DESCRIPTION	COST	YEAR
Reconstruct 4,100 feet of Runway 13/31 – D5 to Runway 5/23 Intersect	\$14,125,000	FY 2015
Rehabilitate Runway 13/31 + 5/23 Intersection	\$2,311,000	FY 2016
Airfield Lighting Vault	\$2,164,500	FY 2016
1,860 feet of Runway 13 Rehabilitation	\$1,389,900	FY 2017
2,220 feet of Runway 31 Rehabilitation	\$2,612,000	FY 2017
East GA Apron Rehabilitation Phase III	\$402,998	FY 2017
Engineering Analysis of Runway 5/23	\$350,000	FY 2017
Airfield Pavement Maintenance Program Update	\$120,000	FY 2018
Runway 5/23 Reconstruction - West of Intersection	\$6,305,000	FY 2018
Terminal Area Environmental Assessment	\$300,000	FY 2019
Runway 5/23 Reconstruction – East of Intersection	\$4,818,000	FY 2019
North Parallel Taxiway Grading	\$10,836,649	FY 2020
RTR Relocation	\$1,199,153	FY 2020
North Parallel Taxiway Paving and Lighting	\$21,633,144	FY 2021
South Parallel Taxiway Construction	\$16,273,366	FY 2022
Terminal Apron, Deicing Pad, Lighting	\$10,369,053	FY 2023
Terminal Apron and Deicing Pad	\$11,521,170	FY 2024
Total	\$107,730,933	

3.4%

FORECASTED ANNUAL GROWTH
RATE FOR ENPLANED PASSENGERS

RAIL

PASSENGER RAIL

The Iowa DOT has led efforts in recent years to study the feasibility of adding passenger rail service from Chicago to Omaha, via Des Moines. The MPO supports these efforts to expand passenger rail from Chicago to Des Moines. In July 2010, the MPO approved a feasibility study recommending a site for a future passenger rail station. This study recommended the former Chicago, Rock Island, and Pacific Railroad Depot on 4th Street in Downtown Des Moines as the preferred rail station location. This site has some remaining rail infrastructure and is adjacent to DART Central Station.

FREIGHT RAIL

The Des Moines area's location at crossroads of I-35 and I-80 – which connect the region to Canada, Mexico, the east and west coast's, and the Gulf of Mexico – provides the region with a global connection and thus the ability to simplify the process of importing or exporting. This crossroad location is attractive for transportation companies and is a desirable freight terminal location. In order for the region to ensure economic growth through enhanced transportation infrastructure the region should:

- Upgrade rail lines to handle heavier rail cars to improve overall freight capacity in the area;
- Develop rail-centric transportation options for businesses through development of a transload facility;
- Expand existing transportation options to attract new industries to the region; and,
- Maintain and upgrade rail crossings to improve safety.

DES MOINES RAIL TRANSLOAD FACILITY

The City of Des Moines Railport facility is proposed for location on City-owned property located in the southeast section of the City. The site is directly adjacent to East Martin Luther King Jr. Parkway, a major arterial roadway connecting west to the Central Business District in downtown Des Moines, and planned for connection to Iowa Highway 65 to the east, which provides connectivity to the Interstate system, I-35 and I-80.

The preferred site is adjacent to a convergence of four rail lines, including three Class I railroads and one Class II railroad. The site's location offers both regional and national significance, providing a location for the transfer of goods from truck to rail in an environment that will maximize competitive benefits for users. The facility will strengthen the existing transportation and goods movement network in the region, and assist in connecting Central Iowa businesses to coastal ports at a national level.

Anticipated users of the facility would include a wide variety of companies that handle a number of commodities: minerals, steel, chemicals, lumber, finished products, agricultural products, food, fertilizers, products for the development of Iowa's growing wind energy industry, roofing materials, pipe, sheet metal, pilings, beams, plastics, aggregates, salts, oils, green bio-products, generators, transformers, farm machinery, equipment, feed additives.

The Greater Des Moines region has taken a greater interest in rail transportation – both passenger and freight – in recent years. While it has little direct authority over rail issues, the MPO coordinates with railroad companies, the Iowa DOT, the Federal Rail Administration, Amtrak, and other stakeholders on efforts to expand both passenger and freight rail opportunities in its planning area.

The main existing challenges that the proposed facility would begin to address are the lack of large scale means to get goods onto rail in the market, removing truck traffic from congested roadways, provide more efficient and cost-effective goods movement to businesses, and reduce significant existing drayage costs required to move goods 2-5 hours from Des Moines to access rail service.

The estimated Phase I project costs for the facility are approximately \$8.3 million. This includes \$740,000 in development costs, \$2.1 million in site work, \$3.2 million in rail construction, and \$1.2 million in buildings and structures. The project also includes a 15 percent contingency of \$1.1 million.

