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Downtown Des Moines is happening. Compared to ten, five or even three years ago, the amount of growth and business activity downtown is markedly on the upswing. More and more people are choosing to live downtown, and the number of cranes on the skyline is remarkable. It is clear that Des Moines is on the cusp of becoming a different type of city, one that attracts people just because of the kind of place that it is.

Yet, with all this activity, street life is still relatively subdued. Given all the businesses, apartments, and amenities downtown, one would expect to see more people walking and biking. Something is standing in the way of Des Moines becoming the more walkable city that stakeholders say they would like it to be. While other factors matter, it would seem that this impediment is largely the design of the City’s downtown streets.

With a few notable exceptions, these streets have not changed much since the 1950s, when they were reengineered to speed traffic in and out of downtown. They do this job quite well, but at the expense of safety for people walking and biking and to the detriment of street-level retail. Many streets have more lanes than they need to handle their traffic load—current and projected—and many of these lanes are wider than they need to be. Both of these factors encourage speeding, as does the one-way configuration of many streets. These three conditions—extra lanes, wide lanes, and one-way traffic—add up to a downtown streetscape that does not welcome walking or biking.
Happily, this problem is easy to fix. By correcting both the number and size of driving lanes, a large resource of paved area can be reallocated to better use, typically either parallel parking, bike facilities or both. Adding parallel parking makes people drive more carefully, creates a barrier of steel protecting the sidewalk from moving vehicles, and provides access for customers. Adding bike lanes, especially “low-stress” lanes protected by parked cars, allows bicycling culture to flourish, attracts young professional talent, and makes the streets safer for all users—even people driving. Reintroducing two-way traffic reduces speeding, ends driver “jockeying,” and has been shown to both reduce crime and greatly benefit local businesses.

All of these changes can be introduced throughout the downtown with only limited impacts on traffic flows. Systematic traffic modeling shows only a slight increase in peak-hour driving times in the future if all of the proposed street reconfigurations are implemented. But while slight, these changes must be taken seriously. For those people who only speed in and out of downtown each day, and are less concerned about its liveliness or attraction, any increase in driving times constitutes a burden. For this reason, it is important to communicate the trade-offs honestly, which this report attempts to do. But it also asserts, based on the experience of other cities, that the benefits resulting from its proposed changes will be understood in short order to far outweigh a slight increase in driving times.

The other challenge is cost. Changing streets is not cheap, and for that reason, most of the modifications suggested here can be accomplished with paint: reconfiguring the striping between the existing curbs. Only in very few, important locations are new curbs suggested. While converting from one-way traffic to two-way traffic can require new signals, it is expected that a significant number of signals can be replaced by four-way stop signs instead, for a net savings, and improved safety. All in all, the limited cost of the changes proposed here can be expected to be far outweighed by the economic benefits and lives saved by a street network that helps make downtown Des Moines a place that is not only easy to drive to, but also worth arriving at.

“By correcting the number and size of driving lanes, a large area can be reallocated to better use.”
GOALS

**Safety and Health**
Promote safety, health and welfare throughout the Downtown and surrounding neighborhoods

**Transportation Choice**
People should have the option to comfortably walk, bike, drive, and/or take transit

**Economically Successful**
Downtown should create an environment that attracts workers and supports retail

**Character/Placemaking**
Transportation decisions should be consistent with the land use vision of Downtown

**Connected**
Downtown is the heart of the region and as such needs to be connected to it; Downtown should be connected to the rest of the city, to the regional trail system, and overcome barriers at its edges (e.g., I-235)
YOUR INPUT

In the fall of 2016, the public identified existing challenges and opportunities from the perspective of a variety of stakeholders in downtown Des Moines at a community open house as well as through an online mapping tool. Key themes from the public include:

- Concerns over high speeds and large roads throughout downtown. The public expressed a desire to reduce speeds, convert streets to two-way operations, and reduce the number of lanes on Grand, MLK, Ingersoll, and several North-South streets.
- Provide for new and enhanced pedestrian crossings at intersections. Many large intersections are intimidating for pedestrians. University Avenue is in need of pedestrian enhancements as it serves as a barrier to neighborhoods north of downtown.
- Improve bicycle connections from the trails network to downtown streets.
- Develop a network of on-street bicycle facilities on streets such as Ingersoll/High, Locust, Grand, S MLK, Court, and University.
- Develop multi-modal connections from new developments south of MLK.
- Manage East Village streets to provide a pedestrian friendly environment that supports the growing commercial attractions.
- Manage streets to minimize high-speed cut-through traffic in Sherman Hill.

Scooping the loop... makes it dangerous, uninviting, and difficult for businesses with outdoor seating.

University Ave is a barrier cutting off neighborhoods from needed services.

Many drivers don’t look both ways when turning onto a one-way street, making it dangerous for people walking or biking.

Wide lane widths and too many lanes. Speeding is excessive.

We need to expand low-stress bikeways beyond trails and connect to places people want to go.
Over 400 residents shared their thoughts on downtown streets at open house events and via the project website.
The extent to which downtown is able to transcend its status as just a work destination and realize its potential as a vibrant center of activity and culture and regional destination will depend on its streets.

Downtown is a major employment destination and home to a variety of attractions, including the Sculpture Park, Court Avenue eateries, the East Village, and the Capitol complex. Events bring people to Wells Fargo Arena, the Iowa Events Center, Principal Park, various festivals, and the Saturday Farmers Market. A regional trails network provides access to the beautiful Des Moines and Raccoon Rivers. A gridded street network allows for direct walking and bicycling routes to and between destinations. Still, the downtown experience is not yet what residents and businesses want it to be.
ISSUE: Large streets allow high speeds and detract from safety and the pedestrian environment

The size and speed of downtown streets has a strong impact on the appeal of walking and being downtown. Key issues include:

- **Street design focused primarily on driving.** Des Moines, like many cities, converted many of its downtown streets to one-way operation to facilitate access to newly built freeways. By eliminating the delay inherent in left turns across traffic and by introducing and allowing for synchronized signals, this transformation helped to speed cars to and through its downtown. Unfortunately, it did so at the expense of pedestrian comfort and economic vitality.

- **Streets that support high speeds.** People tend to speed on multiple-lane one-way streets. There is less friction from opposing traffic and a temptation to jockey from lane to lane. Many Des Moines residents complain about ‘scooping the loop’, where people cruise a loop of one-way downtown streets on Friday and Saturday nights—often at unsafe speeds.

- **Streets that do not support retail.** One-ways have a history of damaging downtown retail. The higher speeds of one-way streets detracts from the experience of walking along them and makes drivers less likely to notice or stop at adjacent retail. While there are exceptions, successful commercial activity is typically located on two-way streets.

- **One-way streets result in long detours** in the event of a wrong turn or street closure. This issue has a major impact on DART and the people who rely on transit. Streets closed for events result in long bus detours that disrupt schedules and force passengers to locate and navigate to temporary stops. One-ways also tend to intimidate out-of-towners, who can easily become lost if they miss a turn.
Downtown's many one-way streets support high speeds, inhibit walkability, and limit economic development.
A primary objective of this plan is to align the downtown streets with the vision for a safe, connected, and economically successful downtown. Refer to Section 4 for maps of the proposed network changes from one-way to two-way operations and to the number of travel lanes.

The following principles guided the development of the street changes in this plan:

- **Align streets with their function.** Street configurations were developed with careful attention to existing and desired future uses. Considerations included supporting retail potential, reducing speeds and exposure to enhance safety, supporting key transit routes, and completing multi-modal networks. Traffic volumes and commute patterns, parking ramp access, and events were all considered.

- **The right number of travel lanes.** Removing excess driving lanes slows traffic and simplifies crossings, while freeing up pavement for valuable uses such as curb parking and bike lanes. The gridded network of streets downtown means traffic will be able to re-distribute to take advantage of new routes offered by a primarily two-way street network.

- **The right width of lanes.** Lane widths affect the speed at which people drive. NACTO lists 10 feet as the standard, saying, “Lane widths of 10 feet are appropriate in urban areas and have a positive impact on a street’s safety without impacting traffic operations.” The Institute of Transportation Engineers (ITE) Traffic Engineering Handbook states, “Ten feet should be the default width for general purpose lanes at speeds of 45 mph or less.”

- **Careful consideration of turn lanes.** Pedestrians share space with turning vehicles at intersections. Turn lanes increase capacity but also increase potential conflict points. Intersection design downtown should prioritize pedestrian safety and conflict reduction. Turn lanes are recommended only where most needed, based on turning volume counts and the projected travel patterns modeled as part of this plan.

- **Apply these concepts citywide.** The above street design principles should extend to corridors outside of downtown to support safe and equitable transportation options throughout Des Moines. Reviewing travel lanes, turn lanes, and lane widths will illuminate opportunities for better accommodating all modes, reducing collisions, and supporting the vision for mixed-use areas in Plan DSM.
Speed is a critical issue in traffic safety, particularly for vulnerable roadway users. Higher speeds reduce reaction time to avoid a collision and increase the likelihood of a collision resulting in a severe injury or fatality.

Source: Table 3-3 AASHTO Greenbook, 2011
ISSUE: Pedestrians are not on equal footing

Downtown Des Moines has many of the hallmarks of a walkable downtown, including complete sidewalks, short blocks that support direct walking routes, innovative pedestrian crossing treatments, and a multitude of interesting destinations. However, there are several ways in which walking is penalized on downtown streets.

Key issues include:

• **Work zones frequently close sidewalks.** Given the large amount of construction throughout downtown, walking between downtown destinations can be extremely challenging, with sidewalk closures lengthening walking distances and travel times.

• **Sidewalks are often dropped at driveways.** This interruption of the sidewalk sends cues that drivers have priority, rather than signaling drivers to proceed cautiously and yield to people walking on the sidewalk.

• **Double left turn lanes create risk for pedestrians.** Dual left turn lanes at intersections increase the number of conflict points between pedestrians crossing at a crosswalk and turning vehicles. Dual lefts should be used sparingly downtown, with consideration given to their negative impacts on people walking.

• **Pedestrian crosswalks are not always adequately maintained.** This is particularly an issue on larger streets at the edge of downtown, such as University, where crosswalk markings at intersections can be difficult to see.
Work zones that do not provide for pedestrian movements interrupt the continuity of the walking realm (left). Dropping sidewalks at driveways does not send the signal to drivers that they should yield to people walking on the sidewalk (right).
SOLUTION: Give equal priority to pedestrians downtown

Goal 1 of the transportation chapter of Plan DSM, the 2016 Comprehensive Plan, is to ‘Develop a complete multi-modal transportation network for pedestrians, bikes, transit, and automobiles.’ Below are a list of needed actions to bring the needs of people walking up to the level of accommodation given to other roadway users, notably motorized traffic. The City will need to increase staffing and operating budget to implement and maintain the recommended improvements.

- **Require work zones to accommodate the travel needs of people walking and bicycling.** Update Building Obstruction Permit Program to reflect NACTO guidance that ‘Any construction project that obstructs the sidewalk should be mitigated through the provision of a temporary sidewalk that affords a safe and convenient passage or clearly directs users to an equivalent nearby detour.’ Review recently updated peer guidelines (e.g., Oakland CA, Portland OR, Vancouver BC) to streamline the process of ensuring local guidelines are current with best practices.

- **Prioritize the maintenance of pedestrian crosswalks.** Implement comprehensive plan action T14 to ‘Develop an ongoing funded program to improve sidewalk and crosswalk maintenance and repair.’ Regularly maintain crosswalks to draw attention to these potential points of conflict between vehicles and people walking.

- **Consider pedestrian impacts in roadway projects and eliminate unwarranted turn lanes.** Utilize a complete streets checklist that ensures all transportation projects consider impacts to other modes. Eliminate turn lanes where possible to reduce the number of conflict points at intersections between people driving and walking.

- **Orient all street signs for two-way travel.** Pedestrians travel in both directions along all streets. Street signs on one-way streets in Des Moines are oriented to vehicular traffic, meaning that pedestrians cannot always see them. This is particularly an issue for visitors relying on street signs to help navigate downtown.

- **Maintain sidewalks at-grade across driveways.** Driveways are potential points of conflict with motorized traffic. At intersections with driveways, sidewalks should be maintained at-grade through the conflict zone. Update sidewalk standards and retrofit existing driveways as part of annual capital investments and re-development projects.

- **Utilize innovative signal and street operations strategies to support a pedestrian friendly downtown** including high visibility pavement markings, shorter signal cycles, pedestrian recall (providing a WALK signal at every cycle), slower speed signal progression, extended crossing times, leading pedestrian intervals (LPI), and stricter management of turning movements.
This sidewalk design indicates that driveway users should yield to people walking on the sidewalk (Portland, OR) (above). Construction projects should be required to accommodate pedestrian movements under most circumstances (right).

- A more vibrant, walkable downtown will result in many more people to draw into the skywalk system. Develop a plan to increase the frequency and visibility of skywalk access points. Create policies that require street-level skywalk access, where gaps exist, as part of development projects.
**ISSUE:** Barrier streets isolate downtown from adjacent neighborhoods

Roadways designed for speed, vehicle flow and regional travel have consequences for residents that are reliant on walking, bicycling or public transportation. Many Des Moines residents do not have access to a vehicle on a daily basis, including youth, older adults, and households with fewer cars than people. As such, several large and fast moving streets adjacent to neighborhoods in or adjacent to downtown effectively isolate some residents. An analysis of the number of travel lanes, posted speeds, and proximity to a traffic or pedestrian signal illuminates the challenging conditions that many residents face on a daily basis when walking along and across busy streets, particularly near the edges of downtown.

Key issues include:

- **Long distances between crossing opportunities.** Limited pedestrian crossing infrastructure along University, MLK, E 14th/15th and Keosauqua Way inhibits walkability for adjacent neighborhoods.
- **Crosswalks not always provided or adequately maintained.** Crosswalks are not always provided or maintained at signalized intersections. Pedestrian and bicycle crossing infrastructure is frequently not present at freeway on/off ramps, making I-235 a significant barrier.
- **Large roads create hazards for school children.** Several schools in the downtown area are adjacent to barrier roads, including East High School (E14th), Capitol View Elementary (E15th), Hiatt Middle School (University), and Carver Elementary (University).
An ease of crossings analysis illustrates the challenging conditions that many face on a daily basis when walking along and across busy streets, particularly near the edges of downtown.
**SOLUTION:** Make barrier streets complete streets

An equitable transportation network balances the needs of people that walk, bicycle, take transit, and drive to meet their daily needs. Overcoming ‘barrier streets’, many of which are found at the edges of downtown, will help connect people to the places they need to go within downtown regardless of how they travel.

Recommended Actions:

- **Implement complete streets treatments on barrier streets.** The proposed street cross sections will better serve people traveling by a variety of modes. Proposals that will overcome mobility barriers for adjacent neighborhoods include University, KEO, MLK, E 6th, E 14th and E 15th.

- **Mark and maintain crosswalks on all legs of signalized intersections.** Prioritize maintenance of marked crossings to enhance pedestrian safety. Consider other pedestrian safety enhancements, including high visibility crosswalks, curb extensions, leading pedestrian intervals, exclusive left turn phases, and curb extensions.

- **Provide conveniently spaced pedestrian crossing opportunities.** Analyze pedestrian crossing demand on barrier streets. Provide crossings conveniently located to pedestrian desire lines, including near opposing bus stops, recognizing that people are unlikely to walk far out of direction to reach a signalized crossing. Multi-lane, high-speed, and high-volume roads require crossing treatments such as median refuge islands and/or flashing beacons. Refer to the crosswalk guidelines in Section 4.

- **Develop a strategy to maintain pedestrian refuge island crossings.** Median refuge islands with landscaping require maintenance. Identify where the city can commit resources to keeping landscaped medians looking nice. Medians without landscaping are a lower maintenance option and an appropriate safety enhancement in many areas.

- **Enhance crossings of I-235 ramps.** Use design elements such as high visibility crosswalks, curb extensions, reduced turning radii, and bicycle conflict markings to increase visibility between roadway users, shorten crossing distances, and raise awareness of potential conflict areas.

- **Establish Equitable Housing Policies.** Making streets more human-scaled benefits adjacent neighborhoods, but may also make neighborhoods more desirable for new residents in the future. Equitable housing policies and effective community engagement can help the city maintain affordable and equitable housing options downtown.
Keosauqua Way is one of several large streets in the downtown area that isolate adjacent neighborhoods and are very challenging for people that must cross the street on foot.
**CORRIDORS**

**BUFFERS FROM TRAFFIC**
Landscaped medians or on-street parking make streets more comfortable for pedestrians and transit users by creating separation from passing traffic.

**ROADWAY RESTRIPPING**
Narrowing or reducing lanes can slow speeds and may allow for adding bicycle facilities or on-street parking.

**CROSSINGS**

**RRFBs**
Provide a high-visibility strobe-like warning to drivers when pedestrians and bicyclists use a crosswalk.

**MEDIAN REFUGE ISLANDS**
Simplify crossings by allowing pedestrians to cross one direction at a time.

**HIGH VISIBILITY CROSSWALKS**
Raise driver awareness of pedestrian crossings.

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Greater Des Moines Partnership | Connect Downtown DRAFT
PEDESTRIAN RECALL
Walk signal occurs every cycle without requiring pedestrian to push a button

LEADING PEDESTRIAN INTERVAL (LPI)
Pedestrians allowed a few second head start to claim the right-of-way ahead of turning traffic

CURB EXTENSIONS
Shorten crossing distances, increase visibility, and slow turning vehicles

CURB RADI REDUCTIONS
Improve safety as motorists slow to make sharper turns

EXCLUSIVE TURN PHASE
Reduce conflicting movements between pedestrians and drivers

FEWER TURN LANES
Reduce crossing distances; impacts to pedestrians should be considered at any proposed intersection widening project

HIGH VISIBILITY CROSSWALKS
Raise driver awareness of pedestrian crossings

Greater Des Moines Partnership | Connect Downtown DRAFT
Pedestrian refuge islands are appropriate at unsignalized crosswalk locations where the total crossing is 3 or more lanes. Pedestrian-activated tools such as Rectangular Rapid-Flash Beacons (RRFB) and High-Intensity Activated Crosswalks (HAWK) are appropriate in locations that serve pedestrian generators but where full signals are not warranted.

Source: FHWA Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations Final Report and Recommended Guidelines
Crossing enhancements such as median islands and flashing beacons are needed on larger roads such as University.
The bicycle network does not connect to places people want to go

Bicycling is on the rise in vibrant and growing cities across the country, including Des Moines. Investments in bicycling have been shown to improve property values, increase retail sales, and help attract millennials with a preference for living in walkable and bikeable neighborhoods. Bicycling investments also support an equitable city, with studies showing that households earning less than $20k per year are roughly twice as likely to bike for transportation as all other income groups. Despite a limited and disconnected network, it is not uncommon to see people bicycling downtown. Key issues with the downtown bike network include:

- **Regional trails do not connect to downtown destinations.** A world-class network of trails deliver people to the edge of downtown in a comfortable, ‘low stress’ environment. Once downtown, frequent gaps in the network prevent all but the most experienced and ‘fearless’ riders from reaching their final destinations.
- **Existing on-street facilities do not feel comfortable for most people.** Existing bike lanes serve as a foundation for a more comprehensive network. Uncomfortable areas include the Grand Avenue transition from a right to a left side bike lane as well as the opposing route on Locust Street, which lacks a dedicated bicycle facility.
- **Downtown bike network does not create connections from outside of downtown.** The successful Ingersoll complete streets project represents the only on-street bicycle connection across the study area that facilitates travel in and out of downtown.
The existing on-street bicycle network does not connect to downtown destinations and is uncomfortable for most people. Riding a bicycle can feel stressful for many people. The level of stress relates to factors such as volume, speed, and level of separation from adjacent traffic. The medium stress network is comprised of multi-use trails (low stress) and on-street bike lanes (medium stress).
**SOLUTION:** Make the bike network feel safe and comfortable for everyone

The **primary bicycle network** proposed for downtown Des Moines will provide a convenient, connected, continuous, comfortable, and complete network. These features are essential to attract people interested in bicycling to and between downtown destinations. The over-supply of travel lanes on many downtown streets offers the unique opportunity to re-allocate space for a bicycle network that serves downtown, connects to adjacent neighborhoods and the regional trail network, and helps achieve the citywide Comprehensive Plan goal of ‘a complete multi-modal transportation network.’ Refer to the bicycle network map in Section 4.

**Recommended Actions:**

- **Implement the proposed primary bicycle network.** Facilities should provide a comfortable level of separation from motorized traffic.
- **Draw attention to conflict locations.** Use conflict markings to draw attention to areas where bicycles may come into conflict with vehicles at intersections, driveways, and freeway interchanges.
- **Add bicycle detection to signalized intersections.** Update or tune traffic signal detection along the bicycle network to detect bicycles to trigger a green light. On trails parallel to major streets (e.g. MLK), add bicycle detection to the intersection with minor streets or call the WALK signal on every cycle.
- **Utilize innovative intersection treatments.** Increase comfort and awareness of bicycles at intersections using treatments such as two-stage turn queue boxes, bike boxes, and protected intersections.

**The benefits of protected bike lanes and a complete low-stress network.**

A **low-stress bicycle network** is sometimes referred to as an 8-to-80 network, meaning users from eight to eighty years of age feel comfortable riding there. Neighborhood streets with low traffic may be comfortable without significant infrastructure. As vehicle speeds and volumes increase, people need greater separation from cars to maintain acceptable levels of comfort. Many on-street bikeways feel unsafe for all users, and some bikeways that do provide low-stress options cannot be accessed without traveling far out of one’s way, navigating high-speed streets, or crossing large intersections. A solitary high-stress barrier within a low-stress route can be enough to prevent someone from choosing to bike.

**Protected bike lanes** provide an attractive and safe bicycle facility through the physical separation from motor vehicle traffic using on street parking, curb, and delineators or landscaping. Protected bike lanes may be one way or two way, and are sometimes referred to as cycle tracks. Protected bike lanes have been shown to increase ridership and improve safety, and not just for the bicyclists; protected bike lanes reduce crash numbers for all roadway users.

**Bicycle boulevards** are low volume residential streets designated as part of the bicycle network. Typical enhancements include wayfinding signage, pavement markings, and enhanced crossings where routes cross busier streets. Traffic calming measures may be used to ensure low vehicle volumes and speeds so people driving and bicycling can share the road. The proposed primary network map includes bicycle boulevards on several residential and/or lower volume streets to complete network connections.
The proposed bicycle network includes many of the most commonly suggested bicycle routes during the plan’s public involvement activities, including Ingersoll/High (shown here), Grand, W MLK, Court, and University.
ISSUE: Parking policies do not support a walkable downtown and retail access

Management of the downtown parking influences the character, vitality and safety of downtown. Downtown parking is a mix of ramps primarily used by downtown employees, metered and unmetered on-street spaces, and peak hour restricted spaces.

Key parking considerations include:
- **Peak hour parking restrictions have unintended consequences.** In theory, peak hour parking restrictions create parking for part of the day while creating extra travel lanes to support rush hour traffic. In practice, they result in underutilized parking throughout the day and create extra wide streets that support higher speeds and detract from the pedestrian environment. These restrictions are largely unnecessary from a traffic flow perspective on most downtown streets.
- **Parking availability is an issue in the East Village.** Current meter hours in East Village result in limited availability of parking during key business hours and affects the ability of customers to reach retail destinations.
- **Street changes must consider downtown parking ramps.** Employee parking ramps make up a large share of downtown parking. Modification to street configurations must maintain the smooth loading and unloading of these ramps.
Elimination of peak hour parking restrictions will support slower vehicle speeds.
Eliminate peak hour restrictions and align meter hours and pricing with demand

Removing peak hour parking restrictions is an inexpensive way to calm downtown streets. On-street parking narrows the street and creates activity at the edge of the street, which tends to slow vehicular traffic, separates the pedestrian realm from adjacent traffic, and can be used to create low-stress parking protected bikeways. Improved parking management, particularly in the East Village, will make finding a parking space more convenient, ensure regular access so customers can reach retail destinations, and reduce circling. The recommendations of this plan result in an increase in downtown parking supply and maintain parking ramp ingress/egress. Refer to the parking changes map in Section 4.

Parking recommendations include:

- **Eliminate peak hour parking restrictions.** Peak parking restrictions are unnecessary to maintain adequate traffic flow given the capacity of downtown streets. Making this parking permanent supports retail viability, slower vehicles speeds, and a more comfortable pedestrian environment.

- **Match parking meter hours to business hours of operations and periods of significant parking demand.** This is particularly important in the East Village where there are fewer parking ramps than west of the river.

- **Revise zoning code to better support walkable, mixed-use development downtown.** Require unbundled parking for rental and for-sale residential, commercial space, and other uses. Require provision of spaces for car-sharing and bicycle parking, and require provision of free transit passes. Establish policies requiring builders of commercial properties to include parking costs as a separate line in leases. Fully eliminate parking requirements downtown.

- **Work with existing employers and residential developments to implement travel demand management measures.** Example practices include unbundling the price of parking or providing subsidized transit passes so people have the opportunity to save money by using less parking. These measures should pay attention to the relative cost and ease of multimodal options as compared to driving alone.

- **Consider loading zones during detailed design phase.** Consider the need for loading zones on retail streets, typically 60’ in length, during the detailed design phase of the roadway reconfiguration projects.
Matching parking meter hours with business hours of operations will make finding a parking space more convenient downtown.
ISSUE: Street design and special events impact downtown transit

Downtown streets are important to the transit user experience in many ways. The size and speed of the street impacts the comfort of waiting for the bus and the ease of crossing the street to reach stops. The extent of the bicycle network affects the ease of combining bike with transit to reach destinations further from stops. Finally, when streets are closed for special events, transit providers must develop alternate routes and transit users must be aware of the detours and know how to find the relocated stop. For people that rely on transit to meet their daily needs, unforeseen detours and longer travel times can impact their ability to reach their destination on time.

Key issues impacting downtown transit include:

- **One-way street network results in long bus detours during events.** Downtown Des Moines hosts a myriad of events throughout the year, many of which include temporary street closures (typically Grand/Locust). The large number of one-way streets requires longer out of direction detours for DART and inconvenience for riders.
- **Limited pedestrian crossings near bus stops on ‘barrier’ streets.** The core of downtown has short blocks and frequent traffic signals. On larger streets at the edge of downtown, longer signal spacing results in stops that are not located near dedicated places to cross the street.
- **Bicycle access to DART station and other stops.** DART buses have bike racks on the front of the bus, making it easier for transit users to reach their final destination. A complete on-street bike network would support the many transit users that combine bike and transit trips.
Bus detours due to special events are common in Des Moines.
**SOLUTION:** Prioritize Transit / Transit Priority Streets

The DART Forward 2035 Transit Services Plan, updated in 2017, identifies Enhanced Corridor lines, which will have the highest levels of transit service in the region. Hallmarks of the Enhanced Corridor service type includes 15-minute frequency, transit priority treatments, and closer stop spacing. These corridors will increase the convenience and reliability of taking transit. DART has identified 6th Avenue and 7th Street as the most important corridors for its service through downtown Des Moines. The couplet will be served by three Enhanced Corridor routes and connect to DART Central Station.

The City of Des Moines can elevate the importance transit and ensure that people who rely upon or choose to take transit are able to get to work and meet their daily needs with minimal inconvenience through the following actions:

- **Designate 6th and 7th as Transit Priority Corridors.**
  Recommended elements of this designation include: Preserve bus movements on 6th and 7th during events (e.g., provide a traffic controller to allow buses to cross when Grand, Locust or other intersecting streets are closed). Permit buses to stop in the travel lane at stops, including incorporating bus bulbs into street design. Consider transit priority treatments such transit signal priority and queue bypasses at major signals.

- **Convert 6th and 7th to two-way operations.** This will reduce out of direction travel for the many DART buses using these streets during street closures for special events. Conversion of additional streets to two-way operations will further support the directness of alternate routes during events.

- **Work with DART during detailed street design phase.** Transit often loses significant time yielding to traffic as it exits bus zones. If funding allows, implement bus bulbs that extend the sidewalk out to the traffic lane. This permits transit to stop in the traffic lane, and eliminates the need to merge out of the stop. work with DART to designate no parking zones aligned with rear door access at bus stops.

- **Provide pedestrian crossing opportunities near transit.** Provide safe and convenient pedestrian crossings on larger streets near opposing bus stops that are distant from traffic signals.

- **Implement transit priority treatments on ‘Enhanced Corridors.’** Support DART Forward 2035 by implementing treatments such as transit signal priority and queue bypasses to improve transit speed and reliability.

- **Study bike access to DART Central Station.** Evaluate the opportunity to add bike lanes on Cherry or Mulberry Street to provide a dedicated facility from 5th to 8th to serve the station. Cherry is currently proposed for shared lane markings to serve as wayfinding to the on-street bike network, due to the large number of parking garages that unload during the afternoon commute. See Section 5 for other ideas including a multi-use trail in the vicinity of the railroad tracks from 5th to 8th or adding a bike lane in each direction on 6th and 7th from MLK to Grand.
Bus bulbs prevent delay caused when buses need to merge into traffic after a stop.
Critical to the success of the Connect Downtown planning project was a process that included collaboration with a variety of stakeholders and the Des Moines community to ensure the outcomes met the needs and desires of the community.

Input was received from a stakeholder advisory committee and the public to craft overarching project goals, develop and refine project ideas, and determine how projects should be prioritized. Public workshops were intertwined with the overall project schedule to ensure the open process provided the public with a space and necessary tools to make opinions heard at critical junctions in the process. These workshops were publicized via the project website, social media and other media placements to reach a wide array of people.
PUBLIC KICK-OFF
The City of Des Moines, Urban Land Institute Iowa and Greater Des Moines Partnership hosted two open houses to introduce the Connect Downtown project. There was both a lunchtime and evening event. Each began with an engaging presentation by Jeff Speck, author of Walkable City, on the wide-ranging benefits of and strategies for enhancing walkability in Des Moines. Following Speck’s presentation, the Nelson\Nygaard consultant team presented preliminary findings documenting existing challenges and opportunities to make Downtown Des Moines safer and more convenient for all modes of transportation. A mapping activity allowed members of the public to share their perspectives on issues to address with the plan.

PROJECT WEBSITE
A project website was maintained for the duration of the project. It provided information on upcoming meetings and included an online version of the public input mapping activity, to allow those who were not able to attend the kick-off open houses the opportunity to provide feedback. Over 400 responses were received between the open houses and website versions of the map. A recording of the presentation from the second round of open houses, which described the preliminary network concepts for downtown, was posted to the website along with a comment form.
STAKEHOLDER MEETINGS
A series of stakeholder meetings were held at the beginning of the planning process. Five different meetings were held to gather input and perspectives from a broad range of stakeholders. Participants included agency staff (City of Des Moines, Des Moines Area Metropolitan Planning Organization, Polk County), a variety of downtown employers, downtown retailers, neighborhood associations, architecture and realty firms, the Des Moines Bicycle Collective, DART, health agencies (Iowa Department of Public Health, American Heart Association), and economic development agencies (Greater Des Moines Partnership, Iowa Economic Development Authority). These meetings solicited input on aspirations for downtown, key challenges to overcome, and contributed to the development of the project goals described in Section 1.

STAKEHOLDER ADVISORY COMMITTEE
A subset of the participants in the stakeholder meetings met regularly throughout the project to provide feedback and direction. The makeup of the committee was similar to the stakeholder meetings, with representation from agency staff, major employers, neighbors and downtown businesses, economic development agencies and members of the development community, DART, the Des Moines Area MPO, and advocacy groups. The committee met to confirm the project goals, review the analysis of existing conditions (including existing issues and opportunities), and provide feedback on the proposed network changes and traffic modeling results.

DESIGN WORKSHOP
The project consultant team hosted a design workshop with city staff early in the process to discuss design considerations to inform the development of the proposed network changes. Design elements covered include design speeds, travel lane widths, curb radii, on-street parking, one-way to two-way street conversions, and pedestrian crossing enhancements. The discussion also focused on the importance of messaging to ensure the public understands the reason for implementing changes to downtown streets.

PUBLIC OPEN HOUSES
A second round of open houses provided the opportunity for the public to learn about the preliminary proposed street concepts and traffic modeling results. Similar to the first set of open houses, there was both a lunchtime and evening event. An online version of the presentation was posted to the project website to offer additional input opportunities.

ONE-ON-ONE PRESENTATIONS
Dozens of small meetings and presentations were made to stakeholders throughout the design process to answer questions, address concerns, and receive input.

FINAL PRESENTATION
The draft Connect Downtown plan will be presented at a City Council work session in the Fall of 2017.
TRAFFIC MODELING

The City worked with a transportation engineering firm to develop a computer simulation model to test the proposed downtown transportation network scenarios. The model outputs, including the changes in anticipated travel speeds and travel times, were presented to the stakeholder advisory committee and at the two public open houses in June 2017. Feedback from the stakeholder advisory committee and the public were incorporated into a revised network that was re-run through the simulation model.

The modeling revealed:

• The reduced number of travel lanes result in slower average travel speeds in downtown
• More two-way streets allows traffic to distribute throughout the network
• Most intersections clear all cars every cycle
• General indication that parking garages on one-way streets will function well; garages will receive close attention during detailed street design

Are the increased travel times acceptable for the benefits?

• The traffic model estimated travel time changes to and from several downtown commuter destinations. With ALL network changes implemented, travel during the peak 15 minute period (i.e., the busiest time of the day) would increase from 1-3 minutes.

The City of Des Moines is currently developing an Intelligent Transportation System (ITS) Master Plan that will allow it to upgrade its traffic signal equipment to more effectively manage its transportation system, including during special events.
A more complete E 6th Street (at Des Moines).
The community has articulated a clear desire for a safer, more equitable, multimodal transportation system that maximizes the economic potential of downtown Des Moines as a great place to live, work and visit.

A series of downtown network maps to achieve these objectives are described in this chapter. Street changes maps indicate which streets are proposed to move from one-way to two-way operations as well as where changes are proposed to the overall number of travel lanes. Parking changes and bicycle network maps illustrate the results of re-allocating the excess number of travel lanes throughout downtown to alternative uses. The proposals make downtown streets more human-scaled, increase the availability of on-street parking, and create a comprehensive downtown bicycle network. As described in this chapter, the proposed changes will lower driving speeds, shorten average crossing distances, provide a comfortable bicycle facility approximately every five blocks, and create a more walkable downtown that supports commercial activity and makes downtown a great place to live, work and visit. Despite the significant changes to the circulation and number of travel lanes downtown, the traffic modeling indicates only a modest increase in travel times to commuter destinations downtown.
NOTE: Peak hour parking restrictions on Locust, Mulberry and 7th have already been removed as a ‘pilot’ project.
Proposed 1-Way to 2-Way Conversions

1-way to 2-way Conversion Segment

Study Area

Landmarks

Data Sources: ESRI, City of Des Moines
Greater Des Moines Partnership | Connect Downtown DRAFT

Primary Bicycle Network

Primary Network
- Off-Street Facilities
- On-Street Facilities

Secondary Network
- Study Area
- Landmarks

Note: Many facilities in the secondary bike network were added for traffic calming to take up additional pavement width, but do serve a function in the network.
**BENEFITS OF THIS NETWORK**

- Streets that encourage slower speeds
- Streets that are easier to cross, including to access transit stops
- Increased walking and bicycling to and within downtown
- A connected network of comfortable bicycle facilities
- Improved access to transit and fewer detours for transit riders
- Streets that support access to retail and increased sales
- A walkable downtown that attracts new workers and residents
- Streets that are interesting and comfortable to walk along
- Enhanced mobility for downtown neighborhoods
- Greater access to the Des Moines and Raccoon rivers
- Connections to the regional trail system
**GOOD FOR BUSINESS**

Competitive advantages of walkable communities include:

- Attracting and retaining talented workers
- Capitalizing on their surroundings to build their brand and corporate identity
- Facilitating creative collaboration with nearby colleagues
- Being close to business partners and centralizing operations
- Supporting "triple bottom line" business outcomes (profits plus socially and environmentally friendly investment in a city center)

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**BY THE NUMBERS**

- In 13 out of 15 major markets, an increase of one point of the walk score translated into home price premiums ranging from $700 to $3,000.\(^1\)
- An increase of 10 points on the walk score was associated with an increase of 5 to 8 percent in commercial values.\(^2\)
- In Des Moines, the 50312 zip code saw a 23 percent increase in retail sales after making conversions to Ingersoll Avenue to make it more bike and pedestrian friendly

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**Walk Score** is a proxy for walkability that rates proximity to commercial destinations on a scale of 1 to 100

**TOP 10 MOST WALKABLE US CITIES**

<table>
<thead>
<tr>
<th>City</th>
<th>Walk Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>New York</td>
<td>87.6</td>
</tr>
<tr>
<td>San Francisco</td>
<td>83.9</td>
</tr>
<tr>
<td>Boston</td>
<td>79.5</td>
</tr>
<tr>
<td>Chicago</td>
<td>76.5</td>
</tr>
<tr>
<td>Washington DC</td>
<td>74.8</td>
</tr>
<tr>
<td>Seattle</td>
<td>74.1</td>
</tr>
<tr>
<td>Baltimore</td>
<td>70.8</td>
</tr>
<tr>
<td>Los Angeles</td>
<td>66.2</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>63.9</td>
</tr>
<tr>
<td>Milwaukee</td>
<td>59.4</td>
</tr>
</tbody>
</table>

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\(^1\) Walking the Walk: How Walkability Raises Home Values in US Cities.

\(^2\) Walkability Raises Commercial Property Values
Reducing the level of obstacle presented by the current configuration of 2nd Avenue received strong support during stakeholder and public meetings.
Proposed intersection re-design for 18th and Grand.

Work with Des Moines Public Schools on bus and parent pick-up and drop-off locations.
Chapter Five

IMPLEMENTATION

The Connect Downtown plan identifies changes to the downtown street network, many of which can be implemented relatively quickly and inexpensively.

Taken together, however, the proposed changes are extensive and not without cost. In addition, some streets that are not owned by the city will require additional time to coordinate with state agencies. A project prioritization framework, aligned with the Connect Downtown goals, suggests a project implementation schedule for use in the budgeting of capital projects.
PRIORITIZATION

The prioritization framework identifies how well projects align with the Connect Downtown project goals. Projects that align with multiple criteria represent the greatest potential benefit to downtown Des Moines. Each criteria received equal weighting.
Safety is essential to achieve a vibrant and equitable downtown Des Moines. Historic collision patterns indicate that pedestrian collisions are most concentrated in the heart of downtown west of the river, as well as along E 14th/15th, E Grand, and University Avenue. Bicycle collisions are most concentrated on University, E and W Grand, W Locust, and MLK.
IMPLEMENTATION TIMEFRAME
Projects are grouped into three implementation timeframes based on the prioritization criteria. These timeframes are intended to inform capital projects budgeting. One-way streets that serve as couplets (e.g. W 2nd/3rd) are listed in same timeframe, with the lower scoring project moved up to join the higher scoring project. Stakeholders along the project corridors will be engaged during the detailed project design phase as individual projects come due for implementation.

Taking Advantage of Opportunities
Opportunities will arise over time to implement some projects in a shorter timeframe, including as streets come up for regularly scheduled re-surfacing. Several long-term projects that would complete the bicycle network could be implemented at any time.

Pilot to Permanent Approach
Curb extensions, pedestrian safety islands, and protected bike lanes can be piloted with low-cost materials including pavement markings and delineator posts. The pilot to permanent approach allows for quick implementation and the opportunity to observe project impacts prior to permanent installation. However, project elements should take into account existing streetscape plans for different roadway users to ensure long-term compatibility. For example, the design of curb extensions at intersections should not extend into the space needed for planned bikeways.
SHORT TERM (2018-2019)

- **E Grand**: Lane reduction to add bike lanes and support retail access.
- **W Grand Ave**: One-way to two-way conversion to support retail access and add bike lanes.
- **W Locust St**: One-way to two-way conversion to support retail access.
  - **W 17th**: Convert one block from one-way to two-way.
  - **W 4th Ave**: Convert one block from one-way to two-way.
- **E & W University**: Lane reduction to reduce speeds and pedestrian crossing exposure and add bike lanes.
- **W 6th Ave**: One-way to two-way conversion to support transit access to downtown.
- **W 7th St**: One-way to two-way conversion to support transit access to downtown.
- **W 5th Ave**: Lane reduction to add bike lanes (one-way to two-way conversion from Mulberry to Grand).
- **W Court Ave**: Lane reduction to add bike lanes.
- **W High/Ingersoll Ave (interim solution)**: Lane reduction to add bike lanes (roadway re-striping).
- **W 18th**: Convert one block from one-way to two-way.
- **W 19th**: Convert one block from one-way to two-way.
MEDIUM TERM (2020-2021)

- **E 6th St**: Lane reduction to add bike lanes and support retail access.
- **E Pennsylvania Ave**: One-way to two-way conversion to support slower speeds.
- **W 9th Ave**: One-way to two-way conversion support slower speeds.
- **W 8th St**: One-way to two-way conversion to add bike lanes.
- **W 10th St**: Add bike lanes.
- **W 15th Ave**: Lane reduction to add bike lanes.
- **W Cottage Grove Ave**: Lane reduction to add bike lanes. Implement with W 15th Ave project above.
- **E Court Ave**: Lane reduction to add bike lanes.
- **W 2nd Ave**: Lane reduction to support access to the Des Moines River and the East Village.
- **W 3rd St**: Lane reduction to support slower speeds and safer pedestrian crossings.
- **W MLK**: Lane reduction to reduce speeds and add bike lanes.
- **E 14th St (interim solution)**: Lane reduction to support slower speeds and safer pedestrian crossings.
- **E 15th St (interim solution)**: Lane reduction to support slower speeds and safer pedestrian crossings.
- **W Crocker St**: Eliminate turn lanes to add bike lanes.
- **W Center St**: Add bike lanes.
LONG TERM (2022-2023)

- **W Keosauqua Way**: Lane reduction to support slower speeds and pedestrian crossings.
- **W High/Ingersoll Ave (long-term solution)**: Lane reduction to add bike lanes (move curb and gutter and add median refuge island crossings as part of development/redevelopment projects).
- **W Walnut St**: Lane reduction to add bike lanes.
- **E Walnut Ave**: Re-allocate lane widths to widen bike lanes.
- **E Locust**: Add parking and curb extensions from bridge to E 2nd.
- **W Park**: Add bike lanes.
- **Cherry St**: Remove parking on one side of one block to add bike lanes (access to DART Central Station).
- **W 12th Ave**: Lane reduction and add bike lanes (MLK to Grand); Lane reduction to add bike lanes (KEO to Center).
- **E Fremont**: Add bike boulevard treatments.
- **E 12th**: Add bike boulevard treatments; bike lanes on bridge over I-235.
- **E 9th / E Railroad Ave**: Add bike boulevard treatments to connect to trail.
- **Murphy St**: Add bicycle boulevard treatments to connect to bike lanes on 5th and 8th.
- **E14th (long-term solution)**: One-way to two-way conversion to support slower speeds and safer pedestrian crossings. Add roundabout south of Court Avenue.
- **E15th (long-term solution)**: One-way to two-way conversion to support slower speeds and safer pedestrian crossings. A roundabout south of Court Avenue.
INTERIM SOLUTIONS
The following streets are candidates for interim solutions:

- **W 2nd Avenue.** Enthusiasm for the proposed changes to 2nd Avenue were extremely positive at the stakeholder and public meetings. A short-term option would reduce a travel lane and implement the proposed two-way cycle track, with the full proposal to convert to a two-way street taking place later.

- **E 14th/15th.** An interim, shorter-term solution to reduce the level of barrier these streets represent to surrounding neighborhoods would be to reduce each street by one travel lane. The resulting additional space should be used to provide a single bike lane on each street.

- **Ingersoll.** Ingersoll is one of the few streets where moving curbs is recommended. The short-term solution is to re-stripe the road to convert the outside travel lanes to parking protected bike lanes. The long-term solution is to re-build the road to 65’ from MLK to 14th, maintaining the parking protected bike lanes.

LONG-TERM CONSIDERATIONS
Below is a list of other potential longer-term solutions. These items are not critical and require either substantial cost (e.g., moving curbs) or coordination with other agencies (e.g., trail along railroad tracks), but are provided for further consideration by the city.

- **W 2nd/3rd.** The current proposal maintains one-way operations but removes one travel lane in either direction from University to School. In the long term, the curbs can be moved in from University to 235, widening the sidewalks across the freeway. Consider a roundabout at Laurel.

- **Keosauqua.** The current proposal removes one travel lane in either direction and adds parking. In the long term, the curbs can be moved in and this space allocated to widen the sidewalks to further enhance the pedestrian realm. Additionally, KEO does offer a direct bicycling route from the northwest, and could be considered for bike lanes in the future provided the project also addresses geometry issues at freeway ramps and free right turns.

- **Multi-use trail along School Street.** The existing sidewalks on the south side of School Street could be developed into a multi-use trail to create a flat, low-stress bicycle connection between the protected bike lanes on W 8th and W 2nd.

- **Potential Ideas for Connecting to DART Central Station.** There are several options to complete a bicycle connection to DART Central Station. The optimal solution would be to add bike lanes on Cherry or Mulberry to connect to bicycle facilities on 5th and 8th. However, both Cherry and Mulberry currently have parking garages that unload a large number of vehicles during the evening commute. An alternative solution would be to implement a multi-use path in the vicinity of the railroad tracks from 5th to 8th. Bike lanes on 6th/7th from MLK to Grand is another potential solution (not currently proposed as 5th and 8th are nearby streets identified as part of the primary bicycle network). However, there is room to include a bike lane in one direction on each street (two 10’ driving lanes, two 7.5’ parking lanes, and one 6’ bike lane would fill the –41’ available), which would provide direct access to DART Central Station.
Operations and Maintenance

The expansion of the downtown bike network will require periodic maintenance, with bike lanes typically re-striped every 3-5 years. Full buildout of Connect Downtown would result in approximately 25 miles of bike lanes, of which half are proposed as parking protected bike lanes. The annual cost of maintaining the fully built out bike network is estimated at $500k. Some of this striping cost will be offset by the need to maintain a fewer number of downtown travel lanes.

The cost of sweeping the parking protected bike lanes can be minimized by installing signage to prohibit parking on these streets corresponding to the day/time of each streets’ regularly scheduled sweeping. Snow removal is another factor, and there is limited data available on this cost, which will vary by geographic location. Minneapolis estimates an annual cost of $6.50 per linear foot to remove snow and sweep protected bike lanes weekly. This is considered a conservative cost estimate and Des Moines can likely find less expensive strategies to keep its protected bike lanes clear. The city should work to refine these estimates and explore partnership opportunities (e.g. a self-taxing district similar to what is commonly done for sidewalk maintenance) to fund snow removal.

COST AND STAFFING REQUIREMENTS

Implementation of the Connect Downtown Plan is estimated to cost approximately $33 million. These planning level costs include estimates for project design and construction administration which will require either dedicated city staff or hiring a program management consultant to oversee project development and implementation. If the city handles this in house, approximately five (5) new city staff would be required to implement the plan in the proposed six-year timeframe.

<table>
<thead>
<tr>
<th>PHASE</th>
<th>PLANNING LEVEL COST ESTIMATE</th>
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<tbody>
<tr>
<td>Short-term</td>
<td>$18 million</td>
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<tr>
<td>Medium-term</td>
<td>$13 million</td>
</tr>
<tr>
<td>Long-term</td>
<td>$2.5 million</td>
</tr>
<tr>
<td>Total</td>
<td>$33.5 million</td>
</tr>
</tbody>
</table>

Note: Converting one-way streets to two-way operations requires new traffic signals. Where two one-way streets intersect, the cost of the new signal is assigned to the project being implemented first, which explains the relatively higher cost for the short-term phase.

• E14th/15th. The long term vision is to convert these two streets to one-way operations. Each street would have two lanes plus a center turn lane. A roundabout at the southern end of the couplet is recommended to distribute traffic evenly between the two streets.
FUNDING OPPORTUNITIES

Connect Downtown provides a blueprint for a more vibrant, safe, connected, equitable and economically successful downtown. However, significant and continued collaboration with stakeholders is needed if the plan is to successfully achieve its goals. Cities across the country have utilized a variety of mechanisms to fund downtown improvements, including federal and state grants, development impact fees, self-taxing districts, local options sales tax, or tax increment financing (TIF). Projects can also be implemented as part of regularly scheduled road resurfacing projects or with other projects that impact the street, such as sewer maintenance. Funding Connect Downtown must involve private property owners in the study area. Several options available to the City of Des Moines to consider are provided below, followed by examples from other cities.

Self-Supported Municipal Improvement District (SSMID) Bonds

Under Iowa law, property owners in a commercial area may tax themselves by creating a Self-Supported Municipal Improvement District (SSMID). Residential property owners are exempt from assessment. In Des Moines, the Downtown SSMID is run by the Downtown Community Alliance (DCA). The DCA could decide to increase the rate of the Downtown SSMID assessment in order to fund a portion of the Connect Downtown plan. If it chooses to increase the rate of assessment, City Council, “upon receipt of a petition signed by at least twenty-five percent of all owners of property within the district representing ownership of property with an assessed value of twenty-five percent or more of the assessed value of all the property in the District,” can initiate a process to do so. If approved, the additional funds could either directly fund Connect Downtown improvements or be used to pay municipal improvement district bonds issued by the City of Des Moines. Such bonds are not subject to the constitutional debt limit and the funds generated by their sale would allow Connect Downtown improvements to occur sooner than if paid for by the Capital Improvement Program.

Tax Increment Financing (TIF) Bonds

The City may choose to use Tax Increment Financing (TIF) funds to pay a portion of Connect Downtown improvements. Unlike SSMID bonds, however, TIF bonds are subject to the constitutional debt limit (unless subject to non-appropriation).

Parking Revenue

The funds generated by on-street and municipal garage parking spaces could be re-invested Downtown to provide a source of capital for Connect Downtown improvements. In this way, parking revenue collected Downtown could be used to improve the very streets where the parking is located. This could be accomplished in a number of ways. First, City Council could simply re-allocate a portion of parking revenue, which would compete with other needs paid for from the General Fund. Alternatively, proceeds from the sale of municipal parking garages could go towards creating safer, more inviting streets Downtown. Finally, the City...
could create a Parking Improvement District whereby the funds generated in an area of Downtown are used exclusively for improvement in the right-of-way in the district. This last idea would likely require legislative action.

**Transportation Impact Fees**

In addition to the options above, cities across the country have added transportation impact fees to finance infrastructure improvements.

The 2016 East Palo Alto (California) Transportation Fee Nexus Study recommends a multimodal transportation impact fee that could be used to fund road and streetscape projects citywide, including bicycle and pedestrian network improvements. The fee that each developer needs to pay is calculated based on the impact of each development on the road network, evaluated considering the new VMT that they generate during PM peak hour. The impact varies depending on the development type and its location.

The City of Oakland has established a transportation impact fee for new development as well as projects involving existing buildings. For non-residential development, fee amounts are calculated per square foot. Funds generated from this fee can be used to pay for pedestrian, bicyclist, and/or motor vehicle improvements within the public right-of-way.

In Santa Monica (California), transportation impact fee rates are based on vehicle trip generation by land use from Santa Monica’s Travel Demand Forecasting Model (TDFM). The fee is applicable to new development projects and projects that make changes to existing development which generate additional vehicle trips. The fee funds pedestrian, bicycle, and transit capital improvement projects included in the Land Use and Circulation Element (LUCE) of the Santa Monica General Plan.

**Replacing Signals with All-Way Stop Signs**

The proposed changes to the number of lanes and the number of one-way streets downtown offers opportunities to replace some existing traffic signals with all-way stop signs. While all-way stops are confusing when multiple lanes intersect from multiple directions, they become a good option when a four-lane street becomes two-lane, or a multi-lane one-way becomes two-way (with one lane in each direction).

All-way stops offer a number of benefits. Drivers never pass through the intersection at more than a very low speed, providing a safer environment for all. In addition, while people driving slow down, they never have to wait for more than a few seconds to pass. Stop signs are also
much less expensive to install and maintain than traffic signals. There are, however, also reasons for maintaining some signals that may no longer be warranted based on traffic volumes. For example, along those streets that are remaining one-way, a green wave provides drivers with an expedited path through downtown. In instances where cross traffic is too light to justify an all-way stop, leaving signals in place is generally a better option than a two-way stop. The reason is that two-way stops are damaging to walkability, as they essentially require people crossing the faster street to jaywalk. Finally, pedestrians benefit from signals at intersections with long crossing distances.

The map below provides a list of signals that could be considered for removal based on the above considerations.