DOWNTOWN STL ouis TRANSPORTATION STUDY

enhancing multimodal options

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City of St. Louis

(Cover images from project team)

Downtown St. Louis Transportation Plan: Enhancing Multimodal Options

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In building a transportation system that supports all modes of transportation, St. Louis can grow as a City that is accessible to all residents and provides pathways for access to economic opportunity

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FORWARD

ACCESS TO OPPORTUNITY

The City of St. Louis Downtown Multimodal Plan envisions a future St. Louis that is well connected and provides reliable transportation options for all residents and visitors. The vision for this plan is to develop a robust multimodal system that enhances connections for pedestrians, bicyclists, transit users and motorists of all ages and abilities, while improving quality of life, supporting economic growth and community development, easing congestion and bettering air quality and improving public health. The plan includes goals, objectives, strategies and elements as actionable strategies to making this vision reality. In building a transportation system that supports all modes of transportation, St. Louis can grow as a City this is accessible to all residents and provides pathways for equal access to economic opportunity.

Balance User Needs

The Downtown Multimodal Study is one component of a three-part Congestion Mitigation Air Quality (CMAQ Grant) project of the City of St. Louis. CMAQ funding is available to projects located in non-attainment air quality areas that help minimize congestion and improve air quality. The project also includes Traffic Information Center Staffing as well as further system buildout for various traffic related devices and infrastructure in the Downtown Core and throughout St. Louis City. The Downtown Multimodal Study component includes a signal timing plan in the Downtown St. Louis core, developing recommendations for a robust multimodal transportation network as well as a Protected Bike Network Plan.

The driving force of the Multimodal Study is to better balance user needs in Downtown St. Louis and address significant impacts to traffic patterns in Downtown St. Louis as a result of recently completed transformative projects. The New Mississippi River Bridge opened in 2014, connecting Downtown St. Louis with Interstate 70 traffic, via Tucker, bringing visitors to the heart of Downtown. Additionally, the recently completed City+Arch+River project built a park over the highway, connected Downtown St. Louis with the Gateway Arch and the Mississippi Riverfront, and closed Memorial Drive providing direct access via interstate ramps. These significant projects have impacted transportation patterns within Downtown St. Louis. Additionally, the City has made substantial progress promoting active transportation by implementing new bicycle facilities, achieving the Silver Level Bicycle Friendly City Status, as designated by the League of American Bicyclists, and joining the National Association of City Transportation Officials (NACTO) as a large City affiliate member. While recent projects have upgraded connections to Downtown St. Louis, there remains a need to better connect users of all ages and abilities with our Downtown. Supporting a transportation system Downtown that provides economic prosperity for all St. Louis residents is a critical component to a thriving St. Louis region. This Downtown Multimodal plan better works to balance user needs, ensuring all St. Louis City residents have enhanced access to opportunity.

Enhanced Transportation Options

In addition to balancing the different user needs in Downtown St. Louis, this plan is committed to ensuring reliable transportation options exist for all St. Louis residents, regardless of age or ability. Additionally, this plan is for tourists, employees, and other visitors to ensure a vibrant Downtown experience. The Downtown Multimodal plan provides options for implementation that support a City safe for all users, from ages eight to eighty. A robust multimodal system ensures residents have reliable transportation options to get to work, school, resources, recreation, community goods and services, and many other amenities required daily. The multimodal plan for Downtown St. Louis promotes transportation equity and supports a resilient environment that is safe and accessible to all. The plan develops recommendations for increasing bicycle, pedestrian and transit facilities, better connecting residents to goods and services while supporting transportation choice and mode shift. These recommendations have been developed in a way that accounts for all citizens, working to promote equity and resiliency within our transportation system.

Promoting an equitable transportation system is critical to promoting a resilient St. Louis with a higher quality of life. Additionally, we want to promote a system that offers transportation choice and encourages mode shift to walking, biking and public transportation. St. Louis residents should be able to choose how they get to and from their destinations and make informed transportation decisions that positively impact the City and the region.

When more people choose to walk, bike and take transit, we will have a City that is better connected, with a thriving local economy and improved health. Transportation impacts every St. Louis resident, every day, and we need a system that supports informed decisions and enhanced access.

Walkable & Livable Downtown

Promoting a Downtown that is a vibrant Place is also a key component of this work. A vibrant Place is somewhere that you feel comfortable, a place where people belong and feel connected. A thriving, cultural Downtown with business and entertainment is the anchor for the entire St. Louis region. Streets represent nearly 70% of our public space and, thus, play a critical role in transforming the way residents within a community think about public spaces as a Place (capital P, place). Streets that are safe for users of all ages and abilities promote active transportation, increased public health, and positive interactions within public spaces, increasing social capital and fostering a stronger sense of civic pride and engagement. Because Downtown St. Louis is a neighborhood as well as a regional employment and activity center, we must capitalize on our chance to promote a stronger, more vibrant place through a robust, multimodal transportation system. Recommendations included in this plan understand the role transportation plays in the lives of residents and visitors to Downtown St. Louis daily and promote a positive transportation experience with enhanced social interactions and lively opportunities within public space. Strong pedestrian, bike and transit corridors can help bring a street to life and better connect St. Louis residents back to their City within these important public spaces.

Transportation & Technology

Transportation technology is changing rapidly. These changes are some of the quickest changes to the transportation industry since nearly a century ago with the advent at the automobile. This invention shaped the way our streets were designed and influenced the way residents connect to goods and services. Knowing dramatic change can have profound impacts on the planning process, we must be prepared for these changes. Progress in automated and connected vehicles will start to be transformative to the way people both get around and connect to their City. The Downtown multimodal plan offers recommendations for how St. Louis can capture this exciting time. A Smart City better manages public assets and infrastructure decisions using data. Additionally, a Smart City is connected: connected in terms of how transportation systems talk to each other, but also connected in the sense that, using this new technology, residents are better connected to the goods and services they need regardless of age, ability, economic status, and many other factors that may affect opportunities to date.

With recent appointments of the Chief Technology Officer (CTO) and Chief Information Officer (CIO) for the City of St. Louis, the time is now to leverage technology to improve our transportation system. The Downtown Multimodal Plan offers a vision for implementing these improvements at a human scale that better connects residents to opportunity within St. Louis.

The Plan for Downtown

The goal of this document is to serve as a plan moving St. Louis forward toward achieving a City in which transportation choice is abundant. The multimodal plans envision a safe, lively, vibrant, and healthy downtown where users can interact with their neighbors in public spaces, safely reach goods and services walking or biking, and make informed transportation decisions about getting around. We use a few key terms in discussing the future of our transportation system. These terms are:

- Resilient – referring to a transportation system for St. Louis that has the ability to withstand or recover from difficult circumstances; not specific to infrastructure, but specific to the mobility of people.
- Sustainable – referring to a transportation system that focuses on providing for the needs of the current generation, without harming the needs of future generations.
- Equitable – referring to a transportation system for St. Louis that provides access to opportunity for all residents, visitors, tourists, employees, etc., regardless of age, ability, race, economic status, and a variety of other indicators. developing a transportation system that works for them, better connecting all St. Louis with enhanced access to opportunity.

EXECUTIVE SUMMARY

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EXECUTIVE SUMMARY

The vision for the Downtown Multimodal Study is a plan for Downtown St. Louis that supports a robust multimodal system where users of all ages and abilities feel safe, including pedestrians, bicyclists, transit users, and motorists, and promotes economic growth, community development, better air quality and improved public health. This document outlines the visioning and planning process and includes recommendations and implementation strategies. Moving forward, the Downtown Multimodal Plan should serve as the vision for transportation improvements in Downtown St. Louis and guide infrastructure decisions and investments. This plan includes five sections.

Existing Downtown Transportation Network
In order to establish the vision for the Downtown Multimodal Plan, a clear understanding of existing conditions is important. This section discusses the existing roadway conditions in Downtown as well as information on current strengths of various multimodal efforts within the City. Additionally, immediate opportunities are called out as areas the City can work to improve immediately. While some recommendations are longer term and higher cost options, these strategies should be considered as ways to promote multimodal transportation Downtown in the near term.

Downtown Multimodal Vision
The visioning process for a more robust multimodal transportation system in Downtown was a critical step in starting the planning process. This section discusses elements that were important for inclusion in the vision statement as well as benefits of developing a strong multimodal network in Downtown St. Louis. These elements are all-encompassing reasons why a multimodal network should be a priority for the City of St. Louis.

Planning Process
A thorough outline of the work included in this plan is provided in this section. Details on the stakeholder engagement and public outreach are included along with discussion of coordination with current ongoing planning efforts in the City. Additionally, the goals, objectives, strategies and elements are outlined here. These steps feed back in as recommendations that help support the Downtown Multimodal Vision.

Hierarchy of Streets
This section outlines the process by which various routes were selected as priority facilities for different transportation modes. Because constraints exist in the public Right-of-Way (ROW), not every mode can be accommodated for on every road in a safe manner. This plan develops a network where safe facilities are proposed for users of all ages and abilities that consist of enhanced multimodal connections and circulation to move people where they need to go.

Implementation
Strategies to implement the Downtown Multimodal Plan are included in this section. The discussion includes information on how to use this plan as a framework for Downtown, the high level of agency coordination, as well as strategies to continue that coordination so these projects are seen as priorities. Additionally, policies are discussed as well as the importance of adopting the plan. Finally, the City should measure the performance of the implementation of these projects to continue to build the case for a strong multimodal transportation network not just in Downtown, but throughout the City of St. Louis.

Following this main report document is a series of appendices covered with a brief description of those contents at the end of this plan.

As transportation trends continue to change, this plan will be the critical document ensuring that all St. Louis residents have access to opportunity. With the development of a strong multimodal transportation network in Downtown, St. Louis residents will be able to make more informed transportation decisions and get to where they need to go without relying on a personal vehicle. This plan puts moving people first, working to establish strong connections that provide for the safe movement of all St. Louis residents, regardless of age or ability. A strong multimodal transportation system is a just system that gives every St. Louis resident equal access to necessary goods and services as well as economic opportunity.

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EXISTING TRANSPORTATION NETWORK

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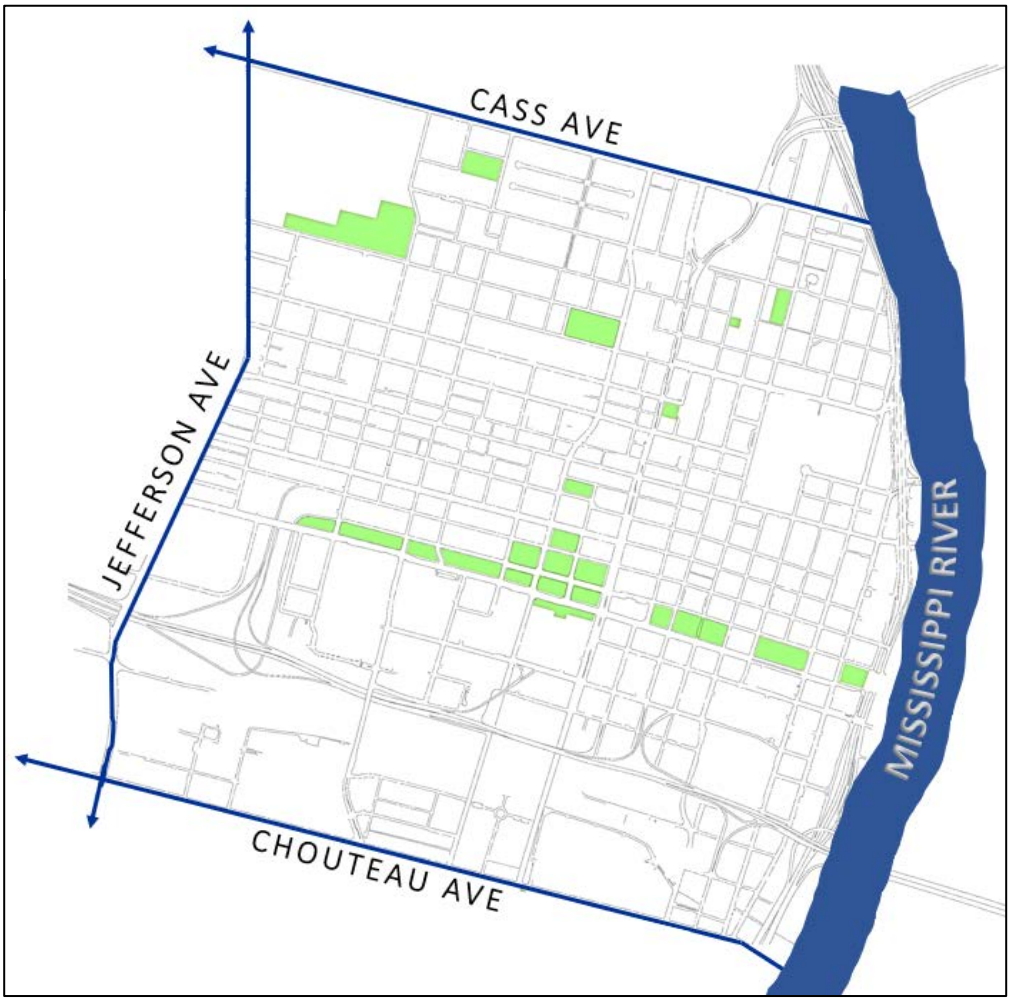
EXISTING TRANSPORTATION NETWORK

Downtown St. Louis is an important destination both for St. Louis City residents and visitors, and for the St. Louis region. With many attractions such as sports (the St. Louis Cardinals & Blues), entertainment (Union Station, Gateway Arch, Peabody, etc.), the Convention Center, as well as many employment centers, Downtown St. Louis is a focal point for the region, and it is imperative that it be highly connected to the many unique neighborhoods surrounding the Downtown Core.

The limits of the Downtown St. Louis Multimodal study are Jefferson on the west, Cass on the north, the Mississippi River on the east, and Chouteau on the south.

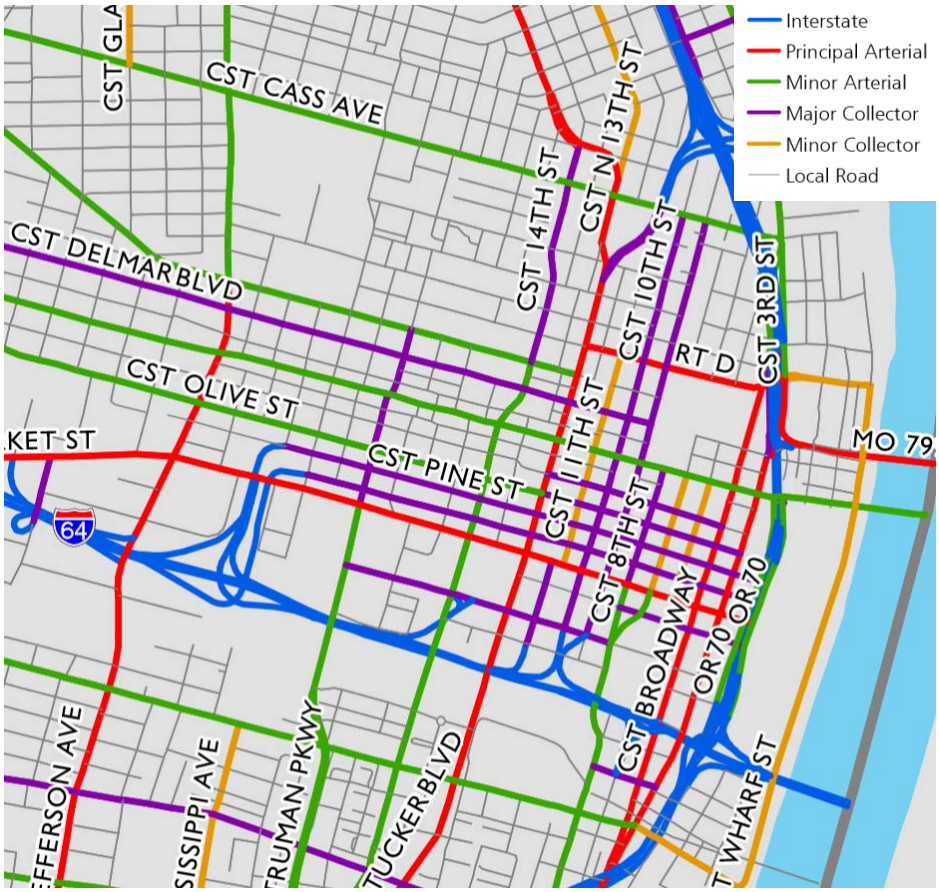


Downtown Multimodal Plan Study Area

These limits were decided for a variety of factors including:

1. The National Geospatial-Intelligence Agency (NGA) re-location in North St. Louis at Cass and Jefferson
2. The importance of connecting a Downtown bike network with multiple South City St. Louis neighborhoods (Chouteau as primary east/west bike route in south City)
3. Incorporating the Laclede's Landing District and the new Gateway Arch Grounds/Mississippi Riverfront into Downtown connections
4. Inclusion of Project Connect Choice Neighborhoods in the planning process

The existing transportation system in Downtown St. Louis is a grid network with a mix of one way and two-way streets. The area of the Downtown Multimodal Plan is bounded by a Principal Arterial (Jefferson) on the west, with Minor Arterials (Cass and Chouteau) on the north and south and the Mississippi River on the east. The roadway functional classification system assigns a classification to a roadway, depending on how the roadway functions. Interstates and arterials move more traffic with less friction, meaning there are limited points of access to improve vehicular flow. Collectors and local roads have more access points and offer a higher level of accessibility to local destinations as well as connections to arterials. Arterial roadways serve a high level of mobility for motorists, with limited access points to enter and exit. Arterial roadways may be more challenging for cyclists and may act as a barrier for crossing to pedestrians. Additionally, Tucker Boulevard, which runs through Downtown St. Louis and connects to Interstate 70, is a principal arterial and has continued as a barrier to connect Downtown for pedestrians due to increased traffic from the New Mississippi River Bridge. This enhances the need to implement recommendations to improve the pedestrian experience in Downtown St. Louis. Additionally, the closure of Memorial Drive as an arterial to better connect Downtown to the Arch Grounds has significantly enhanced the pedestrian experience. While most of the study area is a mix of local roads and collectors, there are critical routes within Downtown St. Louis that, due to the classification, may be difficult routes for bicyclists and pedestrians.



Study area Roadway Functional Classification (East West Gateway)

CURRENT CITY STRENGTHS

While there are challenges this plan works to address, it is key to identify the current strengths of the City of St. Louis transportation planning and policy. The City of St. Louis has made great strides in recent years to develop a transportation system that better supports walking and biking. As an early adopter of Complete Streets, St. Louis works daily to ensure streets are designed with all users in mind. Recent projects include the plan for the first Calm Street on Louisiana Avenue in South St. Louis, participation in the East West Gateway Council of Governments (EWGCOG) Great Streets Program, Kiener Plaza Roadway Improvements, and many more that demonstrate a desire to transform our streets as safe places for users of all ages and abilities.

In addition to a dedication of better designing streets through recent projects and planning, the City has made bold steps to commit resources to programs that assist with education about enhancing our roadways for pedestrians and bicyclists. The City of St. Louis joined the National Association of City Transportation Officials (NACTO) in 2018, further demonstrating its commitment to their mission to "to build cities as places for people, with safe, sustainable, accessible and equitable transportation choices that support a strong economy and vibrant quality of life." The City should be commended for its current strengths and commitment to future planning (including this multimodal plan) that demonstrate a desire to design streets that enhance safety within our neighborhoods.

City Strengths (Bike/Ped Friendly Streets):

1. **Complete Streets Policy** – passed in 2010 & revised in 2015; outlines the City commitment that new transportation projects keep in mind all roadways users. Establishes the oversight of a complete streets committee to meet quarterly and monitor progress on the initiative in St. Louis.

2. **Traffic Calming Ordinance (2016)** – Through the implementation of this ordinance, traffic calming devices can be more easily installed at the neighborhood scale to enhance quality of life for St. Louis residents. The ordinance helps ease the process by establishing a process local residents can follow if they feel there is a traffic problem within their neighborhood. Residents work with their elected official to identify and report the problem to the City of St. Louis Streets Department. Once the complaint has been filed, the Street Department investigates the complaint through a traffic study, analyzing data and existing conditions. Based on the results of the traffic study, elected officials can implement traffic calming devices such as speed humps on local roads. This ordinance enhances neighborhood planning through the ability for residents to have a voice in changing their street.

3. **Silver Level Bicycle Friendly Community Designation (2017) –** The City of St. Louis was awarded the level of Silver Level Bicycle Friendly Community by the League of American Bicyclists. This designation is an upgrade from our last designation as a bronze City and demonstrates our commitment to improving bicycling in St. Louis City.

4. **Bike Share –** Launched in April 2018, Bike Share will help enhance mobility in the City of St. Louis. Bike Share feasibility was studied in 2014. In 2016, Bi State Development formed a Bike Share Working group to build momentum and work to bring Bike Share to St. Louis. After analysis and discussions with other Cities, St. Louis decided to proceed with a Dockless Bike Share model. An ordinance was passed in 2018, that allows Bike Share companies to apply for a permit to operate in St. Louis City ROW. St. Louis Bike Share launched in April 2018 and is being viewed as a model for leading the way in bike equity. NACTO has shared the City of St. Louis permit process as a best practice for ensuring all residents have access to bike share through our target inclusion neighborhoods. Additionally, as of August 2018, approximately 60,000 unique users have used bikeshare accounting for over 130,000 trips. Electric scooters have recently been added to the dockless fleet, creating even stronger first-mile/last-mile connections.

5. **Chouteau Greenway Design Competition / Trailnet Vision Plan:** Started in 2018, the Chouteau Greenway Design Competition seeks to connect Forest Park to the Gateway Arch, via separated trail facility. The competition, run by Don Stastny, has attracted international attention and a wealth of private partnerships. Once the conceptual design is completed, Great Rivers Greenway can move forward with securing funds

for engineering, construction and implementation. In conjunction with this high level connected facility, Trailnet is working to develop a network of protected bike facilities that connect north and south City neighborhoods with the central corridor and important destinations within St. Louis City.

6. **Bike Rack Program** – interested businesses can purchase a low cost, custom design (arch rack pictured below) bike racks from the St. Louis City Street Department. Bike parking encourages cycling as a feasible mode of commute in St. Louis City. The City Street Department will work with the business to locate and install racks as part of the bike rack purchase.



City Strengths (Technology):

1. **Chief Technology Officer (CTO) / Chief Information Officer (CIO) –** The City of St. Louis appointed their first CTO and CIO in March 2018. The CTO is tasked with exploring initiatives on how technology can help improve the quality of life for St. Louis residents. The CIO is tasked with overseeing the City's Information Technology Services Agency (ITSA) and is responsible for finding ways to improve technology used by City employees as well as ways ITSA can better support City departments. Together, these appointed individuals will help expand Smart City initiatives in St. Louis.

2. **Smart City Advisory Committee –** The Smart City Advisory Committee is a group of directors and employees from various St. Louis Departments that are tasked with overseeing the implementation of Smart City initiatives. These individuals will work with vendors looking to come to St. Louis and identify how Smart City technology can enhance daily life for St. Louis residents while promoting a resilient City with economic prosperity for all.

3. **Smart Parking System –** Rolled out in 2015, St. Louis uses ParkMobile for on-street metered parking. This system allows users to pay with card at machines located throughout parking zones, or on retrofitted meters. There is also a smart phone application, which allows users to find open spots, pay via app, and even reserve spots. ParkMobile has more capabilities that the City is not currently using that allow for enhanced features, such as dynamic pricing.

4. **Advanced Traffic Information Center (TIC) –** Two full time traffic engineers staff the TIC daily from 5am – 7pm. The daily operators oversee the operation of over 500 traffic signals. Approximately 375 traffic signals communicate with the Advanced Transportation Management System (ATMS) located at the TIC. In addition, the daily operators observe traffic surveillance cameras located throughout the city in order to proactively manage reoccurring and non-reoccurring congestion. Utilizing the ATMS, the daily operators are able to identify equipment malfunctions and communication issues and are able to assist technicians with troubleshooting. Furthermore, traffic signal timing plans can be modified remotely, and diversion plans can be implemented to mitigate incident related congestion and special event traffic. Finally, the ATMS is utilized to collect count data from permanent count stations located on critical corridors.

5. **Real Time Crime Center (RTCC) –** Co-located with the TIC, the RTCC has live video feeds of cameras located throughout the City. These cameras assist with responding to stolen vehicles, and other various crimes that require quick response times to assist with resolving the criminal activity.

City Strengths (Sustainability):

1. **Mayor's Sustainability Action Plan –** Published in 2013, this plan guides the City with goals and objectives that direct strategies for advancing sustainability in St. Louis.

2. **LED Streetlights & Traffic Signal Bulbs –** The City of St. Louis and Ameren have recently started upgrading street lights (overhead and pedestrian scale) as well as traffic signal bulbs that are LED. These bulbs assist with energy conservation and have a longer life cycle than non-LED bulbs. Smart Street Light systems have additional capabilities such as sensors that can also be put to use.

IMMEDIATE OPPORTUNITIES

As evidenced by the previous section, it is clear the City is working hard to promote multimodal transportation options in St. Louis. However, there is still work to be done, and this plan identifies areas for improvement within Downtown St. Louis. While some recommendations included in here are high-cost infrastructure projects, there are a handful of immediate opportunities for the City of St. Louis to consider. These immediate opportunities are identified here to offer initial ideas on lower cost, near term projects as well as potential policy initiatives that will allow for the implementation of some of the longer-term recommendations (included later in this plan). In addition to these immediate, near term ideas, an immediate project list has been included in the Focus Areas Appendix. The plan as identified approximately 15 projects that should be considered as immediate solutions to enhancing the multimodal experience in Downtown St. Louis.

Immediate Project Opportunities

1. **Increased Bike Parking**

In addition to providing good on-street bicycle facilities to enhance safety of bicycle trips, providing bike infrastructure at destinations is an important factor in promoting bike commuting. People want to know their bicycle is safe while it is parked and want convenient parking located in proximity to important destinations as well as convenient to necessary goods and services. By increasing bike parking that is safe in well-lit and convenient areas, St. Louis can encourage cycling as a more viable commute option. We have identified six ways to increase bike parking immediately within Downtown St. Louis.

Above: a colorful painted bike corral in San Francisco, CA

Below: Seattle Dockless bike share parking area

- Street Department rack program advertisement – partner with local groups that have an interest in cycling, sustainability and planning to reach new users interested in installing bike racks.
- Bike corral expansion – implement more bike corrals at important destinations within the Downtown core.
- Bike Share coordination – work with bike share companies to implement bike share 'station areas' that are easily identified as convenient places to park bike share bikes.
- New developments – work with new developments to ensure bike parking meets the current bike parking ordinance, and work to encourage more bike parking, as well as additional bike commuting amenities, such as showers.
- Downtown Bike Commuter Station – promote the Downtown bike commuter station to major employment and attraction hubs in Downtown. Offer incentives for St. Louis City employees utilizing the Downtown Bike Commuter station.
- Additional parking at transit stops – encourage multimodal trips by enhancing secure bike parking at convenient locations near Metrolink and Metrobus stops.

2. Parklets

A parklet is a sidewalk extension that offers more public space; an area with more amenities for people that are using the street. Parklets typically take up one to two on-street parking spaces and are intended as a place for people to stop, enjoy their environment and their community. Parklets offer places for people to sit, rest, participate in activities, enjoy public art, and they occasionally serve as a place that may accommodate additional bike parking. These spaces are low cost and relatively easy to implement where on-street parking exists. Our recommendation is to utilize on-street parking spots on Tucker and on Washington to look for pilot Parklet projects. Coordination between the Street Department and the Treasurer's office is an initial first step in securing the parking spot permanently. Following that coordination, the City should work with adjacent ground floor development in developing ideas for what to include in the parklet spot. Solicitations for ideas can also be done through the Downtown Neighborhood Association and DowntownSTL. Additionally, maintenance agreements should be in place prior to implementation to ensure the quality and sustainability of these Parklets. We have mapped out where Parklets make sense initially, with the idea that the program may grow with increased interest.

Parklets, Chicago, IL

3. Lighting Updates

LED lighting can immediately enhance the feeling of security within a place, and the City should consider replacing all street lighting within the Downtown Core with LED bulbs. In addition to replacing street lights with LED Bulbs, DowntownSTL is currently working on a project – #LightMySTL to add curved LED light strips to the top of light poles. These strips can be programmed to change color via a secure wireless network and will help enhance a sense of place in Downtown. Building off this effort will encourage a Downtown that is friendlier to all St. Louis residents.

4. Ramps & Pedestrian Signals

Downtown should be accessible to all residents and visitors, regardless of ability or age. As such, working to identify immediate ADA upgrades is another opportunity for the City to start tackling some of the larger Downtown Multimodal Plan recommendations. In addition to enhancing ADA accessibility, ramps, pedestrian signals and high visibility crosswalks make walking a better experience for all pedestrians, such as those pushing strollers, walking their dogs, etc. Identified in an electronic file (outlined in the technical appendix) are locations in Downtown where pedestrian signals can be added and crosswalks can be striped. We also include existing conditions at all curb ramps and pedestrian signals within the Downtown Study Limits. The City of St. Louis should identify deficient intersection and work to add upgrades for ADA accessibility and enhanced pedestrian accommodations. Finally, the City has implemented a few leading pedestrian intervals, and these should be considered at any locations they are appropriate in Downtown St. Louis.

5. Public Art

Cultural projects found in civic space play a fundamental role in enhancing quality of life and boosting economic development. Downtown St. Louis will benefit from the immediate implementation of public art installations on priority bike and pedestrian routes as well as at locations near transit stops and important destinations. The links between economic health of a community and the social bonds within that community are becoming increasingly clear, and public art installations offer an opportunity for residents and visitors alike to interact around a cultural experience within the public realm. Connections at the cultural level support enhanced social capital supporting everything from economic development to civic engagement and healthy living. Public art installations throughout Downtown represent an immediate opportunity to enhance the public space within our City, promoting a friendly environment to all system users.

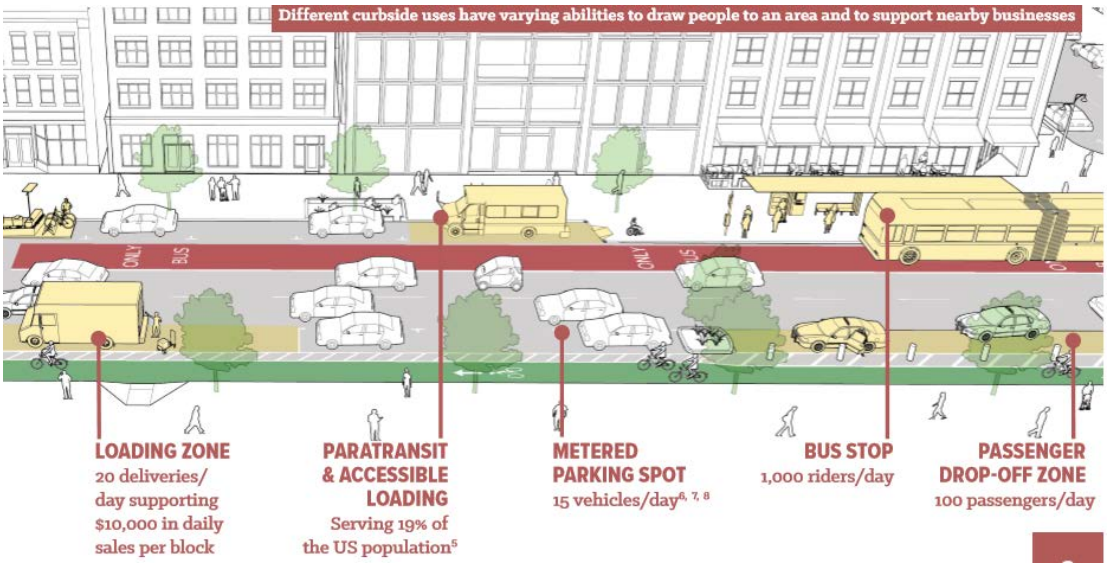
6. Pilot Programs (Pop-ups/Tactical Urbanism)

Flexible, short term projects can greatly assist the City of St. Louis advance long-term goals related to enhancing multimodal transportation in Downtown St. Louis. These pilot, or pop-up, programs are quick and all about action. They rely on temporary treatments to demonstrate what the project could look like with full build-out. Pop-ups are scalable interventions that can help catalyze long-term change. In addition to supporting long term change, these projects can test the appetite of the project within the community and learn from mistakes as ways to improve the project with full construction. The City should focus on some of the longer-term recommendations and implement pop-up projects within Downtown St. Louis. Potential pop-up projects include: enhanced transit stops, protected bike facilities, boarding transit bulb-outs, and pedestrian scale wayfinding.

7. Web Based Closure Notification App

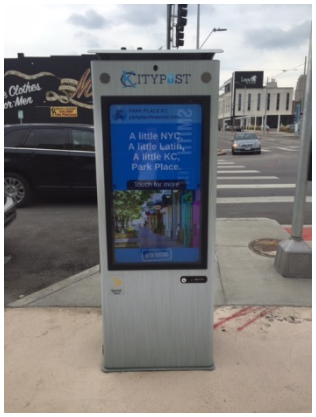
– To help navigate around Downtown, we are also recommending a web-based closure app to show routes that may be closed due to construction or special events. This app will indicate to users what streets, sidewalks, and bike facilities are not usable. By sharing this information, residents and visitors in Downtown St. Louis will be able to better plan their route and make more informed transportation decisions. Closures would be uploaded to the app as the applications for closure permits are accepted, and the closures can be programmed to match the dates proposed in the permit application. An additional component that could be included with coordination with Metro is identifying any transit route changes or station updates. For example, if a bus line is re-routed due to a special event, or if an elevator at a station is closed for maintenance, those would be identified in this app as well.

8. Flex Zones



Curb space in Downtown is at a premium. Understanding this is important to realizing that on-street parking may not be the most effective use of curb space in Downtown. Implementing flex zones in key locations will assist with enhanced street activity, better mobility, and increased transit service. A flex zone is an area of the curb (equivalent width of an on-street parking stall, by the length of the flex zone) that changes use throughout the day. For example, during early morning hours this space might be dedicated to freight and deliveries while, at other times throughout the day, it can serve to host food trucks, offer a lane for shared mobility services (Uber, Lyft), as well as serve as an on-street parking space. We have mapped out where these Flex Zones will be most beneficial.

9. Wayfinding



By providing better wayfinding within the Downtown core, specifically for pedestrians, cyclists and transit users, the City can increase the mode share to transportation modes beyond the individual trip in your motor vehicle. Currently, the convention visitors' (CVC) signage is auto oriented in scale and how it reads. While there exist a few pedestrian scale signs (pictured at the right), the print is small, cluttered with information, and not always facing the direction of the pedestrian, which makes it difficult to read and hard to navigate. With the recent completion of the Metro wayfinding audit and the potential to leverage the next phase of the CVC signing plan, this is an immediate opportunity that can be built into existing plans for wayfinding upgrades. New wayfinding should be added that is pedestrian scale, ADA compliant, and easy to understand. For example, we recommend including the distance of the destination in minutes (walking or biking) as it may convince more people to choose walking or biking when considering the convenience of that mode. Another recommendation that should be considered as near term, depending on funding, is the addition of Smart Kiosks in Downtown (a Kansas City Kiosk is pictured above). These are essentially large versions of public smart phones that connect Downtown users to City services, public transit information, public wi-fi, and a variety of information about nearby attractions or events.

In addition to these immediate project opportunities, updating City policy related to multimodal transportation can help better achieve the City's mobility vision and goals. The reason for updating City policy is to help optimize the effectiveness and value of infrastructure investments.

Policy Recommendations

1. **Bike/Ped detour plans for sidewalk and bicycle facility closures**

By requiring bicycle and pedestrian detour plans when sidewalks and bike facilities are closed, the City will encourage trips by foot and bike. Currently, when buildings are under construction, or roadway/utility work is being done, sidewalks and bike facilities may close abruptly, causing an obstacle for a pedestrian or a cyclist. While the street department may require these as a part of the permitting process (included in their traffic control plan), our recommendation is to strengthen the policy and enforcement of these detour plans. When individuals and groups apply to obtain the necessary permit for their construction work, they must submit a pedestrian and bicycle detour plan in addition to any traffic detour plan for motorists. One way to enhance the level of detours for pedestrians and cyclists is to develop a list of criteria for the closure and detour considerations that must be included in the permit application. For example, level of detour plan required could be based on items such as length (distance) of closure, timeline of closure, and existience of good alternate routes. Best practices should be called upon from other cities currently using similar processes for implementation. In making the bicycle and pedestrian detour plan requirement more stringent, the result will be enhanced mobility for users of all ages and abilities both in Downtown and throughout the City of St. Louis.

2. **Demand responsive on-street parking**

Re-thinking on-street parking in Downtown St. Louis is imperative to providing a transportation system that offers more transportation options. As indicated in the project implementation on curbside management, because curb space is at a premium, we need to think about how to have the highest and best use of this space. The idea of demand responsive on-street parking is that Cities can adjust parking fees with demand, so that parking is priced just right to ensure that there are always a few available spots. When parking prices are too low, there are no vacant spaces, causing enhanced congestion and air pollution with motorists circling looking for spots. When prices are too high, there are too many vacant spots, and adjacent businesses may lose patrons. Demand responsive pricing finds the price that is just right, assisting to ease congestion and promote economic development. This type of program is implementable using the Smart Parking system the City has in place, but the City needs to develop an ordinance outlining policies and procedures for this type of parking program.

3. **Remove parking minimum requirements (where they exist outside of the CBD) on proposed transit and bike routes**

While no parking minimum requirements exist within the Central Business District, there are areas adjacent to proposed Metrolink expansion (Northside-Southside) as well as on routes where a separated cycle track/walking path exist. In an effort to spur both Transit Oriented Development and Trail Oriented Development, parking minimums in these areas should be removed to ensure highest and best use of the land adjacent to these facilities.

4. **Form Based Codes**

Implemented at the neighborhood level (Central West End and Forest Park Southeast), Form Based Codes are starting to emerge in St. Louis. According to the Form Base Codes Institute, these are a 'land development regulation that fosters predictable built results and high-quality public realm by using physical form (rather than separation of uses) as the organizing principle for the code.' These regulations are an alternative to conventional zoning and can help create dense, walkable communities with an enhanced public realm that promotes social interaction and economic development. Implementing a Form Based Code within the Downtown Core can help guide new development to ensure a walkable and interesting neighborhood. Currently Downtown zoning is use-based. Because Form Based codes require attention to detail in building form, they can promote an environment that is more pedestrian scale, encouraging walking and biking trips,

and enhancing the pedestrian experience for residents, tourists, visitors, and the many members of Downtown St. Louis on a daily basis.

5. **Off-peak freight delivery**
   Encouraging freight delivery to Downtown businesses during off peak hours, ensures streets remain open for all users of the travelling public. This can be done through new policy, or specific requirements for freight in Downtown. Often, freight vehicles park in a convenient location to the business, which may impede traffic lanes for motorists, or bike facilities and sidewalk access, limiting mobility. An off-peak freight delivery policy will limit these instances, providing for a smoother commute for Downtown residents and visitors during peak travel times. The City should work with the St. Louis Freightway to understand freight movements and develop a policy that is practical for both the City and the travelling public, as well as freight movers and business owners.

6. **Event traffic management**
   Developing a policy for event closure routes is a critical step to provide a positive experience while in Downtown St. Louis. Where possible, the City should develop language that both identifies routes for specific closures, like parades, races of varying distances, as well as traffic routes for access in to and out of Downtown while those events are taking place. The City has already done this for smaller events by requiring a certain number of registrants to host an event Downtown or route all similar sized races (5k, 10k) in the same place. Expanding on this by identifying routes that should always be open to vehicular traffic or routes that should be main routes for races, events and festivals will continue to grow on work that is already in place.

7. **Complete Streets design & implementation**
   Building on the Complete Streets policy the City adopted in 2010 and revised in 2015, roadway projects within the Downtown core (and City of St. Louis) should use a complete streets approach when being upgraded. This policy should be built upon for Downtown and include specific items to consider with respect to pedestrians, cyclists, transit users and motorists. Additionally, the City can use this policy to encourage developers to make necessary changes in the public right of way that are in line with Complete Streets principles.

These immediate project opportunities and policy actions are critical first steps to enhancing mobility in Downtown St. Louis and will help guide the future investment of long term transportation projects.

DOWNTOWN MULTIMODAL VISION

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DOWNTOWN MULTIMODAL VISION

The vision for the Downtown Multimodal Study is a plan for Downtown St. Louis that supports a robust multimodal system where users of all ages and abilities feel safe, including pedestrians, bicyclists, transit users, and motorists, and promotes economic growth, community development, better air quality and improved public health.

This vision was developed with the Downtown Study Core Working Group and refined during the initial stakeholder engagement week. Prior to finalizing our Vision, the team developed a list of key elements toward what makes a more robust multimodal transportation system.

MULTIMODAL PLAN ELEMENTS

In establishing a vision for Downtown, many elements emerged as important for enhanced mobility and access to opportunity. These elements are components to building a transportation system in Downtown that supports users of all ages and abilities and promotes a safe, interesting neighborhood where goods and services are easily accessible.

1. **Enhance Multimodal Transportation Options –** It is very convenient to drive to Downtown St. Louis, but it does not feel convenient to get to Downtown St. Louis using other modes of transportation. While it is currently very convenient to take Metrolink Downtown, this only serves a small portion of the St. Louis regional population. Transit stops in Downtown are convenient to many attractions, but you must live near a transit stop to access this connection. This element focuses on updating infrastructure to enhance walking, biking, and transit access to Downtown and, where good access already exists, making necessary updates so those options emerge as the convenient way to get Downtown. This element should build upon transit-oriented development (TOD) work that has already been completed as well as work currently being done with Metro for the NS-SS Metrolink expansion planning.

2. **Mode Shift –** Enhancing transportation options in Downtown will encourage residents and visitors to get out of their car and shift their commute. This element focuses on providing information about all the transportation options and how to use them, so that people feel comfortable changing their commute and making more informed transportation decisions. The element also focuses on making it more convenient to take public transportation Downtown as well as providing connections for more bicycle commuting to Downtown St. Louis.

3. **Better Air Quality –** We want a plan that provides options for commuting in Downtown St. Louis as an alternative to private, solo, vehicular trips. This element focuses on improving air quality by easing congestion through enhanced transportation options and mode shift.

4. **Vibrant Community (both residential & business) –** Transportation impacts every person, every day, and thus can play an integral role in the way our communities grow and develop. Understanding that, this element focuses on making recommendations for a transportation system that enhances the community for both residents and businesses alike. This can be done by developing plans for a walkable neighborhood, where streets are interesting and encourage active conversation, shopping trips, and increased social interaction.

5. **Ease Congestion –** When visitors come to Downtown St. Louis we want to encourage a positive experience that will keep them coming back. That experience is not sitting in a traffic jam for what may seem like forever trying to either get to or leave Downtown. This element focuses on providing multimodal access to Downtown to encourage all commute options as well as providing necessary vehicular access on critical routes to ease congestion.

6. **Improve Quality of Life –** Providing access to opportunity through enhanced mobility is the focus of this element. Ensuring there is a transportation system in place in Downtown St. Louis that allows for all residents, regardless of age or ability, to get to necessary goods and services, as well as employment and education, is key to a strong Multimodal plan.

7. **Promote Destinations & Attractions –** When people think of St. Louis, they think of the Arch, the Cardinals, maybe the Blues and Union Station, all things that are associated with Downtown. This element is about encouraging a transportation system that helps promote those destinations and attractions in Downtown St. Louis, making them convenient to access.

8. **Improve Public Health –** Transportation decisions impact public health. Walkable communities have been found to have decreased obesity and heart disease as well as less exposure to traffic-related air pollution. This element focuses on promoting active transportation and trips outside of a personal vehicle to improve the public health for St. Louis residents.

9. **Increase Connections to Other Neighborhoods Within the City** – We want to promote a strong multimodal transportation system in Downtown St. Louis, but we also want to promote strategic, multimodal connections to adjacent and nearby neighborhoods. This element focuses on looking at connections outside of the study boundary and ensuring facilities are in place to promote walking, biking and transit to access nearby destinations.

10. **Safety & Security –** This element focuses on designing a system that is safe for all users and promotes a sense of place where people feel like they should be. Similar to other vibrant neighborhoods in St. Louis, Downtown should feel like a place you belong and a place you want to be; a space to interact with members of the community and experience.

> “Elements important for enhanced mobility and access to opportunity”

WHY MODE CHOICE

Establishing a transportation system in Downtown St. Louis that allows users to choose how they travel where they need to go is important for promoting equity, economic development, and sustainability. In addition to those key impacts, mode choice encourages a further exploration of the City. When people feel comfortable out in their environment, they will spend more time interacting with the City and promoting strong neighborhoods, filled with bustling streets and active spaces. If every trip begins and ends with a walk, we know not only that promoting mode choice is important, but also that promoting a Walkable City that encourages safe trip ends is key for a thriving Downtown.

A walkable downtown is important to enhance economic development, improve public health, and sustain the vibrancy of Downtown for future generations. A Downtown where people feel safe and comfortable walking will be a Downtown where businesses thrive, people interact, and the City succeeds.

Transportation choice is also a critical component of ensuring all St. Louis residents have equal access to economic opportunity. In addition to supporting a more walkable city, Downtown St. Louis should support a safe, reliable, affordable and efficient public transportation system that connects other places in St. Louis City and the region to Downtown. An effective public transit system will not only have significant benefits for Downtown St. Louis, but for the St. Louis region as a whole. A strong public transportation system can help reduce household costs, creating a more affordable living (the cost of housing and transportation) situation, as well as help attracts talent and businesses. Quality public transportation will allow St. Louis residents to make more informed transportation decisions and opt to get out of their cars and into transit, easing congestion and bettering air quality.

BENEFITS OF MODE CHOICE

By enhancing multimodal transportation options in Downtown St. Louis, the City of St. Louis works to establish a more sustainable and resilient Downtown. Ensuring that users can make more informed transportation decisions, as well as access goods and services without a private vehicle, matches the three pillars of a sustainable downtown.

1. Social
   Providing options for multimodal transportation promotes social equity by ensuring all residents have access to necessary goods and services as well as opportunity. Additionally, a higher quality of life is promoted through residents' better experience public space by being able to walk and bike places.
2. Environmental
   Using alternative forms of transportation is healthier for users and for the environment as it promotes less vehicular congestion and better air quality.
3. Economic
   Numerous studies have been done showing the economic return on investment of active transportation projects. When people can walk and bike to where they need to go, they experience the City at a pedestrian scale and are more inclined to stop in various retail stops while travelling. The pedestrian experience is more about the journey than the destination.

In addition to improving sustainability in each of the three pillars of the term, a multimodal downtown transportation system is imperative for enhancing public health. Effective transportation decision-making can improve access to healthy food, affordable housing, quality education, good jobs, and health care. The Centers for Disease Control and Prevention (CDC), and Transportation and Health Tool (THT) outlines several ways that transportation decisions can improve and promote population health.

Examples include the following:

- Active Transportation. Transportation systems and facilities can be designed in such a way that they encourage people to be more active by walking and biking instead of driving.
- Equitable Connectivity and Mobility. Well-connected transportation networks provide access to necessities such as jobs, healthy food, and health services. In fact, more than 3 million Americans miss or delay health care every year due to transportation issues. Transportation planners and operators are responsible for designing connected, multimodal systems that serve all segments of a community, including low-income populations, people of color, children, the disabled, and the elderly.
- Air Quality. Air pollution can contribute to heart disease and respiratory illnesses (such as asthma). Transportation emissions can be reduced by mitigating congestion, supporting cleaner vehicles, and promoting multimodal options that reduce driving. (See the Federal Highway Administration (FHWA) guidance at: www.fhwa.dot.gov/environment/air_quality/.)
- Safety. Road crashes continue to be a leading cause of death in the United States. The number and severity of roadway crashes can be lowered through improved transportation facilities, enforcement of traffic laws, and public education. (See the Federal Highway Administration (FHWA) https://safety.fhwa.dot.gov/ and Institute of Transportation Engineers (ITE) www.ite.org/visionzero/.)
- Noise. Noise impacts sleep and has an adverse impact on health. Transportation noise can be reduced through effective planning and design of transportation facilities. (See www.fhwa.dot.gov/environment/noise/ and https://www.fhwa.dot.gov/Environment/noise/regulations_and_guidance/.)

All of these considerations were important during the vision development process and for establishing a framework for plan development.

PLANNING PROCESS

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PLANNING PROCESS

The Downtown Multimodal Plan was coordinated by a Core Working Group and developed in three stages culminating in this final report. The vision for the Downtown Multimodal Plan was developed, followed by goals, objectives, strategies and elements for implementation.

STAKEHOLDER ENGAGEMENT & PLAN DEVELOPMENT

In establishing a vision for Downtown, many elements emerged as important for enhanced mobility and access to opportunity.

Core Working Group

The core working group led the Downtown Multimodal Planning process, ensuring milestones were being met and recommendations were in line with the Vision. Core working group meetings were held before and after each stage of the planning process and public engagement. Final recommendations included in this plan have been viewed by the public as well as finalized by the core working group as implementable and realistic solutions for a more robust multimodal transportation system in Downtown St. Louis. Members of this group consisted of representatives from the City of St. Louis Board of Public Service and Street Department as well as the consulting team.

Core Working Group

- **City of St. Louis Board of Public Service –** Dan Buschmeyer, PE
- **City of St. Louis Board of Public Service** – John Kohler, PE
- **City of St. Louis Street Department –** Jamie Wilson, PE, PTOE
- **City of St. Louis Street Department –** Deanna Venker, PE
- **CBB –** Srinivas Yanamanamanda, PE, PTOE, PTP
- **CBB –** Shawn Leight, PE, PTOE, PTP
- **CBB –** Jacque Lumsden
- **ALTA –** Paul Wojciechowski, AICP, PE

The three stages of the planning process included: Issue identification and existing conditions analysis; alternatives development; alternatives refinement and final recommendations.

VISION

TO DEVELOP A TRANSPORTATION PLAN FOR DOWNTOWN ST. LOUIS THAT SUPPORTS A ROBUST MULTIMODAL SYSTEM, WHERE USERS OF ALL AGES AND ABILITIES FEEL SAFE, INCLUDING PEDESTRIANS, BICYCLISTS, TRANSIT USERS, AND MOTORISTS, AND PROMOTES ECONOMIC GROWTH, COMMUNITY DEVELOPMENT, BETTER AIR QUALITY, AND IMPROVED PUBLIC HEALTH.

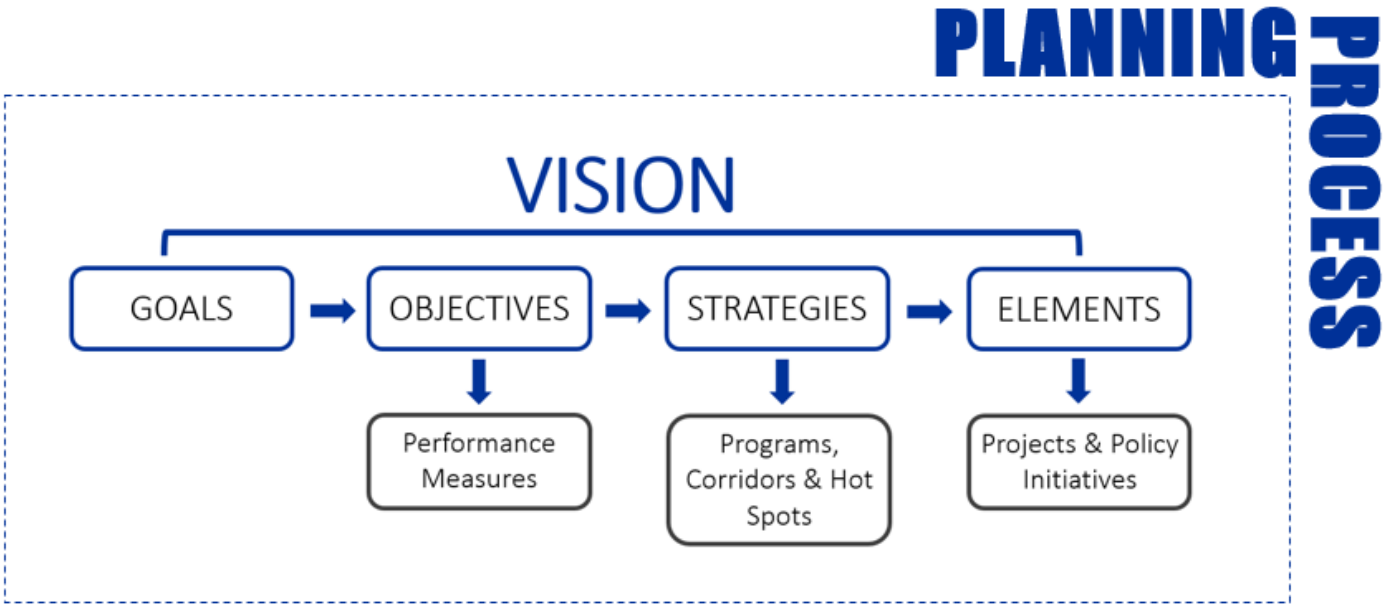
Issue Identification and Existing Conditions Analysis

Stage one of the planning process was developed to help the planning team better understand the issues/opportunities and existing conditions within Downtown St. Louis. To better understand this, the core working group held an initial engagement with 19 different stakeholder groups during April 2017 focused on issue identification. These meetings were held over one week and included discussion on what exactly the Downtown Multimodal Study is and why the City is working on the project. The meetings also offered a chance for the attendees to provide input on what transportation issues currently exist in Downtown St. Louis. Stakeholders also provided feedback on the vision statement and identification of any critical areas to focus on within Downtown. Additionally, attendees were able to provide ideas of what they have seen in other Cities that they would like to see in St. Louis. Maps were provided with initial data collection, including current transit lines and stops; traffic control devices and roadway information; traffic counts; and existing and planned bike infrastructure.

Alternatives Development

Following the first engagement week focused on issue identification, the core team reviewed the input and prioritized next steps for moving the study forward. The vision statement was finalized, and major themes that arose during the first week were discussed. In reviewing these major themes as well as necessary components to a multimodal transportation system, the core working group established seven goals to help with achieving this vision and seven objectives that can include more measurable strategies and elements in monitoring the implementation of recommendations associated with the Downtown Multimodal Plan. Additionally, routes were selected as priority routes by mode (a hierarchy of streets for Downtown, which is elaborated on in the following section): walking, biking, public transportation, motor vehicles. Finally, a plan for a thorough infrastructure inventory of Downtown St. Louis was developed to field check existing conditions and identify areas of opportunity. Civil Design Inc., collected inventory on pedestrian infrastructure, bicycle parking, transit stops, landscaping, wayfinding, roadway cross sections, and land use.

Upon core working group review of the goals, objectives, strategies and elements, as well as the hierarchy of streets, the second round of stakeholder engagement was scheduled to review these alternatives and solicit feedback for updates and improvements. The second week of engagement was schedule with half-day workshops focused around eight topics, including one evening workshop. The format was a drop-in style format that started with a brief presentation about the project. Then, attendees were encouraged to review boards and maps and offer input on priorities as well as certain items with which they either agreed or disagreed. In addition to those activities, CBB led walkabouts in Downtown. These Walkabouts allowed members of the core team as well as attendees to experience Downtown as pedestrians do and look for areas of opportunity for improvement. Finally, a survey was developed that was made available either in person or online.



Alternatives Refinement & Final Recommendations

Following the workshop week, the core working group met to review input and feedback to the proposed hierarchy of streets as well as to the goals, objectives, strategies and elements. Input was reviewed and updated where changes were necessary and applicable. The core working group finalized the hierarchy of streets as well as the elements to be included within the plan. The team developed policy recommendations and some immediate opportunities as initial ways to start working on implementing components of the Downtown Multimodal Plan.

In addition to refining routes and elements as well as identifying policy recommendations and immediate opportunities, conceptual level design plans were developed at specific 'hot spot' areas (locations of significance for proposed routes). Planning level cross sections were also developed for different levels of bike

facilities (included in the Downtown St. Louis Bike Plan). These conceptual plans and cross sections were reviewed by the core working group. All of this material was compiled: hierarchy of streets, proposed elements, policy recommendations, immediate opportunities, bike facility cross sections, and concept plans at hot spot locations. This information was shared with the public at an Open House in the City Hall Rotunda on January 19, 2018. The event was advertised on social media and held in City Hall to attract general everyday traffic of residents, employees, and elected officials at City Hall.

Following the open house, the core working group met to make final decisions and finalize the recommendations included in this planning document. During this three-stage process, our team was coordinating closely with the many other planning efforts taking place in St. Louis and the Downtown core.

COORDINATION WITH ONGOING PLANS

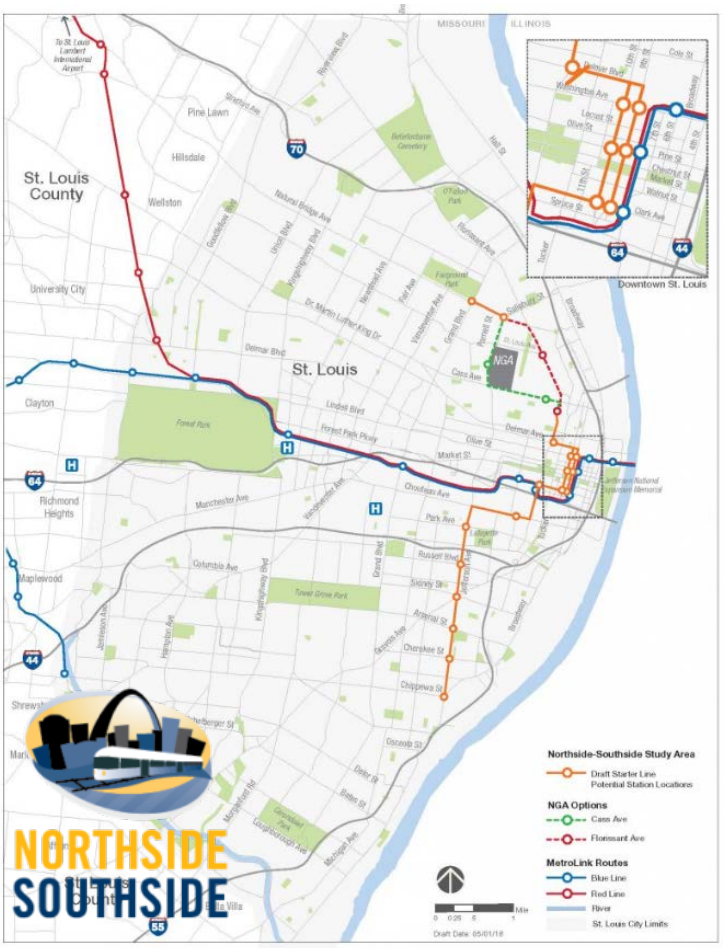
As the Downtown Multimodal study was progressing, so were many other planning projects in St. Louis City. All of these projects have direct connections with the Downtown core and this study area. Coordination with these groups was a critical component to ensuring a successful planning effort with implementable and realistic solutions for enhancing multimodal transportation options in Downtown St. Louis. While five current projects are highlighted here, there is a full list of planning efforts that were considered in Appendix A: Background.

1. Metro Reimagined

Metro Reimagined is a comprehensive analysis of the MetroBus system. The project is a 'proactive look at mobility needs of the region' and is an effort of Metro public transit to work on improving the customer experience and improve access to destinations within the St. Louis region. With the new Civic Center Transit Station at 14th and Clark, where Metrolink, Metrobus, and the Amtrak converge, this area of Downtown is a key focus of public transportation routes. In addition to assessing routes and destinations, the project also looks at potential new technology to be incorporated in the public transit system in St. Louis. Coordinating our priority transit routes with Metro during their planning process was a key step to ensuring there is consensus on priority transit routes and, therefore, future projects within Downtown St. Louis. More information: http://www.metrostlouis.org/reimagined/

2. Northside-Southside Metrolink Study

The Northside-Southside Metrolink Study started in early 2017 and builds off of work that had previously been completed in 2008. The Northside-Southside route runs from South St. Louis County (I-55 and Bayless Road), north through Downtown St. Louis, and northwest to I-70 and Goodfellow Boulevard. Different from the existing Metrolink system, the Northside-Southside proposal is for street level light-rail. Because a portion of this route is within the study limits of the Downtown Multimodal plan, coordinating with their team was critical for determining our hierarchy of streets. Knowing that the proposed alignment is street level light-rail, our team had to coordinate priority routes with proposed alignment alternatives. Continued coordination with the planning of Northside-Southside is critical during implementation of recommendations included within this Downtown Multimodal Plan. At the publication of this plan, the Northside-Southside work was not yet complete; thus, any implementation of these recommendations should be coordinated closely with preferred alignments for Metrolink Expansion. More information at: http://www.northsidesouthsidestl.com/



3. Project Connect

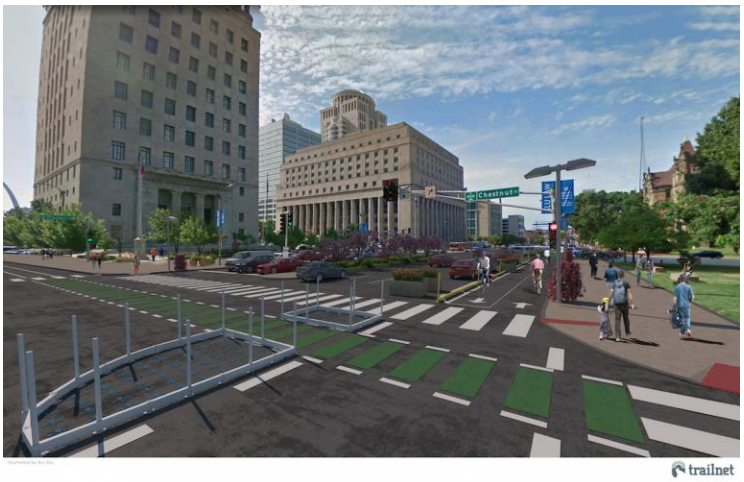
Project Connect is an action plan by the City of St. Louis that coordinates all ongoing initiatives being proposed by both the private and public sector in North St. Louis City. This effort ensures collaboration between neighborhood revitalization, transportation, and other re-development efforts and City investments to support the relocation of the NGA site to North City. More information at: https://www.stlouis-mo.gov/project-connect/

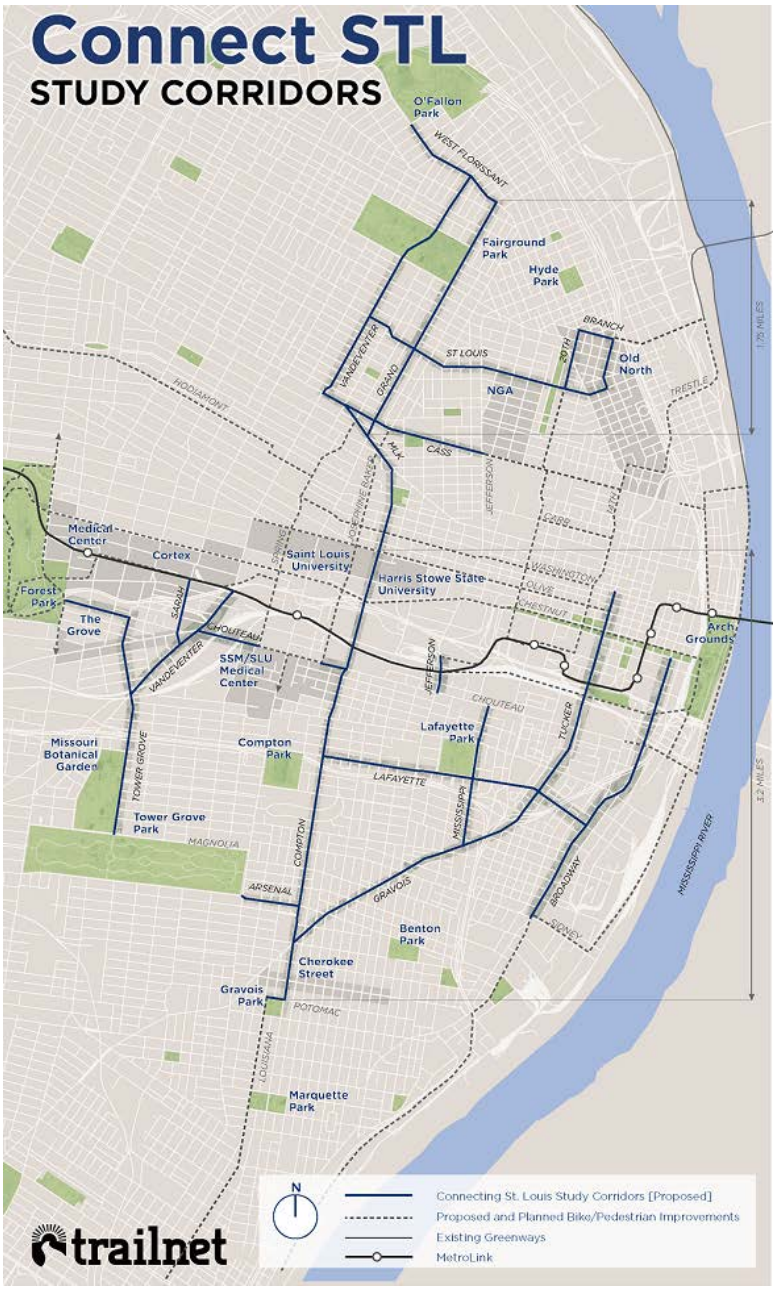
4. Great Rivers Greenway Chouteau Greenway Competition

Started in fall 2017, this international design competition, sponsored by Great Rivers Greenway as well as many regional partners, is to develop a transformational project that connects Forest Park at the western edge of St. Louis City, through Downtown and the Gateway Arch. Additionally, the connection will have spurs to north and south City neighborhoods to better connect parks, business and arts districts, employment centers, transit opportunities, and other cultural and educational institutions together. This facility will be a highly protected, separated walking and biking path to better encourage and support walking and cycling within St. Louis. More information at: https://greatriversgreenway.org/Chouteau/

5. Trailnet Vision Project

Similar to the Chouteau Greenway vision for a high level separated walking and biking facility, Trailnet launched their Bold Vision in 2017. This vision is for a St. Louis where everyone can easily travel by foot or bicycle and seeks to connect St. Louis with a network on on-street protected bikeways and sidewalks. The type of facility Trailnet would like to see implemented within St. Louis is modeled after the Indianapolis Cultural Trail. The focus of this effort is to not only connect the Central Corridor, but also to bridge missing walking and biking connections to neighborhoods in north and south St. Louis City. More information at: https://trailnet.org/our-work/planning/community/





GOALS

Following the issue identification and analysis stage as well as planning coordination, a set of seven goals were developed that support the Vision for Multimodal Transportation in Downtown St. Louis. These goals emerged as critical achievements as steps toward achieving our vision for Downtown St. Louis. It is imperative that these seven goals start to be the areas of focus when planning for and implementing transportation projects within Downtown St. Louis.

1. **Transportation Choice**
   The goal of transportation choice means that residents and visitors to Downtown St. Louis can be more informed about their transportation options to decide how they travel to and from where they need to go. Projects should ensure that users of all ages and abilities feel comfortable using any mode of transportation. This goal should also ensure that the transportation infrastructure is in place to provide people with real transportation options. Going beyond informing people of options, we need to make sure that the downtown is truly walkable and bikeable and that the City is supporting Metro and others in providing quality options for public transportation. Walking, biking and taking public transportation should be as easy, cost effective, and convenient as taking a personal automobile, especially for trips within the downtown core.

2. **Connected City**
   This goal speaks to both Smart City components and better connections between residents and opportunity. "Connected," in terms of Smart City elements, means using technology to better connect all components of the City as well as connecting residents to options such as services, employment opportunities, and other public goods. Better connected residents ensure that the transportation system is easy and safe to navigate for users trying to reach opportunity, regardless of age, ability, or mode of transportation. Another element of "connected" is to connect all the various 'districts' within Downtown. While the attractions and destinations are not a far walk, they seem disconnected. One example could involve better connecting Washington Avenue to Ballpark Village or the Convention Center to Union Station. Connecting these locations within Downtown can encourage active transportation trips.

3. **Quality of Life**
   Downtown St. Louis can often get overlooked as a neighborhood as it is a focal point for tourism and business, but this quality of life goal focuses on developing a transportation system that can work to enhance the neighborhood of Downtown St. Louis. Transportation impacts every person, every day, and this goal focuses on planning for projects to enhance the quality of life in Downtown St. Louis with a transportation system that is safe, sustainable, easy and intuitive to use.

4. **Public Health/Air Quality**
   Because Transportation plays such a big role within our communities, understanding the connection to public health and air quality is critical in supporting resilient Cities for years to come. Easing congestion and promoting active transportation helps reduce carbon emissions and better air quality. Additionally, when people choose to walk and bike as a mode of transportation, exercise is built into their daily routine, ensuring recommended activity levels are being met and promoting better public health. This goal also touches on access. It is important to provide access to goods, services and opportunities as a way to increase health outcomes. Access to employment can help provide access to healthcare. Access to goods and services can provide opportunities for fresh food and recreation opportunities for activity.

5. **Social Equity**
   A transportation system that prioritizes the private vehicle trips is inherently an inequitable system and can cause greater gaps among different resident populations within St. Louis. Because the cost of owning a car is not a feasible option for many St. Louis City residents, transportation projects in Downtown should place a focus on safely walking, biking and using public transit. By ensuring that we have a multimodal system, we work to better provide all St. Louis City residents with enhanced access to goods, services and opportunity.

6. **Economic Growth**
   A transportation system that focuses on prioritizing people will benefit the economic growth and development of Downtown St. Louis. When Downtown is better for walking and biking, people may stroll along the streets, pop in shops, and spend money Downtown. Downtown St. Louis is the social, cultural and

economic anchor of St. Louis. This provides a unique opportunity that can be leveraged through these multimodal investments. Downtown needs to be healthy for the St. Louis region to thrive. Downtown should be convenient and safe for people that come for work, tourism, conferences and events, or sporting activities. We want everyone to feel safe while they are downtown to encourage shopping and more time and money spent in downtown. This will help ground floor retail thrive, and St. Louis can attract more businesses with a work force that wants to walk, bike and take transit as their preferred modes of commute.

7. Vibrant Community

It is important to develop a transportation system that enhances the community and sense of place within Downtown St. Louis. Transportation moves people, connecting people with their City and to necessary goods and services. A vibrant community includes a robust, multimodal transportation system that moves people regardless of age or ability.

OBJECTIVES

After reviewing the goals for a multimodal transportation system Downtown, the team looked at how these goals can be achieved. By looking at ways to help achieve the goals and the vision, objectives were identified as necessary components toward implementing realistic solutions. These seven objectives work toward achieving the goals of the Downtown Multimodal Plan.

1. **Event Traffic Management**
   When people visit Downtown St. Louis, you want them to have a positive experience. Additionally, residents should have a high quality of life all the time, and not just days when there are not special events. In fact, many of these 'special' events occur very frequently when you add up everything that takes place in Downtown. With major attractions in the Downtown core (Busch Stadium, the Enterprise Center, Peabody, the Convention Center, the Gateway Arch, and many more), it is important to better manage event traffic so that visitors have a good travelling experience and that residents continue to experience a good quality of life during all these events.

2. **Multimodal Connections & Circulation**
   To ensure we have mode choice in Downtown St. Louis, it is important to identify important connections. By identifying connections and logical places people want to or need to go, planning routes that accommodate all modes of transportation will help with mode shift. The connections between modes should be intuitive and seamless.

3. **Safety**
   Planning a transportation system in Downtown St. Louis that allows users to safely travel where they need to go will enhance the travelling experience. It ensures that all users are accommodated regardless of their mode of transportation. St. Louis is a Federal Highway Administration (FHWA) designated 'Focus City', meaning that we have a higher pedestrian fatality rate than the national average. This is problematic and should be addressed through investments in multimodal transportation infrastructure. For more information about what an FHWA Focus City is, see:
   https://safety.fhwa.dot.gov/ped_bike/ped_focus/focus_cities_states2015.cfm

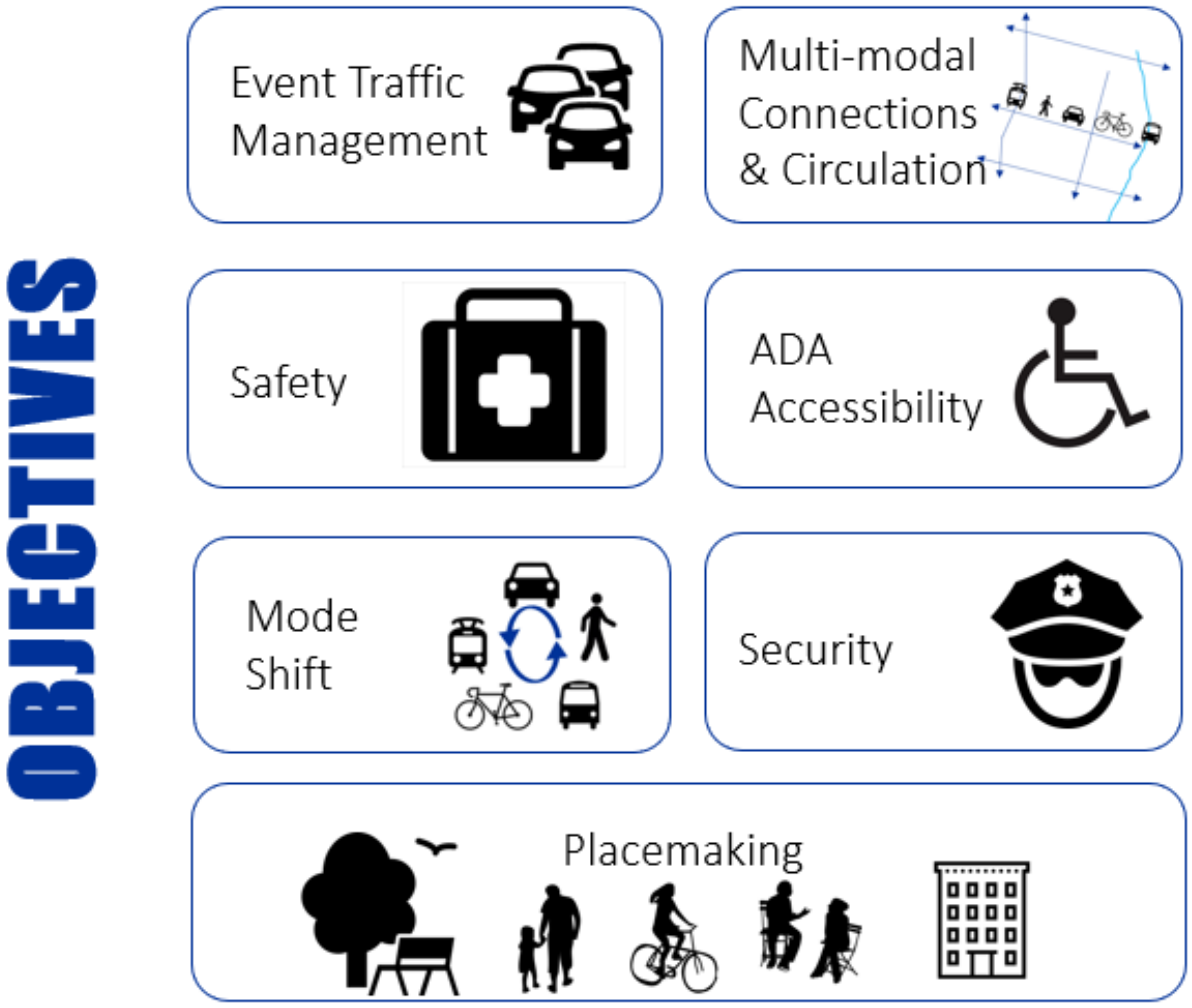
4. **ADA Accessibility**
   As identified in the vision for the Downtown St. Louis Multimodal Plan, moving people regardless of age or ability is critical to a strong transportation system. Ensuring transportation infrastructure is ADA compliant allows for safe and accessible connections for all St. Louis residents and visitors.

5. **Mode Shift**
   For people to have the freedom to move, they must have the ability to choose how they move. When all modes of transportation are safely accounted for and factored into roadway design, people can make more informed transportation decisions. People might choose to walk, bike, or take transit because it is convenient, healthy and better for the environment. The City should work to set targets for walking, biking and public transportation trips. Additionally, even if people choose to drive Downtown, we should encourage a high percentage of trips within the Downtown to happen on foot, bike or using public transit.

6. **Security**
   In addition to designing a safe transportation system, it is critical that people feel comfortable, and security is paramount. When people feel uncomfortable walking, biking, and taking transit, there is less human interaction and street life experience. People might feel isolated and at risk. However, by encouraging these active modes of commute, more eyes on the street can help people feel more comfortable as they travel. One way to achieve security is by creating a more walkable and bikeable city, which will result in more people walking and biking, which will result in making people feel more secure and comfortable walking and biking.

7. Placemaking

Neighborhoods with vibrant street life and enhanced social interaction have a strong sense of place. By leveraging a transportation system that accommodates safety for walking and biking, you can enhance social interaction and foster a vibrant place where people are lively and engaged.



STRATEGIES & ELEMENTS

After the team identified objectives, strategies were developed as measurable ways to monitor implementation of the Downtown Multimodal Plan. Ten subcategories emerged as key areas for strategies which included more measurable elements as treatments for recommendations. These subcategories focus in on ways to better improve the multimodal transportation system in Downtown. Elements identified within the areas are very specific recommendations that should be included on the identified travel routes (covered in the next section).

Strategies are listed here with a brief description of the subcategory, followed by example images of elements that should be considered as treatments.

1. **Policy/Operations**
   (updates to City policies and procedures to enhance multimodal transportation)
   - Event traffic management update (work with app developers to provide closure information via web-based app)
   - Off-peak freight delivery (policy development in conjunction with the St. Louis Freightway)
   - Complete streets design and implementation
   - Bicycle Friendly Community standards review with new projects
   - Form based codes in Downtown Central Business District
   - Elimination of parking minimums in non-CBD zones adjacent to proposed bike/ped & transit facilities
   - Curbside Management – Flex Zones
   - Maintenance restoration standards
   - Ped/bike detour plans – enhance and better enforce existing policies

2. **Technology**
   (Smart, technology-based strategies to enhance multimodal transportation options)
   - Smart City applications
   - Smart street lights
   - Smart wayfinding kiosks
   - Free public wi-fi
   - Transit signal priority
   - Bike signal priority on select routes
   - Automated pedestrian signal calls at bus stops
   - Real time transit info at bus stops
   - Real time street maintenance
   - Citizen Service Bureau (CSB) Upgrade – real time map
   - Bike signal priority
   - Data fusion center
   - Real time traveler information (all modes)
   - Connected vehicle infrastructure
   - Self-driving shuttle

3. **Wayfinding – build upon CVC Study**
(Better helping system users navigate around Downtown to connect to goods, services & destinations)
- Pedestrian scale
- Bike friendly
- Unique branding
- Construction detour plans – enhance existing policy & better enforcement
- Gateway Signage

4. **Bike**
(Enhancing the level of comfort when cycling Downtown; making it easier to bike places)
- Raised, separated bike facilities (tier 1)
- Separated bike facilities (tier 2)
- Calm streets (tier 3)
- League of American Bicyclists (LAB) Bike friendly community standards
- Bike patrols
- Bike signals
- Bike parking
- Bike counters
- Bike share
- Bike signal priority on select routes

5. **Pedestrian**
(Enhancing the journey while walking Downtown; making it easier to walk to places)
- Enhanced landscaping
- Activate the public realm
- Bumpouts
- High visibility crosswalks
- Public spaces
- Median pedestrian refuge
- Mid-block crossings
- Street furniture
- Pedestrian scale lighting
- ADA complaint – ADA transition plan
- Public art
- Pedestrian scramble phase at select signaled intersections.
- Leading pedestrian intervals at select signalized intersections.

6. **Transit**
(Encouraging transit use Downtown by providing friendly transit amenities and frequent service)
- Permanent bus stops
- Bus stop names
- Smart bus stops with solar energy, security cameras, traveler information, and heating/cooling ((https://news.panasonic.com/global/topics/2017/49207.html)

- Pedestrian scale sign oriented to sidewalk
- Boarding bus extensions
- Decorative shelters
- Higher frequency in the downtown core
- Metro station security
- Multimodal connections
- Bike parking
- Universal design components (ADA Compliant)
- Smart card payment
- Better advertising on boarding and fare information
- No parking at stops (better enforced)

7. Traffic Management
(Better managing congestion in Downtown, and encouraging alternate routes when necessary)

- Real time traveler information
- Coordinate street closures through web-based app (coordinate with app developers)
- Curbside management/rideshare lanes
- Roadway maintenance standards
- Construction detour plans – enforce and enhance existing
- Promote travel demand management strategies (incentive programs, Zimride partnership, etc.)

8. Parking Management
(Viewing curb space as an asset and better controlling parking)

- Smart parking
- Dynamic prices

9. Public/Stakeholder Communication

- Enhance DowntownSTL Existing Communication
- Utilize other groups (Downtown Neighborhood Association) as avenue for information

10. Policing

- Real Time Crime Center
- Camera Program

HIERARCHY OF STREETS

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HIERARCHY OF STREETS

Downtown St. Louis is an important destination for St. Louis City residents and visitors, and it is the economic and cultural anchor of the greater St. Louis region. With many attractions such as sports (the St. Louis Cardinals & Blues), entertainment (Union Station, Gateway Arch, Peabody, etc.) the Convention Center, as well as many employment centers, Downtown St. Louis is a focal point for both the Midwestern United States and the St. Louis region. It is imperative that downtown be highly connected to the region as well as the many unique neighborhoods surrounding the Downtown Core. Moreover, the attractions, venues, neighborhoods, and centers within downtown St. Louis must by highly connected to each other. To that end, ensuring that all modes of transportation can move to, from, and within Downtown is key for a successful St. Louis region. Realizing that street space is limited and that space constraints exist within the public right of way, prioritizing modes on logical corridors presents an opportunity to safely and efficiently move people and make connections to necessary goods and services.

The hierarchy of streets was developed as a way to design safe streets for all users, prioritize the movement of compatible modes along corridors, and separate conflicting modes. For example, public transit might work well on a corridor with heavy pedestrian or vehicular traffic, while it might enhance safety and quality of service to both modes to separate low stress bicycle facilities from higher volume/speed traffic routes. The idea behind the hierarchy is that everyone can get to where they need to go and feel comfortable using their preferred transportation mode.

Criteria were developed to determine which modes should be prioritized on any given street and how best to create quality networks for each of the modes. Even with this prioritization, it is important that all downtown streets should be safe for walking and biking. However, this system prioritizes infrastructure improvements on certain routes by transportation mode so that each street can best serve the needs of its primary users. This allows the design of these facilities to be safe for all users from ages eight to eighty. For example, even though people can choose to walk on any route that is convenient for them, the prioritization of pedestrian treatments on specific routes would increase the density of people on the street, providing a stronger sense of security as well as a lively and safe trip where pedestrian amenities are included along the way.

More information about the hierarchy is included by mode. The idea is that the strategies and elements mentioned in the previous section will be overlaid to these routes for enhanced transportation experience. Additionally, by identifying specific routes where these strategies and elements make the most sense, the City can prioritize future multimodal transportation projects as well as measure implementation of the Downtown Multimodal Plan and analyze data from before and after implementation to understand the benefits of improvements.

PEDESTRIAN

Travelling as a pedestrian is the most affordable transportation option. Additionally, walking commute trips add to your amount of daily activity, reducing your risk of heart disease, obesity, and a wide variety of other health complications as a result of inactivity. Walking is not only healthier for you, it is healthier for the environment. Walking lowers personal vehicle trips made, easing congestion and promoting better air quality. Walking is also healthier for your City.

When people experience their neighborhood at the pedestrian scale, they become more engaged with their neighborhood and within their community. They have shared experience with other pedestrians. They quite literally slow down the pace of their life to enjoy their surroundings, take in the lively street, and participate in all the chance happenings one might experience when commuting as a pedestrian. Streets filled with people are the life of our Cities; thus, promoting safe streets where people can walk is key to successful, vibrant and engaged communities.

Better walkability also helps to relieve traffic issues by spreading out traffic flows during special events, such as Cardinals games. If people feel more comfortable walking greater distances, they are more likely to park farther from the stadium and spread out the traffic load to more interchanges and city streets. If people are comfortable

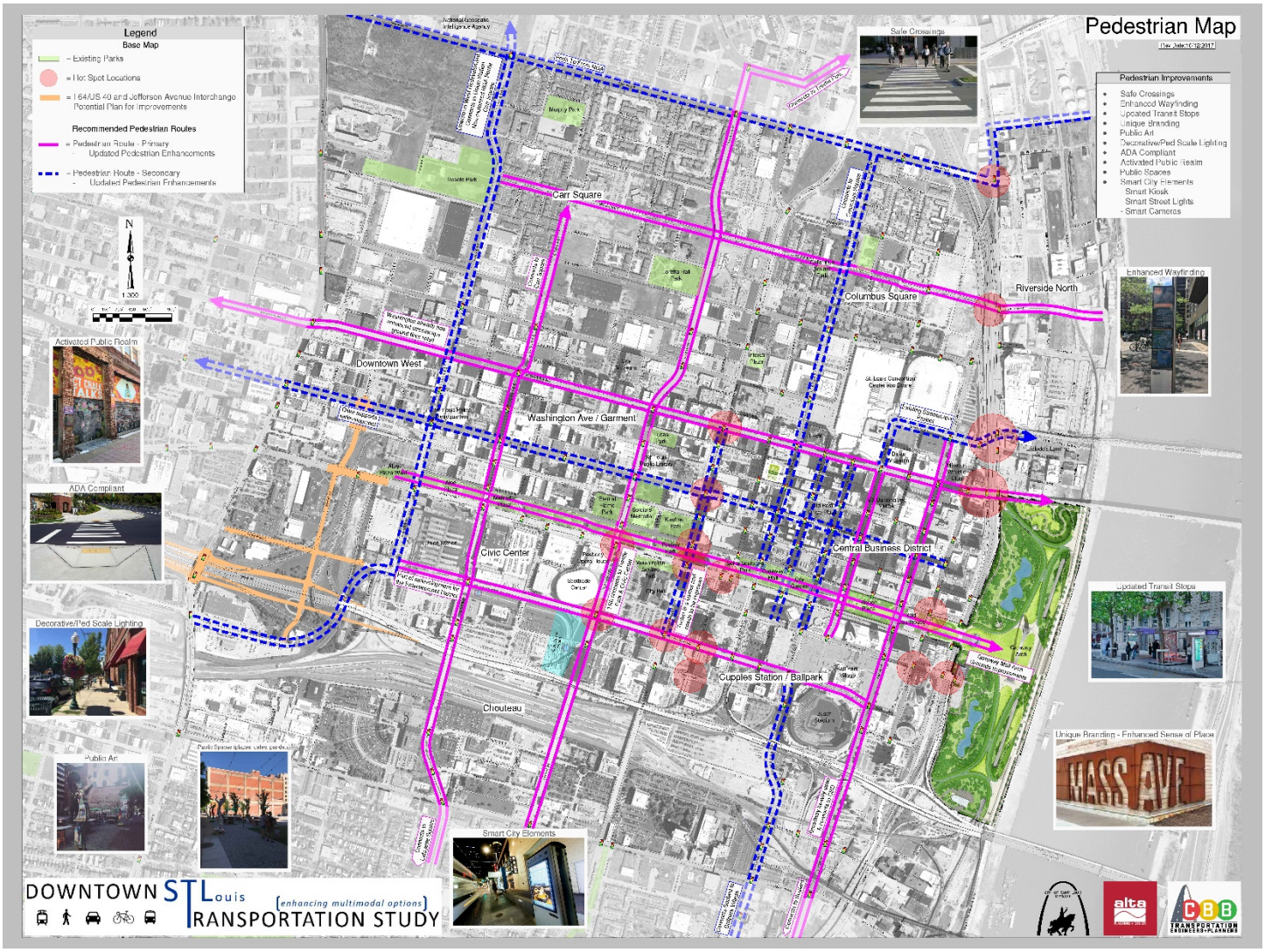
walking, they may also be more likely to come into downtown earlier and stay later after the game, thus spreading out the traffic load over time and lowering the start of game and end of game peak traffic flows. It is important to note, also, that high quality pedestrian facilities are critical for public transportation to work. People typically start and end their transit trips on foot, and making the pedestrian part of the transit journey comfortable, convenient, and safe is critical to making public transportation attractive.

> *"If you plan cities for cars and traffic, you get cars and traffic. If you plan for people and places, you get people and places"*
>
> (Project of Public Spaces)

When looking at the study area and through the detailed stakeholder engagement process, our team was able to identify logical walking connections. We thought about major employment centers, access to community resources and goods, multimodal connections to transit and bike facilities, as well as key tourist attractions and destinations and other major trip generators in Downtown St. Louis. For example, 7th Street connects the Convention Center and Ballpark Village. The Gateway Mall connects Union Station and the Civic Center with the Gateway Arch Grounds. We also thought about competing modes of transportation. While we want to move people as freely as possible, we don't want to impact safety or pose any risks associated with travelling as a pedestrian next to a large roadway meant to move cars. While the vehicular priority routes will be discussed later, this was something we had to consider: where do we need to move cars in and out of downtown (particularly on roadways that connect with the interstate)? However, no pedestrian routes were removed when looking at this. Instead, we developed a matrix of roadway design standards for vehicular routes so that pedestrian safety remains a priority it Downtown St. Louis.

For the pedestrian routes, the team developed tier 1 and tier 2 pedestrian routes. While the routes should receive the same treatments, tier 1 routes represent routes that should be prioritized sooner over tier 2 routes, with a higher level of investment as funding is available for implementation. For example, while there may be public furniture (benches and trash cans) on both routes, there may be more of them placed on Tier 1 routes. While there may be cameras on both Tier 1 and Tier 2, perhaps a higher level of monitoring on the Tier 1 routes. Pedestrian routes are listed, and specific treatments (strategies and elements that should be included) are called out. Limits exist on some of the routes as they are not prioritized within the entirety of the study area, but the full map can be found in Appendix.

Priority Pedestrian Routes						
Street Direction	TIER 1 PEDESTRIAN ROUTES					
N/S	18th	14th	7th	Broadway		
E/W	Clark	Market (Gateway Mall	Washington	Biddle		
Street Direction	TIER 2 PEDESTRIAN ROUTES					
N/S	20th	Tucker	1th	9th	8th	N. 7TH
E/W	Olive	Convention Plaza	Cass			



(Pedestrian Priority Corridors (11x17 maps included in print version; full size digital map available online & electronically in the Background Appendix – Maps section)

The idea of the tier 1 and 2 pedestrian routes is to create a stronger sense of place along streets that offer logical and easy connections for pedestrians travelling in Downtown St. Louis. While pedestrians may choose the route they prefer, these routes will offer enhanced amenities that make the pedestrian commute a more pleasurable experience. By promoting more foot traffic on certain routes, you can build a density of people, creating more eyes on the street and promoting shared civic interactions among residents and visitors. These corridors focus on moving people on their destination while also providing opportunity for new or re-development, such as space for ground floor retail. Strategies and elements recommendations that should be included on these routes are the following amenities.

Pedestrian Strategies & Elements (recommended treatments on tier 1 & 2 facilities)

- Enhanced landscaping
- Activated public realm
- Form based codes
- Pedestrian scale wayfinding
- Bump outs
- Enhanced transit stops
- High visibility crosswalks
- Public spaces
- Parklets
- Median pedestrian refuge
- Mid-block crosswalks
- Street furniture
- Pedestrian scale wayfinding
- ADA compliance improvements
- Pedestrian signals with countdown timers
- Audible pedestrian signals
- Leading pedestrian intervals
- Pedestrian scramble
- Bike/Pedestrian construction detour plans
- Gateway signage
- Unique branding
- Public art
- Public wi-fi
- Smart Kiosks

BICYCLE

Included in the Downtown Multimodal Plan is a Downtown Bike Plan. With the interest in bike commuting growing, it is key that Downtown St. Louis develop bicycle facilities that are safe and comfortable for users of all ages and abilities. Cyclists are generally separated into four categories when it comes to gauging who will commute by bike. No cyclist should have to feel brave to ride their bike. Because there are different levels of comfort, and different levels of facility provide for a certain level of traffic stress (how stressed do you feel riding your bike), it is important to provide a range of facilities, so everyone ages eight to eighty feels comfortable. The Downtown Bike Plan is included as an appendix to this document and details level of traffic stress and design guidelines in more detail for these facilities.

Knowing the cycling population, priorities emerge as ways to grow potential trips from cyclists of all comfort levels. The first of these priorities is establishing better, more comfortable connections to Downtown from surrounding neighborhoods, which may help encourage bike commuting on a regular basis but also to attend any special events. Currently, major barriers exist at borders to the study area, which further enhance the need for designing high level, separated bicycle facilities. By enhancing the Downtown bike network and connections to Downtown, cyclists can more easily overcome these barriers on safe and protected cycling facilities. South of the Study area is the railroad yard, which makes for limited bridge crossings. The western border of the study area is a principal arterial (Jefferson), which means that biking on it is only comfortable for strong, more confident cyclists. Through coordination with ongoing planning efforts, such as the Trailnet Vision Project and the GRG Chouteau Greenway project, a bicycle network can be developed to encourage commuting by bike to Downtown. Also, it is important to note here that while the pedestrian priority routes were heavily focused on circulation within the Downtown Study area, the bicycle network looks at circulation within Downtown as well as beyond the study limits and how to safely connect cyclists to Downtown.

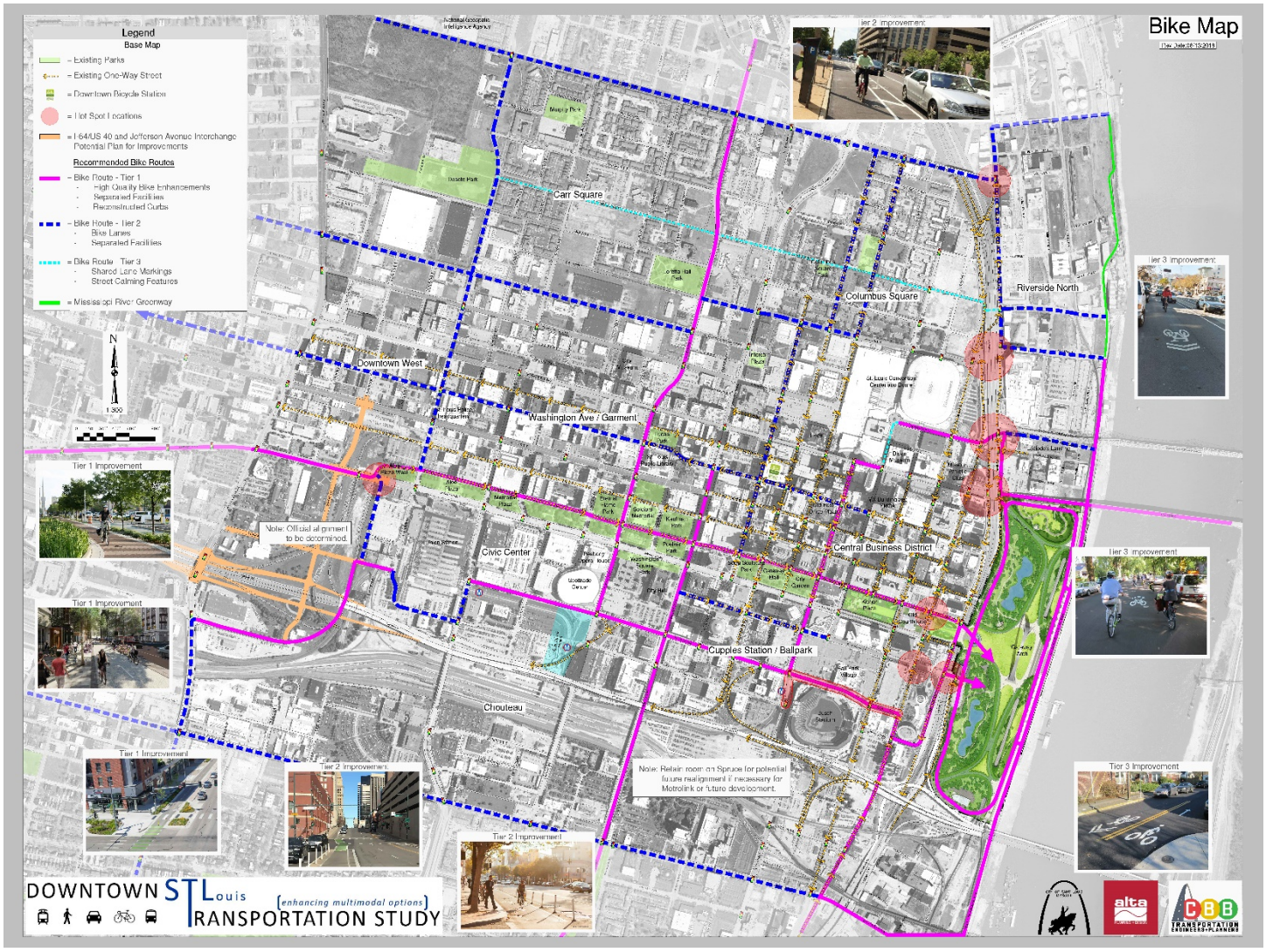
Knowing a complete bike network is a mix of context sensitive facility treatments, the team established three tiers for the Downtown Bike Plan. Tier 1 is the highest-level facility, followed by tier 2 and tier 3. Brief descriptions of these facilities are included. More information on this is found in the Mode Appendix – Downtown Bicycle plan.

- Tier 1: physically protected by permanent infrastructure, raised bicycle facility, 2-way bicycle travel (e.g. Indianapolis Cultural Trail)
- Tier 2: separated bicycle facility, ranging on the high end from buffered lanes (by parking, or by other treatments), to bike lanes; street level facility
- Tier 3: calm streets; shared lane markings used in conjunction with traffic calming measures that slow motorists to around 20mph


TIER 1 BICYCLE FACILITY


TIER 2 BICYCLE FACILITY


TIER 3 BICYCLE FACILITY



(Bicycle Priority Corridors (11x17 maps included in print version; full size digital map available online & electronically in the Background Appendix – Maps section)

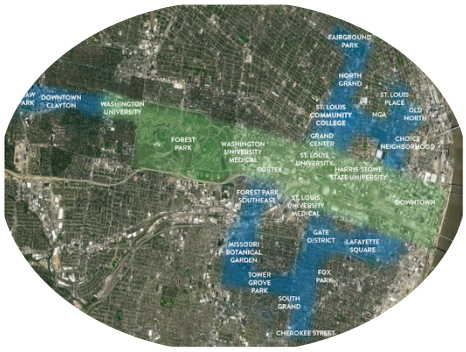
Priority Bicycle Routes						
Street Direction	TIER 1 BICYCLE ROUTES					
N/S	14th	Tucker	8th	4th	Memorial Drive	Lenore K. Sullivan
E/W	Scott (to 20th)	Clark*	Chestnut (Gateway Mall)	Convention Plaza		
Street Direction	TIER 2 BICYCLE ROUTES					
N/S	20th	11th	10th (N of Cass)	9th (N of Cole)	Broadway (N of Gateway Arch)	
E/W	Chouteau	Locust	Dr. Martin Luther King	Cole	Cass	
Street Direction	TIER 3 BICYCLE ROUTES					
N/S	7th (Washington to Convention Plaza)					
E/W	Biddle					

**Clark Tier 1 alignment: This plan is being published prior to the final Northside-Southside Metrolink Study and development of this project's engineering plans. The most current plan for the Northside-Southside line is included on the transit map in the next section but is currently proposed to run on Clark, where this plan is recommending a Tier 1 bicycle facility. The Downtown Multimodal Plan team understands the importance of expanding the City Metrolink System, both for the City of St. Louis and the St. Louis region. To that end, in the event of a conflict between these two facilities, we have identified Spruce as an alternative Tier 1 facility (from 14th to 8th), where we have developed alternatives for this potential bike alignment (included in the Drawings Appendix). Based upon our understanding of the likely Northside-Southside cross section in this area, we understand that a Tier 1 bicycle facility on Clark is compatible with a Northside-Southside Metrolink line also on Clark. However, if it is discovered during the engineering phase of the Northside-Southside project that the two alignments are not compatible, we recommend moving the Tier 1 bicycle facility to Spruce. Thus, the engineering for the Northside-Southside Metrolink project should be aware of and account for a Tier 1 bicycle facility along either Clark or Spruce, with Clark being the preferred alignment for the Tier 1 bicycle facility. If it is desirable to construct a Tier 1 bicycle facility on Clark before the Northside-Southside engineering studies are complete, the Tier 1 facility should be constructed in more of a temporary configuration, without moving the curb and using more temporary treatments like planters.*

The goal of the three-tiered bicycle approach is to complete a bike network with options and connections. While the tier 1 facility is the most separated and comfortable for all ages, it may not be feasible or appropriate all the time, given right-of-way constraints, cost, and the context of the street. By developing a scaled approach to facilities, we can safely accommodate bicyclists on many streets within Downtown, providing enhanced access to community goods and resources on a variety of routes. These routes become increasingly important with the April 2018 launch of Dockless Bike Share and ensuring there is safe access for newer riders that are likely in the 'Interested but Concerned' category. Additionally, a scaled approach makes it feasible for the City of St. Louis to start implementing some of these strategies more immediately. By reviewing the potential level of cost, given facility type, the City can start planning for street upgrades either with programmed street projects, or even as new developments get approved for construction/redevelopment in Downtown St. Louis. It should be noted that for some of these routes, the potential exists to deploy a pilot, tactical project, to gauge the level of support for the enhancement as well as collect data on how the enhancements works. Strategies and elements that should be included on these routes are the following amenities.

Bicycle Strategies & Elements (recommended treatments on Downtown Bike Network)

- Tier 1 bike routes (raised, separated, 2-way travel bike facilities
- Tier 2 bike routes (separated facilities)
- Tier 3 bike routes (calm streets network)
- Incorporate Bicycle Friendly Community standards in projects
- Bike patrols
- Bike signals
- Bike signal priority
- Additional/enhanced bike parking
- Bike/Ped counters
- Bike Wayfinding & signage
- Coordination with ongoing efforts on project prioritization
    - Trailnet Vision
    - Chouteau Greenway Design Competition



TRANSIT

As transportation trends are rapidly evolving (technology, ways people choose to commute, mobility sharing, etc.) public transit is returning as a valuable asset to Cities around the world. Places where people can easily and conveniently choose public transportation for their commute are experiencing growth and sustainable development. As cities focus more on sustainability and resiliency, it is clear the public transportation brings with it economic and environmental benefits that promote a resilient and healthy City. Promoting public transportation both within Downtown St. Louis and the entire City will be a key factor in growing our multimodal transportation network.

While Metro operates the public transportation system, the City has a major role in supporting this system through quality stops, prioritized traffic signal operations, and a walkable environment. The bus and light-rail systems cannot be successful without the City making the investments needed to the local street system that are critical in the support of a transit-friendly City.

Equally important as understanding the future of public transportation in our cities is understanding the history of public transportation. Streetcars used to be the chief mode of public transportation in hundreds of North American Cities. This was the daily commute for City residents that lived within the urban core and streetcar suburbs. Dense land development patterns were required for people to access this form of public transportation. For a multitude of reasons, the streetcar system faltered and was removed from nearly every single City. While there are many reasons this came to be the reality, one of the key factors for decline of the streetcar was the rise of the automobile.

The sprawl development pattern and choice to commute long distances by car is changing. Additionally, the City has retained density, meaning that public transportation is a viable commute mode. Driving and parking at Metrolink stops is also an option for regional commuters coming to Downtown. Also, the choice to live in downtown urban cores is making a comeback in many cities across America. Many people are now choosing to live, work and play in neighborhoods that are highly walkable and well serviced by convenient public transportation. Not only should we focus on a strong public transit system because of user choice, but we must focus on it for the future of our City and generations to come.

In order to establish a frequent and effective public transportation in Downtown, the Multimodal Plan team coordinated closely with Metro transit. Downtown St. Louis is already serviced very well with the existing Red and Blue Metrolink lines (with 6 stops in the Downtown study area). Metrolink connects to many St. Louis destinations, including institutions, employment centers, and locations in the Metro East. Downtown St. Louis is also a Metrobus hub with many stops occurring at the new and improved Civic Center Transit Station. Additionally, plans to enhance Metrolink service in the Downtown study area exist with the potential Northside Southside Metrolink line (feasibility and planning phases currently). However, as determined through our stakeholder engagement process, the Downtown bus service should be upgraded to be a more user friendly and efficient system. One reason the current system is not productive is the longer frequencies, around 20 minutes. In developing our recommendations, the Downtown Multimodal Plan team met with Metro staff and their consultants on the Metro Reimagined project.

Using the tiered approach, we developed a two-tier system for transit priority routes. The team consulted with Metro on selection of priority transit routes, and these were selected based on a variety of factors including:

- Geometrics to support large buses,
- Proximity to destinations (attractions, employment centers, and etc.),
- Access to 14th Street transit hub,
- Location on “through routes” with good travel times so that bus routes can efficiently maintain as short of headways as possible,
- Room on the street to support bus-friendly infrastructure
- Good multimodal connections (bike and pedestrian access)
- Potential future Metrolink Expansion (NS-SS alignment)

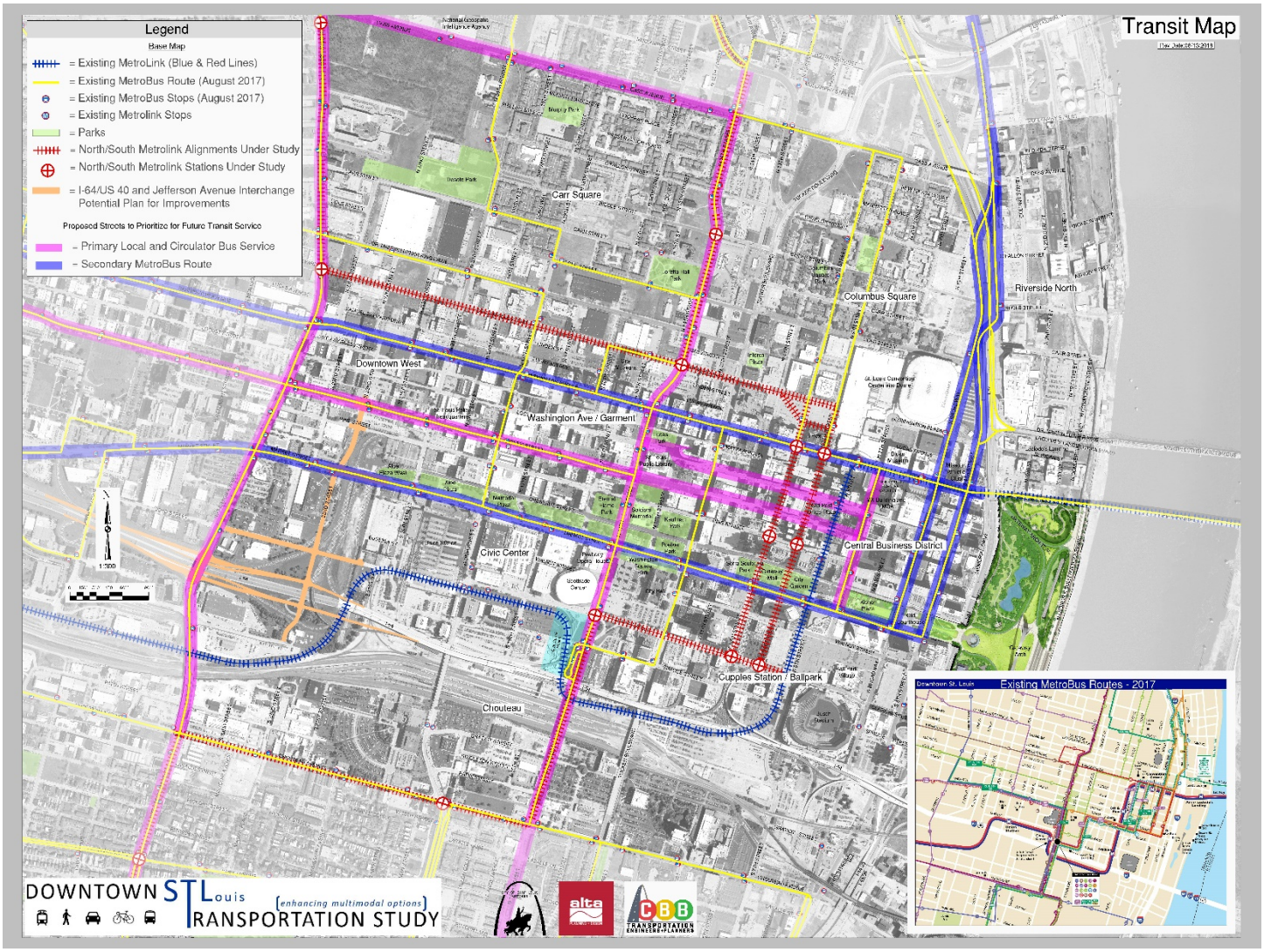
Brief descriptions of these tiers are included.

- Tier 1: Primary bus service – these are routes where bus service should remain a priority; either they currently function with high ridership numbers, or significant investment has been made in transit on these corridors. Permanent street changes that prioritize transit should be made, and signal priority should be given to public transit, such as the use of actuated transit signals.
- Tier 2: Secondary bus service – these are routes where bus service should run, but enhancements on the corridor may be a smaller scale than a primary bus corridor (smaller scale infrastructure improvements)

Priority Transit Routes			
Street Direction	TIER 1 TRANSIT ROUTES		
N/S	Jefferson	14th	7th
E/W	Olive	Cass	
Street Direction	TIER 2 TRANSIT ROUTES		
N/S	Broadway	4th	
E/W	Market	Washington	

There are varying levels of treatments that should be used given the recommendation as a tier 1 or tier 2 facility. For example, larger scale infrastructure projects, such as boarding bus bulbs or real time route signage, and transit signal priority may only be included on tier 1 routes. Whereas, smaller scale enhancements, updated bus stops, bike parking at stops, etc. may be included on tier 2 routes. This plan calls out specific treatment options that should be considered to be used as best practices on transit routes and does not differentiate between treatment on which facility. These decisions should be made and prioritized by the City of St. Louis, in conjunction with Metro, after looking at a variety of factors, including but not limited to: project prioritization, ridership and new developments/employer connections. Routes are listed, and specific treatments called out. Limits exist on some of these routes as they are not in the entirety of the study area, as indicated in the map below. More information on these routes can be found in the Transit Mode Appendix.

The NS-SS Metrolink study had not culminated at publication of this plan. However, potential expansion routes are indicated as priority transit routes, and overlaid with one proposed alignment for the NS-SS Metrolink expansion. Upon completion of that plan, the City should coordinate with Metro on the priority of both transit and pedestrian priorities on these routes. Further analysis of roadway configurations and cross section design will be required in an engineering phase where these routes overlap with bike routes.



(Transit Priority Corridors (11x17 maps included in print version; full size digital map available online & electronically in the Background Appendix – Maps section)

The goal of the tiered transit system is to establish priorities for where transit routes should be in Downtown St. Louis. Our strategies and elements present a toolbox of upgrades that should be considered for an enhanced transit experience. The proposed treatments for the transit routes have some overlap with the recommendations for the pedestrian routes. This is important to note, because providing a quality transit system is not possible unless necessary upgrades are made to safely move people to and from these transit stops. These recommendations should be coordinated between the City of St. Louis and prioritized on transit routes that make sense.

Transit Strategies and Elements (recommended treatments)

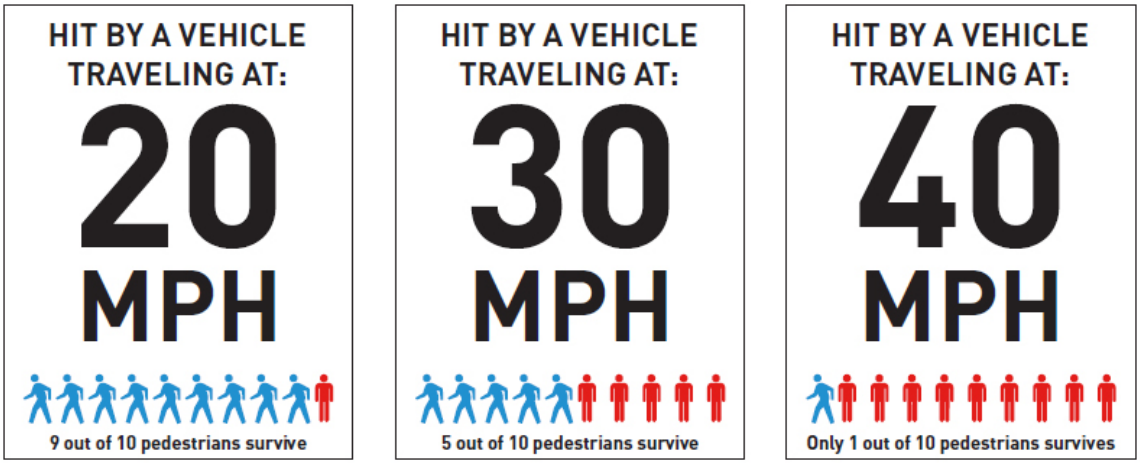
- Real time bus arrival
- Permanent bus stops (names vs. numbers)
- Pedestrian scale signage (oriented to sidewalk)
- Boarding bus bump outs
- Public art at transit stops
- Decorative transit shelters
- Enhanced wayfinding
- Higher frequency in the downtown core
- Metrolink station security
- Multimodal connections
- Enhanced landscaping
- Bike parking
- Universal design elements
- ADA Complaint
- Bus landing pads
- Better advertising on how to ride (fare, boarding, etc.)
- Smart LED lighting
- Smart card payment
- No parking, loading/unloading or shared mobility services impeding bus stops
- Transit signal priority

MOTORIZED VEHICLES

While one of the goals for this plan is to provide options for people to travel to and within downtown without the use of their personal automobile, we understand that providing quality vehicle access to downtown is critical for downtown St. Louis to thrive as the region's cultural, financial, and entertainment anchor. This becomes even more important as shared mobility services (Uber, Lyft, etc.) continue to grow, and it remains an easy and convenient choice for getting around. That being said, we need to do this in such a way that puts people first. We need to embrace our public space and promote a lively and inviting atmosphere to all St. Louis residents and visitors. With this understanding in mind, we have developed recommendations for priority vehicular routes.

For vehicular recommendations, we developed a two-tiered approach for primary and secondary vehicular routes. Tier 1 routes provide primary vehicular access in and out of downtown. They are primarily focused on access to interstate freeways. Additionally, Tier 1 routes should be used as main routes during detours or diversions, meaning they should rarely be closed to motor vehicles during special events and activities. Tier 2 routes are secondary routes for moving vehicles. Criteria were developed and analyzed using information that exists on the street today. Note that many of these priority vehicular routes are also priority routes for other modes, and, because of their location in the downtown core, they must be designed as safe places for pedestrians and bicycles. Setting and designing for appropriate vehicular speeds is critical for bicycle and pedestrian safety, and we have provided recommendations for appropriate design speeds/speed limits below. You can still move large volumes of traffic at 25 – 30 mph, and you do not need higher speed limits to move larger traffic volumes. It is also important to note that speed limits themselves have little impact on motorist behavior without robust enforcement. Thus, these streets should be redesigned to incorporate traffic calming features and updated with these target speeds in mind. For the complete information about the vehicular routes, see the vehicular mode map included in the appendix.

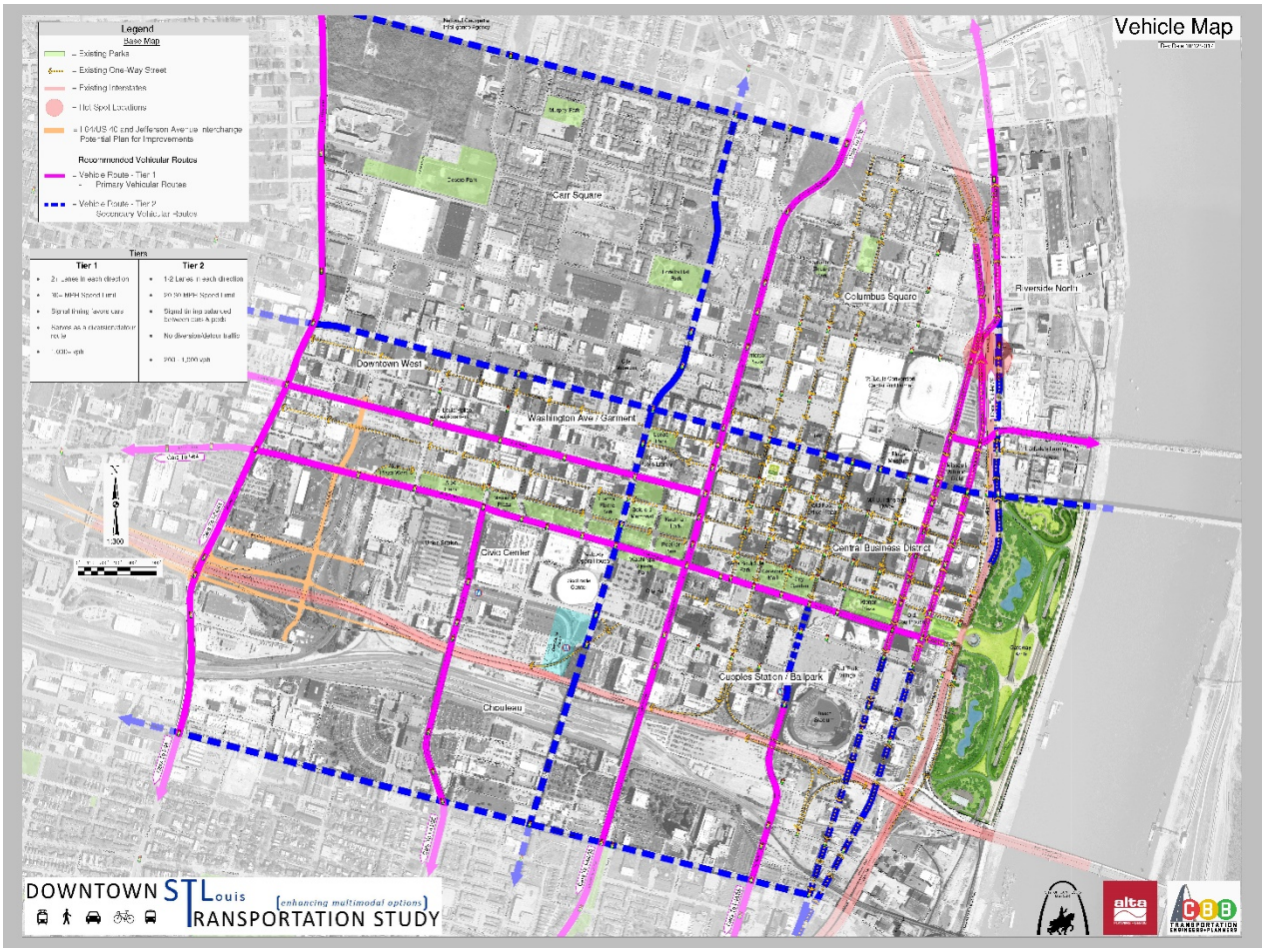
Speed is a major contributing factor to fatalities and injuries in the event of a crash. Cities across the United States are looking at reducing speeds within their urban core for that very reason. New York City is an example of where this has happened as a way to try to improve pedestrian safety within urban areas. As indicated in the image below, when a pedestrian is hit by a motor vehicle travelling at 20 mph there is a nine in ten chance of survival. As speed increases, the survival odds decrease, lowering the chance of survival to just one in ten.



- Tier 1: Primary route for moving motor vehicles
  - 2+ lanes in each direction
  - Target design speed (25 or 30 mph) *
  - Signal timing favors cars
  - Serves as a diversion/detour route
  - 1,000+ vehicles per hour (vph)
- Tier 2: Secondary route for moving motor vehicles
  - 1-2 lanes in each direction
  - Target design speed (25 mph)
  - No diversion/detour
  - 200 – 1,000 vehicles per hour (vph)

Target Design Speed Criteria *(Downtown Vehicular Routes)*		
Tier	Target Design Speed	Criteria
1	25mph	Located in the CBD High pedestrian volumes Overlaps with priority route for walking, biking, transit
1	30mph	Located outside of the CBD Not identified on pedestrian, bike or transit map

**Target design speed for each of these corridors should be factored based on a variety of characteristics (Target Design Speed Criteria). While a tier 1 remains an important facility for moving motor vehicles, there are certain characteristics that should be considered when updating that roadway. If a road has the potential to act as a barrier within the Downtown Core, the target design speed should not exceed 25 mph. If a route is identified on any of the other mode maps (pedestrian, bike or transit) the target design speed should not exceed 25 mph, as on these routes you should expect a lot of pedestrian activity. Speed is a large factor in fatality associated crashes, so slowing traffic in the Downtown core is extremely important. For routes that function as accessible ways to move motorists quickly out of Downtown, and are outside of the CBD, where there is not a lot of pedestrian activity, a target design speed of 30 mph is acceptable. For the complete information about the vehicular routes, see the Vehicular Mode Appendix.*



(Vehicle Priority Corridors (11x17 maps included in print version; full size digital map available online & electronically in the Background Appendix – Maps section)

Priority Vehicular Routes						
Street Direction	TIER 1 VEHICLE ROUTES					
N/S	Jefferson	18th (s. of Market)	Tucker	8th (s. of Spruce)	Broadway (n. of Walnut)	4th (n. of Walnut)
E/W	Market	Olive (Jefferson to Tucker)				
Street Direction	TIER 2 VEHICLE ROUTES					
N/S	14th	8th (Spruce to Market)	Broadway (s. of Walnut)		4th (s. of Walnut)	
E/W	Chouteau	Washington	Cass			

The goal of the tiered vehicular system is to establish priority routes to get vehicular traffic into Downtown, primarily focusing on adjacent interstate connections and routes that should remain open for detour plans. In addition to ensuring specific routes as priorities for motor vehicles to help ease congestion and promote better air quality, there are a range of enhancements that can be implemented are a continuous basis to better manage traffic.

Vehicle Strategies and Elements (Recommended Treatments)

- Real-time traveler information system
- Coordinate street closures with web-based apps
- Traffic management upgrades (e.g. signal detection and communications)
- Expand smart parking
- Dynamic pricing for on-street parking
- Off-peak freight delivery policy
- Connected-vehicle infrastructure
- GPS central server-based traffic signal emergency preemption
- Curbside management – establishment of flex zones
- Roadway maintenance standards and rehab
- Construction detour traffic control plans
- Vanpool
- Traffic calming features where appropriate (bumpouts, high visibility crosswalks, enhanced landscaping, etc.)

In addition to developing these corridors for priorities, our team analyzed various 'hot spot' locations, or locations that necessitated a more in-detail look to establish what type of facility may fit within the public right-of-way. These hot spot locations were identified as places that we should conceptualize what these recommendations may look like in the field and gave our team the ability to determine what fits on the ground. The complete list of hot spot locations and drawings are included in the drawings appendix, with conceptual level plans laying out the concepts.

Through identifying these corridors, our team was able to develop specific areas for implementation of our proposed strategies and elements. The City of St. Louis should leverage any future project opportunity to implement both our immediate opportunities, as presented in this plan, as well as identify what improvements can be made to existing projects. The policy component is extremely important to ensuring some of these updates are feasible in the future and should be considered immediately. Implementation of this plan is discussed in the following section.

PLAN IMPLEMENTATION

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PLAN IMPLEMENTATION

Downtown St. Louis is the cultural and financial anchor of the greater St. Louis region. It is a world-class downtown that requires a world-class transportation system. This plan outlines a vision for a truly Multimodal Downtown St. Louis. It provides a path toward the implementation of these strategies and elements. The plan provides for transportation options and strong connections for downtown St. Louis for all residents and visitors. The implementation of this plan will result in a robust multimodal system that is safe, convenient, and comfortable for pedestrians, bicyclists, transit users and motorists of all ages and abilities. It will improve quality of life, support economic growth and community development, ease congestion, improve air quality, and improve public health. The plan contains recommendations for policy changes and infrastructure improvements to make this vision a reality.

The plan will also serve the City's residents. It outlines a framework that will make it possible for people to access employment, education, healthcare, and other community goods and resources in the downtown without having to rely on an automobile. In doing so, this plan supports the City's vision for a more equitable St. Louis. A downtown that makes space for people, giving them the freedom and the choice to move using multiple modes of transportation.

While this multimodal plan is specific to Downtown St. Louis, many elements could be applied to other areas of the City. As such, this plan considers how downtown touches the City's 79 neighborhoods. We are confident that moving this plan forward for Downtown can help shift the conversation, both in St. Louis City and the region, for prioritizing future transportation projects that consider all modes of transportation that provide people real transportation choices. Specific areas to consider in terms of implementation are agency coordination, policy initiatives, plan adoption and performance measures.

USING THE PLAN

While the planning team has identified immediate opportunities (project ideas and policy initiatives in Section 3: Existing Transportation Network) it is important to remember how this plan should be used. This document serves as a framework for planning a stronger multimodal system in Downtown St. Louis. Moving forward, when new projects are in the planning phases, or ideas are being generated, the City and its partners should refer to this hierarchy of streets and continue to prioritize modes on appropriate corridors as identified in this document. Strategies and elements identified in this document are projects that should be overlaid on these corridors for implementation.

In addition to immediate opportunities and policy initiatives the City should start trying to tackle, our planning team has taken an initial first look at areas within Downtown that are ready for implementation of strategies and elements to enhance mode priority on certain corridors. These projects are listed in Appendix 4 of the plan appendices document.

The City should also consider this plan as general maintenance work within the street and public right of way takes place. Repaving schedules within Downtown should cross reference this document to identify any street improvements that might be made with resurfacing and new striping. For example, if Market street is due for repaving, the City might consider adding high visibility crosswalks to enhance the pedestrian experience, as it is identified as a priority pedestrian corridor. The goal of this document is to provide a vision for how our transportation system in Downtown St. Louis should continue to develop into a more multimodal friendly atmosphere. It is set up such that ideas have been given for implementation, and specific projects recommended, but leaves room for flexibility on implementation schedule to allow enhanced coordination and efficiency with other planned projects.

AGENCY COORDINATION

Implementing this plan is not and cannot be a job for the City of St. Louis only. Many different organizations own and operate various parts of the transportation system. These various functions need to be coordinated with a common vision for the system to succeed as a whole. As identified previously, there are many current planning efforts ongoing in the City of St. Louis, and these opportunities should be leveraged to implement projects that support the vision described in this plan. It is our recommendation this plan be presented to all of these agencies as a starting point for discussion about partnering on future project implementation. Since fundraising is always a concern for implementing new initiatives and developing new infrastructure, close coordination between planned future efforts will greatly assist the City with getting these necessary updates for a more robust multimodal transportation system in Downtown St. Louis.

The City should rely on the Complete Streets Committee to ensure a commitment to the plan and monitor some level of progress. With the updated Complete Streets Policy in 2015, the City has a Complete Streets committee that convenes on a quarterly basis, monitoring projects and ensuring Complete Streets standards are being met and promoted. As such, this group can use the Multimodal Plan as a guiding document for monitoring these solutions in Downtown St. Louis. Opportunities to incorporate these recommendations in the Downtown core should be included as part of the discussion for any projects within the study limits. Additionally, the City should monitor the success of project implementation in conjunction with this group on a yearly basis. While some members of this group may not develop infrastructure projects, their input on project impacts to the general St. Louis population is valuable in developing an equitable multimodal system.

Entities key for Agency Coordination

- City of St. Louis Street Department
  Permitting, Operations, Maintenance, and detour and construction routes as key components of their work
- City of St. Louis Board of Public Service
  Planning, grant opportunities, projects within the public right of way
- City of St. Louis Planning and Urban Design Agency
  Ensuring compliance with city-wide plans, and promoting facility implementation with new developments
- City of St. Louis Department of Public Health
  Monitoring health outcomes, potential grant partners
- St. Louis Development Corporation
  Promoting enhanced economic development in conjunction with transportation investments
- St. Louis Port Authority
  Freight related projects
- East West Gateway Council of Governments
  Regional involvement, Great Streets work, funding opportunities
- Downtown STL, Inc.
  Assisting with public private partnerships and communication
- Missouri Department of Transportation
  State owned facilities, interstate connections, dynamic messaging, regional support
- Bi-State Development Agency
  Public transportation partners, health and transportation connections, STL Freightway
- St. Louis Regional Freightway
  Freight related projects
- Great Rivers Greenway
  Trail projects, Chouteau Greenway connections
- Trailnet
  Enhanced bike and pedestrian facilities, advocacy, education
- Explore St. Louis (convention visitors center)
  Enhanced pedestrian experience, wayfinding, tourism
- Gateway Arch Park Foundation
  Enhanced pedestrian experience, wayfinding, tourism

Establishing this group will help to make the Downtown Multimodal Plan a greater priority for the City and for the region. A healthy Downtown is critical for the health of the overall St. Louis region.

POLICY INITIATIVES

This plan identifies seven policy initiatives for immediate consideration in order to make some recommendations included in this plan feasible. These should be considered high priority for the City of St. Louis moving forward. Just as important as technical solutions to developing a more multimodal transportation system are the policy solutions. By adopting transportation policies that provide quality transportation options in Downtown St. Louis, the City can move its overall vision forward for Downtown. As a new NACTO member City, St. Louis can leverage the experiences of other member cities to understand how similar policies have worked in other cities. Similar to how the City developed the Bike Share permit for Dockless Bike Share Companies, using best practices from other cities and tailoring the language to fit our unique circumstances will help prioritize transportation initiatives as policy measures. By starting with examples of what has worked in other places and fitting to the unique St. Louis experience, the City can ensure these policies meet their goals, provide accountability, and are useful for many years to come.

In addition to the seven policies called out in this plan, the City should stay abreast of new trends in transportation policy making at the local level to continue to move the vision of this plan forward. Another positive element of this plan being monitored by the Complete Streets Committee is that this group can discuss what new policies should be considered with any new projects and also keep St. Louis moving forward as a more multimodal City.

PLAN ADOPTION

It is our recommendation this Downtown Multimodal Plan be adopted by the City of St. Louis Planning and Urban Design Agency. Adopting this plan will ensure it remains a guiding document for years to come establishing priorities for infrastructure investments, transportation projects and policies and smart city initiatives. In addition to serving as the guiding document for Downtown St. Louis, the adoption of this plan will provide a framework as the City of St. Louis competes for future funding opportunities for implementing some of these projects. It is important to note that no funding currently exists for any of these recommendations. Thus, adopting the plan will assist the City with being a competitive applicant for future funding opportunities. Adopting this plan would help the City of St. Louis move toward a more sustainable and equitable transportation system that provides quality transportation choices for the City's residents and visitors. It will be a significant step for the City of St. Louis toward a more equitable and resilient City, and promoting this multimodal focus within Downtown can start to shape a more multimodal transportation policy for all of St. Louis City.

FUNDING STRATIGIES

The City should look for every opportunity to implement these projects by finding federal funding available for assistance with professional engineering, implementation and construction. A few funding ideas related to transportation are included in this section. It should be noted this is not an exhaustive list, rather a starting point, and more ideas should be considered.

- CMAQ
  Congestion Mitigation Air Quality Grants are given in non-attainment regions. Annually, East West Gateway Solicits transportation projects that help improve air quality, on a competitive application basis. More information at: https://www.ewgateway.org/transportation-planning/transportation-improvement-program/competitive-transportation-programs/

- STP-S
  Surface Transportation Program – Suballocated grants are for projects that preserve and improve the conditions and performance on any federal aid route. Annually, East West Gateway solicits transportation projects that match certain criteria on a competitive application basis. More information at: https://www.ewgateway.org/transportation-planning/transportation-improvement-program/competitive-transportation-programs/

- BUILD
  Better Utilizing Investments to Leverage Development Grants are the new TIGER (transportation investments generating economic recovery) grants. These are for investments in surface transportation infrastructure projects that will have a significant local or regional impact. More information at: https://www.transportation.gov/BUILDgrants

- Others
  Additionally, more funding opportunities may be available through health, pedestrian, biking or other related agencies. The City should identify priority projects and continue to search for ways of implementation.

CLOSING

By taking the steps to develop this Multimodal Plan, the City of St. Louis has demonstrated its commitment to making a more walkable, bikeable, and transit friendly community. It is the type of transportation system needed for St. Louis to remain a world-class city and to provide better opportunities for the City's residents. St. Louis should be commended for moving this vision forward through the planning process. Additionally, during this planning process, many exciting things came to fruition that already are enhancing the transportation experience and quality of life for many St. Louis residents, including, but not limited to:

- St. Louis becomes a NACTO City
- Chouteau Greenway Design Competition
- Metro Reimagined – for a more effective transit service
- Chief Technology Officer (CTO) and Chief Information Officer (CIO) Hired
- Ecab – mictotransit pilot launch
- The launch of Dockless Bike Share & E-Scooters

By rethinking our transportation system as a way to move people, we rethink the use of our public space and the way our communities are shaped. Choosing to see our streets and our curb space as assets to our communities can help promote a strong, vibrant, resilient, and economically sustainable Downtown and City. This plan provides transportation choices for people to connect to jobs, education, healthcare, and other community goods and services, making St. Louis a more equitable City where every St. Louis resident can thrive. This plan is about establishing multimodal connections that are safe and accessible for users. This plan puts people at the center of our community vision.

APPENDIX SUMMARY

APPENDIX CONTENTS

1. Background
   Background information on the Downtown Multimodal Plan. Detailed contents include:
   a. Maps
   b. Traffic Counts
   c. Infrastructure Inventory
   d. Immediate Opportunities – early actions
   e. Current Planning Efforts
   f. Vision Development
2. Engagement
   Stakeholder Engagement summary – how we involved feedback about our plan and recommendations. Detailed contents include:
   a. Charrette 1
   b. Charrette 2
   c. Open House
3. Modes
   Hierarchy of Street maps (available via electronic file), as well as the Downtown Bike Plan.
   a. Bike – Alta Downtown Bike Plan
   b. Pedestrian
   c. Transit
   d. Traffic Management (vehicular)
4. Focus Areas & Conceptual Drawings
   Hot spot locations (referenced within this document). A list of locations is included, as well as concept drawings available via electronic file from the City of St. Louis.
   a. Immediate project listing
   b. Focus area descriptions
   c. Focus area drawings
      i. Market Street (14th Street to 6th Street)
      ii. 7th Street (Market to Locust)
      iii. Tucker Boulevard (Spruce to Washington)
      iv. Interstate 64 at Spruce
      v. Clark Avenue (18th Street to 4th Street)
         1. Option 1 – shared lane markings
         2. Option 2 – pedestrian plaza (street level)
         3. Option 3 – raised pedestrian plaza
      vi. Walnut Street and Memorial Drive
      vii. Cass Avenue (Tucker to Broadway)
      viii. Biddle Street (Broadway to Lewis Street)
      ix. Convention Plaza to N. 4th Street
      x. Spruce Street (14th Street to 8th Street)
      xi. Clark Strip Map
      xii. Tucker Strip Map

Pedestrian Map

Rev Date:10/12/2017

Legend

Base Map

- = Existing Parks
- = Hot Spot Locations
- = I-64/US 40 and Jefferson Avenue Interchange Potential Plan for Improvements

Recommended Pedestrian Routes

- = Pedestrian Route - Primary
  - Updated Pedestrian Enhancements
- = Pedestrian Route - Secondary
  - Updated Pedestrian Enhancements

N

1:300

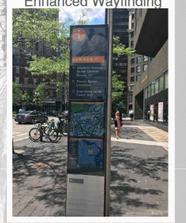
0' 150' 300' 450' 600' 900'

Pedestrian Improvements

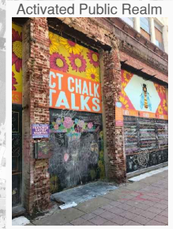
- Safe Crossings
- Enhanced Wayfinding
- Updated Transit Stops
- Unique Branding
- Public Art
- Decorative/Ped Scale Lighting
- ADA Compliant
- Activated Public Realm
- Public Spaces
- Smart City Elements
  - Smart Kiosk
  - Smart Street Lights
  - Smart Cameras

Safe Crossings

Enhanced Wayfinding



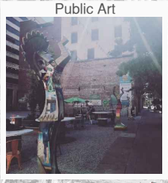
Activated Public Realm



ADA Compliant

Decorative/Ped Scale Lighting

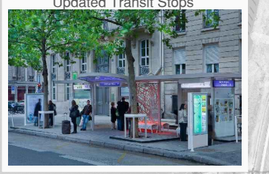
Public Art



Public Spaces (plazas, cafes, parklets)

Smart City Elements

Updated Transit Stops



Unique Branding - Enhanced Sense of Place

National Geospatial Intelligence Agency

Peds To/From NGA

Downtown West Redevelopment Connects to Union Station Non-motorized NGA Route Carr Square

Connects to Trestle Park

Murphy Park

Desoto Park

Carr Square

Connects to Columbus Square

Connects to Carr Square

Loretta Hall Park

Columbus Square Park

Columbus Square

Riverside North

Washington already has enhanced streetscape, ground floor retail

Downtown West

City Museum

Interco Plaza

St. Louis Convention Center and Dome

Existing Streetscape Project

Olive supports redevelopment

St. Louis Police Headquarters

Washington Ave / Garment

Lucas Park

TIF#1

St. Louis Public Library

Blues Museum

Laclede's Landing

Missouri Athletic Club

Aloe Plaza West

Aloe Plaza

Memorial Plaza

Eternal Flame Park

Soldiers Memorial

Kaufman Park

Old Post Office Plaza

YMCA Building and YMCA

Union Station

Civic Center

Peabody Opera House

Scottrade Center

Peoples Park

Washington Square Park

Spirit Sculpture Park

Gateway Mall

City Garden

City Hall

Kiener Plaza

Old Courthouse

Central Business District

Part of redevelopment for the Entertainment District

14th connects to Trestle Park & Civic Center

Tucker is a barrier and needs to be improved

Gateway Arch

Gateway Mall Arch Grounds Improvements

Ball Park Village

Cupples Station / Ballpark

Busch Stadium

Chouteau

Connects to Lafayette Square

Broadway heavily used & Connects to CBD

Connects to Soulard

Connects Soulard to Ballpark Village

DOWNTOWN STLouis TRANSPORTATION STUDY (enhancing multimodal options)

CITY OF SAINT LOUIS MISSOURI

alta PLANNING + DESIGN

CBB TRANSPORTATION ENGINEERS + PLANNERS

Bike Map

Rev Date:08/13/2018

Legend

Base Map

- = Existing Parks
- = Existing One-Way Street
- = Downtown Bicycle Station
- = Hot Spot Locations
- = I-64/US 40 and Jefferson Avenue Interchange Potential Plan for Improvements

Recommended Bike Routes

- = Bike Route - Tier 1
  - High Quality Bike Enhancements
  - Separated Facilities
  - Reconstructed Curbs
- = Bike Route - Tier 2
  - Bike Lanes
  - Separated Facilities
- = Bike Route - Tier 3
  - Shared Lane Markings
  - Street Calming Features
- = Mississippi River Greenway

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0' 150' 300' 450' 600' 900'

Tier 2 Improvement

Tier 3 Improvement

Tier 1 Improvement

Tier 1 Improvement

Tier 1 Improvement

Tier 2 Improvement

Tier 2 Improvement

Tier 3 Improvement

Tier 3 Improvement

Note: Official alignment to be determined.

Note: Retain room on Spruce for potential future realignment if necessary for Metrolink or future development.

DOWNTOWN STLouis TRANSPORTATION STUDY (enhancing multimodal options)

CITY OF SAINT LOUIS MISSOURI

alta PLANNING + DESIGN

CBB TRANSPORTATION ENGINEERS + PLANNERS

Transit Map

Rev Date:08/13/2018

Legend

Base Map

- = Existing MetroLink (Blue & Red Lines)
- = Existing MetroBus Route (August 2017)
- = Existing MetroBus Stops (August 2017)
- = Existing Metrolink Stops
- = Parks
- = North/South Metrolink Alignments Under Study
- = North/South Metrolink Stations Under Study
- = I-64/US 40 and Jefferson Avenue Interchange Potential Plan for Improvements

Proposed Streets to Prioritize for Future Transit Service

- = Primary Local and Circulator Bus Service
- = Secondary MetroBus Route

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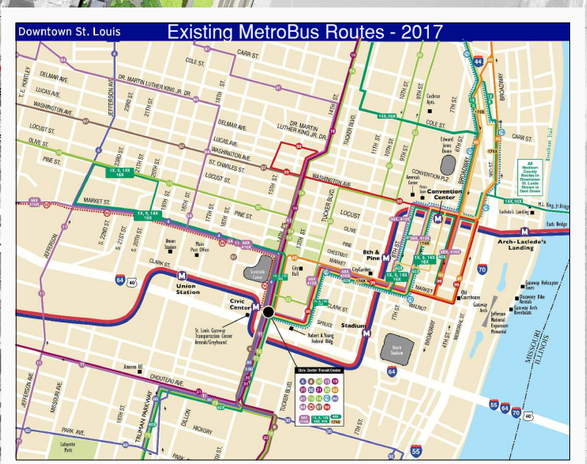
0' 150' 300' 450' 600' 900'

Downtown West
Washington Ave / Garment
Carr Square
Columbus Square
Riverside North
Civic Center
Central Business District
Cupples Station / Ballpark
Chouteau



DOWNTOWN STLouis TRANSPORTATION STUDY (enhancing multimodal options)

Vehicle Map

Rev Date:10/12/2017

Legend

Base Map

- = Existing Parks
- = Existing One-Way Street
- = Existing Interstates
- = Hot Spot Locations
- = I-64/US 40 and Jefferson Avenue Interchange Potential Plan for Improvements

Recommended Vehicular Routes

- = Vehicle Route - Tier 1
  - Primary Vehicular Routes
- = Vehicle Route - Tier 2
  - Secondary Vehicular Routes

Tiers

Tier 1	Tier 2
• 2+ Lanes in each direction	• 1-2 Lanes in each direction
• 30+ MPH Speed Limit	• 20-30 MPH Speed Limit
• Signal timing favors cars	• Signal timing balanced between cars & peds
• Serves as a diversion/detour route	• No diversion/detour traffic
• 1,000+ vph	• 200 - 1,000 vph

N

1:300

0' 150' 300' 450' 600' 900'

National Geospatial Intelligence Agency

Murphy Park

Desoto Park

Carr Square

Loretta Hall Park

Columbus Square Park

Columbus Square

Riverside North

Cars To I-70

Downtown West

City Museum

Interco Plaza

St. Louis Convention Center and Dome

Cars To I-44/I-70

St. Louis Police headquarters

Washington Ave / Garment

Lucas Park

TIF#1

St. Louis Public Library

Bluff Museum

Missouri Athletic Club

Laclede's Landing

Cars To I-64

Plaza West

Aloe Plaza

Memorial Plaza

Eternal Flame Park

Soldiers Memorial

Kaufman Park

Old Post Office Plaza

MX Building and YMCA

Cars To I-64/I-44

Union Station

Civic Center

Peabody Opera House

Poelker Park

Central Business District

Scottrade Center

Washington Square Park

Sculpture Park

Gateway Mall

City Garden

City Hall

Kiener Plaza

Old Courthouse

Gateway Arch

Chouteau

Cupples Station / Ballpark

Ball Park Village

Busch Stadium

Cars To I-44

Cars To I-44/55

Cars To I-44/55

Cars To I-44/55

DOWNTOWN STLouis TRANSPORTATION STUDY (enhancing multimodal options)

CITY OF SAINT LOUIS MISSOURI

alta PLANNING + DESIGN

CBB TRANSPORTATION ENGINEERS+PLANNERS