

bikewalkokc

moving toward a healthy future



Adopted by the Planning Commission 04/26/2018

Adopted by the City Council 05/22/2018



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EXECUTIVE SUMMARY

The secret is out: Oklahoma City is a great place to live, work, and play. But our city is growing faster than we can keep pace. This increasing number of residents, visitors, and businesses presents us with significant challenges planning for efficient growth as well as funding the construction and maintenance of critical infrastructure, services, programs, and quality of life amenities across the city's 621 square miles.

The desire to have a walkable, bikeable city for both leisure and transportation has been gaining momentum over the past decade. Although we have a great start with a significant number of facilities already constructed, Oklahoma City is still young, and has a way to go to build a comprehensive, connected, and safe bicycling and pedestrian network. This plan, **bikewalkokc**, aims to transform the bicycling and walking experience within Oklahoma City to substantially improve the quality of life and health of our residents.

One of the goals of the city's comprehensive plan, **planokc**, is for Oklahoma City to be a community that offers people many safe options to travel where they want to go - by foot, bicycle, or motorized vehicle. This requires investment in building and maintaining a multi-modal transportation network, complete with high quality trails, bicycle facilities, and sidewalks. With these improvements, residents and visitors to Oklahoma City will be able to get where they need to go while enjoying an active lifestyle.

Purpose

The need for this plan and its associated projects is articulated in **planokc**, which calls for a bicycle and pedestrian master plan that addresses the needs of users of all skill levels. **bikewalkokc** is Oklahoma City's bicycle and pedestrian master plan. **bikewalkokc** fulfills **planokc**'s directive to prioritize bicycling and walking as a favored form of transportation needing considerable attention. This plan guides the construction of an ambitious program of cycling and sidewalk networks.

These future networks are made up of prioritized projects, which will be built as funding allows.

A focus on active transportation infrastructure will bring a healthy balance to our transportation system, allowing people to comfortably travel or recreate on our trails, bike lanes, and sidewalks under their own power. The human, economic, and environmental benefits to this future will be substantial.

Outcomes

The expected outcomes that drove the planning process include:

- Neighborhoods connected to jobs, schools, and services via bicycle and pedestrian infrastructure
- Residents empowered to choose an active lifestyle
- Sidewalks that are useful, accessible, and connected
- Trails used for commuting and recreation
- Safe streets that support transportation options

Bicycle and Trails Plan

bikewalkokc consists of two interrelated plans in one: the Pedestrian Plan and the Bicycle and Trails Plan. The Bicycle and Trails Plan details a transformative expansion and improvement of the city's network. The objective is to create a safe and comfortable bicycle network between homes, businesses, schools, parks, and other destinations most frequented.

The proposed projects in this plan will give residents the opportunity to cycle safely to a destination in or near their neighborhood, while also allowing residents to comfortably and safely reach regional destinations.

Pedestrian Plan

The Pedestrian Plan was developed to facilitate comfortable, safe walking to destinations within or close to neighborhoods, like schools, parks, businesses, transit stops, and friends.

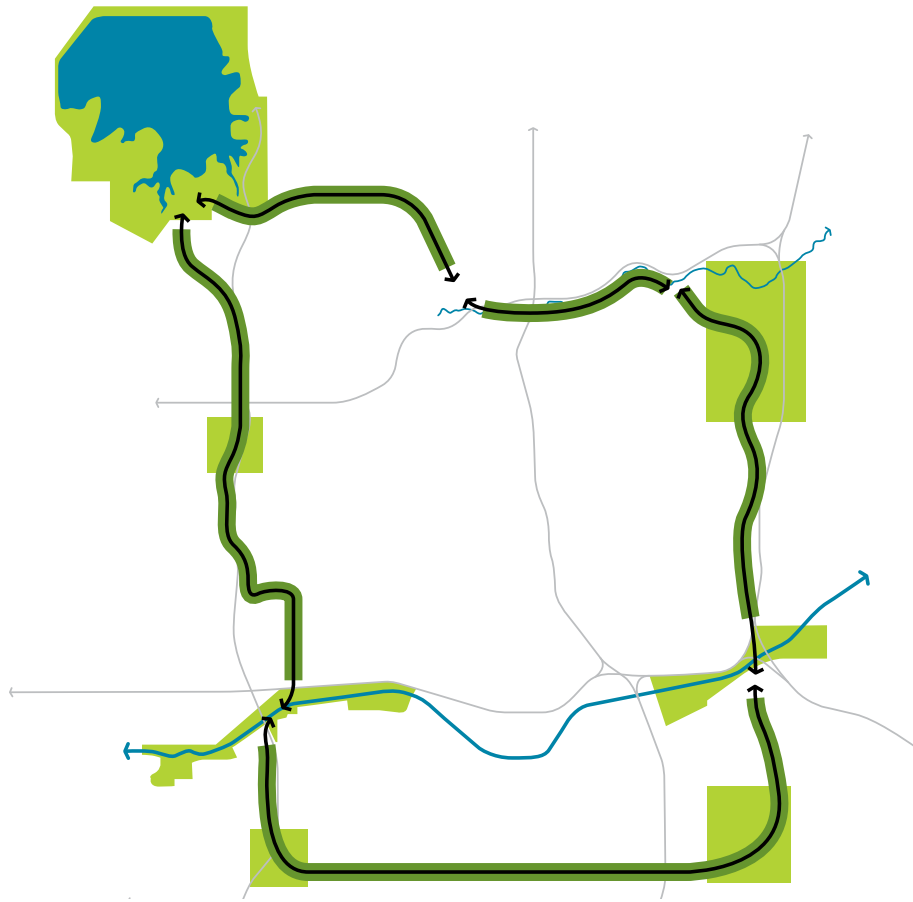
The Pedestrian Plan focuses on areas of greatest need so that truly walkable environments can benefit the large group of people—including children, senior citizens, and those with low incomes—who cannot or choose not to rely on automobile transportation. Efforts will be focused on ten identified Pedestrian Priority Areas and on transit stops, schools, and parks.

Integral Projects

The following pages describe projects or groups of projects that together form the framework of this plan and the future bicycle and pedestrian networks. These projects will deliver a greatly enhanced quality of life for our community while contributing to the city's attractiveness as a destination and place to call home.

"We've got to get people out of their cars, out of those drive-through windows, get them walking, get them in parks and get them more active."

-Mayor Mick Cornett



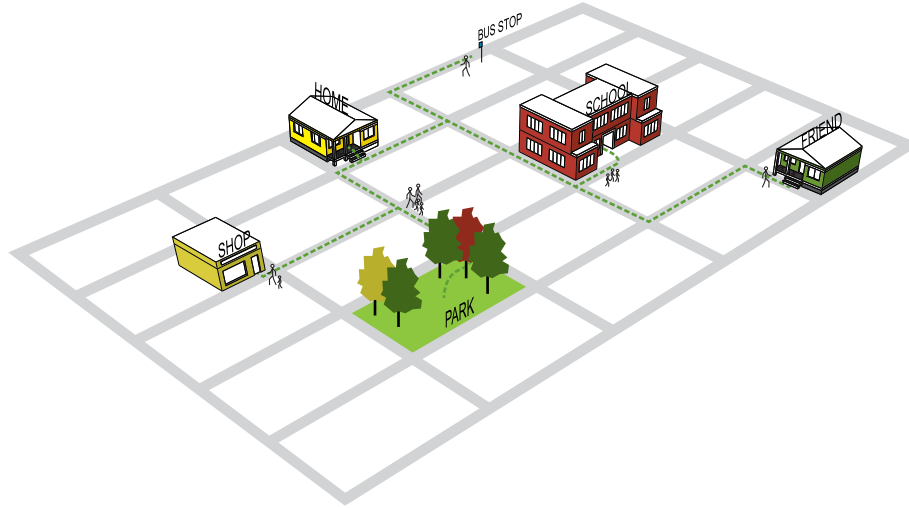
GRAND BOULEVARD LINEAR PARK

The completion of the Grand Boulevard Linear Park will “close the loop” by constructing and enhancing a seamless belt-line of trail around central Oklahoma City. This trail will enhance residents’ quality of life by connecting neighborhoods via a dedicated trail to other parts of the city. Residents in proximity to this historic resource will be able to go for short or extended runs, bicycle rides, or just walk the dog in a relaxing green environment. A substantial portion of the Grand Boulevard Linear Park is constructed; however, the loop needs to be completed by constructing the Deep Fork Creek Trail, upgrading the southwest section from sidewalk to trail, and including safe crossings of I-35 and the Oklahoma River.



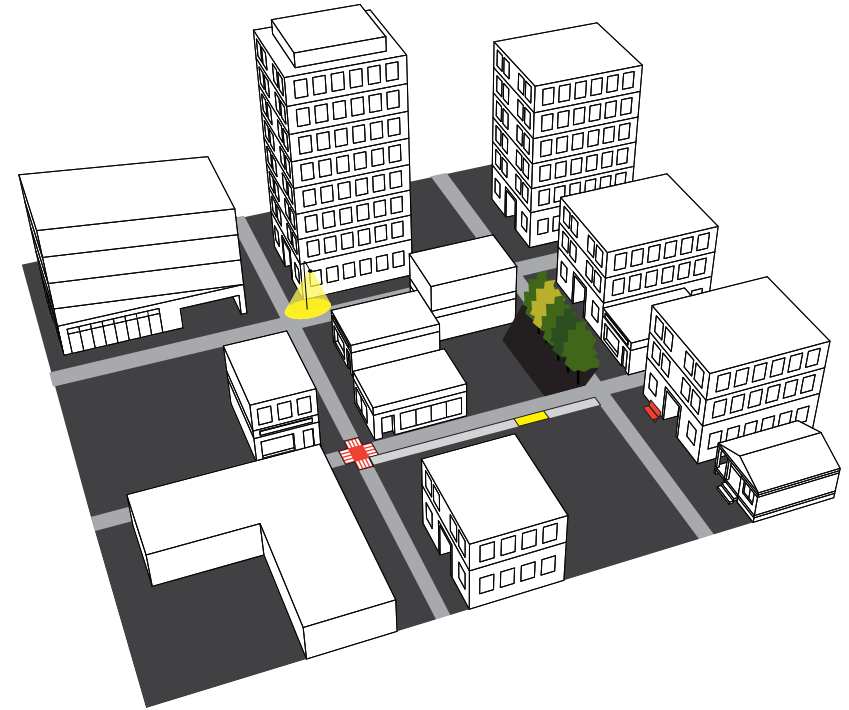
CROSTOWN CORRIDORS

Specific improvements on existing roads across the city will create two crosstown corridors for cycling—one east-to-west and one north-to-south. These safe, comfortable and continuous corridors will connect people to a variety of daily or weekly destinations, which are now only accessible by car. The corridors will serve as cycling arterials, allowing people of all ages to cycle to destinations near and far. The corridors will connect to local cycling facilities to provide seamless routes to a myriad of locations throughout the city.



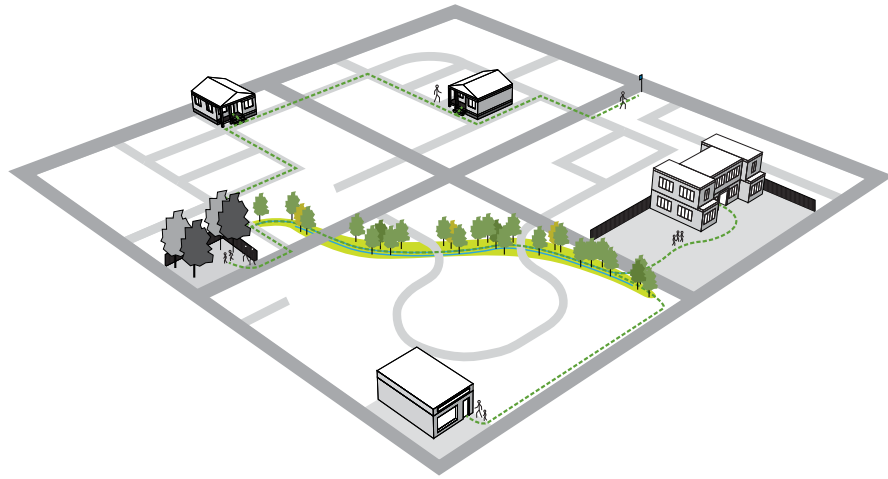
PEDESTRIAN PRIORITY AREAS

This plan identifies ten pedestrian priority areas (PPAs) based on an analysis that examined a variety of criteria. The PPAs represent the best opportunities in Oklahoma City to create walkable areas that facilitate lifestyles not reliant on automobiles as the primary means of transportation. New sidewalks and improved intersections will afford residents, especially those with disabilities, the opportunity to get to nearby destinations safely and comfortably.



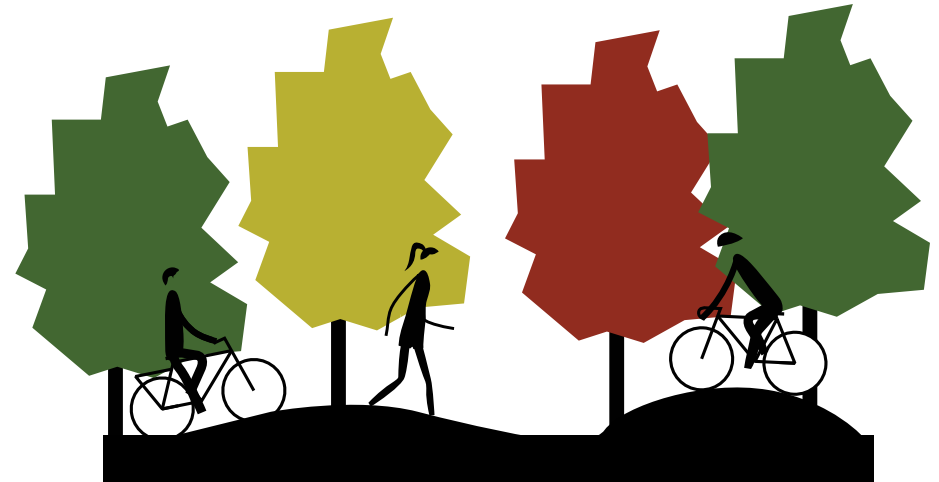
DOWNTOWN PEDESTRIAN IMPROVEMENTS

Downtown Oklahoma City has made great strides over the past two decades with improvements from the MAPS program, Project 180, and an abundance of redevelopment projects. This plan details a set of projects designed to capture all of the remaining gaps in the sidewalk network, as well as other elements (e.g., more streetlights, trees, street furniture, etc.) that make streets more inviting and attractive for walking. These improvements will complete the pedestrian network—making downtown as a whole a truly pedestrian-friendly environment for residents, workers, and visitors.



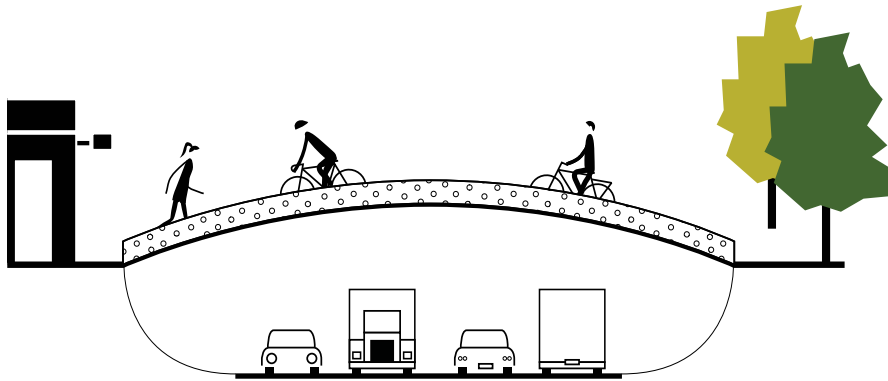
NEIGHBORHOOD GREENWAYS

Neighborhood Greenways will provide a pleasant, off-street alternative for cyclists or pedestrians of all ages to travel from home to nearby destinations such as a friend's house, the neighborhood school or park, or a local shop. The greenways will also connect to each other so that users can go longer distances along these appealing byways, which are typically routed through natural open spaces like riparian areas. The Neighborhood Greenways are proposed for several existing neighborhoods, and routes are also recommended for future subdivisions.



MULTI-USE TRAILS

Trails constructed since 1997 have created a strong foundation for moving Oklahoma City to the next level of a connected recreational and transportation trail network. This project includes upgrades of existing trails along with 102 miles of new multi-use trails for walking, running, and cycling. A new recreational trail will be built soon at Draper Lake, and new trails will eventually connect to the neighboring communities of Edmond, Mustang, Yukon, and Del City. While many multi-use trails are located in natural areas, others are located in urban areas along streets to provide safe, convenient transportation along important corridors.



BICYCLE AND PEDESTRIAN BRIDGES

Oftentimes barriers such as interstates, highways, rivers, railroads, or creeks make it impossible, difficult, unsafe or uncomfortable for residents to walk or cycle to nearby parks, shops, or schools. In these cases, a bicycle and pedestrian bridge is a simple solution. These bridges will allow pedestrians and users to avoid busy auto-oriented bridges or make a connection where bridges don't currently exist. Surveys and analysis identified several great locations for bicycle and pedestrian bridges. In addition to removing barriers within our pedestrian and bicycle network, these bridges will also be noticeable, attractive statements about the value our community places on active living.

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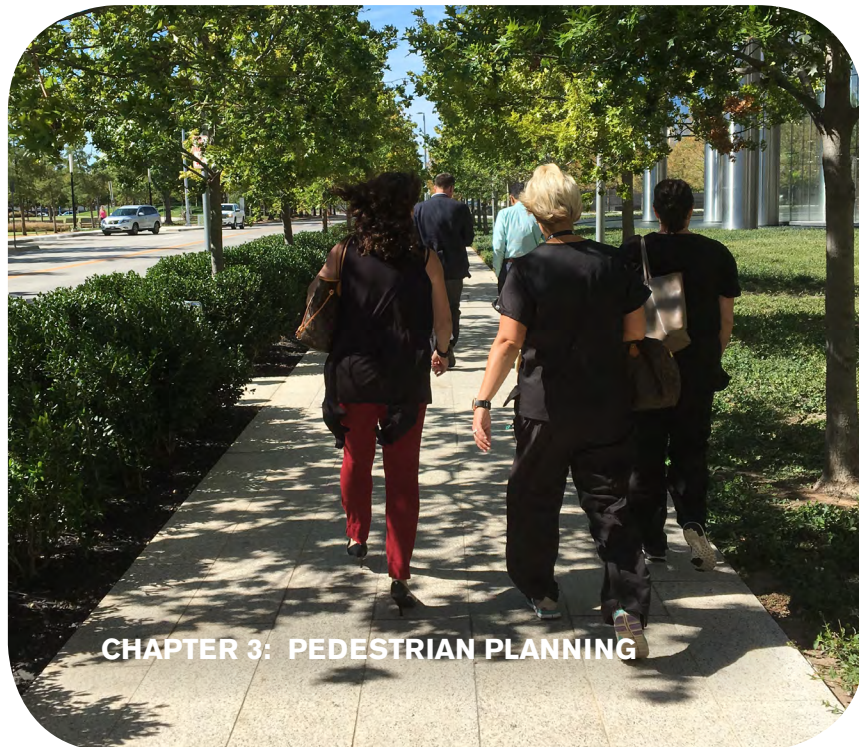
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CHAPTER 1: INTRODUCTION

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CHAPTER 1: INTRODUCTION

bikewalkokc is organized into the following chapters:

- 1. Introduction, Goals, Public Participation, Planning Context** – Discusses the motivation for the plan and the outreach to the residents of Oklahoma City for guidance in the planning effort.
- 2. Bicycle and Trail Plan** – Includes descriptions of the transformative bicycle and trail projects identified through the planning process. These projects include a combination of transportation and recreation projects that seek to enhance residents' quality of life.
- 3. Pedestrian Plan** – Includes pedestrian planning analysis and identifies immediate needs for pedestrian infrastructure.
- 4. Implementation** – Describes the responsible parties, the funding sources, and project prioritization lists for successful implementation.

planokc, the comprehensive plan for the City of Oklahoma City, calls for the creation of a bicycle and pedestrian master plan that addresses the needs of users of all skill levels. Furthermore, 14 of the 21 initiatives of connectokc, the transportation element of planokc, are related to active transportation. Active transportation refers to any form of human-powered transportation (e.g. walking, cycling, using a wheelchair, etc.). planokc prioritizes active transportation as a form of transportation that needs considerable attention, and this plan, bikewalkokc, does just that.

bikewalkokc serves as the bicycle and pedestrian master plan for Oklahoma City, and as the foundation for future active transportation development and planning efforts within Oklahoma City. The City adopted three previous plans, the 1997 Trails Master Plan, the 2008 Oklahoma City Bicycle Transportation Plan, and the 2012 MAPS 3 Sidewalk Plan, which were used in the formation of bikewalkokc. bikewalkokc now serves to replace these



previous plans as the City's first comprehensive plan addressing both bicycle and pedestrian infrastructure.

Nationally, bicycling and walking as means of transportation have been gaining momentum over the past 10 years. We have a great start in Oklahoma City with a significant number of trails, bike facilities, and sidewalks already constructed, but there is still a long way to go in developing a comprehensive, connected, and safe active transportation network. bikewalkokc aims to transform the transportation landscape for bicycling and walking in Oklahoma City.

The city has been built in a way that reflects people's primary dependence on the automobile for transportation, but growing interest in using active

modes of transportation within Oklahoma City is reflected in the bikewalkokc survey (discussed later in this chapter).

To meet the public demand for world-class active transportation infrastructure, this plan proposes bicycle and pedestrian projects and policy changes, with the broader goal of improving residents' quality of life and transforming how we get around in Oklahoma City.

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Above: Cyclists participate in the Full Moon Bike Ride starting at the Myriad Gardens (Photo by Nate Billings, The Oklahoman, Copyright 2013)



Our Plan

bikewalkokc is an implementation component of planokc, which created goals with associated initiatives and policies to guide future planning and development within Oklahoma City. These goals, initiatives, and policies guided the direction of the planning team and steering committee in developing the plan. Through the public outreach, steering committee meetings, and internal staff time, a new set of bikewalkokc goals were generated to address specific needs in Oklahoma City.

Our Goals

1. WALKING AND CYCLING IS SAFE IN OKLAHOMA CITY

Safety for residents who walk and bicycle in our community is the highest priority goal of this plan. We reach this goal by ensuring that infrastructure exists, and that said infrastructure is sufficient to provide actual safety during interactions with automobiles, as well as perceived safety to keep residents from being discouraged from choosing an active form of transportation.

2. GREATER NUMBERS OF PEOPLE ARE WALKING AND CYCLING FOR TRANSPORTATION

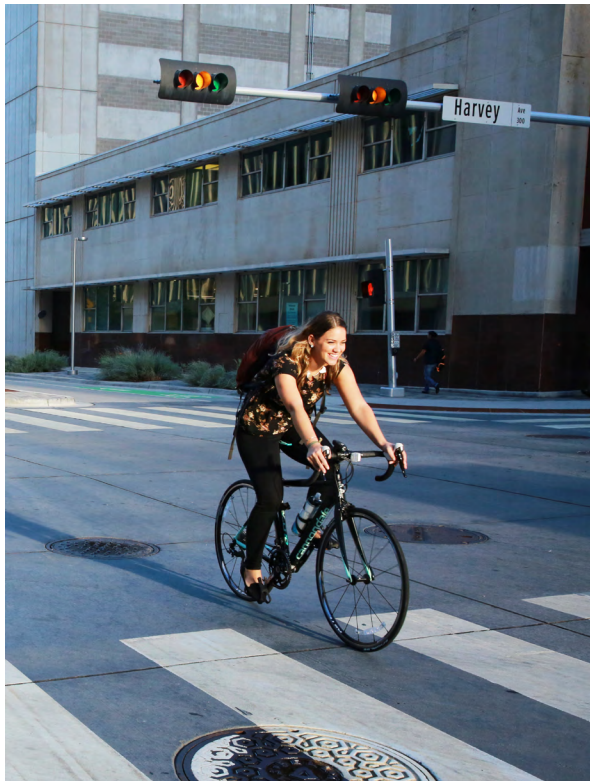
While residents of downtown Oklahoma City and some of the surrounding neighborhoods presently walk and bicycle at rates comparable with large cities, it is the goal of this plan to increase these levels, not only in the most urban areas of the city, but in all areas. This requires investment in new infrastructure, as well as policy changes, educational efforts, and more.

3. NEIGHBORHOODS ARE CONNECTED TO JOBS, TRANSIT, COMMERCIAL DISTRICTS, SCHOOLS, AND PARKS

Gaps in the sidewalk and bicycle network can negate the portions of the network that do exist. The approach of this plan is to leverage existing facilities by filling in gaps and growing the networks so that residents can safely get to the places they need and want to get to. As gaps are filled, new areas will become accessible to a greater cross-section of Oklahoma City residents.

4. BARRIERS TO WALKING AND CYCLING ARE REMOVED

One of the most often stated reasons for not walking or cycling in Oklahoma City is the difficulty associated with crossing major barriers. Whether these are interstates, major arterials, or bodies of water, this plan focuses on ensuring that there are safe and convenient places for pedestrians and cyclists to cross.



Our Initiatives

1. Increase the availability of pedestrian and bicycle infrastructure.

The crux of this plan is a capital improvements strategy that identifies where the greatest need for pedestrian and bicycle improvements are. These improvements are prioritized to ensure the most efficient use of funding as it becomes available into the future.

2. Provide education for residents related to safe walking, cycling, and driving.

What cannot be achieved by simply building infrastructure for pedestrians and cyclists can be addressed through marketing campaigns that seek to educate residents to safe driving, cycling, and walking skills. This should include training for City staff and police officers, so that the City is united in its efforts to promote safety on our streets.

3. Ensure that all new infrastructure is ADA accessible, and identify locations that require retrofitting.

Standards for pedestrian infrastructure have changed since a great deal of the sidewalks and crossings in Oklahoma City were constructed. This plan emphasizes the importance of accessible design by ensuring those infrastructural elements needed for ADA compliance (ramps, push buttons, etc.) are accounted for, and gaps are identified for improvement.

4. Empower residents to be a part of active transportation decision-making.

The residents of Oklahoma City know where they need and want to walk and bicycle already; it's the City's responsibility to identify those needs and wants and ensure that what we do addresses these desires in a meaningful and transparent manner. Including stakeholders from the community during the planning process as well as the project implementation process will ensure that residents take ownership over new infrastructure, which will in turn ensure better maintenance and better justify future projects.

5. Increase bicycle and pedestrian connections from neighborhoods to the places people want to go.

Results from the bikewalkokc survey, input from the steering committee, and the general public all inform the planning process, ensuring that popular destinations are included. Increasing access to jobs, public transit, commercial districts, schools, and parks will result in a greater return on the City's investments in these areas.

6. Add safe crossings over interstates, major arterials, and water bodies.

Connectivity across barriers is critical to the success of an active transportation network in Oklahoma City. Presently, there are too many locations that cause potential pedestrians and cyclists to choose to drive because they do not seem to be traversable. Additionally, for those who do not own automobiles, we must ensure that the city is usable.

7. Provide the needed investment to tip high-opportunity areas toward walkability.

There are areas of the city with great opportunity to become fully walkable with relatively minimal investment in the pedestrian infrastructure. Areas with high amounts of jobs, transit ridership, schools, parks, and multi-family residential are great opportunities for improvement.

8. Identify ordinances, statutes, and other regulations that need to be updated to better facilitate a robust active transportation culture.

In order to facilitate safe walking and cycling in Oklahoma City there are regulations that need to be updated. These include definitions, ordinance amendments, and more to ensure that equal protection is given to pedestrians, cyclists, and drivers on our roads.

bikewalkokc Initiatives	bikewalkokc Goals			
	1	2	3	4
1. Increase the availability of pedestrian and bicycle infrastructure.	■	■	■	■
2. Provide education for residents related to safe walking, cycling, and driving.	■	■		
3. Ensure that all new infrastructure meets current standards, and identify locations that require retrofitting.	■			■
4. Empower residents to be a part of active transportation decision-making.		■	■	
5. Increase bicycle and pedestrian connections from neighborhoods to the places people want and need to go.	■	■	■	■
6. Add safe crossings over interstates, major arterials, and water bodies.	■	■	■	■
7. Provide the needed investment to tip high-opportunity areas toward walkability.		■	■	
8. Identify ordinances, statutes, and other regulations that need to be updated to better facilitate a robust active transportation culture.	■			■

Benefits of an Active Community

Increasing bicycle and pedestrian friendliness can substantially benefit a community's health, safety, economic performance, and environmental health.

HEALTH

Easy access to active transportation options has many health benefits for individuals and communities. Active transportation increases individuals' physical activity levels, reducing the risks for obesity, cardiovascular disease, diabetes, degraded bone health, cancer, and depression.¹ Creating a citywide active transportation system will allow residents to more easily incorporate physical activity into their daily lives. Additionally, providing transportation options other than automobile travel can have profound impacts on the health of the population and the environment. For example, motor vehicle-miles traveled (VMT) is directly correlated to the proliferation of air pollutants such as ozone and particulate matter.² This leads to increased rates of respiratory and cardiovascular diseases.³

Other concerns associated with a transportation system dominated by automobile travel include: greater risk for debilitating or fatal vehicle collisions, lower amounts of physical activity, and a greater percentage of household income used for transportation costs.⁵ This illustrates the need for a transportation system that provides options that can meet the individual needs of a wide spectrum of transportation users.

SAFETY

Improving the safety and comfort of active transportation is a key component of bikewalkokc. Historically, Oklahoma City, along with most cities across the U.S., has constructed roadways specifically to accommodate an increasing number of automobiles. With the resurgence of active transportation, cities are reconsidering the way roadways are configured in order to accommodate all modes of transportation. By installing appropriate bicycle and pedestrian facilities, greater separation is created and conflict points with automobile traffic are reduced. These facilities also improve the predictability of bicyclist and pedestrian behavior, which leads to better communication and

coordination between modes. Communities with bicycle and pedestrian infrastructure, policies, programs, and enforcement are able to improve safety for all modes of transportation.

In Oklahoma City, it was reported that 1,657 pedestrians were hit by motor vehicles between 2003 and 2015. 120 of these people were killed. Ninety-four percent of these fatalities occurred on roads with speed limits above 30 miles per hour. Pedestrians are twice as likely to be fatally injured on streets without sidewalks. And while pedestrian trips make up less than 2% of total trips made in the city, nearly 15% of traffic fatalities are pedestrians.

There were 790 reported automobile/cyclists collisions between 2003 and 2015, 10 of which resulted in a fatality. Nearly two-thirds of the collisions occurred on streets with speed limits above 30 miles per hour. The statistics for cyclist collisions are less dramatic than those of pedestrians in Oklahoma City. What is more relevant is the number of collisions per trip made by bicycle, and providing cyclists with safer, protected facilities can help to bring that figure down over time.



ECONOMIC PERFORMANCE / DEVELOPMENT

Oklahoma City has untapped potential in utilizing active transportation for economic development. According to the FHWA white paper, “Evaluating the Economic Benefits of Non-Motorized Transportation,” there are multiple potential economic benefits of bicycle and pedestrian investments. These benefits include the following:

- Commute cost savings for bicyclists and pedestrians;
- Direct benefits to pedestrian, bicycle, and tourism-related businesses;
- Indirect economic benefits due to changing consumer behavior (i.e. lower transportation expenses lead to more disposable income); and
- Individual and societal cost savings associated with health and environmental benefits.

While the indirect and societal benefits are difficult to express in dollar amounts, direct benefits include a job creation rate of approximately 11-14 jobs per \$1 million in spending as compared to only approximately seven jobs per \$1 million in roadway infrastructure spending. This is due to the high labor to materials ratio that bicycle and pedestrian projects typically require. Table 1.1 provides the results of a study conducted in Baltimore, Maryland from 2010 on job creation per \$1 million spent.

Additional findings from the FHWA white paper on the economic impacts of non-motorized transportation include the following:

- Bicyclists and pedestrians who have more disposable income due to reduced travel expenses are more willing to spend a greater portion of their income on local goods and services.
- Bicycle and pedestrian infrastructure may make a commercial corridor more accessible to foot traffic, increasing consumers’ browsing opportunities and encouraging more access to local goods and services.
- Bicycle and pedestrian infrastructure, along with other forms of traffic calming make commercial streets more attractive to visitors and increase visitors’ perceptions of safety.

The limited amount of active transportation infrastructure and low mode share within Oklahoma City, show the economic benefits are not yet realized. The bicycle and pedestrian network improvements in this plan are economic development opportunities.

ENVIRONMENT

Reliance on the automobile for transportation brings negative impacts on the environment, while increasing active transportation commuting can lead to a reduction in regional motor vehicle miles traveled (VMT), thus reducing vehicle emissions and improving air quality. Additionally, while providing ample surface parking is essential to the success of a business or public facility, vast amounts of impervious surface are required. Presently, about 97 of Oklahoma City’s 621 square miles is impervious, the largest portion of that being surface parking lots. This leads to contaminated run-off

that negatively impacts the quality of our soil and water bodies.

According to the Oregon Environmental Council, “once about 10% (or less depending on the watershed’s physical and biological characteristics) of a watershed has been converted to impervious surfaces, significant ecological damage has already been done.” In Oklahoma City 16 of our 40 sub-watersheds already have greater than 10% of their area covered by impervious surfaces, while 8 more are close to that level. Additionally, in Oklahoma City today roughly 70% of our water bodies are considered “impaired” by the Environmental Protection Agency (EPA). This illustrates the importance of minimizing additional impervious surface construction, and active transportation systems can help in this effort.

Another negative impact of motor vehicle traffic that can be mitigated by a modal shift toward active transportation is the degradation of air quality associated with automobile emissions. According to the website Stateoftheair.org, Oklahoma City is ranked 24th in the country for worst air quality by ozone amounts, with a score of F for the number of “orange ozone days”. Ground-level ozone is not emitted directly into the air by automobiles, but is the result of chemical reactions between nitrogen oxides (NOx) and volatile organic compounds (VOCs) with sunlight. Motor vehicle emissions and gasoline vapors are major sources of NOx and VOC, and the resultant ground-level ozone can exacerbate or trigger respiratory conditions such as asthma, especially the elderly and young children.

Table 1.1 Economic Impacts of Active Transportation Infrastructure Per \$1 million Spent

Project Type	Direct Jobs	Indirect Jobs	Induced Jobs	Total Jobs	Multiplier
Pedestrian projects	6	2.2	3.1	11.3	1.9
Bike lanes (on-street)	7.9	2.5	4	14.4	1.8
Bike boulevard	6.1	2.4	3.2	11.7	1.9
Road repairs and upgrades	3.8	1.5	2	7.4	1.9
Road resurfacing	3.4	1.5	1.9	6.8	2

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Bicycle and pedestrian infrastructure, along with other forms of traffic calming make commercial streets more attractive to visitors and increase visitors’ perceptions of safety.

Public Participation

Public participation is an important component for the success of any plan. Four approaches of public participation used include:

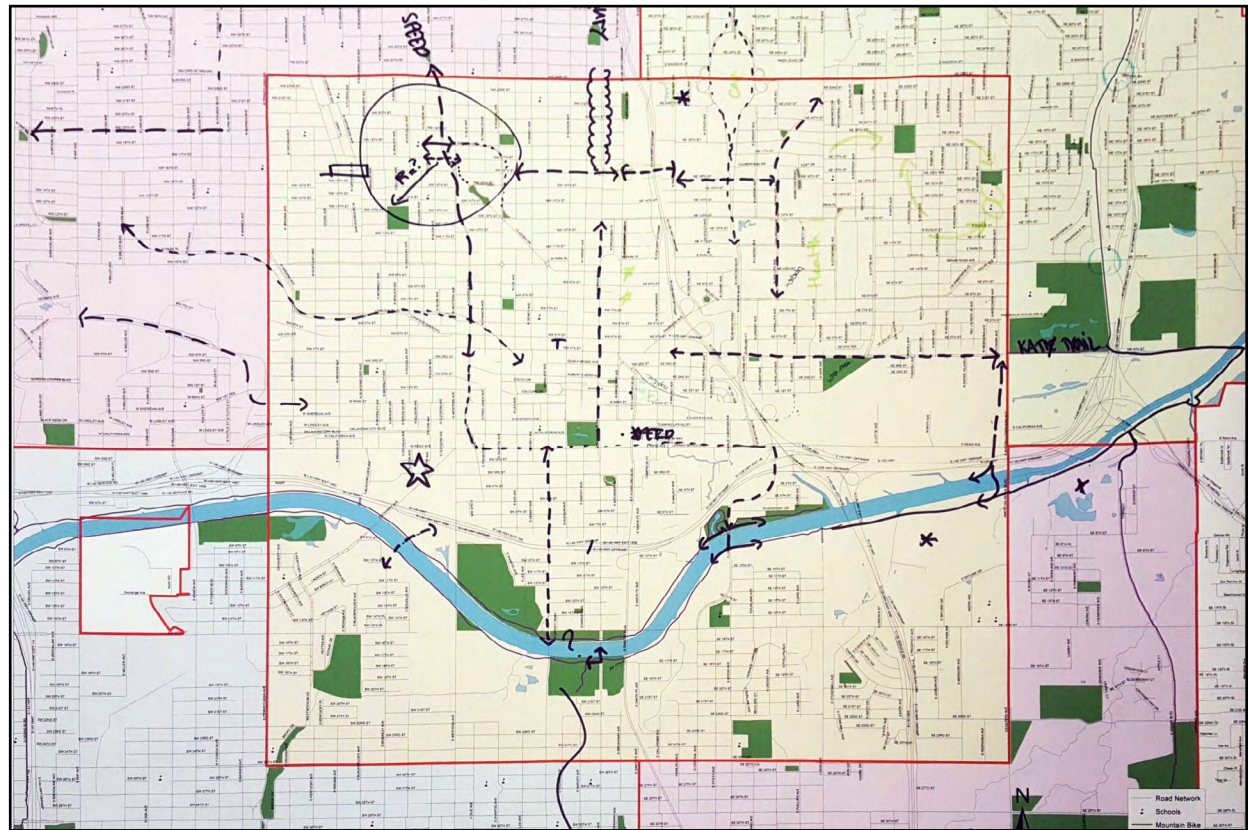
- A steering committee comprised of local stakeholders including: advocates, business owners, residents, and others (see Acknowledgments).
- The bikewalkokc citizen survey administered via the Internet, in person, and sent to all public water customers.
- Public outreach events in all quadrants of the city.
- A web page providing information about the plan and the planning process.

STEERING COMMITTEE

The bikewalkokc planning process included a Bicycle & Pedestrian Master Plan Steering Committee to assist in guiding the process. The Steering Committee was responsible for reviewing and providing feedback on plan materials. The Committee also helped advertise the plan process and distribute information to the larger community. The Steering Committee met six times over the course of the planning process:

- **May 19, 2015** – Review of Purpose, Goals, Ideas
- **July 28, 2015** – Review of Plans, Policies, Legislature and Map Activity
- **September 29, 2015** – Review of the Peer Cities and Potential Themes
- **October 13, 2015** - Walking and Bicycling Tour
- **November 17, 2015** – Review of Analysis Preliminary Bicycle Network
- **February 24, 2016** – Review of Bicycle and Pedestrian Projects

During the July 28, 2015 steering committee meeting, members were asked to identify locations around the



Steering Committee Mapping Exercise - July 28, 2015

city for investigation. This included urban and rural bicycle alignments, potential multi-use trail alignments, as well as intersection improvements and key crossings of major barriers. These barriers include natural elements like rivers and streams, as well as man-made infrastructure like I-240, Northwest Expressway, and I-235. This exercise allowed steering committee members to utilize their expertise to guide the plan analysis, to ensure that key problems would not be overlooked. This process helped delineate the different types of facilities proposed on street, such as the different needs of long-distance recreational cyclists when compared to urban transportation-focused cyclists. Map 1.1 shows some of the results from the mapping exercise.



Above: Steering Committee members participate in an exercise to guide planners in how to prioritize improvements.

PUBLIC RESIDENT SURVEY

To gather input from the broader Oklahoma City area, the planning team assembled a survey that consisted of 27 bicycling and walking questions. Appendix I.1 includes the entire bikewalkokc survey. 1,738 people responded to the survey, which was advertised in the Oklahoma City October 2015 water bill. Additionally, hundreds of survey postcards were placed at six public outreach events, Open Streets, and eight bike and running shops. Map 1.2 illustrates the reach of survey respondents, showing representation from all areas of the city.

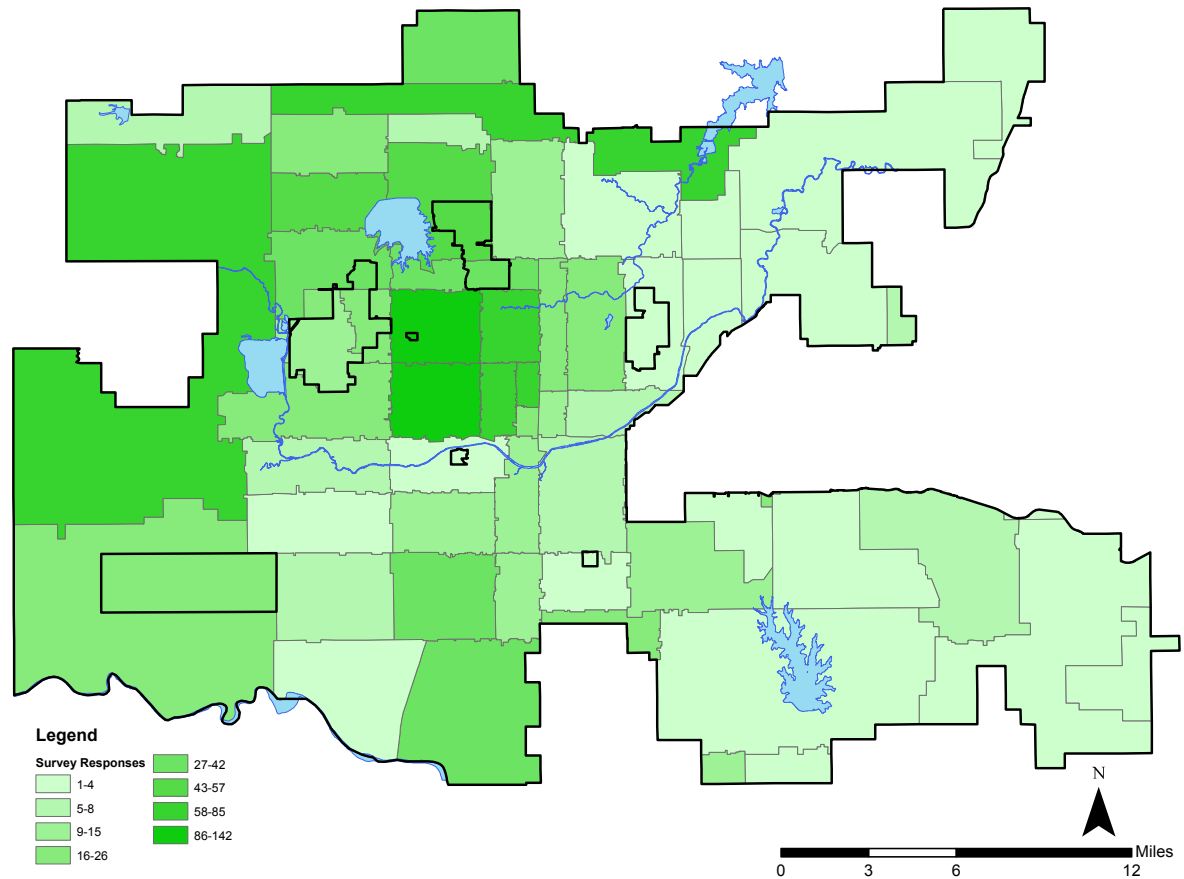
Key take-aways from the survey include the following:

- People bicycle and walk mainly for exercise and recreation but cycling and walking as a means of transportation is becoming more important.
- Improve connectivity between existing networks (trails, sidewalks, bike lanes).
- Improve connectivity between resources (water bodies, commercial districts, schools, etc.).
- Improve access points to the trails network.
- Improve the sidewalk network (locations all over the city were mentioned).

The survey was valuable in providing perspective on current walking and cycling conditions. Of the survey respondents, between 90 and 95 percent stated the current conditions for walking and cycling is fair to poor, while 75 percent of respondents said that improving bicycling conditions is very important. Almost 80 percent believe improving walking conditions is very important.

I'd love to see bikable, walkable corridors incorporating Film Row, the Farmers Market District, Midtown, the Plaza District, the Western Avenue District... If I could access all these places safely on a bike or on foot, I would rarely drive other than to go to work.

-bikewalkokc Survey Respondent



Map 1.1 Survey Results by ZIP Code

KEY RESULTS FROM THE RESIDENT SURVEY:

What factors discourage bicycling and walking in Oklahoma City?

1. Lack of connected trails, sidewalks, and bike lanes
2. Automobile traffic
3. Unsafe street crossings
4. Aggressive motorist behavior
5. Deficient or unmaintained existing bicycle and pedestrian facilities

What destinations would you most like to reach by bicycling or walking?

1. Parks and Existing Trails
2. Commercial Districts
3. Places of Work
4. Libraries
5. Public Transit
6. Schools and Universities

PUBLIC OUTREACH EVENTS

Public outreach events took place in each quadrant of the city. These outreach events gave residents the opportunity to discuss bicycling and walking problems and/or possibilities in their neighborhood. The outreach locations included:

- Leadership Square - August 25, 2015. 211 N Robinson Ave. Oklahoma City, OK 73102
- Ralph Ellison Library - August 25, 2015. 2000 NE 23rd St. Oklahoma City, OK 73111
- EMBARK Transit Center – September 9 and October 23, 2015. 420 NW 5th St. Oklahoma City, OK 73102
- Almonte Library – September 10, 2015. 2914 SW 59th St. Oklahoma City, OK 73119
- OSU OKC Farmers Market – September 12, 2015. 900 N Portland Ave, Oklahoma City, OK 73107
- Meinders Hall – October 15, 2015. 2501 N Blackwelder Ave. Oklahoma City, OK 73106



Above: Public Outreach at the OSU OKC Farmers Market.



¿Cómo puede
OKLAHOMA CITY
volverse una ciudad
más **SEGURA** &
más **AMIGABLE**
hacia **peatones** &
ciclistas?

Por favor, déjenos su opinión a
través de la encuesta digital en:

www.bikewalkokc.com

OKLAHOMA CITY
SAFER &
FRIENDLY
walking &
bicycling?

Please leave us your insight
through the online survey at:

www.bikewalkokc.com

Right: Hundreds of postcards were distributed around the city in English and Spanish.


ONLINE PRESENCE

In addition to outreach meetings, the City of Oklahoma City maintained a web page to host information on outreach events, the benefits of walking and cycling, and links to related resources. Additionally, the draft plan was hosted on the web page for review and comment prior to adoption. After adoption, it will be necessary to maintain an online presence to disseminate the plan and achieve a widespread acceptance of the recommendations and goals of bikewalkokc.

As a part of the online presence, an interactive map will document the implementation of plan projects, showing upcoming and completed projects. This provides the City with the unique opportunity to promote plan implementation as it happens, and will allow for easy reporting of implementation to assist with public outreach, future planning, grant opportunities, and awards associated with the development of walkability and bikability.

Social media will also play a role in the implementation of bikewalkokc. The City's Public Information Office will keep residents up to date on implementation progress through updates on Facebook, Twitter, and other social media platforms. This gives residents the opportunity to provide much-needed feedback on their satisfaction with new projects. Continuing the public outreach element of bikewalkokc is imperative for the long-term success of the plan. A transparent and public process will ensure that major alterations to certain streets as recommended in this plan will have minimal negative impacts on nearby residents.

.....
Right: bikewalkokc.com provided information on the planning effort and opportunity to leave feedback through the available survey.



How can
OKLAHOMA CITY
become **SAFER** &
more **ENJOYABLE**
for walking &
bicycling?

Please leave us your insight through this **SURVEY**

WALK OKC

BikeWalkOKC is Oklahoma City's master plan for cyclists and pedestrians. It shows how to plan and build a complete bicycle and pedestrian network throughout the city to promote safer, healthier and more enjoyable active transportation choices.

PUBLIC INFORMATION

SEP 10 **THU 3 - 7pm**
Almonte LIBRARY
2914 SW 59th St, Oklahoma City

SEP 12 **SAT 8am - 1pm**
OSU OKC Farmers Market Horticulture Pavilion
400 N. Portland Ave, Oklahoma City

PROJECT OVERVIEW

Date	Event
May 19, 2015	Project Kick-Off
July 31, 2015	Survey Open
September 1, 2015	Community Outreach
September 29, 2015	Steering Committee Meeting
November 17, 2015	Steering Committee Meeting
March 2016	Community Outreach
May 2016	Project Completion
July 26, 2015	Steering Committee Meeting
August 25, 2015	Community Outreach
September 10, 2015	Community Outreach
October 31, 2015	Survey Closed
February 2016	Steering Committee Meeting
April 2016	Steering Committee Meeting

BENEFITS

ECONOMIC	HEALTH	ENVIRONMENT	QUALITY OF LIFE
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Past Plans

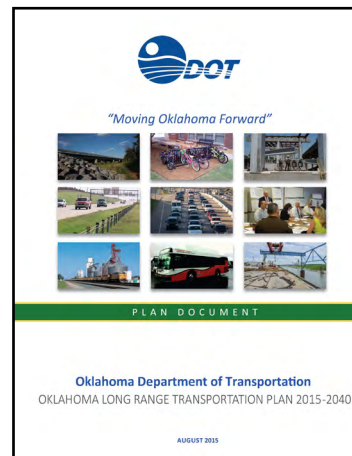
Existing plans, policies, and laws related to bicycling and walking help in understanding past efforts and accomplishments, and in knowing what work is yet to be completed. This section describes planning efforts, policies, laws, and programs that impact walking and cycling in Oklahoma City.

GUIDING PLANS

Three plans in particular give the guidance for transportation planning in Oklahoma City. These are **planokc**, Encompass 2040, and the ODOT Long-Range Transportation Plan. These plans address transportation for the area in a nested fashion, where **planokc** applies within the city limits of Oklahoma City, Encompass 2040 addresses transportation for the greater metropolitan area, and the ODOT Long-Range Transportation Plan aims to guide transportation initiatives for the entire state of Oklahoma. These three plans identify needs at different levels of granularity, but all of them emphasize the importance of planning, designing, and implementing transportation projects that move the needle toward a more balanced transportation system, with special consideration for the burgeoning field of active transportation.

SUPERSEDED PLANS

Upon adoption, **bikewalkokc** will become the new guide for sidewalks and other pedestrian improvements, as well as on-street bicycle and off-street trails improvements. Four plans that came before have been folded into **bikewalkokc** in terms of projects identified in previous plans, standards for design, and funding approaches. The 1997 Trails Master Plan, the 2008 Bicycle Transportation Plan, the 2012 MAPS 3 Sidewalk Plan, and the 2015 Downtown Development Framework have all provided the planning and details needed to implement transformative improvements around Oklahoma City. **bikewalkokc** seeks to capitalize on these efforts to continue the momentum generated since their adoption. These four plans will be superseded by **bikewalkokc**.



planokc (2015)

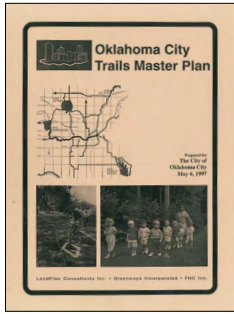
The City of Oklahoma City adopted **planokc** in July 2015. **planokc** is the City's comprehensive plan and serves as a policy document which guides future growth, development, and capital improvements. Citizen input for the preferred growth scenario within **planokc** guided the plan toward more compact and dense growth with improved transportation options. Several of the plan's initiatives and policies revolve around improving walking and bicycle conditions. There are 23 **planokc** policies related to active transportation. These policies range from regulatory development standards to sidewalk design standards.

Encompass 2040

The Metropolitan Planning Organization (MPO) is housed within the Association of Central Oklahoma Governments (ACOG), which assembles a long range transportation plan (LRTP) every five years as required by the USDOT. The 2040 LRTP includes focus and provisions for alternative modes of transportation. Encompass 2040 was adopted in winter 2017.

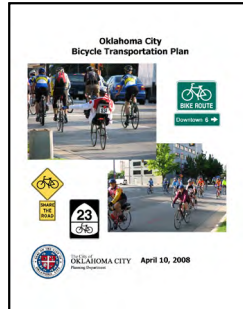
ODOT Long Range Transportation Plan

The Oklahoma Department of Transportation (ODOT) is working under the 2015-2040 Long Range Transportation Plan. This plan provides information on transportation inventory, needs, and opportunities, as well as recommendations for bicycle and pedestrian planning.



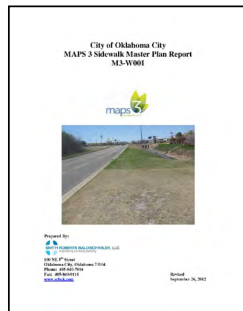
Trails Master Plan (1997)

The Oklahoma City Trails Master Plan was adopted in 1997 and called for 208 miles of off-road multi-purpose trails. The plan called for a combination of public and private funding to complete the trails network. Of the 208 miles planned, 60 miles have been completed and an additional 20 miles are under construction. bikewalk**okc** keeps many of trail alignments identified in the Oklahoma City Trails Master Plan, and will serve as the new trails master plan into the future.



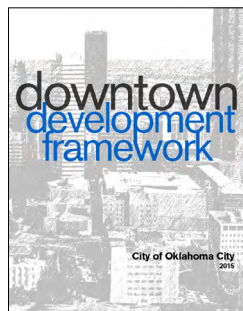
Bicycle Transportation Plan (2008)

The City of Oklahoma City adopted the Oklahoma City Bicycle Transportation Plan in 2008. The focus of the plan is on bicycling for transportation as opposed to being solely for recreation. All planned facilities were “signed routes”. Bike lanes are mentioned as a possibility, but there is no plan for the implementation of bike lanes, protected intersection design, or bicycle parking facilities. bikewalk**okc** uses this plan as the baseline for building the bicycle network.



MAPS 3 Sidewalk Master Plan (2012)

The purpose of the MAPS 3 Sidewalk Master Plan is to create “a series of strategically placed sidewalks on arterial streets and near public use facilities within the City of Oklahoma City.” Currently, 28.6 miles of sidewalk construction have been completed or are under contract. It is anticipated that a total of 60 miles of MAPS 3 sidewalks will be completed by the end of the project. MAPS 3 sidewalks are accounted for in the pedestrian networks created within bikewalk**okc**.



Downtown Development Framework (2015)

The Downtown Development Framework was adopted in 2015 and includes guidelines and recommendations for development in downtown Oklahoma City. Recommendations for walking and cycling infrastructure were included as a part of this plan. Modifications to these recommendations are reflected in bikewalk**okc**, and the new designated facilities in downtown supersede those in the Downtown Development Framework.

EXISTING LAWS AND POLICIES

In the past 10 years, there has been growing support for active transportation at each level of government. This section provides a review of the federal, state, and local policies and laws that impact active transportation.

USDOT Policy Statement

In 2010 US Department of Transportation (USDOT) Secretary Ray LaHood issued a policy statement of support for integrating bicycle and pedestrian planning into transportation projects. The policy strongly encourages transportation planning agencies to incorporate walking and bicycling into transportation projects because of the numerous benefits of active transportation.

Federal Walking and Bicycling Statutes

US Code (USC) and the Code of Federal Regulations (CFR) have requirements for accommodating non-motorized transportation into the metropolitan planning process. The FHWA summarized applicable codes related to the metropolitan planning process, which can be located in Appendix I.2.

Local Law and State Law

Oklahoma City walking and bicycle laws are meant to protect these modes of transportation as well as protect drivers of automobiles. The local laws are largely reflective of state law.

Chapter 4 of this plan has a list of policies that introduce new potential laws. While many of the current local laws are appropriate, there are revisions suggested within Chapter 4. For a full list of existing laws please see Appendix I.2.

Supporting Programs

In order to increase additional bicycle and pedestrian activity, programs and initiatives supportive of cycling are a necessity. This section describes several ongoing efforts being made by public entities related to walking and cycling.

WATCH FOR ME OKC

Watch for Me OKC is a program to help teach pedestrians, cyclists, drivers, and police officers how to reduce the risk of serious injuries and death from collisions on our roadways. The program includes components related to safety, education, encouragement, enforcement, and demonstration. Watch For Me OKC is a multifaceted approach to reach and impact all groups of people in Oklahoma City.

The program includes marketing through radio, bus advertising, a website, flyers, brochures, sidewalk decals, and videos. Additionally, City staff has worked at multiple health fairs and various other events to educate individuals on how to be safe as a cyclist or pedestrian, and how drivers should respect other modes. The following is a list of past events where Watch for Me OKC information has been distributed:

- West River Trail Grand Opening
- Leadership Square bikewalk**okc** outreach
- Ralph Ellison Library bikewalk**okc** outreach
- Almonte Library bikewalk**okc** outreach
- EMBARK Transit Center bikewalk**okc** outreach
- EMBARK Transit Center Health Fair
- Oakridge Elementary Health Fair
- Boy Scout Troop 180 Event
- OSU OKC Farmers Market
- Bridges to Access Health Fair
- TenaCity ProAm
- The YMCA Summer Camp series

The Planning Department is working with the Oklahoma City Police Department (OKCPD) on Watch for Me OKC. Brochures have been provided to OKCPD to disseminate to cyclists and drivers. This is a program and partnership with OKCPD that is intended to continue indefinitely.

The campaign has also had success partnering with the private sector. In partnership with Chesapeake Energy's safety office, the Watch for Me OKC campaign participated in 3 events to provide educational information, co-branded merchandise, and campus planning assistance to employees. Additionally, the Watch for Me OKC campaign partnered with The Boeing Company's commuter program, participating in outreach events, delivering presentations to employees, and fielding input to improve bicycling and walking accessibility in the southwestern quadrant of Oklahoma City.

A main component of Watch for Me OKC is the construction of demonstration corridors with protected bike lanes, non-protected bike lanes, and sharrows. Intersection improvements include bike boxes and signage. The demonstration corridors will be on NW 4th St., N. Shartel Ave., and N. Walker Ave. The purpose of the demonstration corridors is to implement state-of-the-practice bicycle facilities in Oklahoma City and show how to retrofit roadways with excess capacity into livable streets. These facilities will serve to educate motorists and cyclists as to how interactions between them can be improved. This is education through implementation.



Top: Outreach at an elementary school
Middle: Summer program partnership with YMCA
Bottom: Co-branding with Chesapeake Energy

SPOKIES BIKE SHARE

Spokies is the Oklahoma City bike share program. It began in 2012 and is operated as a public transportation service by the Central Oklahoma Transportation and Parking Authority (COTPA), also known as EMBARK. There are eight stations located within Downtown, Midtown, and Bricktown. The new fleet consists of the latest bike share technology offered, and includes GPS tracking and rugged bicycles.

To utilize a Spokies bicycle, pass holders pay a \$3.50 per half hour of use. Monthly passes cost \$9.95 plus the applicable usage fee. Annual passes are \$70 plus the applicable usage fee.

Spokies currently averages about 600 rides per month and almost 1,000 rides per month in the summer. The current fleet averages about one trip per day per bike. Most current Spokies customers are tourists to Oklahoma City – about 40 percent of the rides originate at the Bricktown Ballpark Station. The system currently has few monthly or annual pass holders so most riders are walk-up customers. In order to grow the system, Spokies has plans for more station locations focusing on activity districts. By expanding the number of stations and bikes, the service will become more convenient to the average commuter.

OPEN STREETS OKC

Open Streets OKC is a local health and wellness project that is supported and sponsored by Oklahoma City-County Health Department, City of Oklahoma City, Association of Central Oklahoma Governments, Neighborhood Alliance, and more. The purpose of Open Streets is to get members of the community to reclaim a portion of a busy street for a few hours for non-motorized activity. Everyone attending is invited to walk, bike, skate, or board while they meet local business owners and celebrate the unique charm of a historic Oklahoma City neighborhood. There have been several Open Streets events within Oklahoma City, with tens of thousands of participants at each event.



Top: A new Spokies station in Bricktown.

Bottom: Open Streets OKC in the Uptown 23rd district has seen as many as 40,000 residents in attendance.

Bicycle and Pedestrian Destinations

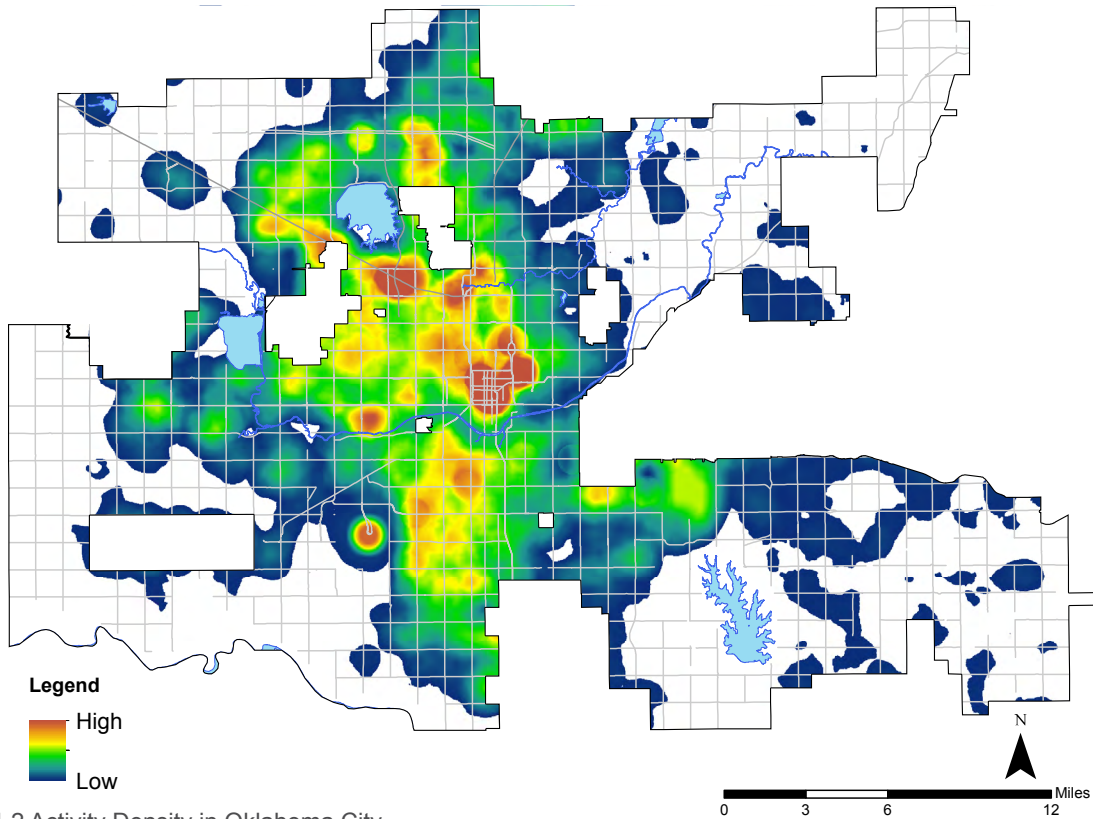
Analyzing where people live, work, and play is an important component of understanding the existing conditions of current infrastructure and identifying potential future bicycle or walking trips (and needed facilities). City staff utilized employment data, residential population data, and visitation data to determine areas of high “activity density.” Map 1.1 provides a visual of high and low activity density. Areas highlighted in yellow and red indicate areas with high amounts of population, employment, and/or visitation. These include downtown, multiple locations along Northwest Expressway, Oklahoma Health Sciences Center, and the Meridian and I-40 corridors. Areas of lower activity are shown in blue or green. The white areas within the city limits of the a map are locations that scored “0” in terms of activity; these areas were excluded in order to not skew the data.

DESTINATIONS

Knowing where people want to go is essential for any prioritization of bicycle and pedestrian projects. Destinations can range from outdoor recreational areas to major commercial districts. With regard to recreational opportunities, Oklahoma City has more than 150 parks, varying in scale from parks that are intended to serve specific neighborhoods, to large natural outdoor recreational areas. Some key outdoor locations include:

- Lake Hefner
- Lake Overholser
- Lake Stanley Draper
- Martin Nature Park
- Myriad Botanical Gardens
- Will Rogers Park
- The multi-use trail network

Additionally, The City of Edmond is currently working on completing a multi-use trail around Lake Arcadia,



Map 1.2 Activity Density in Oklahoma City

providing an opportunity to connect recreational resources between cities to better connect our regional bicycle and pedestrian infrastructure.

Oklahoma City also has a number of activity districts such as Bricktown, Stockyard City, Capitol Hill, Paseo District, Plaza District, Uptown 23rd District, Midtown, and the Adventure District. These districts are local and regional destinations, and are drivers of commercial activity as well as tourism. Most users of these districts access them by private automobile; however, with reasonable improvements, more people would be able to access these areas without their vehicles, reducing parking demands.

Oklahoma City is a destination for shopping, which can be classified into two categories: local and regional.

Local destinations include convenience stores, small- to medium-sized grocery stores, as well as stores aimed at providing residents with basic goods and services. Connecting bicycle and pedestrian infrastructure to the local shopping destinations improves the accessibility of these areas to people that do not rely on personal automobiles for transportation. Improved connectivity of bicycle and pedestrian networks encourages alternative transportation for short non-work trips, potentially generating improvements in public health, local economics, and the environment.

Regional destinations include large supermarkets, shopping malls, and specialty stores. These types of destinations should be well connected to bicycle and pedestrian infrastructure to provide transportation options for employees and patrons.

Peer City Comparisons

Peer comparisons are important for goal setting and determining areas of needed improvement. In order to compare Oklahoma City to peer cities, planners gathered data from multiple cities of similar size and culture. Additionally, cities known for great bicycle and pedestrian networks were selected for comparison. Table 1.2 includes the peer comparison.

Oklahoma City has a lower percent transit mode share than its peers. For bicycling and walking, Oklahoma City's mode share is higher than that of Ft. Worth's and comparable to that of Memphis; however, Oklahoma City's modal split is among the least diversified of the peers and has much room for improvement. Additionally, all cities reviewed have obtained at least the bronze level Bicycle Friendly Community Award, except Ft. Worth and Oklahoma City. Oklahoma City will achieve the Bronze award for the Bicycle-Friendly Community distinction from the League of American Bicyclists upon the adoption of this plan.

Seattle and Madison are shown as best practice cities. Seattle is a high-performing walking and cycling city and is interesting to use for goal setting. Madison is home to University of Wisconsin and the dynamics of large university highly influence the commuting pattern of the city. However, it is important to note that the climate of Madison and Seattle is not as ideal, yet through commitment and investment, the modal split of Madison and Seattle is significantly more diverse than Oklahoma City's modal split. Also, despite having roughly the same population as Oklahoma City, Seattle has a significantly lower rate of transportation related fatalities, indicating that designing roads for safety and multi-modality leads to results that make communities safer.

These comparisons allow us to understand where we stand as a community in the broader regional and national context of cities, and helps us set goals for the future.



Source: indyculturaltrail.org

Table 1.2: Peer City Performance Comparison

City	Oklahoma City	Tulsa	Ft. Worth	Austin	Memphis	Madison	Seattle	Indianapolis
Population (2015)	610,672	398,082	796,614	887,061	657,167	243,122	653,017	841,449
Land Area (sq mi)	606	196.75	339.82	298	315.06	76.79	83.94	361.43
Bike-friendly Award	Honorable Mention	Bronze	Honorable Mention	Silver	Bronze	Gold	Gold	Bronze
Walk-friendly Award	N/A	N/A	N/A	Bronze	N/A	N/A	Platinum	N/A
Bike Lanes	12	9	38	192	96	Not Listed	129	142
Multi-use (mi)	60	113	76	201	26	Not Listed	48	90
Bike Routes (mi)	161.6	83	44	983	70	Not Listed	150	381
% Bicycle Commute Mode-share	0.20%	0.30%	0.10%	1.4%	0.20%	5.30%	3.50%	0.50%
% Walking	1.60%	1.80%	1.10%	2.5%	1.80%	9.60%	9.00%	2.00%
% Transit	0.80%	1.10%	1.10%	4.30%	2.30%	8.80%	19.20%	2.10%

Source: U.S. Census Bureau, League of American Bicyclists, City of Oklahoma City

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CHAPTER 2: BICYCLE AND TRAIL PLANNING

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CHAPTER 2: BICYCLE AND TRAIL PLANNING

Introduction

Over the last 20 years there have been great strides taken in Oklahoma City to improve the bicycle and trail networks, creating momentum that will lead to even greater progress in the future. This chapter discusses the future of bicycle and trail infrastructure in Oklahoma City, and recommends projects needed to make Oklahoma City a world class place to ride a bike on streets and on trails.

The methodology for developing the bicycle and trail plan was to study current conditions and identify opportunities to build a bicycle and trail network that meets the needs and desires of the community. Planners analyzed the existing bicycle network to determine where people currently ride and determined through technical analysis, steering committee input, and public surveys what portions of the network need improvement. This plan proposes bicycling opportunities for cyclists of all skill levels.

The plan proposes expansion of the existing bicycle network and improvements to current facilities, resulting in more than 100 new or upgraded facilities totaling greater than 300 miles of on- and off-street bicycle facilities. Proposed improvements meet the following goals:

- Connect existing bicycle facilities: Tie existing facilities and close gaps between them.
- Connect people to destinations: Connect residential, shopping, and recreational areas to trails and on-street facilities.
- Create safe cycling experiences: Design facilities with safety as a main priority.
- Create barrier crossings: Cross natural and man-made barriers.

WHY RIDE A BIKE?

People choose to ride a bike when it is faster and more convenient than walking, riding the bus, or driving a car. Additionally, people choose to ride a bike for recreation or exercise. The distance people cycle is dependent on their confidence and experience. Many people will choose to cycle to nearby destinations such as a school, local park, corner shop, or friend's house. This is especially true when they can get there safely and conveniently. If it is an easy ride, people are more comfortable riding further distances for destinations such as high schools or colleges, shopping districts, large parks, sports facilities, libraries, and for entertainment (e.g. movie, theater, restaurant, bar). Additionally,

commuting to work longer distances is attainable when convenient and comfortable facilities are present. One of this plan's goals is to make it possible for Oklahoma City residents to choose to cycle to these destinations.

Figure 2.1 displays the relationship between destinations and cycling distances.

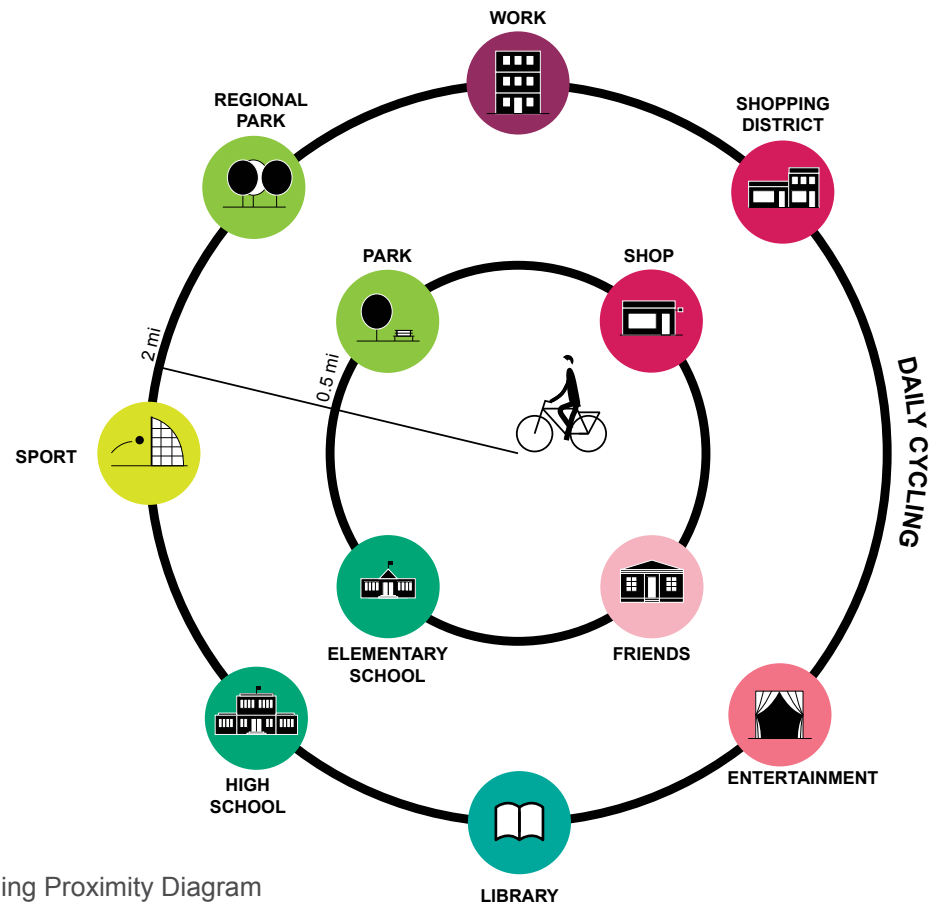


Figure 2.1 Cycling Proximity Diagram

EXISTING BICYCLE AND TRAIL FACILITIES

Existing bicycle infrastructure within Oklahoma City includes a combination of on-street and off-street facilities. Existing on-street facilities consist of designated bicycle routes and striped bicycle lanes. Bicycle routes typically include signage and sharrows symbols, indicating that cyclists share the travel lane with automobiles. Bicycle lanes provide a dedicated and delineated space for cyclists to ride alongside of automobiles. Existing off-street bicycle facilities include multi-use trails and mountain bike trails. Map 2.1 shows the locations of these facilities.

Oklahoma City's bicycle infrastructure has been constructed using a variety of funds. These include federal funds, GO Bond funds, and MAPS sales tax funding.

ASSETS AND CHALLENGES

Oklahoma City has many opportunities to improve cycling in the community, as well as several challenges. These assets and challenges are outlined below.

Assets

- Implementation of projects outlined in the **2008 Oklahoma City Bicycle Transportation Plan** has resulted in many good bicycle routes that cyclists use extensively.
- The city's **grid network allows** many options for cycling and reaching destinations.
- **New bicycle parking** areas have been installed in downtown and midtown.
- All fixed-route public transportation **buses are equipped with bicycle racks**.
- The local bike share service, **Spokies**, has expanded and is seeing an increase in ridership.
- Cycling is growing in popularity, meaning Oklahoma City **motorists are becoming more accustomed to sharing the road**.
- The City received funding through the

Watch For Me OKC demonstration project to construct protected bike lanes downtown, which will expand the network and provide additional safety for cyclists.

- **The trails network** currently reaches many portions of the city and allows for transportation and recreational cycling, jogging, and walking.
- Currently, over **20 miles of trails** are in the planning and construction phases.
- Since the opening of the **West River Trail** in 2015, the number of people using the trails has risen.
- The trail system is well-connected to **existing recreational resources**.
- Outside of a few missing links, the trail system nearly completes **a full loop around Oklahoma City**.

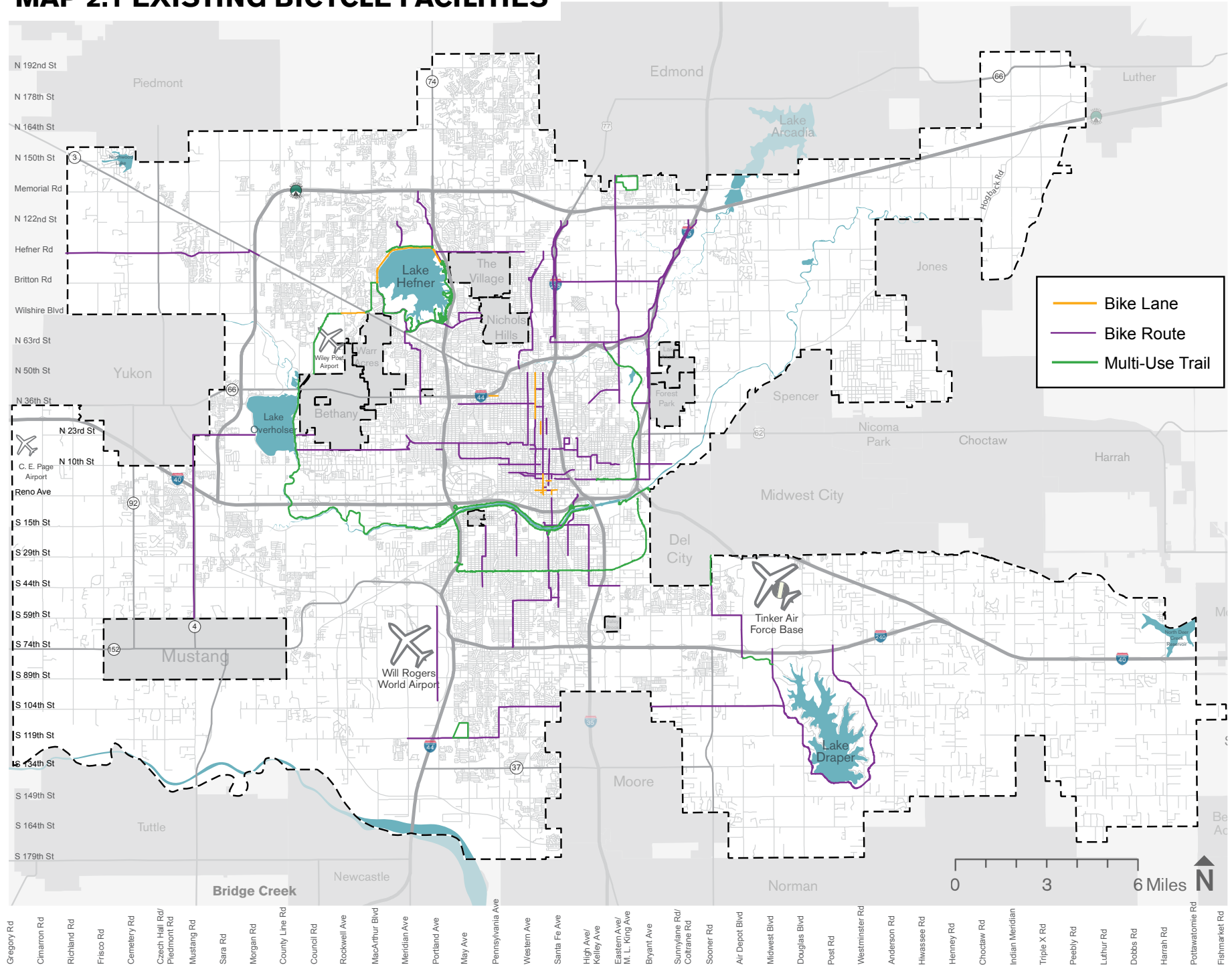
Challenges

- Outside of sign-designated bike routes, **on-street infrastructure for bicycles is limited**.
- **Less than 1%** of the total transportation network consists of marked bicycle lanes.
- **Connectivity** within the transportation network drops off outside of the central city, causing cyclists to utilize arterial streets, which are less safe and uncomfortable.
- The **surface condition and debris** on some roadways make it difficult to cycle.
- **Bicycle parking** is limited throughout the city.
- There is **limited signage and information** on the existing bicycle network.
- The trail network has **few access points**.
- Most of the network is for **recreational use**.
- **Only 17.5%** of Oklahoma City residences are **within one mile of a trail**.

Below: Cyclists enjoy using an existing bicycle lane in Oklahoma City



MAP 2.1 EXISTING BICYCLE FACILITIES



CURRENT BICYCLE AND TRAIL INITIATIVES

Several transformative initiatives are underway to create a functional and safe bicycle transportation network in Oklahoma City. These initiatives include efforts to add new trails, fill in gaps in the existing trails network, locate bike lanes in the downtown area, and use bike lanes to connect surrounding neighborhoods to the downtown area. Project 180, MAPS 3, the 2007 GO Bond, and the Watch for Me OKC safety campaign are the initiatives that are working to these ends. Map 2.2 shows the locations of these initiatives.

Project 180

The primary goal of Project 180 has been to improve the pedestrian experience of downtown Oklahoma City; however, another great benefit of this endeavor has been improvements made to bicycle infrastructure in downtown. Bike lanes, some with highly visible green paint, now adorn several streets in the Central Business District and Arts District, including N. Walker Ave. between City Hall and the Civic Center. This type of high-visibility facility does more than make bicycling easier in downtown, it also increases awareness of cycling to drivers who may not have ever driven on streets with bike lanes. Beyond the installation of these on-street facilities, Project 180 is responsible for dozens of bicycle racks throughout the project area. All of these improvements have enabled a new beginning for urban cycling in Oklahoma City.

MAPS 3

Funding from the MAPS 3 sales tax has had a major positive impact on Oklahoma City. From the new whitewater rafting facility, to the convention center, and the streetcar, MAPS 3 projects are transformative. In addition to these projects, MAPS 3 funded three new multi-use trails, each of which has a distinct character and purpose. The first trail to be completed was the West River Trail that connects the previously completed Oklahoma River trails to Lake Overholser. This trail connection now allows users to travel from Bricktown to Lake Hefner with minimal interaction with automobiles.

The second MAPS 3 trail has been named the “Will Rogers Trail”; an urban trail that primarily follows the I-44 corridor, connecting Lake Hefner, the State Fair Grounds, several parks, and dozens of neighborhoods. This is the first urban trail constructed since the S. Grand Boulevard Trail. The final MAPS 3 trail is the Lake Draper Trail, which will circle Lake Draper, providing a much needed trail opportunity in southeast Oklahoma City.

2007 General Obligation Bond

The last general obligation bond election included several projects that have had strong implications for cycling in Oklahoma City. Two trails and two bicycle/pedestrian bridges were funded. This includes key connections necessary to fill in gaps in the existing trails network. These connections include the Deep Fork Creek Trail, which will connect the Katy Trail to the Grand Boulevard Trail in the City of Nichols Hills. The other funded trail will connect the existing river trails to the Eagle Lake trail, which will substantially increase the distance that trails users can travel along the Oklahoma River. Two bicycle and pedestrian crossings have been funded: one to cross NW Expressway at NW Wilshire Blvd., and one to cross the Oklahoma River south of downtown. These crossings will provide much improved safety for cyclists and pedestrians who have had to mix with automobile traffic to cross these barriers in the past.

Watch for Me OKC

A main component of Watch for Me OKC is the construction of demonstration corridors with protected bike lanes, non-protected bike lanes, and sharrows. Intersection improvements include bike boxes and signage. The first phase of demonstration corridors is planned for NW 4th St., N. Shartel Ave., and N. Walker Ave., and the second will extend these downtown routes into surrounding neighborhoods to the north, west, south, and east, connecting residents to major employment centers. The purpose of the demonstration corridors is to implement state-of-the-practice bicycle facilities in Oklahoma City and demonstrate how to retrofit roadways with excess capacity into livable streets. These facilities will help educate motorists and cyclists as

to how interactions between them can be improved with sufficient facilitation.

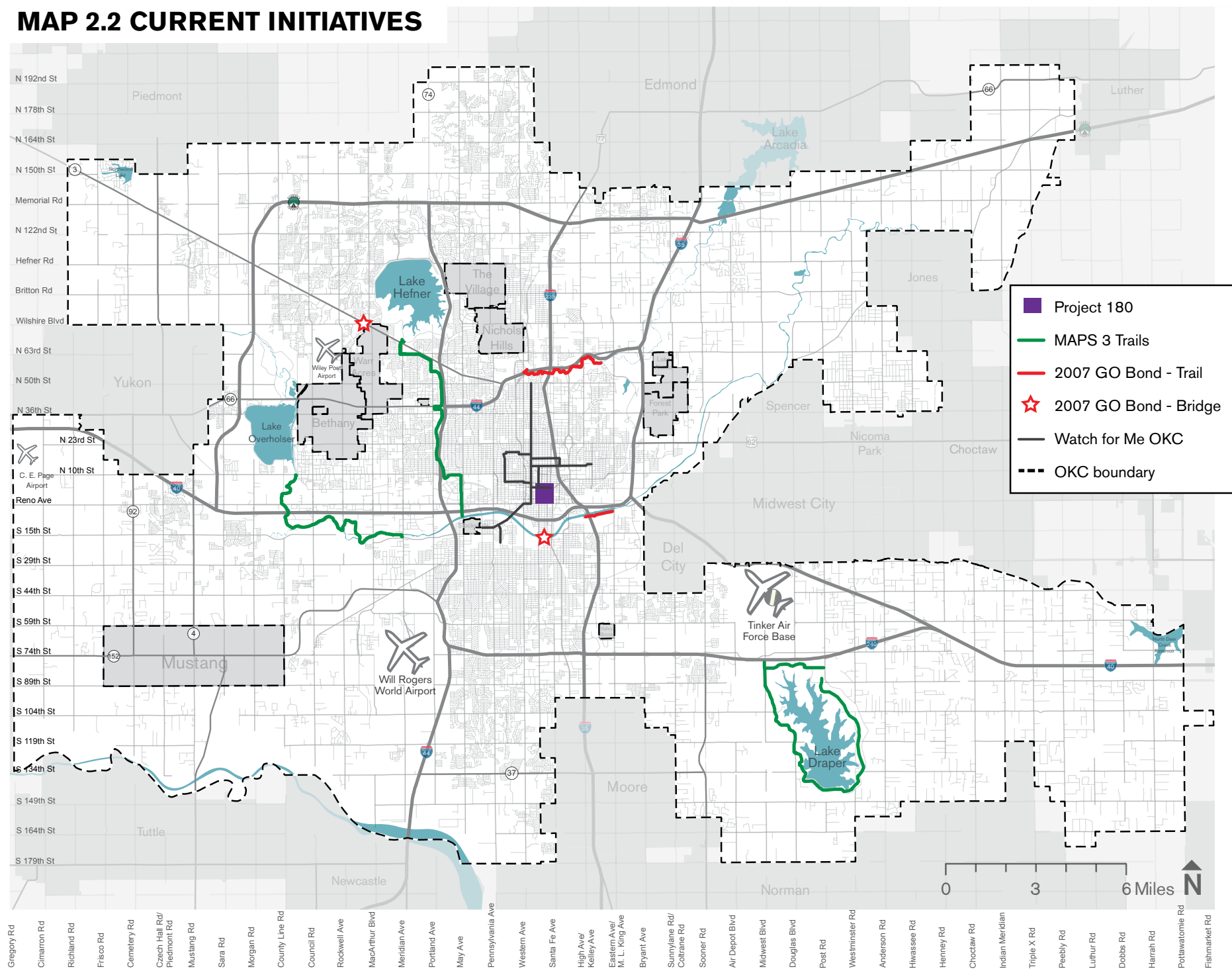
Better Streets, Safer City

In 2017 Oklahoma City residents approved a package of capital improvements that consists of a general obligation bond, which contains 13 propositions, dedicating the majority of funds to transportation improvements, as well as a one-cent sales tax dedicated to streets and active transportation infrastructure. Substantial funds are allocated to on-street bicycle facilities, separated trails, bike-ped bridges, as well as sidewalks. In particular, the sales tax portion of the Better Streets, Safer City package dedicates a 0.3% sales tax for active transportation projects over a 27-month time period.

Transportation Alternatives Program (TAP)

Federal funds for active transportation projects are made available cyclically. In the most recent round of TAP project selections the City of Oklahoma City received funding for nine projects, totalling \$3.85M. The planning conducted for **bikewalkokc** positioned the City to capitalize on available funds. These projects include improvements to the Grand Blvd. loop to close gaps between trails, sidewalk and on-street bicycle improvements, as well as funding for bicycle and pedestrian bridges.

MAP 2.2 CURRENT INITIATIVES



Bicycle and Trail Plan

The bicycle plan consists of several approaches to long-range capital improvement planning that will lead to a complete, connected, and coherent network of bicycle facilities that meet the transportation and recreation needs of the residents of Oklahoma City. These approaches are individually organized into “Component Plans”, each of which is described in the following sections. Map 2.3 is an overview map of these component plans.

GRAND BOULEVARD LOOP

The Grand Boulevard bicycle and pedestrian loop that wraps around the central city is nearly complete. Sections of this loop need to be completed or enhanced so that cyclists have a seamless path that encompasses the city. A facility of this length is a rare asset for a city to have, and should be celebrated for what it provides, as well as what it could mean for future growth of the city. Completion of the loop could leverage investment already made along major portions of the alignment and spark development/redevelopment opportunities. In addition, completion of this loop could create a nationally-recognized facility comparable to the Beltline project in Atlanta, GA.

Plan Overview: Pages 28-29

CROSTOWN CONNECTIONS

Oklahoma City has an extremely large land area, currently only traversable from edge to edge by automobile. The main focus of this component plan is to provide safe bicycle facilities that traverses the city north, south, east, and west. This project provides the opportunity to create recognizable bicycle “spines” in the city that people know and understand.

Plan Overview: Pages 30-31

NEIGHBORHOOD GREENWAYS

In areas of the city where there is insufficient capacity on existing roadways to convert space toward bicycle infrastructure, and especially in those areas where connectivity between neighborhoods is sparse, and traffic is concentrated almost exclusively along major arterials, it is necessary to find alternative alignments to accommodate safe travel by cyclists. Where there are vegetative or riparian corridors there are opportunities for greenway trails. This component plan identifies preferred locations for these facilities, ensuring that each is connected to the citywide bicycle and trails network.

Plan Overview: Pages 32-33

REGIONAL RECREATION TRAILS

Multi-use trails have regional significance, as they are typically several miles long and often tie into surrounding cities’ bicycle and trail networks. These regional trails are designed for long-distance cycling and jogging and provide benefits to multiple areas of the city. Recently built or funded regional trails include the West River Trail, Katy Trail, and Will Rogers Trail.

Plan Overview: Pages 34-35

BICYCLE AND PEDESTRIAN BRIDGES

One of the primary limiting factors to cycling as a transportation option in Oklahoma City is the inability to cross major barriers such as interstates, bodies of water, railroads, and major arterial streets. In some cases there is no way to re-design a street to safely accommodate all modes without degrading one or more modes in the process. In these cases it becomes necessary to find another way to get across a barrier. This component plan addresses this condition by identifying those locations where there is no safe alternative to the construction of a bicycle and pedestrian bridge. These bridges also present an opportunity to create iconic structures across our interstates that sends a message about the importance of walking and cycling to this community.

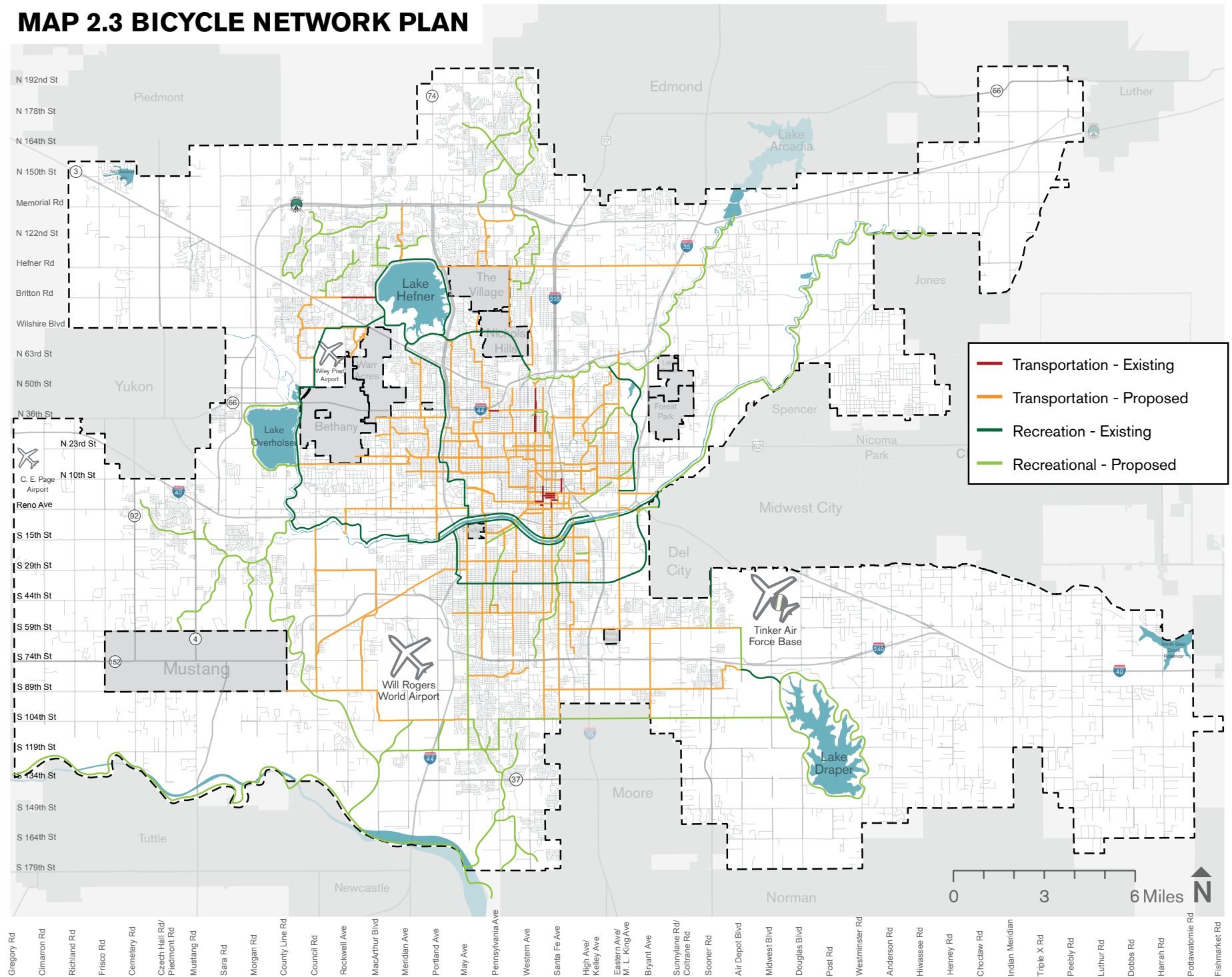
Plan Overview: Pages 36-37

CITYWIDE BICYCLE NETWORK

While the preceding component plans will have far-reaching implications for walking and cycling in Oklahoma City, there is still a need to ensure that there is a well-connected and safe network of bicycle facilities throughout the city. This is essential in ensuring that there is an equitable distribution of access for all residents who may want or need to use a bicycle to accomplish their personal goals, whether that is focused on health and wellness or economic mobility.

Plan Overview: Pages 38-43

MAP 2.3 BICYCLE NETWORK PLAN



COMPONENT PLANS: Grand Boulevard Loop

CONNECTS:

66,000 Residents

TO:

35 Parks

17 Schools

170 Transit Stops

MAJOR DESTINATIONS

The completion of the Grand Boulevard Loop connects multiple destinations. These destinations include the following:

- Will Rogers Park
- Lake Hefner
- Oklahoma River
- State Fair Park
- Woodson Park
- Trosper Park
- Lincoln Park

HOW DO WE BUILD THIS?

The completion of the Grand Blvd Loop requires the construction of several smaller but significant subprojects. The list of subprojects is below and reflected in Map 2.4.

1. Deep Fork Trail
2. Bridge over Oklahoma River
3. Bridge over I-35
4. Existing S. Grand Blvd Trail Improvements
5. Amenitize the trail with water fountains, restrooms, trees, and more.

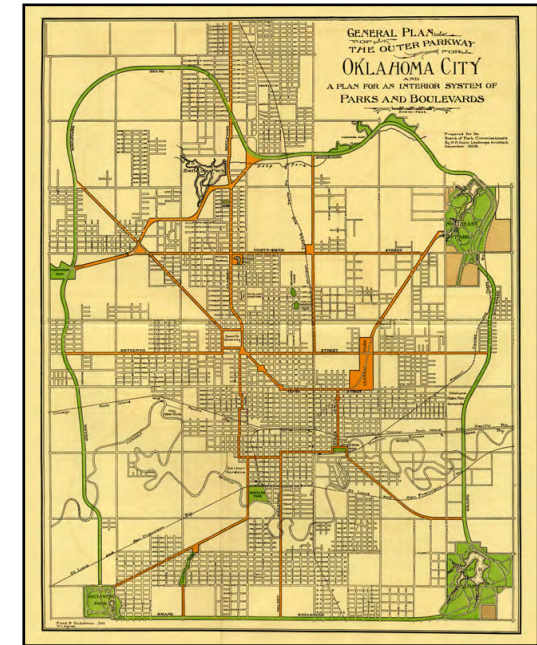


Concept rendering of Grand Boulevard Loop.

DESCRIPTION

Completing the Grand Boulevard Loop will result in a seamless beltline of trails around central Oklahoma City. This trail will enhance residents' quality of life by connecting neighborhoods to other parts of the city. Additionally, this asset will make it easy for residents to choose an active lifestyle.

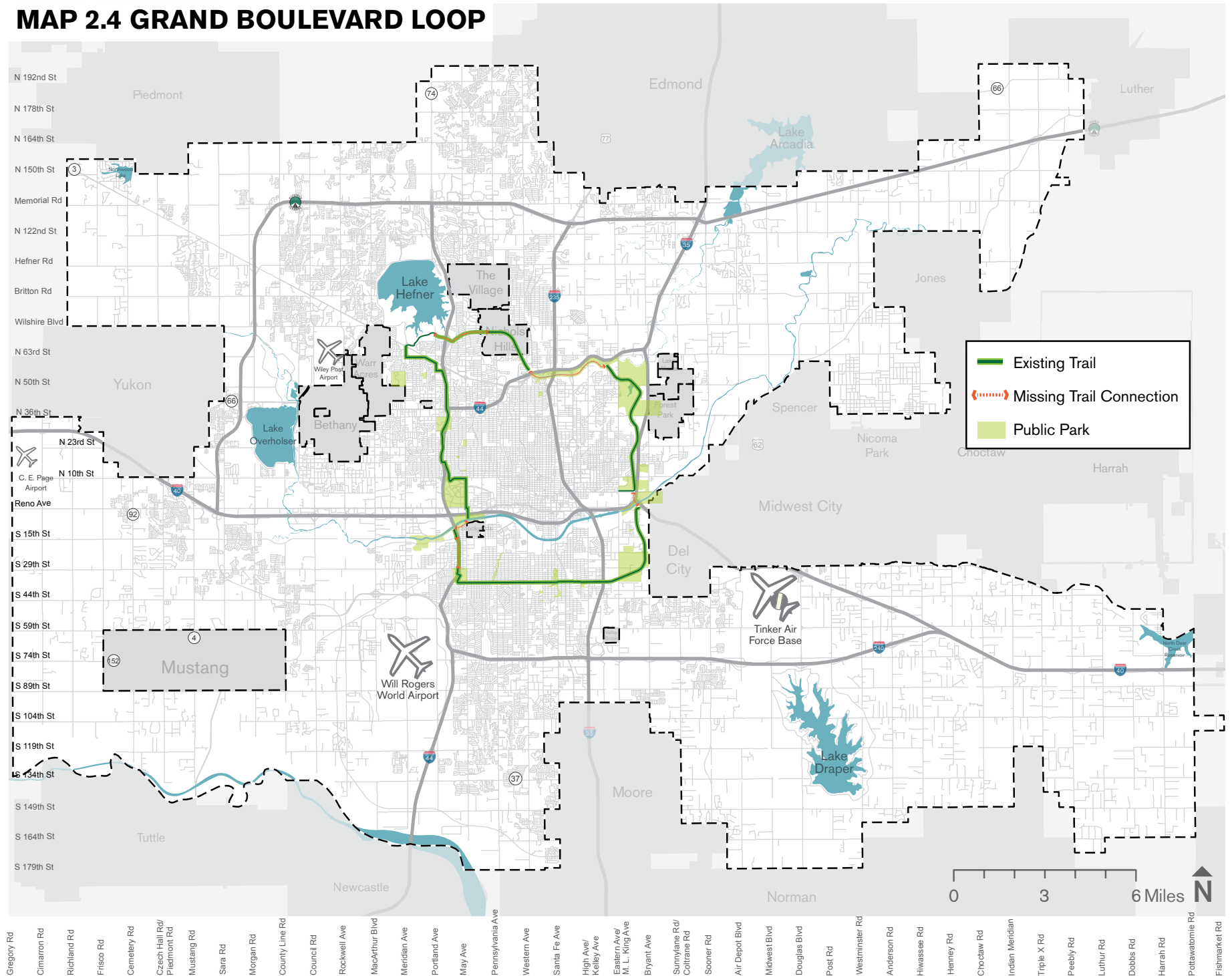
The original 1910 plan for Grand Blvd was to serve as a beltline for the city and connect several regional parks. When the interstate highway system was constructed, much of the Grand Boulevard alignment was utilized. While improving automobile-based transportation, this was detrimental to other modes. The proposed completion of the Grand Blvd Loop will restore the alignment to its original intent by connecting people to recreational opportunities.



Historic Map of Grand Boulevard and central OKC.

The completion of this project will give about 66,000 residents easy access to a world-class recreational and commuter facility. Additionally, the project connects 28 neighborhood parks, 7 regional parks, and 17 schools. From a broader transportation perspective, this project is impactful by connecting to 170 bus stops. The completion and enhancement of the trail could be a tourist attraction that enhances the experience visitors have when visiting the community. This project bears similarities to the ongoing initiative in Atlanta, GA - the Beltline - which set out to create an active transportation corridor around Atlanta to spur affordable housing and other development.

MAP 2.4 GRAND BOULEVARD LOOP



COMPONENT PLANS: Crosstown Connections

CONNECTS:

110,000 Residents

TO:

57 Parks

39 Schools

457 Transit Stops

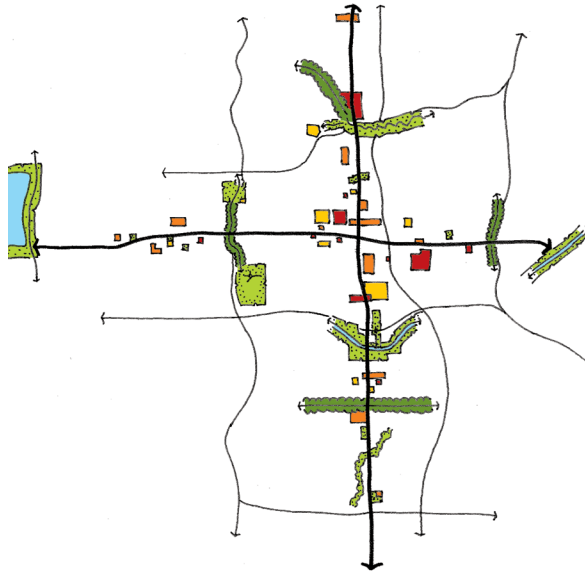
DESTINATIONS

The construction of crosstown connections provides access to multiple destinations across the city. These destinations include the following and more:

- Downtown
- Asian District
- Capitol Hill District
- Lake Overholser
- Grand Boulevard Loop
- Deep Fork Creek
- Katy Trail

HOW DO WE BUILD THIS?

This project will require the construction or improvement of safe bicycle facilities north, south, east, and west across major barriers. There are several potential alignments in each direction that may be appropriate based on other factors. This flexibility will allow for the strongest possible product that, in concert with the completion of the Grand Boulevard Loop, will form the skeleton of the greater bicycle network in Oklahoma City.

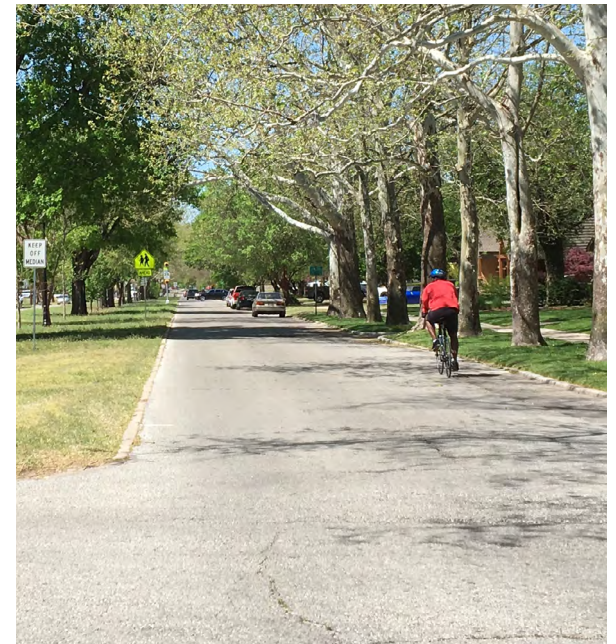


Concept rendering of Crosstown Connections.

DESCRIPTION

This component plan calls for specific improvements on existing roads across the city to create two perpendicular crosstown corridors for cycling. The goal of these corridors is to connect people to a variety of daily or weekly destinations. Facility design along these corridors will be to the highest feasible safety level to ensure that riders of all types are comfortable using bicycling for transportation. Being able to choose to cycle to a park, school, shop, restaurant, coffee shop, church or regional recreation area will respond to the public input received from countless residents of Oklahoma City.

One leg of this project runs from north to south, and the other runs east to west through the most dense neighborhoods in Oklahoma City. Additionally, these corridors pass through some of the most visited commercial districts.

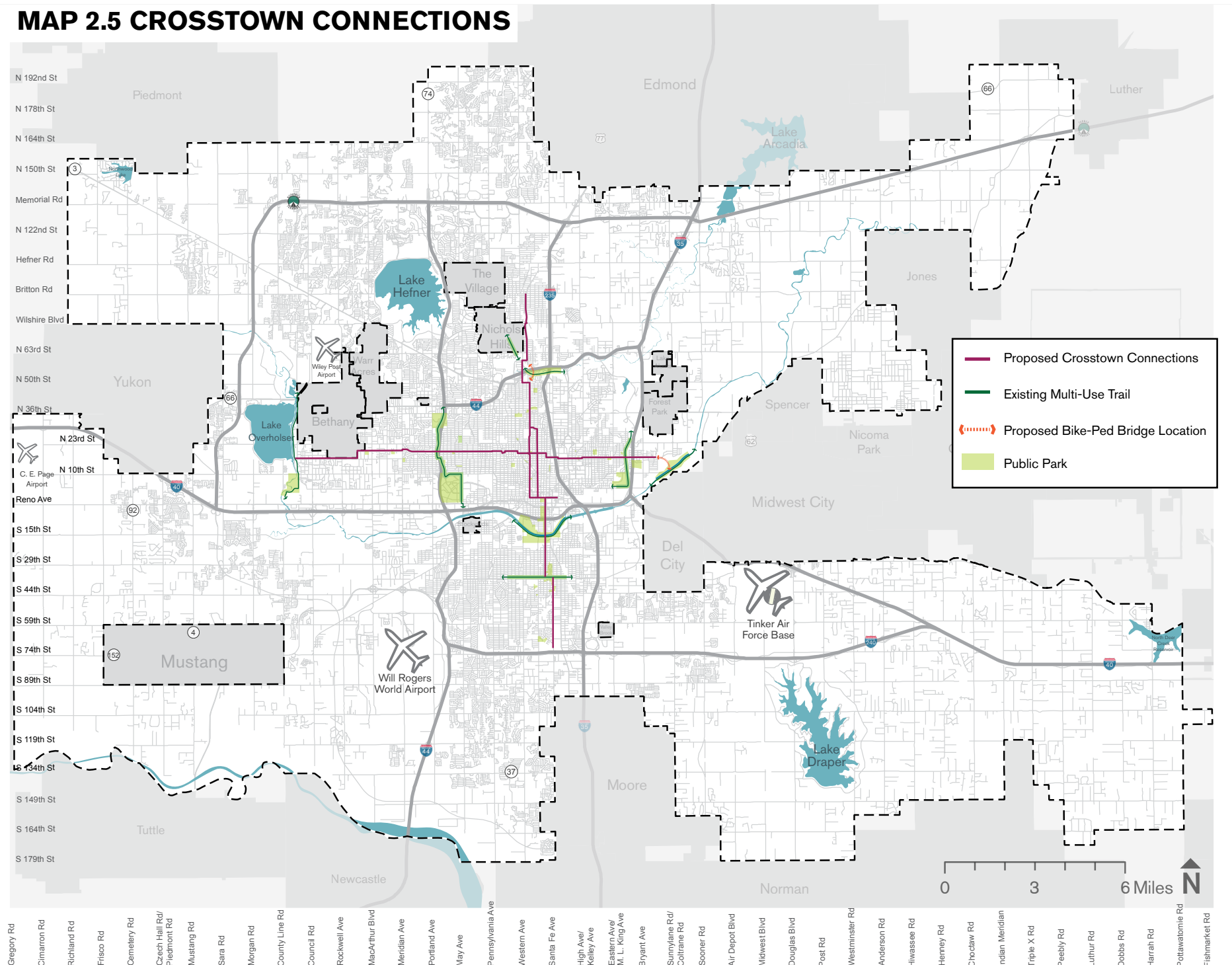


View of cyclist on NW 19th St.

The north-south crosstown connection runs from the historic main street of Britton Town in the north to I-240 in the south. The corridor follows stretches of far north N. Classen Blvd., N. Shartel Ave. and S. Robinson Ave., and S. Santa Fe Ave. Presently, most of these two connections are cyclable and/or designated as bike routes. This project aims to improve the corridors by adding designated bicycle lanes and implementing traffic calming elements to draw more riders of all confidence levels.

The east-west crosstown connection runs from Lake Overholser Park in the west and follows NW 16th St. to NW 19th St. to NW 18th St. and back to NW 16th St. as it works its way east. This corridor provides an important alignment for recreation and transportation and is adjacent to thousands of households.

MAP 2.5 CROSTOWN CONNECTIONS



COMPONENT PLANS: Neighborhood Greenways

CONNECTS:

92,000 Residents

TO:

50 Miles of Greenway Trail

24 Parks

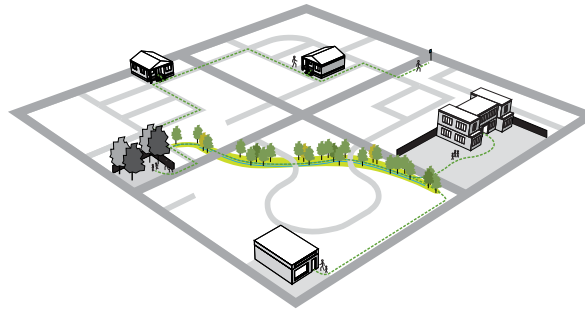
15 Schools

DESTINATIONS

The construction of neighborhood greenway trails provides access to schools, parks, regional trails, and commercial areas. These facilities provide an active transportation option to residents in suburban locations. Map 2.6 provides the proposed neighborhood greenways.

HOW DO WE BUILD THIS?

The construction of Neighborhood Greenways will require trail construction during the development of new neighborhoods. Additionally, floodplains and other greenways through existing neighborhoods can be utilized by the neighborhood greenway network.

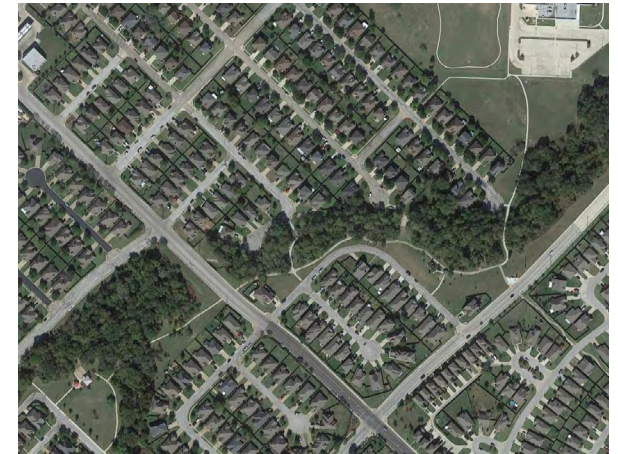


Below: Neighborhood trail connection concepts.

DESCRIPTION

This component plan proposes a network of neighborhood greenways to provide off-street bicycle or pedestrian paths from residential areas to schools, parks, libraries, and commercial areas. Many of these greenways could utilize undevelopable floodplains, drainage channels, or other easements. A large portion of Oklahoma City's residential development is suburban in style with neighborhood access taken directly off of a major or minor arterial. This makes accessing the nearest school, park, or commercial area by any mode other than an automobile potentially difficult or dangerous. The Neighborhood Greenways component plan can be applied to existing neighborhoods, where retrofitting would be required, as well as within future subdivisions, where the greenways can be designed into the project in the beginning of the planning process as an acceptable form of open space.

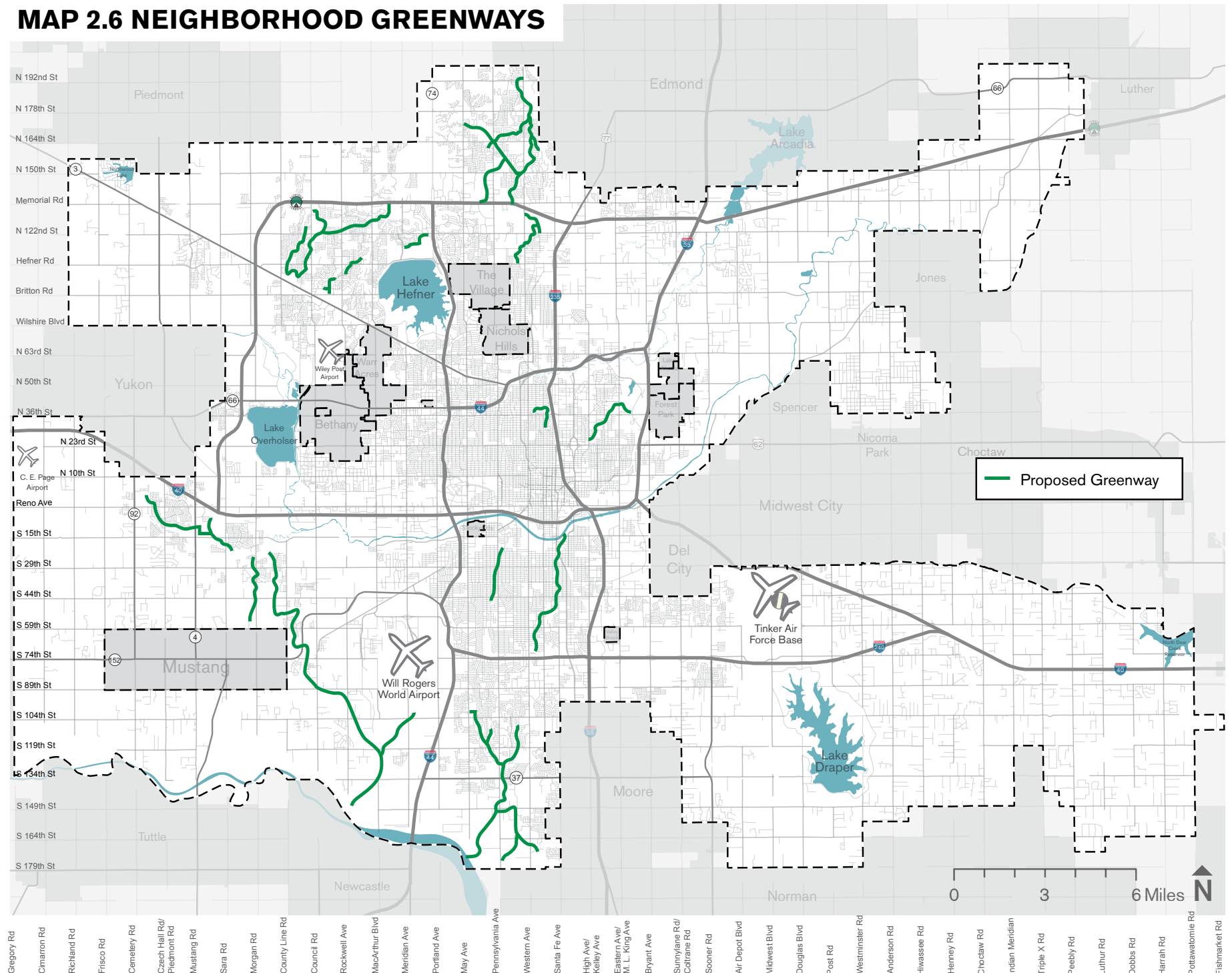
What differentiates the neighborhood greenways from other multi-use trails is both the design standards and intended purpose. Where non-greenway multi-use trails are 10' to 12' in width with a wide clear zone



Above: Example neighborhood greenway connecting a neighborhood, park, and school.

that facilitates high-speed cycling, the concept for neighborhood greenways differs. The design standards call for a facility that is 8' in width with a narrower clear zone; this is intended to control cycling speeds so that the facility is safe for residents of all ages to access. Additionally, the narrower clear zone will make the greenways feel more incorporated into the natural features that surround it. See page 48 for more information about how these facilities should be designed.

MAP 2.6 NEIGHBORHOOD GREENWAYS



COMPONENT PLANS: Regional Recreation Trails

CONNECTS:

280,000 Residents

TO:

6 Cities

4 Lakes

182 Miles of Trail

80 Existing / 102 Proposed

DESTINATIONS

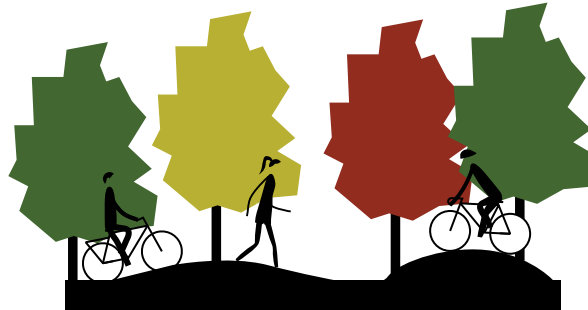
Many of the smaller municipalities in the metro area, as well as many major recreational assets, create natural endpoints along Oklahoma City's recreational trail network. Some of these include:

- Mustang, Edmond, Moore, Del City, Spencer, Jones, Yukon
- Lake Stanley Draper
- Lake Overholser
- Lake Arcadia

HOW DO WE BUILD THIS?

The construction of Regional Recreation Trails builds off of the existing trail network. The trails identified to complete this project include the following:

- Adventure Trail
- Scissortail Trail
- S. May Ave. Trail
- Wildhorse Trail
- 104 Trail
- Lake Overholser Trail

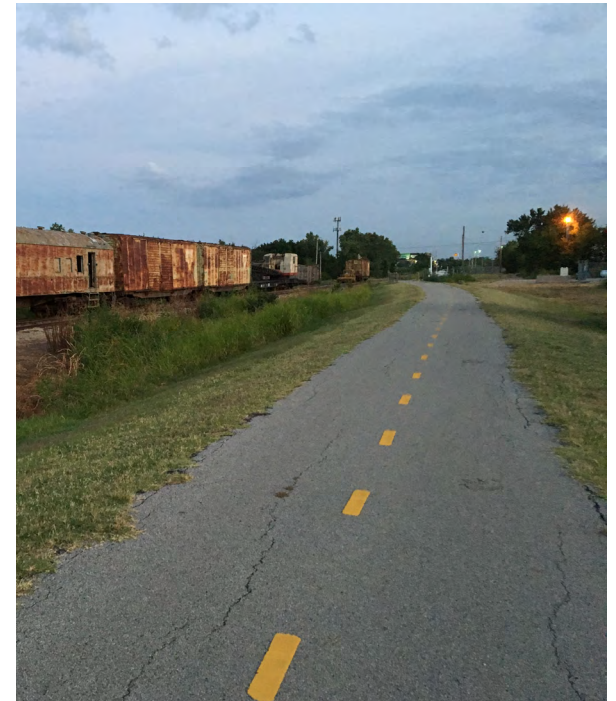


Recreational trails offer a chance to escape to nature.

DESCRIPTION

Multi-Use trails have been a popular attraction over the last 20 years in Oklahoma City. Trails constructed since 1997 have created a strong foundation for moving forward into the next phase of recreational and transportation trails. This plan proposes the addition of 102 miles of multi-use trails to the current trail network. These trails include connection to the neighboring communities of Edmond, Moore, Mustang, Yukon, Spencer, Jones, and Del City. Multi-use trails will provide safe facilities along streets such as S. May Ave. and S. 104th St. These are locations with limited bicycling opportunities; however, they serve as important connections to the overall bicycle and trail network.

- The Adventure Trail connects the Katy Trail to Lake Arcadia, where the City of Edmond is constructing a lake trail.
- The Scissortail Trail is an extension of the

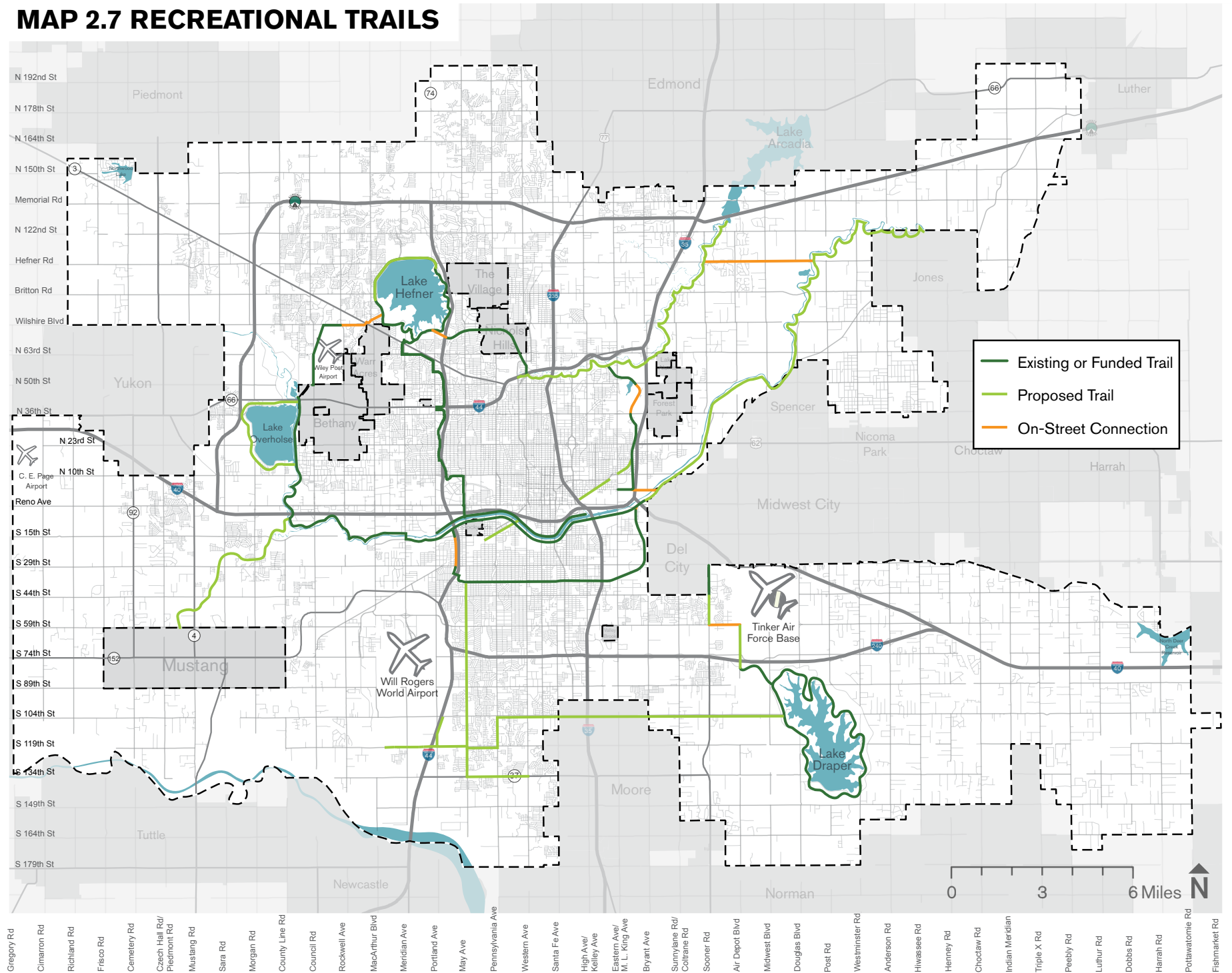


Picture of the Katy Trail at dusk.

Oklahoma River Trail. Cyclists can ride northeast and connect to another bicycle facility on E. Hefner Rd.

- The S. May Ave. Trail connects the Will Rogers Trail near the Oklahoma State Fairgrounds south along May Ave. to the Oklahoma City Community College and thousands of residents that live along the corridor.
- The Wild Horse Trail connects the West River Trail to Mustang.
- The 104 Trail connects Earlywine Park to Lake Stanley Draper along SW. and SE 104th St.

MAP 2.7 RECREATIONAL TRAILS



COMPONENT PLANS: Bike/Pedestrian Bridges

BARRIERS CROSSED:

Oklahoma River
Deep Fork Creek
I-240
I-44
I-35
Northwest Expressway

DESTINATIONS

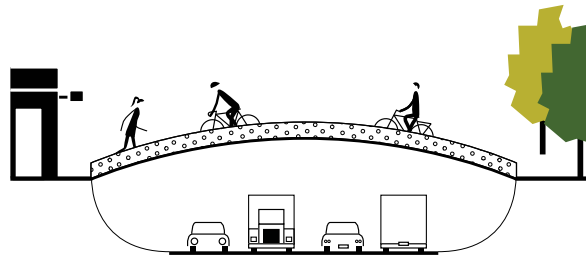
The construction of bicycle and pedestrian bridges connects multiple destinations across physical barriers. These destinations include the following:

- Grand Blvd Loop Completion
- Wheeler Park to Downtown
- Hefner-Overholser Trail to Lake Hefner
- Southern neighborhoods to north of I-240

HOW DO WE BUILD THIS?

This project proposes six bicycle and pedestrian bridge projects. The list below coincides with Map 2.8 for approximate bridge location:

1. Oklahoma River Bridge (Wheeler)
2. Oklahoma River Bridge (S. Robinson Ave.)
3. Oklahoma River and I-35 Bridges
4. Interstate 240 Bridge
5. Northwest Expressway
6. Interstate 44 Bridge

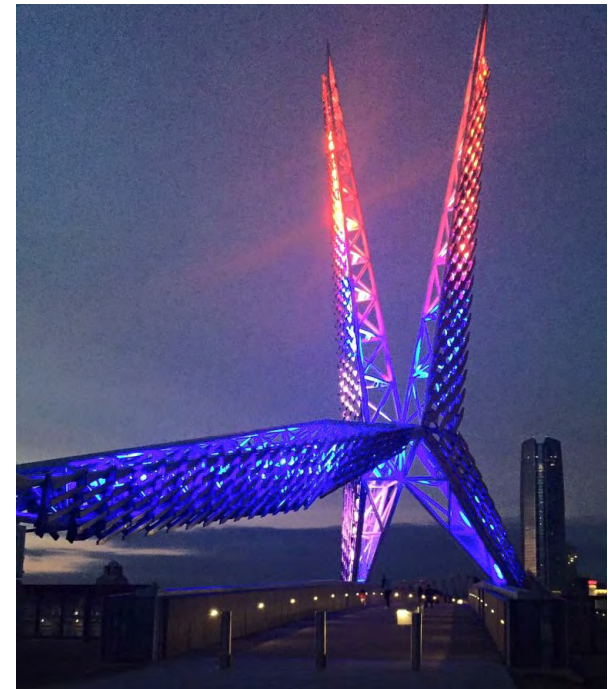


Concept Rendering of Bicycle and Pedestrian Bridge Locations

DESCRIPTION

Sometimes parks, shops, and schools are inaccessible to residents because of physical barriers such as streams, roads, or highways. A bridge can create the shortest connection between where people live and where they would like to go, as well as be a safer connection than having to use an arterial road bridge. Additionally, a bridge can be iconic and memorable for people traveling through a place by automobile. These types of impressions are what people communicate to one another and thus generate interest and tourism.

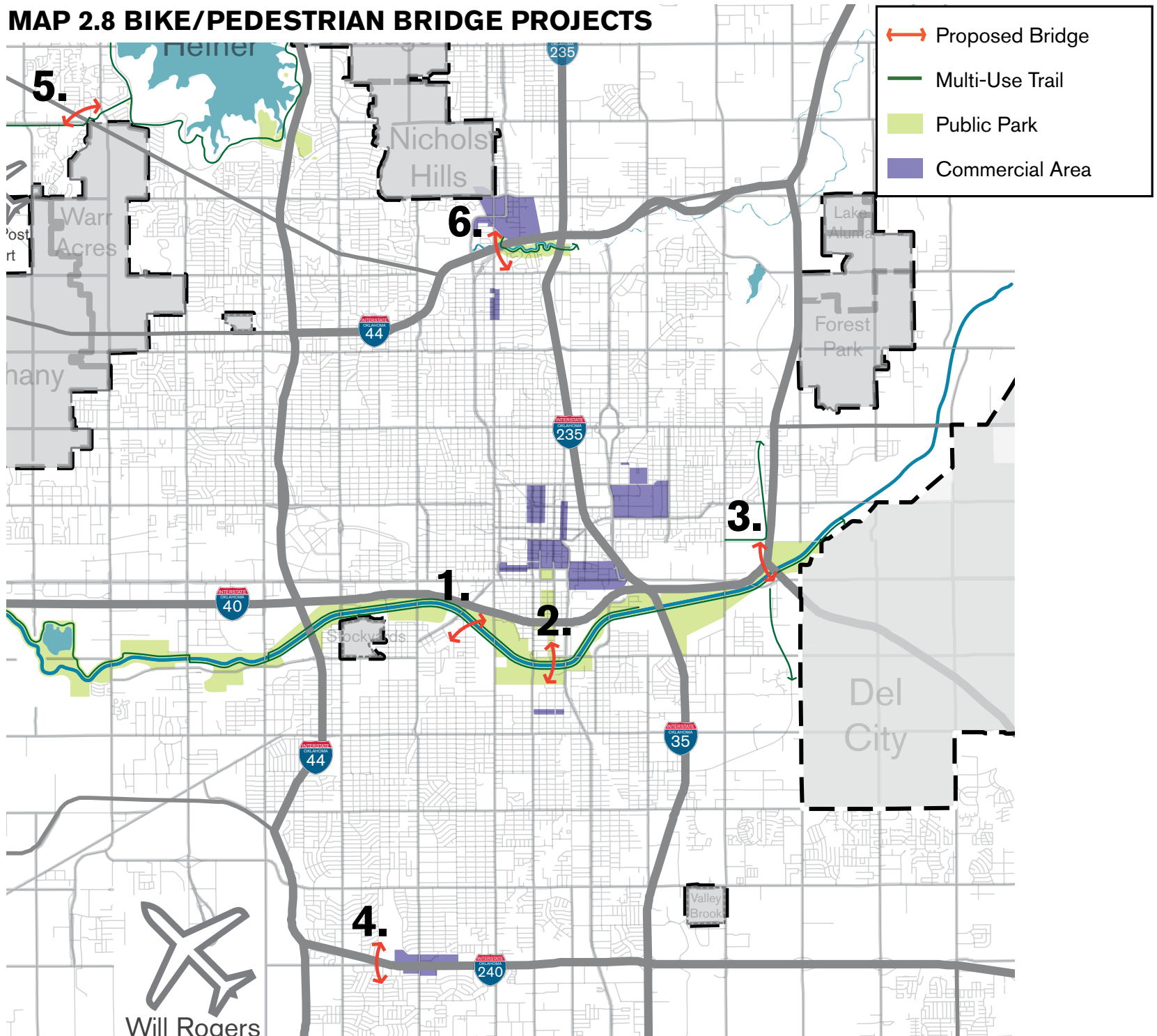
Surveys and analysis conducted for this plan identified several barriers as problematic for the active transportation network. This component plan proposes safe, convenient, comfortable, and attractive crossings of these barriers. The following list provides a description of proposed bridges:



Skydance Bridge across I-40

- Oklahoma River and I-35 (#1, 2, 3): Three bridge projects are proposed to cross the Oklahoma River at crucial locations. One is intended to connect the Wheeler District to downtown by repurposing an existing rail bridge. Another bridge project will redesign the S. Robinson Ave. bridge to accommodate cyclists. Two bridges are needed to connect the east end of the S. Grand Blvd. Trail to the Katy Trail across the Oklahoma River and I-35.
- I-240 (#4): The design of intersections with I-240 are a barrier for bicyclists and pedestrians. A bridge near S. Villa Ave. will help facilitate the movement of people and bicyclists across the interstate.
- Northwest Expressway (#5): This project will connect trail across Northwest Expressway to provide safe access to and from Lake Hefner.
- I-44 (#6): A bridge is needed to traverse Deep Fork Creek to close a gap in the Grand Boulevard Loop.

MAP 2.8 BIKE/PEDESTRIAN BRIDGE PROJECTS



COMPONENT PLANS: Citywide Bicycle Network

CONNECTS:

495,000 Residents

TO:

Schools

Parks

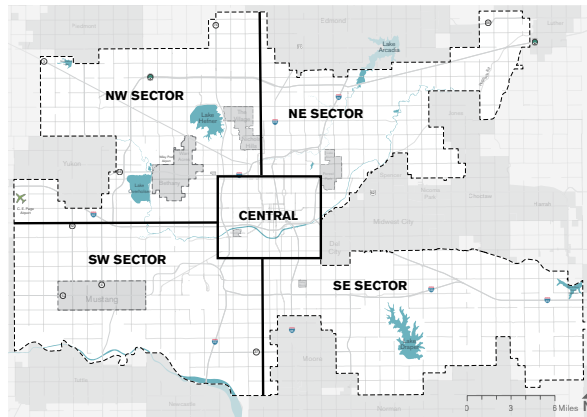
Libraries

Transit Stops

HOW DO WE BUILD THIS?

The completion of the City Wide Bicycle Network requires the construction of several bicycle facilities. The full network of bicycle facilities includes the following:

1. 150 Miles of Multi-Use Trails and Neighborhood Greenways
2. 82 Miles of Protected Bicycle Lanes
3. 38 Miles of Bicycle Lanes
4. 107 Miles of Bicycle Routes



Map 2.9 Sector Map Guide

DESCRIPTION

In addition to the projects discussed in previous pages, bikewalkokc plans a citywide bicycle network building off of the existing bicycle and trail network. The citywide network consists of all of the projects previously discussed, and additional facilities necessary for a robust, complete network of bicycle facilities. The goal of a citywide network is to create a safe, comfortable, and connected series of bicycle facilities that accommodates riders of all skill levels. A description of each facility type is provided on pages 44-47.

The citywide network was identified through extensive outreach and surveying conducted as part of the planning process. Additionally, a series of analyses helped identify roads that are safe and conducive to cycling. These analyses include the following:

- Bicycle Level of Traffic Stress (pg 52)
- Lane Reduction (pg 54)
- Collisions Analysis (pg 56)

The proposed bicycle network is the long-range plan for implementation as funding allows. The network map should be updated each year to reflect any new bicycle facilities constructed. As the City continues to grow and develop, additional roadways not included in the bicycle network may generate bicycle demand, and can be evaluated and added as part of the annual plan update. The bicycle network is divided in to five maps.

Map 2.10 serves as a guide for maps 2.11 - 2.15, which provide citywide facility details.

ON-STREET BICYCLE FACILITY TIERS

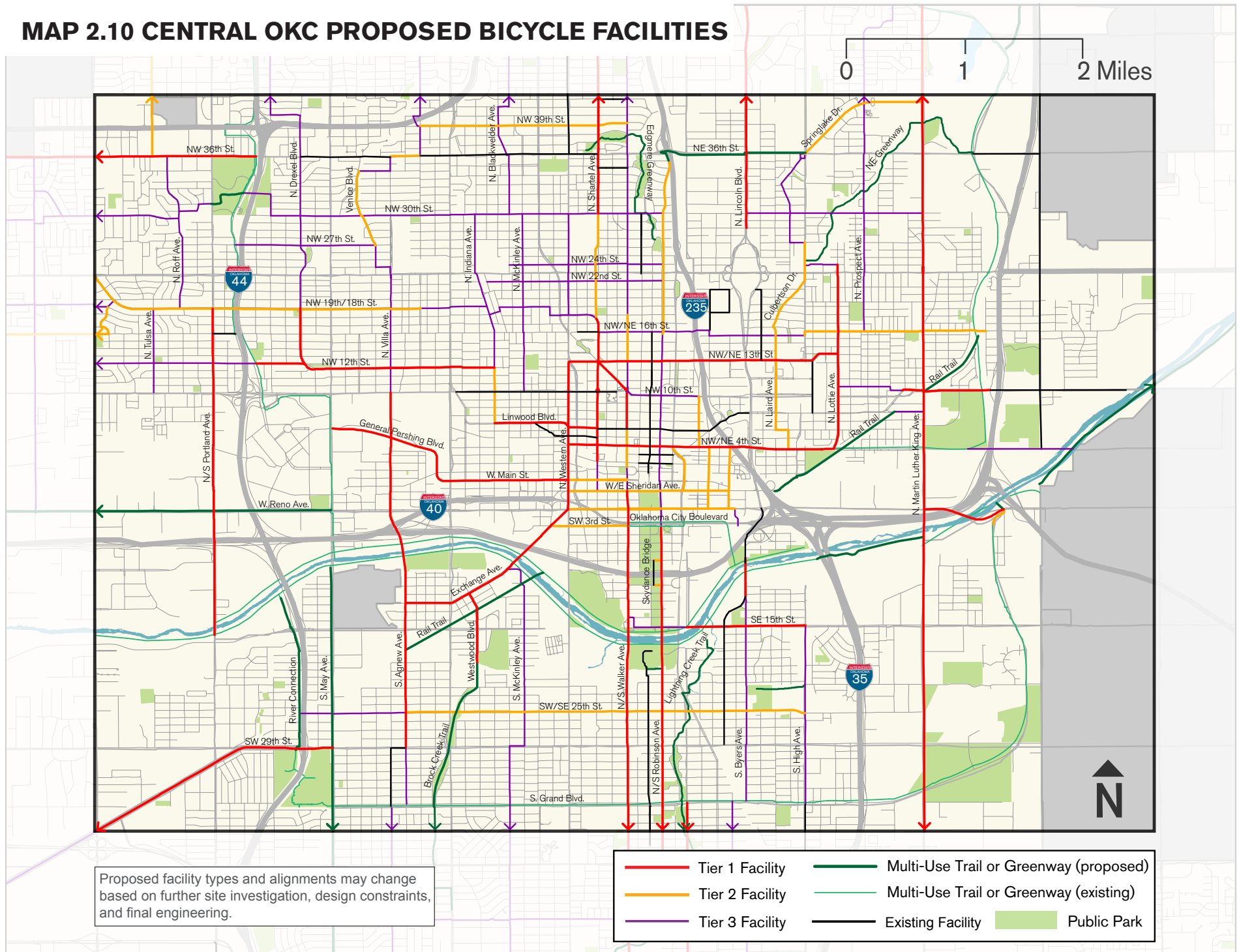
The following maps identify appropriate on-street bicycle facility types and alignments. The proposed facilities are organized using a tier system which offers a complete, cost-effective bicycle network that maximizes safety for all types of cyclists. Proposed facility types and alignments may change based on further site investigation, design constraints, and final engineering.

Tier 1: This classification represents the highest level of safety consideration for on-street cyclists. This classification is shown where automobile traffic and/or speeds are relatively high, but where on-street facilities are still desirable. The preferred facility type for this classification is a protected bicycle lane (see pg. 44 for description) with the option to elevate the facility to a separated multi-use trail in case of complications in design and engineering. On a given Tier 1 alignment, where curb-to-curb width narrows, a portion of the facility could be constructed as a standard bicycle lane, or if absolutely necessary, as a sharrowed bike route if traffic speeds and counts are low. These alternative facilities should be used only on limited sections of an alignment with severe constraints, such as limited right-of-way or unusual traffic circumstances.

Tier 2: This classification recommends a moderate level of bicycle infrastructure with a minimum standard of a traditional bicycle lane. Where safety risks are higher on any given Tier 2 alignment, it is appropriate to upgrade the facility to a protected bicycle lane. Physical constraints may necessitate use of sharrowed bike routes where traffic speeds and counts are low.

Tier 3: This classification is reserved for streets that are too narrow to accommodate a bicycle lane or protected bicycle lane. These are traditionally referred to as bicycle routes, which come with all of the conditions and design considerations described on page 45 of this chapter. Where street width permits, these may be upgraded to a bicycle lane, or, if funding allows, to a protected bicycle lane.

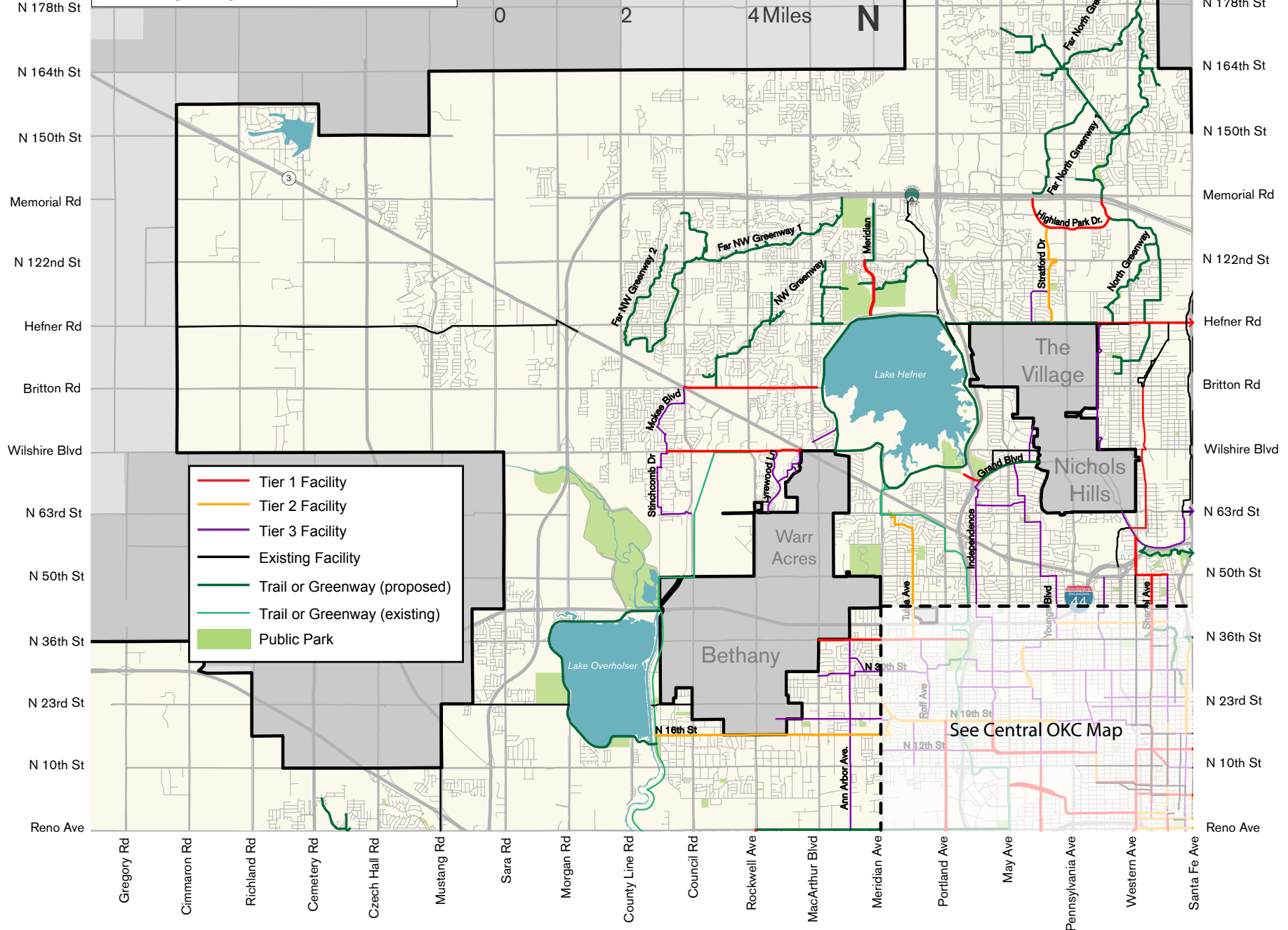
MAP 2.10 CENTRAL OKC PROPOSED BICYCLE FACILITIES



MAP 2.11 NORTHWEST OKC PROPOSED BICYCLE FACILITIES

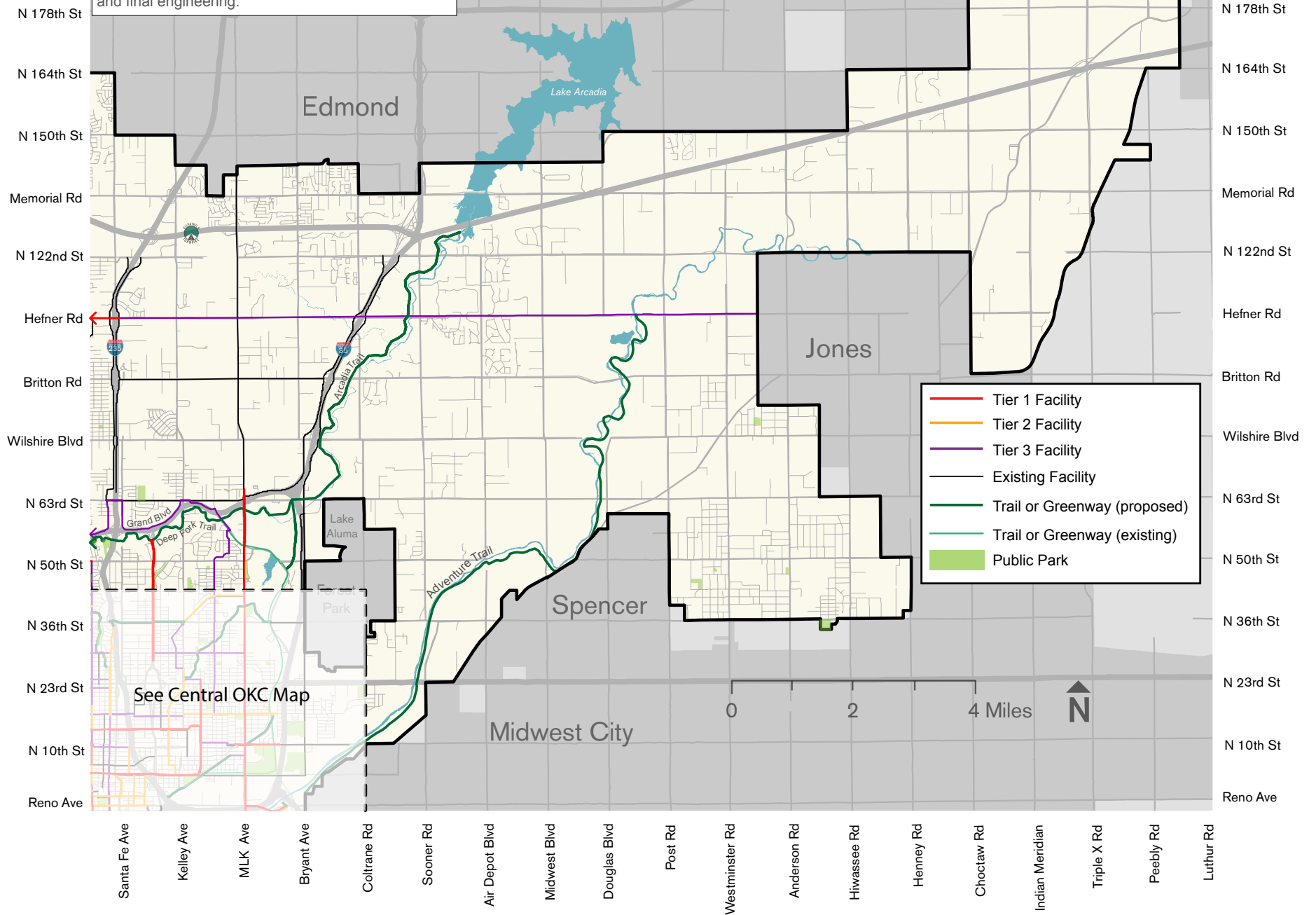
Proposed facility types and alignments may change based on further site investigation, design constraints, and final engineering.

0 2 4 Miles

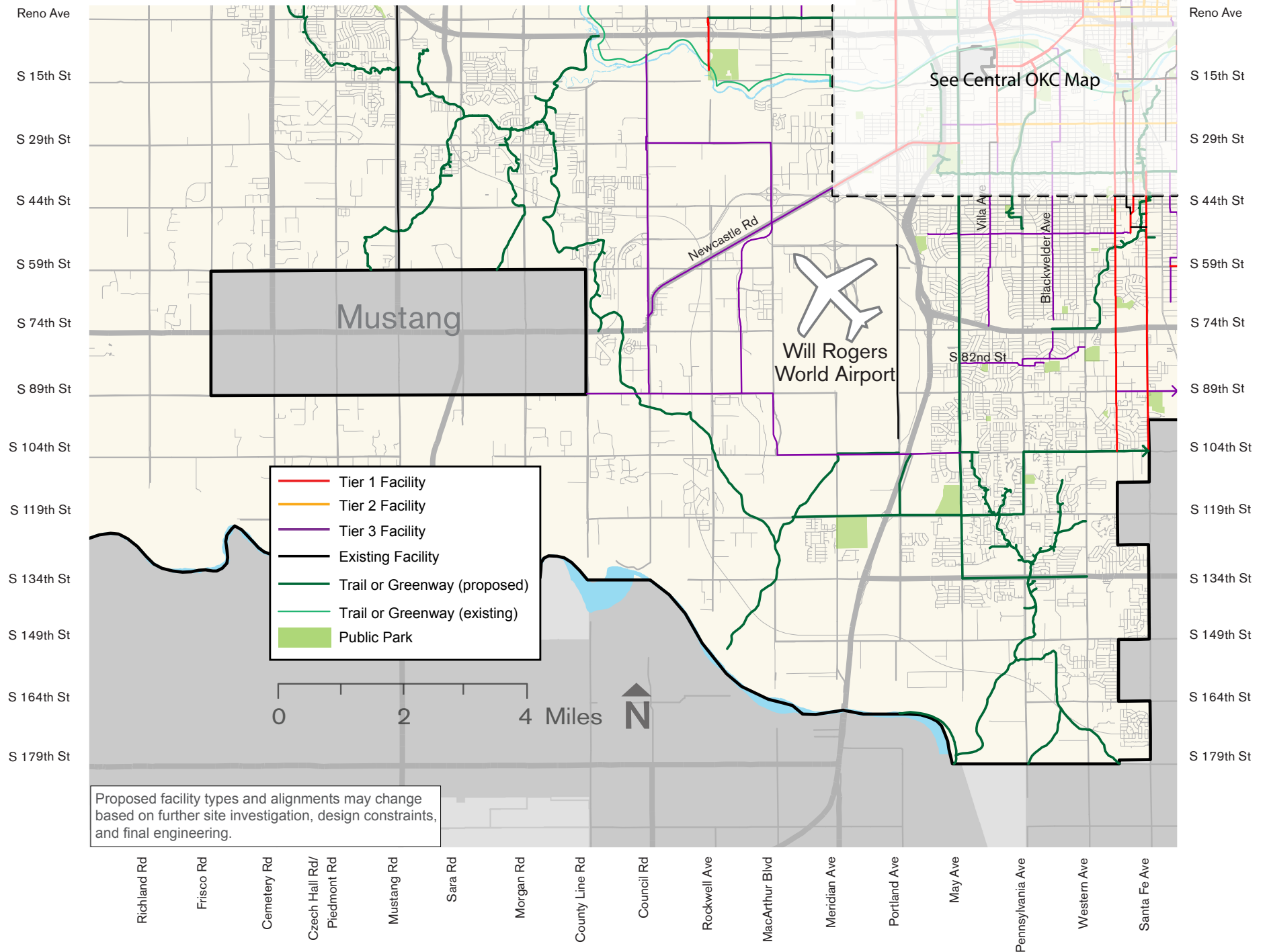


MAP 2.12 NORTHEAST PROPOSED BICYCLE FACILITIES

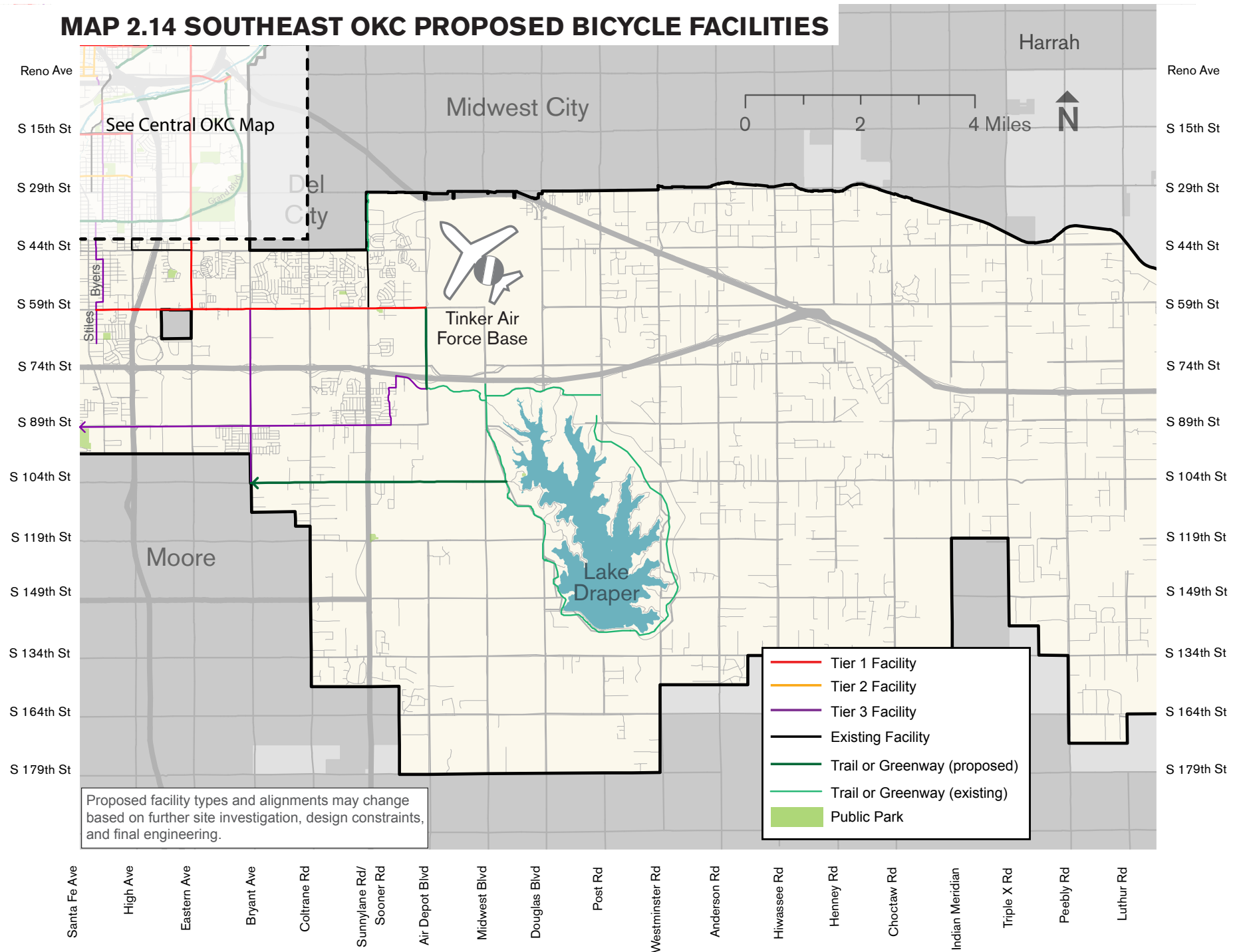
Proposed facility types and alignments may change based on further site investigation, design constraints, and final engineering.



MAP 2.13 SOUTHWEST OKC PROPOSED BICYCLE FACILITIES



MAP 2.14 SOUTHEAST OKC PROPOSED BICYCLE FACILITIES



On-Street Bicycle Facility Types

BICYCLE LANE / PROTECTED BICYCLE LANE

This facility type allocates a portion of the right-of-way exclusively for cycling, thereby separating cyclists and motorists into individualized spaces. The intent is to allow cyclists to safely use streets that often have higher speeds than those on designated bike routes. Because of the effectiveness of separating cycling from motorist lanes, fewer rules are required to make bike lanes an effective strategy. Ideal design guidelines for bicycle lanes and protected bicycle lanes include the following:

Bike lanes should allocate a minimum of 4' of seamless pavement.

Bicycle lanes should be wide enough to facilitate safe movements of cyclists. Bicycle lane width range should be 4 to 8 feet wide with a preferred width of at least 6 feet. Cyclists avoid riding near seams in the pavement by shifting closer to automobile traffic, effectively narrowing bicycle lanes. Therefore, seams should be minimized or eliminated where possible to ensure well-functioning bicycle facilities.

Vertical delineation should be utilized where greater protection from automobiles is necessary.

Where protected bicycle lanes are recommended on streets with high volume and high speeds, vertical delineators should be installed to separate the bike lane from traffic. This helps ensure that automobiles do not drive in bike lanes, and increases cyclists' feelings of safety. Protected bicycle lanes have been shown to provide a more comfortable experience for cyclists who have the least experience and confidence sharing the road with automobiles. Vertical delineators should be placed in a buffer area width between 6 inches and 2 feet.

Bicycle facilities should accommodate left-hand turning motions.

Left-hand turning motions are often difficult and a source of anxiety for cyclists. There are several ways to accommodate left-hand turns, such as bicycle boxes or two-phase turn boxes. These types of approaches provide clarity to cyclists and motorists on multi-modal interactions at intersections. Additionally, bicycle-specific traffic lights at key intersections could ensure safer movements, but at a higher capital cost.

Conflict areas between automobiles and cyclists should be clearly marked.

Bicycle facilities and automobile facilities coexist, and thereby create potential conflicts where they intersect. Clearly marking these areas with green paint or other approaches to indicate the mixing of modes increases awareness for motorists and cyclists, leading to a safer bicycle facility. See Figure 2.2 for an example of green paint in a conflict zone.

Bicycle lanes should be located along the curb line, and on the passenger side of on-street parking.

Bicycle facilities located on the driver side of on-street parking create a greater risk of “dooring” for cyclists. Additionally, conflicts may occur when vehicles that are parking on street have to cross the bicycle lane to park. Moving the bicycle lane to the curb and on-street parking beyond the bike lane keeps motorists from driving through the bicycle lane. This makes it safer to cycle next to parked cars, and reduces the risk of dooring.

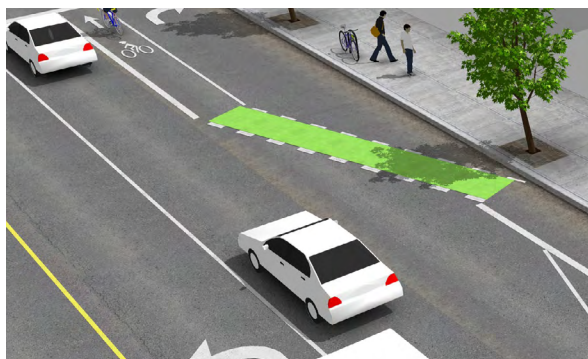


Figure 2.2 Conflict Zone Paint



Top: Example of a protected bicycle lane.

Bottom: A new bicycle lane on W. Sheridan Ave.

Left: Example of green conflict paint located where automobiles and cyclists cross paths.

For more information, please reference the following sections of the NACTO (National Association of City Transportation Officials) [Urban Bikeway Design Guide](#): [Bike Lanes](#); [Conventional Bike Lanes](#); [Buffered Bike Lanes](#); [Cycle Tracks](#); [One-Way Protected Cycle Tracks](#)

BICYCLE ROUTE

Bicycle routes indicate that cyclists and drivers must share the same lane, rather than having a dedicated portion of the road for cyclists. These facilities offer the lowest amount of protection to cyclists in their interactions with automobiles. The following design guidelines ensure that the facility is useful and safe for both cyclists and motorists:

Bike routes are appropriate on two-lane streets with a speed limit of 25 MPH or less.

In order for cyclists to be able to integrate into automobile traffic safely, a low speed limit is required. This allows the cyclists the opportunity to keep up with traffic, and allows drivers to not be concerned about a sharp reduction in speed when driving behind cyclists. A slower speed decreases the risk of collisions, increases the awareness of drivers to the existence and legitimacy of cyclists, and reduces the risk of severe injuries in the event of a collision. Multi-lane streets are typically higher speed corridors for automobiles. Therefore, keeping bike routes on two-lane streets (center-turn lane acceptable) will ensure that cyclists are not put at risk.

Center lines on bike routes should be legally crossable.

The intent of a bicycle route is for motorists and cyclists to use the same facility, where both modes of transportation are viewed as equal vehicles on the road. However, cyclists often travel at a speeds lower than drivers who follow them, and drivers will pass cyclists on the left. In order to make this maneuver legal, bike routes should not be located on streets with a double-yellow centerline. This makes neighborhood streets ideal for bicycle routes.

Bike routes should connect to higher intensity bicycle facilities.

Bicycle routes are appropriate when there is not sufficient right-of-way to accommodate a separated bicycle facility. Bicycle routes should not stand alone, but rather should connect neighborhoods to bicycle facilities that offer a greater level of protection from automobiles.

Traffic calming should be used to reduce design speed.

Drivers tend to drive at a speed which feels appropriate and safe, which is sometimes higher than the posted speed limit. In cases where the actual traffic speed is significantly higher than the posted speed limit, traffic calming measures should be utilized to help reduce automobile speeds to a safe level for bike riders.

Sharrows should be high-visibility.

The public outreach process of this plan revealed that many drivers do not notice sharrows when driving on bicycle routes. Therefore, to improve driver awareness and cyclist safety, sharrows should be designed to be high visibility through techniques such as green paint backing, reflectors, or dashed outlines.

Sharrows should be painted in the middle of the lane.

Since cyclists are allowed to use the full lane on a designated bicycle route, sharrows should be placed in the middle of the lane, rather than on the right-hand side of the lane. This will ensure that cyclists and drivers know that the full lane is available to the cyclists, and sharrows will not be obscured by on-street parking.

Sharrows should be spaced frequently.

In order to improve cyclist and driver awareness that a street is a designated bicycle route, sharrows should be spaced so they are highly visible to road users. At a minimum, three sharrows should be located per block: one at each end and one in the middle. A good rule of thumb is to space sharrows 80 to 100 feet apart.

“Bike May Use Full Lane” signage should be used.

Drivers and cyclists have expressed confusion about the “Share the Road” signage; therefore, the more direct “Bike May Use Full Lane” sign is preferred.

Bike routes on non-local roads should have shoulders.

Bike routes on non-local streets are an exception to the two-lane/25 MPH speed limit rule discussed above, because these roads will likely have higher speed limits. These routes should have paved shoulders so cyclists and motorists can safely pass each other.



Top: Example of a bicycle route in Oklahoma City.

Bottom: Green-backed sharrows in Florida.

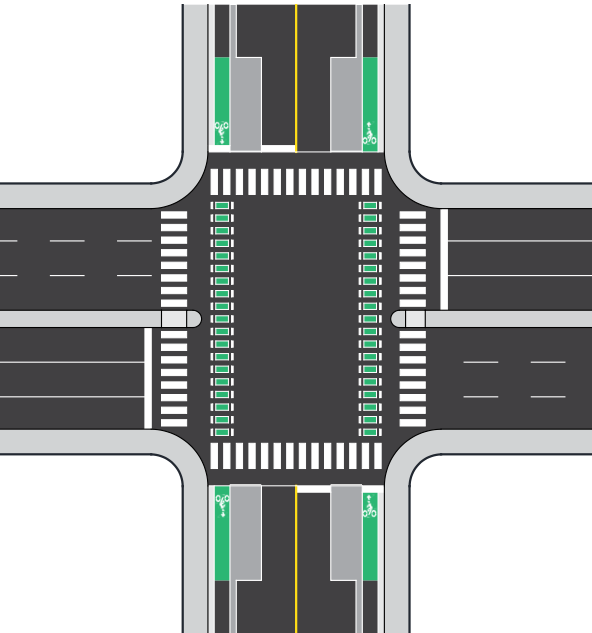
For more information, please reference the following sections of the NACTO (National Association of City Transportation Officials) [Urban Bikeway Design Guide](#): [Bikeway Signing & Marking](#); [Shared Lane Markings](#); [Bike Route Wayfinding Signage and Markings System](#)

Bicycle Intersection Types

TYPE 1 - PASS-THROUGH

An intersection application aimed at guiding cyclists through an intersection rather than facilitating a turn onto an intersecting street is called a Pass-Through Intersection. This type of intersection treatment encourages cyclists to continue straight. This treatment is recommended when the intersecting street is high volume and typically high speed, and doesn't have a bicycle facility present. This discourages cyclists from turning onto a street that is less appropriate for on-street cycling and also communicates to automobiles that cyclists may be present. Figure 2.3 below illustrates a possible pass-through intersection. The design of an intersection and the amount of paint used will vary based on field conditions.

Figure 2.3 Example pass-through intersection

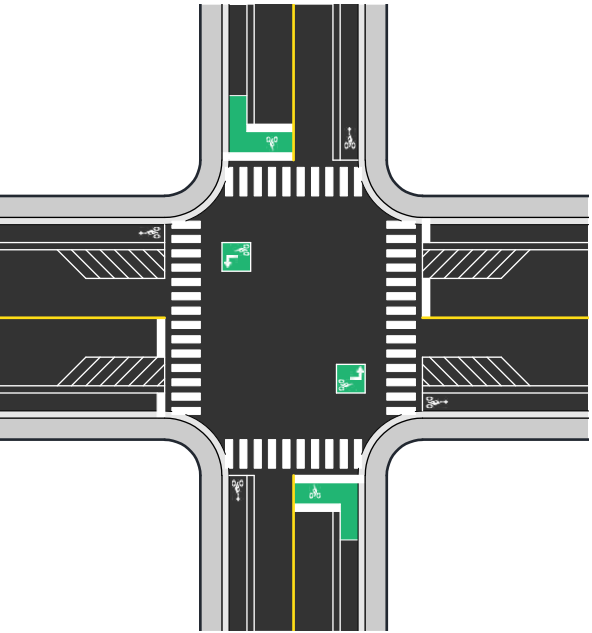


TYPE 2 - TURN-THROUGH

An intersection that provides less protection to cyclists than the “protected intersection” (see next page) is appropriate in areas where traffic volumes and speeds are less dangerous to cyclists. These facilities can be implemented in many ways, but the most important concepts should transcend context and be applied at all applicable intersections. Those concepts include:

- Left-hand turn motions for cyclists should be accommodated by the installation of bike boxes (see Figure 2.4), or two-phase turn boxes (also shown in Figure 2.4).
- Conflict areas should be demarcated with high-visibility applications to decrease the risk of collisions. Green paint, white paint, pictographic paint, and signage can draw the attention of drivers and cyclists to one another.

Figure 2.4 Example bike box & 2-phase turn box



Above: Example bike box



Above: Example two-phase turn box

Below: Example pass-through intersection



TYPE 3 - PROTECTED

In order to safely facilitate bicycle movements through an intersection, techniques that increase awareness between drivers, cyclists, and pedestrians are required. The level of needed protection is dependent on the volume and speed of traffic on the intersecting streets. The highest level of protection at intersections is needed when two protected bicycle lane facilities intersect perpendicularly. The appropriate approach is what is commonly known as a “protected intersection.” Protected intersections are being implemented all across the United States after great success in Europe.

A protected intersection provides a dedicated portion of the intersection to cyclists and uses some form of vertical delineation whether bollards, planter boxes, or a curb line, to protect cyclists from turning motions. This type of intersection also allows cyclists to move further forward into the intersection, becoming more visible to drivers. This separation allows cyclists to make right-hand turns safely without needing to stop at the intersection if there are no conflicts with pedestrians (Figure 2.3). Pedestrians also benefit from a protected intersection design because it decreases the distance required to cross the street. Left-hand turns for cyclists are broken into two phases as shown Figures 2.4.

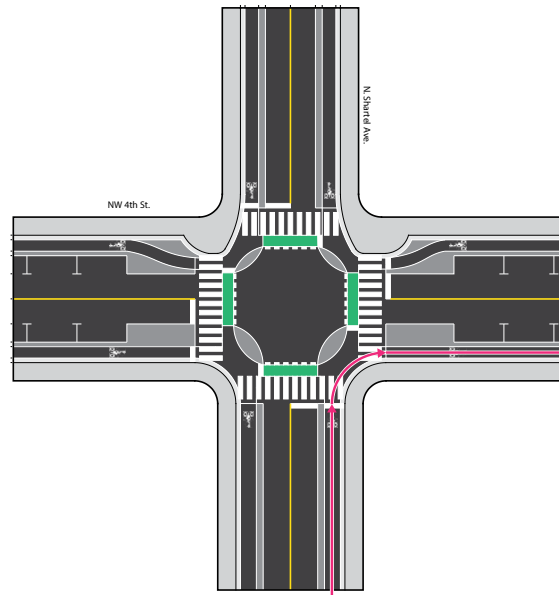


Figure 2.5 Red arrow demonstrates a right turn

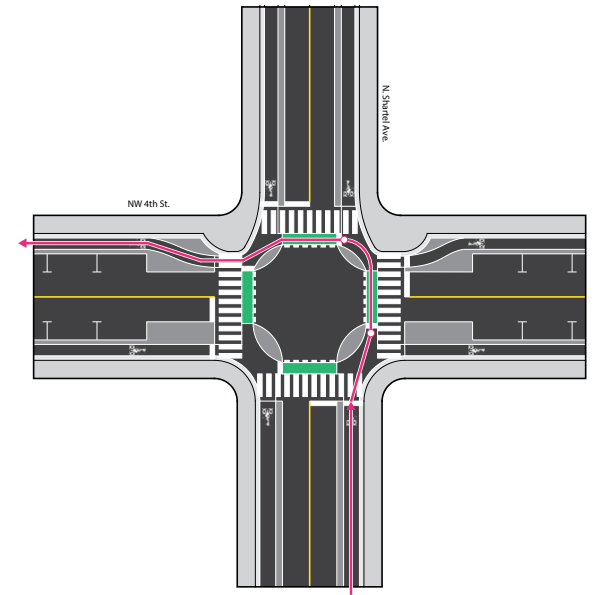
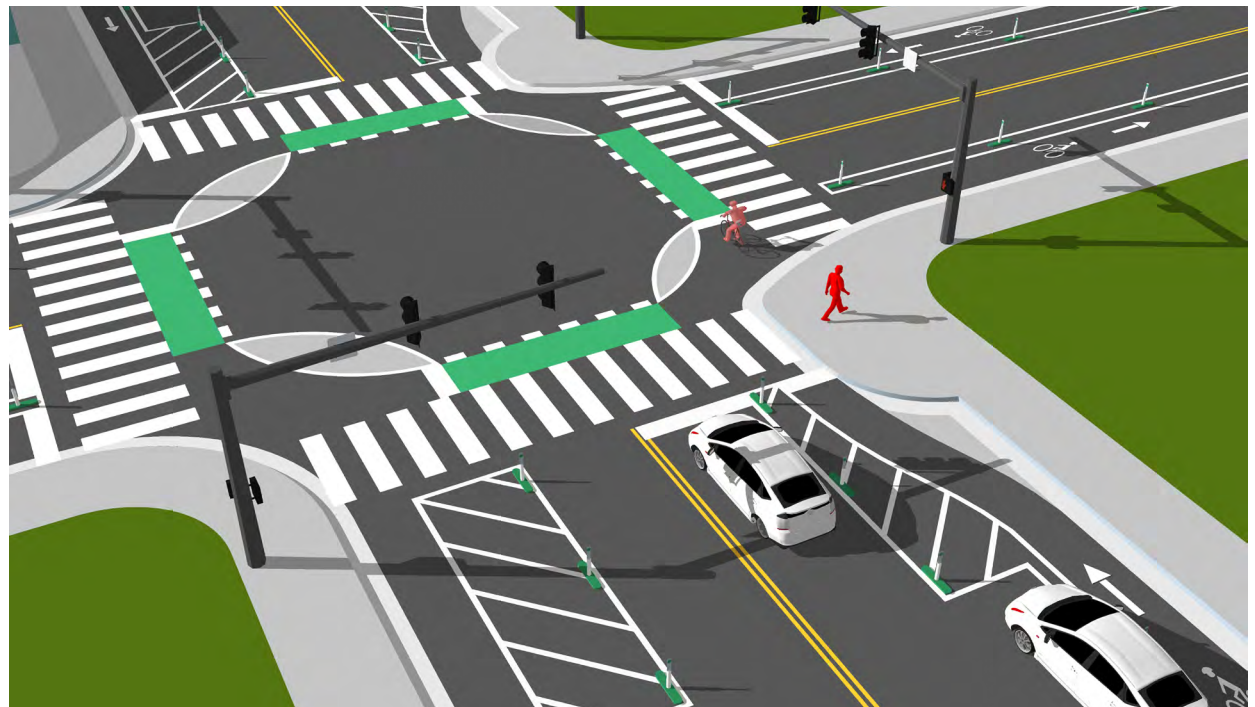


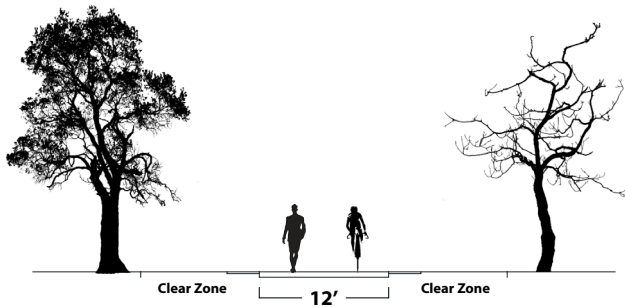
Figure 2.6 Red arrow demonstrates a two-phase left-hand turn



Above: Example protected intersection

Trail Types

MULTI-USE TRAIL

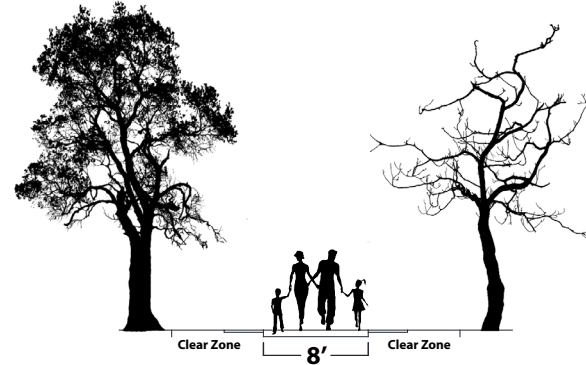


Multi-use trails serve multiple users, including cyclists, pedestrians, roller bladers, pedestrians with strollers, and more. The standard width for a multi-use trail is between 10' and 12' in order to accommodate multiple users and potentially high-speed cyclists in each direction. Because of the anticipated speeds, it is important to have a wide clear zone on both sides of the trail to minimize blind corners. Where potential conflicts exist between users, etiquette signage can help to minimize any trouble.

If a multi-use trail has become popular enough that there are frequent conflicts between users, widening the trail, or providing separation between the pedestrians and bicyclists is appropriate. This second approach has been used to great success at the multi-use trails that surround Lake Hefner.



NEIGHBORHOOD GREENWAY

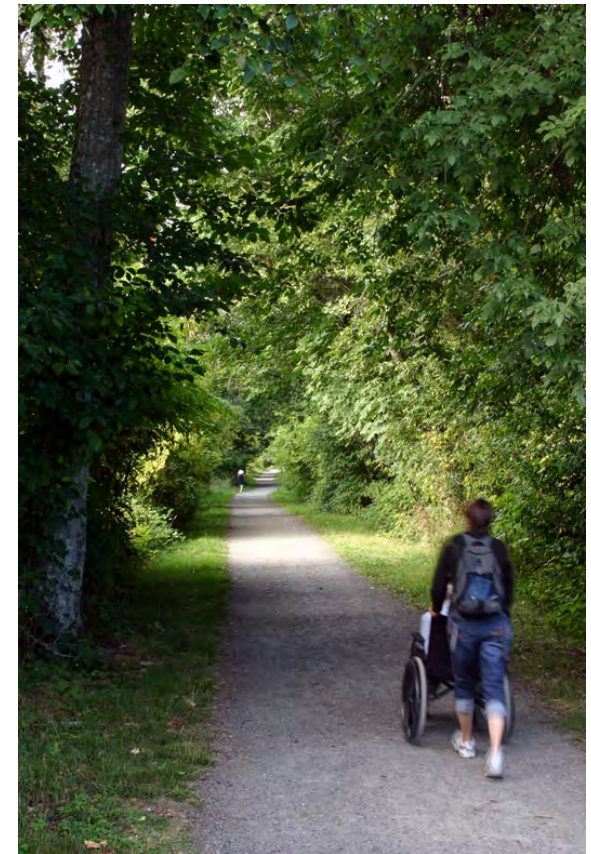


Some trails are designed for a more relaxing encounter with the natural world. In this case, neighborhood greenways are intended to use riparian corridors and other natural areas to connect residents to schools, parks, and other destinations. A width of 8' is sufficient, as well as a narrower clear zone. Speed limitations on cyclists are appropriate to maintain a family-friendly experience. This will be aided by a more curvilinear pathway, which will limit the ability of a cyclist to reach high speeds.



Trail Surfaces

Different trail surfaces serve different purposes and user groups. The vast majority of trails in Oklahoma City have been constructed with asphalt surfaces; however, other surface materials, such as concrete or crushed gravel, can also provide an accessible trail option. Where trails are intended to serve a more natural environment, it is often preferable to use a non-paved surface material (such as crushed gravel or wood). Each surface type has a different level of maintenance required, and any surface should be chosen with the feasibility of maintenance in mind. Below is an example of a crushed gravel trail that, because of the firmness and stability of the material, is considered ADA accessible. Firmness means the surface doesn't give way under foot, while stability means that the surface does not shift side-to-side or when turning.



Trail Components

Certain components are necessary in order to plan a trail facility that accommodates different users of all age groups. These components, though commonly referred to as “amenities,” are necessary to create successful facilities that everyone can enjoy. Trails may include a the following amenities:

- Seating and trash cans
- Water fountains
- Shade / trees
- Lighting
- Public restrooms
- Signage and maps
- Fix-it stations and bicycle parking

SEATING AND TRASH CANS

A bench placed on a beautiful spot with an amazing view can change how people see their environment. Benches are places where hikers and cyclists can take a break, meet other people, and decide whether they want to continue onward or return home. A trash can or recycling bin next to the bench will keep the trail clean. Benches and trash cans should not be placed directly on the trail, but at least 10 feet away to avoid conflicts between people sitting and trail users. Benches should be oriented so that users have the best possible view when seated.

WATER FOUNTAINS

Water fountains are a necessity along trails, especially since many trails are rather remote and trail users can become dehydrated easily. Water availability will make trails more pleasant, safe, and inviting to use. Fountains should not be placed at the end of a water line, since water is not moving and can become stale.

SHADE / TREES

Trees are the most appealing way to provide shade, since they also improve the appearance of the trail. A well-placed tree or a well-designed shelter can make it more comfortable to use a bench. Trees should not be placed

too close to the trail (distance depends on tree species) so that roots don't damage the asphalt, but they should be close enough to provide necessary shade, especially in the late afternoon when temperatures are the highest. Trees should also be placed in open areas as screening for unattractive views. Concentrate trees along south and west edges of trails to provide maximum shade.

LIGHTING

Lighting along trails increases the number of viable hours for users, particularly in the winter when the sun sets earlier. Lighting should be consistent and functional, lining the entirety of a trail, so that there are no dark areas that will discourage riders. Lighting can be enhanced between neighborhoods and trails, so residents can safely make the journey to their closest trail.

RESTROOMS

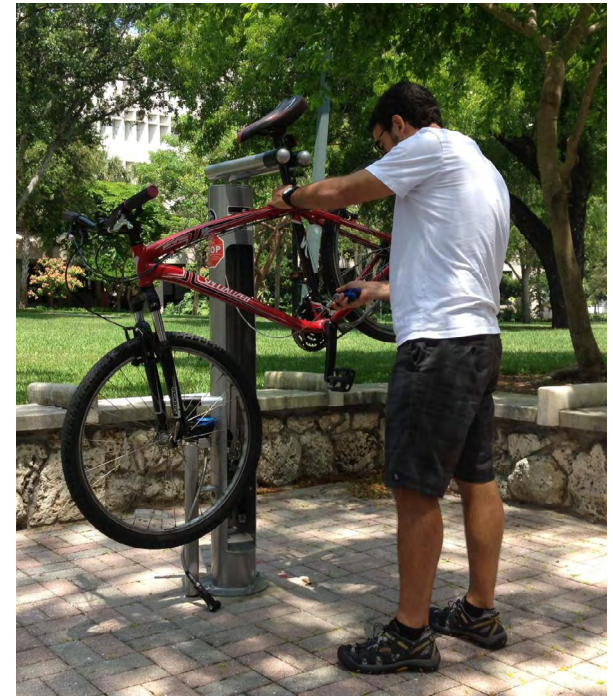
Restrooms make it possible for people to stay longer in an area, but they are expensive. The level of success of restroom amenities depends highly on placement. Frequently used and highly visible restrooms are safer and less subject to vandalism. Restrooms should be located at trail heads or where trails cross through parks.

SIGNAGE AND MAPS

Signage and maps assist in wayfinding along the trails network. This trail component is necessary to provide information to visitors and new users of the facility. Signage can assist a user in planning a trip, or timing use of the facility. Signage is appropriately placed at mile markers, at junction points, or when the trail interacts with the street. Larger maps and information kiosks are necessary at trail heads and access points.

FIX-IT STATIONS AND BICYCLE PARKING

Cyclists need the ability to repair a flat and also to park their bicycle along the trail. Cyclists may be several miles from their origin or destination at any given time on a ride, and a flat tire can ruin the experience and leave a cyclist stranded. Fix-it stations are appropriate at each grouping of trail components.



Top: Example of a fix-it station.
Bottom: Example of grouping of amenities.

Facility Type Selection

Choosing the correct facility for bicycle infrastructure depends on many different criteria. Consideration of the interaction with motor vehicles with regard to traffic volume and speed should determine the level of protection required for safe and comfortable cycling. Additionally, costs associated with the implementation of any proposed project are a major limiting factor. Therefore, cost efficiency is crucial. Taking advantage of existing roadway capacity and choosing improvements that are affordable ensures that the money that is available is spent in an efficient, effective, and responsible way that improves cycling in Oklahoma City as much as possible.

FACILITY SELECTION PROCESS

The following graphics illustrate the methodology for selecting an appropriate bicycle facility for a given road. Each facility type (bike route, bike lane, protected bike lane, shoulder, and multi-use trail) are explained on pages 46-49. These tables indicate the **minimum** standard for safety and comfort. Any facility that offers a higher level of security for cyclists is appropriate, but often cost prohibitive.

This approach expands upon the approach taken by the Association for Central Oklahoma Governments’ (ACOG) standards for bicycle facility selection, which focuses on the stress level for cyclists. The ACOG standard determines the appropriate facility based on traffic volume and speed. This criteria is utilized to rank bicycle projects for federal funding eligibility; therefore, ensuring that Oklahoma City uses the same standard will lead to greater performance in the application for federal funds in the future.

The bikewalkokc approach takes into account existing curb-to-curb width. Many of the streets in Oklahoma City do not have enough capacity to accomodate bike lanes without widening the street, which is cost prohibitive; therefore, the following graphics are broken into three categories based on available curb-to-curb width that could be converted to serve the needs of bicyclists.

HOW TO SELECT A FACILITY

In order to choose an appropriate facility for a street, planners, engineers, project managers, and any other decision-makers involved in the process should first determine how much curb-to-curb width exists. This will point to one of the three adjacent tables. From there, determining the traffic volume and speed will lead to a facility type for that street. At this point it can be determined if the relative cost per mile for the facility is prohibitive, potentially leading decision-makers to consider alternative routes, or to seek additional funding.

< 30’ Curb to Curb

SPEED	VOLUME	< 2000	2000 - 10000	> 10000
< 30 mph				
30-40 mph				
40-50 mph				
> 50 mph				

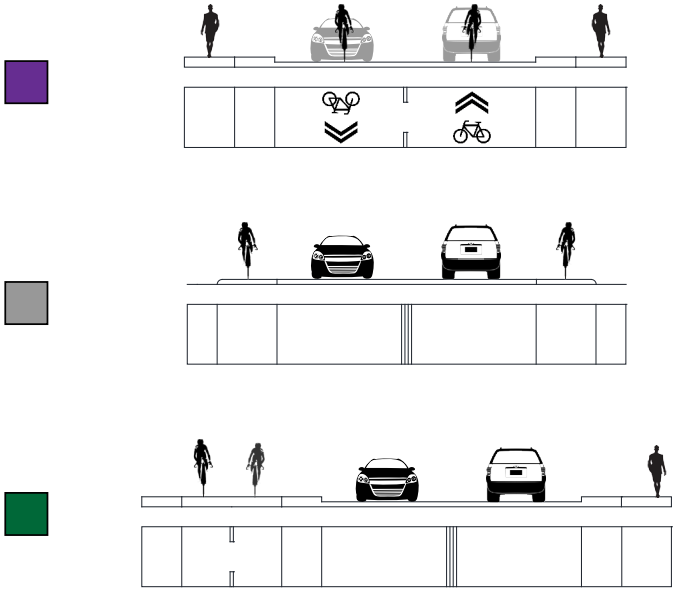
Bike Route

Bike Lane

Protected Lane

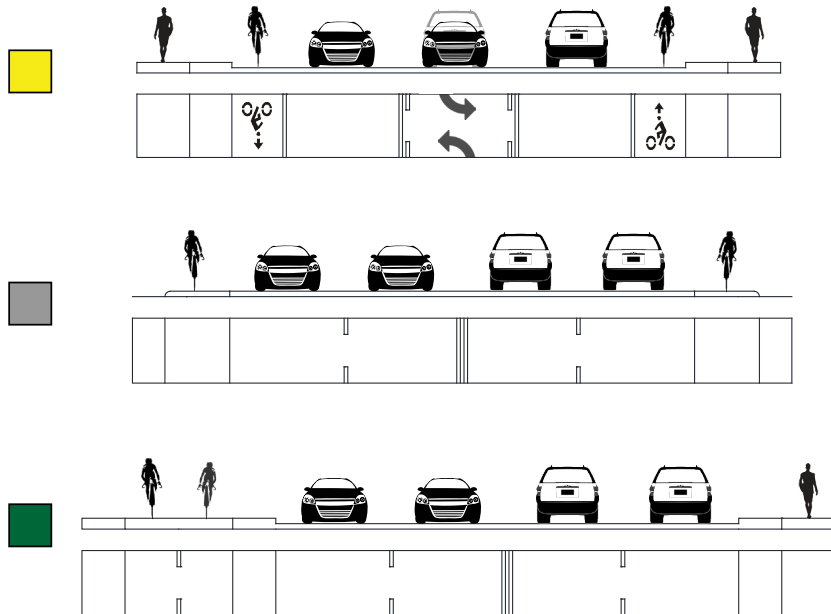
Shoulder

Separated Facility



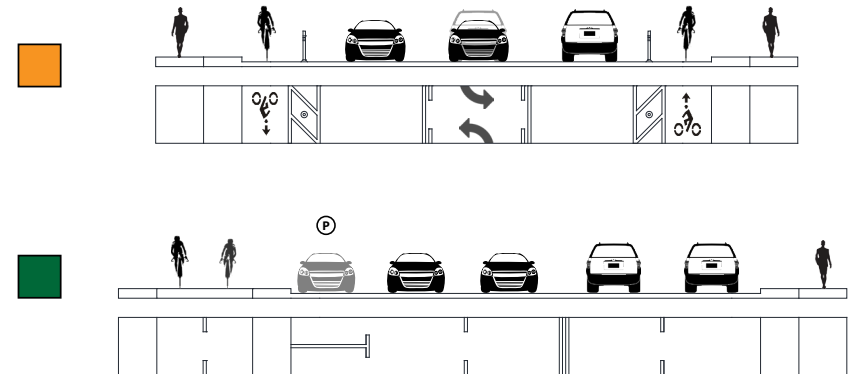
30' < x < 45' Curb to Curb

SPEED	VOLUME			
		< 2000	2000 - 10000	> 10000
< 30 mph		Yellow	Yellow	Gray
30-40 mph		Yellow	Yellow	Gray
40-50 mph		Gray	Gray	Green
> 50 mph		Green	Green	Green



> 45' Curb to Curb

SPEED	VOLUME			
		< 2000	2000 - 10000	> 10000
< 30 mph		Orange	Orange	Orange
30-40 mph		Orange	Orange	Orange
40-50 mph		Orange	Orange	Green
> 50 mph		Green	Green	Green



Bicycle and Trail Analysis

ROADWAY SUITABILITY

In order to analyze and understand bicycling conditions on every roadway in Oklahoma City, bikewalkokc uses a model that examines and scores every roadway segment. The score provides the existing cycling conditions along those segments. The following sections provide an explanation of each analysis, the results, and the meaningfulness of the results. This type of analysis is a good first step for identifying potential bicycle improvements, but as with all projects, must be followed up by a more extensive analysis for feasibility of construction.

Bicycle Level of Traffic Stress (BLOTS)

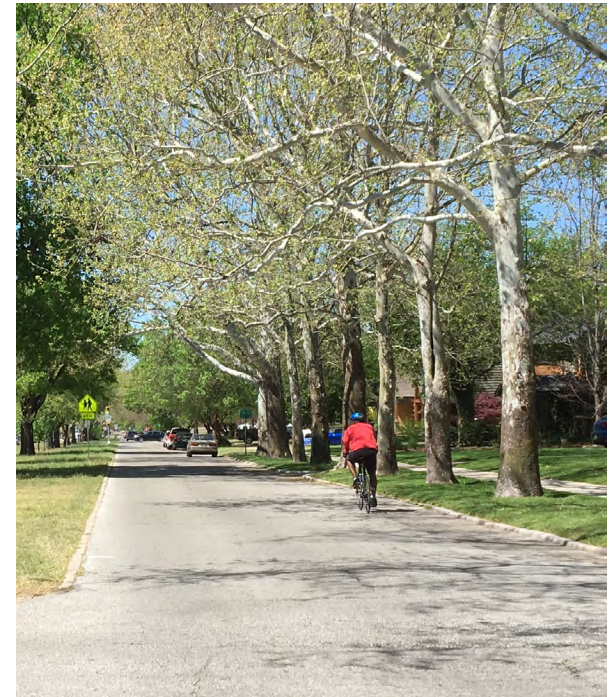
The BLOTS analysis reviews components of cyclists' safety and comfort and provides a score for every roadway. The initial analysis found roadways appropriate for cycling according to model inputs. The model takes into account four variables to produce a composite score for each roadway segment:

1. **Number of Lanes** - The number of vehicular travel lanes impacts safety, comfort, and the ability to turn left onto a connecting street. Roadways with two or fewer lanes received the highest score. The score decreases as the lanes increase, with four or greater lanes receiving the lowest score.
2. **Roadway Speed** - Speed impacts cyclists' safety and comfort. Roadway segments received scores based on speeds ranging from less than 25 MPH to above 45 MPH.
3. **Present Bicycle Facility** - A score was assigned to roadway segments that have an existing bicycle facility. The score is dependent on the type of facility and the level of safety offered. Trails are the safest and thus receive the highest score while bicycle routes receive the lowest score. If no facility was present, then no points were given.
4. **Traffic Volume** - Existing traffic volume affects cycling comfort and safety. The higher the traffic volume the lower the model results.

Map 2.16 shows BLOTS analysis for Oklahoma City. The map shows the streets as graduated colors from blue to red. Blue represents a road segment that has a low BLOTS score. A low BLOTS score means the segment is potentially safe and comfortable for cycling. A high score means the road segment is uncomfortable and potentially dangerous for cycling. Again, this is a first step for identifying candidate roadways for cycling corridors. Each candidate must be further analyzed and field verified before determining bicycle suitability.

An additional outcome of this analysis is the identification of barriers for cyclists that arise as a part of street design. Nearly all major arterials in the city limits pose difficulties for cyclists, illuminating a preferred approach to identifying cycling facility locations. A focus on safe crossings of major arterials and highways has been built into the plan. Similarly, avoiding major arterials, and selecting parallel streets with lower levels of traffic and speed, can largely accomplish the same goals of connectivity, while also reducing costs associated with designing and building bicycle facilities that offer an appropriate level of protection.

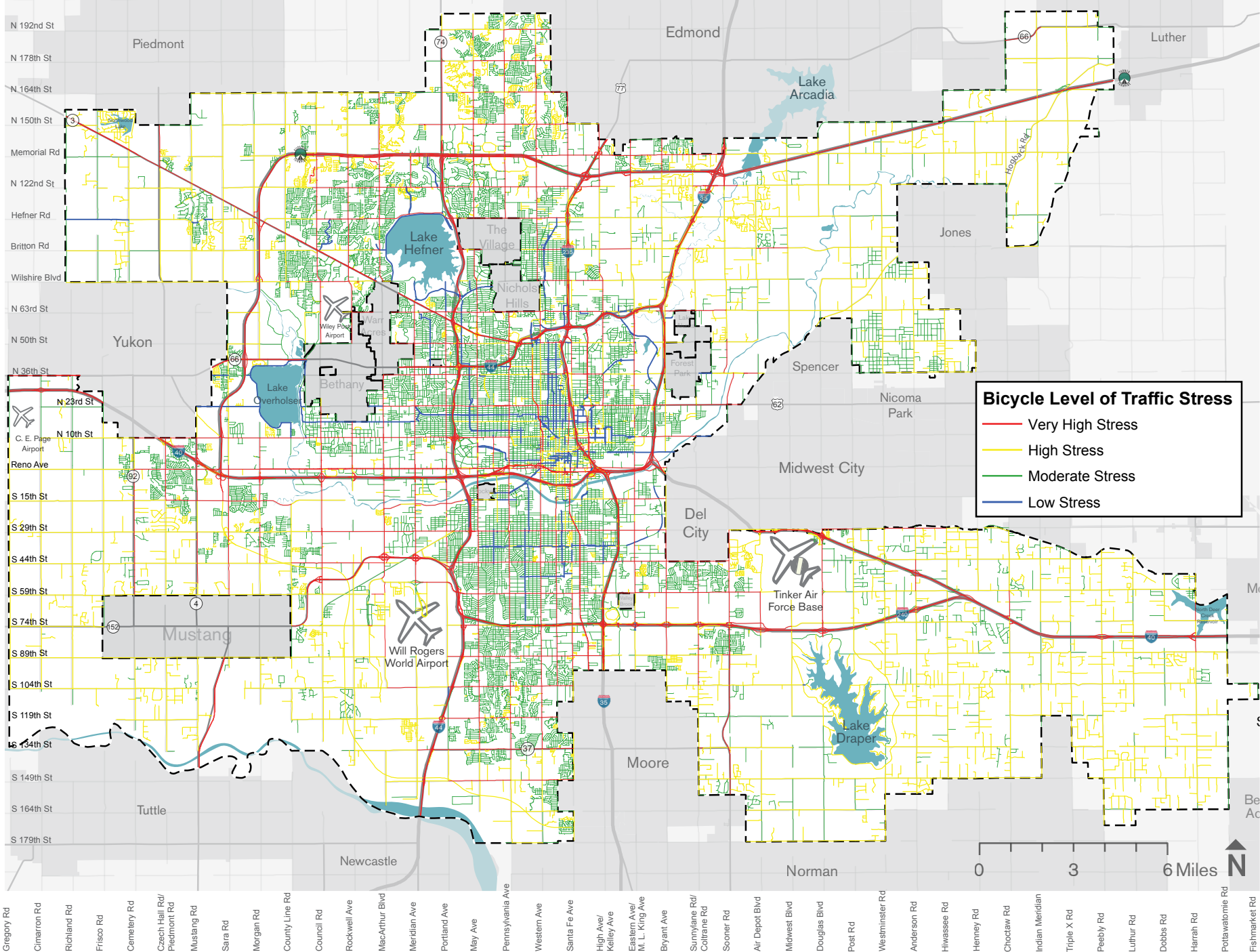
There is a higher concentration of streets that score well in the inner city, especially north of the Oklahoma River in and around downtown. Former streetcar routes, like N. Drexel Blvd. and NW 19th St. are well-suited to accommodate bicycling because of their low speeds, low traffic volumes, and the fact that they are currently bicycle routes with signage and sharrows. There are far fewer streets in suburban areas that are presently suitable for bicycling, indicating that improvements will need to be more substantial, and will likely be less cost effective.



Top: Low-stress cycling environment.

Bottom: High-stress cycling environment.

MAP 2.15 BICYCLE LEVEL OF STRESS



Excess Roadway Capacity Analysis

Planners conducted a second analysis, called an Excess Roadway Capacity Analysis, to identify potential bicycle corridors. This analysis identifies roadways that have more lanes than needed to carry the current volume of daily traffic. These roadways are candidates for lane reconfiguration to a safer, multimodal facility that carries bicycles and pedestrians, and provides a turning lane for automobiles. bikewalkokc reviewed roadways with 4+ vehicular lanes and less than 16,000 daily vehicle trips.

Of particular note in the results of this analysis is the density of streets in the downtown area that have extra capacity. With cycling for transportation being a primarily urban activity, this extra capacity is ripe for conversion to bicycle facilities. These interventions will impact a greater number of residents due to the higher levels of residential density in the inner city.

While AADT is often used to evaluate when a road widening should occur, it is also valuable to look at peak hour traffic data to determine which streets have been designed around a specific time of day. Streets that are below the AADT threshold, and below the peak-hour threshold are prime candidates for retrofitting to accommodate bicycle infrastructure. As projects from this plan are funded and enter into engineering and design, this information will be vital in ensuring that the most efficient approach to the project is followed. Where there is substantial excess capacity, traffic studies should be less of a priority. The money that would be spent on those studies can be used to improve the facility further, fund a maintenance program, or support any other aspect of the project.

Figure 2.7 Basic Lane Reduction

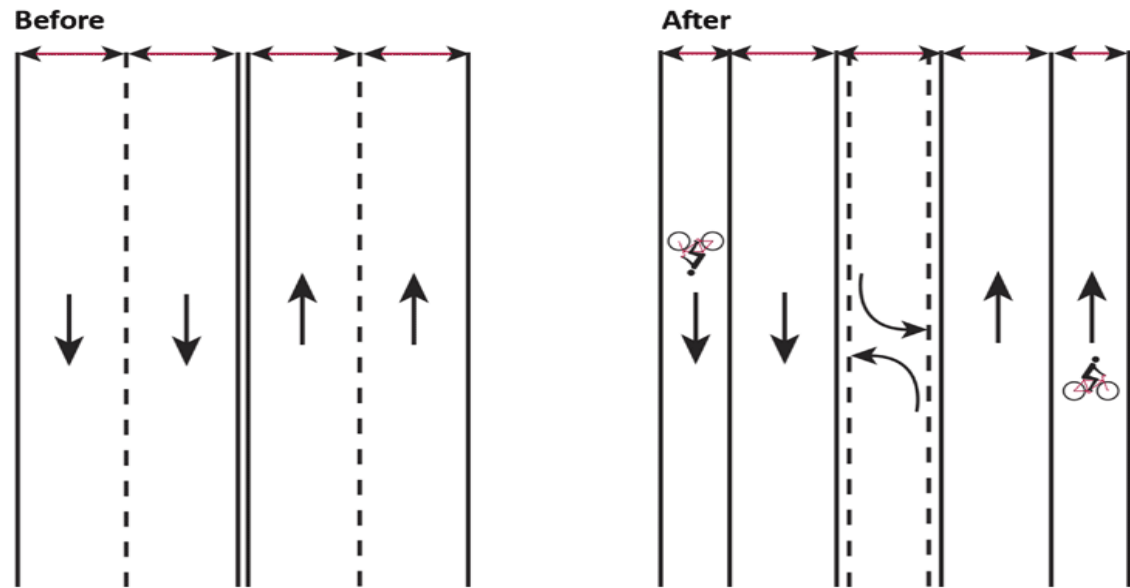
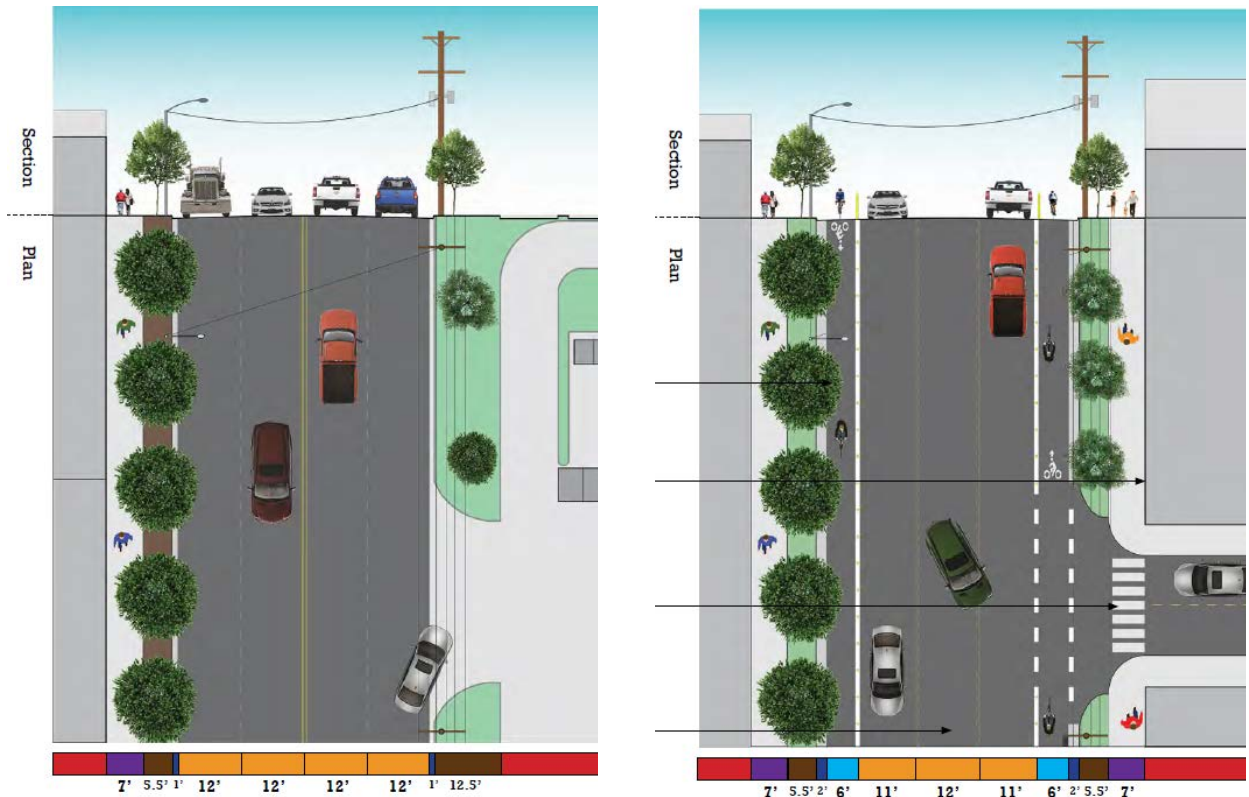


Figure 2.8 Lane Reduction Cross-Section





Above: N. Western Ave. between NW 23rd St. and NW 18th St. is currently under reconstruction reducing lanes, adding bicycle facilities, adding a median, and adding other pedestrian safety features such as lighting, curb ramps, and refuge islands.

COLLISIONS ANALYSIS

The dangers of sharing the road with automobiles is one of the most common reasons given as to why people do not bicycle for transportation. Fortunately, there is high-quality data related to collisions in Oklahoma. The Safe-T collision database that is jointly managed by the Oklahoma Department of Transportation and the Oklahoma Highway Safety Office, which is a collection of data gathered in partnership with law enforcement offices from around the state, documents collisions between motorists and cyclists as far back as 2003. This history of data (13 years) allows for a better understanding of trends in our city, and gives us the opportunity to address specific problems related to the context of each collision. Whether the problem lies with infrastructure (or the lack thereof), insufficient lighting, unsafe crossings, or something else, this dataset can help to identify what needs to be improved.

790 cyclist collisions were reported between 2003 and 2015, 10 of which resulted in a fatality, and all of which occurred on a major arterial street. Nearly two-thirds of the 790 collisions occurred on streets with speed limits of 30 MPH or greater. Considering the small amount of

dedicated bicycle facilities in the city, it can be assumed that the vast majority of these collisions occurred because of a lack of clarity between cyclists and motorists, whether along a road or at an intersection. This data is important to understand when developing the plan in order to ensure that the proposed bicycle network improvements and policies in bikewalkokc address safety concerns.

Table 2.3 shows when the bicycle-automobile collisions occurred in the last 13 years based on the month of the year and the time of day. January is the month with the fewest collisions on average, with 2.46 collisions, while September has the highest average number of 7.31. Collision rates are noticeably higher in the warmer months, particularly between May and October. This is most certainly due to the fact that cycling in the cold winter months can be very unpleasant, so fewer cyclists are on the streets. There is a noticeable trend of collisions occurring between the hours of 3:00pm and 7:00pm, which could be due to children or adults getting in a recreational bike ride after school or work, or potentially cyclists getting hit on their commute home. There is less of a trend of cyclists being hit after sunset, which is a significant issue with pedestrians. This could be due to

the fact that cyclists are required by law to have lights on their bicycle to indicate to drivers that they are present.

Besides constructing dedicated infrastructure for cyclists, safety campaigns to educate drivers and cyclists alike about safe habits for sharing the road could be conducted during the summer months. Additionally, police enforcement of traffic safety laws in the afternoon hours on heavily trafficked streets can help to reduce the number and frequency of collisions between automobiles and cyclists. Key locations with multiple collisions for enforcement intervention include:

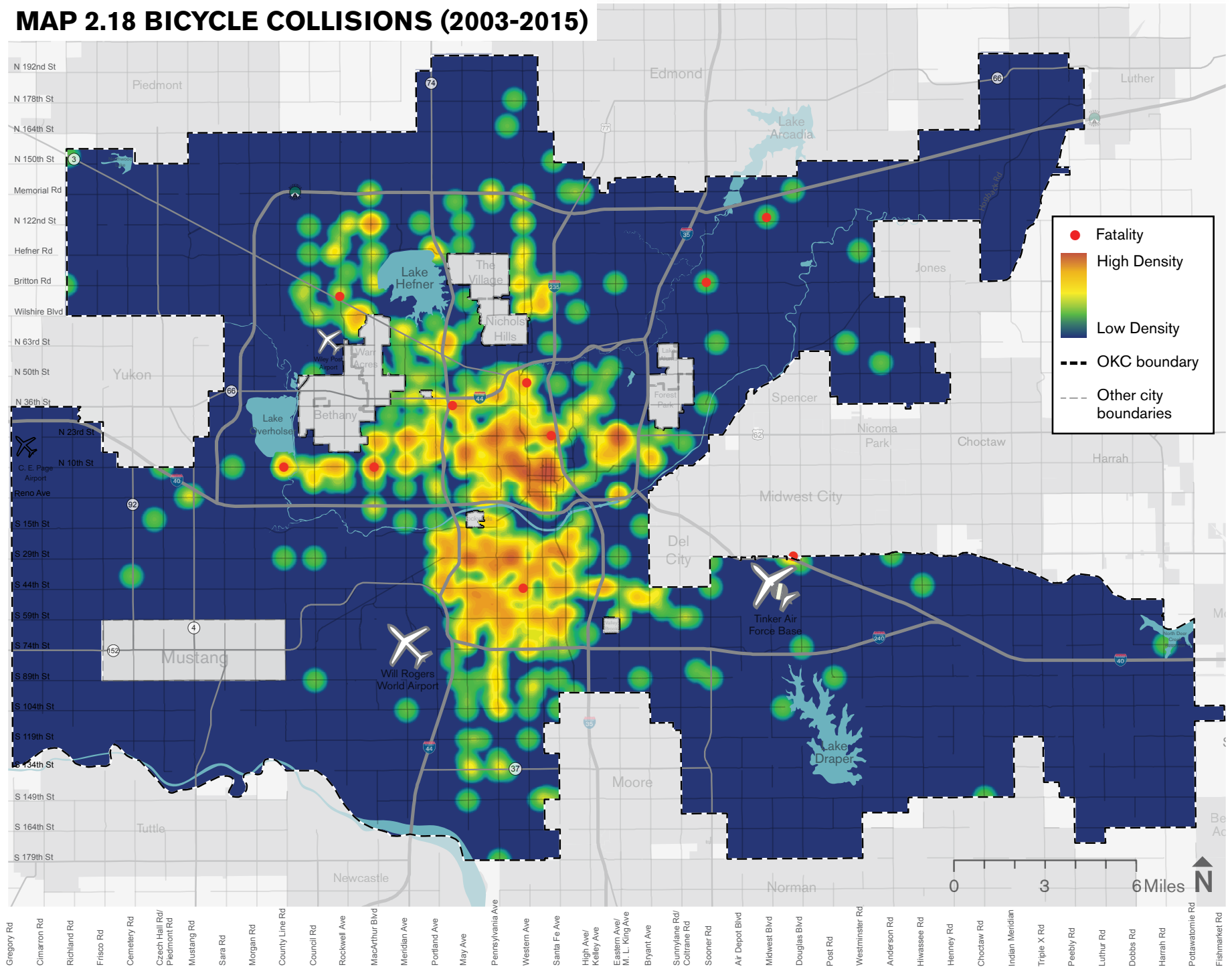
- NW 122nd St. and N MacArthur Blvd.
- NW 10th St. and County Line Rd.
- NW 10th St. and N MacArthur Blvd.
- NW 23rd St. and N Pennsylvania Ave.
- NW 23rd St. and N McKinley Ave.
- NW 17th St. and N May Ave.
- NW 7th St. and N Pennsylvania Ave.
- NW 6th St. and N Hudson Ave.
- E Reno Ave. and Martin Luther King Ave.
- SW 29th St. and S May Ave.

Table 2.3 - Bicycle Collisions by Month by Hour of the Day 2003-2015

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
January	0	1	1	0	0	0	1	1	1	3	2	0	1	4	1	1	4	2	4	2	0	2	1	0
February	2	0	1	0	0	1	0	1	0	2	2	4	0	4	2	2	7	4	2	1	1	0	0	0
March	1	0	1	0	0	2	1	3	2	1	3	1	2	2	3	8	5	7	4	4	1	2	3	1
April	0	0	0	0	0	0	0	4	1	1	1	2	2	7	4	13	4	6	7	5	4	4	3	2
May	2	0	1	0	0	0	2	3	1	1	3	3	7	7	7	6	3	12	5	3	2	4	4	3
June	1	2	0	0	0	0	1	2	2	1	5	3	2	7	9	4	4	4	13	6	5	4	4	3
July	4	0	0	0	0	0	1	2	3	2	3	6	4	3	4	2	9	6	10	3	2	11	8	6
August	3	0	2	0	0	1	2	4	4	2	1	3	0	1	8	3	5	8	8	5	5	3	4	3
September	0	0	0	0	0	3	3	1	8	5	5	2	2	4	6	5	10	8	11	7	7	5	2	1
October	1	0	1	0	1	2	1	4	3	2	5	5	2	2	3	6	12	9	5	11	4	5	3	3
November	2	0	0	0	0	0	2	2	1	0	2	3	3	2	3	5	4	7	3	2	4	1	2	0
December	0	0	0	0	0	0	0	2	0	0	2	2	6	1	3	3	4	3	4	2	0	2	2	0

— Time of Sunset

MAP 2.18 BICYCLE COLLISIONS (2003-2015)



A group of five people are walking away from the camera on a wide, paved sidewalk. The sidewalk is flanked by lush green trees and manicured hedges. To the left, a road with a few cars is visible. To the right, a modern building with large glass windows and columns stands in the background. The scene is bright and sunny, with shadows cast by the trees onto the path. The text 'CHAPTER 3: PEDESTRIAN PLANNING' is overlaid at the bottom of the image in a bold, white, sans-serif font.

CHAPTER 3: PEDESTRIAN PLANNING

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CHAPTER 3: PEDESTRIAN PLANNING

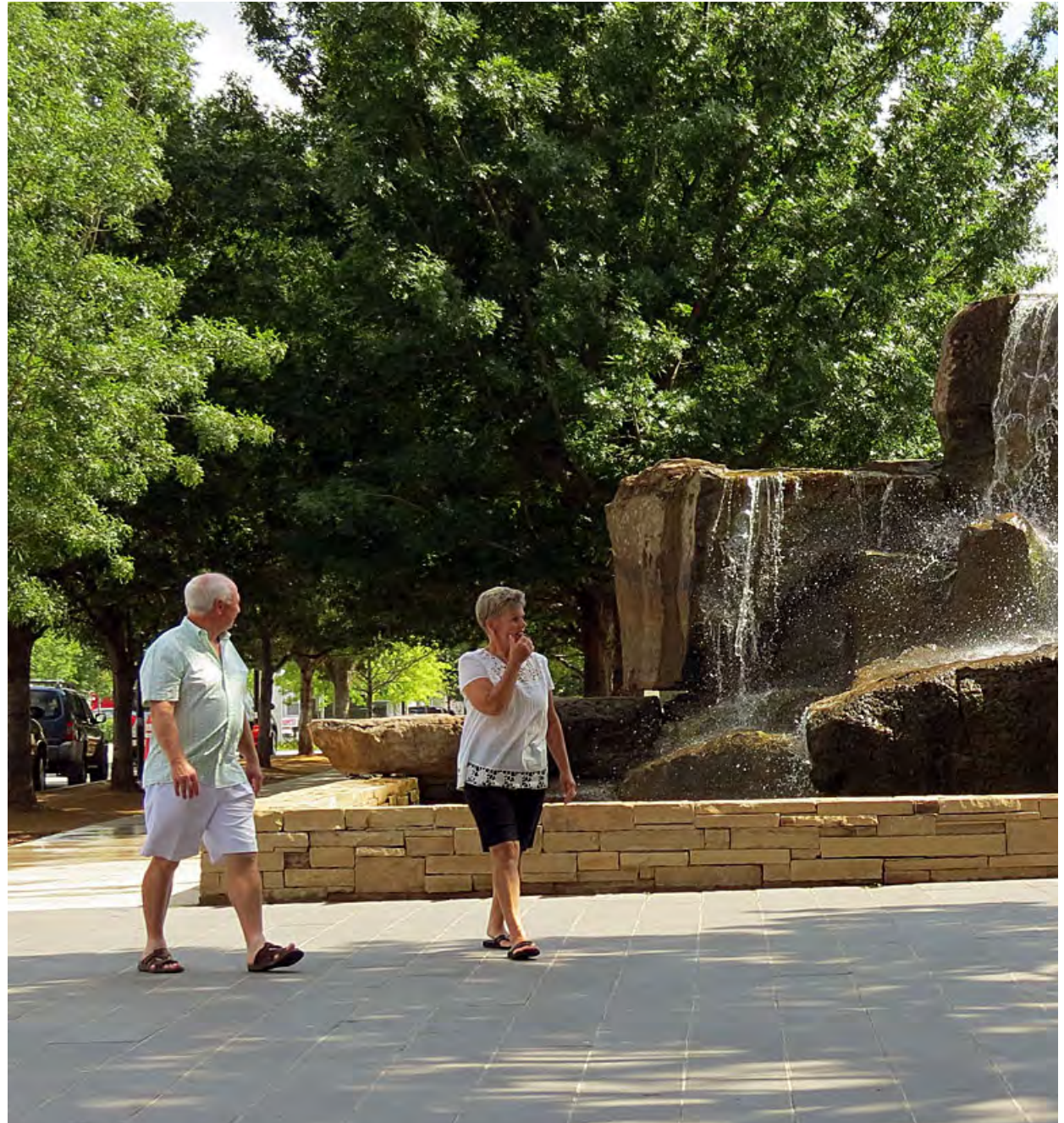
Introduction

The citywide comprehensive plan, **planokc**, describes a vision for Oklahoma City to be a walkable city with a strong pedestrian network that connects people to places they want to go. “Walkability” is a measure of how convenient, easy, and safe an area is for people to walk. A fully walkable area should allow a pedestrian to safely travel along both sides of a street, and safely cross back and forth between the two sides.

The pedestrian plan chapter of **bikewalkokc** serves as a guide to implement the vision of becoming a walkable city. This plan focuses on identifying projects that address the greatest needs of our community with an emphasis on efficient intervention to ensure that scarce resources are utilized to the greatest possible effect. The methodology for identifying priority projects in **bikewalkokc** utilized the following criteria from **planokc**:

1. **Responsive Populations** – Prioritize improvements that serve people without access to a motor vehicle (low to moderate income, elderly, the disabled, etc.) within areas that connect them to the transit system.
2. **Connectivity to Schools and Parks** – Prioritize opportunities to connect the existing sidewalk network to schools and parks.
3. **Connectivity to Existing Networks** – Prioritize opportunities to join existing networks.
4. **Neighborhood Revitalization** – Prioritize improvements in neighborhoods identified for revitalization.
5. **Urban Commercial Districts** – Prioritize improvements in Urban Commercial Districts that need pedestrian connectivity.

With these priorities a highly walkable experience is achievable in Oklahoma City, and as funding becomes available, this plan will provide the guidance for capital improvements far into the future.



EXISTING PEDESTRIAN FACILITIES

When Oklahoma City was first settled in 1889, primary modes of transportation did not include the automobile. Streets were places for pedestrians, bicyclists, horses, and trolleys. Correspondingly, the urban form of the city in its early years was designed to accommodate people on foot. As automobiles became the predominant means of transportation in the first half of the 20th century, far less pedestrian infrastructure was developed within the built environment. As this trend continued over the decades, the pedestrian network that remained deteriorated as it extended outward from the inner city.

By the turn of the 21st century, city leaders, planners, and residents recognized the need for maintaining a healthy pedestrian network, and regretted the loss of valuable pedestrian infrastructure by neglect. In response, the City reinstated requirements for new subdivisions to build sidewalks, both internally and externally along arterial corridors. However, this has created a situation where many of the newer developments in suburban areas of the city are equipped with sidewalks, while large gaps in the sidewalk network exist to connect them to older areas.

In 2009, Oklahoma City residents approved a penny sales tax to construct multiple capital improvements projects through the MAPS 3 program. It included \$39.5 million for the construction of trails, and \$18.1 million for the construction of an additional 60 miles of sidewalks across the community. In 2015, the City began a cost-sharing program with residential property owners called the Sidewalk Repair and Replacement Program, which splits the cost of repairing or replacing dilapidated sidewalks in front of personal property. These actions, as well as other initiatives to improve walkability, have helped implement **planokc**, the City's comprehensive plan, which envisions creating a transportation system that works for everyone, including pedestrians.

Map 3.1 shows the existing sidewalk network.

ASSETS AND CHALLENGES

Oklahoma City has made important strides towards building a more pedestrian-friendly community. These efforts have addressed challenges to walkability, but many challenges still persist, needing continued focus into the future.

Assets

- The majority of the city is laid out on a grid. This provides **good connectivity opportunities** for the pedestrian network.
- **MAPS 3** sidewalk and intersection improvements are filling network gaps.
- Street projects funded in the **2007 GO Bond** automatically included a sidewalk on one side of the street. This has led to many new sidewalks across the city.
- The street and sidewalk network is well-connected in the **downtown, midtown, and uptown** areas. Project 180 has made significant streetscape and pedestrian enhancements in downtown. Many existing streets are walkable and easy to cross in these areas, and minimal improvements are needed to complete the pedestrian network.
- **Standards for constructing new crosswalks** include high visibility continental crosswalk striping and appropriately-placed push buttons for crossing signals.
- A City **residential sidewalk program** allows cost sharing for the City and property owners to repair or replace existing dilapidated sidewalks.
- The City has developed a **pedestrian environment analysis toolkit (PEAT)** that provides recommendations for improvements within defined areas.
- The **City's comprehensive plan, planokc**, highly prioritizes improvements that accommodate pedestrian activity.

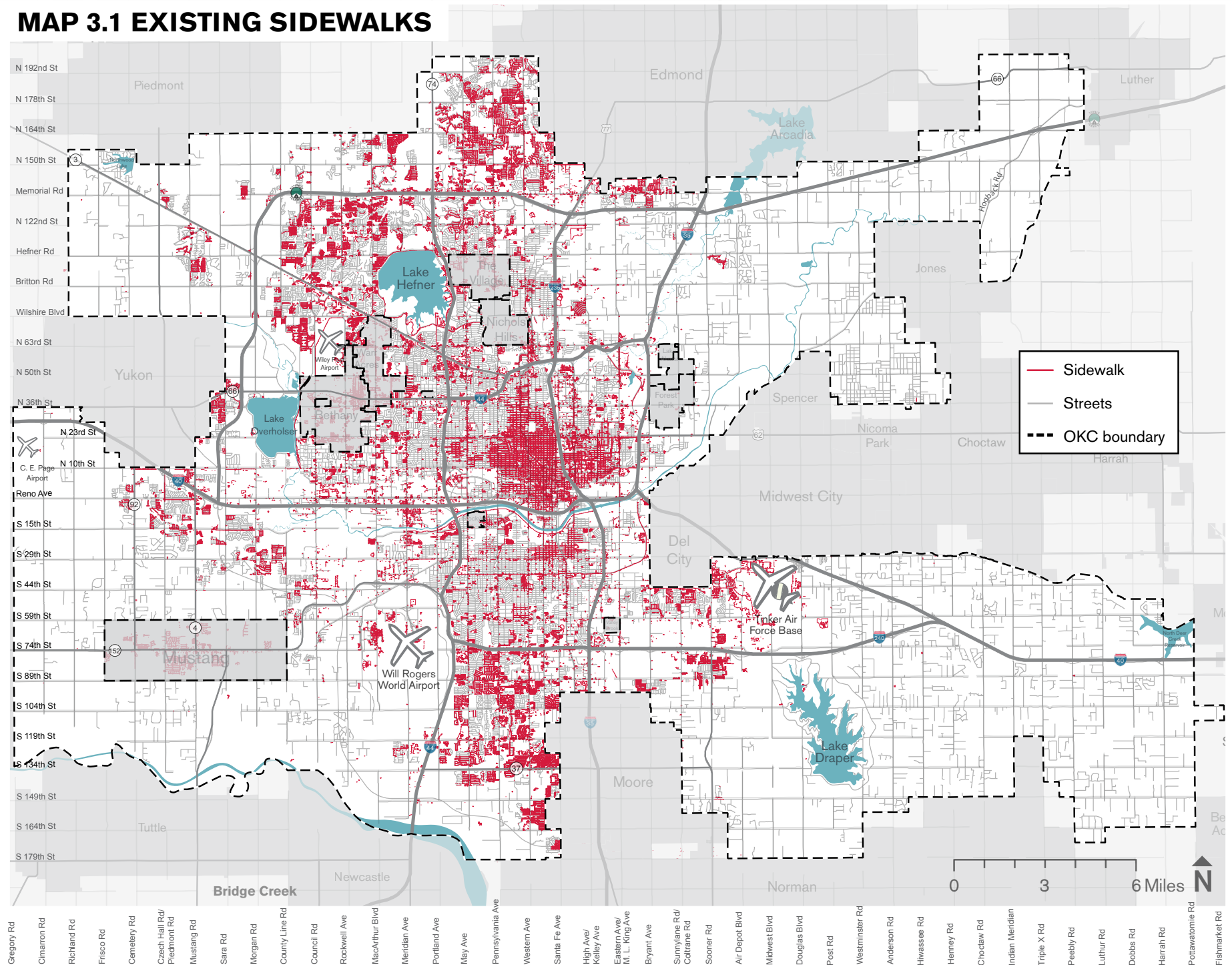
Challenges

- The majority of **development is designed around the automobile**, making it difficult, unsafe, and uninviting for pedestrians.
- **Pedestrian connectivity declines** dramatically beyond the older, "traditional" areas near the city's core.
- Major arterials, interstates, and natural features where safe crossings have not been established act as **barriers for pedestrians**.
- The existing sidewalk system includes **gaps in connectivity** to public transportation, and much is **not ADA-compliant**.



Existing pedestrian wayfinding in downtown Oklahoma City.

MAP 3.1 EXISTING SIDEWALKS



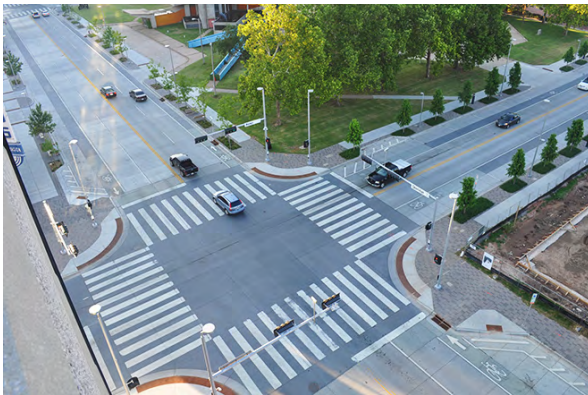
CURRENT SIDEWALK INITIATIVES

Much work has been planned, funded, and completed to fill in gaps in the sidewalk network. Three initiatives in particular have made significant progress in this pursuit. Project 180, MAPS 3, and the 2007 General Obligation Bond have combined to add more than 100 miles of new sidewalks. This section will delve into each of these three initiatives to explain their intent and their impact.

Project 180

Triggered by the construction of the 50-story, \$700M Devon Energy Center, Project 180 is funded with tax-increment financing (TIF) dollars. This project has made many dramatic changes to downtown Oklahoma City, including an upgrade for Myriad Gardens, dozens of streetscape and pedestrian realm enhancements, conversion of streets from one-way to two-way, new energy-efficient street and sidewalk lighting, bicycle lanes, and improved intersections for pedestrians. These improvements have made downtown Oklahoma City a far more walkable place.

One of the key benefits of this initiative is how much the City learned about making streets livable in terms of cost, efficiencies, what materials work well, and designing our public spaces for the people that use them, not just the automobiles that pass through them.



Project 180 street and pedestrian enhancements.

MAPS 3

Oklahoma City has gained national attention for the Metropolitan Area Projects or MAPS initiatives that began in the 1990s, converting an underperforming warehouse district, Bricktown, into what is now the most successful commercial/entertainment district in the state. Now in its third iteration, MAPS 3 includes many enhancements to the downtown area of the city, as well as many other quality of life improvements citywide. The MAPS 3 package included \$18.1 million to build sidewalks across the city. A MAPS 3 Sidewalk Master Plan was created to identify where sidewalks were most needed, and how to best utilize the funds.

The purpose of the MAPS 3 Sidewalk Master Plan was to create “a series of strategically placed sidewalks on arterial streets and near public use facilities within the City of Oklahoma City.” The report looked at 215 miles and identified between 25 to 36 miles of new sidewalks to be constructed. The criteria used for identification and prioritization of sidewalks were:

First Order (in order and weighted):

- Proximity/connectivity to schools
- Desire paths
- Proximity to transit
- Population & employment density
- Pedestrian collisions & fatalities
- Proximity to hospitals, parks, libraries

Second Order:

- Utilities
- Right-of-way
- Connection to existing sidewalk
- Constructability or obstruction congestion

It is anticipated that 60 miles of MAPS sidewalks will be completed by the end of the project. This will help fill in gaps along major arterials, which improves transit accessibility, stimulates commercial districts, and provides residents opportunities for physical activity.

2007 General Obligation Bond

General obligation (GO) bonds are the City’s most important tool to fund major infrastructure projects like streets, bridges, sidewalks and more. They’re funded by property taxes.

Miles of sidewalks have been constructed as a part of the Oklahoma City bond issue from 2007. It is anticipated to generate 275 miles of new sidewalks. This is a significant amount of sidewalks, but every one of these projects was built as part of either a street widening or resurfacing project, which means the sidewalks weren’t necessarily built in areas of greatest pedestrian need.

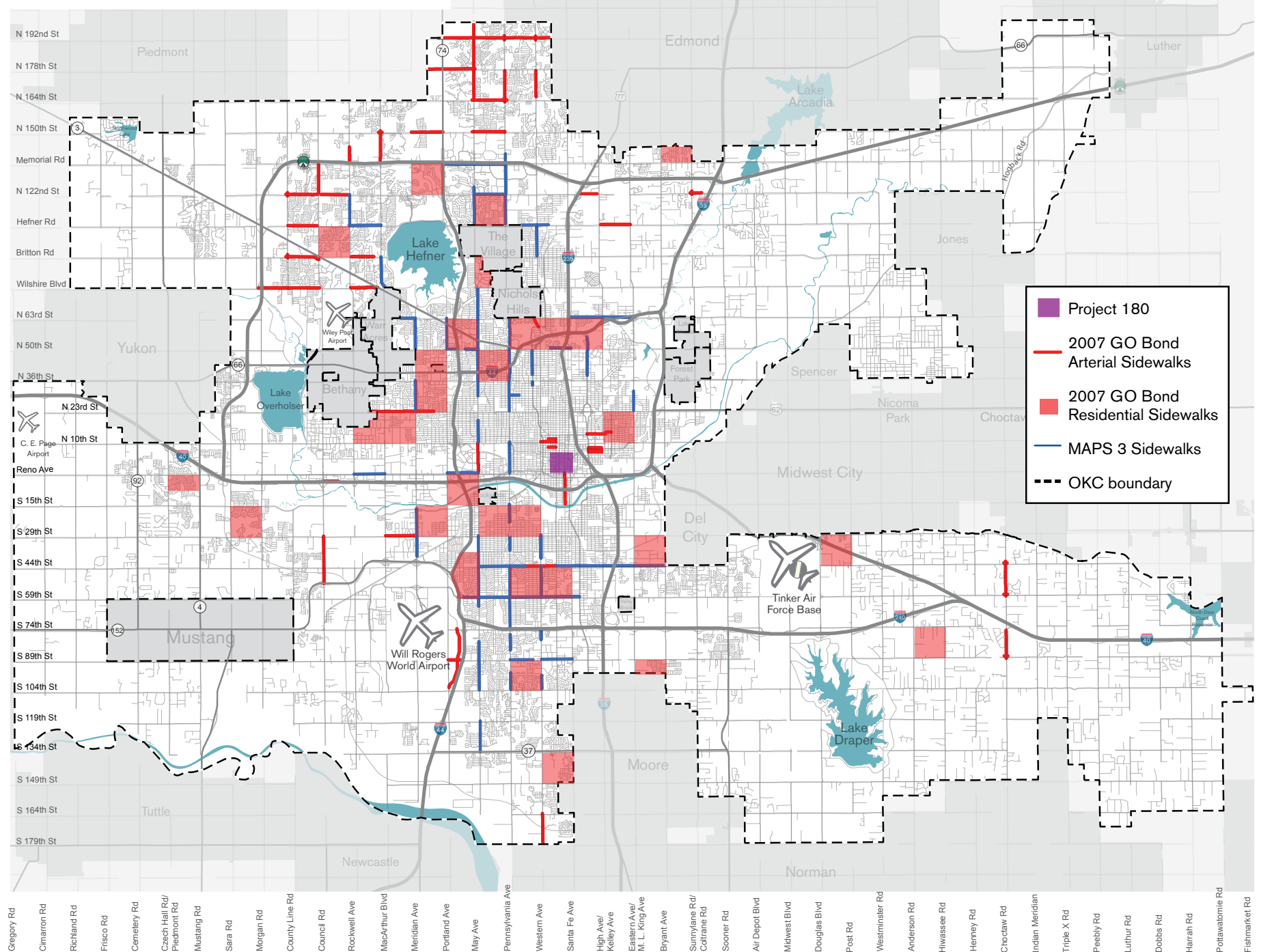
For the 2017 GO Bond election, the City placed a new, stand-alone proposition on the ballot for sidewalks. This allows the City to locate sidewalks where they are most needed. The 2017 bond issue, which was approved by voters, is an opportunity to further improve walkability in Oklahoma City in the most effective way possible. With the completion of bikewalkokc, the City of Oklahoma City is more prepared to address the pedestrian needs of its residents than ever before.

Map 3.2 shows the location of these sidewalk initiatives.

.....
75% of the \$3.6 trillion of outstanding debt issued by cities and states is owned directly or indirectly, usually through a municipal bond fund, by American households.

- Brookings Institute “Building Better Infrastructure with Better Bonds”

MAP 3.2 CURRENT INITIATIVES



Pedestrian Plan

This pedestrian plan targets areas of greatest need and greatest potential to make strategic improvements that can build a truly walkable environment for people who cannot or may not rely on the automobile as the primary means of transportation.

PEDESTRIAN PRIORITY AREAS

The methodology for creating the pedestrian plan is based on the identification of key Pedestrian Priority Areas (PPAs) around the city, including downtown. Ten PPAs were selected through a comprehensive analysis that took into account a variety of criteria, such as land use, public transit, infrastructure conditions, public safety concerns, demographics and more. The plan assesses the individual contexts and conditions within each of the PPAs and downtown, and makes recommendations for improvements to allow pedestrians to safely and efficiently access key destinations, like public transit, schools, and parks.

Process and Analysis: Pages 84-91

Example: Pages 92-95

DOWNTOWN

Downtown Oklahoma City has been changing rapidly over the past two decades, due to improvements from the MAPS program, Project 180, and numerous infill and redevelopment projects in the Central Business District, Deep Deuce neighborhood, Midtown, Automobile Alley, and several other downtown districts. As jobs and residents continue to increase downtown, the pressure to accommodate the varied transportation needs of this population increases. Therefore, it is incumbent on the City of Oklahoma City to provide infrastructure that meets this demand.

The methodology for identifying pedestrian needs within downtown involved the development of a Pedestrian Environment Assessment Toolkit (PEAT) to evaluate intersections and street segments for deficiencies in pedestrian infrastructure. From this, a detailed set

of project lists was developed to capture gaps in the sidewalk network and provide recommendations to create a better pedestrian experience for residents, workers, tourists, and all others.

Process and Analysis: Pages 96-99

TRANSIT STOP PRIORITIZATION

Transit users are obligate pedestrians; therefore, establishing walkable corridors that correspond to transit routes is imperative to achieve higher levels of ridership and rider satisfaction. A well-functioning transit system takes users where they need to go. This means that ADA accessible sidewalks should exist wherever transit users need to walk, bus stops should be in good repair and provide protection from the elements, and users should be able to safely cross the street to access transit stops.

Pedestrian improvements that support the transit network were identified by prioritizing improvements at transit stops that scored highest based on many different criteria. The plan recommends sidewalks to be constructed within one mile of these top-scoring bus stops to facilitate access from surrounding areas.

Process and Example: Pages 100-101

Prioritization List: Appendix P.1

PARKS AND SCHOOLS

Physical activity opportunities and education are two of the most important elements of a healthy and successful community. Many parents would like their children to be able to walk to school, and to utilize nearby schools as community centers, gyms, and safe community gathering and meeting spaces for those who live in proximity to them. The approach of this plan ranked the more than 150 parks and greater than 180 schools in the city to create a prioritization list of pedestrian improvement projects connecting people to these facilities.

Process and Example: Pages 102-105

Prioritization List: Appendix P.2 and P.3

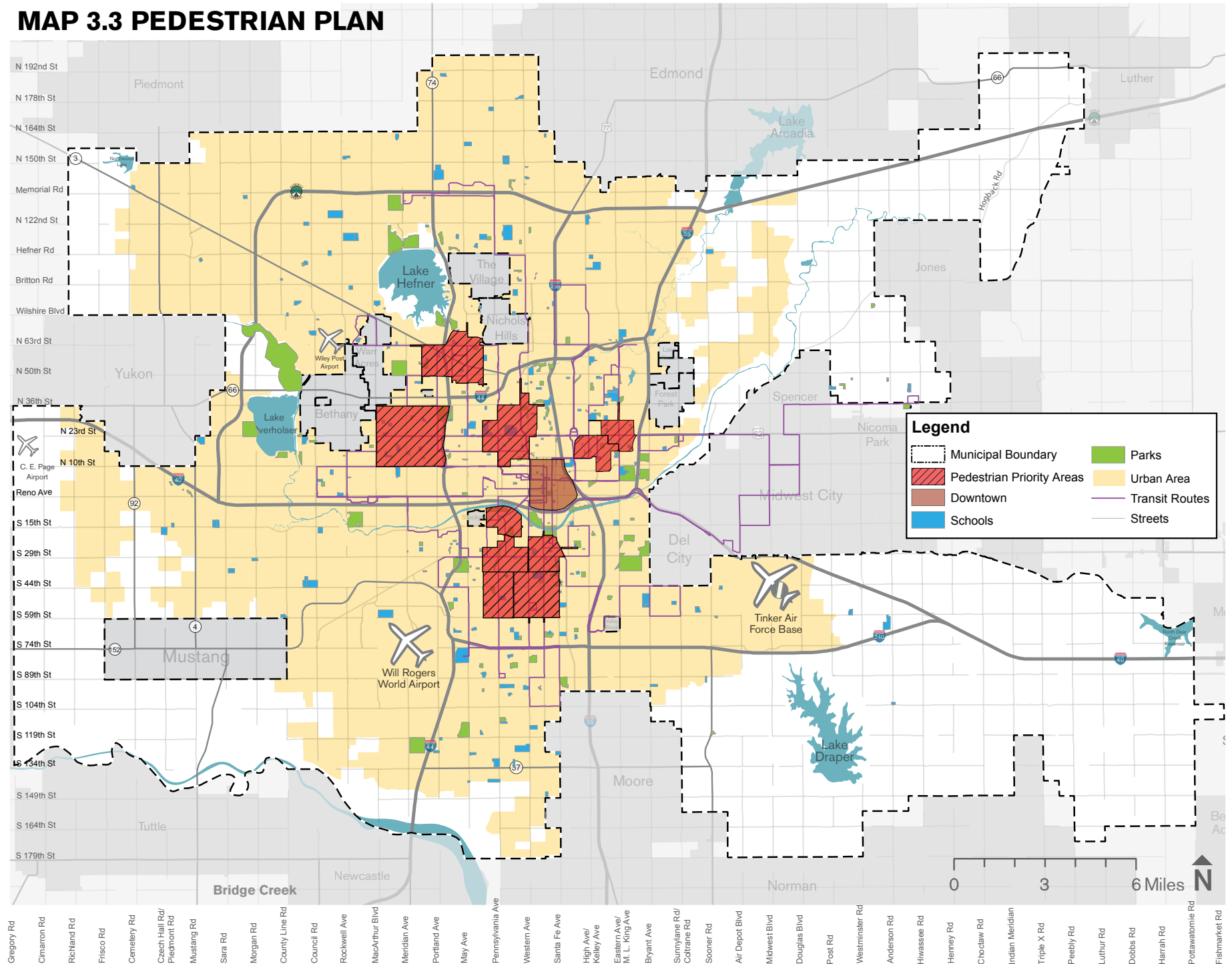
CITYWIDE APPROACH

The remainder of the urbanized area within Oklahoma City has a great need for pedestrian improvements. Due to the sheer size of Oklahoma City and the magnitude of need for pedestrian improvements across the entire 621 sq. mi. area, prioritization is critical for the development of a long-range approach to pedestrian improvement projects. There are four base land-use typology areas (LUTAs) in planokc: Urban High Intensity, Urban Medium Intensity, Urban Low Intensity, and Rural. This plan excludes the Rural LUTA due to obvious limitations on pedestrian activity as it relates to large, spaced-out properties that are not within any sort of walkable distance of land uses that might generate pedestrian activity. For the remaining base LUTAs, the approach is to break them into quarter-mile areas and rank them using the data from the Pedestrian Priority Areas process to create a prioritization list of future pedestrian improvement strategies.

Process: Pages 84-87

Prioritization List: Appendix P.4

MAP 3.3 PEDESTRIAN PLAN



COMPONENT PLANS: Pedestrian Priority Areas

Goal:

“Create walkable areas that connect people to their daily needs.”

Responsive populations:

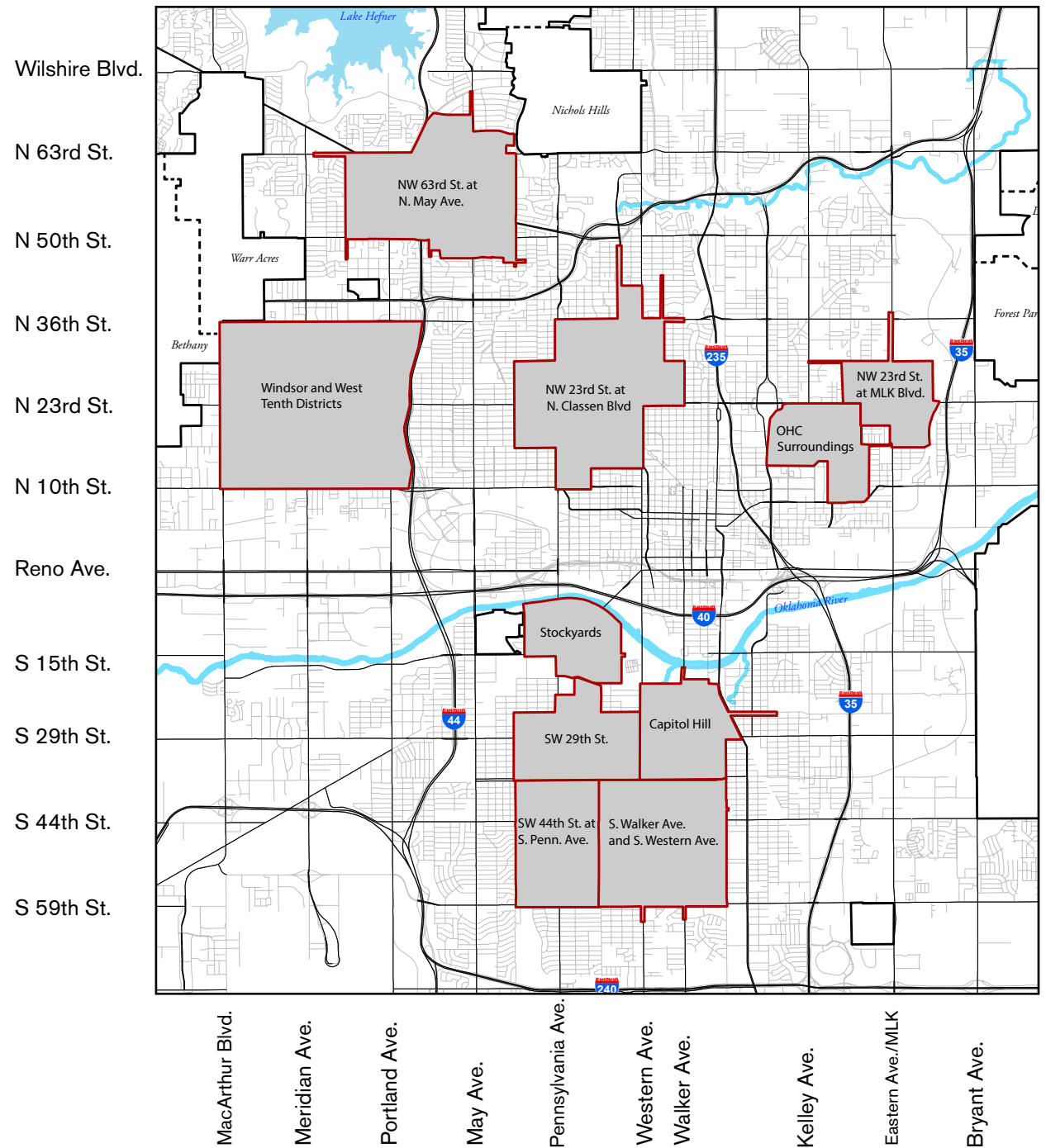
- Households without access to an automobile
- The disabled
- The elderly and the young
- Households in poverty
- Transit riders
- School users
- Park users
- Churchgoers
- Shoppers/Customers

Funding sources:

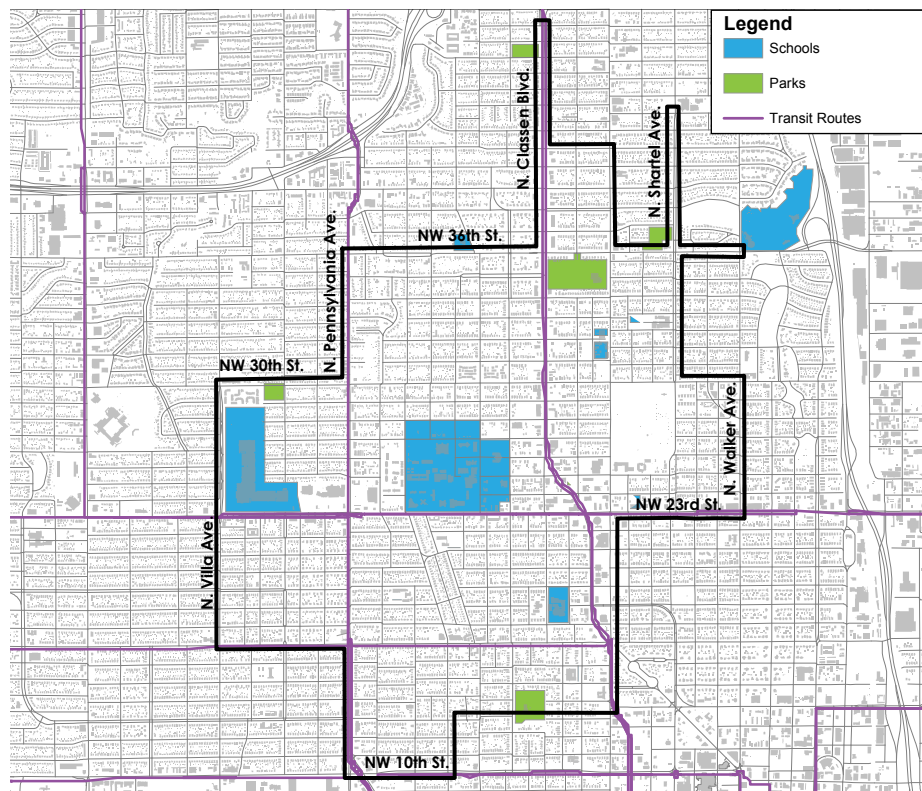
- General obligation bonds
- Sales tax initiatives

JUSTIFICATION

Through a prioritization process, a list of 10 Pedestrian Priority Areas (PPAs) was generated. These areas were selected based on the density of high-scoring intersections from the analysis detailed on pages 26-31. Once identified, the boundaries of the PPAs were determined based on detailed site investigations and strategic approaches to maximize the improvement to walkability that the smallest amount of pedestrian infrastructure improvements could have. The PPAs (in no particular order) are identified by key commercial districts, major intersections, or major corridors, whichever is the most readily identifiable “place” that the PPA boundaries encompass. These are described on pages 69-73.



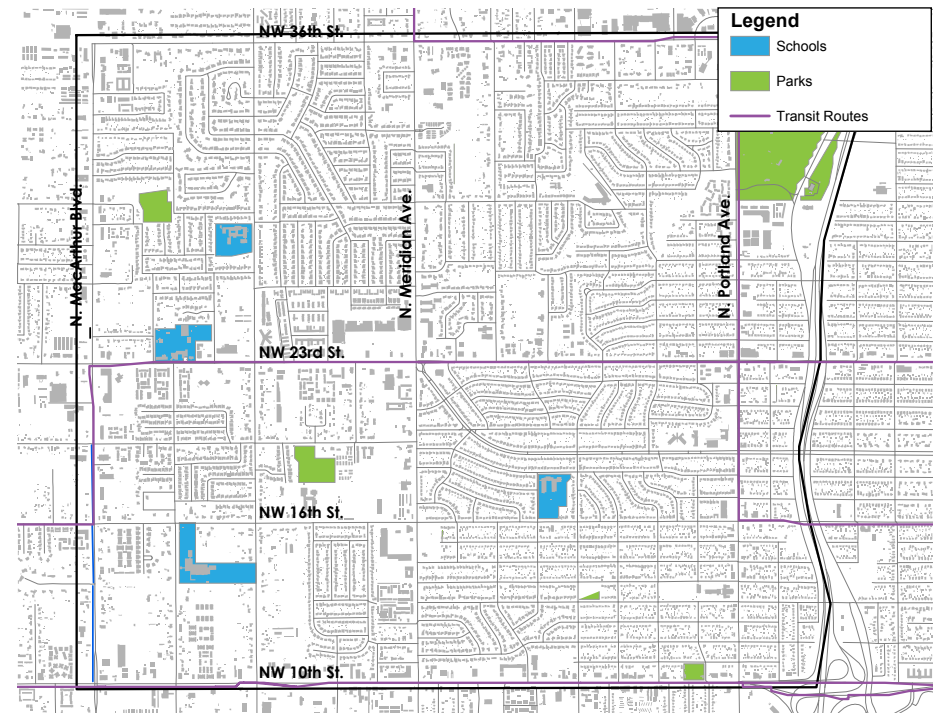
Map 3.4 - Pedestrian Priority Areas



NW 23rd St. at N. Classen Blvd.

Of all the areas analyzed to determine the potential for walkability, the area surrounding the intersection of NW 23rd St. and N. Classen Blvd. shows the greatest potential. This area includes many land uses that generate pedestrian activity, but at present the primary streets have several barriers to safety and walkability. This study area is within close proximity of the downtown area, and could fundamentally change the culture of the inner city toward a more urban lifestyle if made completely walkable. This would provide opportunities for economic development, healthier lifestyles due to active living, and cost savings to those who live and work in the area by lowering the need to own and operate a motor vehicle to access daily needs.

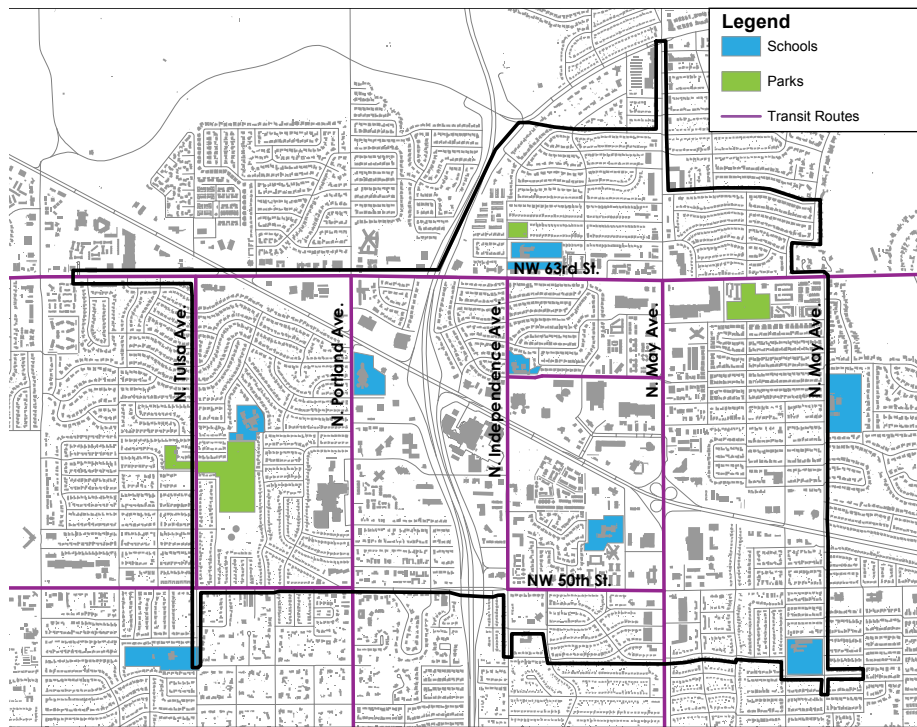
Schools in Area	Parks in Area	Transit Stops in Area
10	7	86



Windsor and West Tenth Districts

A new commercial district has recently been gaining momentum at the intersection of NW 23rd St. and N. Meridian Ave. Property owners, businesses, and residents are becoming organized, and public and private investments are making improvements to surrounding infrastructure. The City of Oklahoma City Planning Department has developed an area plan for the Windsor and WestTen Districts, the goals of which are to improve key places and ensure safe, convenient transportation options to residents. The southwestern quarter of this area is very low income with high rates of “carelessness.” One in four properties in the southwest quarter are either vacant or abandoned, creating gaps in the urban fabric. Attempts to stimulate investment in the area as a whole, and particularly in areas with the greatest need, will help to further the goals of the commercial district in the area.

Schools in Area	Parks in Area	Transit Stops in Area
6	8	48



NW 63rd St. at N. May Ave.

This PPA has the most suburban style of development of the 10 areas selected for this plan. Many barriers to walkability exist within in this area, the greatest of which is NW Expressway. The area includes a wealth of retail, commercial, office, and restaurant uses in a relatively small area; however, presently this area is not very walkable. This will improve with the addition of designated MAPS 3 sidewalks within the PPA boundaries. Recommended improvements to walkability are focused on enabling people to safely access the stores and amenities without having to drive between them, whether that be via transit or walking.

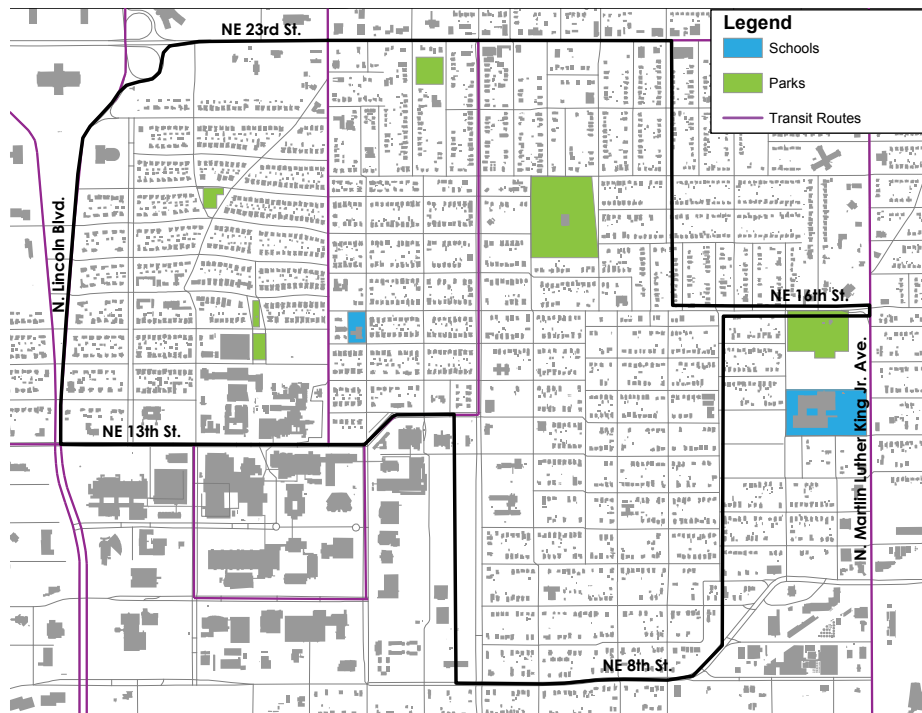
Schools in Area	Parks in Area	Transit Stops in Area
7	4	40



NE 23rd St. at N. MLK Jr. Ave.

The intersection of Martin Luther King Jr. Ave. and NE 23rd St. is one of the busiest intersections on the northeast side of Oklahoma City. This node was selected based upon the high density of land uses in the area that generate pedestrian traffic, as well as the high concentration of residents in the area who live without a motor vehicle. Additionally, this area has higher levels of poverty and disability than any other in the city. These factors indicate a great need for alternative transportation options that are easily accessible.

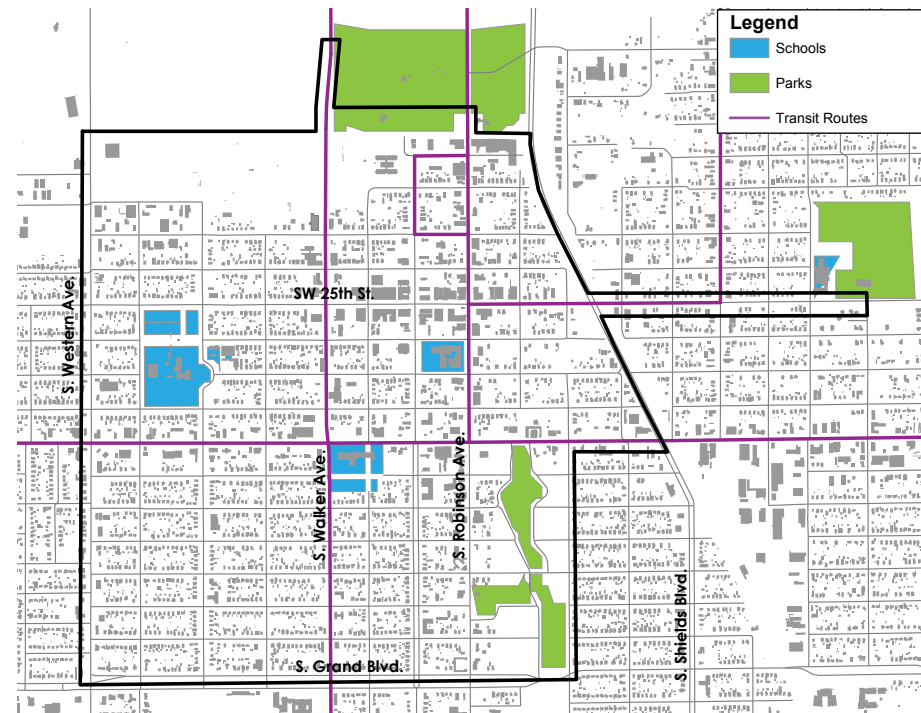
Schools in Area	Parks in Area	Transit Stops in Area
2	4	29



OHC Surroundings

The neighborhoods that surround the Oklahoma Health Center (OHC) include a wide spectrum of income levels, creating a mix of housing opportunities in an area with high potential for walkability. Key assets like the State Capitol facilities, the NE 23rd St. commercial corridor, in addition to thousands of jobs at OHC and the emerging Innovation District, anchored by the new General Electric office complex, amplify the need to fill the gaps in the existing sidewalk network and improve safety at street crossings. Though some neighborhoods in this area are affluent, the neighborhoods east of N. Kelley Ave. are the poorest in all of Oklahoma City. One out of four households in the eastern portion of this area do not have access to a motor vehicle. Providing safe access to transit and the wealth of jobs in the area are key reasons for making pedestrian improvements here.

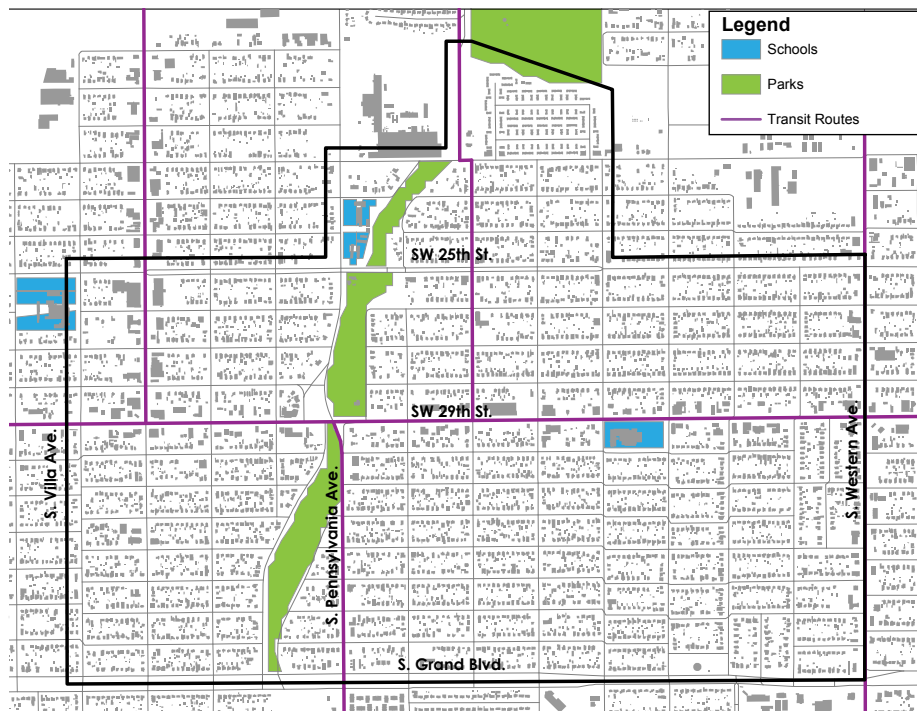
Schools in Area	Parks in Area	Transit Stops in Area
1	6	28



Capitol Hill

The Capitol Hill district just south of the Oklahoma River is one of the best opportunities in the city for future development both in terms of real estate and culture. Rates of “carlessness” are double the average for the city in this area, and median income for the ZIP code that covers this area is 4th lowest in the metropolitan area. Greater than 50% of the population is ethnically Hispanic, and one in five residents are disabled. Filling in gaps in the existing sidewalk network and improving the ability to cross busy roads safely is essential due to the area’s urban nature and the amount of transit opportunities that exist. This PPA can provide access to both the S. Grand Boulevard Trail and the Oklahoma River trails network, arguably making it the best place to access the trails network in Oklahoma City.

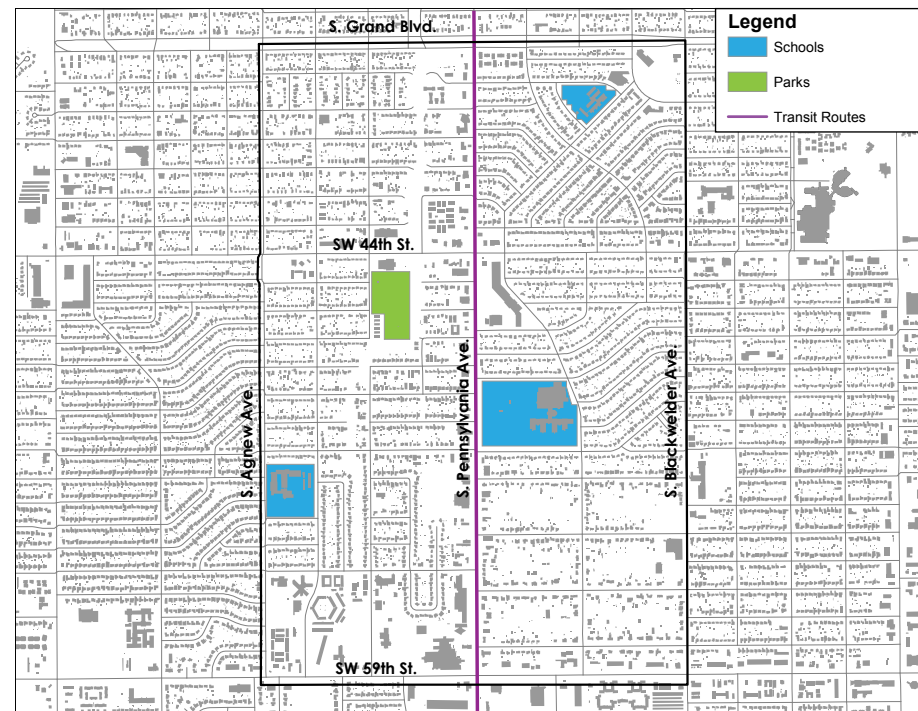
Schools in Area	Parks in Area	Transit Stops in Area
4	4	42



SW 29th St.

SW 29th St. is one of the most important corridors on the south side of Oklahoma City for several reasons. As a commercial and retail hot spot, thousands of people drive, bike, and walk to and from the area. The corridor has become a defined district and a central location for the Hispanic community in Oklahoma City. Unfortunately, sidewalks and safe crossings are lacking. Rates of “carelessness” are high, and household incomes are well below the average for the city. These factors, in addition to high rates of disabled individuals, make it imperative to provide safe and accessible crossings to support the needs of the area’s residents and visitors.

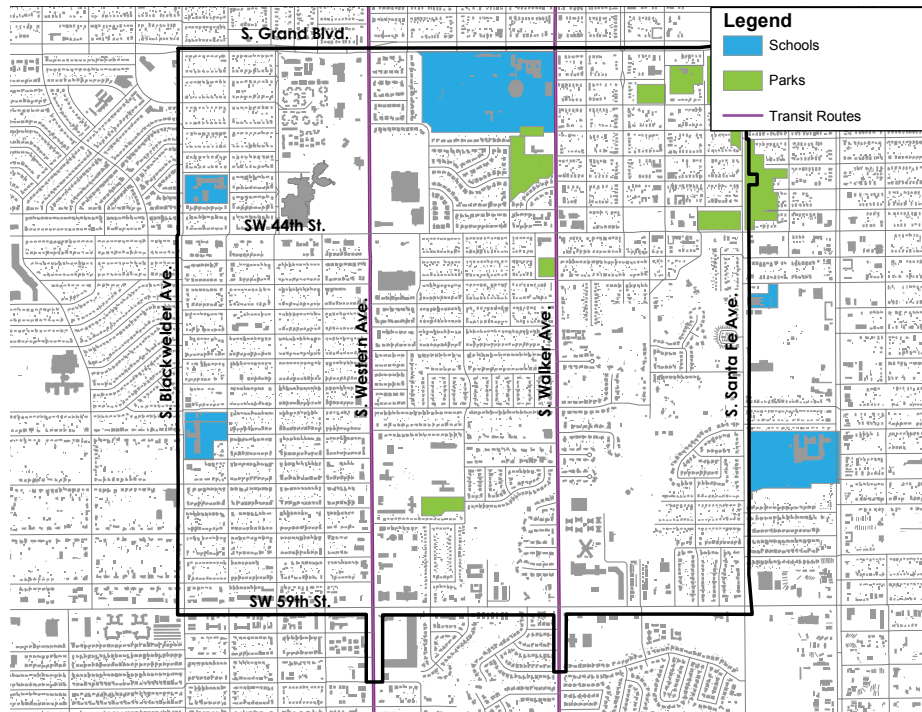
Schools in Area	Parks in Area	Transit Stops in Area
2	1	28



SW 44th St. at S. Pennsylvania Ave.

The south side of Oklahoma City north of the I-240 corridor has excellent connectivity in its street grid. Thousands of households live within the boundary of this PPA, centered around the intersection of SW 44th St. and S. Pennsylvania Ave. Greater than 50% of the population in this area is Hispanic in ethnicity, and household income is lower here than in nearly any other part of the city. The area includes great opportunities to better connect the community to key features like the S. Grand Boulevard Trail, several schools, commercial areas, libraries and more. Creating a walkable community in this area will require taking advantage of streets that traverse the drainage channel that carries Brock Creek’s flows.

Schools in Area	Parks in Area	Transit Stops in Area
3	1	14



S. Walker Ave. and S. Western Ave. Corridors

The S. Western Ave. and S. Walker Ave. corridors act as a double spine for the southside from the Oklahoma River, all the way down to the I-240 corridor. Between S. Grand Blvd. and SW 59th St. in particular, a diversity of land uses and a great deal of residential property create conditions well-suited for a walkable community. Presently, however, the sidewalk network is sorely lacking. The population in the area is very diverse with large numbers of White, Hispanic, and Native American households. “Carlessness” is more than double the rate of the city as a whole, and many transit routes criss-cross the PPA. All of these factors, plus the high rate of disability among the population in the area, emphasize the great need for improvements to the sidewalk network and safe crossings of major arterial streets.

Schools in Area	Parks in Area	Transit Stops in Area
3	4	32



Stockyards City

Stockyard City has excellent street connectivity, but lacks a complete sidewalk network beyond the primary commercial district areas along Exchange Ave. and S. Agnew Ave. The area’s close proximity to the river gives it great potential to connect pedestrians and cyclists to the river trails network. Additionally, there are three bridges across the river in close proximity, which presently are not well-connected by sidewalks. The residents in the local ZIP code have much lower incomes than other areas in the city, and 1 in 10 do not have access to a motor vehicle, reinforcing the importance of providing alternative transportation options for those who live there in addition to strengthening the network for visitors to the commercial district.

Schools in Area	Parks in Area	Transit Stops in Area
1	3	13

COMPONENT PLANS: Downtown

Goal:

“Make downtown a more accessible place to visit, work, shop, and live.”

Responsive populations:

- Downtown residents
- Downtown employees
- Tourists
- Developers
- Shoppers/Consumers
- Transit riders
- Special event attendees

Funding sources:

- General obligation bonds
- Sales tax initiatives
- Tax Increment Financing allocations
- Federal funds

JUSTIFICATION

Downtown demands the highest possible level of walkability in order to be successful as the city’s center of commerce and visitation with the highest level of residential density.

Several efforts have begun to improve walkability in parts of downtown, such as Project 180, which has converted streets from 4-lane one-way streets to two-way streets with improved pedestrian spaces. In order to capitalize on the improvements that have been made over the last decade, it is important to understand what areas of downtown are in particular need of improvement, as well as to know what steps need to be taken to raise the whole area to the level of walkability afforded to pedestrians in the Project 180 area.

DOWNTOWN PLAN

The downtown area is made up of several smaller districts including:

- Central Business District;
- Midtown;
- Automobile Alley;
- Bricktown;
- Deep Deuce;
- Film Row;
- SOSA (South of St. Anthony);
- Core to Shore; and
- all of the spaces between them.

Closing gaps in the sidewalk network, both in terms of existing infrastructure and the quality thereof, will help create a walkable community where residents and visitors can choose to walk between these districts rather than drive. Additionally, the success of the future downtown streetcar depends on a surrounding pedestrian network that is complete, accessible, and inviting. The plan recommends filling in the gaps in the sidewalk network, and identifies needed improvements related to the pedestrian experience. This experience includes safe crossings, lighting, shade, and more.



.....
The Oklahoma City Streetcar will be complete in 2018, and will benefit from a strong pedestrian realm.

PEAT ASSESSMENT RESULTS

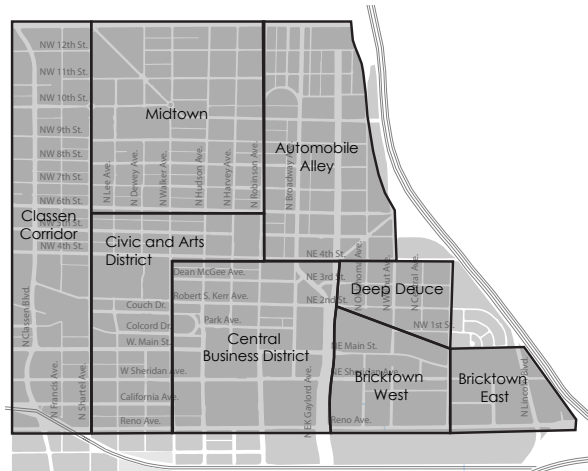
To better understand the results of the downtown Pedestrian Environment Assessment Toolkit (PEAT) assessment, the study area was broken into eight sub-areas that have distinctly different character. Study at this scale allowed area-based projects to be identified. Figure 3.1 shows the overall percentage PEAT score out of 100%, and also includes strategies identified in the analysis that would raise the PEAT score, thereby improving walkability.

Two sub-areas had an average score of “Good” - the Central Business District and Bricktown West. These areas have been the focus of a great deal of public investment with the intention of making them more vibrant and walkable, and the results are noticeable, though work still needs to be done. Intersections and segments within the Classen Corridor and Bricktown East sub-areas scored the lowest, indicating that these two areas need the greatest amount of work to become walkable. Fortunately, a great deal of private development has begun to occur in these two areas, and infrastructure put in place as a part of these developments will increase the corresponding PEAT scores.

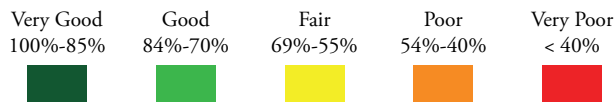
Every sub-area showed a need for pedestrian-scale lighting consistent with that installed in the Project 180 area. With the knowledge that poor visibility is one of the leading causes of pedestrian fatalities, it is clear that this should be a priority within the most walkable area in the city. Other factors that contributed to a lower PEAT score for all of the sub-areas include: a need for shade trees, a need for two-directional curb ramps, a need for for new and repainted crosswalks, a need for additional sidewalk width in tight areas, and a need for seating.

The bulleted recommendations on the following page are listed in order of highest priority for each of the sub-areas. The percentage scores are a combination of all of the PEAT criteria. See page 90 for a detailed description of the PEAT process.

Figure 3.1 PEAT Assessment Results



Downtown Sub-Areas for PEAT Assessment



Central Business District	Intersections Score	<ul style="list-style-type: none"> Update ADA ramps to two directional ramps per corner. Add missing crosswalks, and repaint faded ones.
	79%	
	Segments Score	<ul style="list-style-type: none"> Increase amount of public seating. Add pedestrian-scale lighting. Increase sidewalk width in tight locations.
	72%	

Bricktown West	Intersections Score	<ul style="list-style-type: none"> Increase lighting at intersections. Remove all obstructions to pedestrians. Update ADA ramps to two directional ramps per corner.
	72%	
	Segments Score	<ul style="list-style-type: none"> Increase amount of public seating. Add pedestrian-scale lighting. Increase sidewalk width in tight locations. Remove sidewalk obstructions. Add street trees.
	76%	

Automobile Alley	Intersections Score	<ul style="list-style-type: none"> Update ADA ramps to two directional ramps per corner. Add missing crosswalks, and repaint faded ones. Increase lighting at intersections.
	71%	
	Segments Score	<ul style="list-style-type: none"> Add street trees. Increase amount of public seating. Increase sidewalk width in tight locations. Add trash cans. Remove sidewalk obstructions.
	66%	

Civic and Arts District	Intersections Score	<ul style="list-style-type: none"> Update ADA ramps to two directional ramps per corner. Add missing crosswalks, and repaint faded ones. Increase lighting at intersections.
	71%	
	Segments Score	<ul style="list-style-type: none"> Increase amount of public seating. Increase sidewalk width in tight locations. Add pedestrian-scale lighting. Add street trees.
	63%	

Deep Deuce	Intersections Score	<ul style="list-style-type: none"> Update ADA ramps to two directional ramps per corner. Add safe crossings at uncontrolled intersections. Add missing crosswalks, and repaint faded ones. Increase lighting at intersections.
	59%	
	Segments Score	<ul style="list-style-type: none"> Increase amount of public seating. Increase sidewalk width in tight locations. Add pedestrian-scale lighting.
	75%	

Midtown	Intersections Score	<ul style="list-style-type: none"> Increase lighting at intersections. Add missing crosswalks, and repaint faded ones. Add safe crossings at uncontrolled intersections. Update ADA ramps to two directional ramps per corner.
	65%	
	Segments Score	<ul style="list-style-type: none"> Increase amount of public seating. Add pedestrian-scale lighting. Increase sidewalk width in tight locations. Add street trees.
	60%	

Classen Corridor	Intersection Score	<ul style="list-style-type: none"> Increase lighting at intersections. Add missing crosswalks, and repaint faded ones. Add safe crossings at uncontrolled intersections. Update ADA ramps to two directional ramps per corner.
	59%	
	Segments Score	<ul style="list-style-type: none"> Increase amount of public seating. Add pedestrian-scale lighting. Add street trees. Increase sidewalk width in tight locations. Remove existing obstructions. Fill in gaps in the sidewalk network.
	53%	

Bricktown East	Intersections Score	<ul style="list-style-type: none"> Update ADA ramps to two directional ramps per corner. Add missing crosswalks, and repaint faded ones. Add safe crossings at uncontrolled intersections. Remove obstructions. Close the gaps in the sidewalk network. Increase lighting at intersections.
	32%	
	Segments Score	<ul style="list-style-type: none"> Increase amount of public seating. Increase sidewalk width in tight locations. Fill in gaps in the sidewalk network. Add street trees. Add pedestrian-scale lighting. Remove sidewalk obstructions. Add trash cans.
	42%	

COMPONENT PLANS: Access to Transit

Goal:

“Make the pedestrian component of transit ridership convenient, safe, and dignified.”

Responsive populations:

- Households without access to an automobile
- Households in poverty
- The elderly and the young
- General transit riders
- Potential transit riders

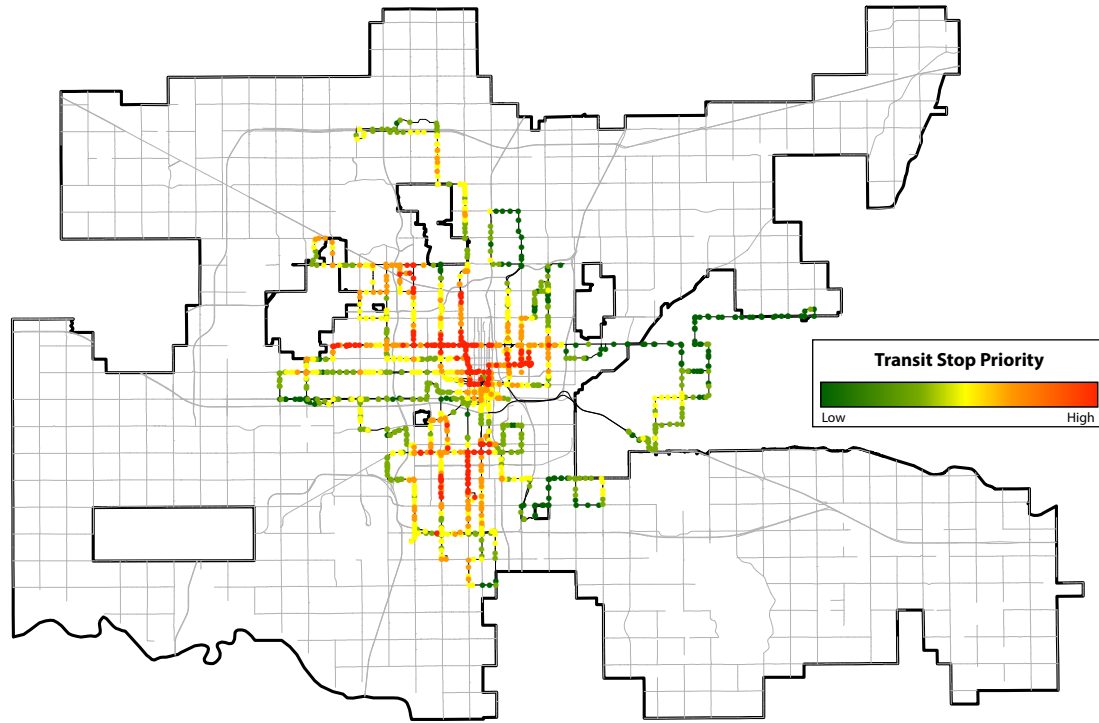
Funding sources:

- General obligation bonds
- Sales tax initiatives
- Tax Increment Financing allocations
- Federal funds

JUSTIFICATION

Transit routes and stops need sufficient pedestrian infrastructure in order to be best utilized. When transit stops are disconnected from pedestrian infrastructure, riders are placed at higher risk of collision with automobiles, those with disabilities are limited in their ability to utilize the transit system, and people who do not currently use public transit are less likely to choose to do so because it is more difficult to use. With this in mind, public transit routes and stops were primary criteria in the Pedestrian Priority Areas (PPAs). 509 transit stops have been addressed through in-depth sidewalk and intersection planning in each of the PPAs. This accounts for 37.7% of the 1,350 transit stop locations in the EMBARK bus system.

Map 3.5 - Transit Stop Prioritization Score



TRANSIT STOP PRIORITIZATION

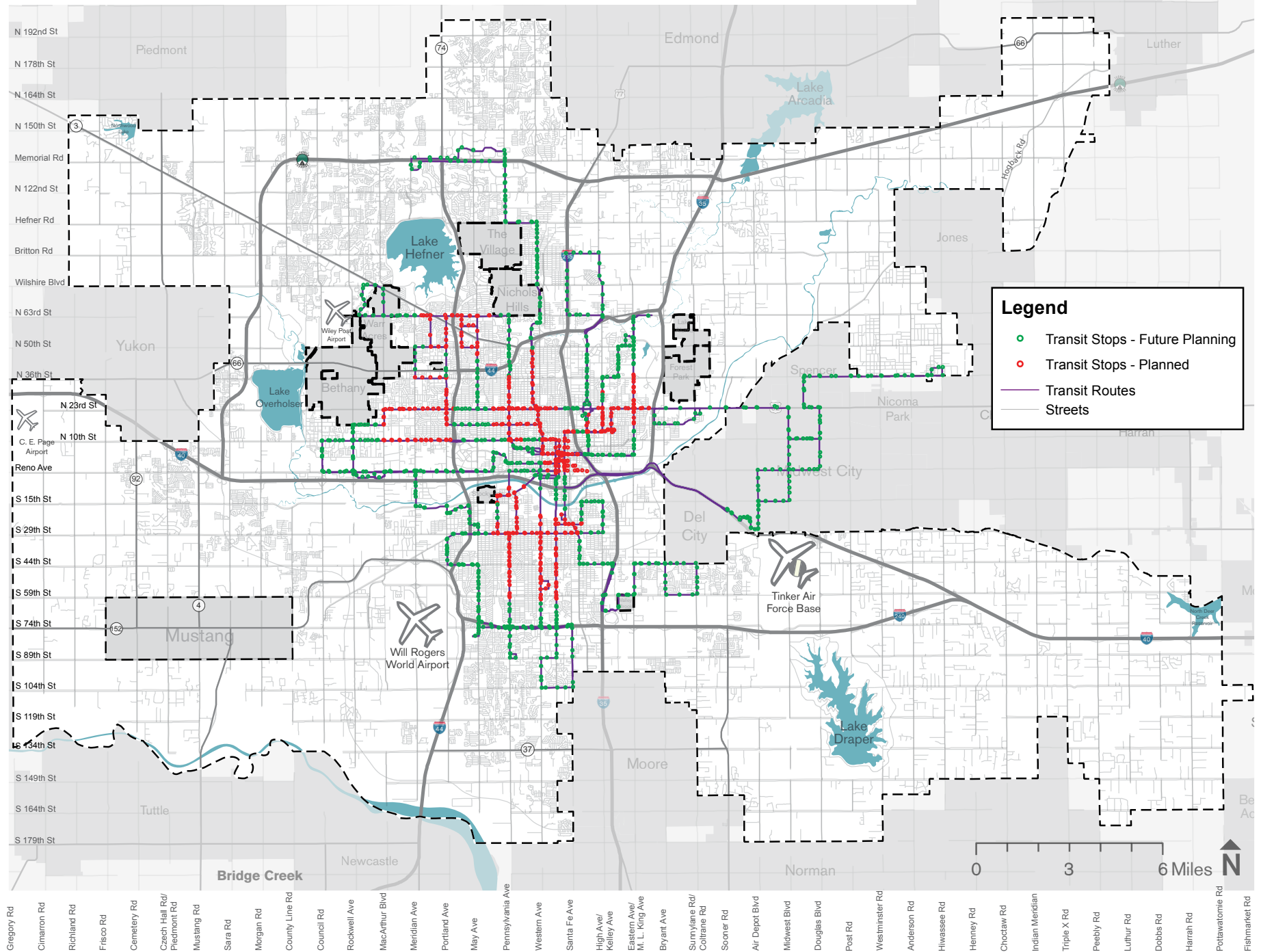
Beyond the 509 stops already addressed in the PPAs, the remaining 841 stops in the system have been prioritized for improvements by using a score generated from a number of criteria. Those criteria include:

1. Boarding and alighting
2. Population density
3. Employment density
4. Activity density
5. Proximity to supermarkets and grocery stores
6. Proximity to healthcare facilities
7. Proximity to parks
8. Proximity to trails
9. Proximity to schools and colleges
10. Proximity to government facilities
11. Proximity to multi-family residential

Each transit stop location was ranked based on these criteria, which together illustrate the significance and potential of each of the stops to be as useful to riders as possible. See Appendix P.1 for the complete ranked list of transit stops.

Map 3.5 shows the scoring of each of the transit stops in the EMBARK system. The stops in red represent the highest priority for pedestrian improvements based on the previously mentioned criteria. These hot spots are primarily located within the PPAs, adding further justification to the PPA selection process (see pages 68-73). Map 3.6 shows the locations of the 509 stops already addressed in this plan, and the similarity to the high priority stops in Map 3.5 is apparent.

MAP 3.6 TRANSIT STOPS IN PEDESTRIAN PRIORITY AREAS (PPA)



COMPONENT PLANS: Access to Schools

Goal:
“Create a safer environment for children and families to walk to neighborhood schools.”

- Responsive populations:**
- Children
 - Families
 - School faculty and staff
 - Neighborhood residents

- Funding sources:**
- General obligation bonds
 - Sales tax initiatives
 - Safe Routes to Schools funding
 - Transportation Alternatives Program (TAP)

JUSTIFICATION

Children and families should be able to walk to and from neighborhood schools on safe, convenient, and comfortable facilities. A walkable area around a school provides many benefits, such as less dangerous traffic around schools, more options for physical activity for children, and improved use of the school’s athletic facilities by all neighboring residents.

The PPA plans and downtown plan address 50 of the 206 schools in the city. Each of the remaining 156 schools have been prioritized according to the following methodology.

SCHOOL PRIORITIZATION PROCESS

Schools are prioritized for pedestrian improvements using the following process:

- Step 1:** Identify all existing schools within the city limits of Oklahoma City.
- Step 2:** Group the schools based on the likelihood of students walking to the school.
1. Elementary and Middle Schools
 2. High Schools
 3. Charter Schools, Magnet Schools, and Private Schools
 4. Colleges, Technical Schools
- Step 3:** Create ¼-mile, ½-mile, and 1-mile buffers from school sites using the street network.
- Step 4:** Rank schools by the number of households within the buffer distances.
- Step 5:** Use this list as the prioritization strategy for pedestrian improvements near schools.
- Step 6:** Those schools that fall into a pedestrian priority area are excluded since they have already been identified.

Using this approach, projects can be identified that improve walkability to public schools, and can be used to form the basis of a Safe Routes to School plan for Oklahoma City. Table 3.1 includes the top 20 highest ranking schools based on the process described above. See Appendix P.2 for a complete ranking of schools in Oklahoma City.

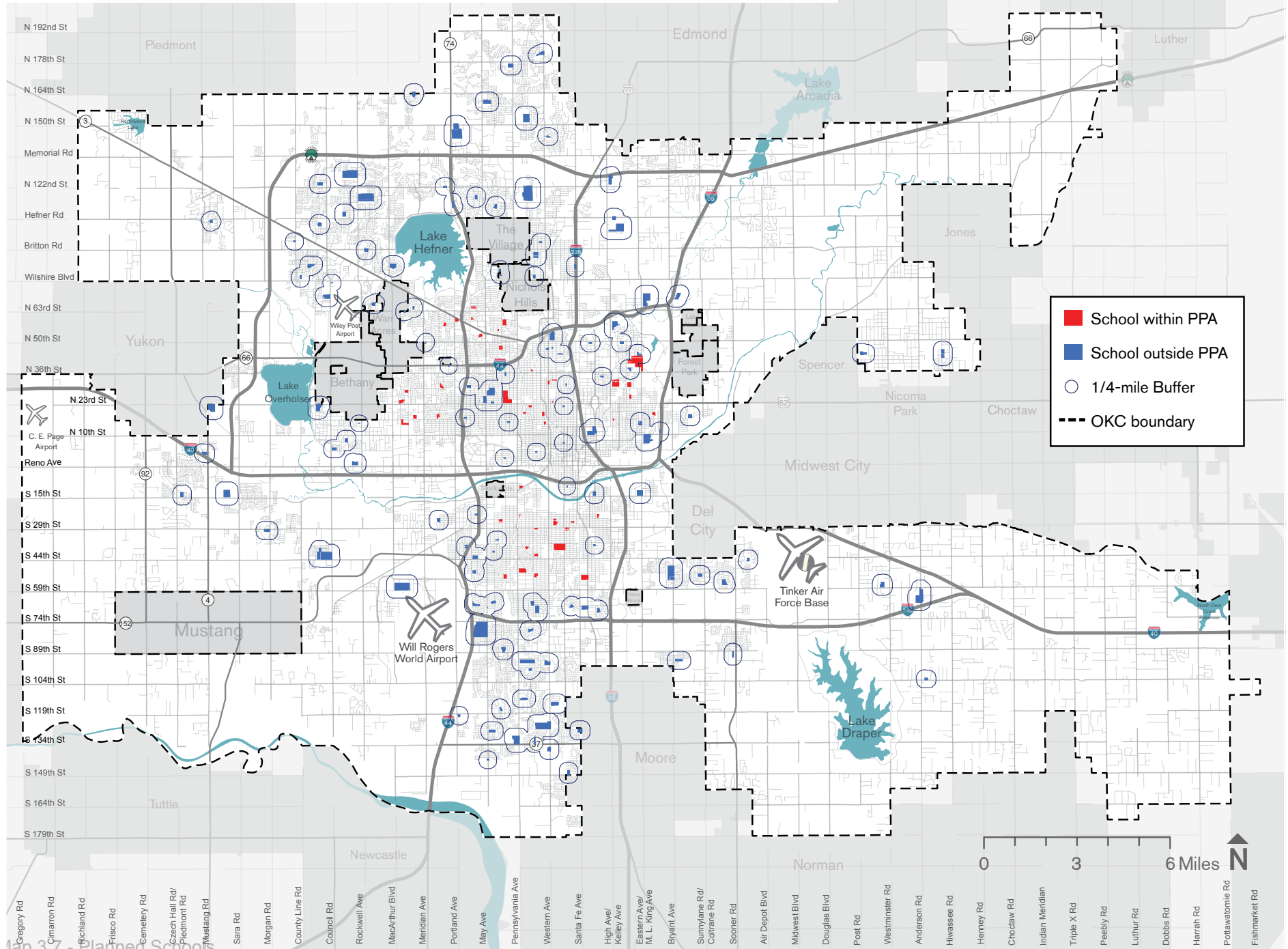
Table 3.1 School Prioritization

Rank	Schools
1	Fairview ES
2	Sequoyah ES
3	Cleveland ES
4	Hawthorne ES
5	Prairie Queen ES
6	Hillcrest ES
7	Stand Watie ES
8	Briarwood ES
9	Van Buren ES
10	Arthur ES
11	Northridge ES
12	Linwood ES
13	Madison ES
14	Kingsgate ES
15	Adams ES
16	Highland Park ES
17	James L Dennis ES
18	Stonegate ES
19	Angie Debo ES
20	Britton ES



Special safety features are often included in pedestrian improvements near sensitive uses like schools and parks.

MAP 3.7 SCHOOLS IN PEDESTRIAN PRIORITY AREAS (PPA)



COMPONENT PLANS: Access to Parks

Goal:

“Create opportunities for physical activity by connecting people to neighborhood parks.”

Responsive populations:

- Children
- Families
- Neighborhood residents

Funding sources:

- General obligation bonds
- Sales tax initiatives
- Parks and Recreation Department
- Transportation Alternatives Program (TAP)

JUSTIFICATION

Oklahoma City has high rates of chronic illnesses such as diabetes and obesity. These diseases are linked to a lack of physical activity; therefore, providing residents with safe and convenient access to their closest neighborhood park may help improve health outcomes.

The PPA plans and downtown plan already address 45 of the 155 parks in the city. Each of the the remaining 110 parks have been prioritized according to the following methodology.

PARK PRIORITIZATION PROCESS

Parks are prioritized for pedestrian improvements using the following process:

Step 1: Identify all existing parks within the city limits of Oklahoma City.

Step 2: Create ¼-mile, ½-mile, and 1-mile buffers using the street network.

Step 3: Rank parks by the number of households within the buffer distances.

Step 4: Use this list as the prioritization strategy for pedestrian improvements for parks.

Step 5: Those parks that fall into a pedestrian priority area are excluded since they have already been identified.

Using this approach, projects can be identified to improve pedestrian access to all of the parks in the city as funding becomes available. Table 3.2 includes the top 20 highest ranking parks based on the process described above. See Appendix P.3 for a complete ranking of parks in Oklahoma City.

Table 3.2 Parks Prioritization

Rank	Parks
1	Woodson Park
2	Dolese Youth Park
3	Sellers Park
4	Siler Park
5	Oliver Park
6	Denniston Park
7	Girvin Park
8	Wayman's Park
9	Reed Park
10	Pied Piper Park
11	Bluff Creek Park (West)
12	Edgemere Park
13	Britton Park
14	Mike Dover Park
15	Smitty Park
16	Earlywine Park
17	Syl Goldman Park
18	May Park
19	Quail Creek Park
20	Douglas Park

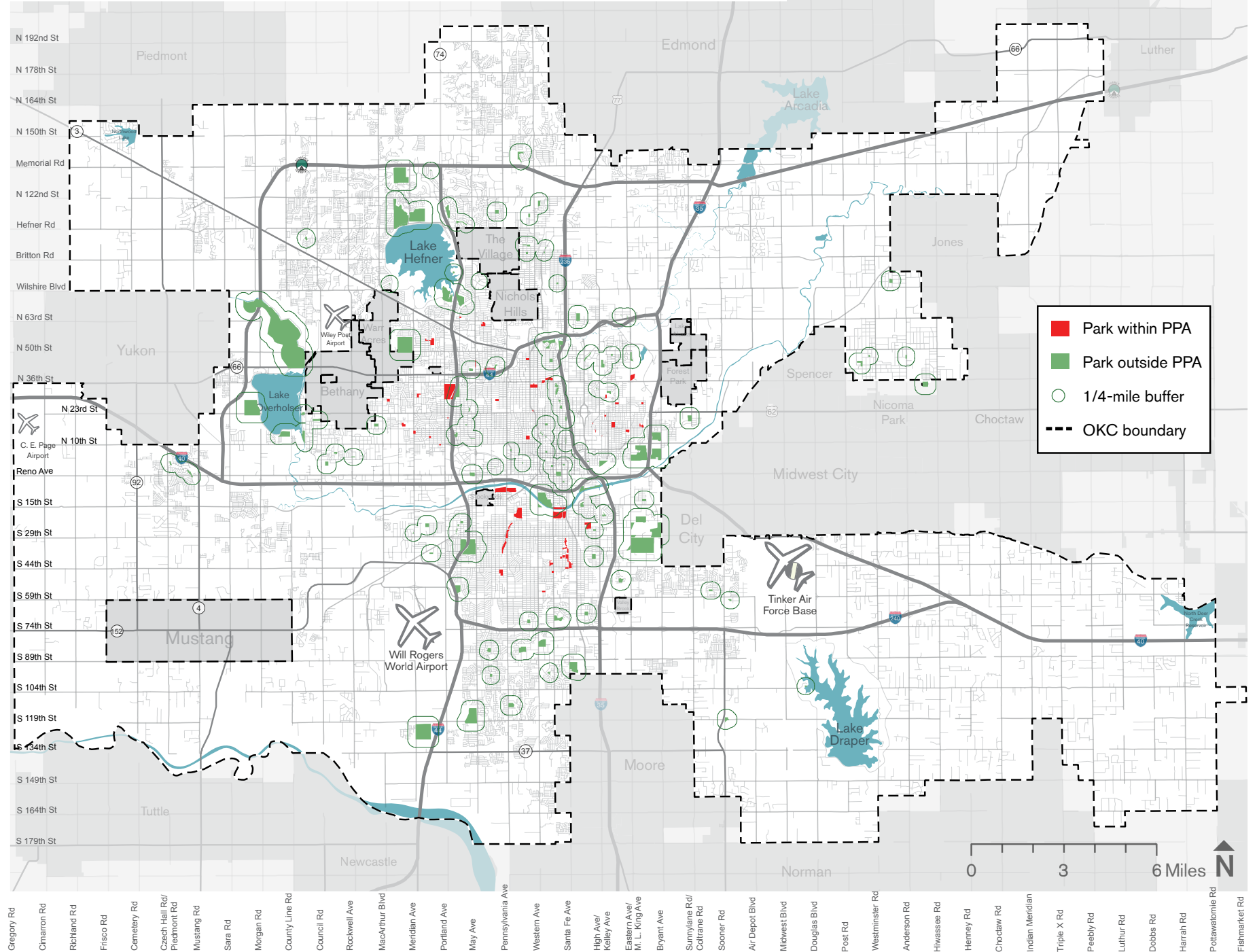


Parks with equipment that facilitates physical activity are an asset for all age groups.



Connecting people to nature has been shown to reduce negative mental and physical health outcomes.

MAP 3.8 PARKS IN PEDESTRIAN PRIORITY AREAS (PPA)



COMPONENT PLANS: Citywide Approach

Goal:

“Create a prioritization framework to guide future pedestrian planning in Oklahoma City.”

Responsive populations:

- Children
- Families
- Neighborhood residents

Funding sources

- General obligation bonds
- Sales tax initiatives
- Parks and Recreation Department
- Transportation Alternatives Program (TAP)

JUSTIFICATION

While the preceding sections of this pedestrian plan address the populations and places that have the greatest need for pedestrian improvements, many other areas fall below the level of highest priority. This section explains the approach to prioritize the remaining urban areas in Oklahoma City.

URBAN VS. RURAL

Presently in Oklahoma City, sidewalks are not required for subdivisions with lots greater than one acre (Oklahoma City Municipal Code 59-12100G). Presumably, this language was intended to alleviate the cost per residential unit that sidewalks in large-lot, non-urban developments incur; however, this language does not account for the shape of a given 1+ acre parcel. For example, long but narrow lots, while potentially dense along roads, may not receive sidewalks. Regardless of this example, the intent is to make a distinction between areas of the city that should be walkable, and those where walkability is not a priority because of low residential density and rural character.

In a city of 621 sq. mi. the distinction between urban and rural character allows for prioritization of areas that have higher residential densities and long-range planning goals of increased walkability. Excluding rural areas from the process by focusing on planOKC’s land-use typology area of Urban Low Intensity reduces the total area for pedestrian planning by 46% to an area of 333 sq. mi.

QUARTER-SECTION AREA

The Urban Low Intensity area of Oklahoma City is still a relatively large area. In fact, 333 sq. mi. is larger than all but the 19 largest cities in the United States -- larger than New York City, San Diego, Austin, or Charlotte. Therefore, a smaller modular unit was required to prioritize projects within this 333 sq. mi. The township and range system utilized in Oklahoma and other states by the Public Land Survey System (PLSS) dices the city into a 1 square mile grid separated by section-line roads. This regular layout is ideal for comparing one area to another, but the square mile size is often too large to account for dramatic changes in land use that occur at half-section line roads, which are 1/2 mile between each of the primary section line roads. A 1/2-mile distance corresponds with about a 10-minute walk, and is a commonly used distance for estimating how far the average person is willing to walk. Therefore, splitting each 1 square mile section into four 1/4-square mile areas gives a grid by which to compare different areas of the city at a more walkable scale.

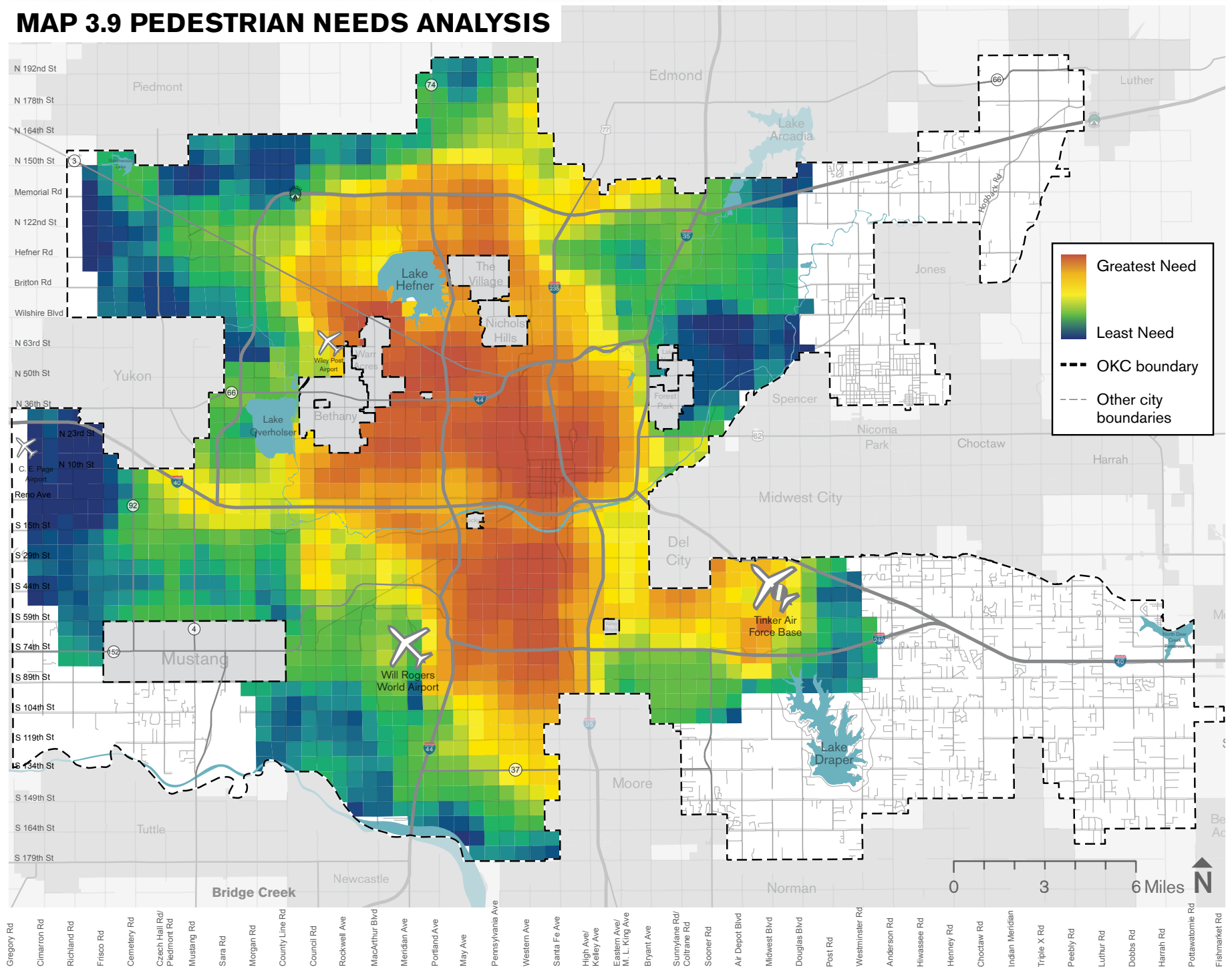
PRIORITIZATION STRATEGY

The same prioritization strategy used to determine the PPAs was utilized to differentiate among the 1,829 individual quarter sections that fall within the urban area of the city. To do this, all of the intersection points with their associated prioritization score (based on intersection design, intersection pedestrian demand, and demographics) were averaged within their corresponding quarter section. This assigns a single value to each quarter section, thereby creating a prioritization list based on scores from highest to lowest. See Appendix P.4 for the full list of quarter sections in order of priority for pedestrian improvements.

IMPROVEMENT APPROACH

In areas where overlap exists between the quarter sections and specially planned areas, such as the PPAs, downtown, transit stops, parks, and schools, the area within the quarter section that is not a part of the specially planned area is a lower priority for improvement. However, after the PPAs have been implemented, this map of quarter sections should be utilized to determine where to begin planning the next Pedestrian Priority Areas. In the meantime, parks, schools, and transit stops should be improved following the prioritized lists associated with each. Over the next few decades, this approach will improve walkability around the places people want to go, and the gaps between these areas will begin to be filled out as well.

MAP 3.9 PEDESTRIAN NEEDS ANALYSIS



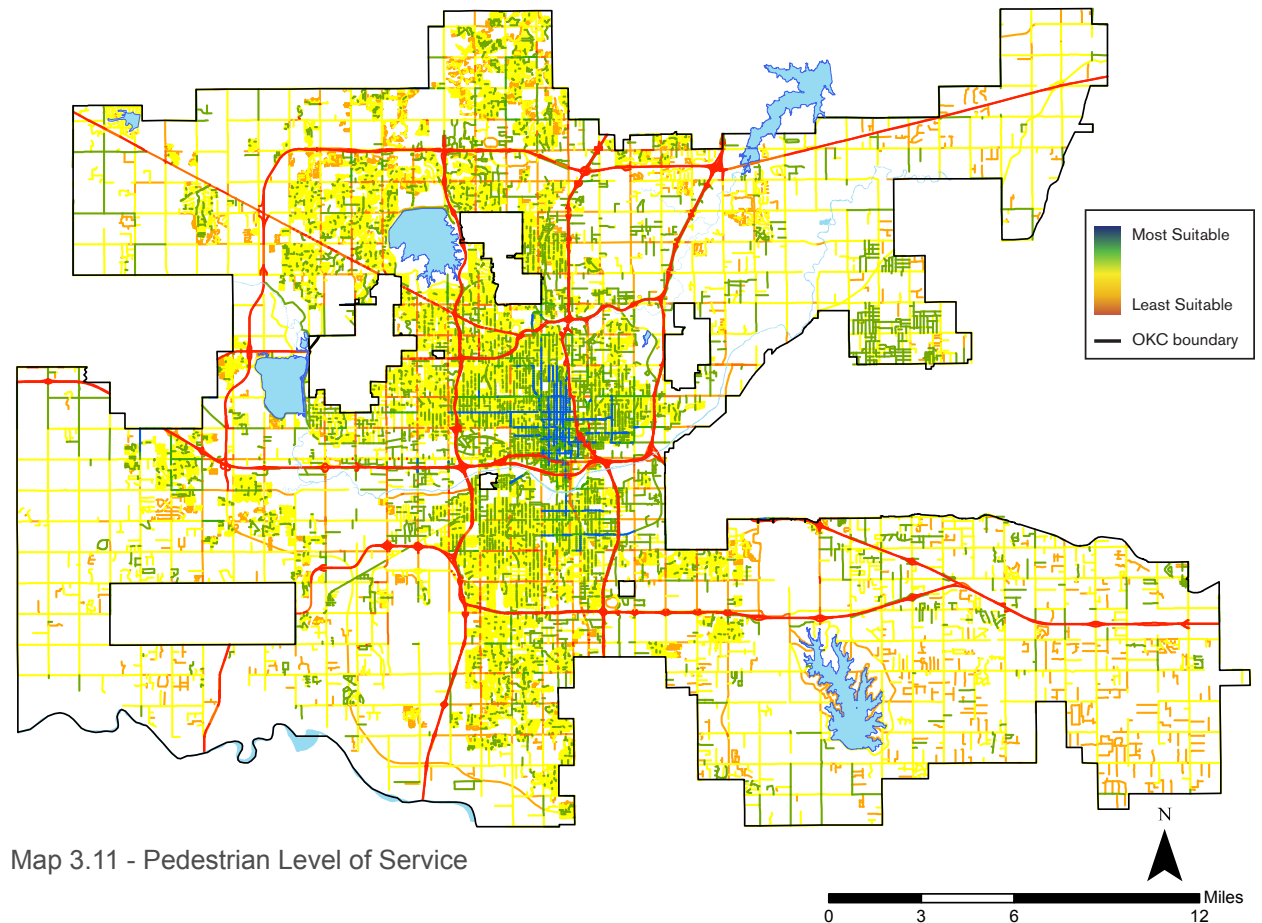
Pedestrian Analysis

Effective planning begins with analysis, and in a city as large as Oklahoma City, data analysis is crucial to focus in on priority areas. In order to analyze and understand pedestrian conditions on every roadway segment in Oklahoma City (43,907 segments), several models were created that examine and score them all. The scores provide the existing conditions for pedestrians along those segments. The following sections provide an explanation of each model, the results, and the meaningfulness of the results.

PEDESTRIAN LEVEL OF SERVICE

The Pedestrian Level of Service (PLOS) model takes into account multiple variables to provide a score of walking comfort, safety, and accessibility along every roadway segment in Oklahoma City. The score is helpful in identifying important roadways that are not currently suitable for safe, comfortable walking. Additionally, PLOS shows areas with strong pedestrian walkability that are separated by short stretches of unsafe or impassable segments. The following variables were included in the analysis:

- Sidewalk – The basic component of a walkable roadway. Roadway segments were scored based on whether the segment had a sidewalk present on one, both, or no sides.
- Sidewalk Buffer – A grass or landscaped space between the road and the sidewalk adds to comfort and safety of walking. Segments were scored on the presence or absence of a sidewalk buffer.
- Number of Driveways – High numbers of driveways along a roadway reduces the safety and comfort of walking. Roadway segments with less than 15 driveways per quarter mile received a higher score than those with more than 15.
- Roadway Speed – Speed impacts safety, comfort, and ease of crossing. Roadway segments received scores based on speeds ranging from less than 25mph to above 45mph.



Map 3.11 - Pedestrian Level of Service

- Number of Lanes – The number of vehicular travel lanes affects safety and street “crossability” Streets with fewer lanes received a higher score.

Map 3.11 shows the PLOS for Oklahoma City. The map shows streets on a graduated color scale from blue to red. Blue represents a high PLOS score, meaning the segment is potentially comfortable, safe, and accessible. A low score means sidewalks may not be present, and travel speeds, the number of lanes, and the number of driveways are high, or a combination of factors.

General observations of the analysis show section line roads (e.g. major and minor arterials) are consistently low scoring. This is problematic as transportation connectivity is poorer in more suburban areas, where

pedestrians have little choice but to use arterials for mobility. The inner core of the city has the highest density of high-scoring road segments, indicating that improvements made to facilities in these areas will be more cost effective, and are likely to improve walkability where people desire to walk.

In more suburban areas of the city, the proliferation of low-scoring segments indicates that the attributes of the transportation network are not well-suited to accommodate needs of pedestrians. Improvements in these areas impact fewer households per dollar spent due to lower levels of residential density. Efficiency is found in the most urban areas of the city, making these areas a top priority. This is consistent with planOKC's focus on redevelopment and revitalization in the urban core.

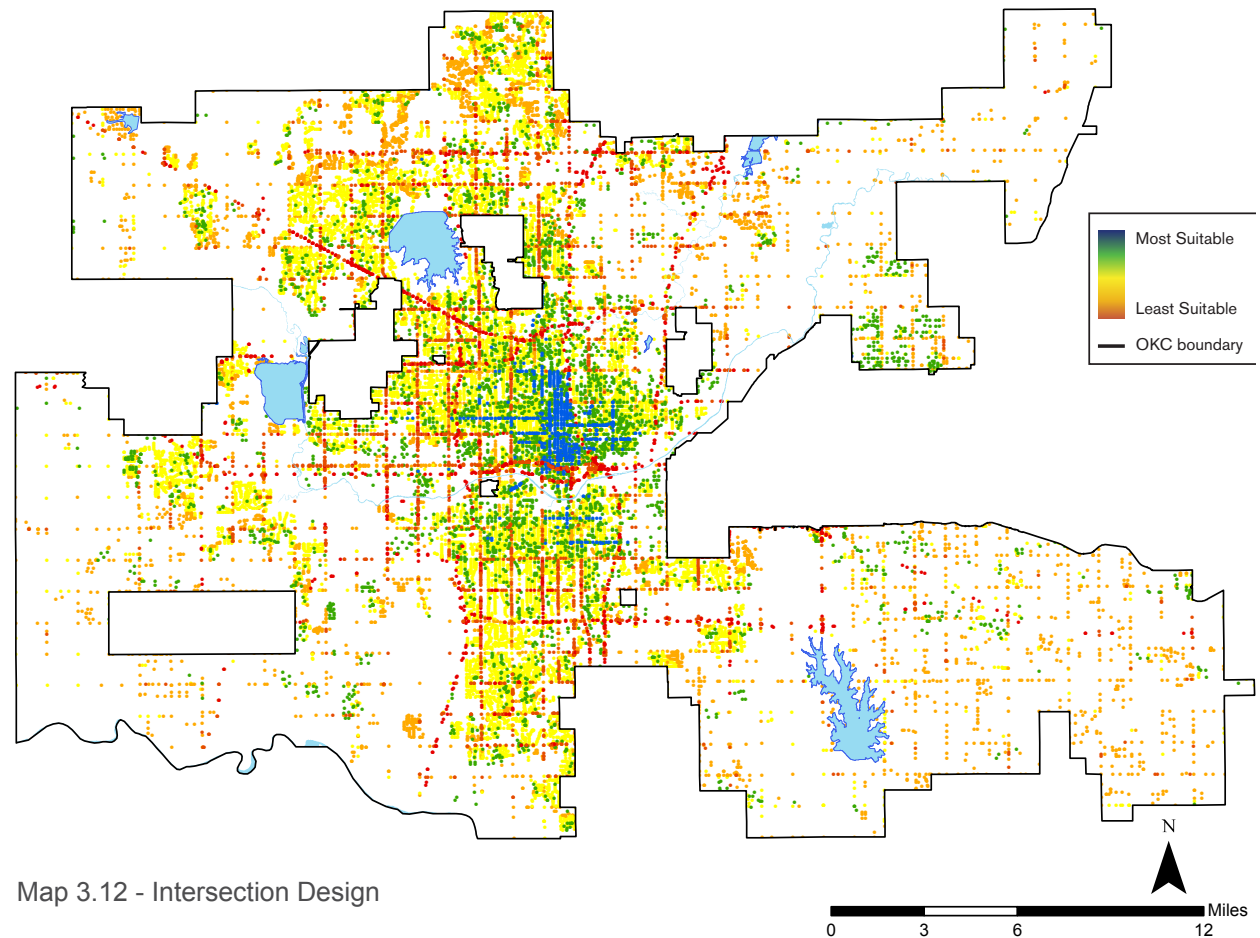
INTERSECTION ANALYSIS

Intersection Design

An integral component of pedestrian mobility is the ability to cross streets safely. This analysis generates a score to identify intersections in need of pedestrian infrastructure improvements. The results indicate the likely amount of investment needed to improve pedestrian infrastructure to a level that provides all of the necessary safety precautions that the City is capable of providing. The intersection design score took into account the following variables:

- Signals – A higher score was assigned to intersections that have signals. Signals are important along major and minor arterials because these roadways typically form barriers for mobility.
- Crosswalks – Many intersections exist without marked crosswalks. Marked crosswalks are important for identifying the pedestrian space and communicating to vehicles the space is for pedestrians. Intersections with crosswalks received a higher score than those with no crosswalk.
- Ramps – ADA-compliant ramps are necessary for people with disabilities. Intersections containing ADA-compliant ramps received a higher design score.
- Collisions – Ten years of pedestrian and bicycle collision data was analyzed to determine those intersections that have safety issues. Intersections with fewer collisions received higher scores.
- Speed – Intersections with low speed streets received a higher design score than those with high speeds.
- Lanes – More lanes means a greater distance for pedestrians to cross. Streets with fewer lanes received higher scores.

Map 3.12 shows the results of the analysis incorporating the variables of the intersection design score. Here, like the PLOS map, we see that the inner core of the city is more well-suited for pedestrians than the suburbs, and



Map 3.12 - Intersection Design

major arterials are especially low scoring. Pedestrian infrastructure improvements in the low-scoring areas are likely to be more expensive than in high-scoring areas, due to the fact that they need improvements to several of the variables, while the high-scoring areas may only need small changes.

This map also illustrates the way that the major arterials in Oklahoma City can be barriers to pedestrians. The vast majority of pedestrian collisions that result in injury or death occur on major arterials. There are numerous conflict points at the intersection of major arterials, which will require a high level of pedestrian infrastructure investment not often seen in the metro area. Pedestrian refuge islands, leading pedestrian intervals, signal phasing patterns to reduce conflicts,

signage, and clearly defined crosswalks are only some of the approaches taken by other municipalities and transportation departments around the country.

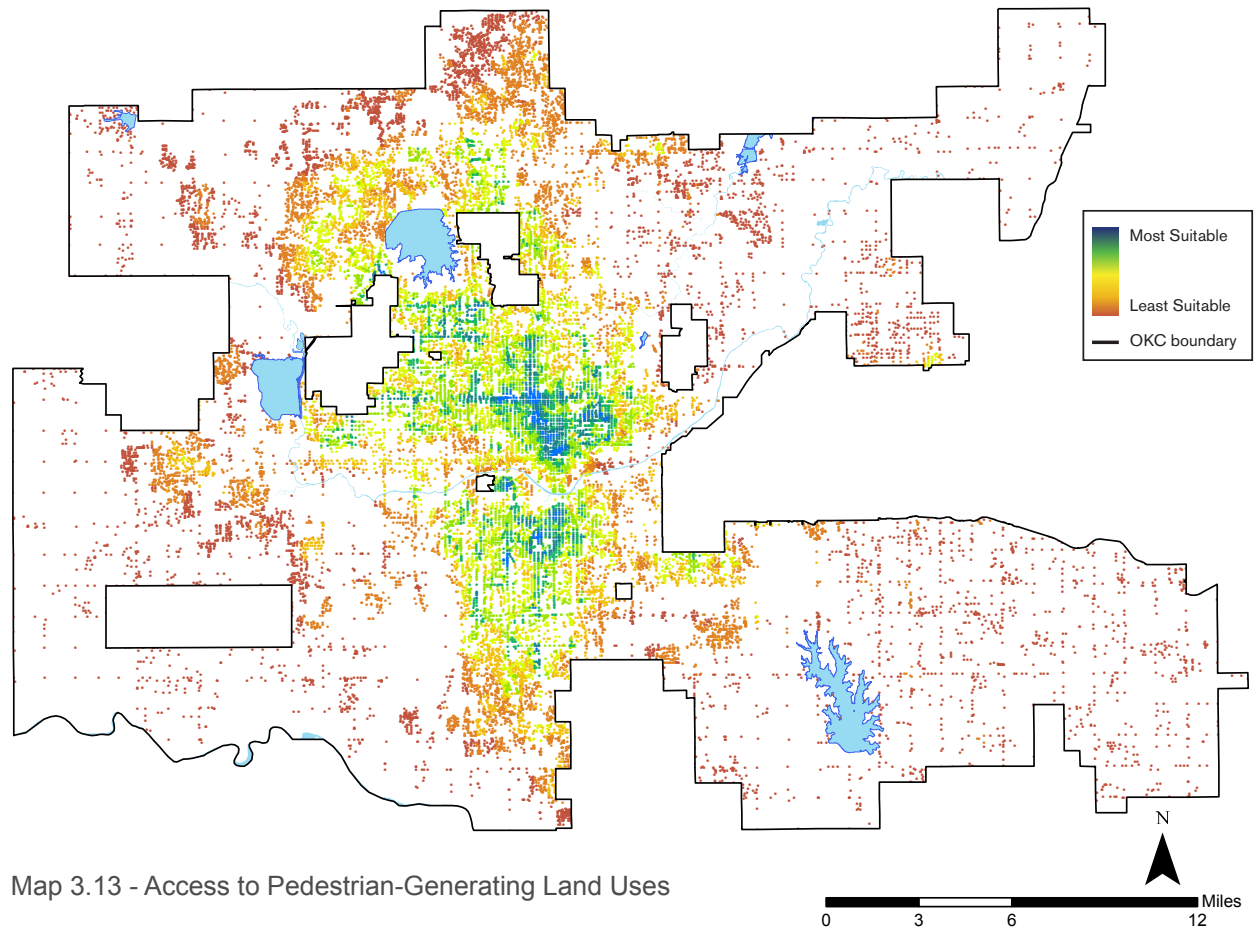
Pedestrian refuge islands, leading pedestrian intervals, signal phasing patterns to reduce conflicts, signage, and clearly defined crosswalks are only some of the approaches taken by other municipalities and transportation departments around the country.

INTERSECTION ANALYSIS

Pedestrian Demand Generation

In order to prioritize pedestrian improvements across the city, it was important to look at land uses and other factors that generate pedestrian activity. A score was assigned to every intersection based on the proximity of pedestrian-generating land uses within a ¼-mile distance. These include:

- Transit stops – There are more than 1,300 bus stops in Oklahoma City.
- Schools – There are 206 schools in Oklahoma City.
- Parks – Points of access into parks (rather than general park locations) were used, since it is possible to live adjacent to a park but still be a long distance from an entrance to the park.
- Trails – Points of access were used for all of the existing trails.
- Supermarkets – Supermarkets were found in the InfoUSA national business registration data.
- Grocery stores – Grocery stores were separated from supermarkets because they are not full-service, and fill a different role than supermarkets.
- Healthcare facilities – This includes all medical facilities in the city, such as hospitals, doctors, dentists, etc.
- Government facilities – Government facilities are the primary location criteria for ADA improvements according to the standards laid out in the Americans with Disabilities Act. This includes federal, state, and local facilities.
- Multi-Family housing – High-density housing is more likely to generate high levels of pedestrian activity than single-family housing. This category includes apartments and multi-unit housing (i.e. duplexes, triplexes, etc.)
- Population Density – Points from a raster heat map were extracted at every intersection to determine the population density value.



Map 3.13 - Access to Pedestrian-Generating Land Uses

- Employment Density – Points from a raster heat map were extracted at every intersection to determine the employment density value.
- Activity Density – Points from a raster heat map were extracted at every intersection to determine the activity density value. Activity density is an aggregate measure of where people live, work, and play.

would provide the greatest opportunity for creating truly walkable areas. Scores tend to decrease further from the city center and closer to the city limits. The lower density and relative distance to pedestrian-generating land uses causes these areas to be scored lower than those in the inner city.

Scores were generated for all of the previous criteria at each intersection and then summed to get a total “Demand Score.” Map 3.13 illustrates that the areas of the city with the highest amount of pedestrian-generating land uses and conditions are primarily in the inner city, indicating that improvements in these areas

INTERSECTION ANALYSIS

Intersection Design/Demand/ Demographics

The next step in the process was to take all of the previous analysis and form it into an equation that would generate an overall score of priority for all of the intersections in the city. To accomplish this, the Pedestrian Level of Service (PLOS) score was combined with the aforementioned “Intersection Design” score (see Maps 3.11 and 3.12). This new combined PLOS and Design score could then be incorporated with the Demand Score (see Map 3.13); the intent being to evaluate which intersections had the highest proximity to pedestrian-generating land uses, and are in need of design improvements. The equation used was:

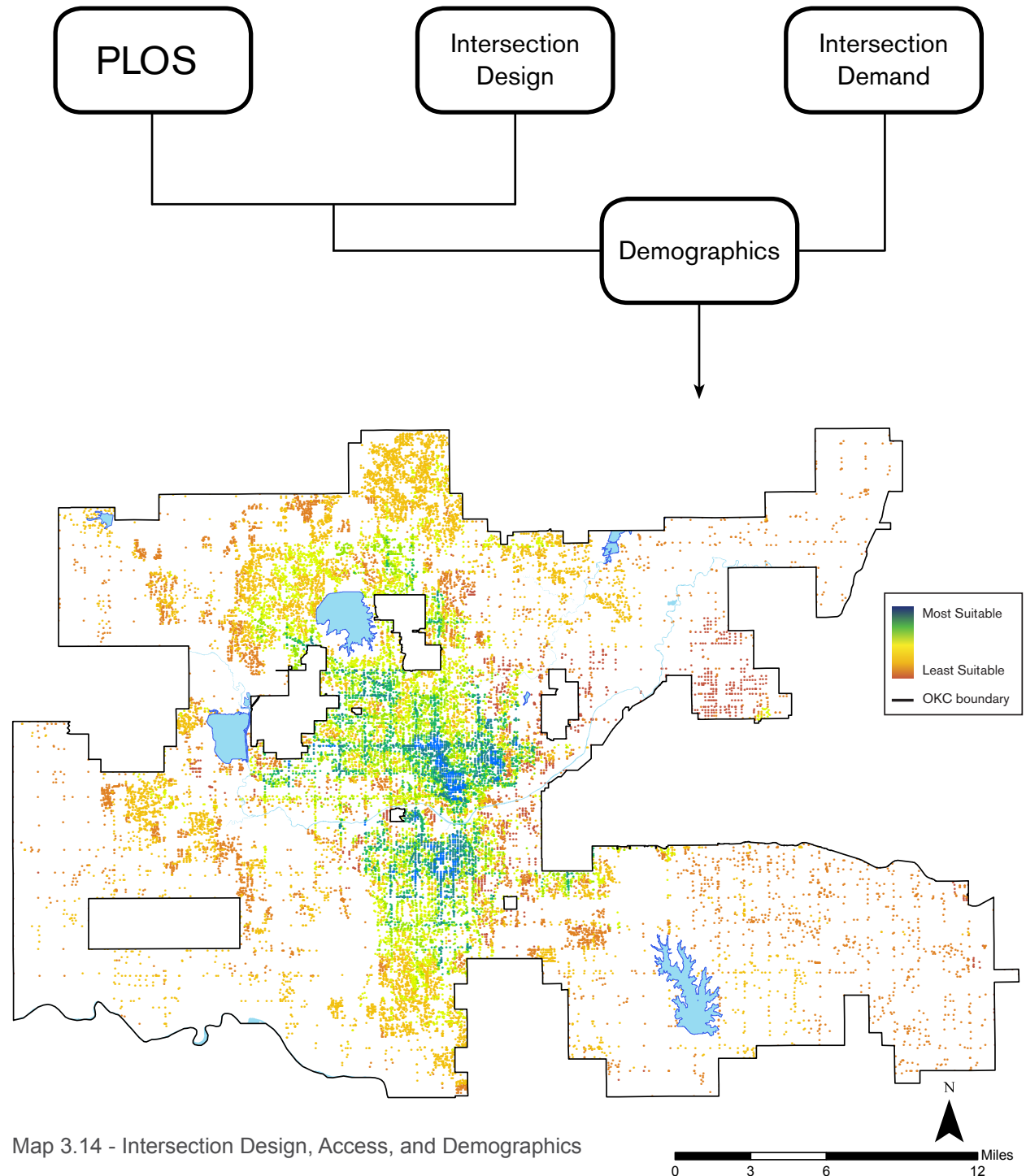
$$(2 * \text{Demand}) - ((\text{PLOS} + \text{Design}) / 2) = \text{Priority Score}$$

This means an intersection near a lot of pedestrian-generating land uses that does not have much pedestrian infrastructure is the highest priority.

The result of this equation was then balanced by Demographics to ensure an equitable distribution of improvements that focuses on the needs of the people who rely on being a pedestrian the most. These include:

1. Those without access to a motor vehicle
2. Those in poverty
3. Those with a disability
4. Historically underserved populations

All of this analysis identified hot spots across that city that led to the selection of 10 high-priority areas within which to plan improvements for the pedestrian realm. Based on these areas this plan lays out the methodology for conducting pedestrian planning. Each of these 10 areas were analyzed in detail resulting in project lists for sidewalk and intersection improvements. The bicycle and pedestrian planner should continue this planning strategy into the future for areas of the city that did not reach as high of a priority.



Map 3.14 - Intersection Design, Access, and Demographics

COLLISION ANALYSIS

One of the largest barriers to walkability is the unavoidable interaction between pedestrians and motorists on city streets. On average, more than 100 collisions between motorists and pedestrians occur each year in Oklahoma City. Ten or more of those collisions result in a pedestrian fatality (ODOT Safe-T). While many of these collisions are due to human error, a major contributor to this problem is the lack of adequate pedestrian infrastructure. Pedestrians are twice as likely to be killed on streets that lack sidewalks, and 94% of pedestrian fatalities occur on streets with speed limits of 30 mph or higher (planokc Health Impact Assessment p. 118). In order to combat these preventable deaths in our community there must be sufficient pedestrian infrastructure, especially in areas that have already seen numerous tragic collisions.

Pedestrian collision data from the Safe-T database administered through ODOT and the Oklahoma Highway Safety Office, in partnership with law enforcement agencies around the state, allows for a variety of interpretations of the pedestrian collision situation in our city. For example, though pedestrian trips only account for roughly 2% of all trips made in Oklahoma City, nearly 15% of transportation-related

fatalities are pedestrians, and 28% of these collisions are hit-and-runs. These statistics are due to the lack of pedestrian infrastructure, high-speed corridors with few crossings and dim lighting, and insufficient pedestrian access to public transit, making it not only inconvenient to live in Oklahoma City without a motor vehicle, but also potentially dangerous.

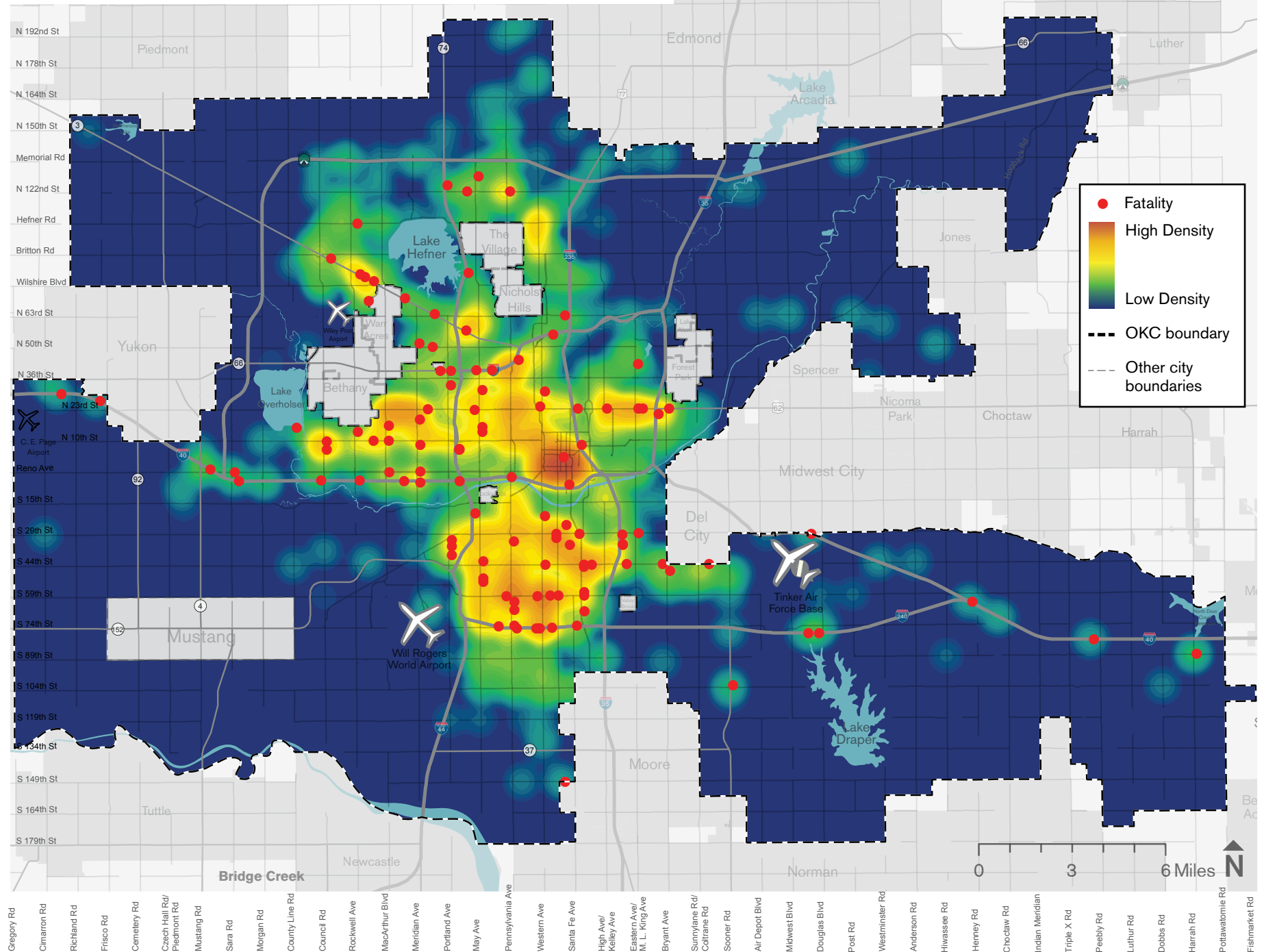
Table 3.3 shows trends that demonstrate the major causes of pedestrian-vehicle collisions. Year-round, pedestrian collisions increase in the afternoon as rush hour begins. This corresponds with an overall increase in all automobile collisions; however, though motor vehicle collisions slow down as rush hour ends, pedestrian collisions continue to stay high until late in the evening. Why is this? In addition to increased traffic volume, the most dangerous thing for pedestrians is poor visibility. Pedestrian collisions are highest in hours where the sun has set or is setting. Darkness as well as sharp sun angles that impede driver visibility makes it difficult for pedestrians to be seen, reducing the likelihood that drivers will react before colliding with a pedestrian. This is particularly bad in the winter months when the combination of Daylight Saving Time, shorter days, the tendency for winter clothing to be dark colors, and sharp sun angles during commute times create a perfect storm for pedestrian collisions.

Many approaches can be taken to remedy these problems, such as an increased focus on the installation of pedestrian-scaled lighting (which will increase safety and the *perception* of safety), campaigns to educate drivers and pedestrians on the most dangerous times of year and how to prevent tragedy, and traffic-demand management strategies that decrease the congestion of rush hour during the winter months when the sun is setting. Such improvements will increase safety and economic performance, as the majority of high-collision areas correspond with the inner loop of Oklahoma City, which is home to the vast majority of commercial districts and local businesses. If these places are made more walkable, commerce will function more smoothly.

Table 3.3 - Pedestrian Collisions by Month by Hour of the Day 2003-2015

	0:00	1:00	2:00	3:00	4:00	5:00	6:00	7:00	8:00	9:00	10:00	11:00	12:00	13:00	14:00	15:00	16:00	17:00	18:00	19:00	20:00	21:00	22:00	23:00
January	5	3	1	3	1	0	3	6	1	2	4	3	0	5	5	9	5	7	18	6	3	7	4	0
February	4	3	4	1	0	3	2	2	1	0	2	3	5	1	4	8	9	7	7	12	10	5	4	6
March	7	1	3	0	1	0	3	1	2	3	3	3	8	1	6	7	5	9	8	9	18	10	12	4
April	5	4	1	0	1	0	1	2	3	1	2	2	3	4	11	13	8	9	6	8	5	10	8	6
May	7	6	4	1	1	1	0	4	3	4	1	5	4	2	5	11	10	6	8	8	3	8	7	7
June	6	5	1	3	2	1	1	1	5	1	4	1	6	8	6	5	3	8	8	4	5	8	3	8
July	5	4	3	4	1	2	1	1	0	3	1	2	2	5	7	7	0	8	2	3	2	11	8	6
August	8	3	3	3	1	1	3	4	4	5	3	4	3	7	7	10	4	3	8	5	10	9	10	5
September	8	4	2	1	1	6	3	12	7	3	2	4	6	2	6	9	9	10	4	12	17	8	7	3
October	5	5	3	1	0	0	6	12	4	2	3	2	4	5	7	12	15	6	8	14	12	11	6	5
November	3	1	2	0	0	1	6	4	0	1	2	4	1	0	6	8	9	15	19	11	7	8	1	6
December	2	3	1	1	0	0	2	4	2	0	4	3	4	3	5	6	11	10	22	10	11	4	5	5

MAP 3.15 PEDESTRIAN COLLISIONS (2003-2015)



Tools and Strategies

PEDESTRIAN ENVIRONMENT ASSESSMENT TOOLKIT (PEAT)

The Planning Department created a set of tools to evaluate pedestrian infrastructure at intersections and street segments between intersections. The toolkit is referred to as the Pedestrian Environment Assessment Toolkit (PEAT) for intersections and street segments.

The *intersection* tool looks at 7 elements of pedestrian infrastructure, including:

1. Street lighting
2. Sidewalk connections
3. Obstructions
4. Pedestrian signalization
5. Crosswalks
6. Traffic control devices
7. ADA-accessible curb ramps

A score is generated from the tool based on the results of the questions related to the above topics. This score allows for a comparison of intersections in an area, and the individual questions illuminate the needs at a given intersection.

The *street segment* tool evaluates 11 elements of pedestrian infrastructure, including:

1. Number of vehicular travel lanes
2. Posted speed limit
3. Traffic calming features
4. Sidewalk continuity
5. Sidewalk width
6. Sidewalk obstructions
7. Street trees
8. Curb cuts
9. Public seating
10. Litter
11. Sidewalk lighting

Similar to the intersection tool, the street segment tool generates a score based on the results of the questions in each of the eleven topics. This allows for comparative analysis of different street segments, but also serves to generate project ideas for entire streets. For example, a PEAT analysis conducted on a street for several blocks may reveal a lack of street trees, garbage cans, or lighting on that corridor. These tools help us identify multiple components to improving walkability beyond simply putting in sidewalks. Walkability includes many other elements, and in particular, the downtown area has higher requirements for sufficient pedestrian infrastructure to include all of the criteria of the PEAT.

The data gathered for the downtown area is the result of a partnership with the University of Central Oklahoma Environmental Health class, and the University of Oklahoma College of Public Health

This is the intersection of (Primary) and (Secondary).

(The street you will walk down) (The street you will cross)

5. Crosswalks:
If 1, 2, 3, 4, 5, 6, then 0 points. If 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40, 41, 42, 43, 44, 45, 46, 47, 48, 49, 50, 51, 52, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67, 68, 69, 70, 71, 72, 73, 74, 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85, 86, 87, 88, 89, 90, 91, 92, 93, 94, 95, 96, 97, 98, 99, 100, 101, 102, 103, 104, 105, 106, 107, 108, 109, 110, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 920, 921, 922, 923, 924, 925, 926, 927, 928, 929, 930, 931, 932, 933, 934, 935, 936, 937, 938, 939, 940, 941, 942, 943, 944, 945, 946, 947, 948, 949, 950, 951, 952, 953, 954, 955, 956, 957, 958, 959, 960, 961, 962, 963, 964, 965, 966, 967, 968, 969, 970, 971, 972, 973, 974, 975, 976, 977, 978, 979, 980, 981, 982, 983, 984, 985, 986, 987, 988, 989, 990, 991, 992, 993, 994, 995, 996, 997, 998, 999, 1000.

1. Intersection Lighting (# of streetlights):
0-1 = 0 points; 2-3 = 1 point; 4-5 = 2 points; 6-7 = 3 points; 8-9 = 4 points; 10-11 = 5 points; 12-13 = 6 points; 14-15 = 7 points; 16-17 = 8 points; 18-19 = 9 points; 20-21 = 10 points; 22-23 = 11 points; 24-25 = 12 points; 26-27 = 13 points; 28-29 = 14 points; 30-31 = 15 points; 32-33 = 16 points; 34-35 = 17 points; 36-37 = 18 points; 38-39 = 19 points; 40-41 = 20 points; 42-43 = 21 points; 44-45 = 22 points; 46-47 = 23 points; 48-49 = 24 points; 50-51 = 25 points; 52-53 = 26 points; 54-55 = 27 points; 56-57 = 28 points; 58-59 = 29 points; 60-61 = 30 points; 62-63 = 31 points; 64-65 = 32 points; 66-67 = 33 points; 68-69 = 34 points; 70-71 = 35 points; 72-73 = 36 points; 74-75 = 37 points; 76-77 = 38 points; 78-79 = 39 points; 80-81 = 40 points; 82-83 = 41 points; 84-85 = 42 points; 86-87 = 43 points; 88-89 = 44 points; 90-91 = 45 points; 92-93 = 46 points; 94-95 = 47 points; 96-97 = 48 points; 98-99 = 49 points; 100-101 = 50 points; 102-103 = 51 points; 104-105 = 52 points; 106-107 = 53 points; 108-109 = 54 points; 110-111 = 55 points; 112-113 = 56 points; 114-115 = 57 points; 116-117 = 58 points; 118-119 = 59 points; 120-121 = 60 points; 122-123 = 61 points; 124-125 = 62 points; 126-127 = 63 points; 128-129 = 64 points; 130-131 = 65 points; 132-133 = 66 points; 134-135 = 67 points; 136-137 = 68 points; 138-139 = 69 points; 140-141 = 70 points; 142-143 = 71 points; 144-145 = 72 points; 146-147 = 73 points; 148-149 = 74 points; 150-151 = 75 points; 152-153 = 76 points; 154-155 = 77 points; 156-157 = 78 points; 158-159 = 79 points; 160-161 = 80 points; 162-163 = 81 points; 164-165 = 82 points; 166-167 = 83 points; 168-169 = 84 points; 170-171 = 85 points; 172-173 = 86 points; 174-175 = 87 points; 176-177 = 88 points; 178-179 = 89 points; 180-181 = 90 points; 182-183 = 91 points; 184-185 = 92 points; 186-187 = 93 points; 188-189 = 94 points; 190-191 = 95 points; 192-193 = 96 points; 194-195 = 97 points; 196-197 = 98 points; 198-199 = 99 points; 200-201 = 100 points; 202-203 = 101 points; 204-205 = 102 points; 206-207 = 103 points; 208-209 = 104 points; 210-211 = 105 points; 212-213 = 106 points; 214-215 = 107 points; 216-217 = 108 points; 218-219 = 109 points; 220-221 = 110 points; 222-223 = 111 points; 224-225 = 112 points; 226-227 = 113 points; 228-229 = 114 points; 230-231 = 115 points; 232-233 = 116 points; 234-235 = 117 points; 236-237 = 118 points; 238-239 = 119 points; 240-241 = 120 points; 242-243 = 121 points; 244-245 = 122 points; 246-247 = 123 points; 248-249 = 124 points; 250-251 = 125 points; 252-253 = 126 points; 254-255 = 127 points; 256-257 = 128 points; 258-259 = 129 points; 260-261 = 130 points; 262-263 = 131 points; 264-265 = 132 points; 266-267 = 133 points; 268-269 = 134 points; 270-271 = 135 points; 272-273 = 136 points; 274-275 = 137 points; 276-277 = 138 points; 278-279 = 139 points; 280-281 = 140 points; 282-283 = 141 points; 284-285 = 142 points; 286-287 = 143 points; 288-289 = 144 points; 290-291 = 145 points; 292-293 = 146 points; 294-295 = 147 points; 296-297 = 148 points; 298-299 = 149 points; 300-301 = 150 points; 302-303 = 151 points; 304-305 = 152 points; 306-307 = 153 points; 308-309 = 154 points; 310-311 = 155 points; 312-313 = 156 points; 314-315 = 157 points; 316-317 = 158 points; 318-319 = 159 points; 320-321 = 160 points; 322-323 = 161 points; 324-325 = 162 points; 326-327 = 163 points; 328-329 = 164 points; 330-331 = 165 points; 332-333 = 166 points; 334-335 = 167 points; 336-337 = 168 points; 338-339 = 169 points; 340-341 = 170 points; 342-343 = 171 points; 344-345 = 172 points; 346-347 = 173 points; 348-349 = 174 points; 350-351 = 175 points; 352-353 = 176 points; 354-355 = 177 points; 356-357 = 178 points; 358-359 = 179 points; 360-361 = 180 points; 362-363 = 181 points; 364-365 = 182 points; 366-367 = 183 points; 368-369 = 184 points; 370-371 = 185 points; 372-373 = 186 points; 374-375 = 187 points; 376-377 = 188 points; 378-379 = 189 points; 380-381 = 190 points; 382-383 = 191 points; 384-385 = 192 points; 386-387 = 193 points; 388-389 = 194 points; 390-391 = 195 points; 392-393 = 196 points; 394-395 = 197 points; 396-397 = 198 points; 398-399 = 199 points; 400-401 = 200 points; 402-403 = 201 points; 404-405 = 202 points; 406-407 = 203 points; 408-409 = 204 points; 410-411 = 205 points; 412-413 = 206 points; 414-415 = 207 points; 416-417 = 208 points; 418-419 = 209 points; 420-421 = 210 points; 422-423 = 211 points; 424-425 = 212 points; 426-427 = 213 points; 428-429 = 214 points; 430-431 = 215 points; 432-433 = 216 points; 434-435 = 217 points; 436-437 = 218 points; 438-439 = 219 points; 440-441 = 220 points; 442-443 = 221 points; 444-445 = 222 points; 446-447 = 223 points; 448-449 = 224 points; 450-451 = 225 points; 452-453 = 226 points; 454-455 = 227 points; 456-457 = 228 points; 458-459 = 229 points; 460-461 = 230 points; 462-463 = 231 points; 464-465 = 232 points; 466-467 = 233 points; 468-469 = 234 points; 470-471 = 235 points; 472-473 = 236 points; 474-475 = 237 points; 476-477 = 238 points; 478-479 = 239 points; 480-481 = 240 points; 482-483 = 241 points; 484-485 = 242 points; 486-487 = 243 points; 488-489 = 244 points; 490-491 = 245 points; 492-493 = 246 points; 494-495 = 247 points; 496-497 = 248 points; 498-499 = 249 points; 500-501 = 250 points; 502-503 = 251 points; 504-505 = 252 points; 506-507 = 253 points; 508-509 = 254 points; 510-511 = 255 points; 512-513 = 256 points; 514-515 = 257 points; 516-517 = 258 points; 518-519 = 259 points; 520-521 = 260 points; 522-523 = 261 points; 524-525 = 262 points; 526-527 = 263 points; 528-529 = 264 points; 530-531 = 265 points; 532-533 = 266 points; 534-535 = 267 points; 536-537 = 268 points; 538-539 = 269 points; 540-541 = 270 points; 542-543 = 271 points; 544-545 = 272 points; 546-547 = 273 points; 548-549 = 274 points; 550-551 = 275 points; 552-553 = 276 points; 554-555 = 277 points; 556-557 = 278 points; 558-559 = 279 points; 560-561 = 280 points; 562-563 = 281 points; 564-565 = 282 points; 566-567 = 283 points; 568-569 = 284 points; 570-571 = 285 points; 572-573 = 286 points; 574-575 = 287 points; 576-577 = 288 points; 578-579 = 289 points; 580-581 = 290 points; 582-583 = 291 points; 584-585 = 292 points; 586-587 = 293 points; 588-589 = 294 points; 590-591 = 295 points; 592-593 = 296 points; 594-595 = 297 points; 596-597 = 298 points; 598-599 = 299 points; 600-601 = 300 points; 602-603 = 301 points; 604-605 = 302 points; 606-607 = 303 points; 608-609 = 304 points; 610-611 = 305 points; 612-613 = 306 points; 614-615 = 307 points; 616-617 = 308 points; 618-619 = 309 points; 620-621 = 310 points; 622-623 = 311 points; 624-625 = 312 points; 626-627 = 313 points; 628-629 = 314 points; 630-631 = 315 points; 632-633 = 316 points; 634-635 = 317 points; 636-637 = 318 points; 638-639 = 319 points; 640-641 = 320 points; 642-643 = 321 points; 644-645 = 322 points; 646-647 = 323 points; 648-649 = 324 points; 650-651 = 325 points; 652-653 = 326 points; 654-655 = 327 points; 656-657 = 328 points; 658-659 = 329 points; 660-661 = 330 points; 662-663 = 331 points; 664-665 = 332 points; 666-667 = 333 points; 668-669 = 334 points; 670-671 = 335 points; 672-673 = 336 points; 674-675 = 337 points; 676-677 = 338 points; 678-679 = 339 points; 680-681 = 340 points; 682-683 = 341 points; 684-685 = 342 points; 686-687 = 343 points; 688-689 = 344 points; 690-691 = 345 points; 692-693 = 346 points; 694-695 = 347 points; 696-697 = 348 points; 698-699 = 349 points; 700-701 = 350 points; 702-703 = 351 points; 704-705 = 352 points; 706-707 = 353 points; 708-709 = 354 points; 710-711 = 355 points; 712-713 = 356 points; 714-715 = 357 points; 716-717 = 358 points; 718-719 = 359 points; 720-721 = 360 points; 722-723 = 361 points; 724-725 = 362 points; 726-727 = 363 points; 728-729 = 364 points; 730-731 = 365 points; 732-733 = 366 points; 734-735 = 367 points; 736-737 = 368 points; 738-739 = 369 points; 740-741 = 370 points; 742-743 = 371 points; 744-745 = 372 points; 746-747 = 373 points; 748-749 = 374 points; 750-751 = 375 points; 752-753 = 376 points; 754-755 = 377 points; 756-757 = 378 points; 758-759 = 379 points; 760-761 = 380 points; 762-763 = 381 points; 764-765 = 382 points; 766-767 = 383 points; 768-769 = 384 points; 770-771 = 385 points; 772-773 = 386 points; 774-775 = 387 points; 776-777 = 388 points; 778-779 = 389 points; 780-781 = 390 points; 782-783 = 391 points; 784-785 = 392 points; 786-787 = 393 points; 788-789 = 394 points; 790-791 = 395 points; 792-793 = 396 points; 794-795 = 397 points; 796-797 = 398 points; 798-799 = 399 points; 800-801 = 400 points; 802-803 = 401 points; 804-805 = 402 points; 806-807 = 403 points; 808-809 = 404 points; 810-811 = 405 points; 812-813 = 406 points; 814-815 = 407 points; 816-817 = 408 points; 818-819 = 409 points; 820-821 = 410 points; 822-823 = 411 points; 824-825 = 412 points; 826-827 = 413 points; 828-829 = 414 points; 830-831 = 415 points; 832-833 = 416 points; 834-835 = 417 points; 836-837 = 418 points; 838-839 = 419 points; 840-841 = 420 points; 842-843 = 421 points; 844-845 = 422 points; 846-847 = 423 points; 848-849 = 424 points; 850-851 = 425 points; 852-853 = 426 points; 854-855 = 427 points; 856-857 = 428 points; 858-859 = 429 points; 860-861 = 430 points; 862-863 = 431 points; 864-865 = 432 points; 866-867 = 433 points; 868-869 = 434 points; 870-871 = 435 points; 872-873 = 436 points; 874-875 = 437 points; 876-877 = 438 points; 878-879 = 439 points; 880-881 = 440 points; 882-883 = 441 points; 884-885 = 442 points; 886-887 = 443 points; 888-889 = 444 points; 890-8

**PEDESTRIAN PRIORITY AREAS
IMPROVEMENTS STRATEGY**

For the 10 Pedestrian Priority Areas that were identified, improvements are recommended to be implemented in two phases. The first phase intends to improve primary streets by filling in gaps in the sidewalk network, making improvements to existing intersections, as well as finding new intersections that should be safe pedestrian crossings. The second phase then connects neighborhoods to the first phase improvements.

Costs have been limited per PPA to keep them within a reasonable range for funding, and a unit cost of \$65 per linear foot of sidewalk (in 2017 dollars) was provided by the Public Works Department. This value reflects the knowledge gained through the implementation of the MAPS 3 Sidewalk Master Plan. This unit cost reflects

an average cost for sidewalk construction; however, cost per linear foot can range from \$60 to \$75 based on constraints such as topography, utility relocation, the number of driveways along a project alignment, or the need to construct retaining walls.

Sidewalk improvements are shown on both sides of a street. Though a sidewalk on one side of the street is better than no sidewalks, it does not achieve the goal of walkability. Walkability includes the ability to safely and conveniently walk along a sidewalk and be able to cross the street to the adjacent sidewalk. With that in mind, the following plan, NW 23rd St. at N. Classen Blvd., is an example of plans that have been made for each of the 10 Pedestrian Priority Areas.

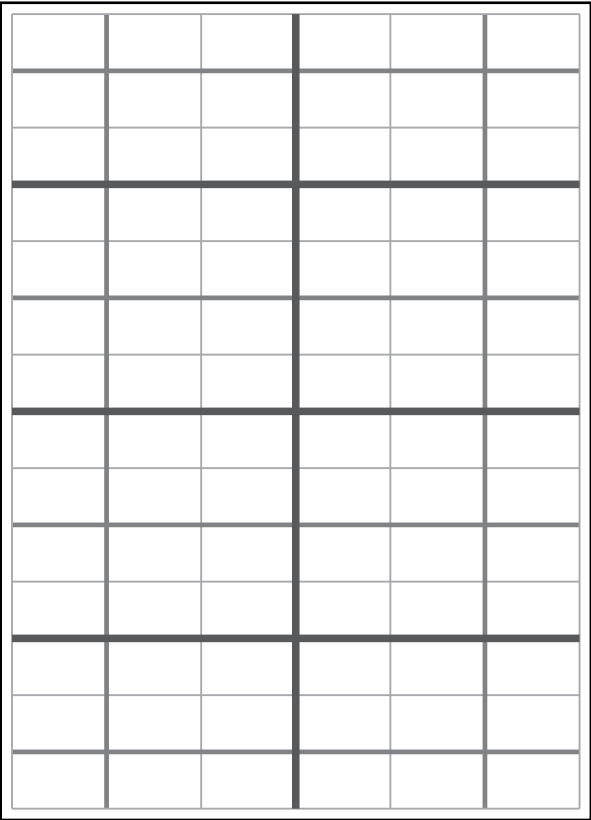


Figure 3.4 - Typical Street Grid Hierarchy

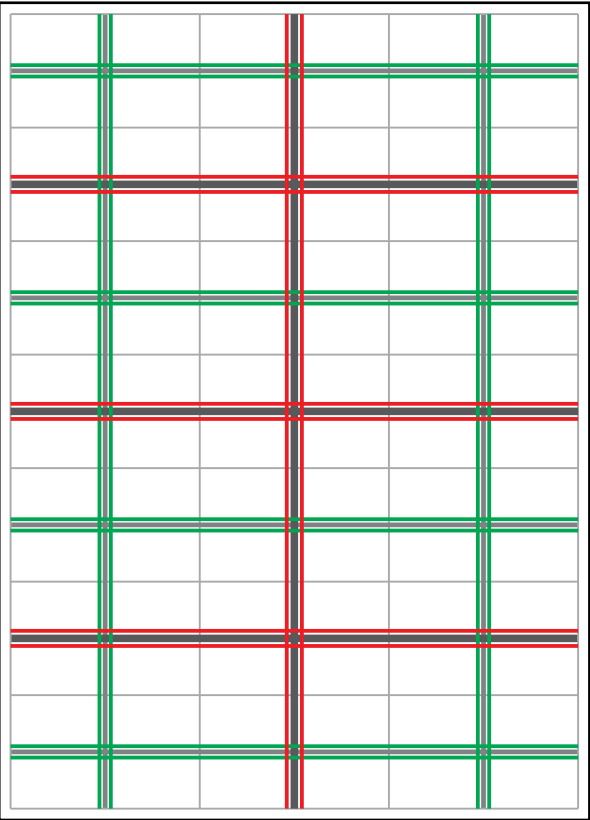


Figure 3.5 - Sidewalk Phasing Approach

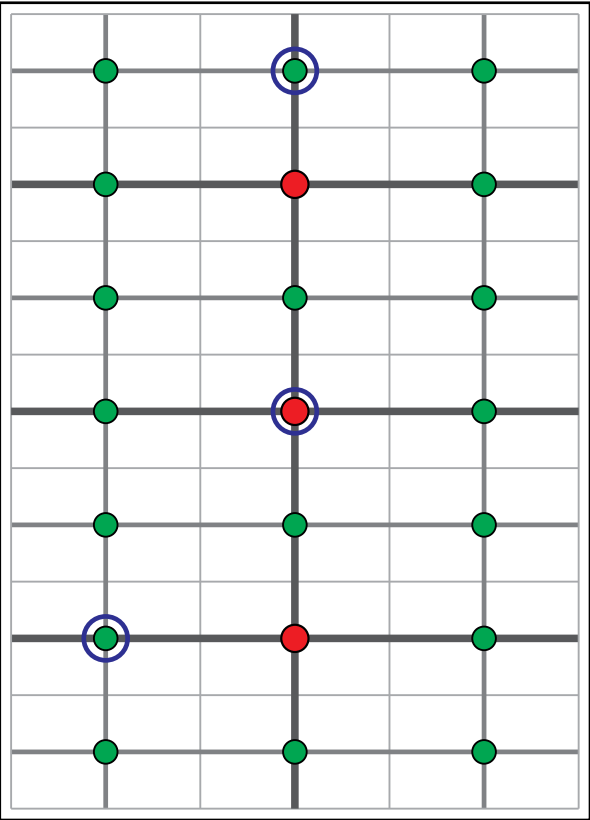
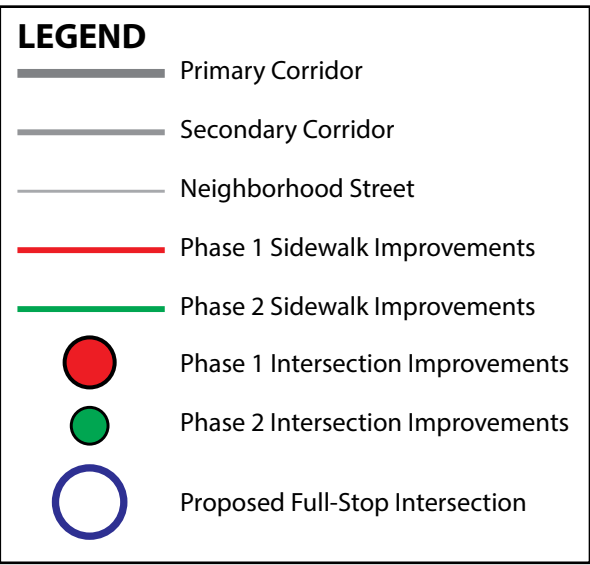


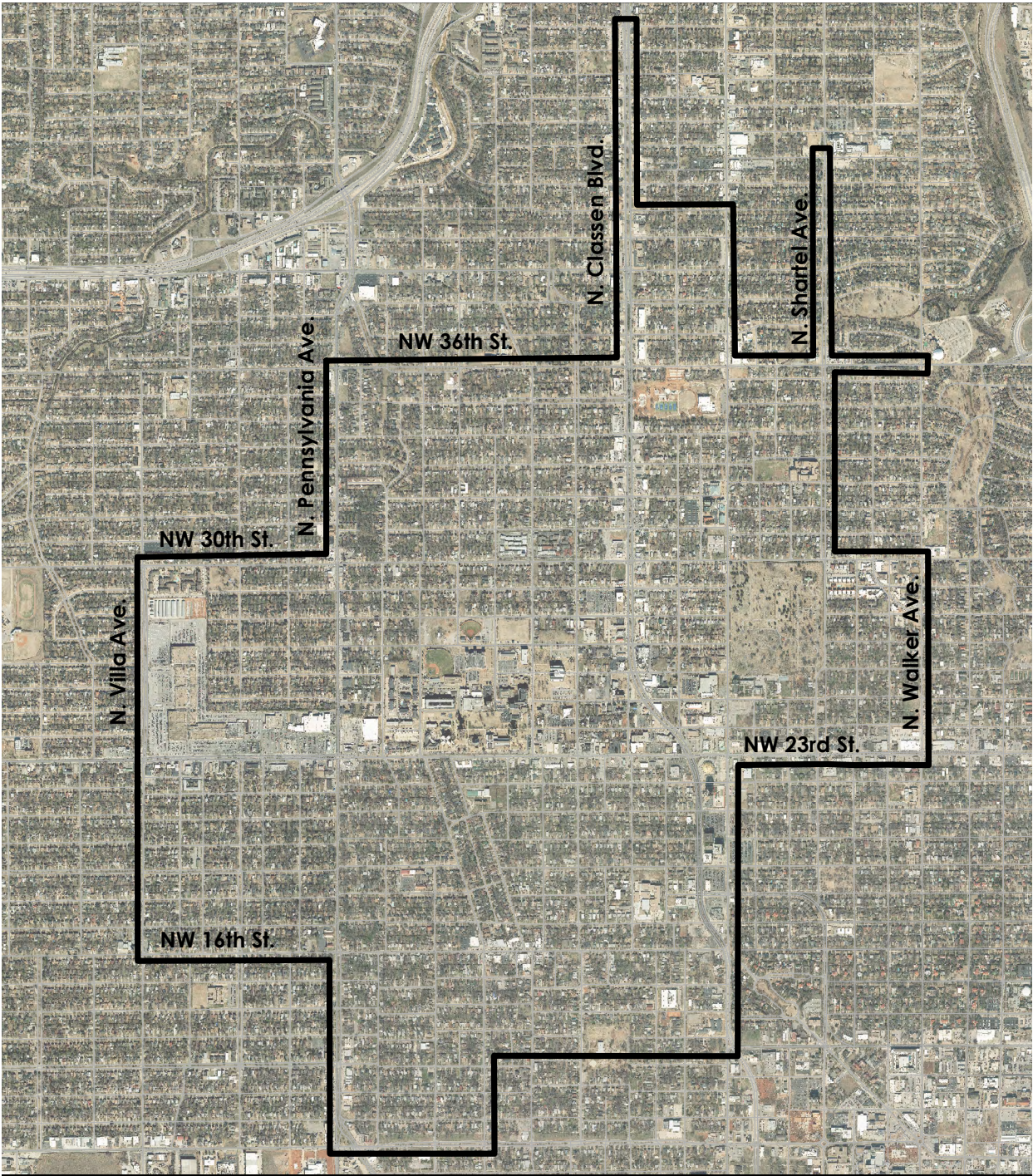
Figure 3.6 - Safe Crossings Phasing Approach

EXAMPLE PPA PLAN: NW 23rd St. at N. Classen Blvd.

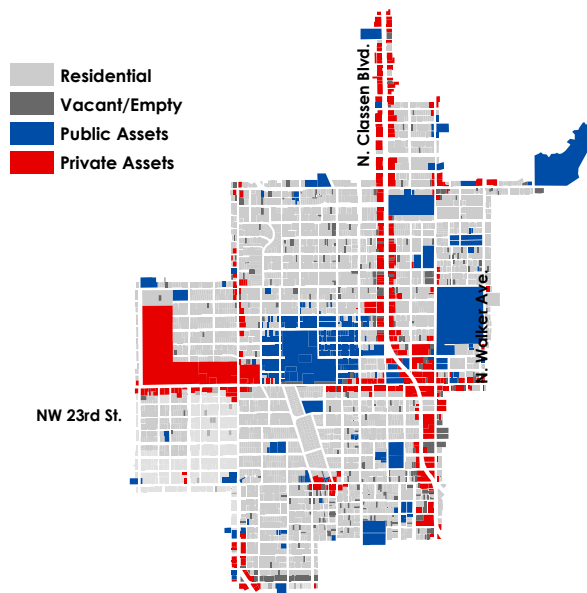
Of all the areas of the city analyzed to determine the potential for walkability, the area surrounding the intersection of NW 23rd St. and N. Classen Blvd. shows the greatest level of potential. This area includes a great number of land uses that generate pedestrian activity, but also many barriers to safety and walkability. Expanding safe convenient pedestrian access to this area provides opportunities for economic development, healthier lifestyles due to active living, and cost savings to those who live and work nearby by lowering the need to own and operate a motor vehicle to get to daily needs. Because of its close proximity to downtown and bolstered by a growing culture of the inner city toward a more urban lifestyle, this area should be a high priority for investments that will be effectively utilized and will realize numerous benefits.



Above: Aerial view of N Classen Blvd. and NW 23rd St.



Map 3.16 - NW 23rd St. at N. Classen Blvd. PPA

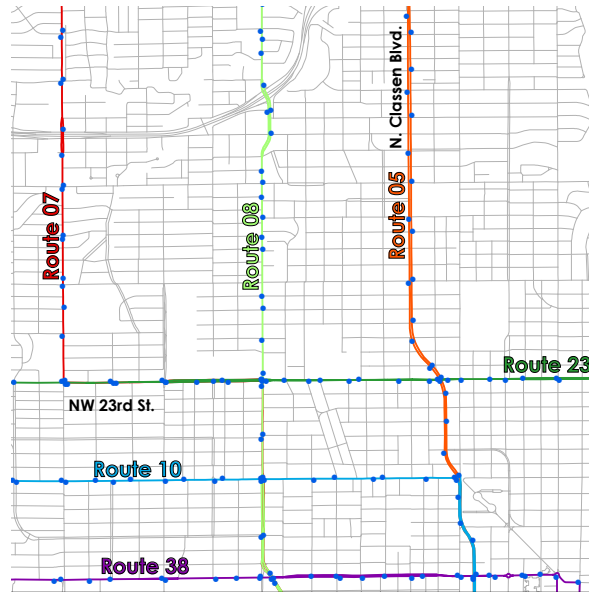


Map 3.17 - PPA Land Use

LAND USE

61.6% of the land use in this area is occupied residential, making up the largest land use type in the PPA. Public assets (education, government, recreation, churches, etc.) make up 18.5% of the land uses in this area - most of which are located in the OCU campus, Fairlawn Cemetery, and the large Trinity School property on NW 36th St. Private assets (retail, commercial, office, mixed use, etc.) make up 14.7% of the land uses in this PPA. These assets are primarily located along the N. Classen Blvd. corridor and the NW 23rd St. corridor. The Shepherd Mall parcel, though split between public and private assets, is quite large, and is out of scale with the rest of the private assets in the PPA. Only 5.2% of land is vacant or empty in this PPA. The Classen-Ten-Penn neighborhood has the highest density of vacant land.

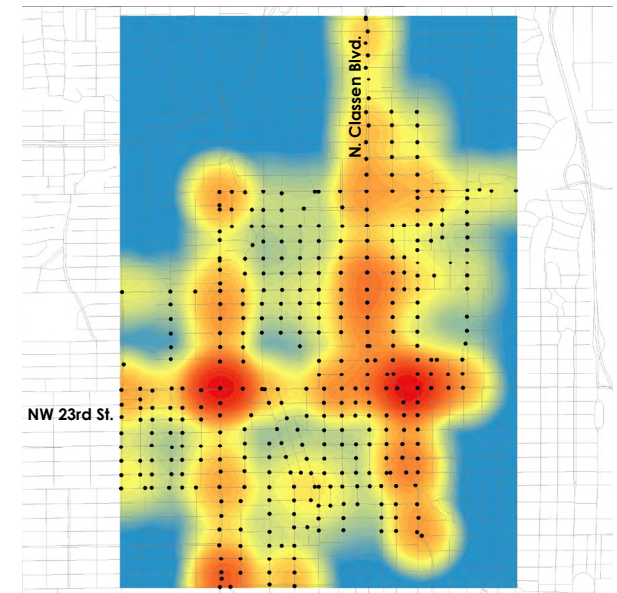
Considering the density of pedestrian-generating land uses that flank both sides of N. Classen Blvd. and NW 23rd St., ensuring safe crossing of the street and closing the gaps between existing crossings is of the utmost importance in order to create a walkable environment.



Map 3.18 - PPA Transit Routes

TRANSIT

Six transit routes traverse this area: Routes 5, 7, 8, 10, 23, and 38. These routes are aligned with N. Classen Blvd., N. Pennsylvania Ave., NW 10th St., and NW 16th St. Along these routes are 83 separate bus stops, evenly distributed along the primary roads. The stops with the highest rates of bus riders either boarding or alighting are located at the intersection of NW 23rd St. and N. Classen Blvd. as well as the intersection of NW 23rd St. and N. Pennsylvania Ave. Routes 5 and 23 have the highest ridership in the entire transit system, making this PPA one of the busiest transit regions in the city. This highlights the importance of filling in the gaps in the sidewalk network and increasing safety and accessibility with regard to crossing the major streets in the area.



Map 3.19 - PPA Collision Analysis

COLLISIONS

The intersection of NW 23rd St. and N. Classen Blvd., as well as the intersection of NW 23rd St. and N. Pennsylvania Ave. have the highest rates and most dangerous instances of motor vehicle collisions, making it essential to consider their design for the sake of pedestrians. The intersection of NW 10th St. at N. Pennsylvania Ave. is also a hot spot with regard to the number and severity of collisions. The arterial corridors of N. Classen Blvd., N. Pennsylvania Ave., and NW 23rd St. all present challenges to safety for pedestrians, cyclists, and drivers alike.

Between the years of 2003 and 2015, reports indicate that 71 pedestrians and 42 cyclists were struck by motor vehicles. Only one pedestrian fatality occurred during the same time period, though severe injury was common. 10 of the 71 pedestrian collisions occurred at the intersection of NW 23rd St. and N. Pennsylvania Ave., which is widely known to be a dangerous intersection.

PROPOSED SIDEWALKS

Of primary concern in this PPA is filling in gaps in the sidewalk network on primary streets: NW 23rd St., N. Classen Blvd., NW 36th St., and N. Pennsylvania Ave. Additionally, connecting key resources, such as the Asian District, the Plaza District, OCU, Memorial Park, the Western Avenue district, and the Uptown 23rd district, is a high priority. These phase 1 improvements have the added benefit of completing the sidewalk network along transit corridors, making transit a more viable option, and expanding accessibility for those with disabilities.

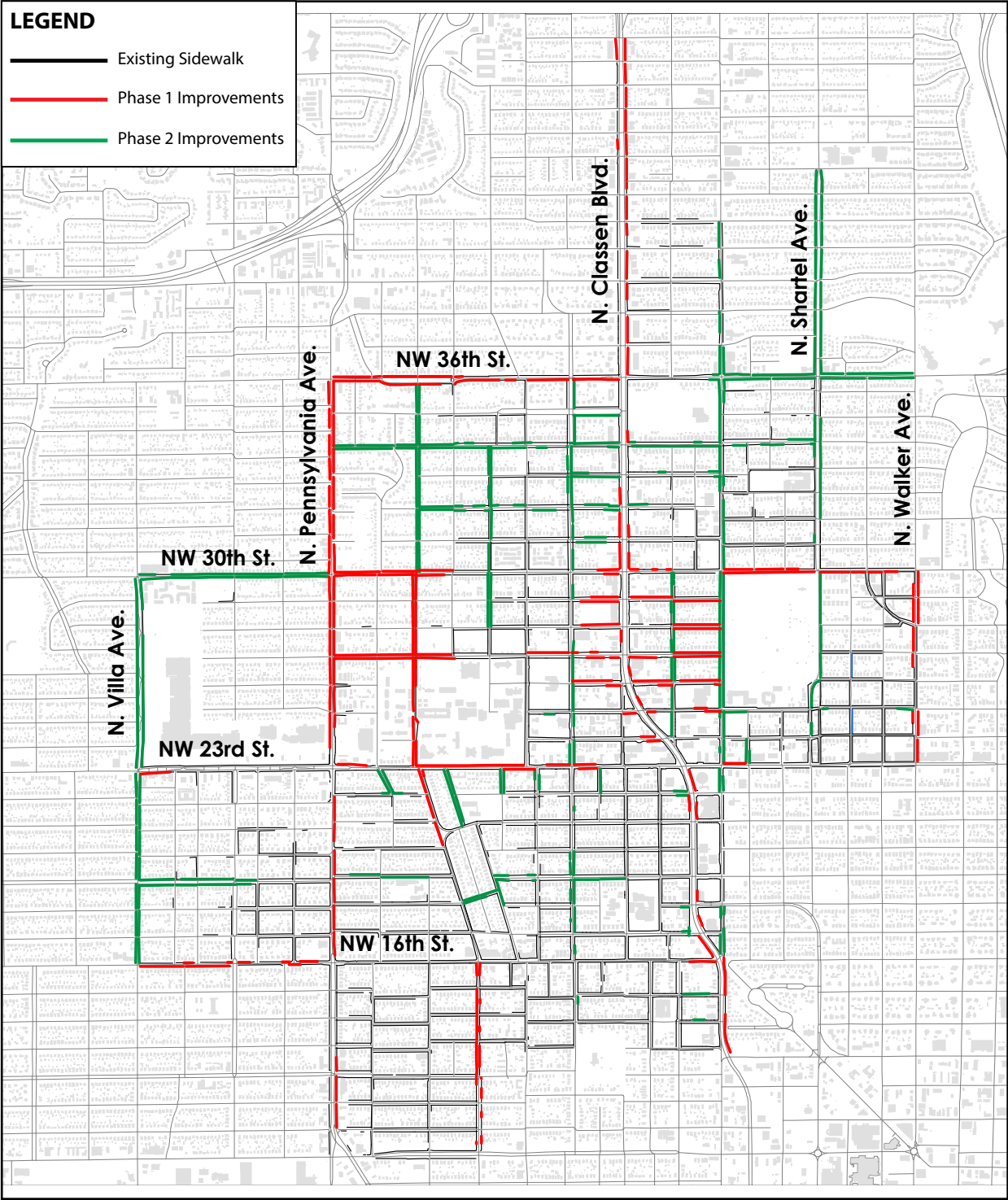
The phase 2 sidewalks continue this trend, adding sidewalks along N. Villa Ave., N. Western Ave., and N. Shartel Ave., as well as creating a grid where most homes are no more than a block away from the sidewalk network. Phase 2 also facilitates access to the primary corridors.

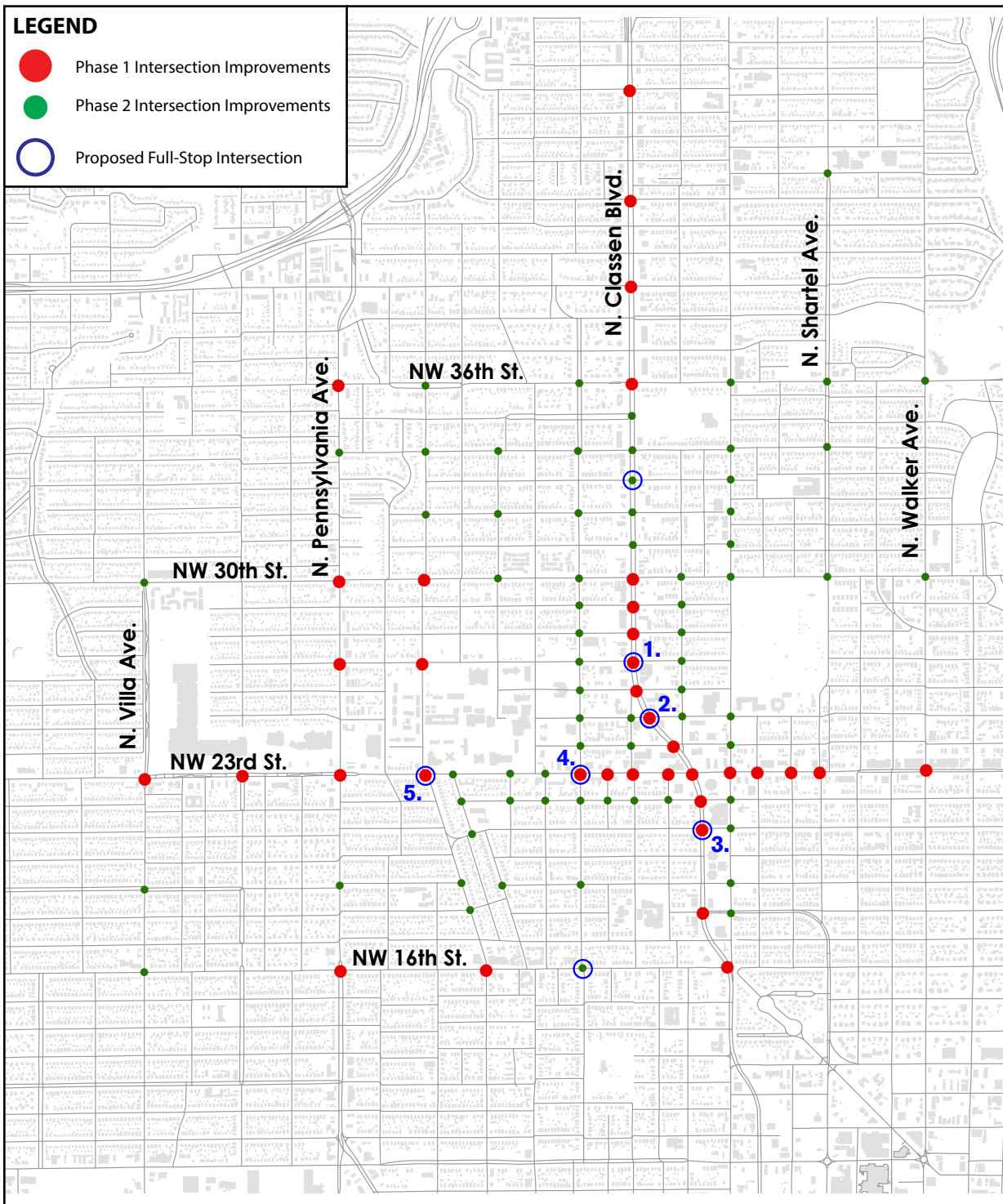
39% of the streets in this PPA have existing sidewalks. If phase 1 is implemented, 49% of the streets will have sidewalks. Phase 2 implementation would lead to 62% of the streets having sidewalks.

Map 3.20 (right) - N Classen Blvd. and NW 23rd St. PPA Proposed Sidewalks

Map 3.21 (opposite) - N Classen Blvd. and NW 23rd St. PPA Intersection Improvements

Phase	Length
Existing	57.7 mi
1	11.2 mi
2	15.1 mi





PROPOSED INTERSECTION IMPROVEMENTS

This plan calls for 31 intersections to be improved (addition of pedestrian infrastructure elements) as a part of Phase 1 improvements, including 5 new full-stop intersections. Phase 2 calls for an additional 66 intersections to be improved, with an additional 2 full-stop intersections. Phase 1 full-stop improvements are as follows:

North Classen Boulevard

1. NW 27th St. - This location is one of two proposed full-stop intersections in the Asian District. This street flanks the north side of Oklahoma City University and already has some of the best streetscaping and crosswalks in the city.
2. NW 25th St. - This location is one of two proposed full-stop intersections in the Asian District. This street flanks the south side of Fairlawn Cemetery, as well as Military Park, which has recently been completely rebuilt. This stop, in conjunction with the stop at NW 27th St., will allow for full realization of the investments made to pedestrian infrastructure in the Asian District.
3. NW 21st St. - This location reduces the gap between safe pedestrian crossings from 5 blocks to 3, and delineates the southern end of the district.

Northwest 23rd Street

4. N. McKinley Ave. - This location aligns with the eastern boundary of OCU, reduces distance between safe pedestrian crossings, and aligns with a bicycle project identified in the bike plan.
5. N. Kentucky Ave. - This location provides a full-stop intersection on the west boundary of OCU, increasing walkability for students and residents.

Downtown Assessment

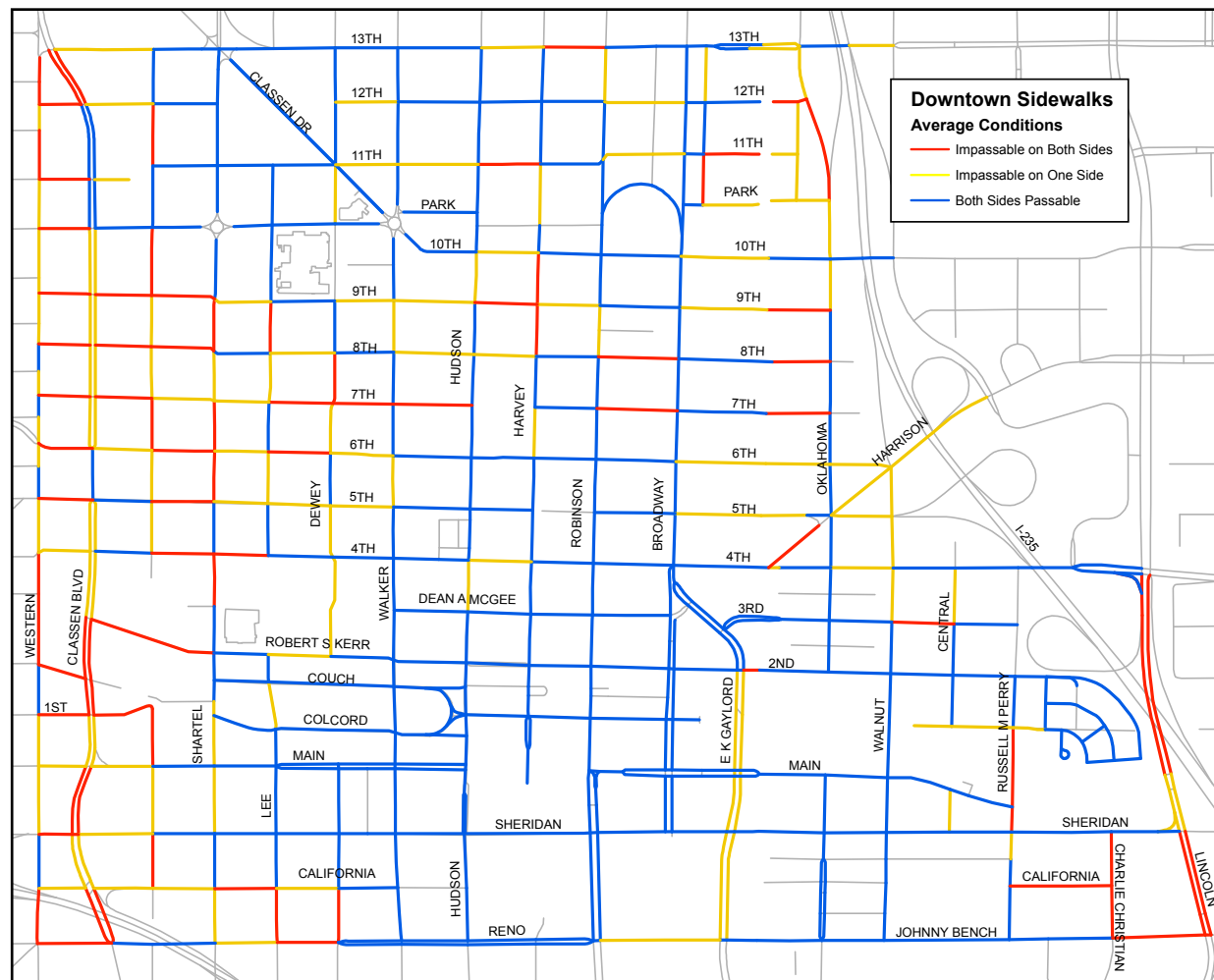
Downtown, being the center of commerce and visitation, and having the highest level of residential density, demands the highest possible level of walkability in order to be successful.

Several efforts have begun to address the urban form of the downtown area, including Project 180, which has converted streets from 4-lane one-ways to two-way streets with improved pedestrian spaces. In order to capitalize on the improvements that have been made over the last decade, it is important to understand what areas of the downtown are in particular need of improvement, as well as to know what steps need to be taken to raise the whole area to the level of walkability afforded to pedestrians in the Project 180 area.

The downtown area is made up of several smaller districts including:

- Central Business District;
- Midtown;
- Automobile Alley;
- Bricktown;
- Deep Deuce;
- Film Row;
- SOSA;
- Core to Shore; and
- all of the spaces between these districts.

Closing gaps in the sidewalk network, both in terms of existing infrastructure and the quality thereof, will help create a walkable community where residents and visitors can choose to walk between these districts rather than drive. Additionally, ensuring that the downtown streetcar has a surrounding pedestrian network that is complete, accessible, and inviting is essential for the success of that system.



Map 3.22 - Downtown Sidewalk Accessibility

ACCESSIBILITY STUDY

The first step of the downtown assessment was to evaluate all street segments in the downtown area, looking at both sides of the street to evaluate the quality of the pedestrian realm. The first pass evaluated whether the existing pedestrian facilities were continuous and provided accessibility to those with disabilities.

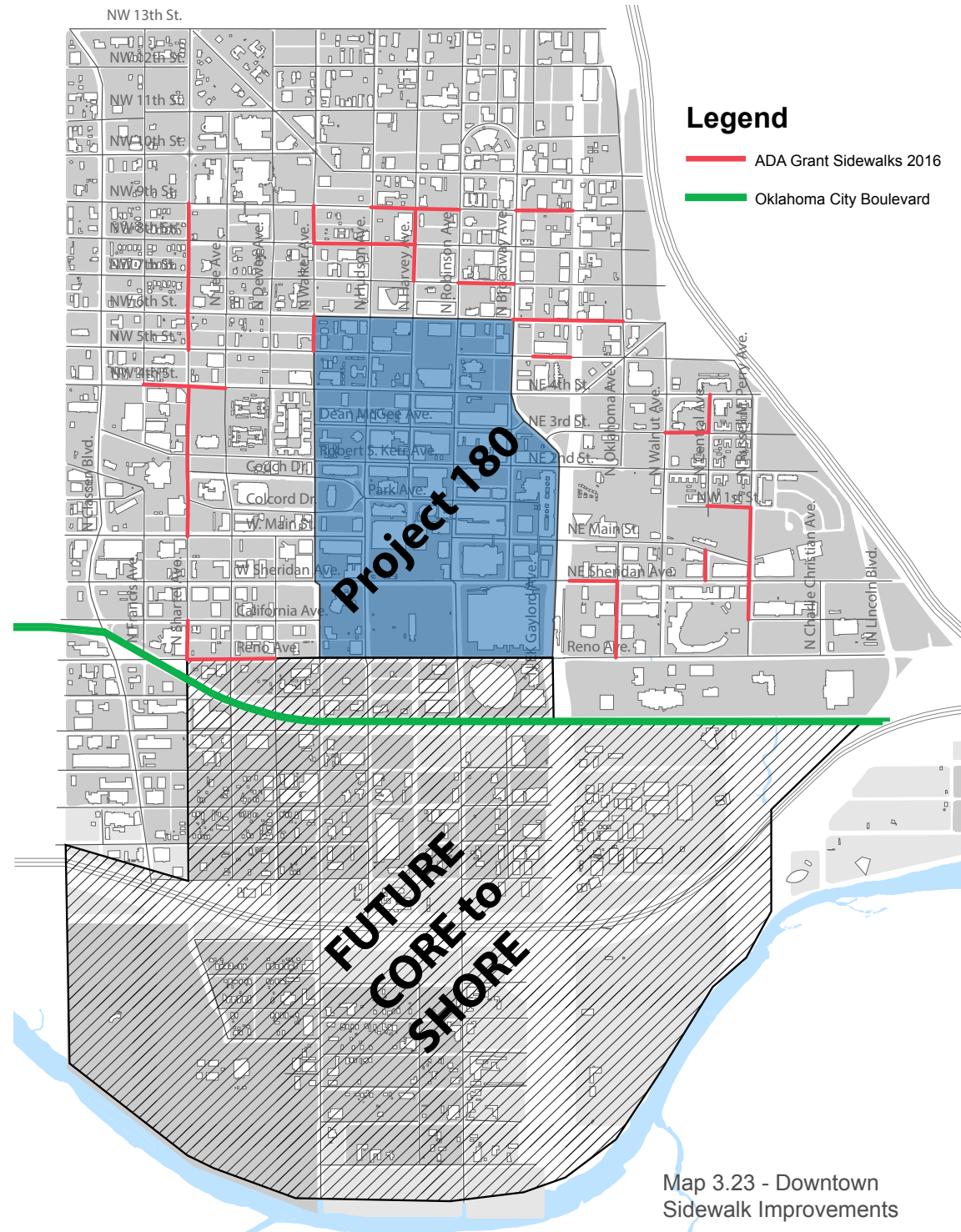
Map 3.21 shows the results of this evaluation.

This process reveals deficiencies in the downtown pedestrian realm, particularly in the western half, between N. Shartel Ave. and N. Western Ave. Not all areas of the downtown need to be at the same high level of pedestrian infrastructure, but at a minimum ADA-compliant sidewalks should be located throughout so that downtown is usable by everyone. This map in conjunction with detailed site investigation can be used to generate pedestrian improvement projects for the entirety of downtown.

DOWNTOWN PEDESTRIAN INFRASTRUCTURE PROJECTS

While the map on the previous page illustrates a great deal of need for investment in the pedestrian realm of downtown, several transformative projects are in different stages of completion.

1. Project 180 - See page 64 for a more in-depth description of this project.
2. Core to Shore - As a part of MAPS 3 major improvements will be occurring in the downtown sub-area known as Core to Shore. This includes the area south of Reno Ave. and extends south to the Oklahoma River. The key features of this area will include two large parks, the Skydance Bridge, Union Station, and a new convention center. With all of these improvements will come brand new pedestrian infrastructure in the entire area.
3. The Oklahoma City Boulevard - This ODOT and FHWA funded project will be complete in the next few years. The boulevard is aligned with the former I-40 path through the downtown area. This project will replace the old elevated I-40 highway with an at-grade boulevard, and will include pedestrian improvements.
4. Downtown Tax Increment Financing (TIF) ADA Improvements - Money from the Downtown Tax Increment Financing District has been allocated for pedestrian improvements in the form of accessibility upgrades in the downtown area. Many of these projects were identified from the map on the previous page. The goal of this funding is to most efficiently and effectively improve mobility for all users in the downtown area. These improvements focus on N. Shartel Ave., Midtown, Automobile Alley, and Bricktown.



Map 3.23 - Downtown Sidewalk Improvements

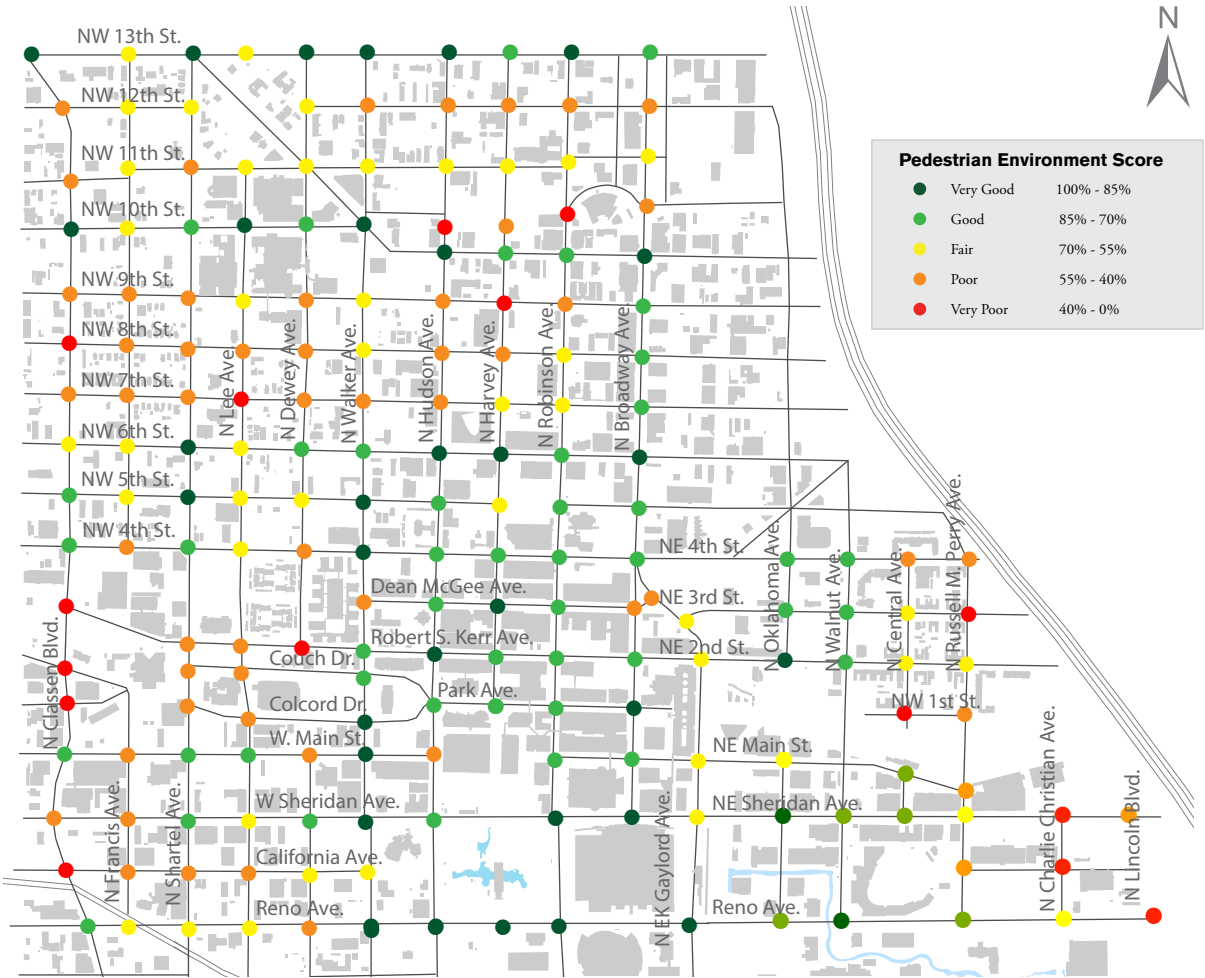
PEAT ASSESSMENT DOWNTOWN INTERSECTIONS

This map shows the downtown intersections surveyed using the PEAT assessment tool. Average conditions are symbolized according to the total score of each intersection, ranging from “very poor” to “very good.” Deficiencies can be seen in several areas between N Shartel Ave. and N Classen Blvd., as well as in Midtown between NW 10th St. and NW 13th St. and between NW 6th St. and NW 10th St.

The most satisfactory intersection conditions exist within the Central Business District and the area around the Myriad Gardens, spanning primarily from Reno Ave. to NW 6th St. and from Walker Ave. to Broadway Ave. This is due to Project 180’s major investment to improve walkability in the downtown area.

Downtown intersection improvements, especially those along the N. Classen Blvd. corridor, are recommended to be prioritized for funding through the 2017 General Obligation Bond. The work that has been completed at the intersections of NW 4th St., NW 5th St., and NW 6th St., where they intersect with N. Classen Blvd. are good examples of how intersections along the corridor should be designed. However, even with all of these capital improvements, crossing N. Classen Blvd. at these locations is still dangerous because of traffic making turns through the crosswalk during the pedestrian signal phase. Creating a separate pedestrian phase that is activated by pedestrians when they push the pedestrian signal button would ensure that pedestrians are safe when crossing this high speed, high volume major arterial.

Meeting the basic needs of pedestrians will lead to a more functional downtown; however, context must be considered in addition to the individual infrastructural elements of the downtown intersections.



Right: Example crosswalk styles on downtown intersections.

PEAT ASSESSMENT DOWNTOWN SEGMENTS

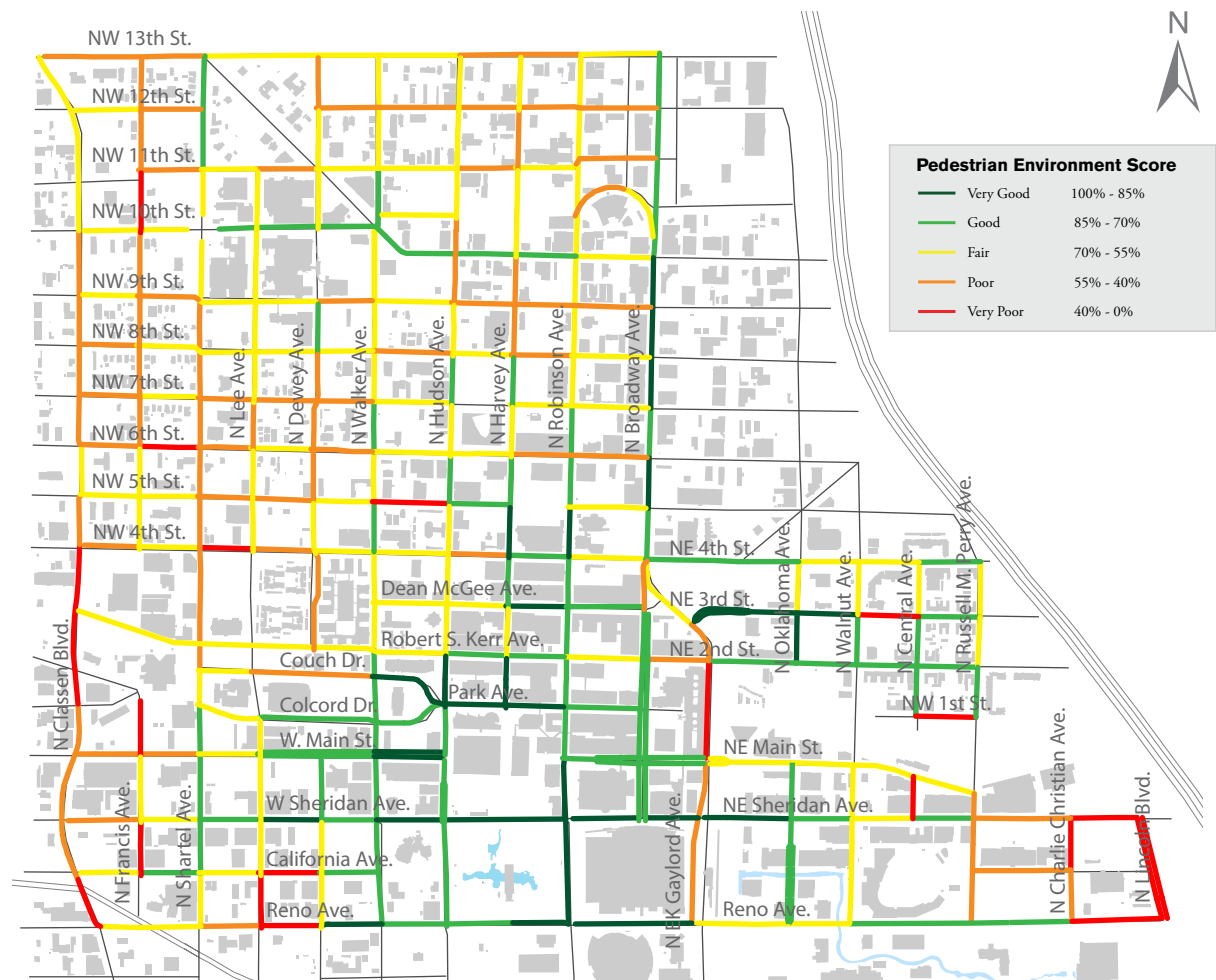
This map shows the street segments of downtown rated using the PEAT process in a similar way to the intersections on the previous page. Here we see similar trends:

N. Classen Blvd. and the western half of the downtown area score lower than the Central Business District, Deep Deuce, and West Bricktown.

NW 4th St., NW 5th St., NW 6th St., NW 7th St., NW 8th St., and NW 9th St. all score poorly, creating a gulf between the Downtown and Midtown areas.

Reno Ave. is inconsistent in its pedestrian environment, with N. Lee Ave. being a divider between segments that score “Very Good” and “Very Bad”. This distinction is obvious when traveling through this intersection, and makes the downtown appear disjointed or incomplete.

N. EK Gaylord Blvd. is anomolous in the Central Business District/West Bricktown area, as it scores “Poor” and “Very Poor”, creating a potential hazard to pedestrians passing back and forth between the two areas. Notably, there are far fewer places to visit on N. EK Gaylord when compared to the other streets in this area.



Map 3.25 - Downtown PEAT Sidewalk Segment Assessment

Finally, in their quest to become more sustainable, cities need to remember that, for the typical pedestrian, the most mundane storefront is still more interesting than the most luxuriant landscape.
- Jeff Speck, “Walkable City: How Downtown Can Save America, One Step at a Time



Transit Access Example

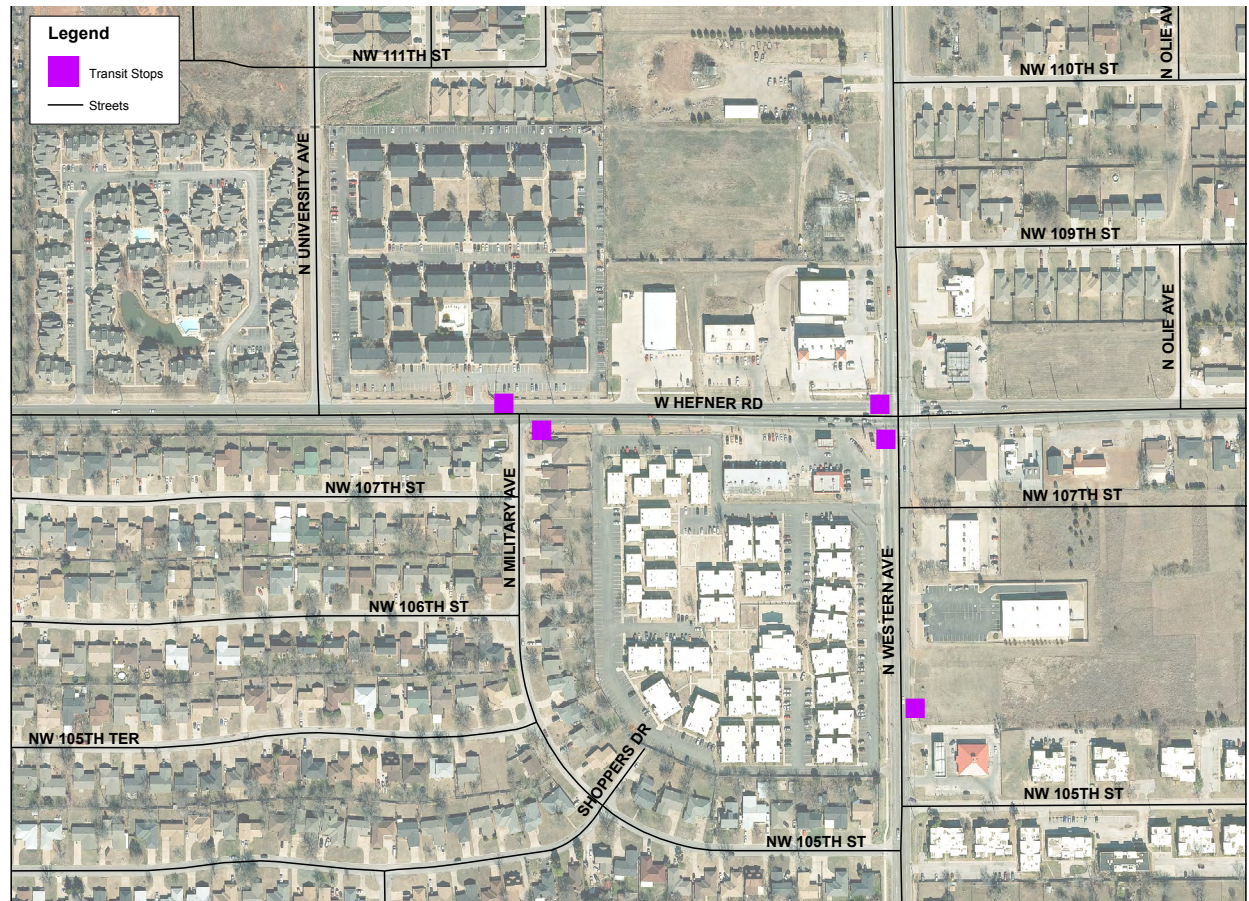
N WESTERN AVE. & NW HEFNER RD.

A hot spot of transit activity exists at the intersection of N. Western Ave. and W. Hefner Rd. Six transit stops service more than 150 transit boardings and alightings per day.

Four large apartment complexes are within close proximity to the intersection, while retail, commercial, and office uses inhabit the lots surrounding the intersection of N. Western Ave. and W. Hefner Rd. The four apartment complexes house 715 residential units and thousands of residents. Presently few sidewalks are in the area; however, a MAPS 3 sidewalk is constructed on the west side of N. Western Ave. south of the intersection with W. Hefner Rd., and three businesses have sidewalks along their street frontage.

Presently, a great deal of undeveloped land is in close proximity to the intersection, though new developments have occurred within recent years. Improving access to these sites could stimulate development, providing goods and services to the local residents, and generating sales tax revenue for City services.

By filling in the gaps in the sidewalk network, not only would the numerous residents in this area be better and more safely connected to the EMBARK transit system, but they would also have increased access to useful retail establishments like the grocery store, daycare, salon, and restaurants that surround the intersection of N. Western Ave. and W. Hefner Rd.



Map 3.26 - N. Western Ave. at W. Hefner Rd. - Transit Stops

Improvement Strategy

For those transit stops not inside the boundary of this PPA, the suggested approach is to plan for one mile of sidewalk improvements around the stops. If stops are located at an intersection without existing sidewalks in any direction, the approach would be to apply sidewalks equally in each direction, or to the nearest logical terminus, on both sides of the street, around 1/8th of a mile in each direction (see Figure 3.6).

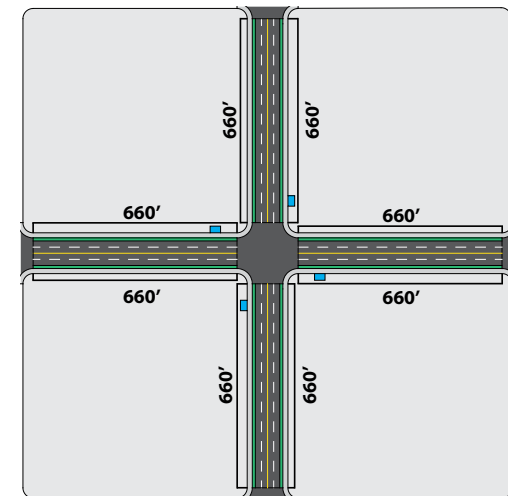


Figure 3.6 - Sidewalks connecting to bus stop

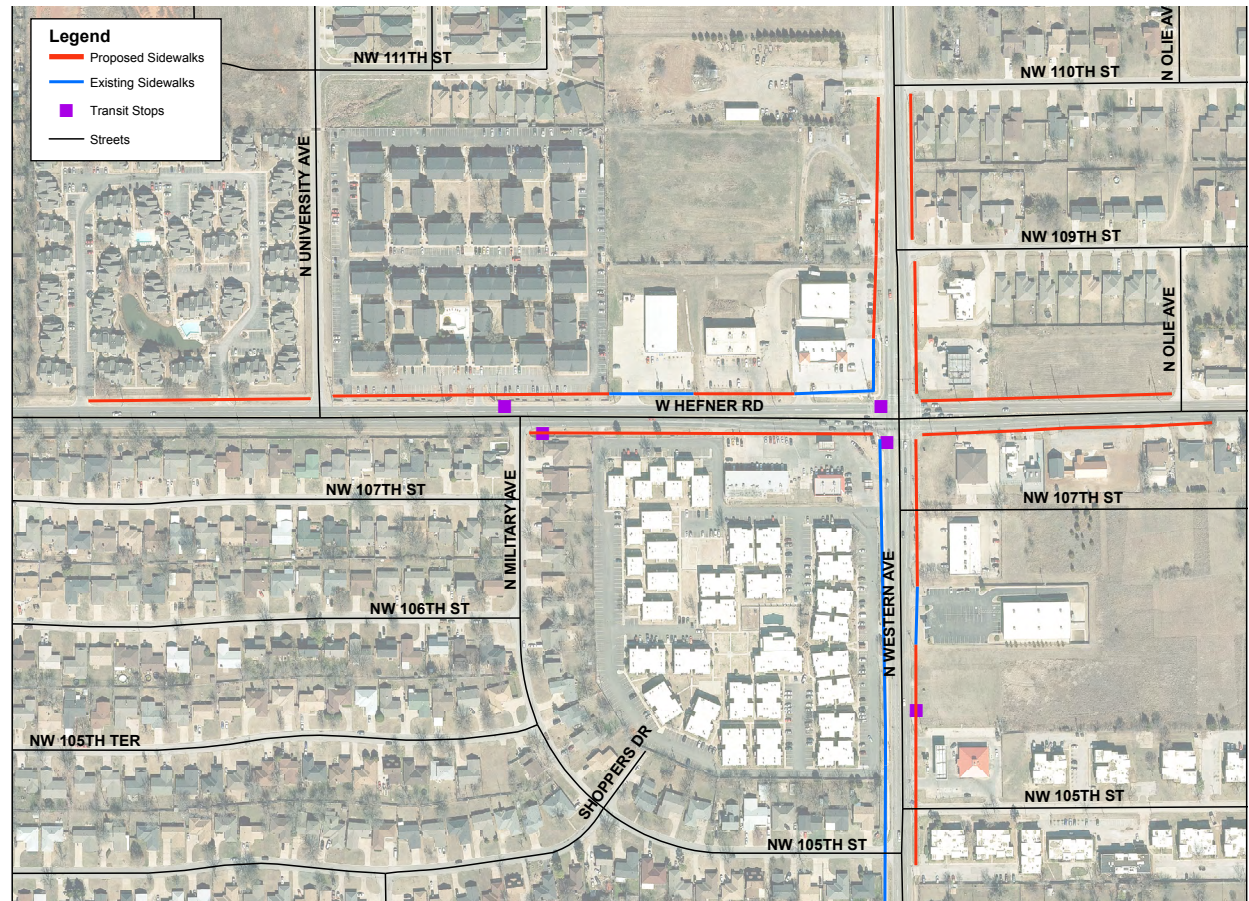


RECOMMENDATIONS

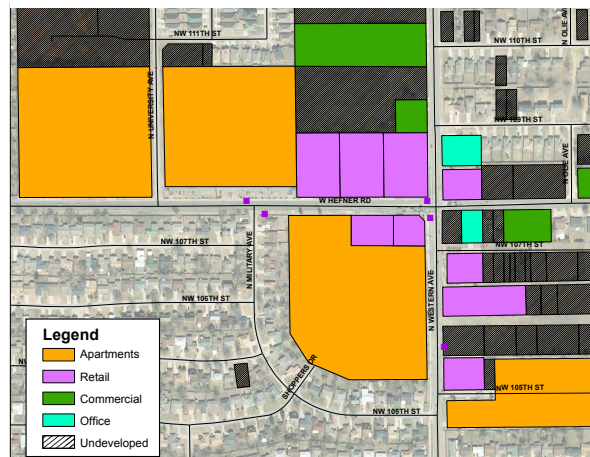
Based on the finding in the site investigation, the following recommendations will lead to a more walkable environment for transit riders in and around the intersection of N. Western Ave. and W. Hefner Rd. (see Map 3.26).

1. Connecting the two apartment complexes on the north side of W. Hefner Rd. to the intersection by filling in the gaps in the sidewalks will increase safety for and accessibility.
2. Adding sidewalks along N. Western Ave. north of the intersection with W. Hefner Rd. will provide a safer connection to the transit stops in the area for the single-family neighborhoods to the northwest.
3. Adding sidewalks along W. Hefner Rd. east of the intersection will connect the existing retail, commercial, and office land uses. Additionally, it could stimulate the development of the undeveloped parcels along this stretch of road.
4. Completing the sidewalk network on N. Western Ave. south of the intersection will connect another apartment complex, and will capitalize on the improvements completed during the MAPS 3 sidewalk project.
5. Safe crossings for transit users should be introduced in two locations.
 - a. The intersection of N. Military Ave. with W. Hefner Rd.
 - b. The intersection of NW 105th St. and N. Western Ave.

By making these changes thousands of local residents will be better connected to their surrounding land uses, as well as the Embark transit system, which will facilitate non-motorized travel across the city (Map 3.27).



Map 3.27 - Sidewalk Plan for N. Western Ave. at W. Hefner Rd.



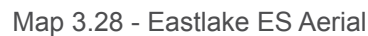
Map 3.27 - Parcels Within a 1/4-mile Walk

Equal access to public transportation is as important to the U.S. economy as equal access to public education.
- Association of Pedestrian and Bicycle Professionals

EASTLAKE ES

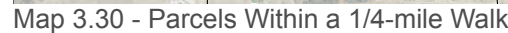
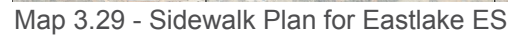
1. No sidewalk connections exist on SW 134th St. from the surrounding neighborhoods.
2. All of the subdivisions that surround the school have fully built sidewalk networks as required by ordinance; however, these networks are not connected to each other or any surrounding land uses as the sidewalks stop abruptly at the neighborhood entry points.
3. Eastlake Elementary School has two pedestrian access points:
 - a. A cut-through on the west side of the school between two single-family homes; and
 - b. A cut-through on the northeast corner of the school between two single-family homes.
4. The subdivision entrances on the north side of SW 134th St. are each located 800' or more from the school entrance, which could cause many children to have to exit the subdivision in order to get to SW 134th St. to access the school.
5. The subdivision across from the school entrance on Calistoga Dr. does not have a safe crossing for children who attend Eastlake Elementary to walk to school.

- Brian Williams, 1994



Based on these findings, the following recommendations will lead to a more walkable environment for people attempting to access Eastlake Elementary School (see Map 3.29).

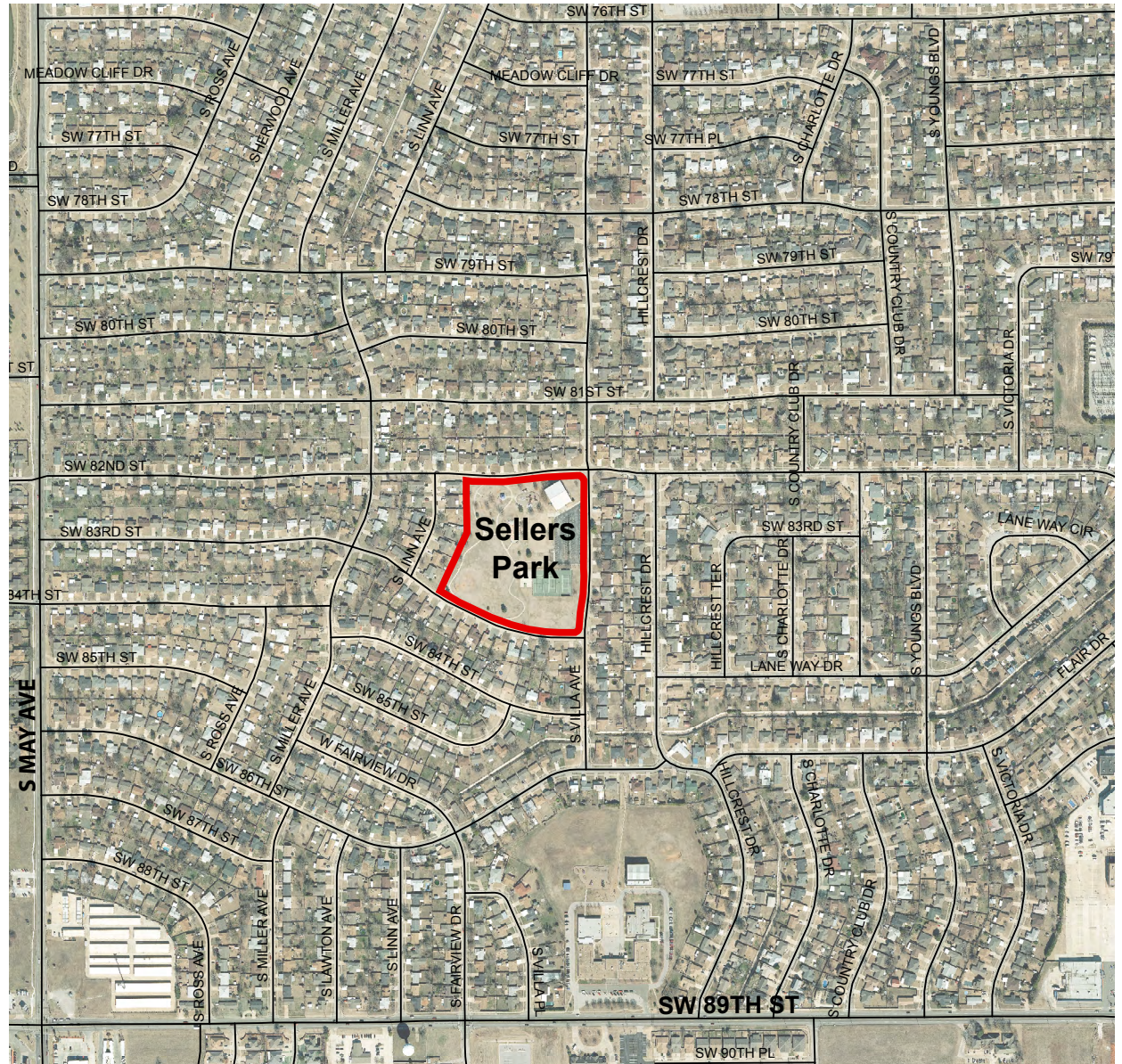
- By making these changes, an entire neighborhood will gain safe pedestrian access to Eastlake Elementary School, as well as two smaller subdivisions, totaling more than 150 homes (Map 3.30).



SELLERS PARK

1. No sidewalks exist on the perimeter of the park, nor are there sidewalks across the street of the roads that flank the park.
2. The residential areas south and east of the park have ample sidewalks.
3. An opportunity exists to connect large numbers of residential parcels with a minimal amount of sidewalks connecting to nearby existing sidewalks that lead to the park.
4. Residential areas to the north and west of the park do not have existing sidewalks, meaning that improvements to the sidewalk network will require a complete build-out.

- NRPA, Why Parks and Recreation are Essential Services, 2010



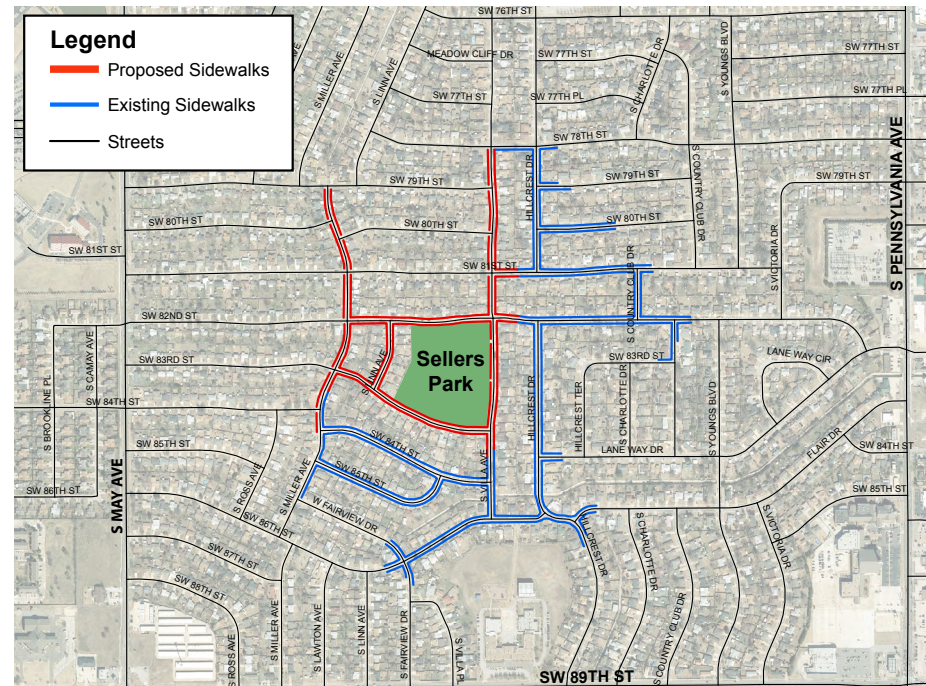
Map 3.31 - Selllers Park Aerial

RECOMMENDATIONS

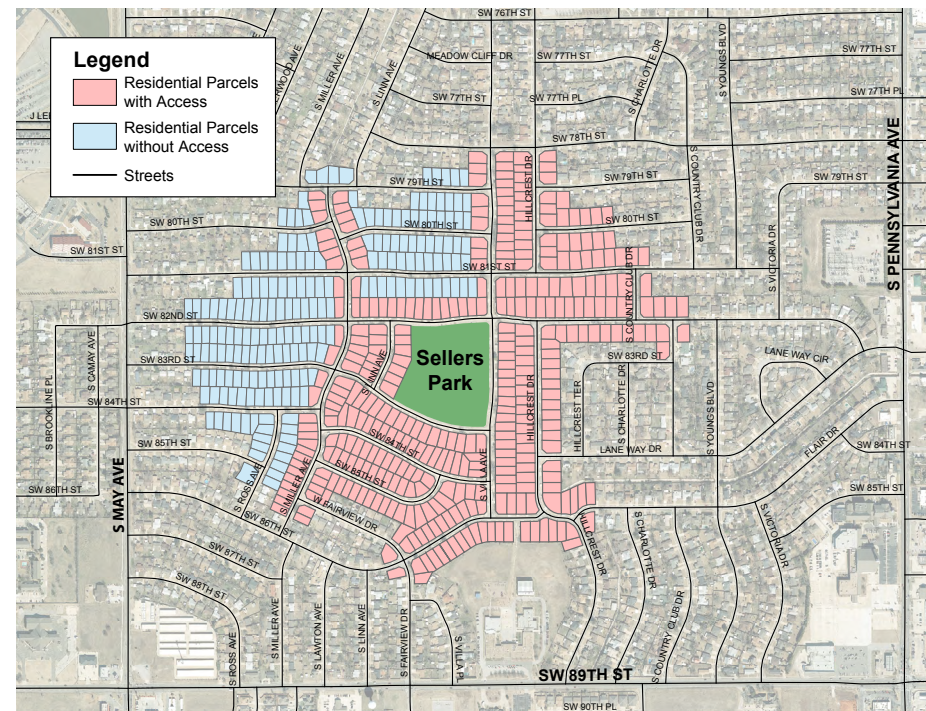
Based on these findings, the following recommendations will lead to a more walkable neighborhood that has a significant increase in the number of homes with sidewalk access to Sellers Park (see Map 3.32):

1. Construct new sidewalks on S. Villa Ave. at the southeast corner of the park to connect with the existing sidewalks on S. Villa Ave. between SW 83rd St. and SW 84th St.
2. Construct new sidewalks on SW 82nd St. at the northeast corner of the park to connect with the existing sidewalks on SW 82nd St. between S. Villa Ave. and N. Hillcrest Ave.
3. Add sidewalks on both sides of the road on S. Villa Ave. from SW 78th St. and SW 83rd St. and ensure accessibility to the east side of Sellers Park.
4. Add sidewalks on both sides of the road on S. Miller Ave. from SW 79th St. and SW 84th St. to connect to existing sidewalks to the south.
5. Add sidewalks on both sides of the road on SW 82nd St. between S. Miller Ave. and S. Villa Ave. and ensure accessibility to the north side of Sellers Park.
6. Add sidewalks on both sides of the road on SW 83rd St. between S. Miller Ave. and S. Villa Ave. and ensure accessibility to the south side of Sellers Park.
7. Add sidewalks on both sides of the road on S. Linn Ave. from SW 82nd St. and SW 83rd St.

By making these improvements to the neighborhood that surrounds Sellers Park, the number of homes with direct sidewalk access will increase from zero to 362 homes, and will serve 65% of homes within a ¼-mile trip of the park. Map 3.33 shows that after improvements are installed, the parcels in pink will have a less than 5-minute walk to the park with direct sidewalk access to and from their homes. Those in blue will not have direct sidewalk access.



Map 3.32 - Sidewalk Plan for Sellers Park



Map 3.33 - Parcels Within a 1/4-mile Walk



CHAPTER 4: IMPLEMENTATION

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CHAPTER 4: IMPLEMENTATION

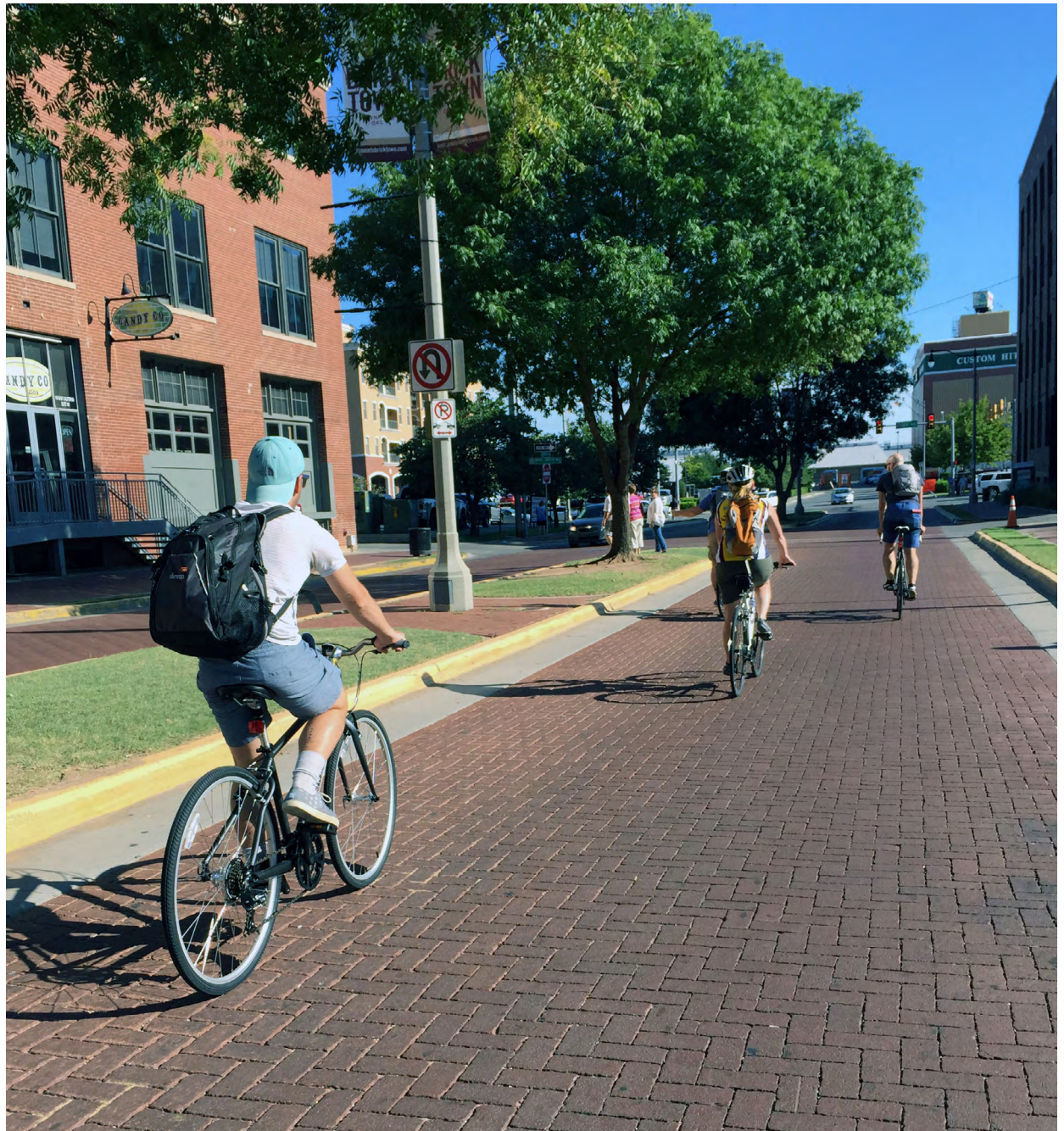
Introduction

This chapter outlines prioritization and policy actions to implement bikewalk^{okc} over time using a variety of federal and local funding sources. The many actions needed to implement this plan cannot be done at once; therefore, this chapter addresses the priority of each action item to ensure the most effective order of implementation.

One of the keys to achieving a successful, well-used network is to prioritize the construction of bicycle and pedestrian facilities that provide the most benefit to the most residents. This chapter details the prioritization process for numerous projects and ranks the importance of each according to cost and benefit.

In addition to building bicycle-pedestrian infrastructure in a coordinated and strategic manner, other actions, such as updating ordinances, design standards, policies and procedures, are recommended to facilitate efficient and legal execution of the pedestrian and bicycle capital improvement projects. Clearly defining terminology, design standards, and responsibilities will ensure that legal and political challenges will be avoided or mitigated as Oklahoma City expands its active transportation infrastructure.

With sufficient resources, such as staff, funding, community support, and city leadership support, the recommended actions in this plan are achievable and will make a significant difference for people who want to walk or ride a bicycle where they want to go.



Bicycle Network

Prioritization

In order for efficient and effective implementation of the bicycle network, each bicycle facility was prioritized. Prioritization takes into account many different considerations. These include the following:

- **Number of households served** - A primary factor is to prioritize bicycle facilities in locations to serve the greatest number of people with the greatest need.
- **Cost per household** - Efficient implementation means installing facilities that have the greatest “bang for buck.” This ties directly into the number of households served, and also includes the preliminary cost estimate of the facility.
- **Destinations** - Bicycle facilities that connect schools, parks, and commercial or recreational areas are prioritized over those that do not.
- **Barriers** - Bicycle facilities that provide access over barriers such as highways, water bodies, arterial streets, etc. are important to establish a well-connected transportation network.
- **Component Plan Project** - Bicycle facilities identified as part of a “component plan project” from the bicycle plan chapter are prioritized because they contribute to a more comprehensive and strategic system of expanding active transportation options.

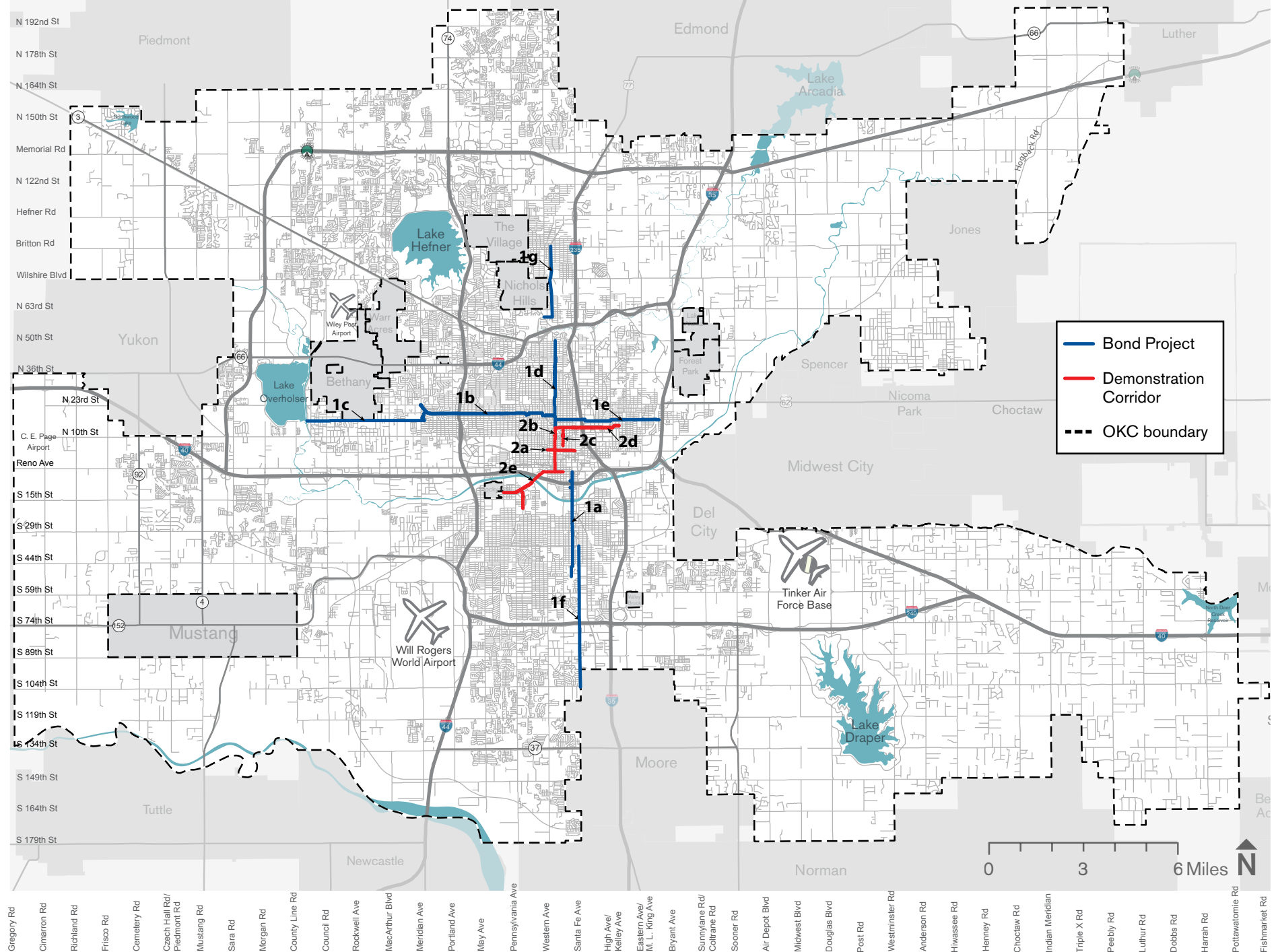
Proposed projects in this plan were ranked according to these criteria in order to build a continuous network in a strategic and thoughtful manner. The ranking of prioritized projects is not meant to be implemented in consecutive order, but rather is to identify projects of relative importance. All selected alignments are to be field verified and changes may be required.

The maps on the following pages show each tier of bike projects to better clarify the implementation of the network. Table 4.1 and Map 4.1 display the Priority 1 facilities, or those that have already received funding through general obligation bond funds or federal funds.

Table 4.1 Funded Bicycle Facilities

Map ID	Project Name
1	Crosstown Connections
1.a	S. Robinson Ave.
	S. Robinson connects downtown to south Oklahoma City, and connects the Convention Center, the MAPS 3 Park, the Oklahoma River, the Skydance Bridge, Wiley Post Park, the Capitol Hill Business Improvement District, and many neighborhoods. This project consists of 3.5 miles of protected bicycle lanes.
1.b	NW 19th St. to N. Shartel Ave.
	NW 19th St is currently an important bicycle corridor for Oklahoma City. This project aims to upgrade the existing sharrows to a dedicated bicycle lane. This east/west corridor is about 4 miles in length.
1.c	Far West NW 16th St.
	NW 16 St connects Lake Overholser to NW 19th St and completes an important east/west corridor from Lake Overholser Lake to downtown Oklahoma City. This requires 3.7 miles of bicycle lanes.
1.d	N. Shartel Ave.
	This proposed facility stretches from downtown to NW 50th St and connects multiple neighborhoods, schools, and parks along the 3.8 mile corridor. This corridor consists of a protected bicycle lane, bicycle lane, and improved bicycle route where conditions allow each facility type.
1.e	NW/NE 16th St. to OUHSC
	The proposed facility provides a bicycle lane from the Katy Trail to OUHSC. The facility is 1.5 miles in length. Additionally, 1.75 miles of bike route connect OUHSC westward to N. Shartel Ave.
1.f	S. Santa Fe Ave.
	This project connects from the S. Grand Blvd. Trail to the north, to the City limits shared with Moore to the south. This proposed facility requires
1.g	N. Classen Blvd.
	North of I-44 there are few options better suited for bicycle lanes than N. Classen Blvd., which carries very little traffic north of the Chesapeake professional campus.
2	Watch for Me OKC Federal Grant
2.a	NW 4th St.
	This project calls for protected bicycle lanes along NW 4th St. to connect cyclists to the transit center, streetcar route, and existing bicycle lanes in the area.
2.b	N. Shartel Ave.
	This is the downtown portion of N. Shartel Ave. to connect with bike lanes to the north. This facility calls for protected bicycle lanes.
2.c	N. Walker Ave.
	This project connects the bicycle lanes that currently exist on N. Walker Ave. to Midtown.
2.d	NW 13th St.
	NW 13th St. provides access to and from Oklahoma Health Center, access to Midtown and Automobile Alley, as well as access to nearby neighborhoods. A high level of protection is needed.
2.e	Exchange Ave., Westwood Blvd., and SW 3rd St.
	Exchange Ave. is a key connection across the river with low traffic, well-suited for bicycle infrastructure. Protected lanes will ensure all riders feel comfortable.

MAP 4.1 PRIORITY 1 - FUNDED BICYCLE FACILITIES



MAP 4.2 PRIORITY 2 BICYCLE FACILITIES

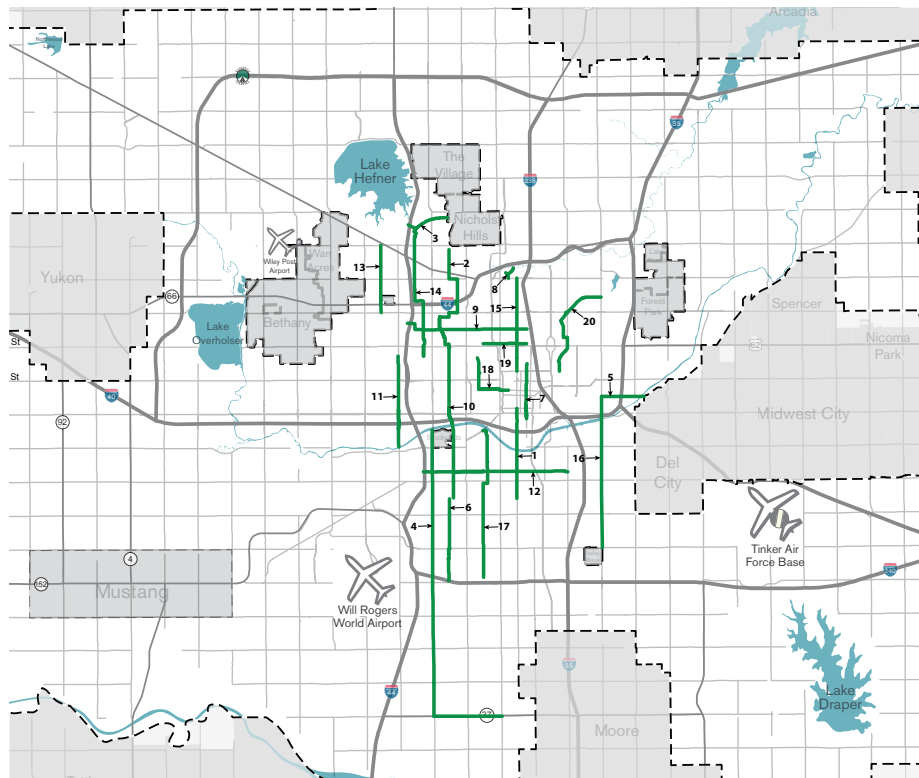


Table 4.2 Priority 2 Bicycle Projects

Map ID	Bicycle Project	Funded?	Map ID	Bicycle Project	Funded?
1	S. Walker Ave. Part 1	Partial	11	Portland Ave.	Partial
2	Villa Ave. North	Partial	12	SW/SE 25th St.	Partial
3	Grand Blvd./Independence Ave.	Partial	13	N. Tulsa Ave.	
4	S. May Ave.		14	Independence/Drexel Ave.	
5	NE 4th St. Trail Connection		15	N. Walker Ave.	Partial
6	Villa Ave. South	Partial	16	S. Eastern Ave.	
7	N. Robinson Ave. Downtown		17	McKinley/Blackwelder Ave.	
8	N. Shartel Ave. to Deep Fork		18	N. Indiana Ave./Linwood Blvd.	
9	NW 30th St.		19	NW 24th St.	
10	Villa Ave. Central	Partial	20	N. Springlake Ave.	Partial

MAP 4.3 PRIORITY 3 BICYCLE FACILITIES

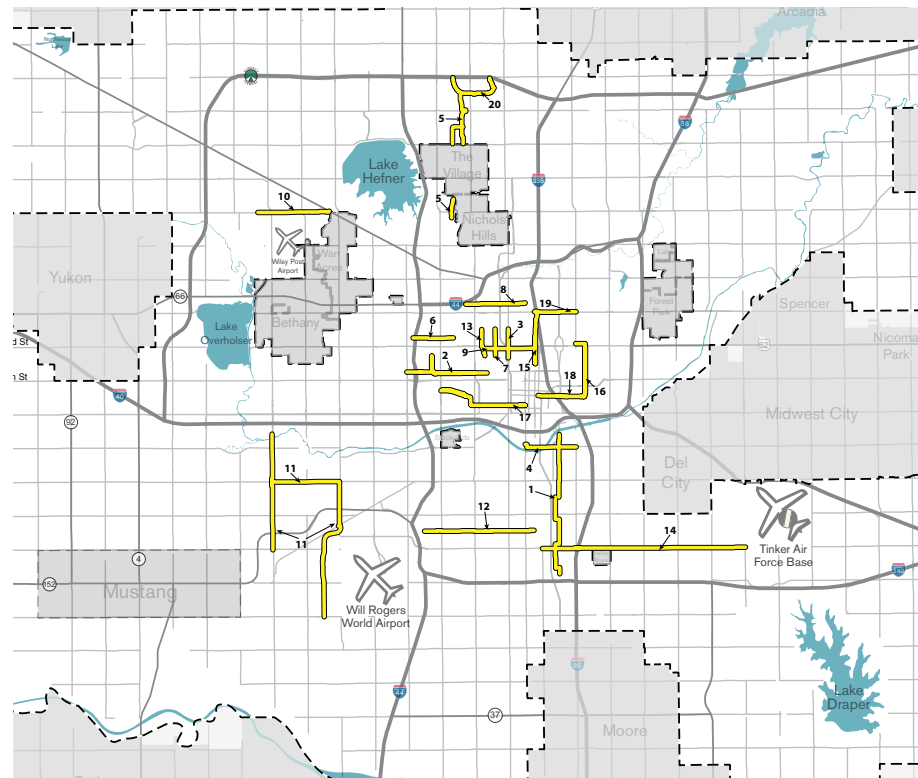


Table 4.3 Priority 3 Bicycle Projects

Map ID	Bicycle Project	Funded?	Map ID	Bicycle Project	Funded?
1	Byers/Stiles Ave.		11	Western Rural Routes	
2	NW Drexel Blvd./NW 12th St.		12	S. 51st St.	
3	N. Western Ave.	Partial	13	N. Indiana Ave.	
4	SE SW 15th St.		14	SE 59th St.	
5	Stratford Dr./Greystone Ave.		15	N. Robinson Ave.	Partial
6	NW 27th St.		16	N. Lottie Ave.	
7	N. McKinley Ave.		17	General Pershing Blvd.	
8	NW 39th St.		18	NE 4th St.	
9	NW 22nd St.		19	NE 36th St. Trail	
10	W. Wilshire Blvd.		20	Highland Park Dr.	

MAP 4.4 PRIORITY 4 BICYCLE FACILITIES

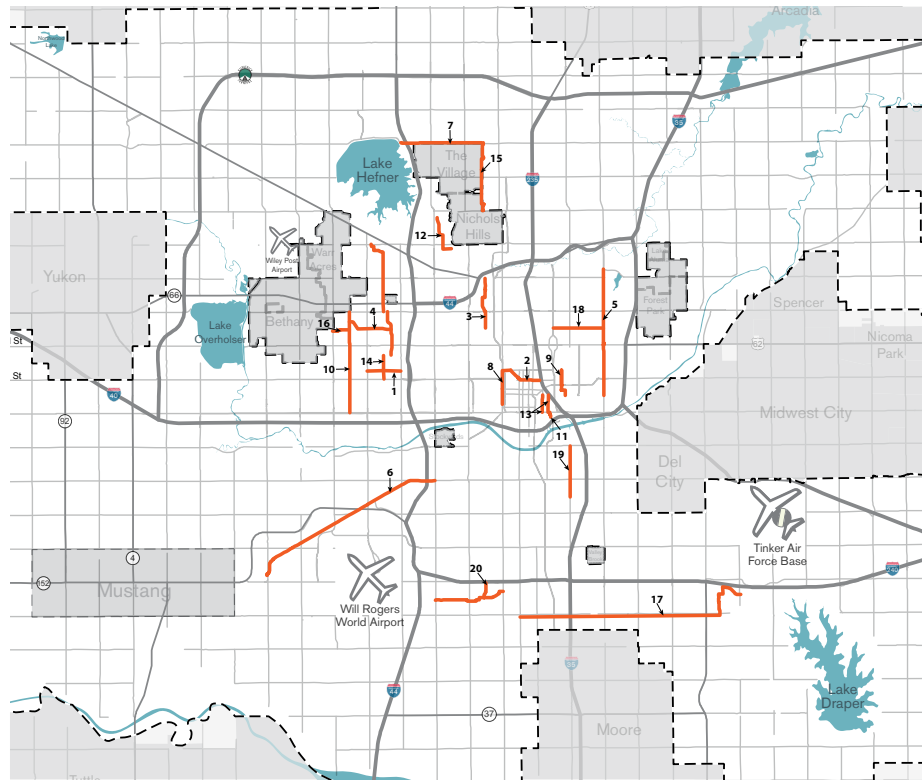


Table 4.4 Priority 4 Bicycle Projects

Map ID	Bicycle Project	Funded?	Map ID	Bicycle Project	Funded?
1	NW 12th St.		11	Bass Pro to River Connection	
2	NW 10th St.		12	NW Grand Connector	
3	OCU North Connection		13	Mickey Mantle / Joe Carter	
4	Windsor Routes		14	Tulsa Ave / Windsor Area	Partial
5	MLK Middle	Partial	15	Village Border	
6	Newcastle Rd.		16	NW 30th St. West	
7	W. Hefner Rd.		17	SE 89th St.	
8	N. Western / Classen Drive	Partial	18	NE 30th St.	
9	Phillips / Laird		19	S. High Ave.	
10	N. Ann Arbor Ave.		20	Far South Routes	

MAP 4.5 PRIORITY 5 BICYCLE FACILITIES

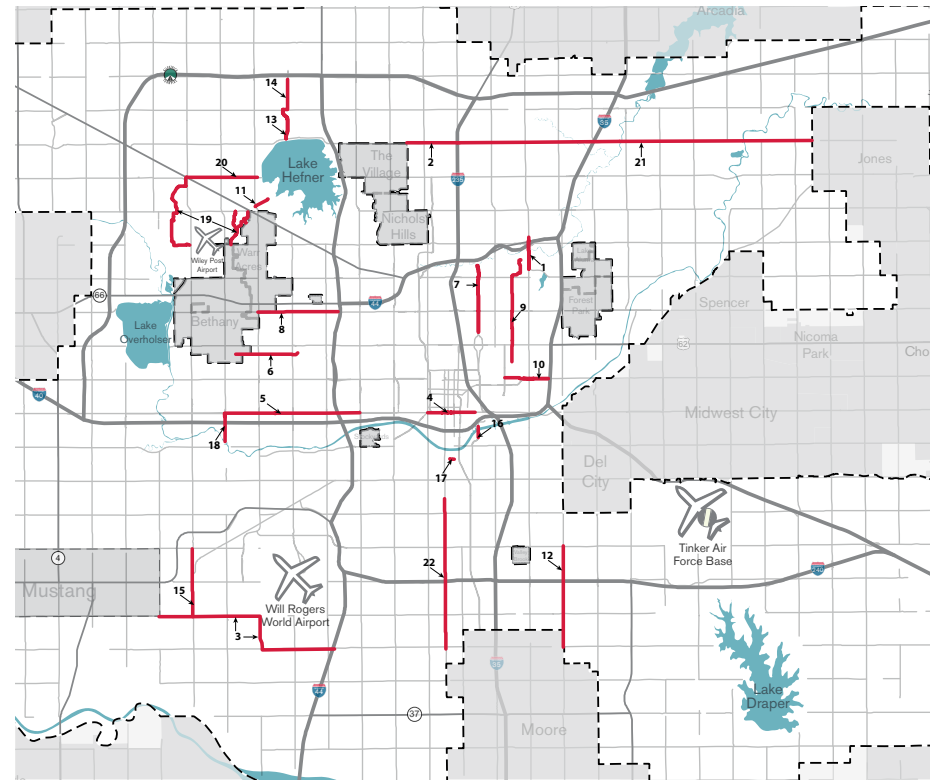


Table 4.5 Priority 5 Bicycle Projects

Map ID	Bicycle Project	Funded?	Map ID	Bicycle Project	Funded?
1	Adventure District / Eastern		12	S. Bryant Ave.	
2	E. Hefner Rd. Central	Partial	13	N. Meridian Ave. Bike Lane	
3	Mustang Connection		14	Mercy Hospital Trail	
4	Reno / Bricktown		15	S. Council Rd.	
5	Reno Trail		16	S. Lincoln Blvd.	
6	NW 19th St. Extension		17	Wiley Post Park Connector	
7	N. Lincoln Blvd.		18	N. Rockwell Ave. Bridge	
8	NW 36th St.		19	North Overholser Routes	
9	N. Prospect Ave.	Partial	20	W. Britton Rd.	
10	OUHSC / Katy Trail Link	Partial	21	E. Hefner Rd. East	
11	Canal Rd.		22	South Walker Part 2	

Recreational Trails Network Prioritization

bikewalkokc has identified several new trail facilities in addition to the not-yet-constructed trails that were carried over from the 1997 Trails Master Plan. The proposed trail network was prioritized using several criteria to weight each project in terms of impact, feasibility, and greatest need. Similar to the bicycle network prioritization, identifying and prioritizing those facilities that offer the most “bang for buck” was part of the process. The factors considered included the following:

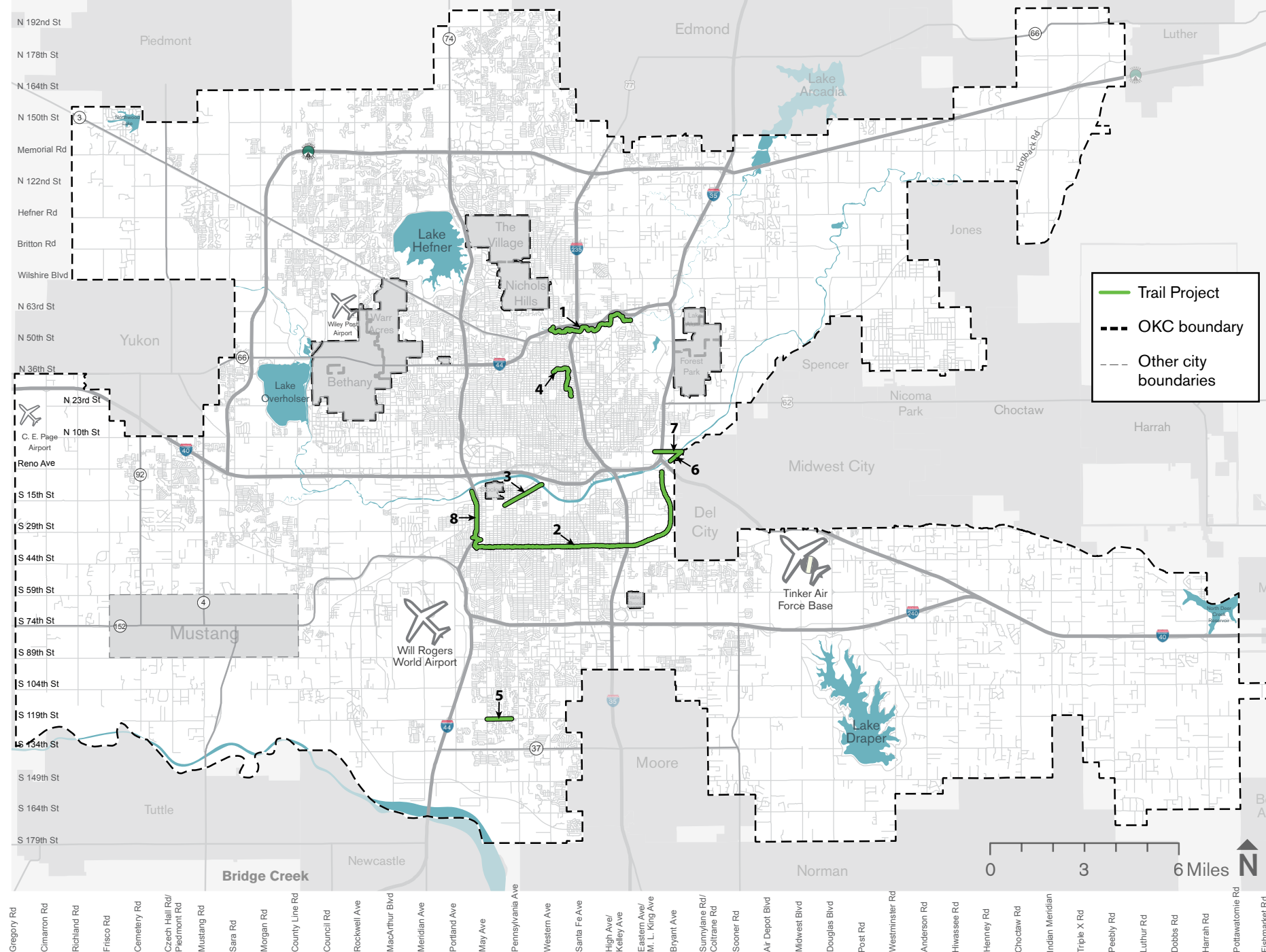
- **Residents Served** – The number of residents within a ½-mile of a proposed facility was identified; the higher the number, the greater the score.
- **Existing Funding** – Some trail projects have existing funding, but not enough funding to construct the entire alignment. These trails were prioritized because of the momentum already behind them.
- **Connection to Existing Facilities** – Connecting into the existing trail network will ensure that the facility is useful to as many residents as possible.
- **Topography** – Trails with lower levels of elevation change were prioritized due to the difficulty and cost associated with constructing facilities in uneven areas.
- **Property Ownership** – Projects that had the fewest interactions with private property were prioritized more highly, as the cost of purchasing right of way is very expensive.
- **Developer Built** – Some projects are identified in undeveloped areas that will likely become residential subdivisions. This plan calls for the trails to be constructed as open space in these areas, reducing the priority for public funding.

Table 4.6 and Map 4.6 show the trail projects that have received funding.

Table 4.6 Funded Recreational Trail Projects

Rank / Map ID	Project Name
1	Deep Fork Trail
	This project is an integral component of completing the Grand Blvd. Loop around Oklahoma City. This project connects the existing Katy Trail to the N. Grand Blvd. Trail through Nichols Hills. Additionally, this project will provide access across the I-44 corridor that is a substantial barrier to cyclists presently.
2	S. Grand Blvd. Trail
	This trail has existing for decades and is in need of repair and improved intersection crossings. Investing in existing facilities is essential to a long-lived and useful trail network.
3	Rail Trail
	An abandoned rail corridor that connects to the Oklahoma River provides a great opportunity to add a safe crossing of the river, as well as an opportunity to get more residents to and from the trail network.
4	Edgemere Greenway
	This project seeks to provide a connection between the many parks in the surrounding areas, including Crown Heights Park, Douglas Park, Edgemere Park, Sparrow Park, and Harlow Park.
5	SW 119th St.
	Earlywine Park in southern Oklahoma City is a great recreational asset. This trail connection will increase the number of residents in the area that can access the park safely without the use of an automobile.
6	Eagle Lake Trail Extension
	This project calls for an extension of the existing Eagle Lake Trail to facilitate a connection between the trail network south of the Oklahoma River to the trails north of the river.
7	Eagle Lake to Katy Trail Connection
	One of the more difficult portions of the Grand Blvd. Loop to connect is across the Oklahoma River, a rail corridor, and the interchange of Interstate 40 and Interstate 35. This project calls for a trail, on-street, and bridge enhancements to connect riders from the eastern terminus of the Eagle Lake Trail to the southern terminus of the Katy Trail.
8	S. Grand Blvd. to River Trail Connection
	Another needed improvement to close the Grand Blvd. Loop is to better connect the Oklahoma River Trails to the S. Grand Blvd. Trail. This project will enhance the existing sidewalk between these trails into a multi-use path in order to provide a safer and more obvious connection.

MAP 4.6 FUNDED RECREATIONAL TRAIL PROJECTS



UNFUNDED TRAIL PROJECTS

The remaining unfunded projects are illustrated in Table 4.7 and Map 4.7 using the same criteria discussed on page 114. There are 44 individual projects that are a combination of all of the unfunded multi-use trail and neighborhood greenway projects identified in this plan. Of note is the manner in which the greenway trails were broken into smaller projects in order to spread the distribution of greenway projects around the metro area. Though these projects are ranked, ensuring an equitable distribution of projects throughout the City is important. As additional funding becomes available over the next several decades, this list of projects will ensure that Oklahoma City is prepared to expand an already impressive trail network, keeping us competitive with cities across the country with regard to a public active recreation system.

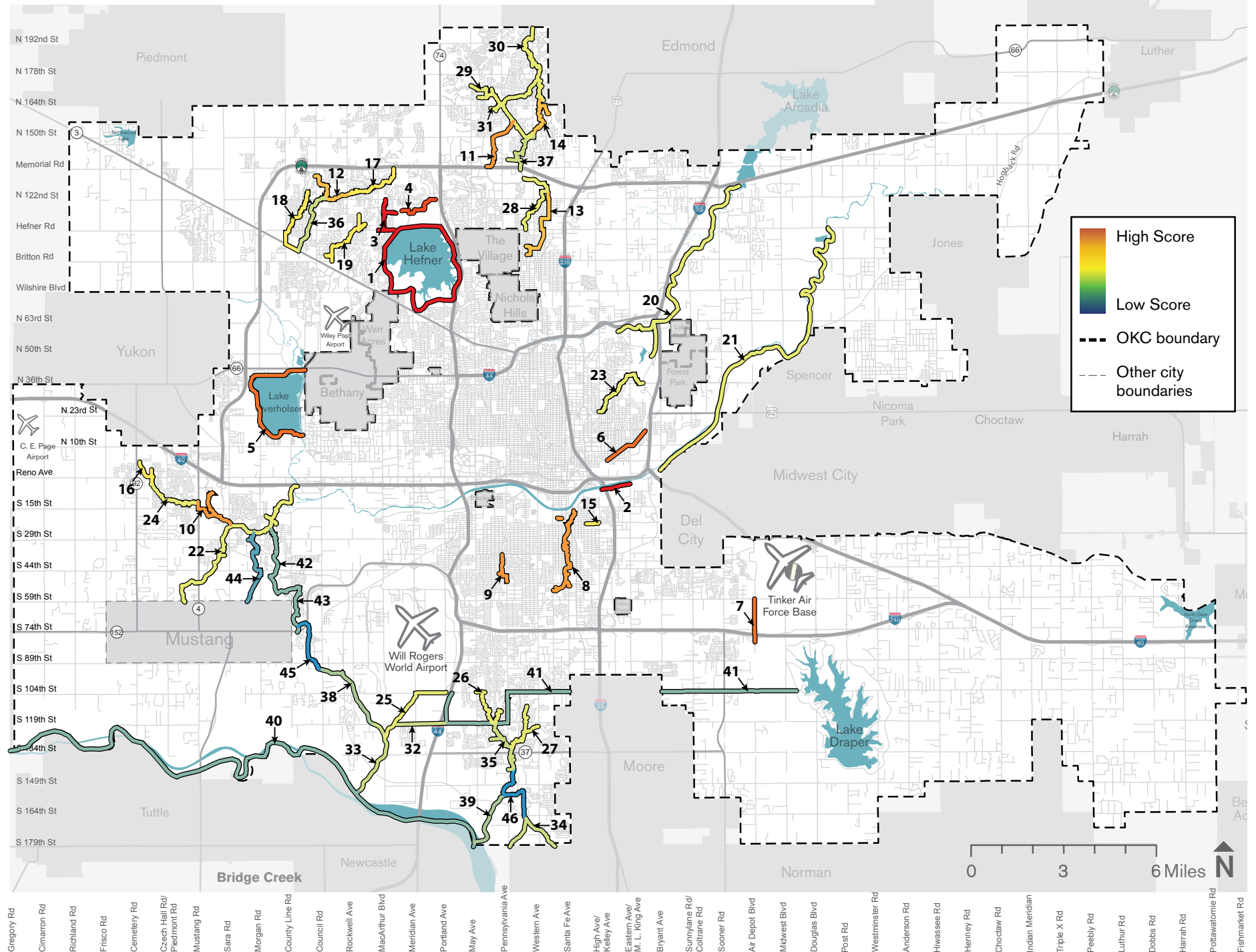
Where proposed trail alignments intersect with future turnpike projects, coordination should occur to ensure that trail connectivity is preserved.

Table 4.7 Unfunded Trail Facility Ranking

Rank / Map ID	Project Name	Mi.
1	Lake Hefner Trail Upgrade	9.1
2	OK River Trail East	0.9
3	NW Greenway Part 2	2.0
4	NW Greenway Part 3	1.5
5	Overholser Trail	5.2
6	Northeast Rail Trail	2.3
7	Air Depot Trail	1.4
8	Lightning Creek Greenway	4.5
9	Brock Creek Greenway	1.3
10	Yukon Greenway Part 1	2.6
11	Far North Greenway Part 1.1	2.1
12	Far NW Greenway Part 1.2	2.0
13	North Greenway Part 2	3.0
14	Far North Greenway Part 1.3	2.2
15	Schilling Park Greenway	0.4
16	Yukon Greenway Part 3	1.2
17	Far NW Greenway Part 1.1	2.3
18	Far NW Greenway Part 2.2	2.6
19	NW Greenway Part 1	2.9
20	Adventure Trail	9.2
21	N. Canadian East Trail	12.7
22	Wild Horse Trail	8.1
23	NE Greenway	2.4
24	Yukon Greenway Part 2	2.2
25	South Airport Greenway	2.8
26	Far South Greenway Part 1.2	2.5
27	Far South Greenway Part 1.1	2.5
28	North Greenway Part 1	2.8
29	Far North Greenway Part 2.2	3.9
30	Far North Greenway Part 2.1	4.1
31	Far North Greenway Part 1.2	2.3
32	South Lakes Spur	1.7
33	Canadian Greenway Part 1	2.6

Rank / Map ID	Project Name	Mi.
34	Far South Greenway Part 2.2	2.6
35	Far South Greenway Part 1.3	2.9
36	Far NW Greenway Part 2.1	2.3
37	Far North Greenway Part 1.4	2.4
38	Canadian Greenway Part 2	2.8
39	Far South Greenway Part 2.3	2.1
40	South Canadian River	20.1
41	104 Trail	11.7
42	Turnpike Greenway Part 2	2.9
43	Turnpike Greenway Part 1	2.3
44	Mustang Greenway	3.1
45	Canadian Greenway Part 3	2.1
46	Far South Greenway Part 2.1	2.6
Total Mileage		166.3
Miles of Greenways		86.8
Miles of Trails		79.5

MAP 4.7 UNFUNDED RECREATIONAL TRAIL PROJECT RANKING



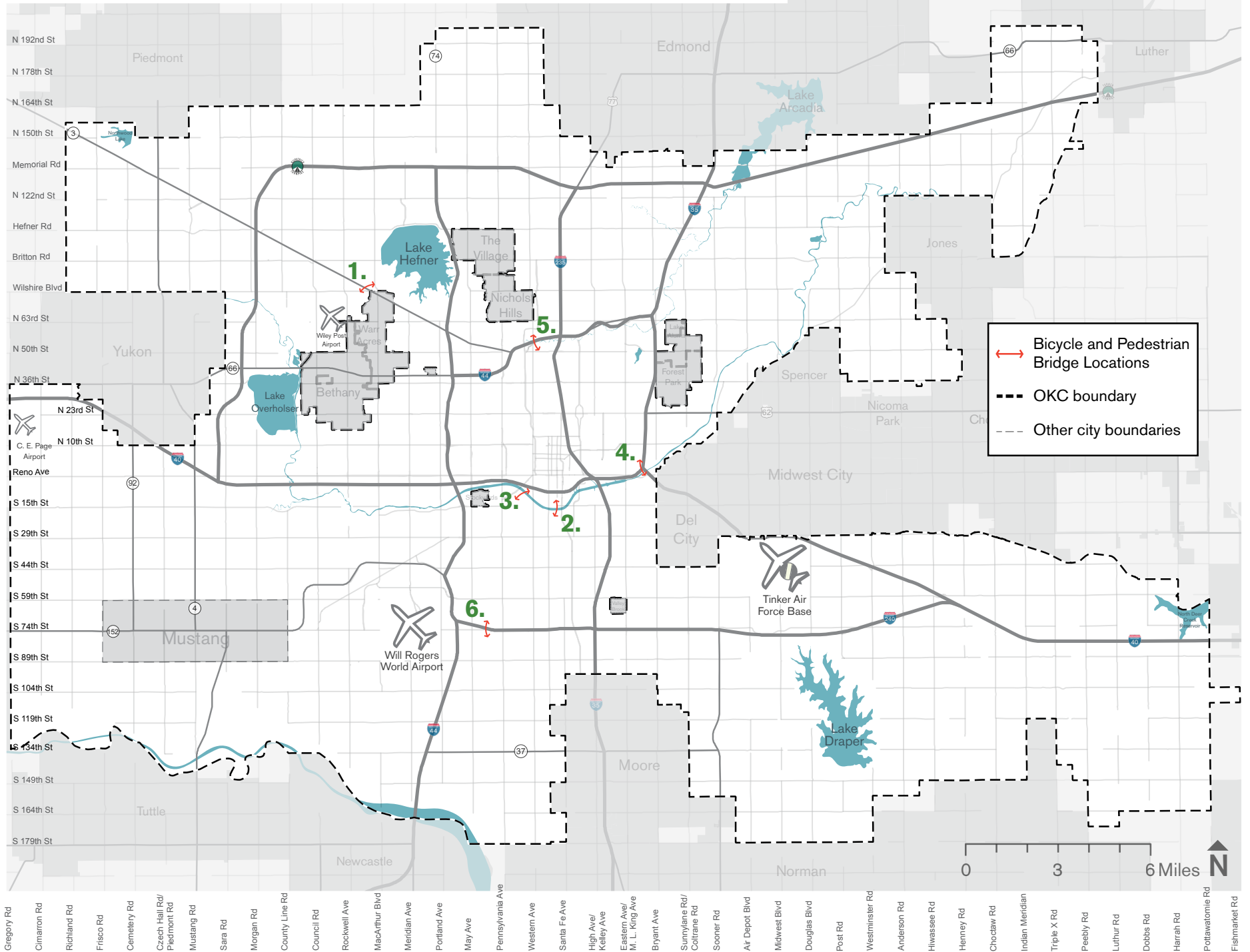
Bicycle and Pedestrian Bridge Projects

Where major barriers exist that keep pedestrians and cyclists from being able to get to where they need to go, a bridge can close the gap and create an opportunity for a safe crossing. Many of the bridge projects identified in this plan have already received funding, most of which are funded completely. As funding becomes available the remaining projects can be implemented.

Table 4.8 Bicycle and Pedestrian Bridge Ranking

Map ID	Project Name	Funded?
1	Northwest Expressway and W. Wilshire Blvd.	Yes
This project calls for a bicycle and pedestrian bridge across Northwest Expressway at the intersection with W. Wilshire Blvd. The primary goal of this project is to create a safe crossing for trail users who are traveling to or from Lake Hefner along the Hefner-Overholser Trail. This project has been identified for a high level of funding to create an iconic bridge to act as a gateway to Oklahoma City.		
2	N. Robinson Ave. across the Oklahoma River	Yes
The Oklahoma River Trails system includes multi-use paths on both sides of the river. This project will assist trail users in crossing the river in order to safely access the trails on each side.		
3	Rail Trail Bridge	Yes
An abandoned rail bridge that crosses the Oklahoma River provides a great opportunity to add a safe crossing.		
4	Interstate 35 Bridges	Yes
The bridges on NE 4th St. that presently cross over the I-35 corridor do not have any accommodation for bicyclists and pedestrians. This project will fund improvements to facilitate safe crossings for trail users.		
5	I-44 / Deep Fork Creek Bridge	Yes
As part of the Deep Fork Creek trail project a bridge is needed to connect riders across the creek in proximity to N. Western Ave. This will improve access for trail riders as well as transportation cyclists.		
6	I-240 Bridge	No
This project is presently unfunded, but will be a great addition in the future to better facilitate crossing I-240, and will compliment the existing bicycle and pedestrian bridge near S. Blackwelder Ave.		

MAP 4.8 BICYCLE AND PEDESTRIAN BRIDGE LOCATIONS



Pedestrian Facilities

Prioritization

The following pages show the implementation strategy for each of the pedestrian plan components. Cost estimates should be refined when specific projects are being planned and designed.

PEDESTRIAN PRIORITY AREAS

As explained in the pedestrian plan chapter of this plan, 10 PPAs were identified and planned out in detail for sidewalk improvements. The improvements were grouped into two phases, which are explained in greater detail on page 91. These 10 PPAs have been prioritized due to funding, timing, and limitations. Map 4.9 and Table 4.9 show the locations of the PPAs.

PPA PROJECTS

For the PPA projects to better harmonize with existing sidewalk improvement strategies used by the City, each of the Phase 1 and Phase 2 sidewalk improvement packages have been broken into more manageable projects. There is a minimum of two Phase 1 projects in each PPA, with as many as four in larger PPAs, such as “NW 63rd St. at N. May Ave.” In general, Phase 2 includes more projects in each PPA than in Phase 1, with up to six projects in larger PPAs. This subdividing of the two phases allows for more areas of the city to be addressed in a single funding source, by allowing incremental completion of the PPA projects rather than all projects in one area being completed before moving to the next PPA. This adds flexibility to implementation whereby each of the PPA projects can be ranked using any method of criteria prioritization.

It is the intent of this plan that all Phase 1 sidewalks should be addressed prior to moving toward Phase 2 sidewalks in any PPA. This order of implementation will ensure an equitable distribution of pedestrian improvements across the city.

MAP 4.9 PEDESTRIAN PRIORITY AREAS

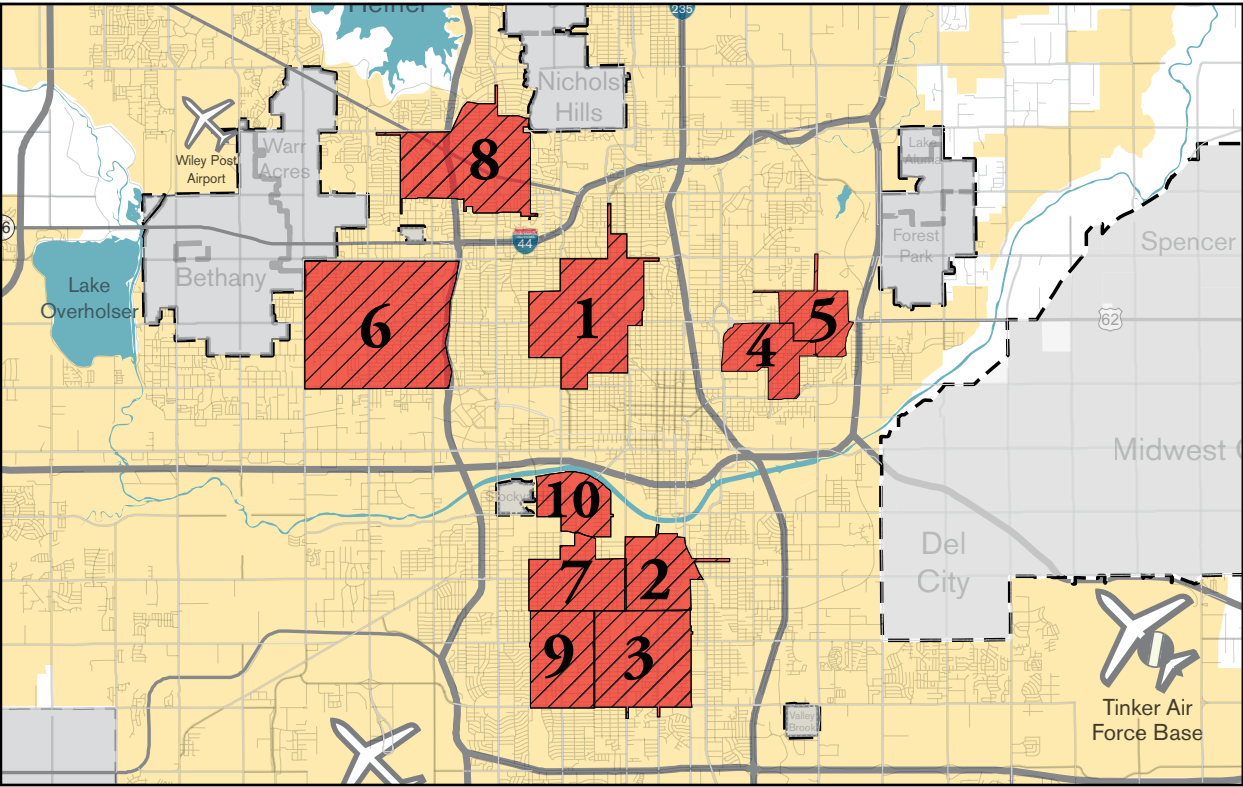
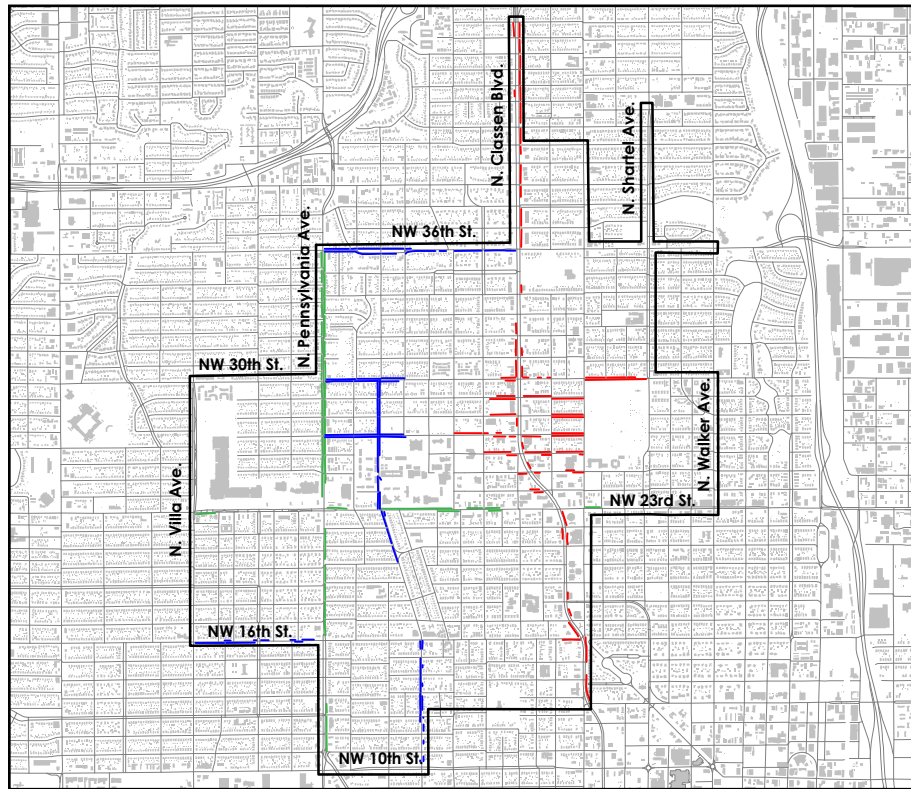


Table 4.9 Pedestrian Priority Areas

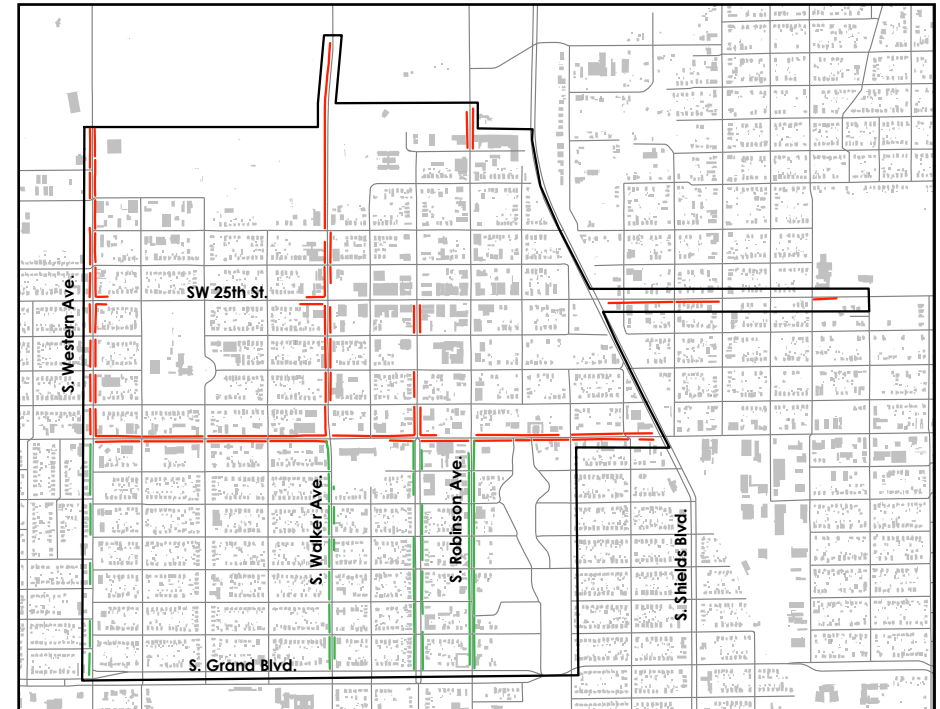
Label	Pedestrian Priority Areas (PPAs)	Phase 1 Mi	Phase 2 Mi
1	NW Classen Blvd. at NW 23rd St.	10.6	15.1
2	Capitol Hill District	5.2	9.4
3	S. Walker Ave. and S. Western Ave. Corridors	10.0	20.3
4	OHC Surroundings	3.8	5.7
5	N. Martin Luther King Jr. Ave. at NE 23rd St.	7.7	7.8
6	Windsor District and West 10th St. District	13.7	14.7
7	SW 29th St. District	6.9	18.6
8	NW 63rd St. at N. May Ave.	15.9	26.8
9	SW 44th St. at S. Pennsylvania Ave.	5.2	15.1
10	Stockyards City	5.1	7.7
	Total miles	84.1	141.2

PHASE 1 PROJECTS FOR PEDESTRIAN PRIORITY AREAS (PPAS)



NW CLASSEN BLVD. AT NW 23RD ST.

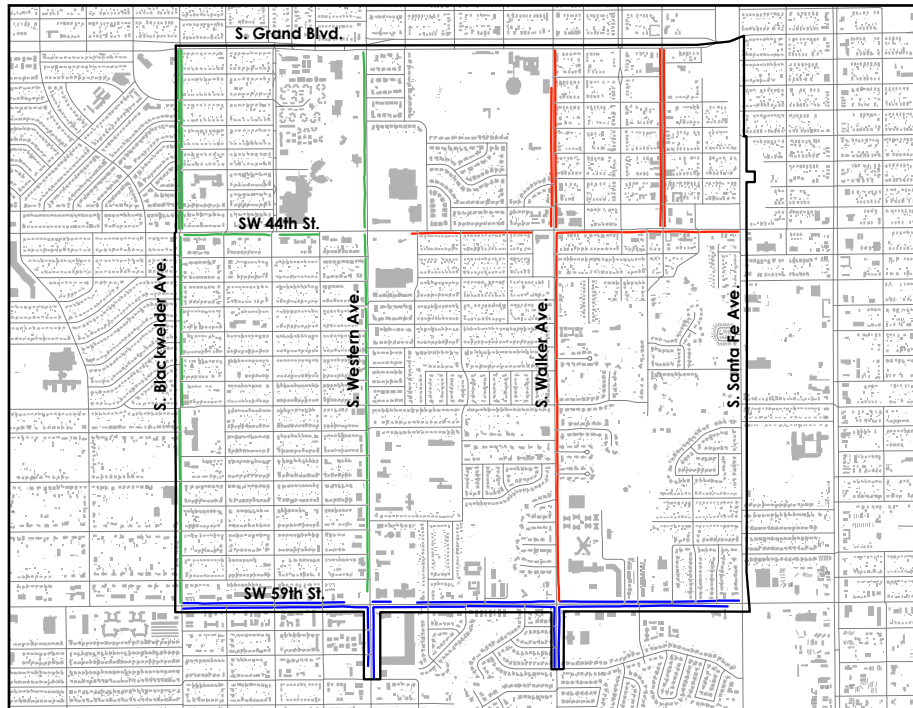
1. Along N. Classen Ave. from NW 13th St. to NW 48th St.; and the area bounded by and including N. Blackwelder Ave., N. Shartel Ave., NW 30th St., and NW 25th St.
2. Along N. Pennsylvania Ave. from NW 36th St. to NW 10th St.; and along NW 23rd St. from N. Villa Ave. to N. Western Ave.
3. Area bounded by and including NW 36th St., N. Classen Blvd., NW 10th St., and N. Villa Ave.



CAPITOL HILL

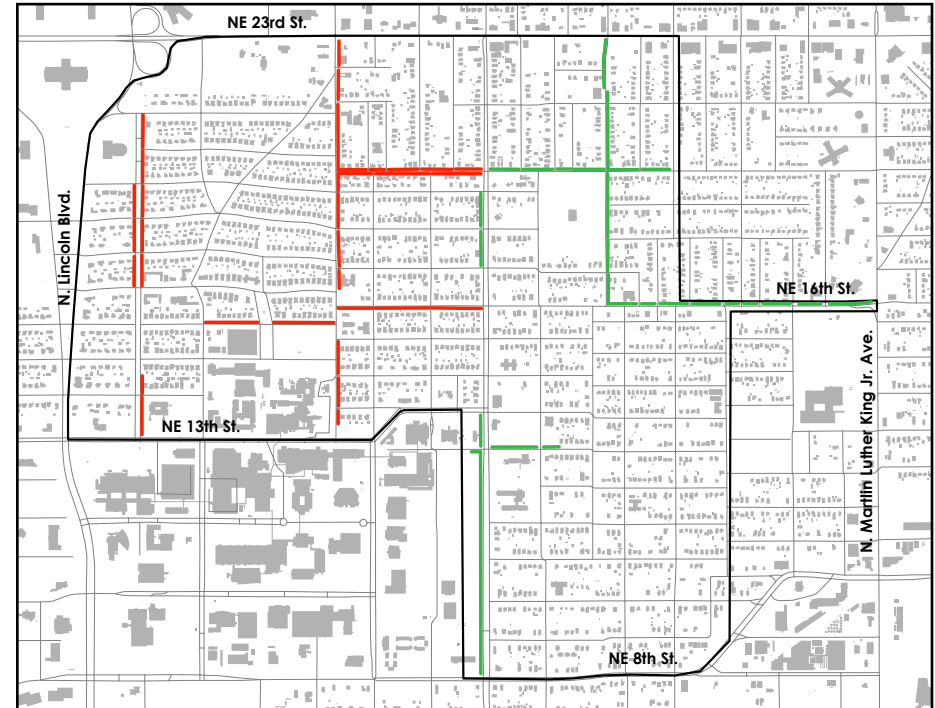
1. Along S. Western Ave., S. Walker Ave., S. Harvey Ave., and S. Robinson Ave. from the Oklahoma River to SW 29th St.; and along SW 25th St. from S. Western Ave. to S. Central Ave.; and along SW 29th St. from S. Western Ave. to S. Shields Blvd.
2. Along S. Western Ave., S. Walker Ave., S. Harvey Ave., and S. Robinson Ave. from SW 29th St. to S. Grand Blvd.

PHASE 1 PROJECTS FOR PEDESTRIAN PRIORITY AREAS (PPAS)



S. WALKER AVE. AND S. WESTERN AVE. CORRIDORS

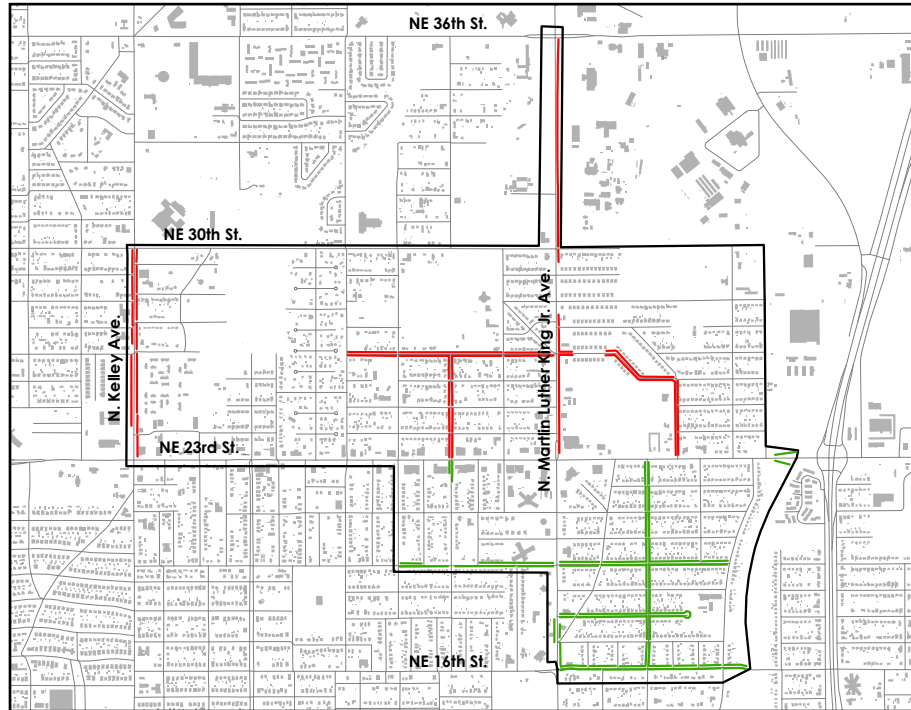
1. Along S. Walker Ave. from S. Grand Blvd. to SW 59th St.; along SW 44th St. from S. Western Ave. to S. Santa Fe Ave.; along S. Robinson Ave. from SW Grand Blvd. to SW 44th St.
2. S. Blackwelder Ave. from SW Grand Blvd to SW 59th St.; S. Western Ave. from SW Grand Blvd. to SW 59th St.; SW 44th St. from S. Blackwelder Ave. to S. Western Ave.
3. Along SW 59th St. from S. Blackwelder Ave. to S. Santa Fe Ave.; On S. Western Ave. from SW 59th St. to SW 62nd St.; On S. Walker Ave. from SW 59th St. to SW 62nd St.



OHC SURROUNDINGS

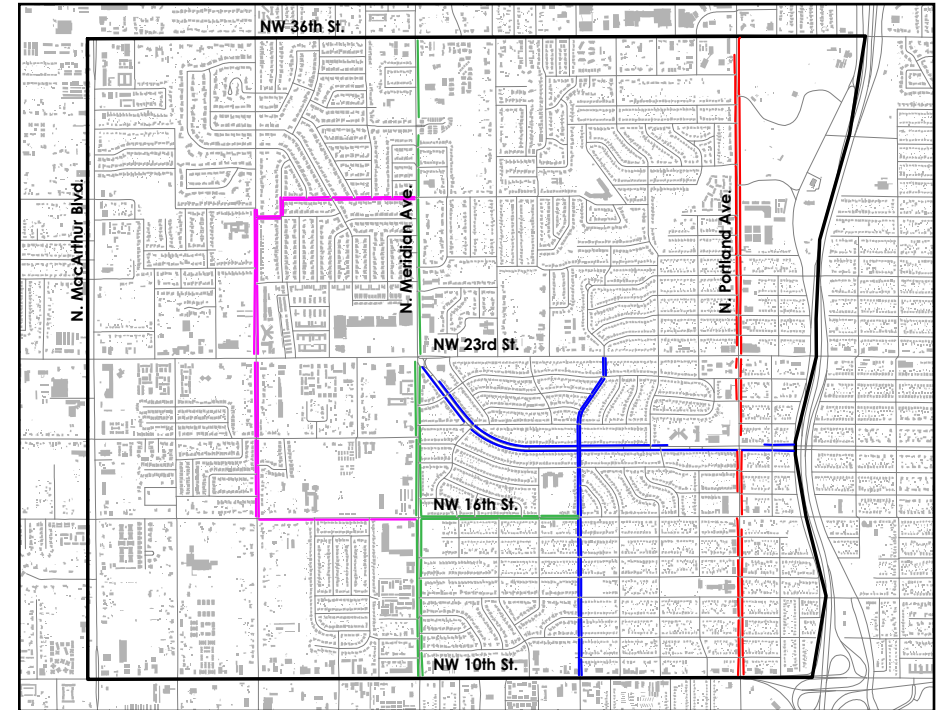
1. In the area bounded by NE 23rd St., N. Lottie Ave., NE 13th St., and N. Lincoln Blvd.
2. In the area bounded by NE 23rd St., N. MLK Ave., NE 8th St., and N. Lottie Ave.

PHASE 1 PROJECTS FOR PEDESTRIAN PRIORITY AREAS (PPAS)



N. MARTIN LUTHER KING JR. AVE. AT NE 23RD ST.

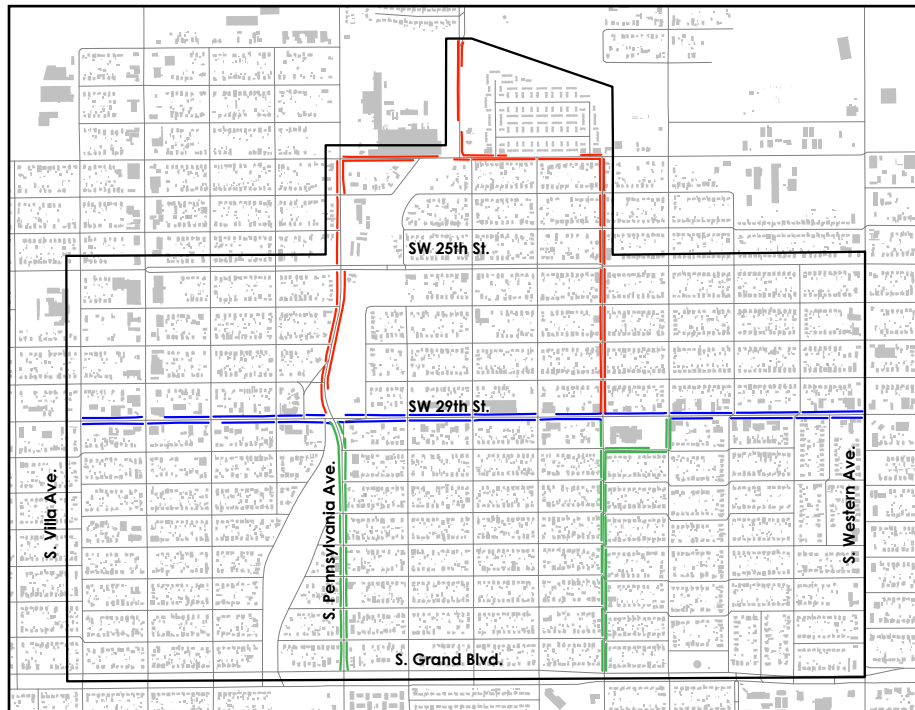
1. In the area bounded by and including NE 36th St., the Katy Trail, NE 23rd St., and N. Kelley Ave.
2. In the area bounded by NE 23rd St., the Katy Trail, NE 16th St., and N. Jordan Ave.



WINDSOR DISTRICT AND WEST 10TH DISTRICT

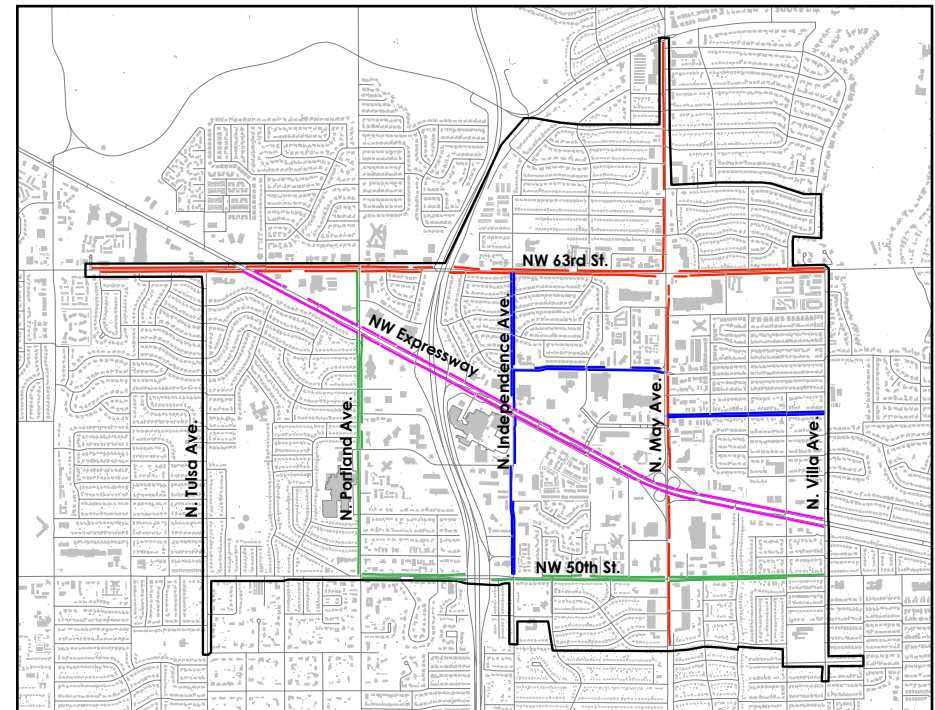
1. Along N. Portland Ave. from NW 36th St. to NW 10th St.
2. Along N. Meridian Ave. from NW 36th St. to NW 10th St.; and along NW 16th St. from N. Meridian Ave. to N. Tulsa Ave.
3. Along NW 19th St. from N. Meridian Ave. to NW Grand Blvd.; and along N. Tulsa Ave. from NW 23rd St. to NW 10th St.
4. Along NW 30th St. from N. Ann Arbor Ave. to N. Meridian Ave.; and along N. Ann Arbor Ave. from NW 30th St. to NW 16th St.; and along NW 16th St. from N. Ann Arbor Ave. to N. Meridian Ave.

PHASE 1 PROJECTS FOR PEDESTRIAN PRIORITY AREAS (PPAS)



SW 29TH ST. DISTRICT

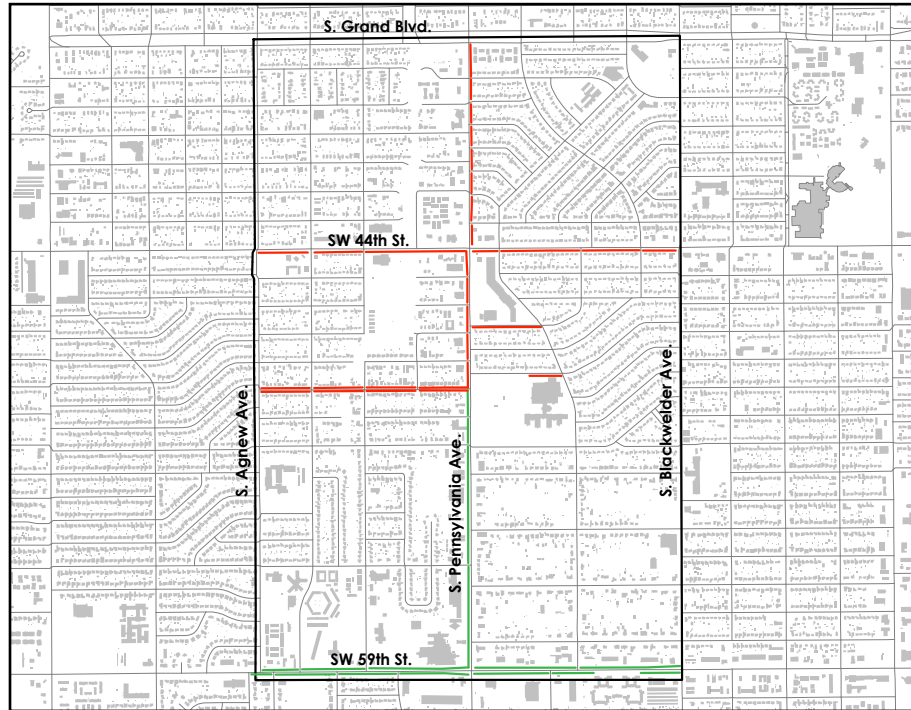
1. The area bounded by and along S. Pennsylvania Ave., SW 29th St., S. Blackwelder Ave., and SW 15th St.
2. Along S. Pennsylvania Ave. from SW 29th St. to SW Grand Blvd.; Along S. Blackwelder Ave. from SW 29th St. to SW Grand Blvd.; Surrounding Heronville ES
3. Along SW 29th St. from S. Western Ave. to S. Villa Ave.



NW EXPRESSWAY AND NW 63RD ST.

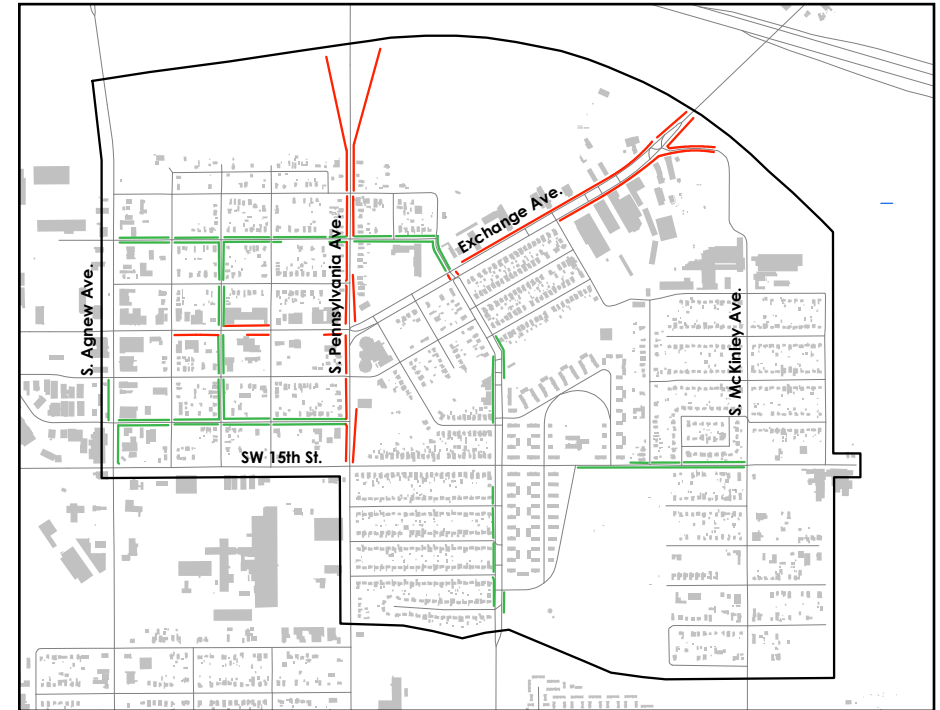
1. Along N. May Ave. from N. Grand Blvd. to NW 47th St.; Along NW 63rd St. from N. Warren Ave. to N. Villa Ave.
2. Along N. Portland Ave. from NW 63rd St. to NW 50th St.; Along NW 50th St. from N. Portland Ave. to N. Villa Ave.
3. Along N. Independence Ave. from NW 63rd St. to NW 50th St.; Along NW 59th St. from N. Independence Ave. to N. May Ave.; Along NW 57th St. from N. May Ave. to N. Villa Ave.
4. Along NW Expressway from NW 63rd St. to N. Villa Ave.

PHASE 1 PROJECTS FOR PEDESTRIAN PRIORITY AREAS (PPAS)



SW 44TH ST. AT S. PENNSYLVANIA AVE.

1. In the area bounded by SW Grand Blvd., S. Blackwelder Ave., SW 49th St., and S. Villa Ave.
2. Along S. Pennsylvania Ave. between SW 49th St. and SW 59th St.; Along SW 59th St. from S. Villa Ave. to S. Blackwelder Ave.

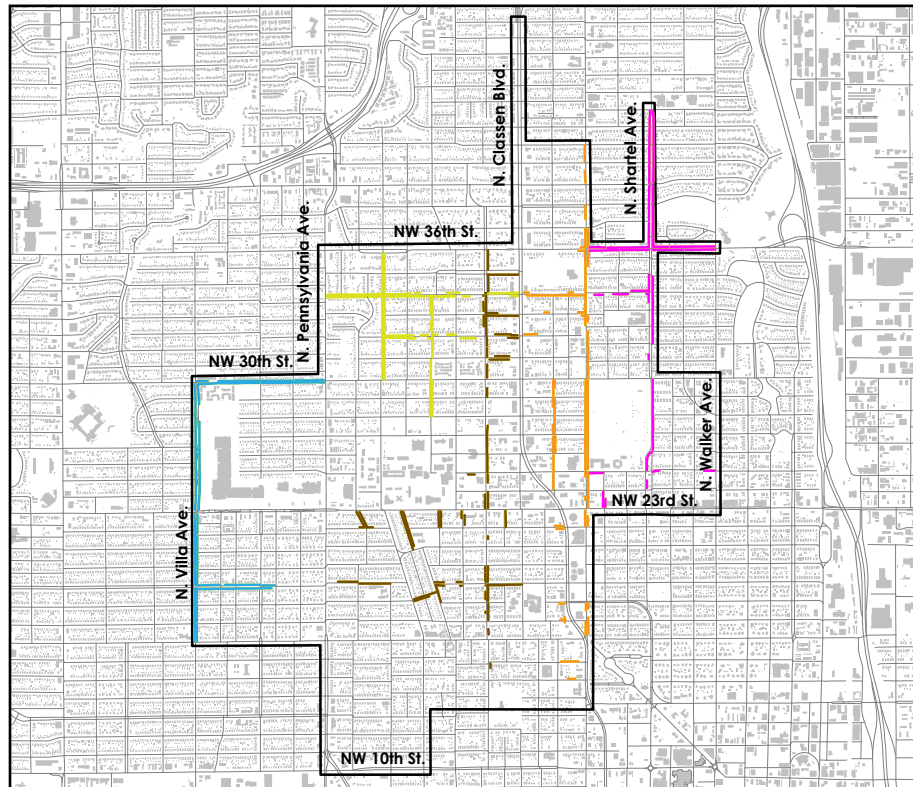


STOCKYARDS CITY

1. Along Exchange Ave. from the Oklahoma River to S. Agnew Ave.; along S. Pennsylvania Ave. from the Oklahoma River to SW 15th St.;
2. Along SW 10th St. from S. Agnew Ave. to S. Kentucky Ave.; Along S. Kentucky Ave./Westwood Blvd. from SW 10th St. to Twin Creek; Along SW 14th St. from S. Agnew Ave. to S. Pennsylvania Ave.; Along S. Rockwood Ave. from SW 10th St. to SW 14th St.; Along SW 15th St. from S. Rotary Dr. to S. McKinley Ave.; Along S. Agnew Ave. from SW 13th St. to SW 15th St.

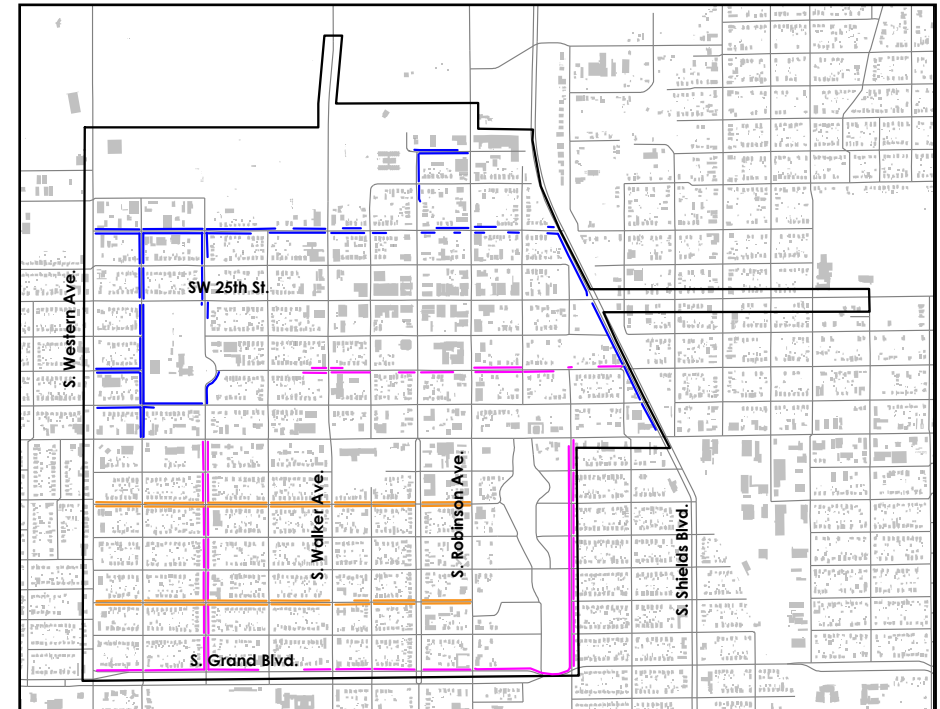
PPA Phase 1 Subprojects		Length in Miles	Funded?
NW Classen Blvd. at NW 23rd St.		10.61 mi.	
	Project 1	3.95 mi.	Yes
	Project 2	2.78 mi.	Yes
	Project 3	3.88 mi.	Yes
Capitol Hill		5.2 mi.	
	Project 1	2.86 mi.	Yes
	Project 2	2.34 mi.	Yes
S. Walker Ave. and S. Western Ave.		9.95 mi.	
	Project 1	3.34 mi.	Yes
	Project 2	3.35 mi.	Yes
	Project 3	3.26 mi.	Yes
OHC Surroundings		3.84 mi.	
	Project 1	2.06 mi.	Yes
	Project 2	1.78 mi.	Yes
N. MLK Ave. at NE 23rd St.		7.66 mi.	
	Project 1	3.77 mi.	
	Project 2	3.89 mi.	
Windsor and West Ten Districts		13.69 mi.	
	Project 1	3.15 mi.	Partial
	Project 2	3.80 mi.	
	Project 3	3.52 mi.	
	Project 4	3.22 mi.	
SW 29th St. District		6.94 mi.	
	Project 1	2.51 mi.	
	Project 2	1.94 mi.	Yes
	Project 3	2.49 mi.	Yes
NW Expressway and NW 63rd St.		15.92 mi.	
	Project 1	5.67 mi.	Yes
	Project 2	3.47 mi.	Yes
	Project 3	3.21 mi.	
	Project 4	3.57 mi.	
SW 44th St. at S. Pennsylvania Ave.		5.20 mi.	
	Project 1	2.77 mi.	Yes
	Project 2	2.43 mi.	Yes
Stockyards City		5.10 mi.	
	Project 1	2.07 mi.	
	Project 2	3.03 mi.	

PHASE 2 PROJECTS FOR PEDESTRIAN PRIORITY AREAS (PPAS)



NW CLASSEN BLVD. AT NW 23RD ST.

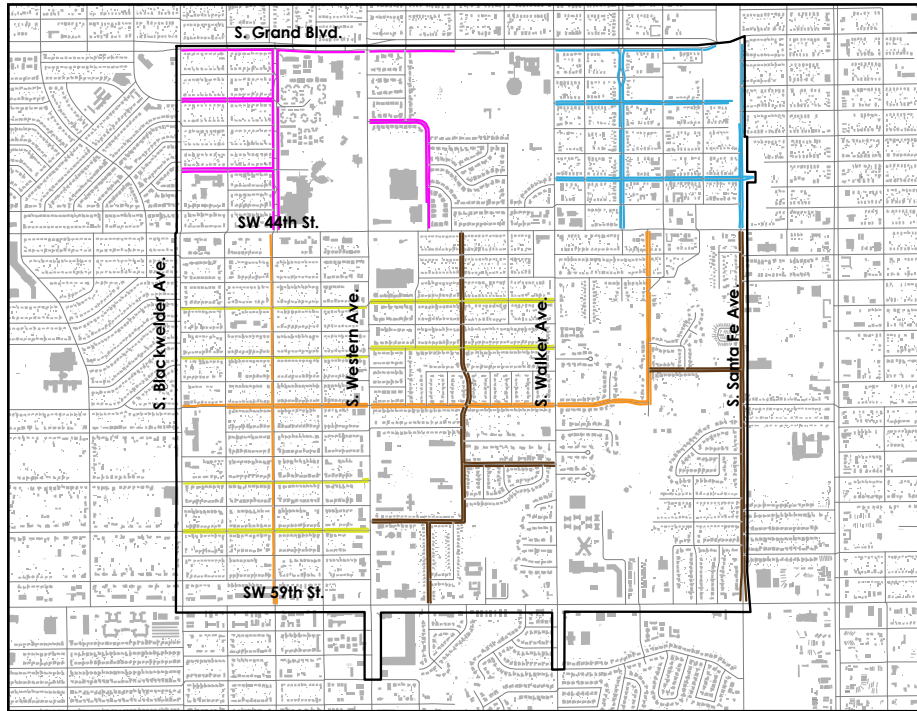
1. In the area bounded by NW 43rd St., N. Walker Ave., NW 23rd St., and N. Western Ave.
2. In the area bounded by NW 41st St., N. Western Ave., NW 14th St., and N. Klein Ave./N. Ellison Ave./N. Classen Blvd.
3. In the area bounded by NW 30th St., N. Villa Ave., NW 16th St., and N. Pennsylvania Ave.
4. In the area bounded by NW 36th St., N. Classen Blvd., NW 14th St., and N. Kentucky Ave.
5. In the area bounded by NW 36th St., N. Classen Blvd., NW 28th St., and N. Villa Ave.



CAPITOL HILL

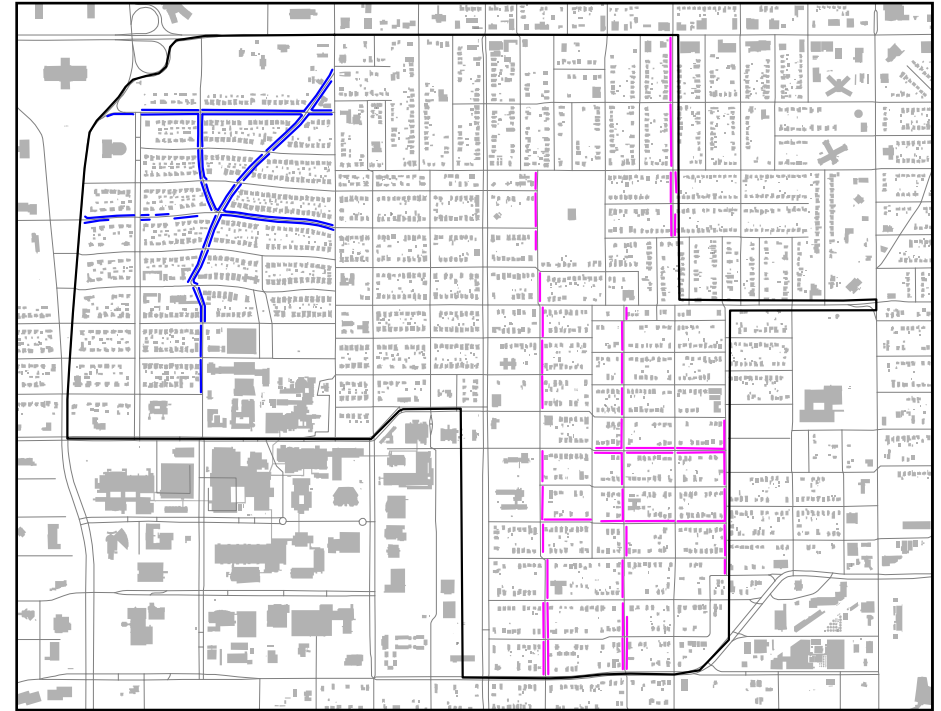
1. In the area bounded by SW 21st St., S. Shields Blvd., SW 29th St., and S. Western Ave.
2. Along SW 27th St. from S. Lee Ave. to S. Shields Blvd.; and along S. Santa Fe Ave. from SW 29th St. and S. Grand Blvd.; and along SW Grand Blvd. from S. Western Ave. to S. Santa Fe Ave.; and along S. Shartel Ave. from SW 29th St. and SW Grand Blvd.
3. Along SW 31st St. from S. Western Ave. to S. Robinson Ave.; and along SW 34th St. from S. Western Ave. to S. Robinson Ave.

PHASE 2 PROJECTS FOR PEDESTRIAN PRIORITY AREAS (PPAS)



S. WALKER AVE. AND S. WESTERN AVE. CORRIDORS

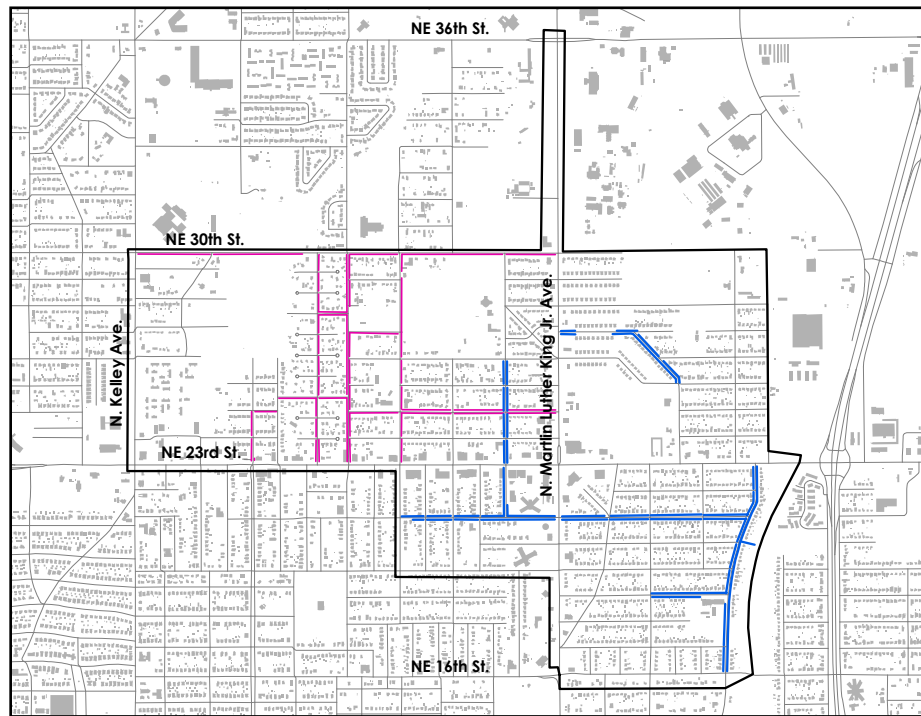
1. In the area bounded by SW Grand Blvd., S. Shartel Ave., SW 44th St., and S. Blackwelder Ave.
2. Along SW 51st St. from S. Blackwelder Ave. to S. Sage Ave.; and along S. Sage Ave. from SW 44th St. to SW 51st St.; and along S. Douglas Ave. from SW 44th St. to SW 59th St.
3. In the area bounded by SW Grand Blvd., S. Santa Fe Ave., SW 44th St., and S. Walker Ave.
4. In the area bounded by SW 44th St., S. Santa Fe Ave., SW 59th St., and S. Western Ave.
5. Along SW 47th St., SW 49th St., SW 54th St., and SW 56th St. from S. Blackwelder Ave. to S. Walker Ave.



OHC SURROUNDINGS

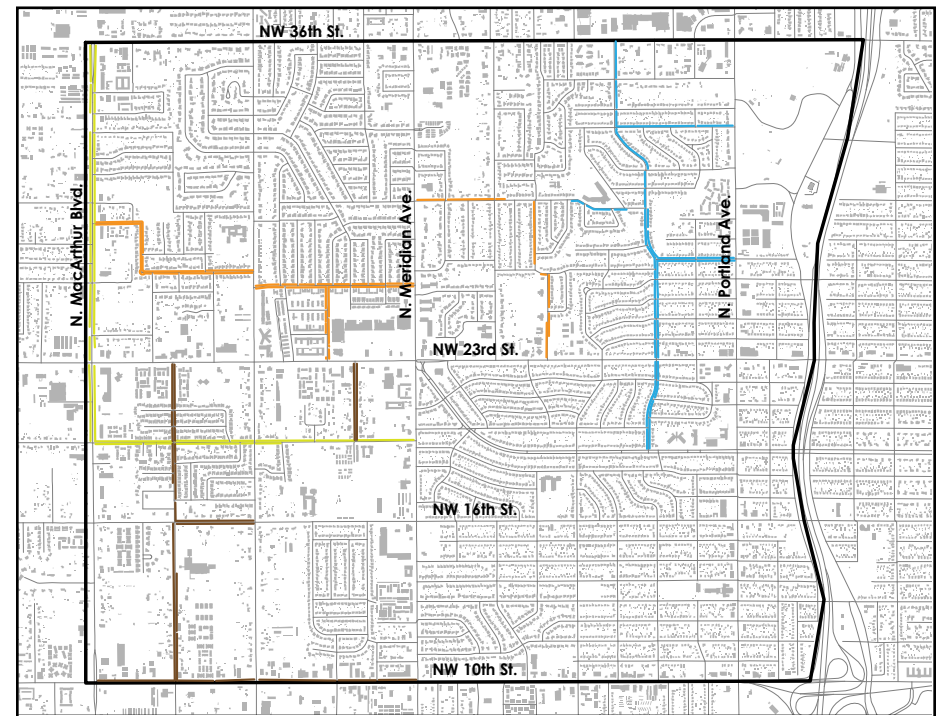
1. In the area bounded by NW 23rd St., N. Kelley Ave., NW 13th St., and N. Lincoln Blvd.
2. Along N. Kate Ave. from NW 20th St. to NW 8th St.; and along N. Jordan Ave. from NW 23rd St. and NW 18th St.; and along N. Bath Ave. from NW 16th St. to NW 8th St.; and along NW 12th St. from N. Fonshill Ave. to N. Kelham Ave.; and along NW 11th St. from N. Kate Ave. to N. Kelham Ave.

PHASE 2 PROJECTS FOR PEDESTRIAN PRIORITY AREAS (PPAS)



N. MARTIN LUTHER KING JR. AVE. AT NE 23RD ST.

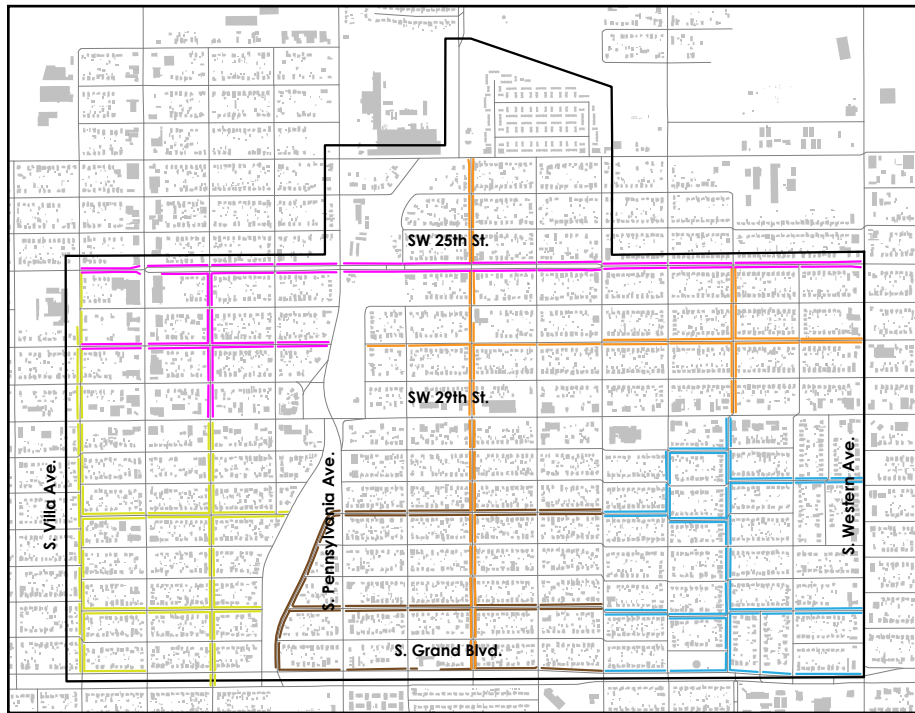
1. Along Miramar Blvd. from NE 23rd St. to NE 16th St.; along NE 21st St. from N. Jordan Ave. to Miramar Blvd.; along N. Missouri Ave. between NE 26th St. and NE 21st St.; along NE 19th St. from N. Highland Dr. to Miramar Blvd.; along NE 27th St. from N. Martin Luther King Ave. to NE 25th St.
2. In the area bounded by N. Kelley Ave., NE 30th St., N. Martin Luther King Ave. and NE 23rd St.



WINDSOR DISTRICT AND WEST 10TH DISTRICT

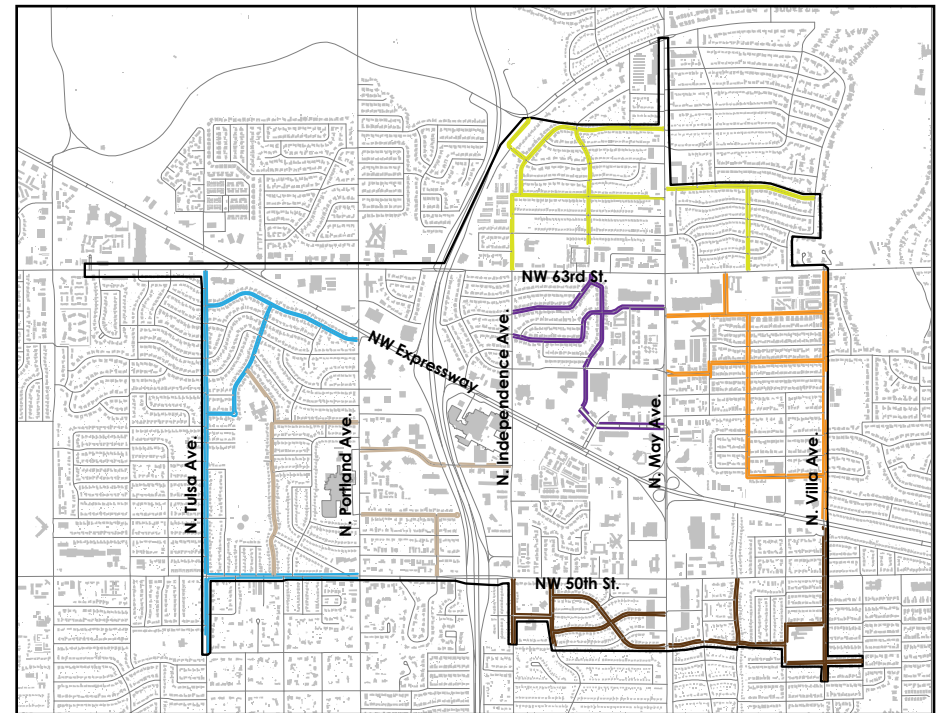
1. In the area bounded by NW 30th St., N. Utah Ave., NW 23rd St., and N. MacArthur Blvd.
2. Along N. Roff Ave. from NW 36th St. to NW 19th St.; and along NW 32nd St. from N. Roff Ave. to N. Portland Ave.; and along NW 30th St. from N. Tulsa Ave. to N. Roff Ave.; and along NW 28th St. from N. Roff Ave. to N. Portland Ave.
3. In the area bounded by NW 23rd St., N. Meridian Ave., NW 10th St., and N. MacArthur Blvd.
4. Along N. MacArthur Blvd. from NW 36th St. to NW 19th St.; and along NW 19th St. from N. MacArthur Blvd. to N. Meridian Ave.

PHASE 2 PROJECTS FOR PEDESTRIAN PRIORITY AREAS (PPAS)



SW 29TH ST. DISTRICT

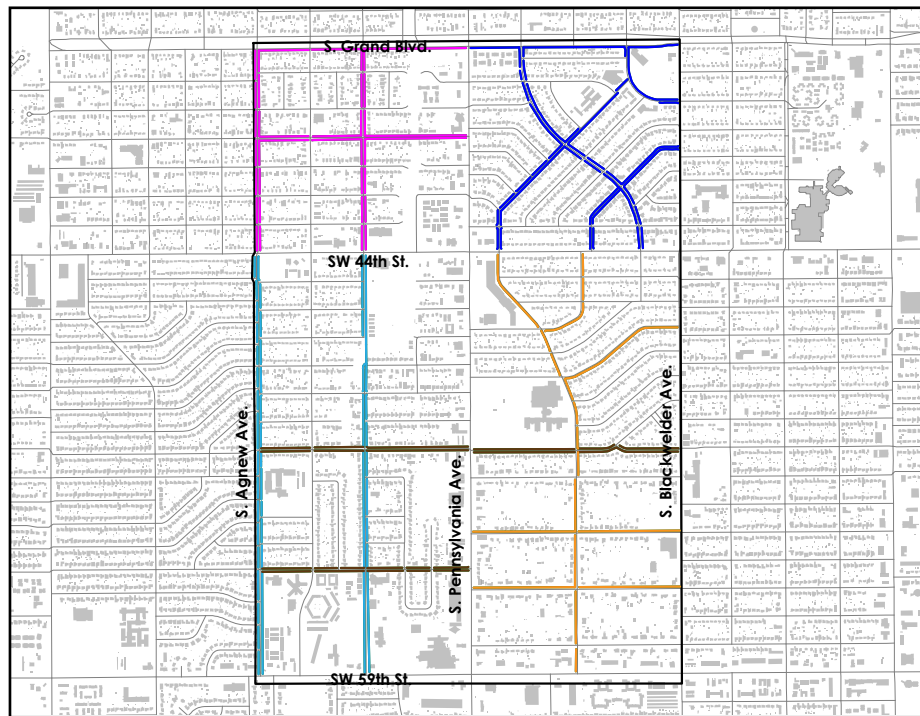
1. Along SW 25th St. from S. Villa Ave. to S. Western Ave.; and along SW 27th St. from S. Villa Ave. to S. Pennsylvania Ave.; and along S. Youngs Blvd. from SW 25th St. to SW 27th St.
2. Along SW 27th St. from S. Brock Ave. to S. Western Ave.; and along S. Kentucky Ave. from SW 22nd to SW Grand Blvd.; and along S. Douglas Ave. from SW 25th St. to SW 29th St.
3. In the area bounded by SW 29th St., S. Western Ave., SW Grand Blvd., and S. Blackwelder Ave.
4. In the area bounded by S. Binkley St., S. Blackwelder Ave., SW Grand Blvd., and Brock Creek.
5. In the area bounded by SW 25th St., Brock Creek, SW Grand Blvd. and S. Villa Ave.



NW EXPRESSWAY AND NW 63RD ST.

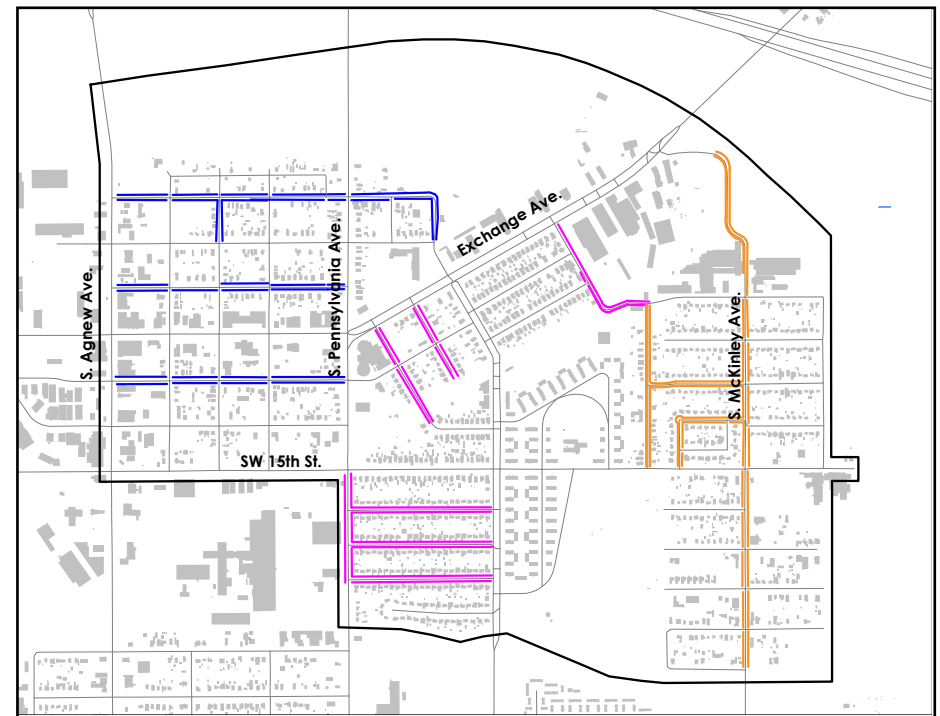
1. In area bounded by NW 63rd St., N. Villa Ave., NW Expy, and N. May Ave.
2. In area bounded by NW Expy, N. Portland Ave., NW 48th St., and N. Tulsa Ave.
3. In area bounded by NW Expy, N. Billen Ave., NW 45th St., and N. Independence Ave.
4. In area bounded by NW 71st St., N. Grand Blvd., N. Villa Ave., & NW 63rd St.
5. In area bounded by NW 63rd St., N. May Ave., NW Expy, and N. Independence Ave.
6. In area bounded by N. Sapulpa Ave., NW 58th St., N. Independence Ave., and NW 50th St.

PHASE 2 PROJECTS FOR PEDESTRIAN PRIORITY AREAS (PPAS)



SW 44TH ST. AT S. PENNSYLVANIA AVE.

1. In the area bounded by SW Grand Blvd., S. Blackwelder Ave., SW 44th St., and S. Pennsylvania Ave.
2. In the area bounded by SW Grand Blvd., S. Pennsylvania Ave., SW 44th St., and S. Agnew Ave.
3. In the area bounded by SW 44th St., S. Blackwelder Ave., SW 59th St., and S. Pennsylvania Ave.
4. Along S. Angew Ave. and along S. Youngs Blvd. from SW 44th St. to SW 59th St.
5. Along SW 51st St. from S. Agnew Ave. to S. Blackwelder Ave.; and along SW 55th St. from S. Agnew Ave. to S. Pennsylvania Ave.



STOCKYARDS CITY

1. In the area bounded by SW 9th St., S. Kentucky Ave., SW 13th St. and S. Agnew Ave.
2. In the area bounded by Exchange Ave., S. Blackwelder Ave., SW 18th St., and S. Pennsylvania Ave.
3. In the area bounded by SW 8th St., S. McKinley Ave., SW 20th St., and S. Blackwelder Ave.

PPA Phase 2 Subprojects		Length in Miles	Funded?
NW Classen Blvd. at NW 23rd St.		15.21 mi.	
	Sub-Project 1	2.97 mi.	
	Sub-Project 2	3.02 mi.	
	Sub-Project 3	3.21 mi.	
	Sub-Project 4	3.10 mi.	
	Sub-Project 5	2.91 mi.	
Capitol Hill		9.40 mi.	
	Sub-Project 1	3.39 mi.	
	Sub-Project 2	3.18 mi.	
	Sub-Project 3	2.83 mi.	
S. Walker Ave. and S. Western Ave.		20.34 mi.	
	Sub-Project 1	3.26 mi.	
	Sub-Project 2	3.97 mi.	
	Sub-Project 3	3.81 mi.	
	Sub-Project 4	5.06 mi.	
	Sub-Project 5	4.24 mi.	
OHC Surroundings		5.75 mi.	
	Sub-Project 1	2.81 mi.	
	Sub-Project 2	2.94 mi.	
N. MLK Ave. and NE 23rd St.		7.79 mi.	
	Sub-Project 1	3.76 mi.	
	Sub-Project 2	4.03 mi.	
Windsor and West Ten Districts		13.38 mi.	
	Sub-Project 1	3.28 mi.	
	Sub-Project 2	2.94 mi.	
	Sub-Project 3	3.66 mi.	
	Sub-Project 4	3.50 mi.	
SW 29th St. District		19.02 mi.	
	Sub-Project 1	4.19 mi.	
	Sub-Project 2	3.58 mi.	
	Sub-Project 3	3.60 mi.	
	Sub-Project 4	3.60 mi.	
	Sub-Project 5	4.05 mi.	

PPA Phase 2 Subprojects (continued)		Length in Miles	Funded?
NW Expressway and NW 63rd St.		26.84 mi.	
	Sub-Project 1	5.01 mi.	
	Sub-Project 2	4.98 mi.	
	Sub-Project 3	5.38 mi.	
	Sub-Project 4	4.90 mi.	
	Sub-Project 5	3.05 mi.	
	Sub-Project 6	3.52 mi.	
SW 44th St. and S. Pennsylvania Ave.		15.21 mi.	
	Sub-Project 1	3.28 mi.	
	Sub-Project 2	3.13 mi.	
	Sub-Project 3	2.44 mi.	
	Sub-Project 4	3.55 mi.	
	Sub-Project 5	2.81 mi.	
Stockyards City		7.70 mi.	
	Sub-Project 1	2.49 mi.	
	Sub-Project 2	2.57 mi.	
	Sub-Project 3	2.64 mi.	

Pedestrian Facilities

Prioritization

DOWNTOWN

This plan identified needed improvements to the pedestrian environment downtown through an inventory of existing sidewalks, as well as a PEAT analysis of all street segments and intersections. A sidewalk unit cost of \$65 per linear foot was used to generate cost estimates for filling gaps found in the sidewalk inventory. The focus of the PEAT approach for downtown includes base level infrastructure needed to facilitate movements for pedestrians, whether able-bodied or disabled. This includes identifying obstructions as well as ADA ramps, crosswalks, and lighting needed across downtown. Unit costs were estimated by the Public Works Department.

Map 4.10 and Table 4.10 show the condition of sidewalks in the downtown, and identifies the amount of funding needed to fill the gaps in the downtown sidewalk network.

Map 4.11 and Table 4.11 take the PEAT analysis conducted for downtown and generates an improvements strategy for each of the eight sub-areas defined in the pedestrian plan. The results of this analysis illustrate the variety of approaches that can be undertaken to improve walkability in downtown, whether approaching each sub-district individually, each infrastructure element independently, or a sweeping comprehensive strategy for all of downtown.

MAP 4.10 DOWNTOWN SIDEWALK IMPROVEMENTS

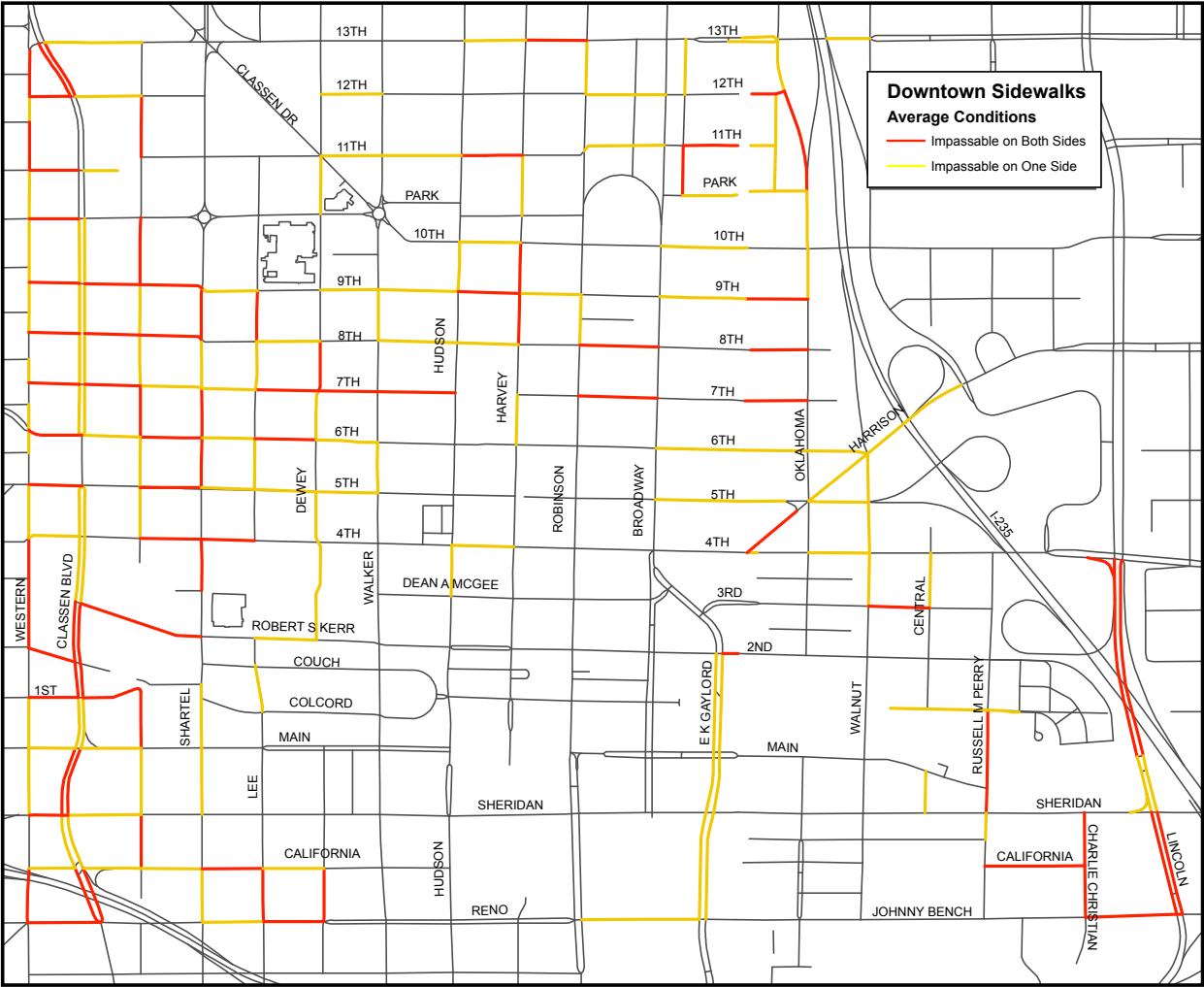


Table 4.10 Downtown Sidewalk Priority

Downtown Sidewalks	Length
Priority 1 - Both Sides	8 miles
Priority 2 - One Side	7 miles
TOTAL	15 miles

MAP 4.11 DOWNTOWN INTERSECTIONS - PEDESTRIAN INFRASTRUCTURE NEEDS BY SUB-DISTRICT

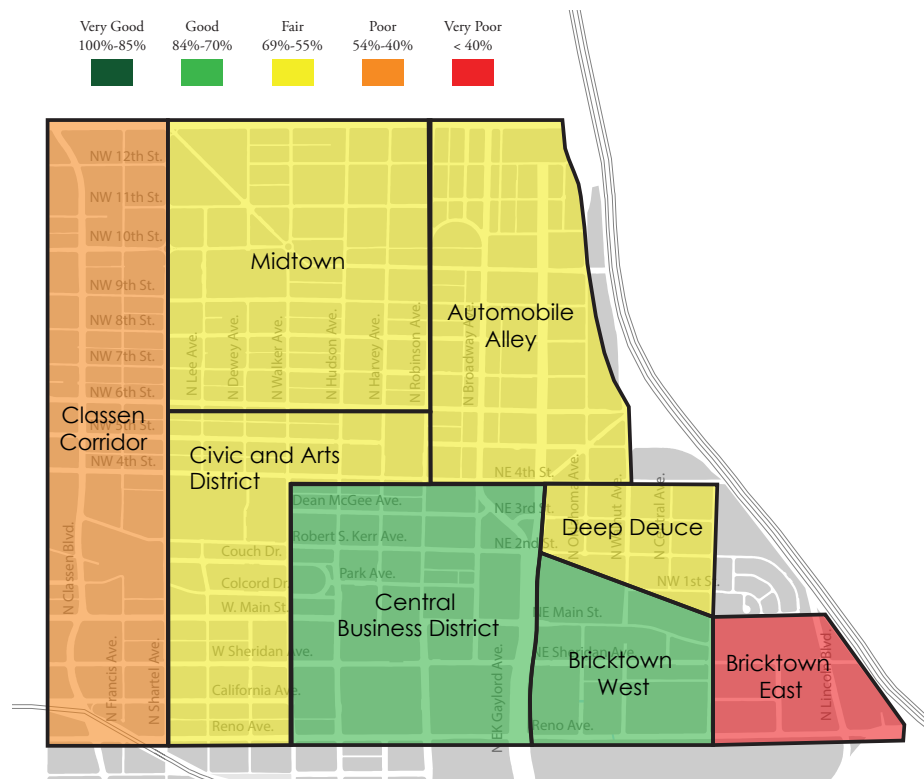


Table 4.11 Downtown Intersections - Pedestrian Infrastructure Needs by Sub-District

Subdistrict	Ramps Missing	Crosswalks Missing	Permanent Obstruction	Lighting Missing
Central Business District	93	39	17	34
Automobile Alley	72	42	8	26
Arts District	133	44	17	32
Deep Deuce	55	35	0	16
Midtown	127	92	9	71
Classen Corridor	175	127	26	80
Bricktown West	21	10	21	24
Bricktown East	30	15	17	12
TOTALS	706	404	115	295

Pedestrian Facilities Prioritization

TRANSIT INSIDE OF PPAs

Each PPA prioritized improvements along transit corridors. In order to facilitate pedestrian travel, bus stops require ADA accessible concrete pads. The cost of these pads should be included in any cost estimation of sidewalk projects along transit routes. Map 4.12 shows the overlap of the PPAs and the current transit routes. A total of 363 transit stops fall within a PPA boundary, with the highest concentration of stops being located in the NW Classen Blvd. at NW 23rd St. PPA. The two busiest transit routes in the Embark system, route 5 and route 23, traverse this PPA.

TRANSIT OUTSIDE OF PPAs

On the opposite page, Map 4.13 illustrates the locations of transit priority locations outside of the Pedestrian Priority Areas. These locations have high levels of transit usage with large numbers of residents within a walkable distance.

MAP 4.12 TRANSIT ROUTES AND PEDESTRIAN PRIORITY AREAS

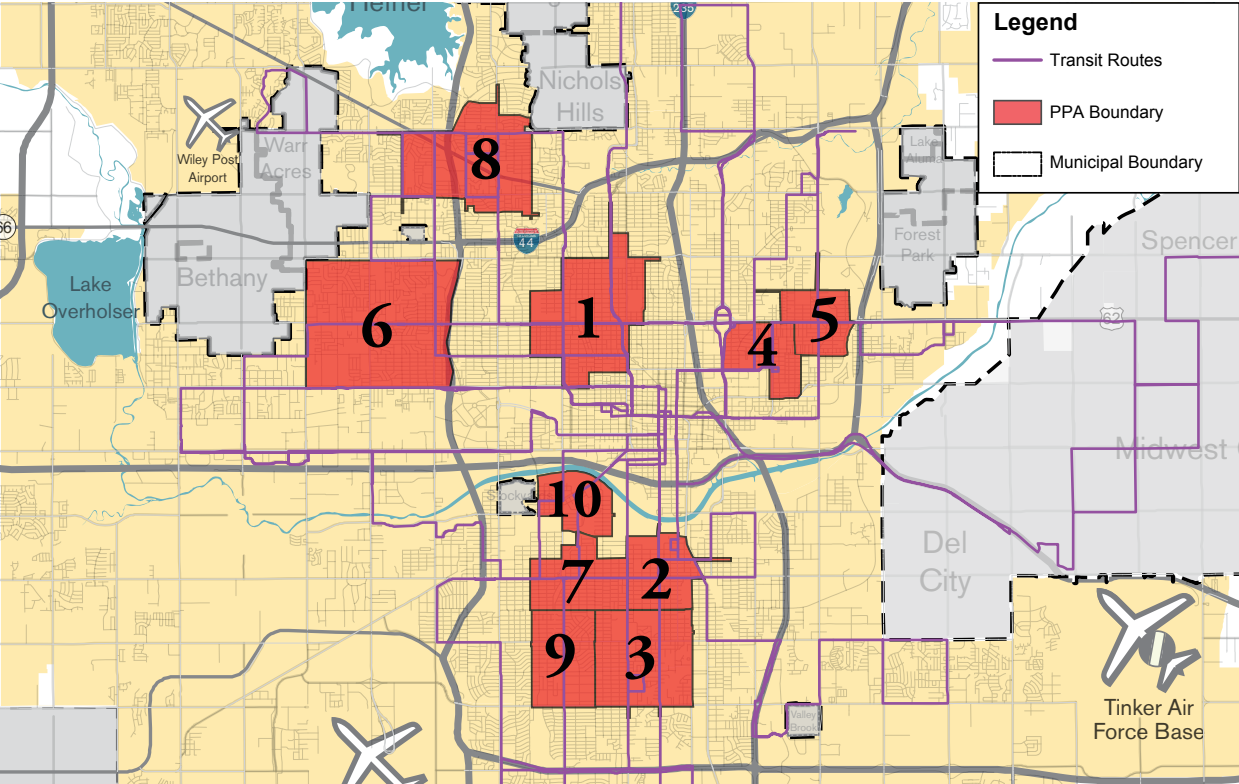


Table 4.12 Number of Bus Stops in PPAs

Label	Pedestrian Priority Areas (PPAs)	# of Bus Stops
1	NW Classen Blvd. at NW 23rd St.	86
2	Capitol Hill District	42
3	S. Walker Ave. and S. Western Ave. Corridors	32
4	OHC Surroundings	28
5	N. Martin Luther King Jr. Ave. at NE 23rd St.	29
6	Windsor District and West 10th St. District	48
7	SW 29th St. District	28
8	NW 63rd St. at N. May Ave.	40
9	SW 44th St. at S. Pennsylvania Ave.	14
10	Stockyards City	16
TOTALS		363

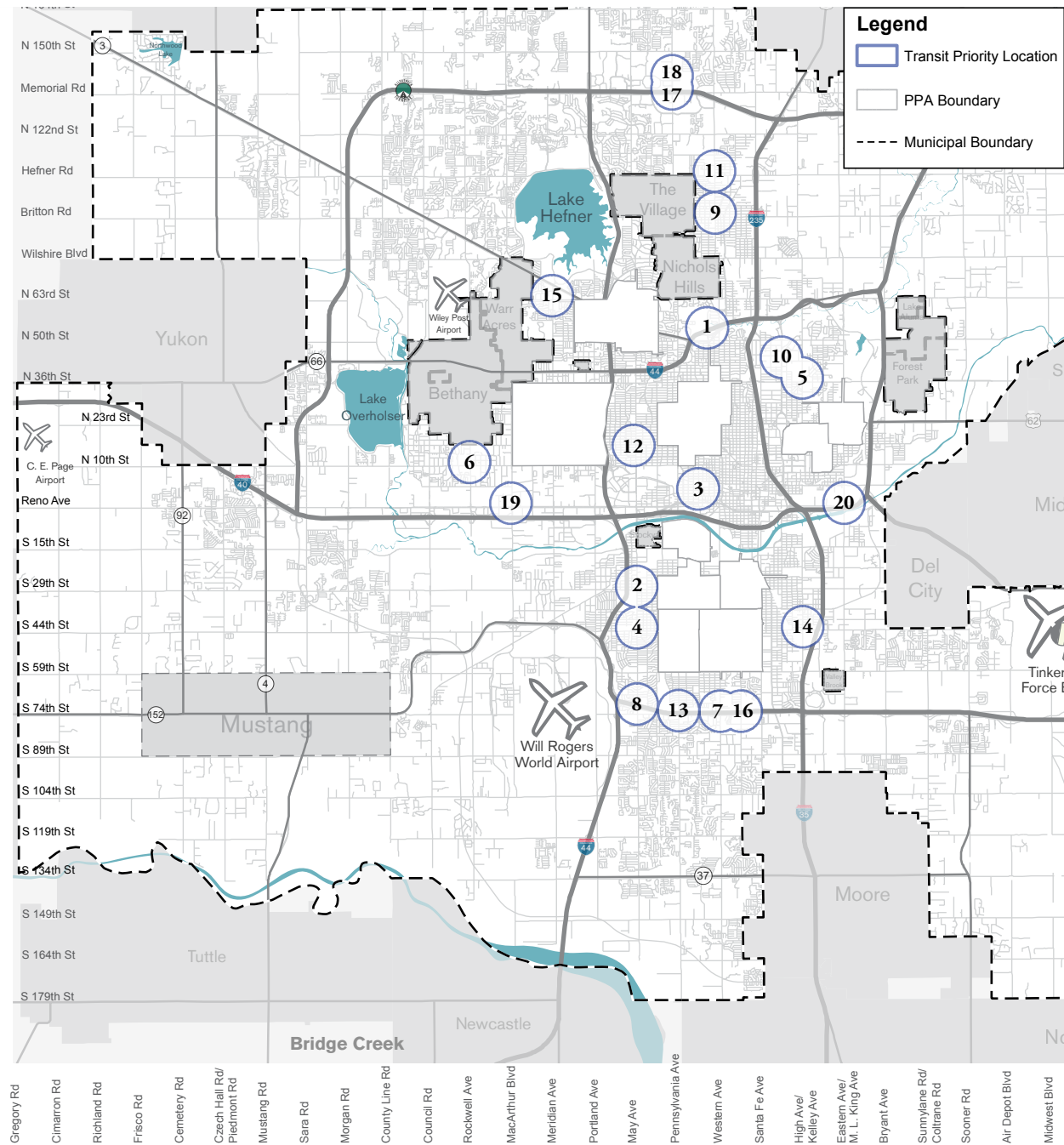
PRIORITY OUTSIDE OF PPAs

Using boarding and alighting data from the Central Oklahoma Transportation and Parking Authority, key locations that fall outside of the Pedestrian Priority Areas were identified for pedestrian improvements. These locations align with high levels of ridership, as well as key land uses such as grocery stores, government offices, and high-density residential areas. See Appendix P.1 for more information on nearby land uses.

Table 4.13 Priority Transit Locations

Rank / Map ID	Location Name
1	N. Classen Blvd. at Belle Isle
2	S. May Ave. and SW 29th St.
3	Linwood Blvd. and W. Main St.
4	S. May Ave. and SW 44th St.
5	N. Kelley Ave. and NW 36th St.
6	N. Rockwell Ave. and NW 10th St.
7	S. Western Ave. and I-240
8	S. May Ave. and I-240
9	N. Western Ave. and NW Britton Ave.
10	N. Lincoln Blvd. and NW 42nd St.
11	N. Western Ave. and N. Hefner Ave.
12	N. May Ave. and NW 10th St.
13	S. Pennsylvania and I-240
14	S. High Ave. and SE 44th St.
15	N. Meridian Ave. and NW 63rd St.
16	S. Walker Ave. and I-240
17	N. Pennsylvania Ave. and W. Memorial Ave.
18	N. Pennsylvania Ave. and NW 140th St.
19	N. MacArthur Blvd. and W. Reno Ave.
20	Eastern Ave. and E. Reno Ave.

MAP 4.13 PRIORITY TRANSIT LOCATIONS OUTSIDE OF PPAs



Pedestrian Facilities Prioritization

SCHOOLS INSIDE OF PPAs

Schools are one of the key land uses that led to the identification of the Pedestrian Priority Areas. In areas of the city that have a high opportunity to become very walkable, safe access to schools is a very high priority. Map 4.14 and Table 4.14 show how many schools are addressed by the pedestrian improvements in each of the 10 Pedestrian Priority Areas. In total there are 47 schools that fall within the PPA boundaries.

SCHOOLS OUTSIDE OF PPAs

On the opposite page, Map 4.15 illustrates the locations of schools outside of the Pedestrian Priority Areas. Improvements for schools can be supplementally funded through federal funding via the Safe Routes to Schools initiative. Strategies to direct sales tax and general obligation bond monies toward walkability improvements around schools should also be a priority.

MAP 4.14 SCHOOLS IN PEDESTRIAN PRIORITY AREAS

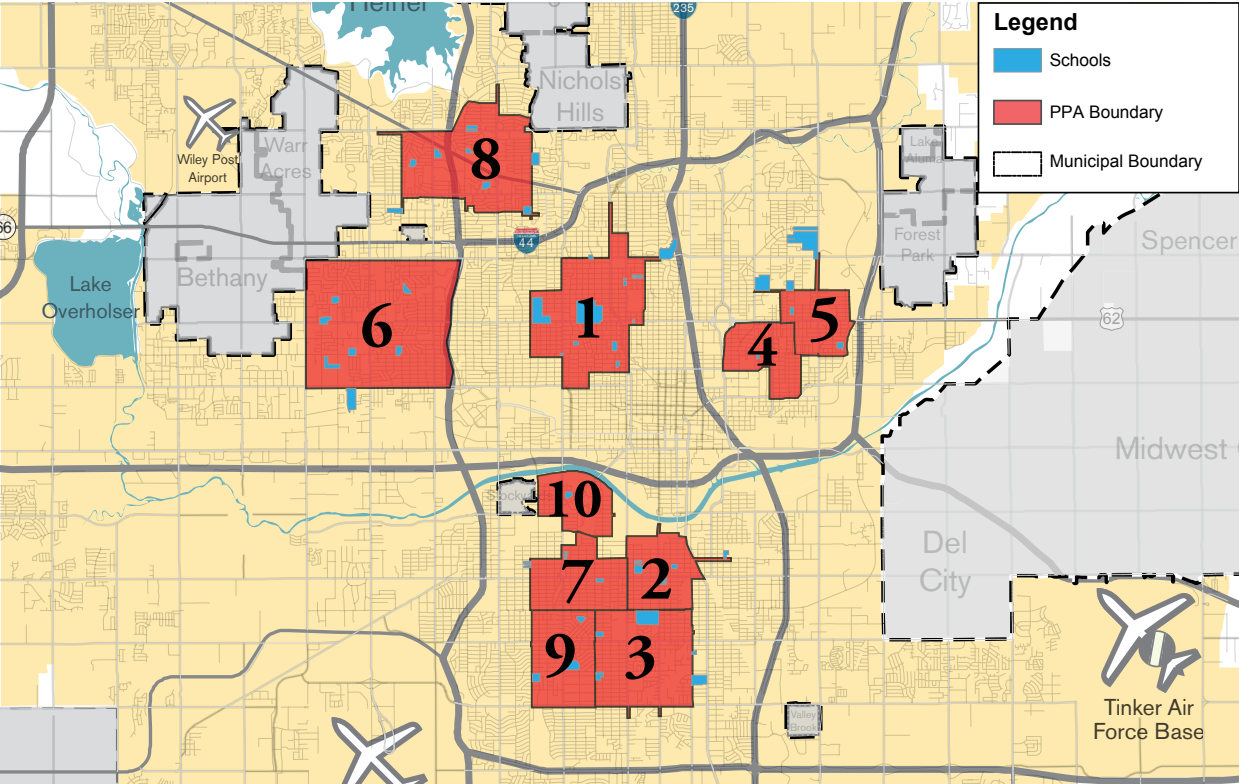


Table 4.14 Number of Schools in Each Pedestrian Priority Area

Label	Pedestrian Priority Areas (PPAs)	# of Schools
1	NW Classen Blvd. at NW 23rd St.	10
2	Capitol Hill District	4
3	S. Walker Ave. and S. Western Ave. Corridors	5
4	OHC Surroundings	2
5	N. Martin Luther King Jr. Ave. at NE 23rd St.	5
6	Windsor District and West 10th St. District	7
7	SW 29th St. District	3
8	NW 63rd St. at N. May Ave.	7
9	SW 44th St. at S. Pennsylvania Ave.	3
10	Stockyards City	1
	TOTAL	47

PRIORITY OUTSIDE OF PPAs

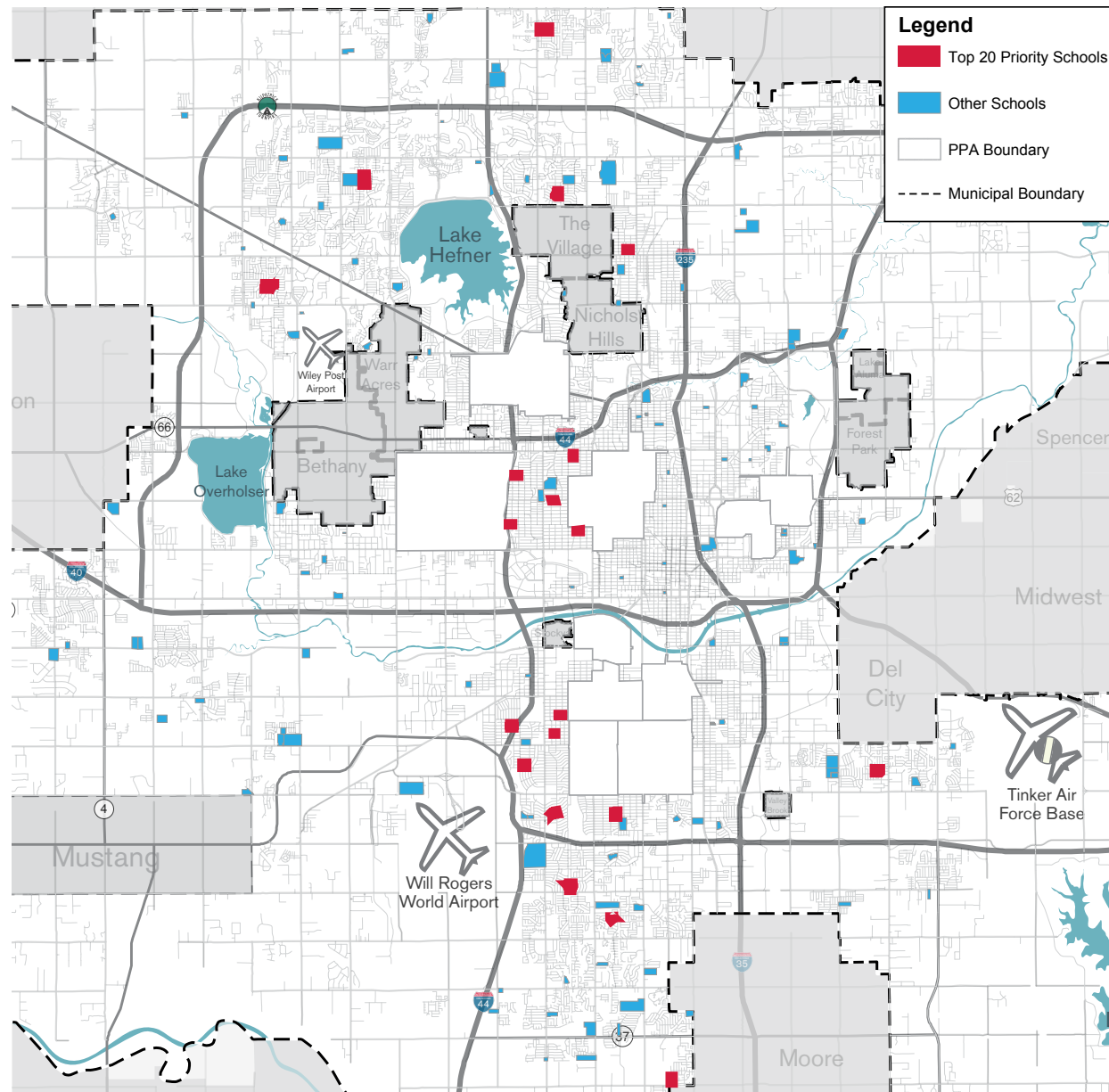
Using the prioritization process outlined in Chapter 3, page 78, a list of the top 20 schools was generated for implementation. These schools represent the locations with the highest number of residents within a walkable distance. The resulting list shows a wide geographic distribution of locations across the city.

Table 4.15 Priority School Locations

Rank	School Name
1	Fairview ES
2	Sequoyah ES
3	Cleveland ES
4	Hawthorne ES
5	Prairie Queen ES
6	Hillcrest ES
7	Stand Watie ES
8	Briarwood ES
9	Van Buren ES
10	Arthur ES
11	Northridge ES
12	Linwood ES
13	Madison ES
14	Kingsgate ES
15	Adams ES
16	Highland Park ES
17	James L. Dennis ES*
18	Stonegate ES
19	Angie Debo ES
20	Britton ES

*This school project was ranked more highly by the GO Bond prioritization process than the process used in this plan, and received \$385,000.

MAP 4.15 PRIORITY SCHOOL LOCATIONS OUTSIDE OF PPAs



Pedestrian Facilities Prioritization

PARKS INSIDE OF PPAs

Parks are one of the key land uses that led to the identification of the Pedestrian Priority Areas. In areas of the city that have a high opportunity to become very walkable, safe access to parks is a very high priority. Map 4.16 and Table 4.16 show how many parks are addressed by the pedestrian improvements in each of the 10 Pedestrian Priority Areas. In total there are 42 parks that fall within the PPA boundaries.

PARKS OUTSIDE OF PPAs

On the opposite page, Map 4.17 illustrates the locations of parks outside of the Pedestrian Priority Areas. Strategies to direct sales tax and general obligation bond monies toward walkability improvements around parks should be a priority.

MAP 4.16 PARKS IN PEDESTRIAN PRIORITY AREAS

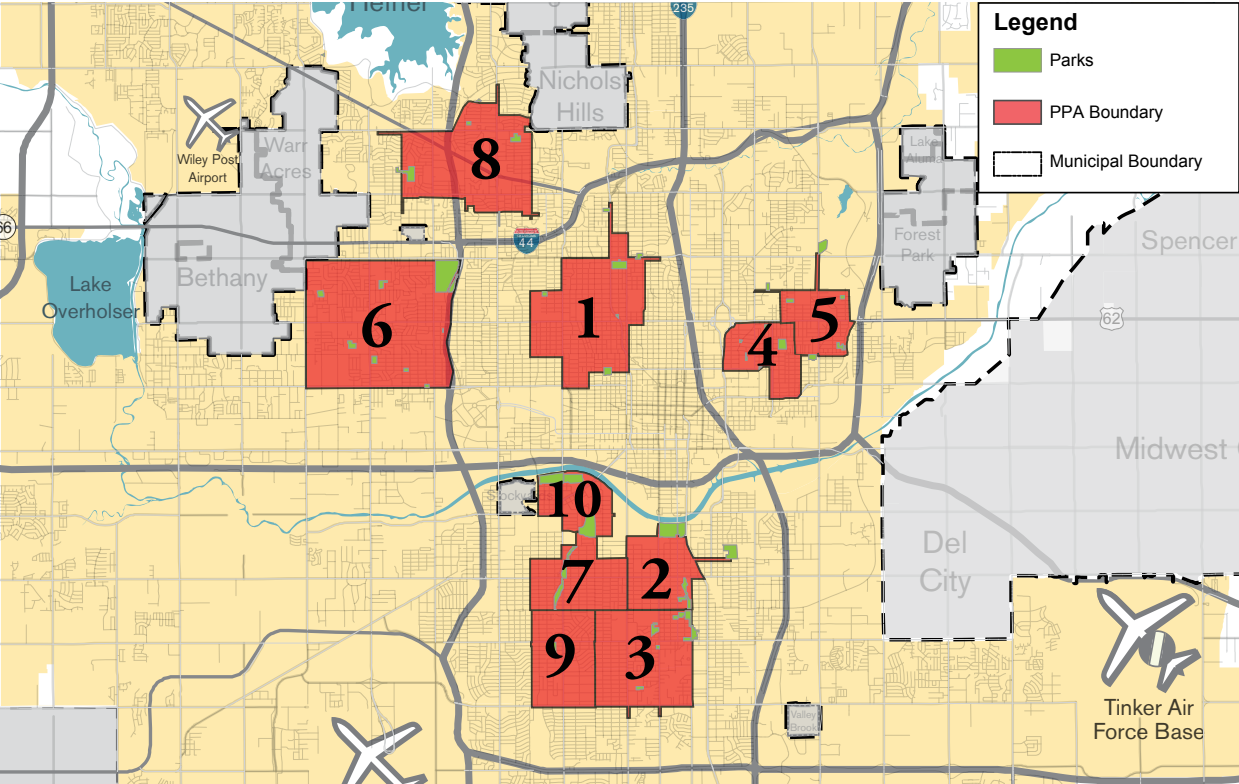


Table 4.16 Number of Parks in Each Pedestrian Priority Area

Label	Pedestrian Priority Areas (PPAs)	# of Parks
1	NW Classen Blvd. at NW 23rd St.	7
2	Capitol Hill District	4
3	S. Walker Ave. and S. Western Ave. Corridors	4
4	OHC Surroundings	6
5	N. Martin Luther King Jr. Ave. at NE 23rd St.	4
6	Windsor District and West 10th St. District	8
7	SW 29th St. District	1
8	NW 63rd St. at N. May Ave.	4
9	SW 44th St. at S. Pennsylvania Ave.	1
10	Stockyards City	3
	TOTAL	42

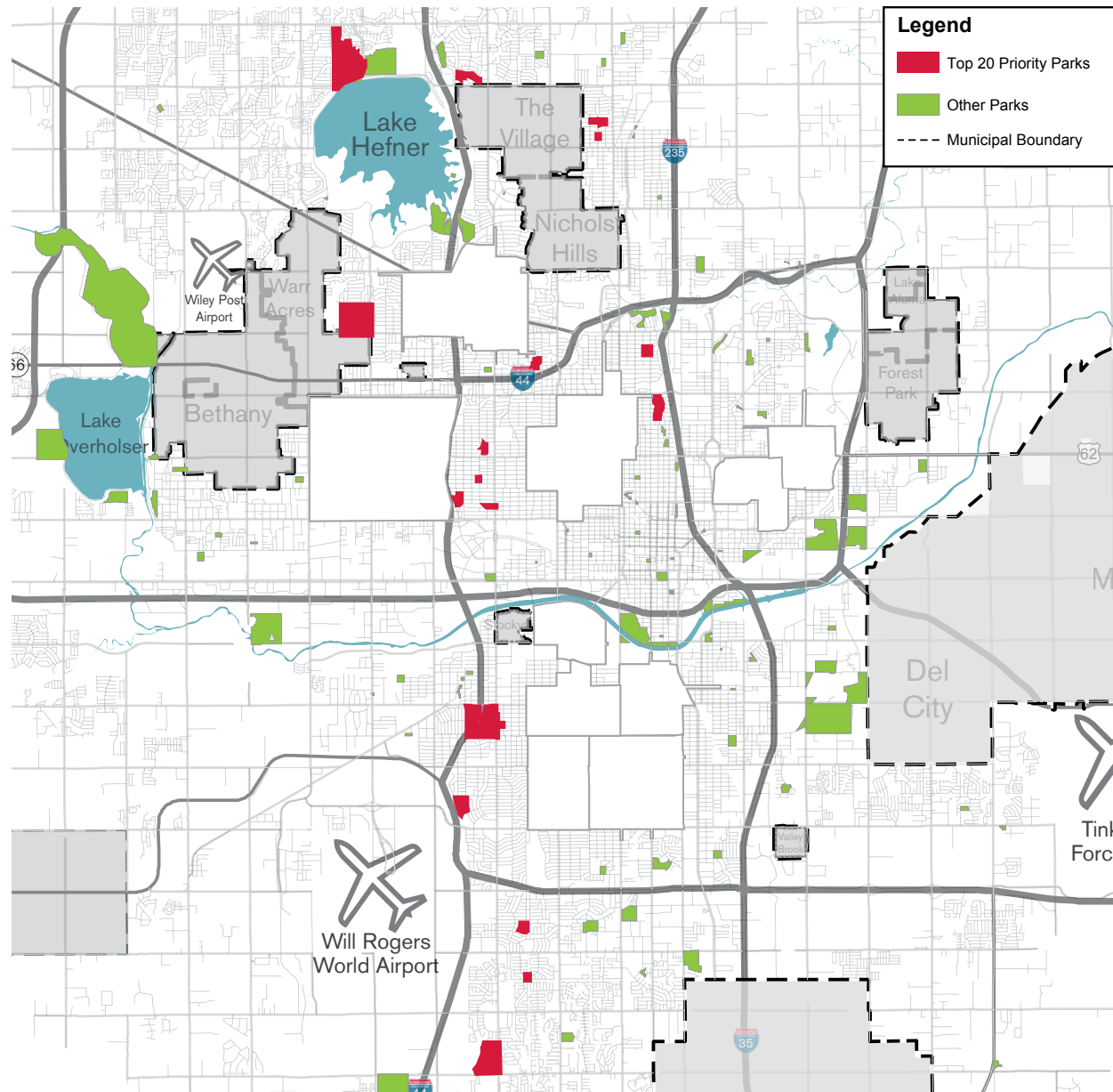
PRIORITY OUTSIDE OF PPAs

Using the prioritization process outlined in Chapter 3, page 80, a list of the top 20 parks was generated for implementation. These parks represent the locations with the highest number of residents within a walkable distance. The resulting list shows a wide geographic distribution of locations across the city.

Table 4.17 Priority Park Locations

Rank	Park Name
1	Woodson Park
2	Dolese Youth Park
3	Sellers Park
4	Siler Park
5	Oliver Park
6	Denniston Park
7	Girvin Park
8	Wayman's Park
9	Reed Park
10	Pied Piper Park
11	Bluff Creek Park (West)
12	Edgemere Park
13	Britton Park
14	Mike Dover Park
15	Smitty Park
16	Earlywine Park
17	Syl Goldman Park
18	May Park
19	Quail Creek Park
20	Douglas Park

MAP 4.17 PRIORITY PARK LOCATIONS OUTSIDE OF PPAS



Project Implementation

There are many steps involved in the implementation of an active transportation project. The process often takes a substantial amount of time, with each phase of the process depending on many factors including funding, political enthusiasm, contract negotiations, and more.

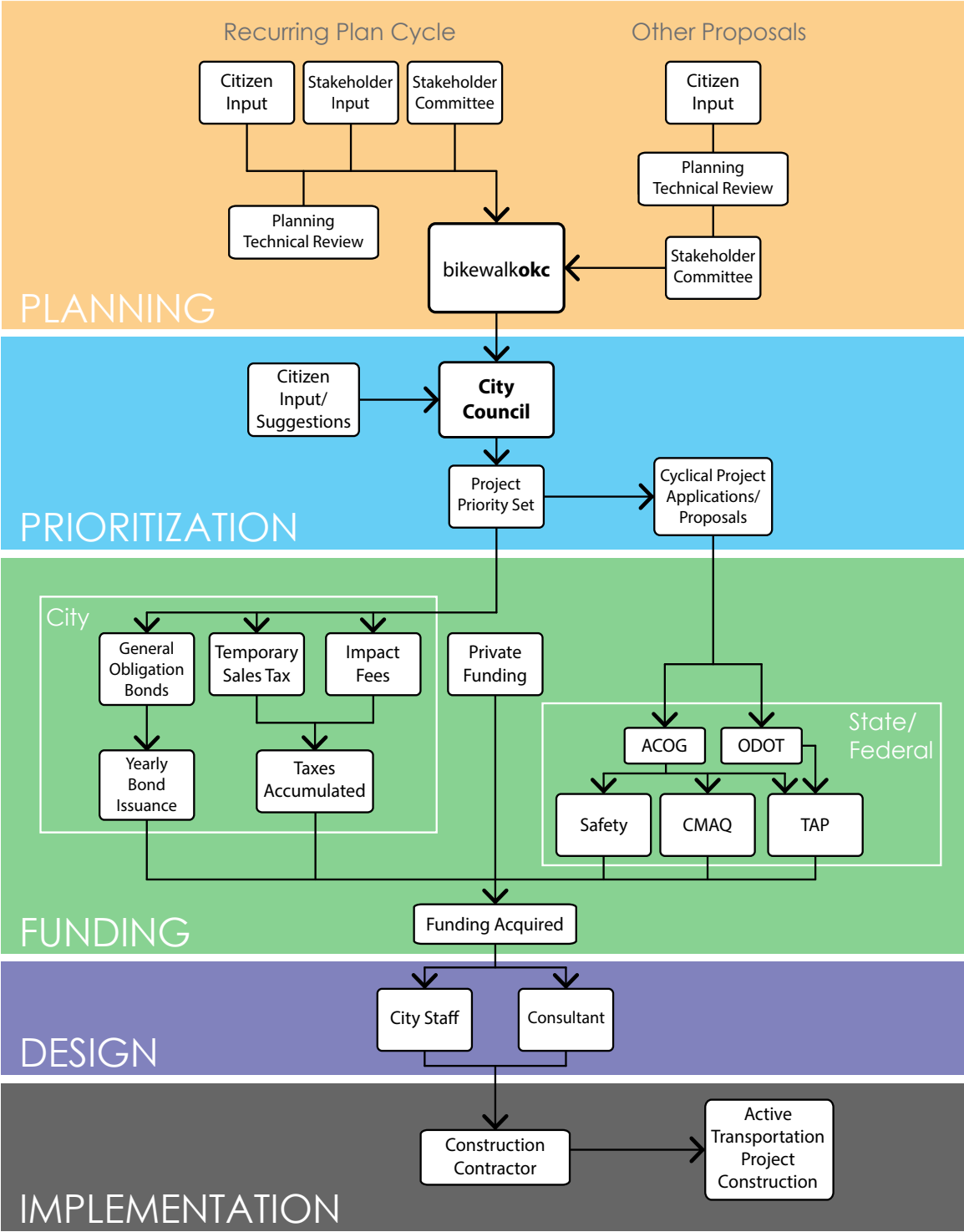
Diagram 4.1 shows the flow of events and the entities involved in the active transportation project implementation process, from the beginning stages of planning to construction of a facility. The flowchart depicts a typical process; however, some projects may require a slightly different process. This demonstrates the multiple inputs and steps in a very thorough process, complete with stakeholder involvement and several checks and balances. The City’s goal is to ensure that its investments reflect the desires and needs of all users, and that projects given highest priority are those that have the greatest impact on the largest number of people.

FUTURE FUNDING APPORTIONMENT

In order to ensure even implementation of all portions of the pedestrian plan, it is important to properly apportion available sidewalk monies to each of the component plans: Pedestrian Priority Areas (PPAs), Transit, Schools, Parks, and Downtown. It should be noted that because the PPAs contain a high concentration of schools, parks, and transit stops, the largest percentage of funds should go toward the completion of the PPA projects. Below is the recommended split of funds for sidewalk project funding:

Project Type	% of Funds
Pedestrian Priority Areas	60%
Downtown	5%
Schools	15%
Parks	10%
Public Transit	10%

Right: Diagram 4.1 Project Implementation Flow Chart



Funding Opportunities

This section provides a list and description of local and federal funding sources. Since all of the federal funding opportunities require a local match, local funding should often be reserved to serve as match and leverage greater amounts of federal funding. Additionally, seeking partnership with surrounding municipalities will increase the likelihood of successful applications for competitive funding streams. There are many opportunities to partner with nearby cities, such as Edmond, Moore, or Midwest City. Several projects proposed in this plan were identified with this in mind.

LOCAL FUNDING

General Obligation Bond

In the past, GO Bond funding was used to pay for sidewalks when part of road reconstruction and resurfacing projects. This has led to several miles of new sidewalks within Oklahoma City. Until the 2017 Bond Election, sidewalks were not included as stand alone projects. The 2017 Bond includes multiple pedestrian and bicycle projects as individual projects, many of which are identified as priority projects in this plan.

Metropolitan Area Projects (MAPS)

MAPS is Oklahoma City's capital improvement program for projects that enhance the quality of life in Oklahoma City. MAPS is funded by a temporary one-cent sales tax approved by city voters. MAPS 3 included 36 miles of sidewalks and 32 miles of trails and made up 6 percent of the cost of the total MAPS 3 program (or about \$48 million). Facilities identified in bikewalkokc could be considered for funding in future MAPS projects.

Sponsors

Private businesses and local industries can provide support of bicycle and pedestrian facility construction projects through donations of cash, services, labor or materials. Not-for-profit organizations can also hold fund raising events to gain support from businesses and organizations.

A sponsorship program can provide contributions from

bicycle and running clubs that want to assist with the development of a specific bike route. Projects can include rest stops, benches, landscaping, signage, bike racks, and litter elimination programs. Plaques or signage are usually installed as recognition of their efforts.

Public-private relationships are an opportunity for projects to be completed while giving participants a sense of ownership in a project. Projects like the installation of bike racks or bike lockers adjacent to a business, or an adopt-a-bike route program fall into this category.

FEDERAL FUNDING

Surface Transportation Block Grant (STBG) Set-Aside Program

Under the Fixing America's Surface Transportation (FAST) Act, funding for bicycle and pedestrian infrastructure is within the STBG Transportation Alternatives (TA) Set-Aside Program. The TA Set-Aside also includes funding for bicycle and pedestrian projects such as safe routes to schools and recreational trails. Funding for the Set-Aside is set at \$850 million from FY2018 to FY2020. Under the previous transportation bill, MAP-21, the Oklahoma City Urbanized Area (UZA) received approximately \$1.4 million per year for transportation alternative projects.

Congestion Mitigation and Air Quality (CMAQ)

The FAST Act continued the CMAQ program with the intent of funding projects that help state and local governments meet the requirements of the Clean Air Act. Nationwide funding levels for this program are as follows:

- 2016 - \$2.309 billion
- 2017 - \$2.360 billion
- 2018 - \$2.405 billion
- 2019 - \$2.449 billion
- 2020 - \$2.499 billion

The State of Oklahoma has received approximately \$10 to 11 million per year in CMAQ funding. Eligible projects or program include bicycle and pedestrian

projects that are not exclusively recreational and reduce vehicle trips including:

- Paths
- Bike racks
- Sidewalks
- Education programs
- Public transportation marketing
- Alternative fuel conversion
- Rideshare website

TIGER Discretionary Grants Program

The Department of Transportation's Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grants Program was created as part of the American Recovery and Reinvestment Act of 2009 with the purpose of funding road, rail, transit and port projects that achieve critical national objectives, including livability, economic competitiveness, environmental sustainability, and safety. In 2015, three of the 39 projects selected were specific to bicycle and pedestrian projects and 13 projects contained significant bicycle and pedestrian improvements. Grant amounts range from \$1 million to \$25 million per project. Total funding for TIGER is in the range of \$500 million per year. As of January 2017, the TIGER program has been continued.



Ongoing System Maintenance

Proper maintenance is critical for bicycle and pedestrian facility longevity, safety, comfort, and cost savings. In order for continued promotion and encouragement of active transportation, the facilities should be clean, surfaces smooth, and free of any hazards. Ongoing maintenance ensures system sustainability and communicates to the public the value of the system.

ROUTINE MAINTENANCE

Routine maintenance includes the removal of debris from sidewalks, bike lanes, trails, and intersections. This could be regular sweeping, trash pickup, trimming of limbs, or edging grass. Additionally, routine maintenance includes filling holes, repairing cracks, and replacing damaged signs. After a snow event, snow and ice should be removed from active transportation facilities in addition to the streets.

REMEDIAL MAINTENANCE

Remedial maintenance is necessary after a facility has been in use for multiple years and is in need of replacement or repair of major components. This type of maintenance includes resurfacing, bridge replacement or repair, restriping or repainting. These types of maintenance items may occur every 5 to 10 years or on an as-needed basis. Inspection of remedial maintenance items should be completed on a regular basis.

NETWORK STEWARDSHIP AND ENHANCEMENT

An important element of on-going maintenance activities is stewardship, which refers to the long-term care and oversight of Oklahoma City's active transportation network as a resource that adds value to the community and enhances the quality of life for the residents. The active transportation organizations and clubs within Oklahoma City add much value to the region. These clubs should be encouraged to volunteer to help keep the facilities free of debris and to identify problems as they arise. Adopt-a-facility programs can be made available

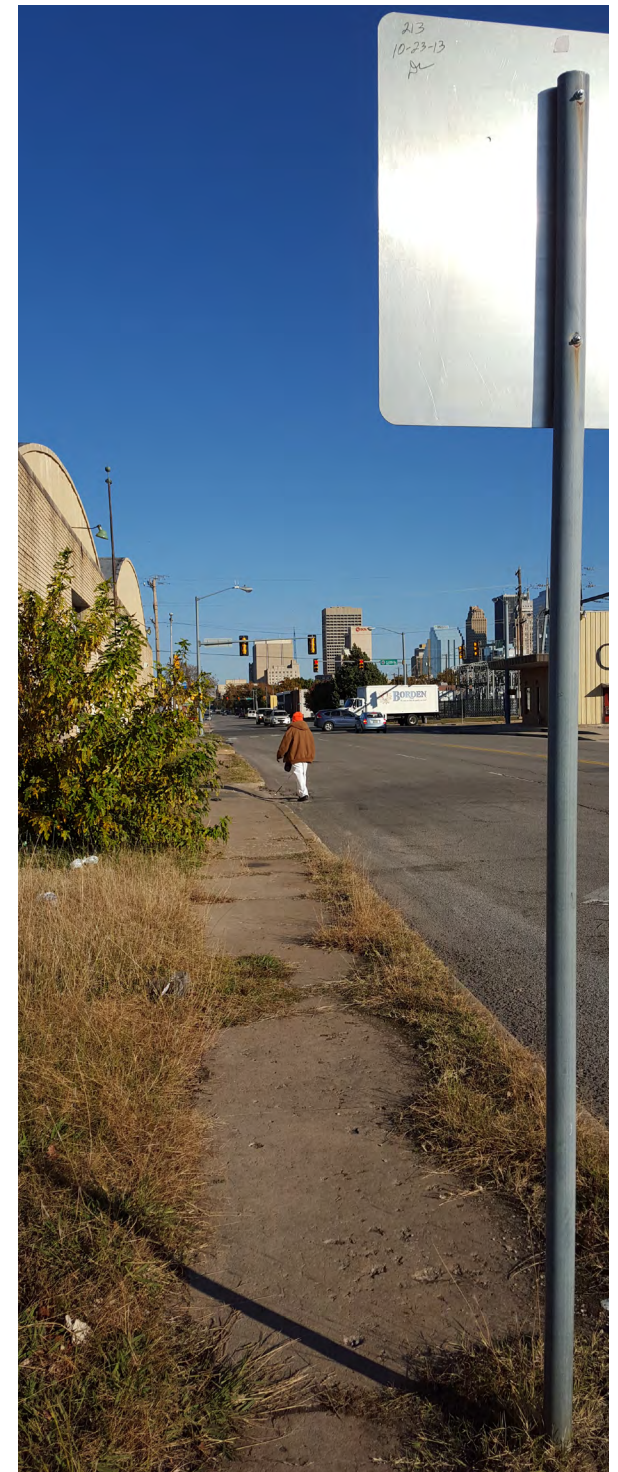
for clubs interested in providing ongoing routine maintenance of a bicycle or pedestrian facility.

MAINTENANCE BUDGETING

As the city continues to expand its active transportation systems, it is critical that maintenance budgets increase correspondingly. Maintenance costs should be budgeted annually within the Parks and Recreation maintenance budget for trails, and within the streets maintenance budget for on-street bicycle facilities. Costs for maintenance depend strongly on the type of facility. For example, bicycle routes have a relatively low maintenance cost per mile, compared to the maintenance cost per mile for multi-use paths, which is significantly higher.

MAINTENANCE FUNDING

For projects funded in the 2017 General Obligation Bond and the 2017 Community and Neighborhood Enhancement Program, a portion of the funds allocated for active transportation projects, whether sidewalks, bike lanes, or trails, should be set aside for maintenance projects. This plan recommends that 10% of the secured funding be allocated in this manner. These funds will help to sustain the capital assets that are already managed by the City, while the majority of the funding from these elections will be spent on new facilities. This manner of funding maintenance is not a long-term fix, but will help to ensure asset stability until future funding opportunities present themselves.



Staffing/Resource Needs

TRAFFIC AND TRANSPORTATION COMMISSION

The Planning Department, along with support of the Traffic and Transportation Commission, should be responsible for ensuring this plan is implemented and updated accordingly. The Traffic and Transportation Commission will need to expand their role and expertise to hear and rule on transportation decisions for bicycle and pedestrian facilities. The Planning Department should be responsible for commenting and providing reports as needed to ensure the Commission has the information to make decisions. Multiple City departments may be involved in reviewing and providing input on cases, as necessary.

BICYCLE AND PEDESTRIAN COORDINATOR

The City of Oklahoma City has designated a planner as the Bicycle and Pedestrian Coordinator. This role currently accounts for about 40 percent of the employee's annual work plan. In order to execute the action items in this chapter, more staff capacity and time will need to be dedicated. The Bicycle and Pedestrian Coordinator's future work plan should consist of the following:

1. Lead efforts to complete action items listed in the tables on pages 148 and 149.
2. Continue utilizing and improving the processes of pedestrian planning used in this plan to comprehensively plan the pedestrian infrastructure of Oklahoma City.
3. Maintain the bikewalkokc webpage that contains information on the status of bicycle and pedestrian projects as well as maps for trails and existing bicycle facilities. City staff will keep the website up-to-date so all residents and visitors will have valid information when using the bicycle and pedestrian network.
4. Seek grant funding to implement projects listed in this plan.
5. Work closely with Public Works and Parks and Recreation Departments, Association of Central

Oklahoma Governments (ACOG), Central Oklahoma Transit and Parking Authority (COTPA), future Regional Transit District, Oklahoma Department of Transportation (ODOT), the Neighborhood Alliance, MAPS Office, and Oklahoma City Public Schools to implement projects in this plan.

6. Establish and execute annual goals for completion of new bicycle infrastructure. Create a yearly report documenting the status and ongoing actions for bicycle and pedestrian projects.
7. Maintain and update bicycle-friendly and pedestrian-friendly applications through the League of American Bicyclists and Walk Friendly Communities on a yearly basis.
8. Create conceptual designs for individual bicycle projects from this plan.

NATIONAL NETWORKING

The Bicycle and Pedestrian Coordinator and other City staff should participate in networks related to active transportation such as the Association of Pedestrian and Bicycle Professionals (APBP), the Transportation Research Board (TRB), National Complete Streets Coalition, the National Association of City Transportation Officials (NACTO), and others. Involvement with these groups will benefit Oklahoma City by ensuring that staff is aware of best practices around the country, creating partnerships between Oklahoma City and other cities, and increasing access to grants and technical assistance.

GRANT MATCH FUND

A large portion of transportation improvement projects are funded by federal, state, or other outside funding sources. These grants almost always have some sort of "match" requirement, where municipalities will often be required to contribute 20% or greater to the funding of a project, while the grant will cover the remaining 80% or less of the project cost. Presently, there are no dedicated funds for grant match opportunities for active transportation projects. Because of this, many

opportunities cannot be pursued due to the inability to contribute matching funds.

In order to address this issue, money should be set aside to allow for quick turnaround on grant applications that are competitive. In the case of an 80/20 match, the City of Oklahoma City would receive four times as much money in return to fund the project, making it a vastly more cost-effective way to fund projects than more traditional sources like the general fund or general obligation bond funds.

Measuring Performance

Continual monitoring of implementation progress is essential to the success of bikewalkokc. Baseline measurements of key data like bicycling and walking activity, crash rates, miles of facilities, program participation numbers, and mode share provide a point of comparison to determine the impact of infrastructure projects and supporting education and enforcement programs. The City of Oklahoma City Planning Department will establish the baseline of bicycle and pedestrian counts and performance measures in order to monitor plan and policy success. The performance measures staff will use for annual monitoring are included in Table 4.19.

Upon establishing baseline counts, City staff will create a report card for tracking performance every two years. Staff will develop this report card based on the performance metrics established within this plan. The report card will be helpful in tracking progress and can be used to show support for additional facility and program improvement.

Table 4.19 Performance Measures

Accessibility Measures				
Performance Measure	Bike/Trail (within 1/4 mile)	Pedestrian (street with a sidewalk)	Desired Trend	Data Source
% of Jobs with access	20.8%	40.5%	Increase	Master Active Transportation GIS Map
% of Population with access	11.0%	34.4%	Increase	
% of Transit stops with access	16.7%	42.9%	Increase	
% of Schools with access	14.5%	53.8%	Increase	
% of Parks with access	35.5%	34.8%	Increase	

Facilities Measures			
Performance Measure	Baseline	Desired Outcome	Data Source
New Miles of On-Street Bicycle Facilities	8.83 miles	Increase	Master Active Transportation GIS Layer
New Miles of Multi-Use Trails	73.33 miles	Increase	
New Miles of Sidewalk	1,088.82 miles	Increase	
PEAT PPA 1 - NW 23rd St. at N. Classen Blvd.	57%	70% or higher	PEAT Survey
PEAT PPA 2 - Windsor & West Ten Districts	43.2%	70% or higher	
PEAT PPA 3 - NW 63rd St. at N. May Ave.	37.7%	70% or higher	
PEAT PPA 4 - NE 23rd St. at N. MLK Jr. Ave.	52.6%	70% or higher	
PEAT PPA 5 - OHC Surroundings	44.9%	70% or higher	
PEAT PPA 6 - Capitol Hill District	43.1%	70% or higher	
PEAT PPA 7 - SW 29th St. District	24.6%	70% or higher	
PEAT PPA 8 - SW 44th St. at S. Pennsylvania Ave.	38.5%	70% or higher	
PEAT PPA 9 - S. Walker Ave. and S. Western Ave.	37.2%	70% or higher	
PEAT PPA 10 - Stockyards City	33.5%	70% or higher	
PEAT Downtown	63%	85% or higher	

Usage and Satisfaction Measures			
Performance Measure	Baseline	Desired Trend	Data Source
Mode Split	Car Alone: 83.1% Carpool: 10.2% Transit: 0.45% Walking: 1.58% Bicycling: 0.32% Taxi/Other: 0.98%	Shift from automobile trips to walking, bicycling, and public transit	ACS B08006
How satisfied are you with bicycling in OKC?	Excellent: 5% - Fair: 43% - Poor: 53%	Higher level of satisfaction	bikewalkokc survey
How satisfied are you with walking in OKC?	Excellent: 6% - Fair: 49% - Poor: 45%	Higher level of satisfaction	

Action Plan

The following pages outline the approach for plan implementation. This plan is a collection of capital improvement projects, but it also has recommendations for City policies and ordinances, with the goal of improving safety and equity for people taking non-motorized trips.

The timeline below illustrates the plan for assessing progress of the implementation of bikewalkokc, as well as the schedule for future plan updates. The performance measures identified on page 132 will be updated every two years. This will allow enough time for changes in these measures to manifest, and with these updates every two years, the City will have data to guide the next iteration of the bicycle and pedestrian plan. On the third cycle of performance evaluation, a full plan update will occur. Every two years the project lists from this plan will be evaluated for completion of projects and feasibility of remaining projects. Additionally, new projects should be identified that respond to the trends in performance measures, new public input, and a continuation of the approach to identify priority needs established in this plan.

Action Categories

The core of bikewalkokc is comprised of key bicycle and pedestrian projects discussed in this chapter; however, there are several other categories of actions beyond performance evaluation and capital improvement projects that will be necessary to accomplish the goals of this plan. These categories are as follows:

POLICY UPDATES

Internal policies related to capital improvements should be updated to reflect the importance of active transportation and recreation. Policies that govern the development review process for subdivisions, redevelopment projects, and commercial development should also be modified to include the principles of active transportation, as well as to ensure that as each new development comes in to Oklahoma City, our active transportation network is strengthened.

CODE AND REGULATIONS UPDATES

In order for many of the projects in this plan to flourish and function in their intended fashion, modifications need to be made to Oklahoma State Statutes, the City’s municipal codes and subdivision regulations. Many City and State ordinances related to pedestrians and bicyclists are out-dated and have become counterproductive with regard to improving walking and cycling.

STANDARDS UPDATES

Best practices in the design of active transportation and recreation facilities change rapidly, and it can be difficult to keep up with the state-of-the-practice approach. New standards can be adopted in several areas to better accomodate the needs associated with active transportation and recreation.

SYSTEMS UPDATES

Transportation systems largely favor automobiles, making it difficult for pedestrians and cyclists to travel on most streets. Modifications to our traffic control systems

can be made in such a way as to not disrupt automobile traffic while accomodating non-motorized traffic.

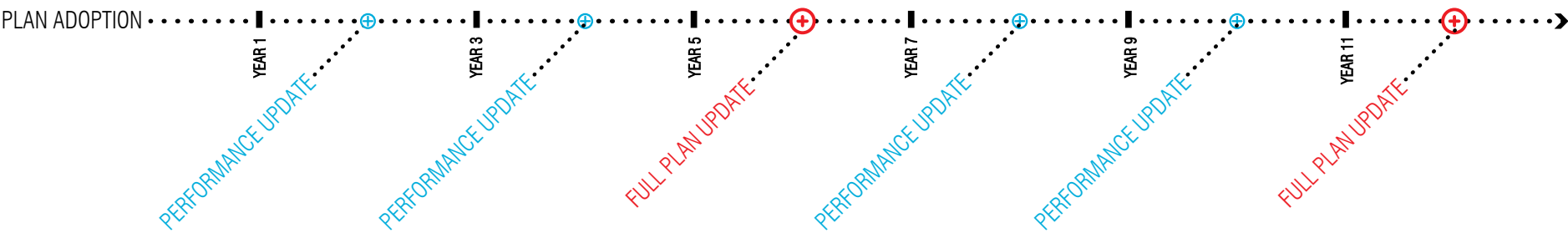
PROMOTIONAL EFFORTS

With all of the changes that are set to occur with the adoption of this plan, education will be required to ensure that all users of new facility types are aware of their responsibilities. Education campaigns should focus on transportation safety, public and personal health, and the environment.

RESEARCH EFFORTS









Research projects should be conducted in order to move this plan forward into future iterations. These projects should gather data to use for future plan updates, as well as looking to other cities to determine best practices in the field for any given subject. This approach will allow for partnerships with higher education, increasing the capacity of the Planning Department.

The City’s Bicycle and Pedestrian Coordinator along with the Traffic and Transportation Commission are charged with overseeing and pursuing the execution of these updates and efforts. The following pages detail each of these categories, citing specific examples and grouping them into a phased approach.





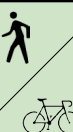
ACTION PLAN

CODE REGULATION UPDATES		
1	Create ordinance language to define “bike boxes”.	
1	Add to the definition of “pedestrian” in Chapter 32 of the Municipal Code to include people using a walker, wheelchair, motorized mobility scooter, and other medical-related devices.	
1	Update the definition of “Bicycle Route” to reflect the changes made in this plan.	
2	Require sidewalks on both sides of streets in the urban Land Use Typology Areas of the comprehensive plan.	
2	Adopt a bicycle parking ordinance that establishes guidelines for bicycle parking linked to land uses.	
2	Require right-of-way to be set aside for bicycle and trail facilities as (re)development projects coincide with proposed facilities in bikewalkokc.	
2	Revise subdivision regulations to include connectivity standards and guidelines that require greater street connectivity, and provide allowances for pedestrian and bicycle connections when street connectivity cannot be made.	
2	New developments should upgrade bicycle and pedestrian facilities along connector and arterial streets.	
3	Revise development standards to require sidewalks with concrete transit stop pads along existing and planned transit routes.	
3	Encourage shower and locker facilities in new developments to facilitate active transportation.	
3	Require recumbent bicycles to be fitted with a flag or other visual element to account for the low-profile nature of the vehicle.	
3	Work with Municipal Counselor’s office to determine elements of the code that should be added, amended, or removed.	



POLICY UPDATES		
1	Begin regular maintenance programs of all bicycle and pedestrian facilities (sweeping, repainting, etc.). This includes trails, bicycle lanes, and sidewalks.	
1	Establish requirements for providing alternative pedestrian and bicycle routes when construction activity prohibits the use of existing facilities. For example, when a construction site needs to occupy the space for pedestrians or bicyclists’ facilities, alternative temporary facilities should be provided.	
2	Accommodate bicyclists and pedestrians on new and existing roadway bridges, underpasses, and interchanges, as well as on any other roadways that are impacted by a bridge, underpass or interchange project.	
2	Prioritize microsurfacing on streets with bicycle facilities.	
3	Incorporate a bicycle and pedestrian facilities checklist into the plat and development review process.	
3	When approving projects that improve the level of service for vehicular traffic, ensure that they do not negatively impact the walkability or bikeability of the area.	
3	Set level of service goals to improve the performance of pedestrian and bicycle facilities.	
3	Require developers to install greenway trails as part of their development when project overlaps with the trails map of bikewalkokc.	

ACTION PLAN




STANDARDS UPDATES

1	Adopt the NACTO Urban Bikeway Design Guide for design and facility location standards.	
2	Roadways being reconstructed or resurfaced should incorporate proposed bicycle facilities (subject to traffic study). Non-local bicycle routes on two-lane roadways should receive a 6' to 8' shoulder where feasible.	
2	Develop design standards for bus stops and transit stations that consider location, make connections to sidewalks and bicycle routes/trails, and provide safe, comfortable and attractive waiting areas for riders.	







SYSTEMS UPDATES

1	Improve traffic signals along bicycle facilities to ensure cyclists are detected automatically.	
2	Incorporate automatic pedestrian signal phasing, split phasing, scramble phasing, Leading Pedestrian Interval (LPI), and other methods in business districts, commercial corridors, pedestrian priority areas, and other locations.	

PROMOTIONAL EFFORTS

1	Allocate a yearly budget for safety campaign outreach and projects.	
2	Develop educational materials for communicating the importance of active transportation infrastructure.	
2	Work with schools, youth groups, and other parties to provide education and encouragement programs about bicycle and pedestrian safety.	

RESEARCH EFFORTS

1	Explore the feasibility of the City assuming responsibility for sidewalk maintenance in all areas of the city.	
1	Study the impact of plan implementation on responsive or vulnerable populations. Evaluate potential health outcomes and incorporate findings to ensure projects and policy changes have positive impacts.	
1	Research best practices to ensure that private dockless bike share systems do not cause the pedestrian realm to become inaccessible.	
2	Evaluate the feasibility of a fee-in-lieu-of system for sidewalk variances granted by the Board of Adjustment.	
2	Study what changes need to be made to City ordinances in order to better accommodate active transportation.	
3	Evaluate the intersections and street segments in the urbanized area of Oklahoma City using the Pedestrian Environment Assessment Toolkit (PEAT) approach.	
3	Monitor the use of the bicycle racks on EMBARK buses, and determine what other infrastructure improvements should compliment this service.	