

# Tulsa

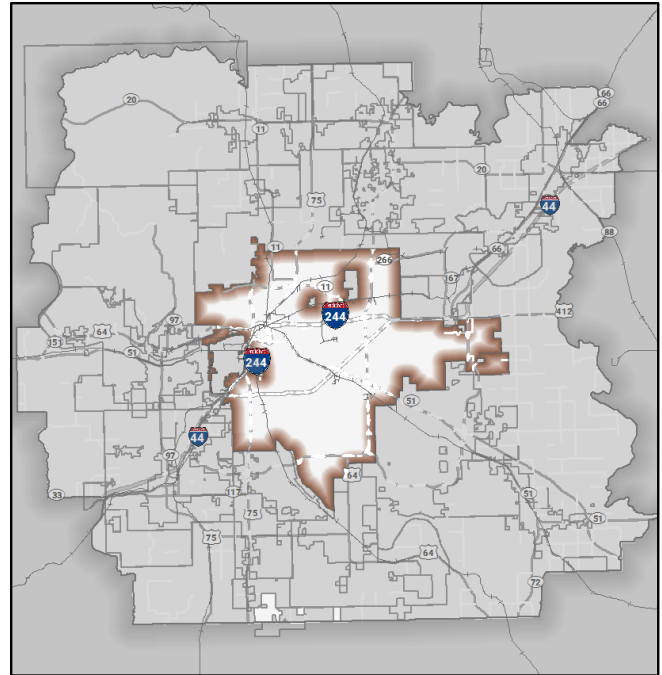
## Community Overview

Tulsa is the major city of the region and the employment center for most of the region's residents. The city recently outlined a vision for its future in the PLANiTULSA comprehensive plan, adopted in 2010 and updated in 2014. The plan focuses on five key themes:

- Have a Vibrant & Dynamic Economy
- Attract & Retain Young People
- Provide Effective Transportation
- Provide Housing Choices
- Protect the Environment & Provide Sustainability

An improved pedestrian and bicycle environment can support each of these themes as the City moves forward with this vision of a more vibrant and attractive community. PLANiTULSA's transportation chapter focuses on creating a system where residents have a variety of modes to choose from, including driving, biking and frequent, reliable transit. Pedestrian travel is a key element of new mixed-use development centers. The GO Plan recommendations can form an initial bicycle network for the city, and design guidelines for both modes can help with project development as the city incorporates more of these elements into street construction and reconstruction.

Though Tulsa remains the largest city in the region, its share of the population has declined over time. Adjacent suburbs such as Owasso and Jenks are growing faster than Tulsa. In 1970, the city was home to nearly 60 percent of the region's population. Today, Tulsa's share



is closer to 40 percent, with just under 400,000 residents. Similarly, employment growth has also been dispersed outside of the Tulsa core in the last 30 years. With more dispersed employment destinations, commute travel patterns are more complex. But there is strong interest from residents and City leaders and staff to create more mixed-use centers and to bring more residential development to downtown, both of which will enable shorter commute trips.

Over the past few years, Tulsa has been implementing infrastructure improvements to make biking and walking easier. One pertinent example is the four-lane to three-lane road diet conversion of 4th Place, between Yale Avenue and Sheridan Avenue. The street was reconstructed with a concrete surface. During that process, engineers recognized that four travel lanes were

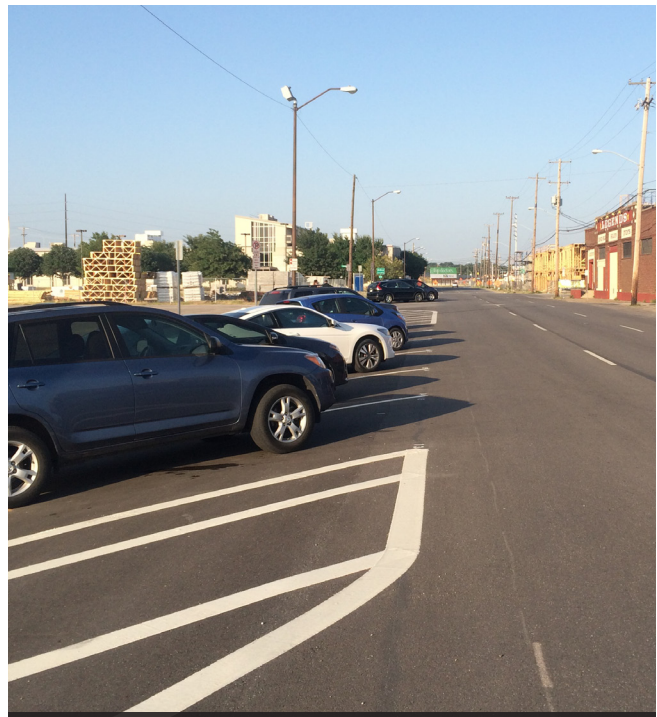


not needed for present or projected volumes of traffic. 4th Place was a designated on-street bikeway in the 1999 Trails Master Plan, and this road diet afforded the opportunity to upgrade the bike facility from a signed route to bike lanes.

City staff should consult the GO Plan in the same fashion to find opportunities for improving the bicycle and pedestrian realm in the course of regular street resurfacing and reconstructions. The City of Tulsa uses a Multimodal Level of Service (MMLOS) analysis to determine the best outcome for a street rehabilitation project. Due to the heavy data required for a MMLOS, the GO Plan did not go into that level of detailed analysis for the regional analysis. However, for all on-street facilities in the plan, the team did look at traffic volume and width of the street, curb-to-curb to get an idea of the level of excess capacity the street had for analyzing the possibility of a road diet.



Bike lanes on 4th Place were installed through reducing automobile travel lanes from four to three.



The City of Tulsa has begun implementing back-in angled parking in commercial districts throughout the city. These first instances in Oklahoma are a good example of how design can make the street safer through improving visibility for drivers.



## Walkshop Summary

Five “walkshops” were held throughout the City of Tulsa during April 2014. They were attended by City staff, elected officials, community members, INCOG staff and the media. Walkshops were conducted in the following locations across the City:

- **Cherry Street**  
Peoria Avenue to Utica Avenue
- **North Tulsa**  
Lewis Avenue near 46th Street North
- **West Tulsa**  
41st Street near Southwest Boulevard
- **East Tulsa**  
Garnett Road near 21st Street South
- **South Tulsa**  
93rd Street South near Memorial Drive

Comments made during these walkshops contributed to the selection of the four pedestrian focus areas presented later in this chapter and helped identify typical issues faced by pedestrians and bicyclists within the city.

Based on the comments expressed during the walkshops, the following are priorities for improvement:



Local residents and business owners joined elected officials and the project team to evaluate walking conditions in the field in East Tulsa.

### Identified Issue:

The segment of Peoria Avenue from 51st Street to 71st Street was identified as a difficult pedestrian environment. Lack of sidewalks means that pedestrians walk on shoulders or through parking lots, routes which are often not accessible to those traveling in a wheelchair. The high frequency of driveway crossings also leads to conflicts between pedestrians and drivers.

### Response:

A portion of this segment, from 61st Street to 66th Street, is included as a focus area.

### Response:

Access management strategies necessary on Peoria are addressed in the concept design for 21st Street at Garnett Road, in the design guidelines and in the policy recommendations for the City of Tulsa.

**Note:** This segment does not appear in the sidewalk gaps prioritization because that inventory only captured areas with no sidewalk on either side of the street; a sidewalk is present on the west side of this segment.

Walkshop Summary		
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**Identified Issue:**

Unsignalized trail crossings of arterials, such as the Creek Turnpike Trail at Mingo Road, were noted as an issue. These crossings interrupt the comfortable and safe travel experience of pedestrians and bicyclists along a trail.

**Response:**

Recommended trail crossing treatments are presented in the design guidelines.

**Identified Issue:**

Crossings of highway on- and off-ramps were called out as particular challenges for pedestrians. For instance, the US-75 ramps at Pine Street present a barrier to residents on the east side of the highway accessing retail, Carver Middle School and the YMCA on the west side. The Mingo Trail crossing of the Route 169 off-ramp at 91st Street was also noted as an issue.

**Response:**

Highway ramp crossings are addressed in the concept design for 21st Street and Route 169 interchange. Slip lane crossings are addressed in the concept design for the 41st Street and Route 97 intersection in Sand Springs.

**Identified Issue:**

The Broken Arrow Expressway was noted as a barrier to east-west bicycle travel in Tulsa because the existing through streets are major arterials which are uncomfortable for riding.

**Response:**

The recommended sidepath on Harvard Ave will connect a signed route on 25th Street and 26th Street that travels east-west across the BA Expressway. The recommended sidepath on 31st Street will also provide a connection across the highway.

**Identified Issue:**

The lack of connectivity is a challenge for pedestrians and bicyclists in East Tulsa. There are few safe and convenient access points to the trail system.

**Response:**

Recommendations from the East Tulsa Small Area Plan were adopted into the bicycle network. Additional connectivity to the Mingo Valley Trail will be provided by a sidepath along 31st Street and buffered bike lanes along 11th Street.

**Identified Issue:**

Bicyclists noted the lack of safe on-road connections from the River Parks trails, and the Gathering Place in the future, into the core of downtown. Topography is challenging as the city is on a bluff above the Arkansas River, so bicycle connections need to take this into account. Connections are also needed from downtown to midtown.

**Response:**

A number of bicycle network recommendations address this challenge including a separated bike lane on Boulder Ave connecting the 21st Street bridge to downtown, a bike lane on 12th Street from the Southwest Blvd bridge to Boulder Ave, and signed routes on low-volume local streets on either side of Peoria Ave from Skelly Drive to 11th Street.



## WikiMap Summary

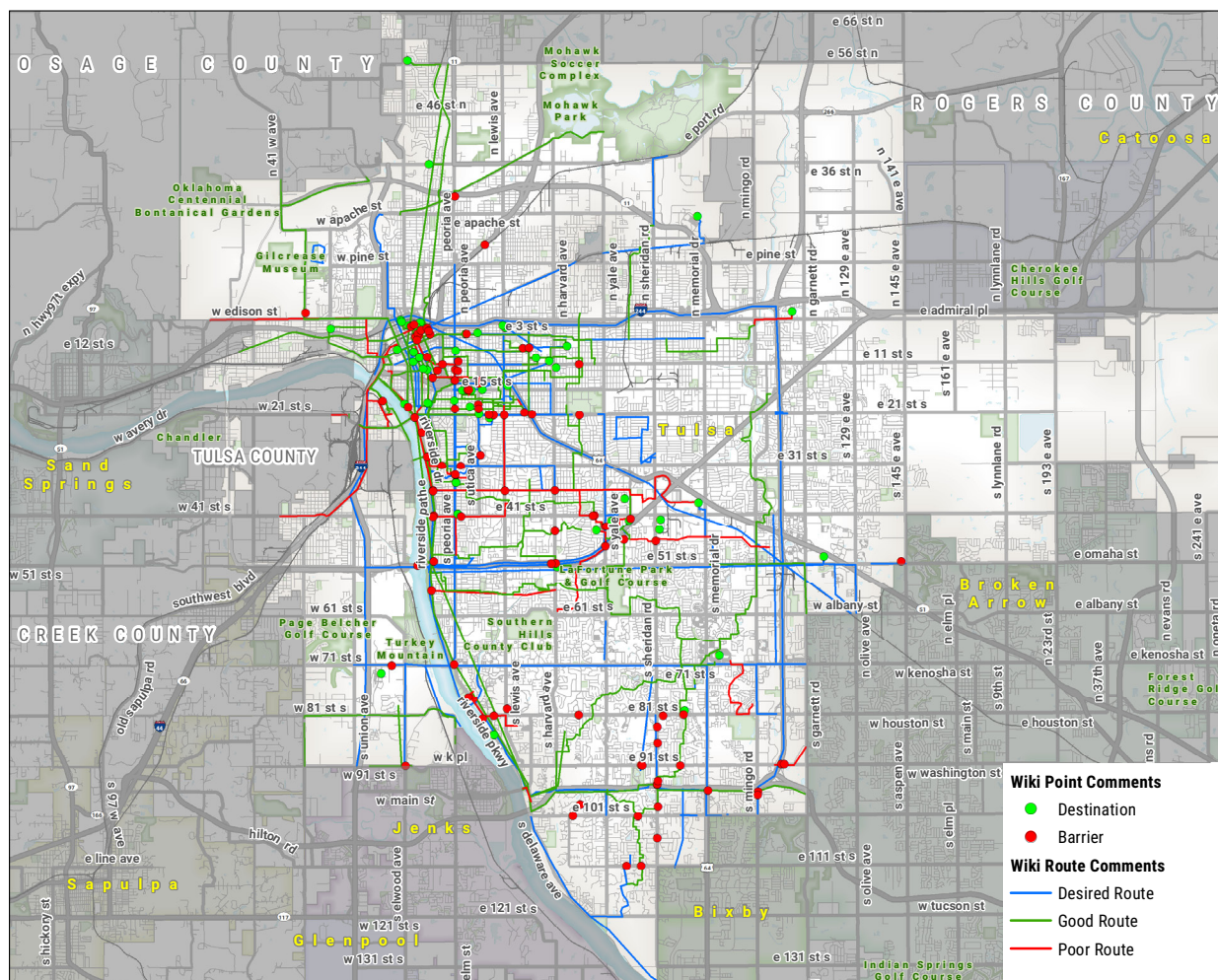
There were 76 registered users of the WikiMap who indicated a home zip code in Tulsa. These users indicated that most destinations they walk or bike to today are located in downtown and midtown which is not surprising given that these are the most mixed-use neighborhoods in the city, and destinations are close to one another.

Users generally indicated that places they walk and bike today feel comfortable and safe from traffic. These included the major trails in Tulsa and low-volume, low-speed neighborhood streets. Poor walking experiences occurred on streets without sidewalks, where sidewalks are close to high-speed traffic, and those with seasonal maintenance issues such as snow build-up and encroaching vegetation. Locations with barriers to walking were also marked, and dangerous intersections were the most frequently cited issue. A number of these

intersections are located in the downtown area where the highest concentration of pedestrians is also located. Lack of sidewalks and lack of crosswalks were the second most cited pedestrian barriers.

Tulsa bicyclists cited dangerous intersections as the largest barrier to riding. The majority of these intersections were related to trail access either along Riverside Drive or the Creek Turnpike Trail. Lack of traffic signals and bicycle detection at existing signals were also cited as barriers, especially where comfortable bike routes cross major arterials.

WikiMap users also indicated many routes they would like to walk or bike if improvements were made. For bicyclists, many of these were along arterial streets that provide direct connections between destinations but have too much or too fast traffic today to be comfortable. On-street bike facilities or trails were desired along these routes.





## Policy Review and Recommendations

In general, the existing policies that govern the development of Tulsa's streets and parcels should lead to the creation of spaces that are friendly to pedestrians and bicyclists. The zoning code update takes some additional critical steps toward ensuring vibrant pedestrian spaces in mixed-use areas of the city. The City adopted its Complete Streets policy in 2012 and a 2013 procedural manual to implement the policy. The manual identifies priority design elements that will make streets, especially those in downtown, in new centers, and along multimodal corridors friendlier to pedestrians, bicyclists and transit riders. As more streets are constructed and reconstructed in this model, the share of the street network available to these modes for safe and comfortable travel will grow.

The recommendations below will improve existing policies that affect the pedestrian and bicycle environment and network connectivity.

### Recommendations:

- Develop an Access Management Plan that guides City decisions regarding a program of driveway consolidation and shared parking along commercial corridors that improves the pedestrian and bicyclist experience by reducing traffic conflicts. Prioritize consolidation in areas of high pedestrian and bicyclist volume, and in locations of sidepath recommendations.
- Continue adherence to adopted Complete Streets policy in new roadway construction and in reconstruction
- Consistently follow minimum on-street bicycle facility widths included in INCOG/City of Tulsa Context Sensitive Capacity-Volume-Geometrics Table
- Consider amending subdivision regulations to include connectivity items addressed in Chapter 5:
  - Include a provision for connecting cul-de-sacs to the rest of the street network with trails for pedestrian and bicyclist access
  - Require connections to regional trails within ¼ mile via trail segment, sidepath (along an arterial) or signed route (along low-volume local streets)
  - Consistently apply the sidewalk requirements included in Section 4.3 of existing subdivision regulations
  - Prohibit offset intersections of local streets across arterials.
- Consider amending the zoning code to include long-term bike parking as option for decreasing automobile parking requirements.

## Pedestrian Network Recommendations

The pedestrian facility recommendations in this Plan comprise two elements: a prioritization of known sidewalk gaps on arterial streets and specific infrastructure recommendations for the community's chosen focus areas.

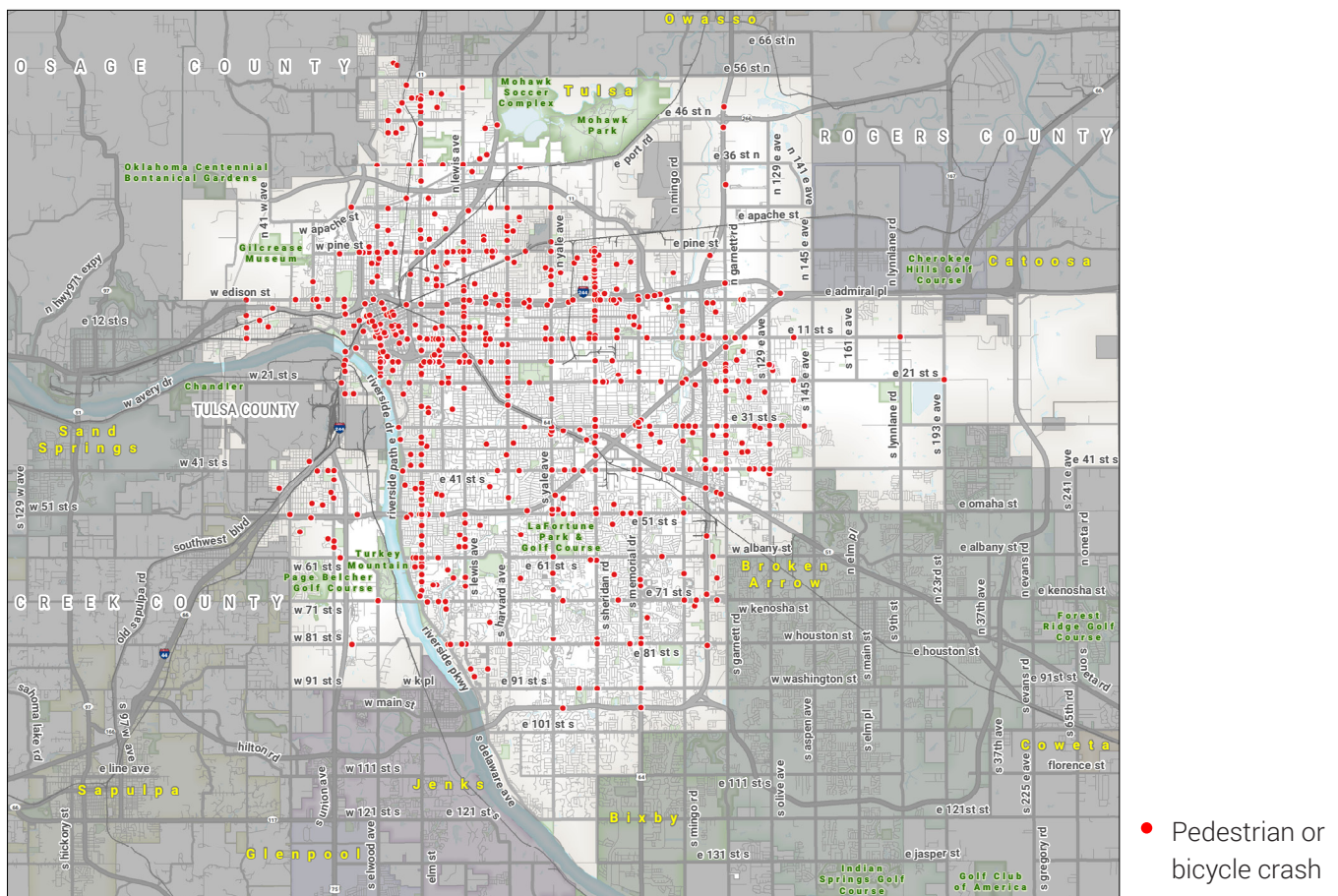
### Prioritized Arterial Sidewalk Gaps

The map and project list that follow detail a prioritized set of improvements to fill sidewalk gaps on arterials. Arterial sidewalk gaps are targeted because these streets have the highest traffic volumes and speeds, but also many destinations for pedestrians, as well as some transit routes. Approximately 85 percent of the 608 pedestrian crashes reported in Tulsa in the five years ending July 2014 were located on

arterial streets. The highest crash corridors are the location of transit routes and commercial corridors (Sheridan Street, Peoria Avenue, 11th Street) where there are likely to be more pedestrians.

Many conflicts and crashes occur at intersections. Appendix A: Design Guidelines and the concept designs presented in Chapter 3: Pedestrian Strategy present recommendations for arterial intersection treatments to improve safety.

There are important sidewalk gaps that are not captured within this data set: those locations on high-traffic pedestrian corridors with a sidewalk on only one side of the street, and those locations where sidewalks end before the intersection approach. Especially through commercial



corridors or those with transit lines, it is critical to have sidewalks on both sides of the street. In particular, the team believes the following areas should be prioritized for pedestrian needs:

- 1) W. 71st Street at US-75
- 2) S. Peoria Ave between 61st and Riverside Dr.
- 3) S. Union Ave between I-44 and 61st Street

Many locations were observed where sidewalks end before reaching the intersection, dead ending into commercial parking lots. This lack of connectivity forces pedestrians into more conflicts with drivers accessing businesses or forces them to walk in grass buffers which are not accessible for those with physical disabilities.



Today, in this segment of Peoria Avenue, pedestrians are provided a sidewalk on only one side of the street and must cross the with no accommodations to reach their destinations.

One additional important element of the pedestrian environment that is not captured in the analysis of sidewalk gaps is the presence of marked and signalized crossings. The distance between these crossings on Tulsa's arterial streets tends to be longer than desirable, up to one mile where no accommodation is provided between major arterial intersections. When destinations or bus stops are located on both sides of the street, this can lead to dangerous crossing behavior in locations where drivers do not expect pedestrians. While the resources needed to conduct a full regional analysis of crosswalks and signalized crossings was not available for this plan, these are important improvements to consider as street upgrades occur.

## Focus Areas

Three focus areas were selected for Tulsa that are areas of particular concern for pedestrian safety:

- Cherry Street from Peoria Avenue to Utica Avenue
- East 21st Street North from Hwy 169 to Garnett Road
- Peoria Avenue from East 61st Street to East 66th Street

These streets have varying types of challenges from the interaction of highway ramps with pedestrian infrastructure to designing a safe and pleasant main street environment. Details are provided in the following pages that assess these locations and provide planning-level infrastructure recommendations.



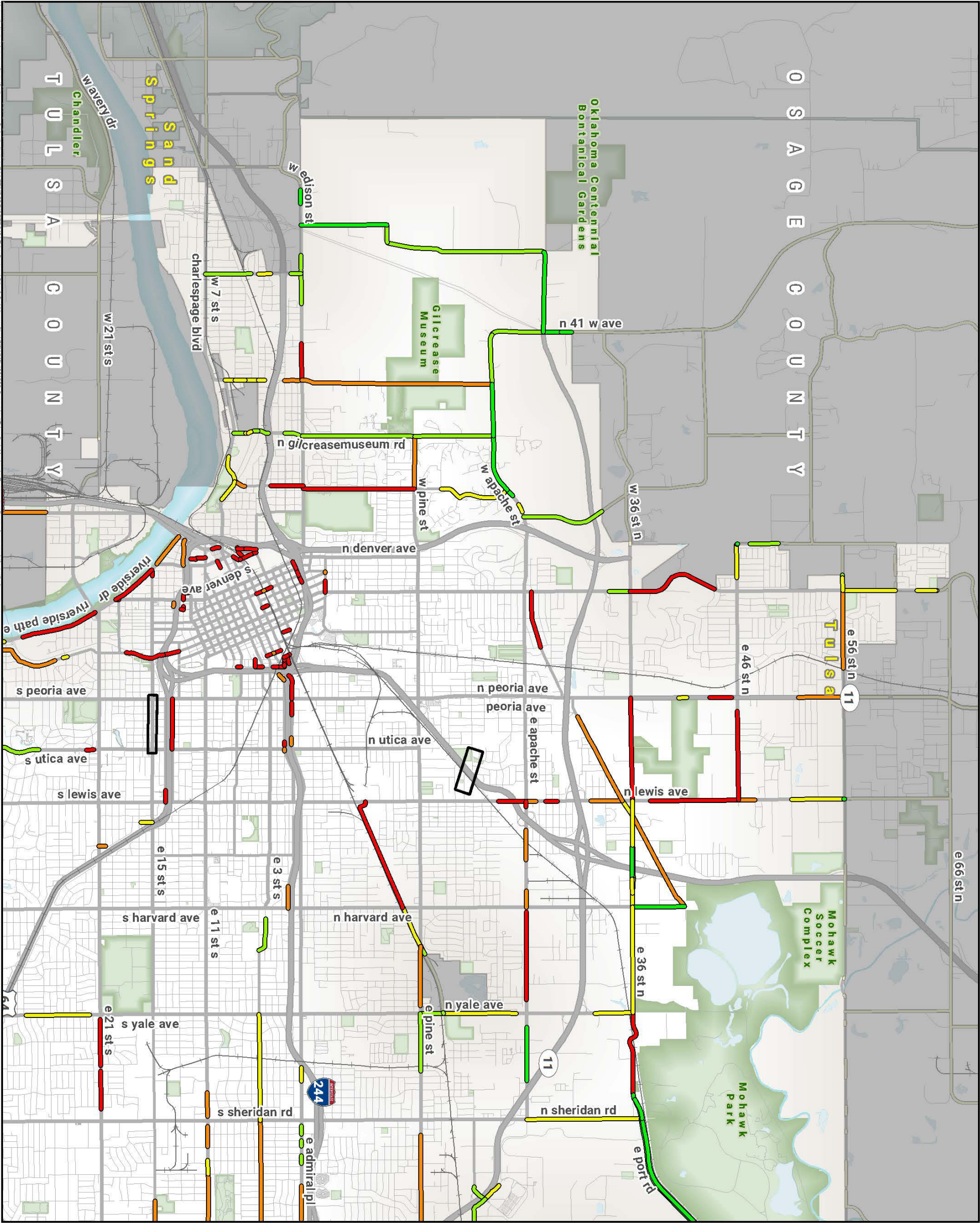
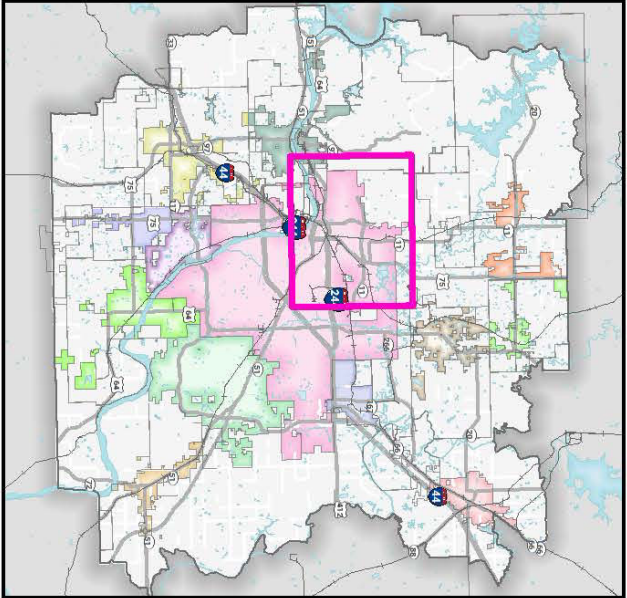
Pedestrian Improvements  
9/9/2015

Tulsa Regional Bicycle & Pedestrian Master Plan

Tulsa 1

Prioritized Sidewalk Gaps by Quintile

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- 3
- 4
- 5
- Outside Jurisdiction
- Focus Area





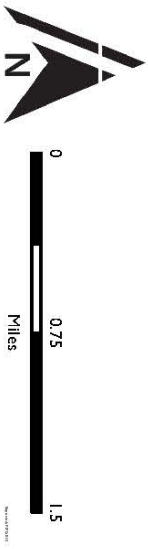
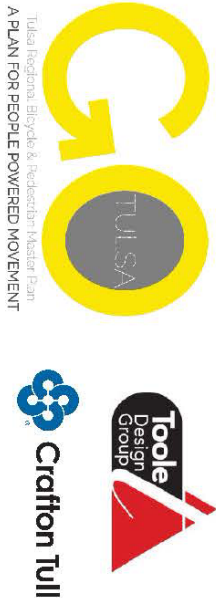
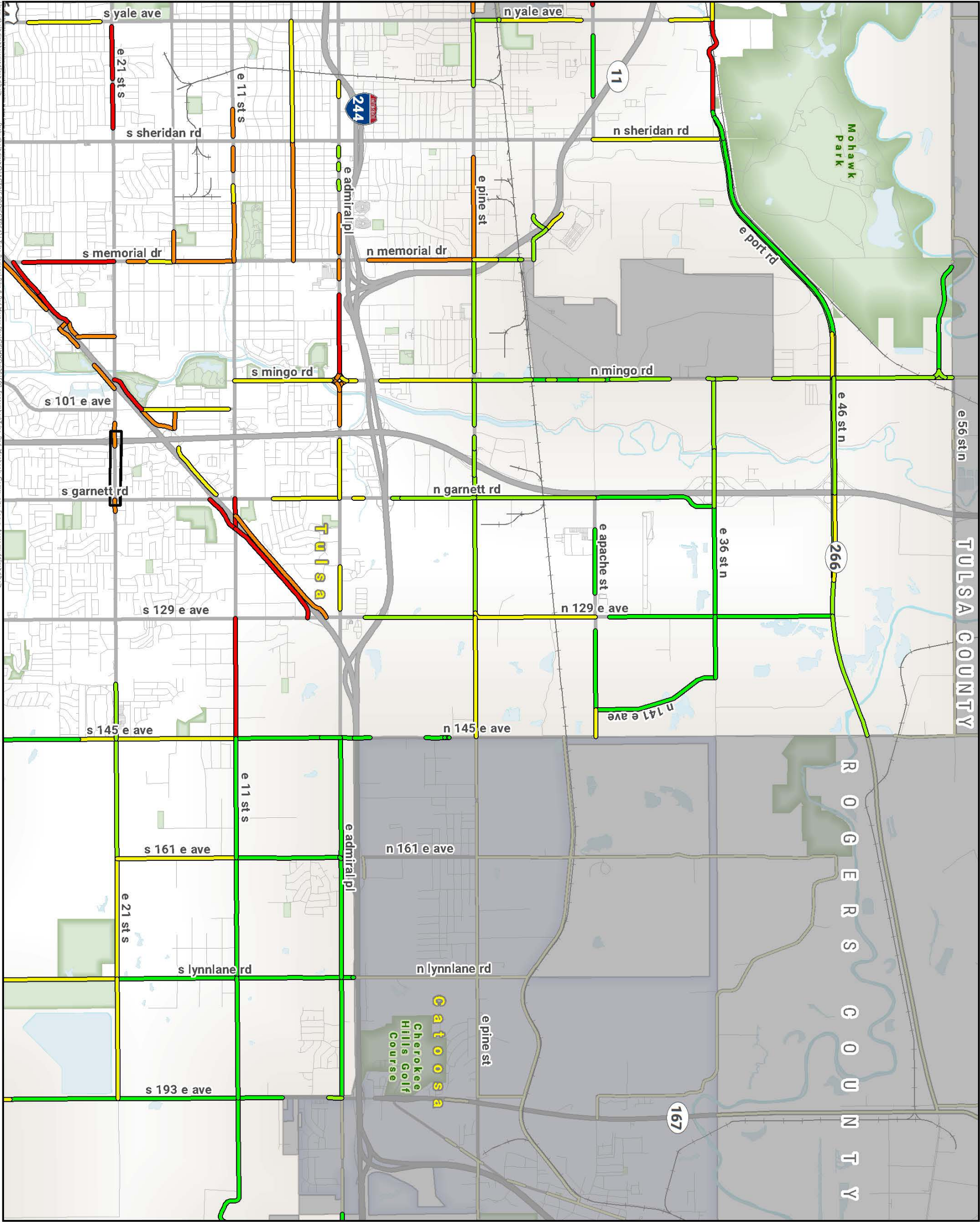
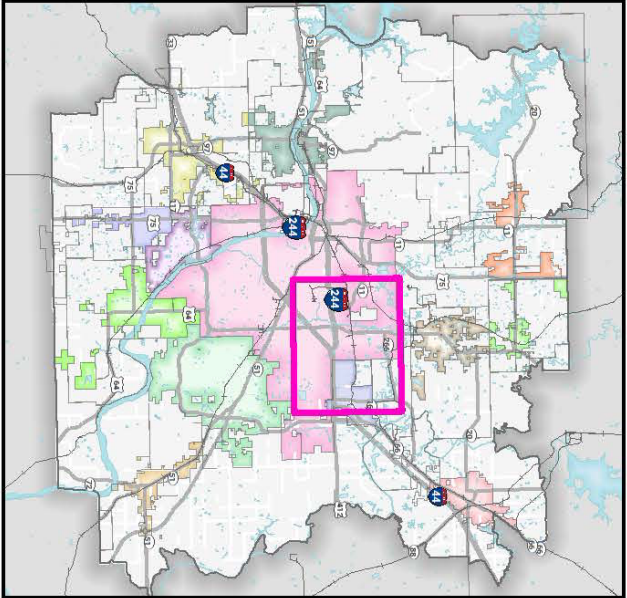
Pedestrian Improvements  
9/9/2015

Tulsa Regional Bicycle & Pedestrian Master Plan

Tulsa 2

Prioritized Sidewalk Gaps by Quintile

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- Outside Jurisdiction
- Focus Area





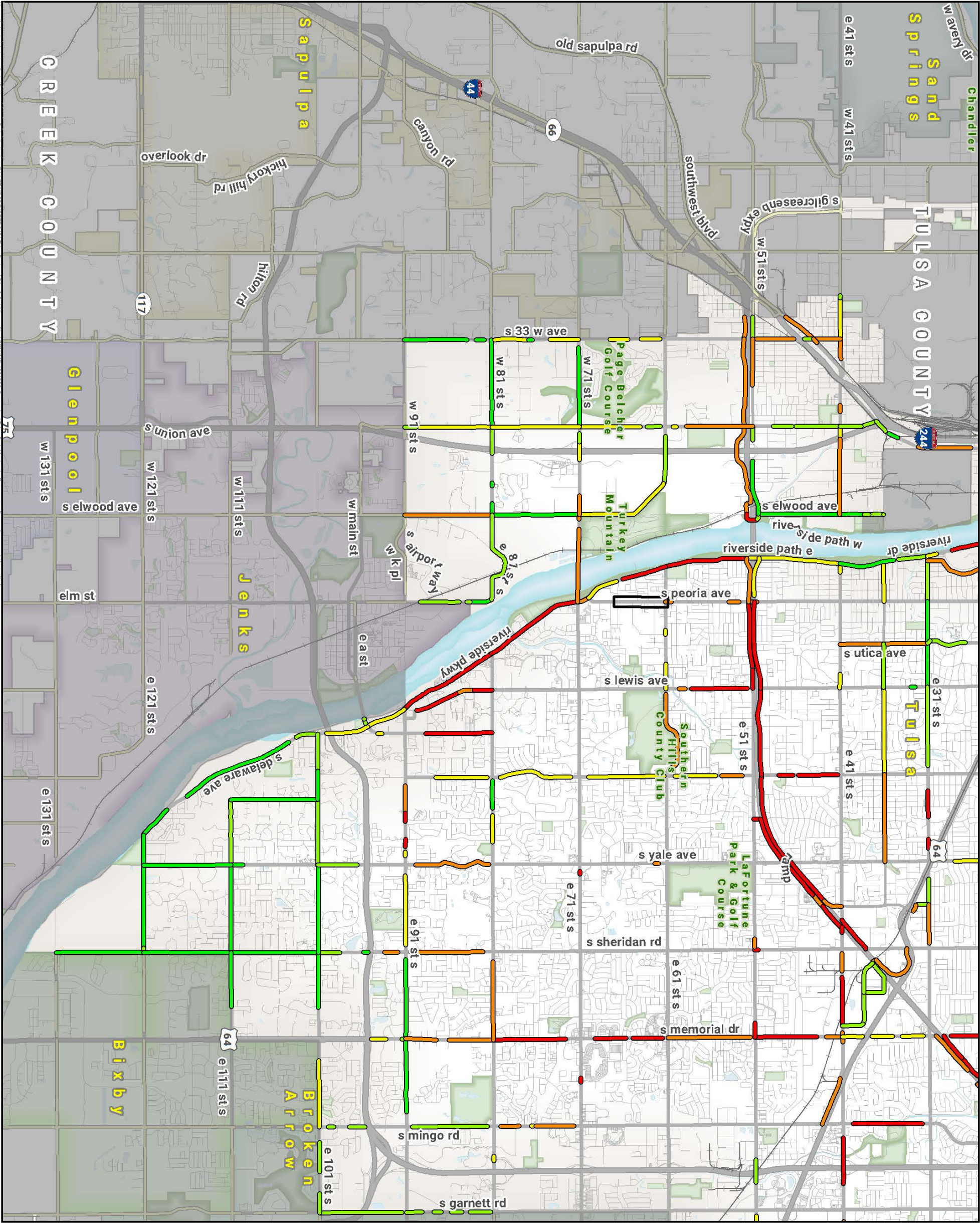
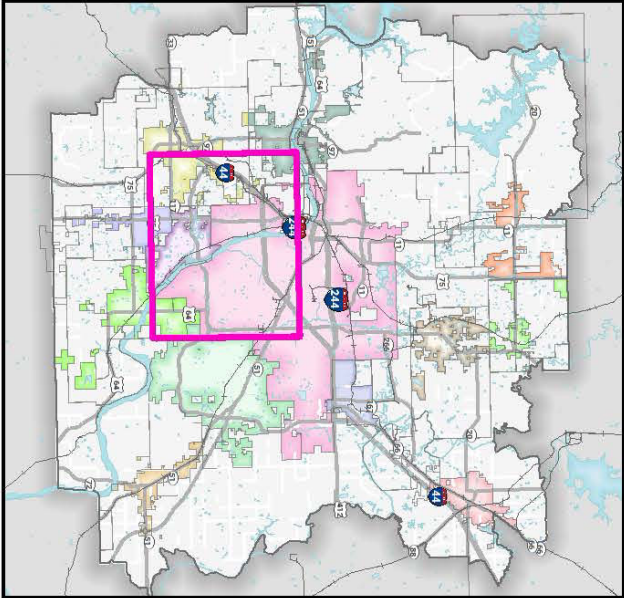
Pedestrian Improvements  
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Tulsa Regional Bicycle & Pedestrian Master Plan

Tulsa 3

Prioritized Sidewalk Gaps by Quintile

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- 5
- Outside Jurisdiction
- Focus Area



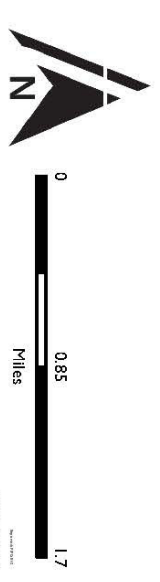
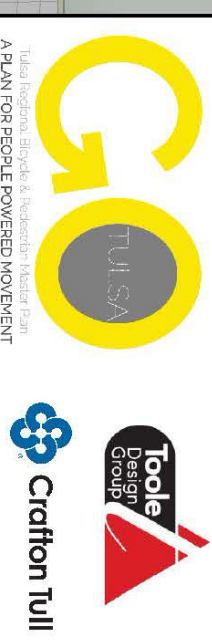
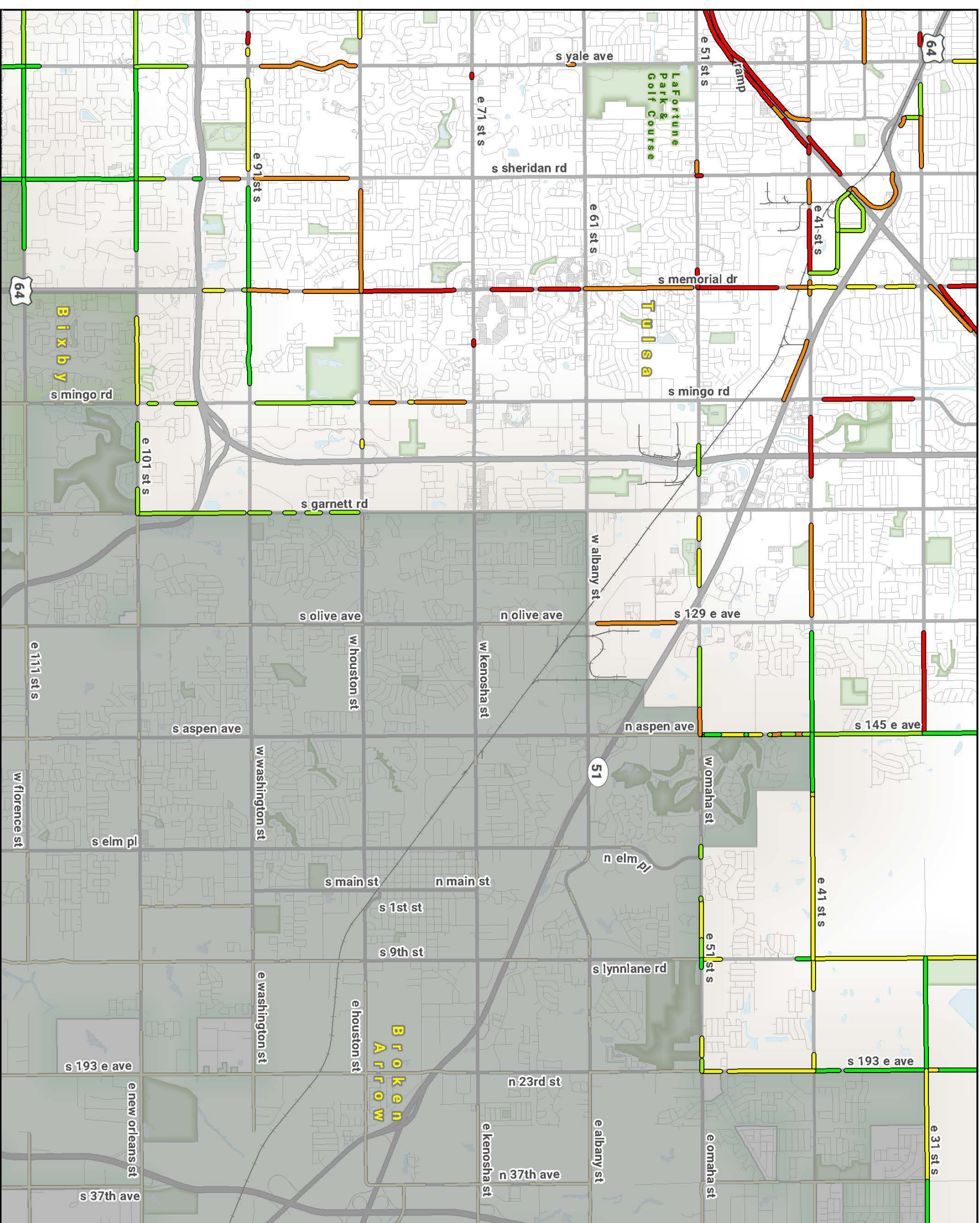
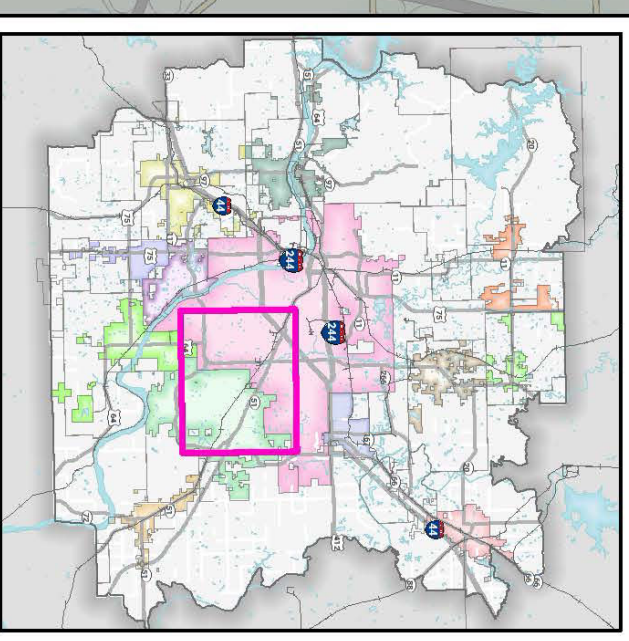
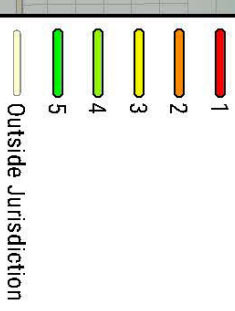


**Pedestrian Improvements**  
9/9/2015

Tulsa Regional Bicycle &amp; Pedestrian Master Plan

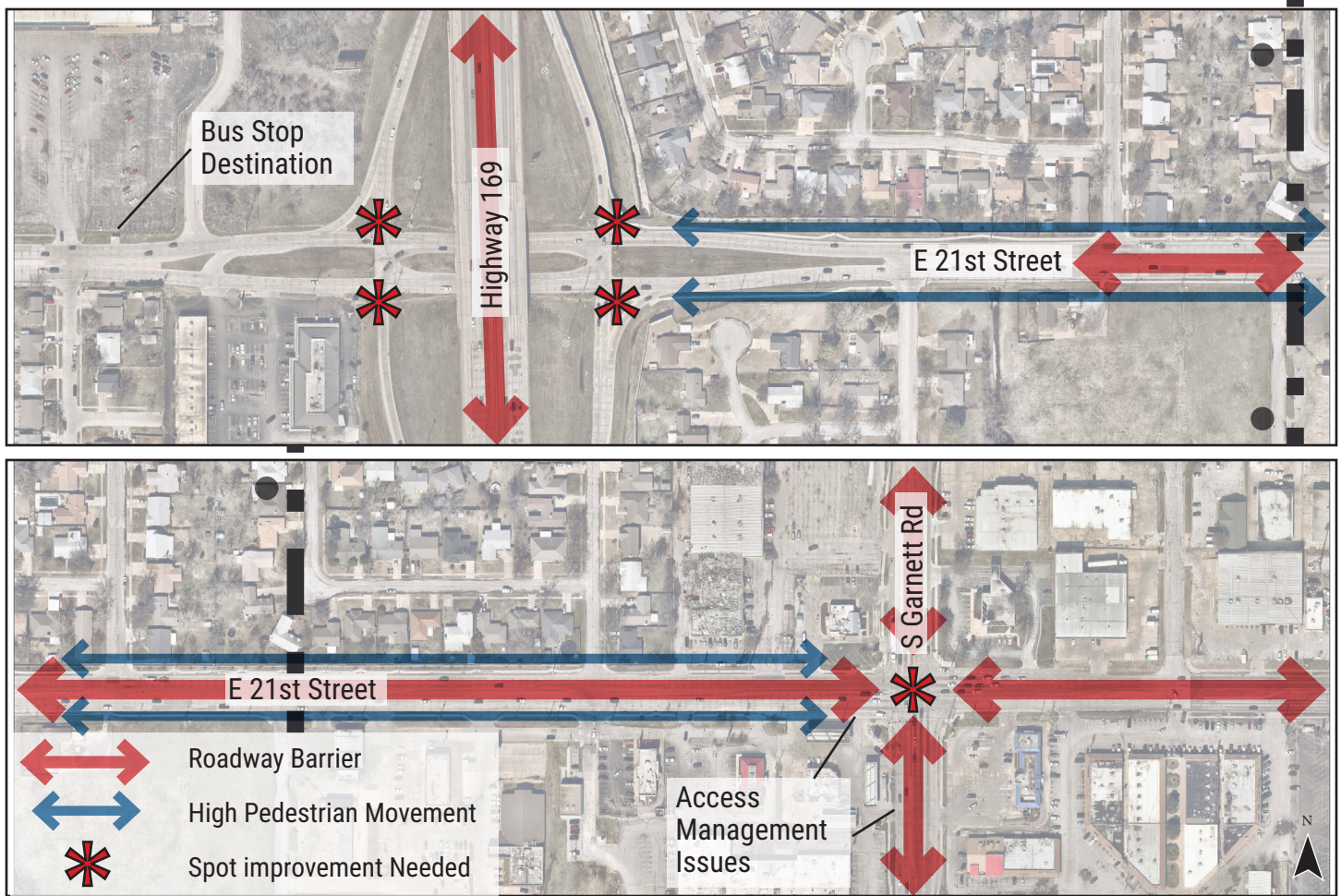
## Tulsa 4

### Prioritized Sidewalk Gaps by Quintile





## EAST 21ST STREET FROM SOUTH GARNETT ROAD TO HIGHWAY 169



### Why is this a focus area?

- East 21st Street is a major arterial with typical suburban strip development
- Major intersection with HWY 169 with on- and off-ramps being crossed by pedestrians and bicyclists where no crossing treatments exist
- No sidewalks along either side of E 21st St
- Multiple driveway cuts and access management issues with the development patterns and large surface parking lots
- Pedestrian and vehicle conflicts in parking lots
- Lack of connected access to the bus stops along the E 21st St corridor and Garnett Road
- One bicycle and two pedestrian crashes occurred along 21st Street between July 2009 and July 2014



No sidewalks along E 21st Street under Hwy 169



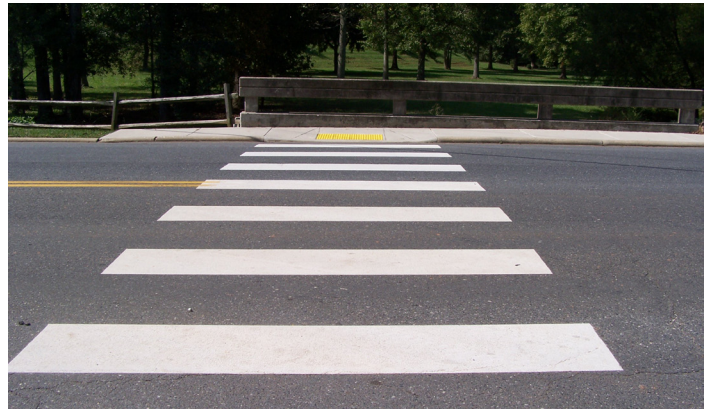
No crosswalk across E 21st Street along Garnett Rd



## EAST 21ST STREET FROM SOUTH GARNETT ROAD TO HIGHWAY 169

### Proposed solutions

- Add sidewalks along each side of E 21st St east of Hwy 169 where none exist
- Plant shade trees within the planting strip between the roadway and the new sidewalk
- Implement access management strategies with the multiple driveway cuts for each property and parking lot and reduce the number of sidewalk crossings
- Add high visibility crosswalk markings at the intersection of Garnett Rd and E 21st St
- Add sidewalk under the Highway 169 overpass, add crosswalk markings at the Highway ramp intersections, and add push button detection at the ramp crossings

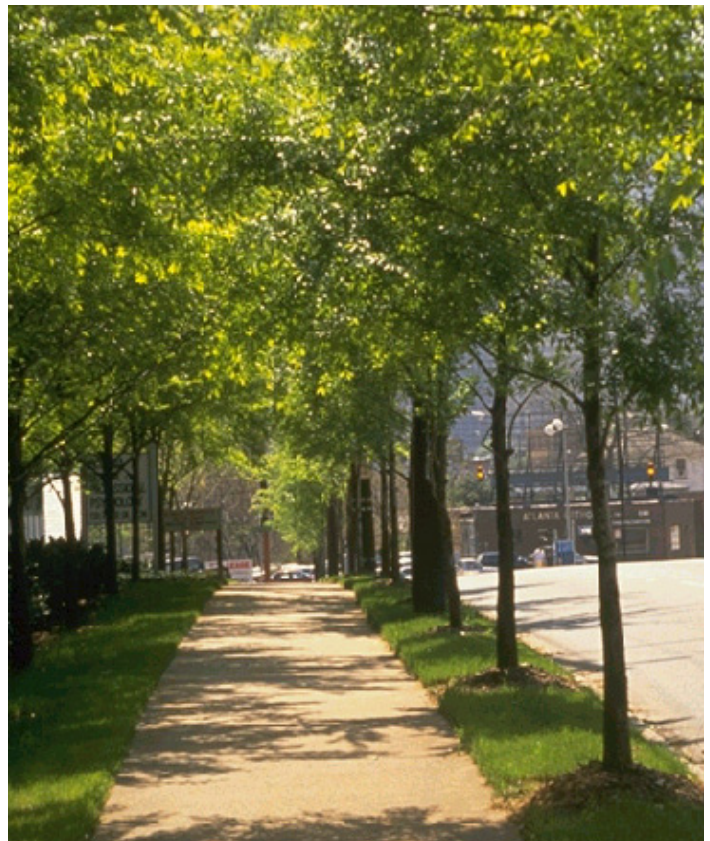


High visibility crosswalk

For design specifics on these recommended facilities, see Appendix A: Design Guidelines.

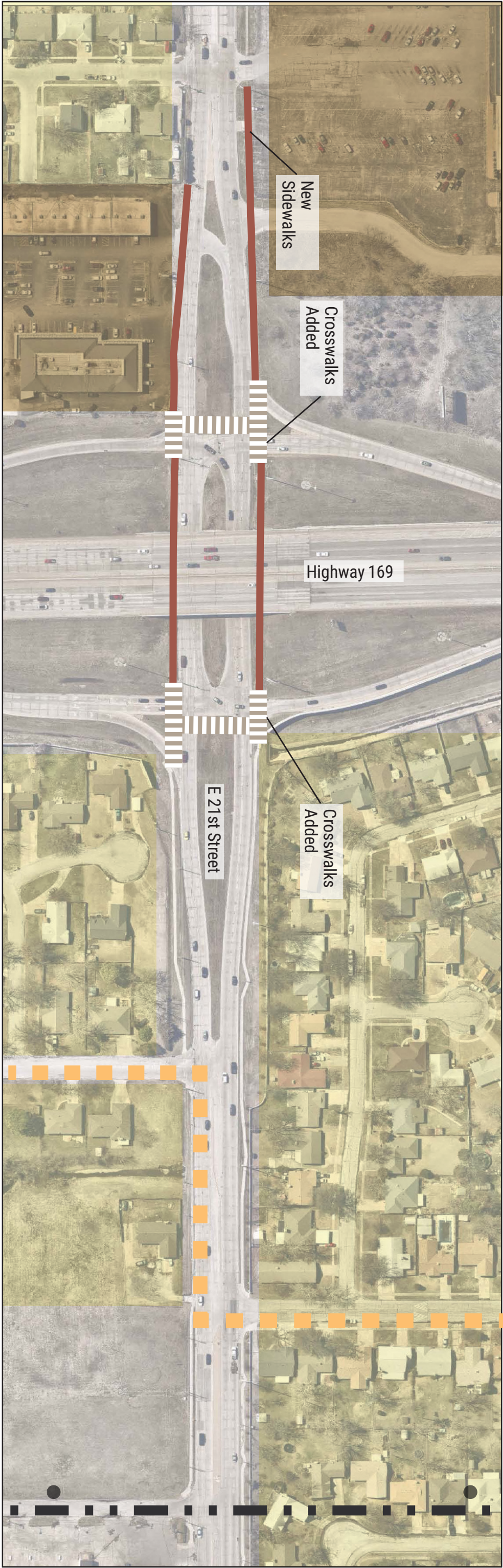


High visibility crosswalk at intersection



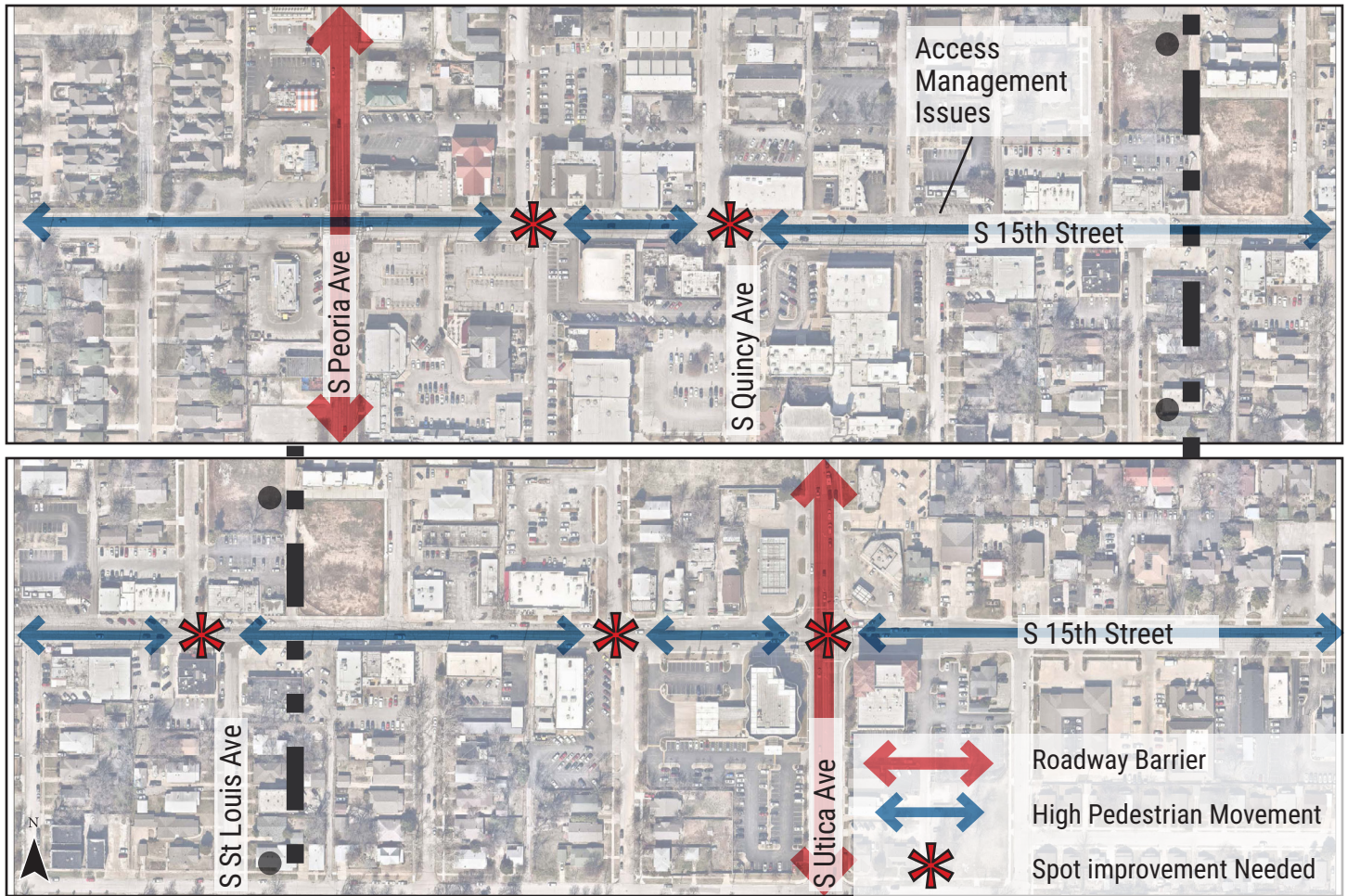
6-foot wide sidewalk and street trees







## SOUTH 15TH STREET BETWEEN PEORIA AVENUE AND UTICA AVENUE



### Why is this a focus area?

- 15th Street is a high-volume pedestrian corridor with small retail and restaurant destinations
- Improved streetscape and crossing treatments could further enhance the attractiveness of this corridor and encourage “park once” behavior
- Lack of continuous sidewalks along Cherry Street and poor crossing treatments at driveway cuts
- Poor ADA compliance for intersection and mid-block crossings of Cherry Street
- Lack of crosswalks at key intersections



Painted curb extensions along 15th Street



Lack of quality crosswalks along 15th Street

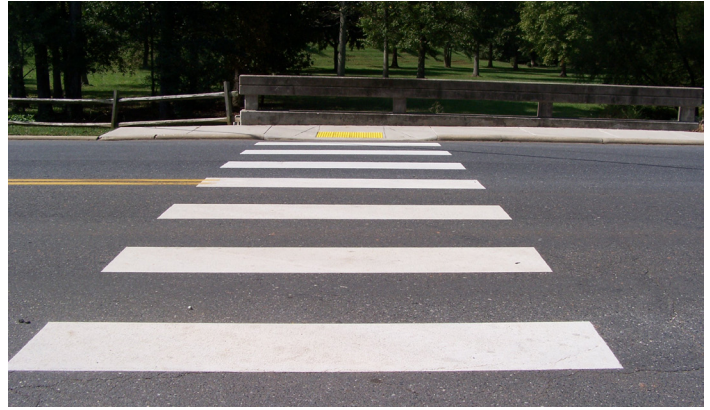


## 15TH STREET BETWEEN PEORIA AVENUE AND UTICA AVENUE

### Proposed solutions

- Install high visibility crosswalks at the intersection of 15th Street and Utica Avenue
- Install raised sidewalks at driveway crossings along 15th Street and implement some access management strategies
- Install RRFB and crossing treatments at the intersection of SH-51 St Louis Avenue, south of 15th Street
- Install RRFB and crossing treatment at the intersection of Quaker Street
- Enhance the lighting at the intersections and along the sidewalks along 15th St

For design specifics on these recommended facilities, see Appendix A: Design Guidelines.



High visibility crosswalk



Raised mid-block crossing

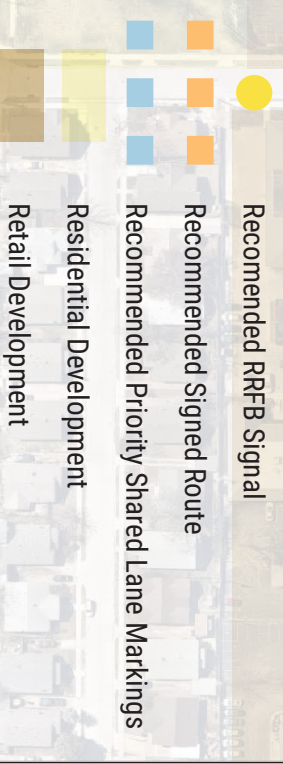
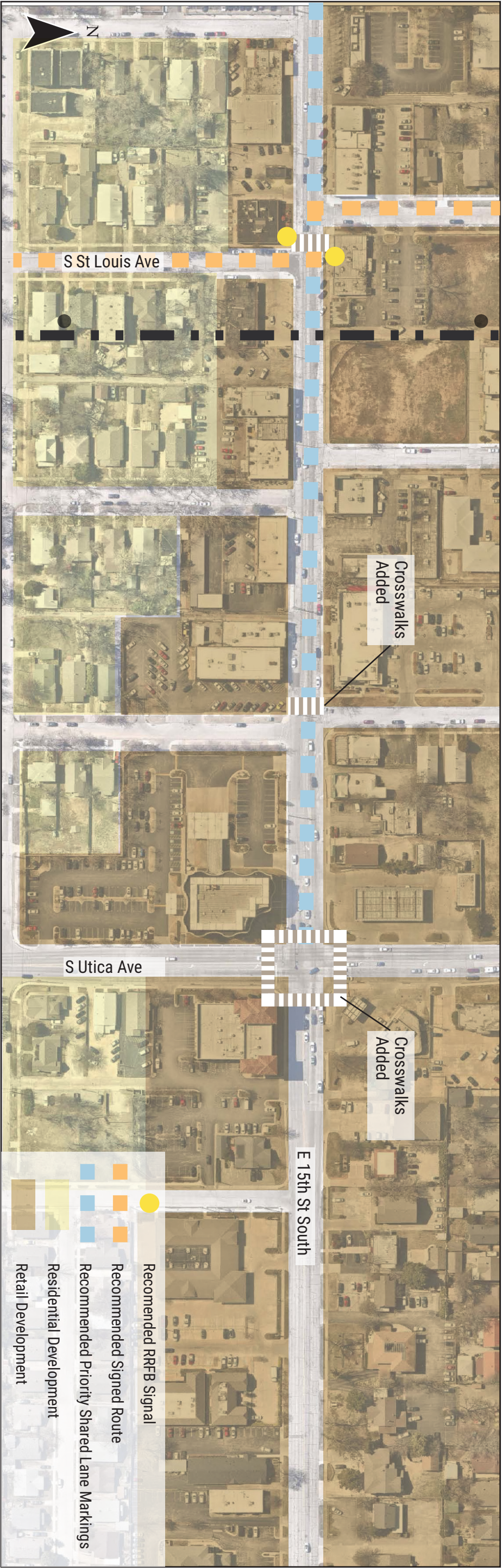
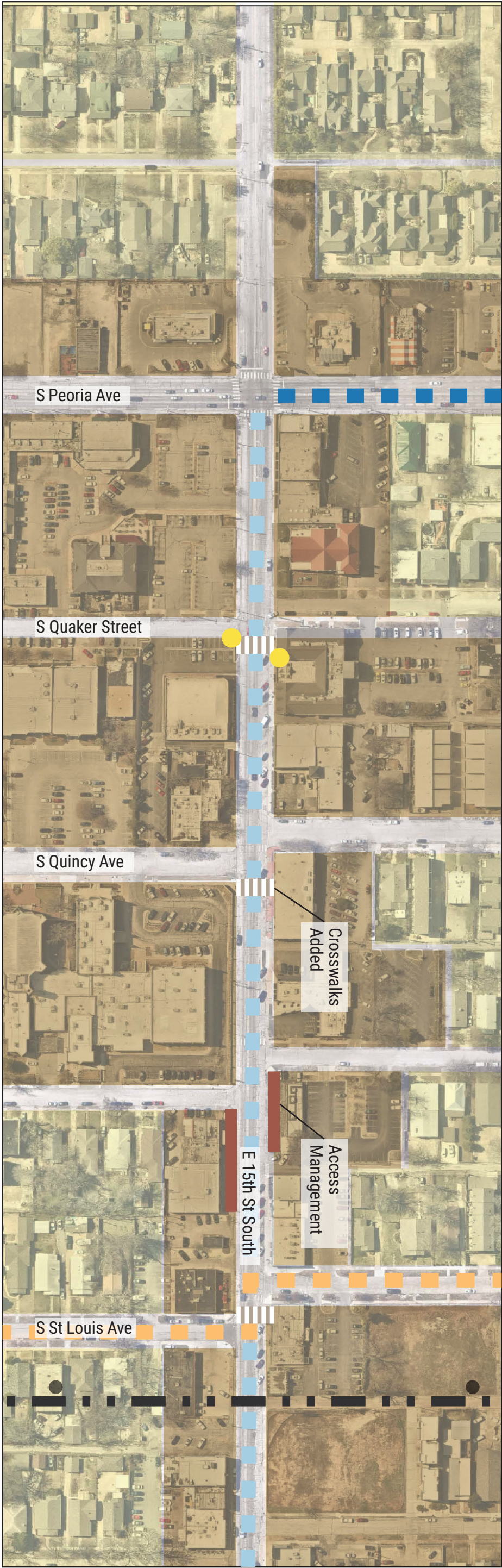


LID bulbout stormwater planter



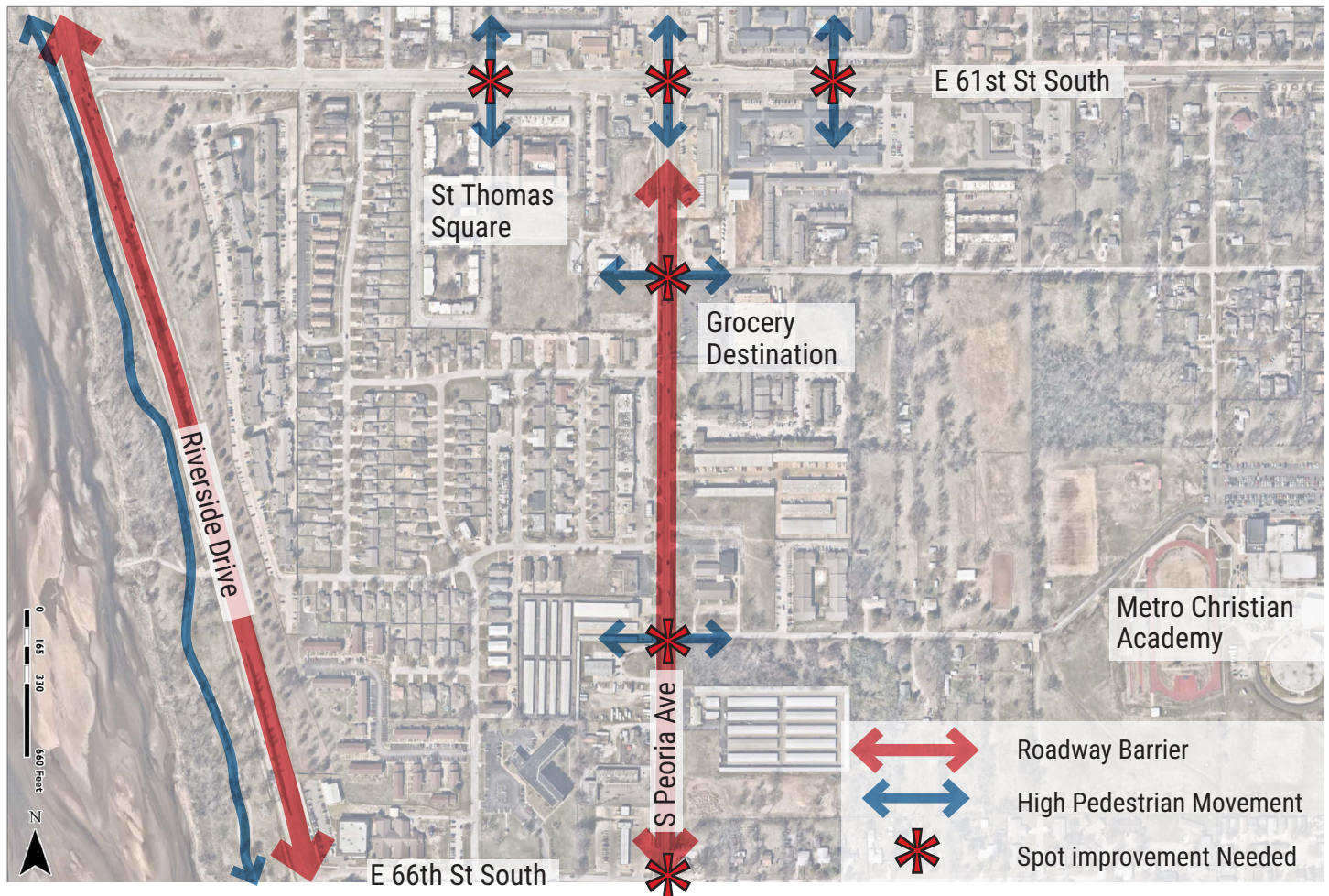
Pedestrian and vehicular scale lighting at intersection







## SOUTH PEORIA AVENUE FROM EAST 61ST STREET TO EAST 66TH STREET



### Why is this a focus area?

- South Peoria is a critical old “farm to market” road that still plays a key role in the City and region’s transportation network
- Peoria and 61st St contains strip development, big box groceries and stores, and provides connectivity to suburban residential areas
- Higher density of residential development along Peoria Avenue
- Pedestrian crossings spaced too far apart along Peoria or 61st St
- Lack of access to bus stops along Peoria and 61st St
- Several residential developments that are multi-family and have little or no pedestrian or bicycle connectivity
- Seven pedestrian crashes occurred in this segment from July 2009 to July 2014, including one fatality



Typical section of S Peoria Ave south of 61st Street



Poor crossing treatments along S Peoria Ave



## SOUTH PEORIA AVENUE FROM EAST 61ST STREET TO EAST 66TH STREET

### Proposed solutions

- Construct bus pull offs and ensure sidewalk connection to transit stops
- Install continuous sidewalks along both sides of Peoria and 61st St
- When installing the new sidewalks, install with planted buffer and street trees between edge of curb and sidewalk
- Add mid-block and intersection crossings with refuge medians and high visibility crosswalk markings
- Install a Rectangular Rapid Flashing Beacon at Peoria and 64th St mid-block crossing for safer pedestrian crossing along route to school. In future roadway widening projects, this location should be evaluated for a HAWK signal when the crossing becomes more than two lanes.
- During design phase for bus rapid transit along Peoria Avenue, incorporate dedicated bicycle facility to provide separation between bicyclists, pedestrians and automobiles

For design specifics on these recommended facilities, see Appendix A: Design Guidelines.



High-visibility crosswalk

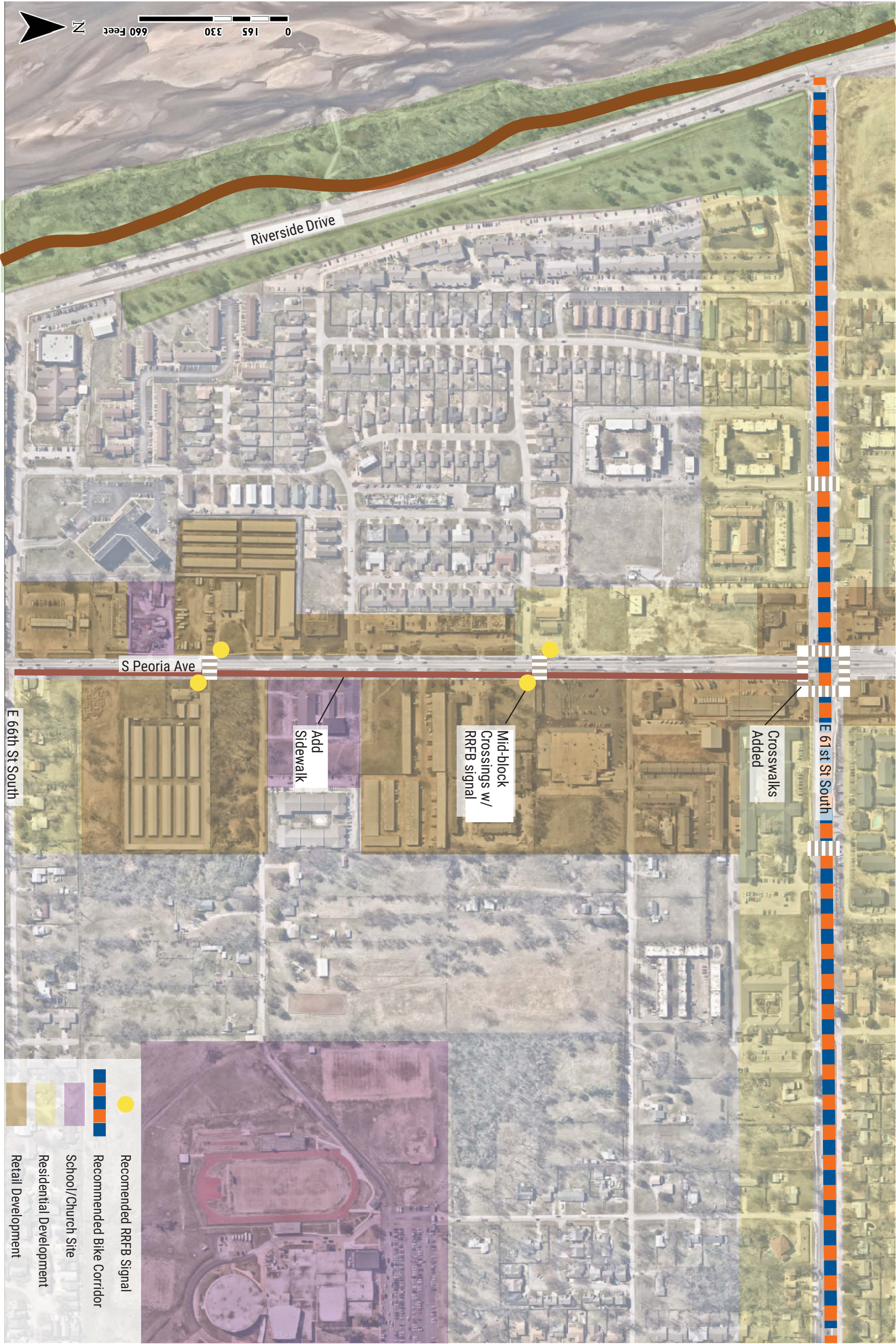


Median refuge island



RRFB signal at ped crossing







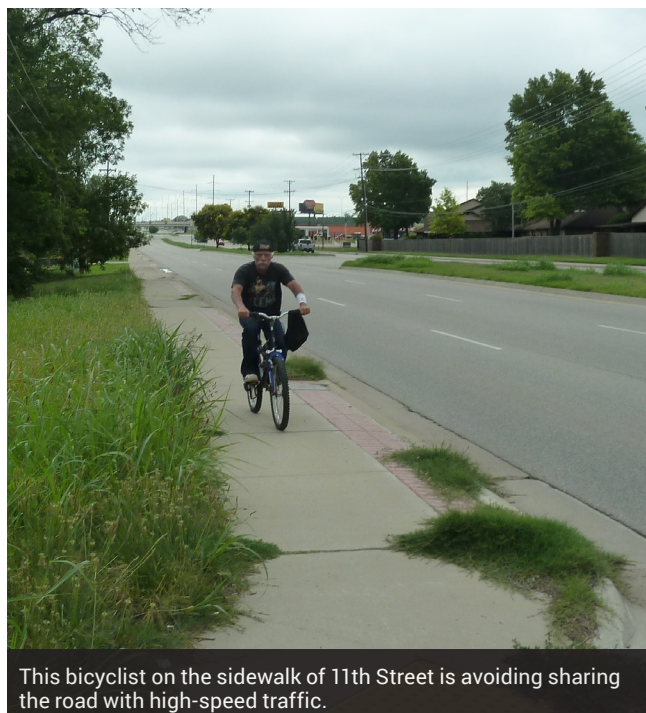
## Bicycle Network Recommendations

The bicycle facility recommendations for Tulsa were developed through the process described in Chapter 4, including a number of conversations and reviews with City staff in the Planning and Engineering departments. These recommendations connect neighborhoods, commercial centers, schools and other major destinations with a range of facility types appropriate to the given street type.

Bicycle facility recommendations on arterial streets focus on providing sidepaths, a facility separated from fast, high-volume traffic, where feasible. Close to 75 percent of bicycle crashes occurred on arterial streets during the July 2009 to July 2014 period. Bicyclists do not avoid riding on arterials since they are often the most direct route, but are likely to ride on the sidewalk. A larger percent of these arterial crashes resulted in incapacitating injuries or fatalities than those on local streets and collectors likely due to the higher speed of automobiles involved in the crashes.

The cycle track recommended for 11th Street from Sheridan Ave to Elgin Ave is one example of a non-sidepath facility that will provide greater separation and protection for bicyclists on a high-volume, high-speed arterial street. 11th Street is part of US Bicycle Route 66, the former Route 66 and a gateway to Tulsa. As such, there is great opportunity for turning this street into a premier bicycle route in the city. The segment of 11th Street from Peoria Avenue to Yale Avenue is an Improve Our Tulsa capital improvement project which offers great opportunity for reconstruction and redevelopment.

The Project Team recognized that a sidepath and cycle track recommendation on all arterial streets in the study network is not feasible. Where



This bicyclist on the sidewalk of 11th Street is avoiding sharing the road with high-speed traffic.

possible, bike lane recommendations were made on arterials that provide critical connections and have traffic volumes that could sustain a reduction in the number of lanes. All road diet recommendations were vetted with City of Tulsa staff to ensure maintenance of an acceptable automobile level of service on these corridors. Bike lanes are recommended through a road diet on 6th Street from 7th Street downtown to Delaware Avenue at the University of Tulsa campus. Traffic counts on 6th Street are in the range of 3,000 to 4,500 vehicles per day, a count that does not indicate the need for a four-lane street. In addition to connecting the two regional destinations at either end of the project, these bike lanes will traverse the Pearl, a redeveloping neighborhood which would benefit from the traffic calming impacts of a road diet.



## Peoria Avenue

One of the most-studied corridors for bicycling in the GO Plan was Peoria Avenue. This street provides access to neighborhoods from North Tulsa to South Tulsa, commercial destinations such as Brookside, a Walmart Neighborhood Market and numerous smaller retail establishments, and parks, places of worship and schools. Peoria's importance for access was recognized in the Fast Forward regional transit system plan which will place a bus rapid transit line on the street where Tulsa Transit's line with the highest ridership is today.

Given its importance for direct access to destinations, the street was studied from Pine Street in the north to Riverside Drive/71st Street in the south. At this time, a road diet is the only way bike lanes could be accommodated within the existing pavement width. A four-lane to three-lane road diet is recommended from Pine Street to 15th Street where traffic volumes do not exceed 15,000 vehicles per day, and a road diet would not result in an automobile level of service worse than D. South of 15th Street, a road diet is not recommended because it would push level of service to an E, and the available curb-to-curb space would not accommodate travel lanes and bike lanes that meet minimum widths set by the City. Additionally, the City has performed Multimodal Level of Service (MMLOS) studies from 6th Street to Riverside Drive, and the resulting recommended cross sections from that MMLOS study were consulted for GO Plan recommendations.

Shared lane markings and priority shared lane markings were discussed for the segment south of 15th Street, but the Project Team, BPAC and City staff agreed that a shared lane facility was not appropriate for this context. The curb-to-curb width from 21st Street to 31st Street is too narrow to accommodate bike lanes through a road diet, and further study of this segment is recommended.

In lieu of accommodating bicyclists on Peoria Avenue, two signed routes are recommended that parallel the street on the east and west. These routes utilize low-volume local streets that already provide a comfortable and safe bicycling environment. Improvements will be needed at a number of unsignalized arterial crossings to make these routes viable, however. For instance, the intersection of St. Louis Avenue and 21st Street has no traffic controls for automobiles on 21st Street. The existing bike crossing warning signs are not sufficient to facilitate a safe and comfortable bicyclist crossing and should be augmented with high-visibility crosswalks, better intersection lighting, and bicyclist/pedestrian-actuated rectangular rapid flashing beacons.

It should be noted that when network prioritization was run with the Peoria Ave bike lanes included, that project ranked within the top ten for the city. There is a clear demand for better bicyclist access to destinations on Peoria, especially in Brookside. Once construction of the Gathering Place is completed and Riverside Drive reopened, bicycle improvements to Peoria Avenue should be revisited. Bicycle facilities should also be included as an important consideration in the redesign of the street for bus rapid transit operations.



## Project Priorities

The prioritization process used to rank projects is outlined in Chapter 4 of the GO Plan. That process was informed by stakeholders, including City staff from numerous departments. A full list of prioritized projects with scores is included in Appendix C. While this prioritized list represents a quantitative assessment of the projects, the City should also consult this Plan whenever street reconstruction or resurfacing projects occur to capitalize on programmed project investments.

The prioritization process is only one tool in determining how the City should go about implementing projects. Other factors such as grant opportunities or new development may

enable a city to construct the network in an order not consistent with the priorities. The list in the appendix should be used as a guide and is not intended as an implementation schedule.

Note that projects identified on the following maps as “Bicycle Corridor” are intended for further study. The preferred facility type along these streets is bike lanes, but in some cases, it may not be desirable to road diet these streets to provide the space needed to separate bicyclists from automobile traffic. To estimate costs conservatively, these projects were assigned the bike lane per mile cost.

TULSA	TOTAL MILEAGE	COST PER MILE	TOTAL COST
Signed Route	148.51	\$ 800 to 18,500	\$2,232,000
Shared Lane Markings	7.54	\$33,400	\$251,000
Priority Shared Lane Markings	0.48	\$77,100	\$37,000
Bicycle Corridor	55.49	\$71,600	\$3,973,000
Bike Lane	58.89	\$71,600	\$4,216,000
Buffered Bike Lane	5.24	\$71,000	\$372,000
Cycle Track	7.91	\$120,700	\$954,000
Sidepath	10.24	\$719,000	\$7,361,000
Trail	60.70	\$888,100	\$53,912,000
<b>Total</b>	<b>354.99</b>		<b>\$73,308,000</b>



Final Network  
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Tulsa Regional Bicycle & Pedestrian Master Plan

Tulsa 1

- Recommendations

Trail

Sidepath

Cycle Track

Bike Lane

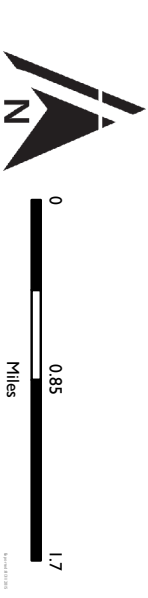
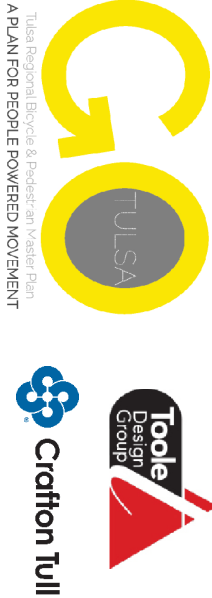
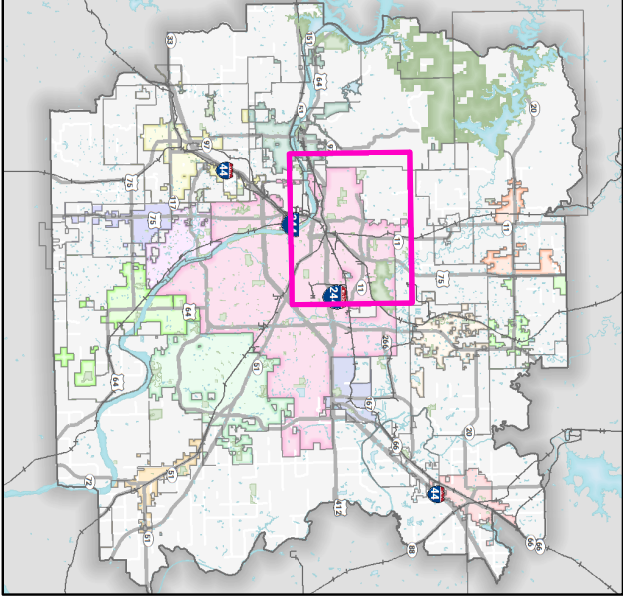
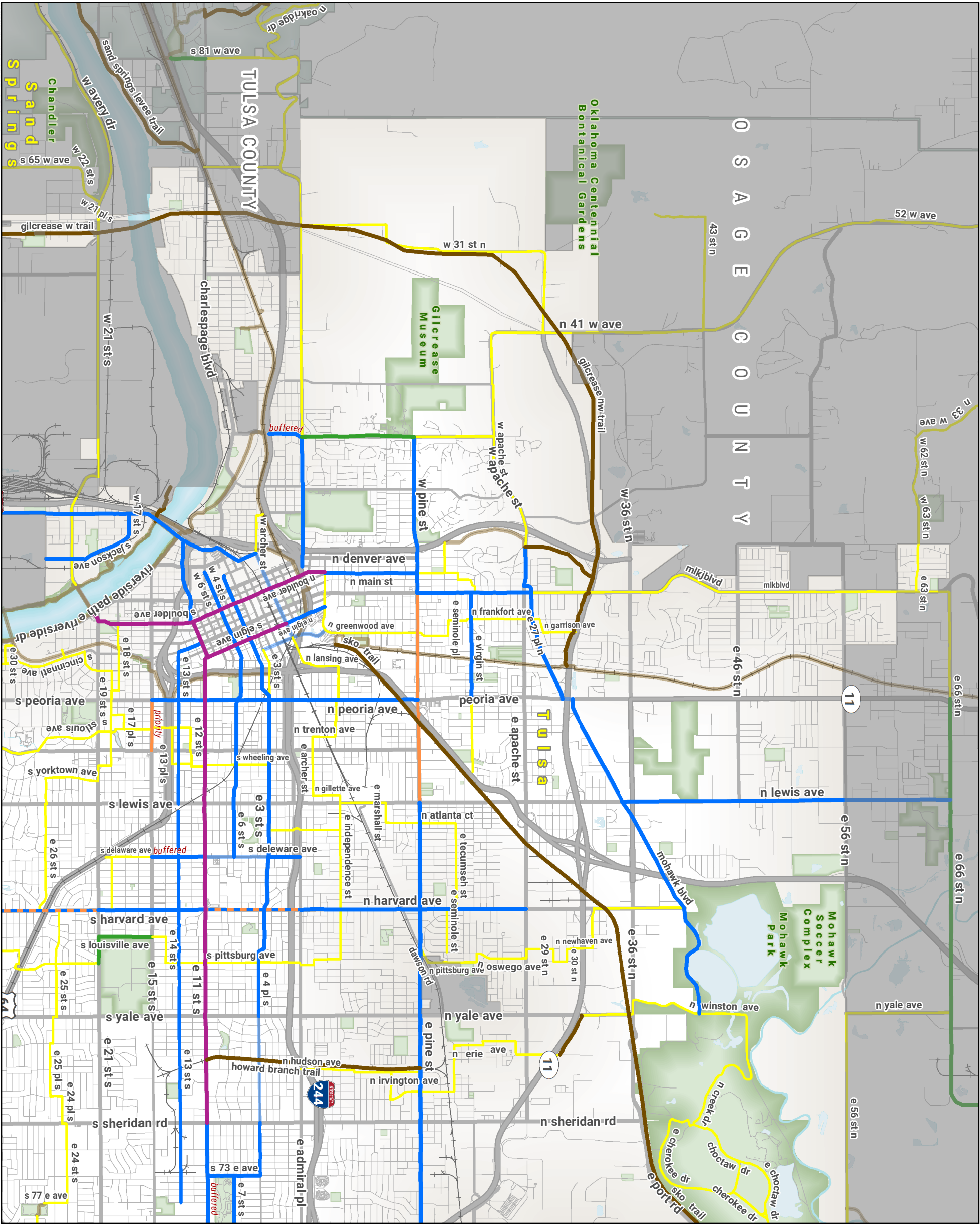
Bike Corridor (bike lanes when possible, otherwise shared lane)

Shared Lane Marking

Signed Route
- Existing Facilities

Trail

Bike Lane



Tulsa Regional Bicycle & Pedestrian Master Plan  
A PLAN FOR PEOPLE POWERED MOVEMENT



Tulsa 2

- Recommendations

Trail

Sidepath

Cycle Track

Bike Lane

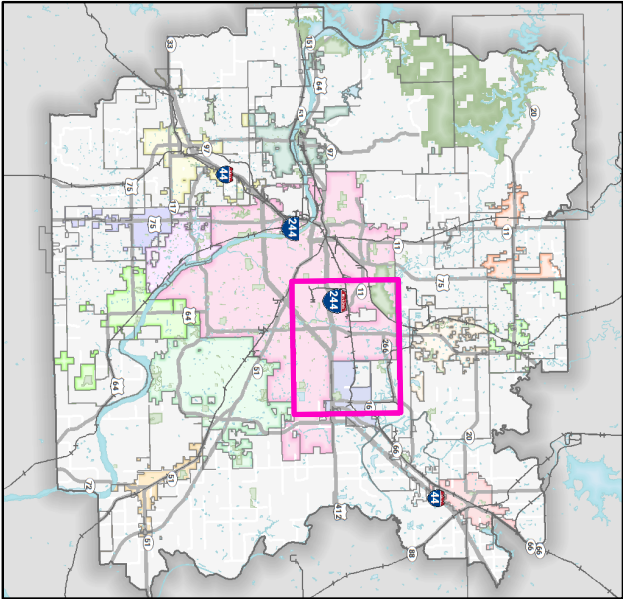
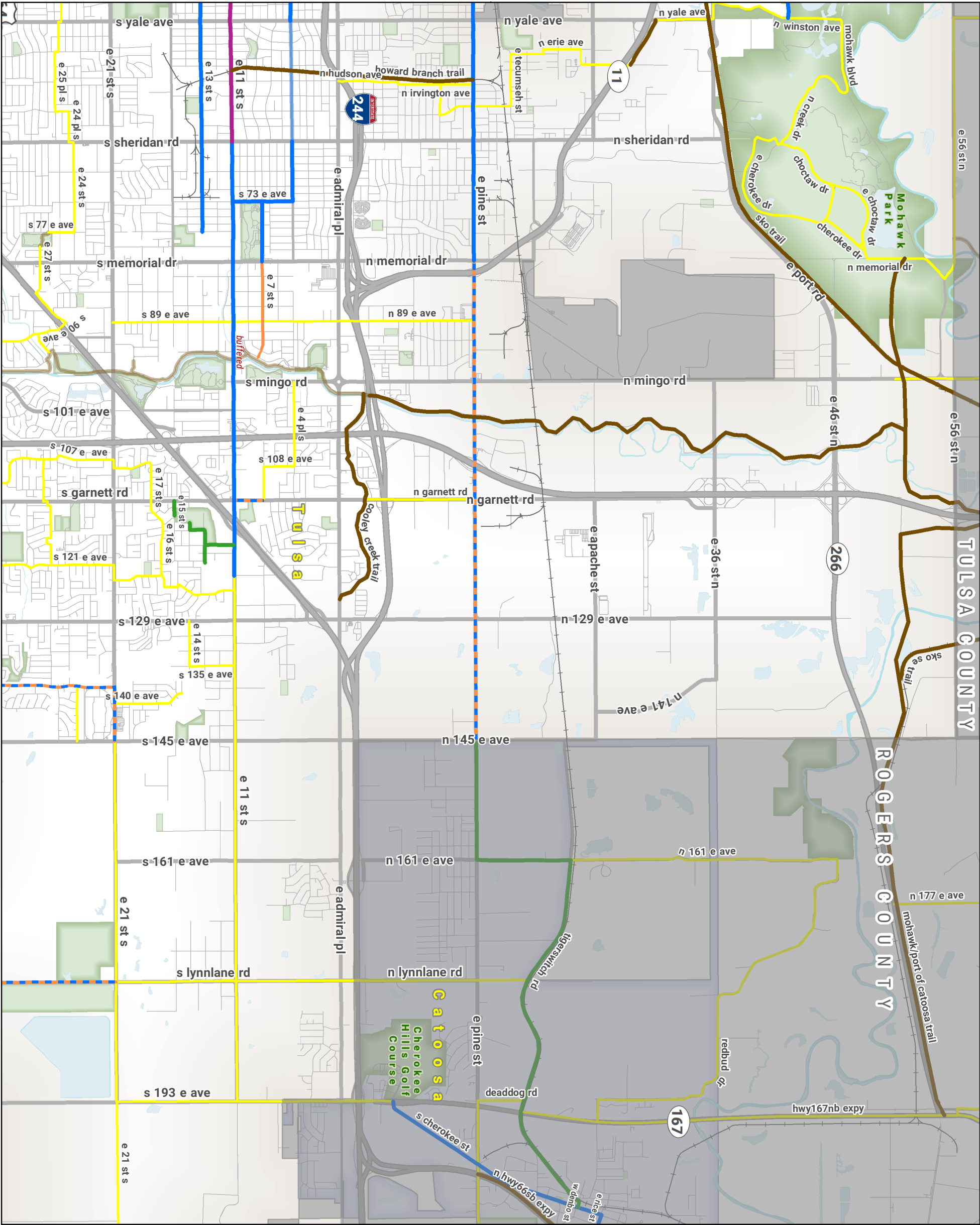
Bike Corridor (bike lanes when possible, otherwise shared lane marking)

Shared Lane Marking

Signed Route
- Existing Facilities

Trail

Bike Lane



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Date: 8/31/2015



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8/31/2015

Tulsa Regional Bicycle & Pedestrian Master Plan

Tulsa 3

- Recommendations

Trail

Sidepath

Bike Lane

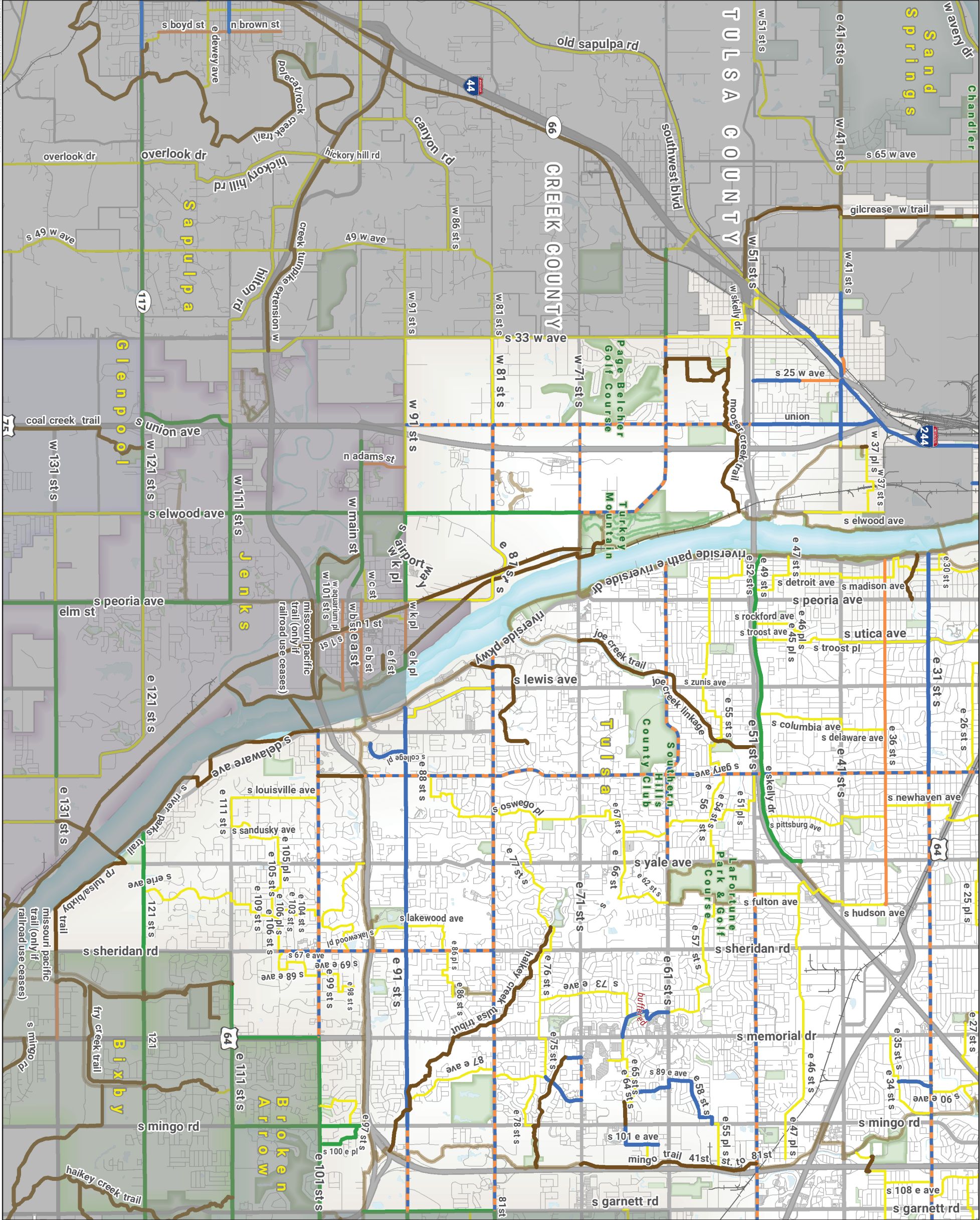
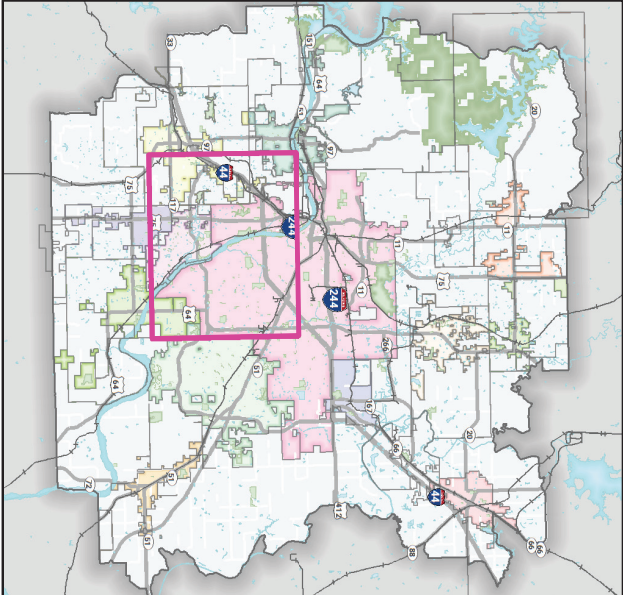
Bike Corridor (bike lanes when possible, otherwise shared lane marking)

Shared Lane Marking

Signed Route
- Existing Facilities

Trail

Unpaved Trail





Final Network  
8/31/2015

Tulsa Regional Bicycle & Pedestrian Master Plan

Tulsa 4

- Recommendations

Trail

Sidepath

Bike Lane

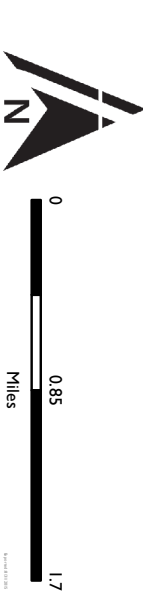
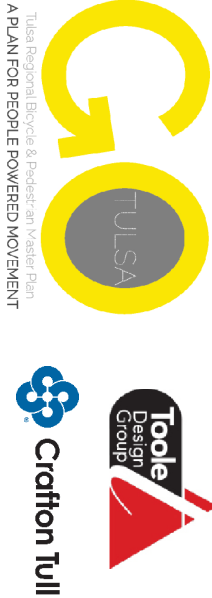
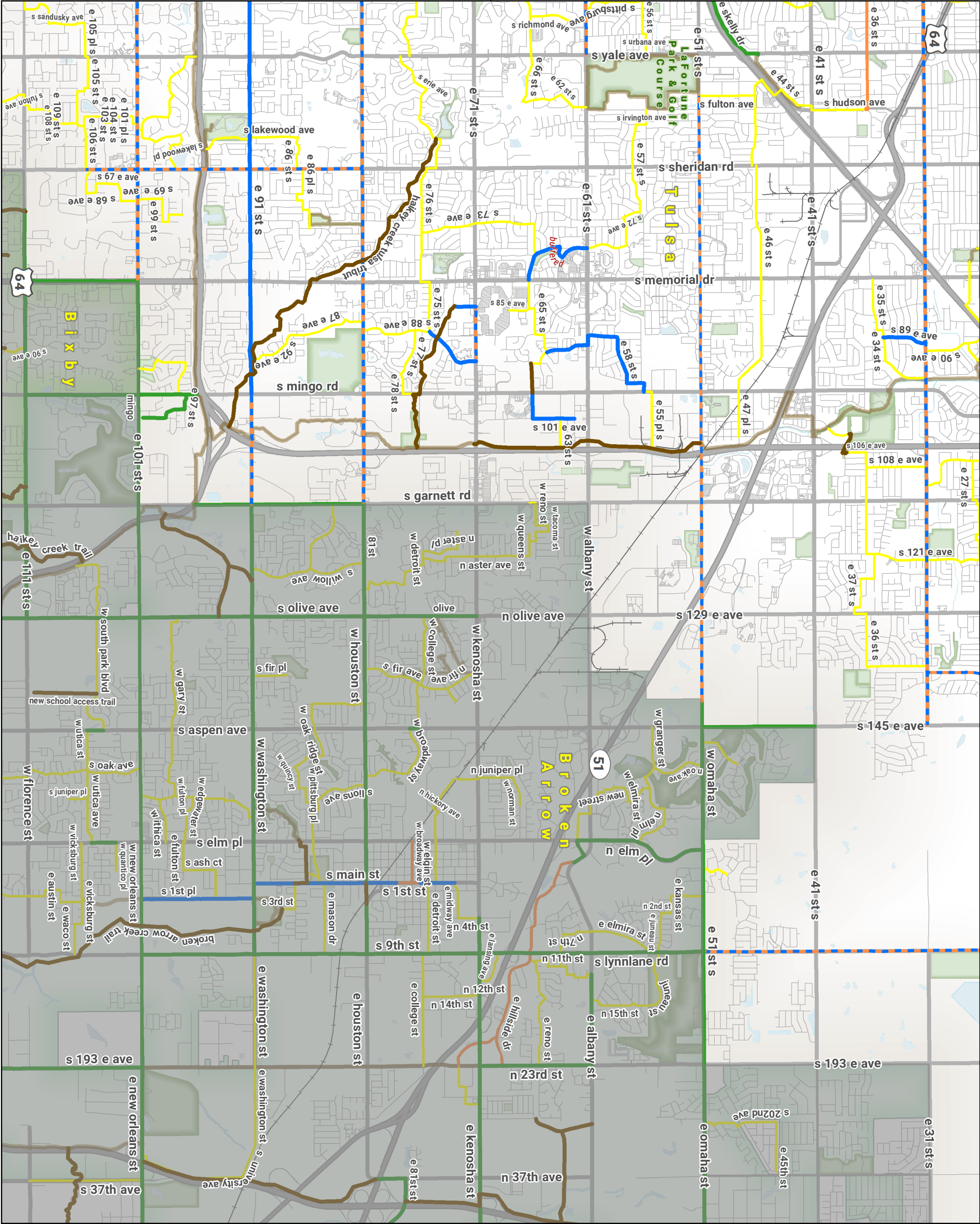
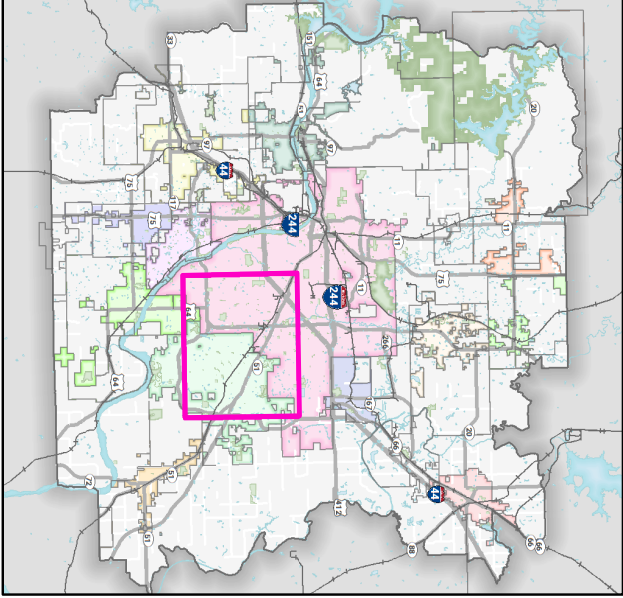
Bike Corridor (bike lanes when possible, otherwise shared lane marking)

Shared Lane Marking

Signed Route
- Existing Facilities

Trail

Unpaved Trail







Tulsa Regional Bicycle & Pedestrian Master Plan  
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