

# Wichita Bicycle Wayfinding System Plan



September 13, 2016

# Acknowledgements

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## Steering Committee

Ikram Ahmed  
Melany Barnes  
Jack Brown  
Barry Carroll  
Russell Fox

Christopher Green  
Eric Mead  
Eric Richardson  
Tyler Stutzman  
Jason Villanueva

## Technical Advisory Committee

Scott Wadle, AICP - City of Wichita - Senior Planner/Project Manager  
Paul Gunzelman - City of Wichita - Engineering  
Larry Hoetmer - City of Wichita - Parks  
Aaron Henning - City of Wichita - Street Maintenance  
Michelle Stroot - Wichita Transit  
Susie Santo - Visit Wichita  
Janet Johnson - City of Wichita - Community Engagement  
Lauragail Loke - City of Wichita - Communications Team  
Mark Elder - City of Wichita - Economic Development  
Troy Houtman - City of Wichita - Parks

---

## Project Team

Scott Wadle, AICP



Melissa Miklus, PLA, ASLA  
Karen Vitkay, PLA  
Paul Wojciechowski, AICP, PE

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# Executive Summary

## Introduction

This guidebook is the culmination of a wayfinding planning process undertaken by the City of Wichita to establish a creative package of signs, identify key destinations, and craft a placement plan for a demonstration project. The Plan is segmented into two parts - the first is a toolkit for future fabrication and installation, the second part is an appendix of technical memos that illustrate the planning process, detail wayfinding best practices, and describe methodologies for route selection.

## The Planning Process

Over the course of the project, several touch-points were available for the Steering Committee and general public to provide input for creative development. The City communicated creative intent with the Federal Highway Administration and Kansas Department of Transportation to ensure the style, color, images, and dimensions of the signs were compliant with national and state guidelines for bicycle wayfinding.

In addition to steering the creative development process, the Committee contributed to the identification of potential destinations to include on signs across the Wichita area. These destinations were segmented into tiers to provide a hierarchy for placement on signs and to establish proper distances from key destinations to place signs in order to build awareness and instill confidence in travelers.

Following the selection of destinations, route prioritization spatial modeling established how to determine which routes should be selected for wayfinding implementation in the near-, mid-, and long-term. While these implementation time frames will change as facilities are implemented, they provide initial guidance for budgeting purposes to create a more legible bicycling environment in Wichita.





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# Chapter One

## Design Intent and Function

### Overview

This chapter illustrates the finalized sign family for the City of Wichita with design guidance and details.

### Introduction

A wayfinding sign system is composed of a distinct family of elements. With any wayfinding system, the various elements should speak the same design language so that each are readily recognized as part of a cohesive system. The sign family for Wichita will include on-street bicycle signs and off-street bicycle and pedestrian signs that will communicate how to navigate the City and expose residents and visitors to a variety of destinations.

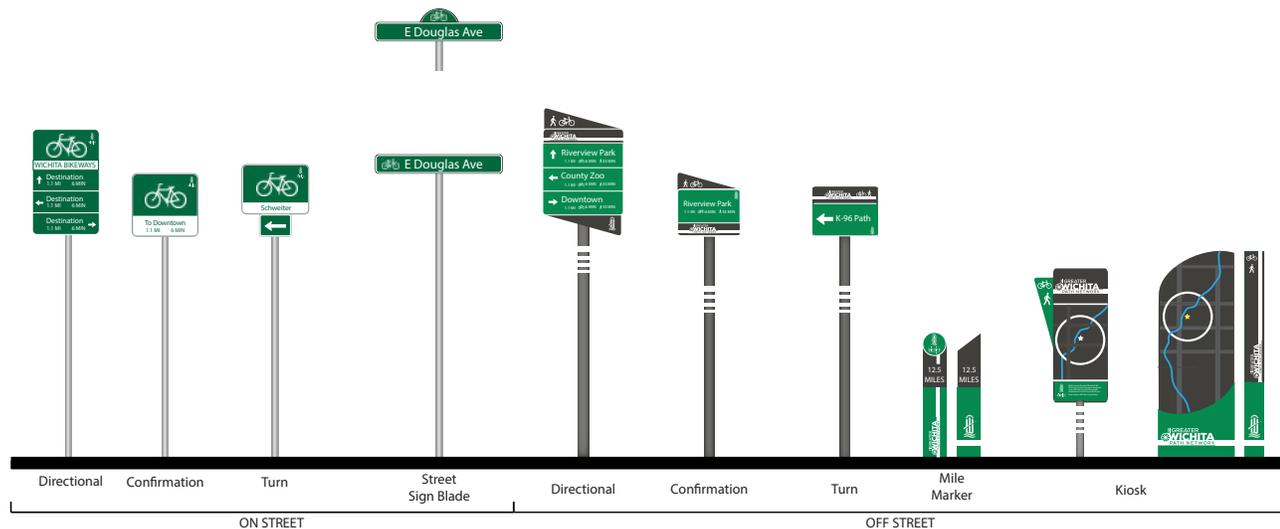
The wayfinding concepts illustrated in this chapter were vetted by City Staff, a Steering Committee, FHWA, and KDOT. The final concept was the result of several opportunities for public input, as well as in-depth meetings with and review by KDOT and FHWA. The on-street facilities follow MUTCD standards to integrate with the street environment, to be legible for bicyclists, and to prevent confusion for motorists. The off-street package is legible and branded to integrate into the existing wayfinding system.



## Wichita Wayfinding Family

Wichita’s wayfinding sign package will cultivate community pride amongst its residents and promote a positive first impression to visitors. Through a public engagement process and a series of stakeholder work sessions a final design was developed that is a reflection of Wichita’s community values. The package acknowledges the existing Greater Wichita Path signage while being more cost effective to implement due to size and materials. The on-street package follows MUTCD guidance with slight touches of City branding while the off-road options bridge the creative gap between the existing Path signs and the new on-street selection. Clarity, visibility, and cost were considered when developing and finalizing the sign family. This suite of options are flexible enough to carry Wichita into the future of an expanded network of bicycle facilities and pedestrian accommodations and creative enough to nod at the brand of the City and historic qualities of the community.

The family is both durable and flexible, it uses materials that resist the natural elements, and deter vandalism. In addition, this design considers modular components that may be simply fabricated and maintained by City facilities staff.



## Function and Placement of Wayfinding Elements

Based on field reconnaissance, best practices review, public input, and discussions with committee members regarding wayfinding needs in Wichita, a variety of sign typologies are recommended for the bicycle network wayfinding family. All wayfinding elements are oriented and scaled toward the bicycle user unless noted otherwise.

### FAMILY OF ELEMENTS

#### Decision Sign



**Function and Content:** Decision signs clarify route options when more than one potential route is available. The sign content should include the following features.

- Wayfinding system branding
- Destinations (up to three)
- Distance in miles
- Time based on 10 mph or 6 minute per mile travel speed (Optional)
- Specific bikeway or roadway name (Optional)

**Placement:** Placed prior to decision-making points or intersections with routes having bicycle facilities. Sufficient distance prior to the intersection should be provided to allow for safe recognition and response to information provided. Care should be taken so that the turn or options the sign refers to are obvious. Decision signs should not be placed near side or access paths that could be confused with the primary route. Signs should be placed at approximately the following distances before an intersection depending on the number of lanes a bicyclist must travel across in order to initiate a legal left turn:

- 30 feet before a zero lane merge
- 100 feet before a one lane merge
- 200 feet before a two lane merge



## Confirmation Sign



**Function and Content:** Placed after a turn movement or intersection to reassure cyclists that they are on the correct route. The sign content should include the following features.

- System brand mark
- Bikeway or destination name

While confirmation may be given with a sign element, this reassurance may also occur via pavement markings. For bicycle boulevards, shared lane markings provide confirmation (note confirmation signs may be necessary where two or more bicycle boulevards intersect). For bike lane and side paths, reassurance occurs via standard bike symbol markings.

**Placement:** Typically placed one sign per  $\frac{1}{4}$  directional mile (mid-block) and at the far side of key intersections. Signs should be placed 50 to 100 feet after turns. Confirmation signs need not occur after every intersection. They should be prioritized at locations where a designated route is not linear, as well as after major or complex intersections. Complex intersections include those having more than four approaches, non-right angle turns, roundabouts, or indirect routing.

## Turn Sign



**Function and Content:** Used to clarify a specific route at changes in direction when only one route option is available. Content includes the following elements.

- System brand mark
- Bikeway name
- Directional arrow

**Placement:** Placed at turns prior to the turning action to provide cyclists advance notice of a change in direction. May be used in conjunction with a decision sign at complex intersections warranting additional information. Signs should be placed at the following distances before an intersection depending on the number of lanes a bicyclist must travel across in order to initiate a legal left turn:

- 25 feet before a zero lane merge
- 100 feet before a one lane merge
- 200 feet before a two lane merge



### Street Name Sign



**Function and Content:** Adding the system brand mark to street name signs expands the visibility of the City’s bicycle boulevards at an affordable rate. If a pictograph is used, it should be consistently used throughout the bicycle network.

**Placement:** Street name sign blades should be placed along bicycle boulevards. Custom signs do not need to be used for every instance of a street name blade. Their use at every other block on alternating corners is sufficient to raise visibility of the bikeway for both vehicle drivers and cyclists. Custom blades should be used to indicate the street which is a bicycle boulevard only. Cross streets which are not bicycle boulevards should use the standard sign.

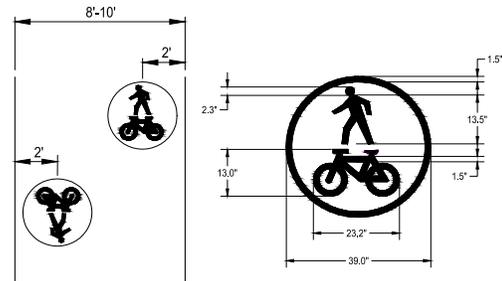
### Pavement Marking



SHARED LANE MARKINGS FOR ON-STREET BICYCLE FACILITIES.



POTENTIAL MEDALLIONS FOR PATH FACILITIES.



TYPICAL PATH SECTION 8'-10' WIDE

MARKINGS USED ON WOODCHUCK BICYCLE BOULEVARD IN WICHITA.

**Function and Content:** Pavement markings among other functions, confirm for cyclists that they are on a bicycle facility. Pavement marking options for on-street facilities include the Shared Lane Marking. A wayfinding medallion including bicycle symbol in a circle with a directional arrow is currently used in Wichita on the paths to reinforce direction. This symbol may be used with travel distance to provide location reference information.

**Placement:** The Shared Lane Marking should be placed immediately after an intersection and spaced at intervals not greater than 250 feet thereafter.

Custom wayfinding pavement markings or medallions on shared use paths should be used to clarify a primary travel route. They may also be used at regular intervals to denote reference distances.

### Mile Marker

**Function and Content:** Aid pathway users with measuring distance traveled. Also provide pathway managers and emergency response personnel points of reference to identify field issues such as maintenance needs or locations of emergency events. System brand mark, distance in whole number miles or decimal miles. Path name and jurisdiction may be included. Marking distance in miles may be achieved via physical sign elements or pavement markings.

**Placement:** To be placed every ¼ to ½ mile along the pathway network. Point zero should begin at the southern and western-most terminus points of a pathway. Mile numbering should be reset at zero as a pathway crosses a jurisdictional boundary.

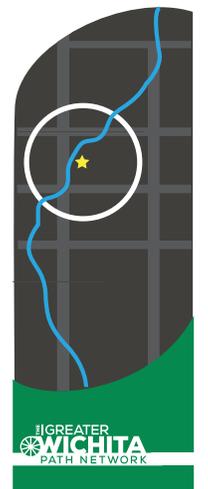
Although it is ideal to place mile markers on the right hand side of the path facing bicycle traffic, they may also be installed on one side of a pathway, on a single post back-to-back.



### Information Kiosk

**Function and Content:** A clearing house of information for path users at a more detailed level than other elements. Includes space for orientation maps indicating: bicycle routes, on-street connections, major geographic features, and area destinations. Space shall be available for network rules and responsibilities, as well as emergency and pathway manager contact information and jurisdiction logo. Content is not intended to be read by cyclists in motion, thus MUTCD standards are not required.

**Placement:** Located at trailheads and major path system access points. Should be set back from the edge of the path travel way in order to provide areas to dwell and consider the information. Not locating the signs within the first three feet of a pathway edge removes a potential physical obstacle from the bicycle travel way, while providing a clear circulation area per accessibility guidelines.

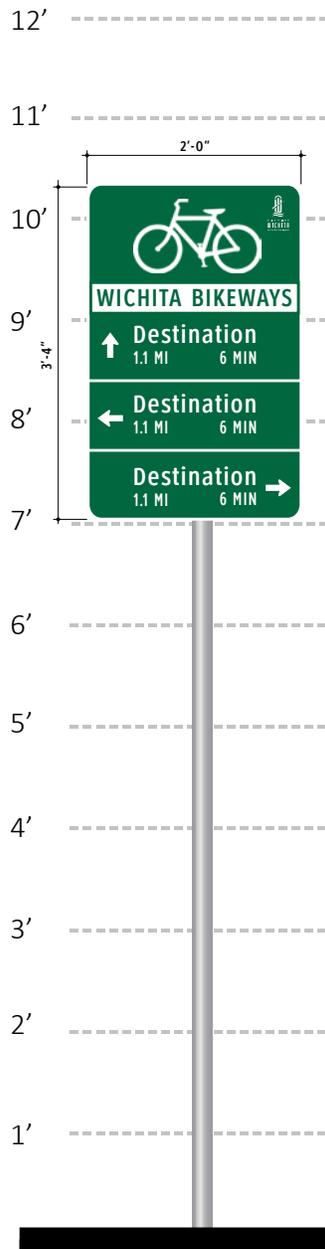




## Dimensions & Details

### DIRECTIONAL On Street

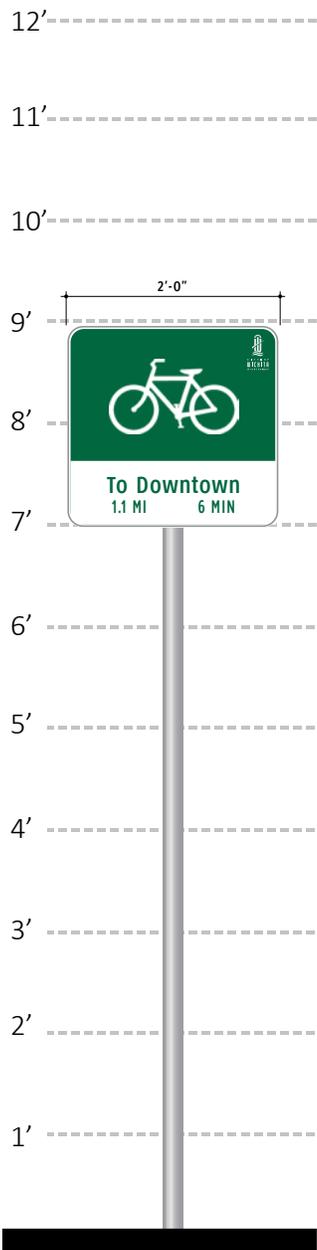
To be placed on-street for bicycle use. Directional signs have three destinations maximum with both time and distance listed. The signs will also feature the Wichita city logo.



- Pole to be square steel, 2" x 2", or as indicated by fabricator.
- Sign is 2' wide and up to 3' 4" tall, with bottom of sign 7' from the ground.
- All lettering and symbols to be retroreflective.
- A casual pace travel time of six minutes per mile (10 mph) should be used for time estimates.
- Signs to have three destinations maximum with both time and distance listed.
- Destination text to be 2" minimum height, time and distance letter height to be 1.25" minimum height.
- Text style = Clearview Highway

## CONFIRMATION On Street

To be placed on street for bicycle use. Signs to have one destination with bicycle time in minutes and distance in miles. This sign will be a confidence booster for users assuring them they are on the correct path. The sign will also feature the Wichita city logo.

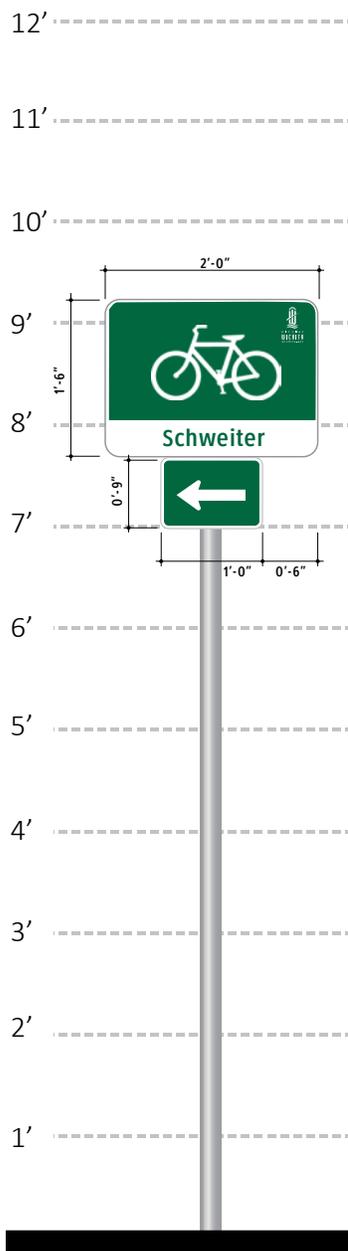


- Pole to be square steel, 2" x 2", or as indicated by fabricator.
- Sign is 2' wide, with bottom of sign 7' from the ground..
- All lettering and symbols to be retroreflective.
- A casual pace travel time of six minutes per mile (10 mph) should be used for time estimates.
- Destination text to be 2" minimum height, time and distance letter height to be 1.25" minimum height.
- Text style = Clearview Highway



## TURN On Street

To be placed on street for bicycle use. Signs to have one destination with bicycle time in minutes and distance in miles. This will serve as a turn indication for users. The Wichita city logo will be featured as well.

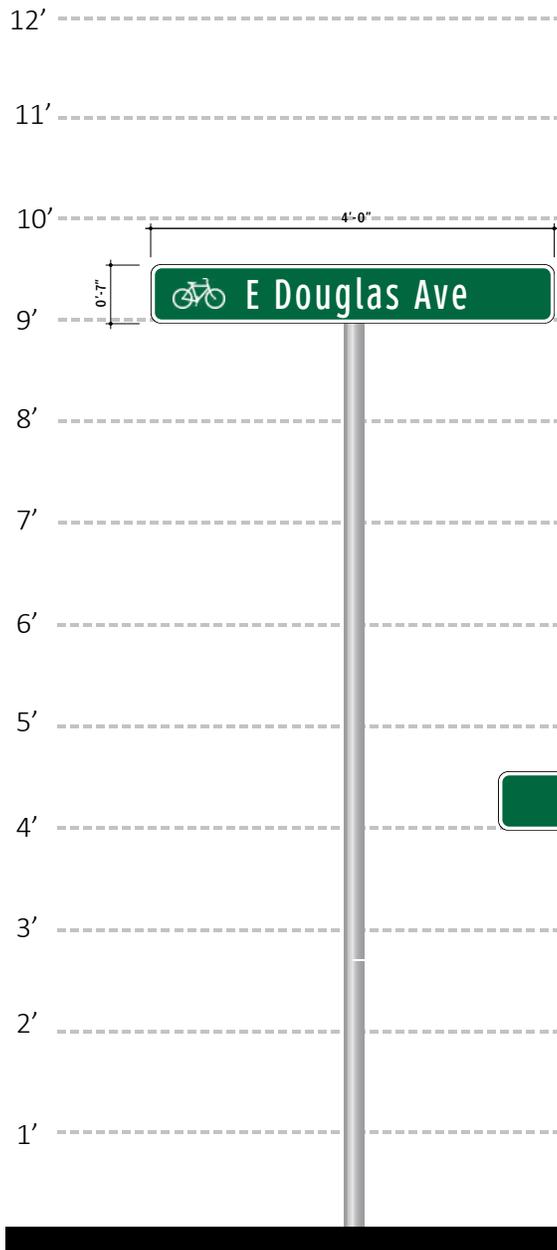


- Pole to be square steel, 2" x 2", or as indicated by fabricator.
- Main sign is 2' wide and 1' 6" tall. Supplemental directional arrow sign is centered below the main sign and is 1' wide and 9" tall, with bottom of that sign 7' from the ground.
- All lettering and symbols to be retroreflective.
- Destination text to be 2" minimum height.
- Text style = Clearview Highway

## STREET SIGN BLADE

On Street

To be placed on street for bicycle use. Signs to have the appropriate street name on each side. A bicycle symbol will be included on the sign to indicate to users that they are on a bicycle route.



- Pole to be square steel, 2" x 2", or as indicated by fabricator.
- Sign is 4' wide and 7" tall, with bottom of sign 9' from the ground.
- All lettering and symbols to be retroreflective.
- Text style = Clearview Highway

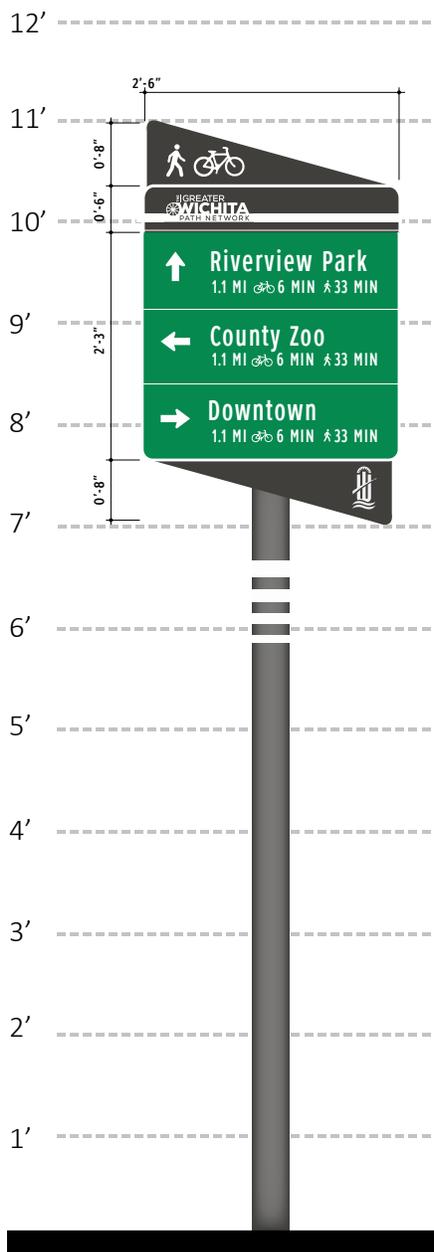


ALTERNATIVE  
DESIGN



## DIRECTIONAL Off Street

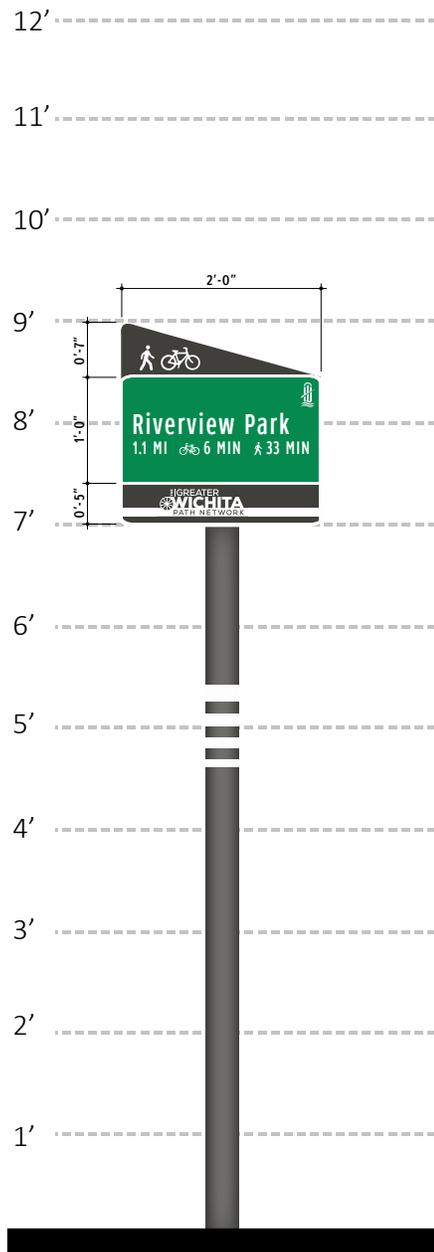
To be placed off street for bicycle and pedestrian use. Signs to have three destinations maximum with both time and distance listed for both bicyclists and pedestrians. The sign will feature the Greater Wichita Path Network logo as well as the Wichita city logo.



- Decorative, dark-colored pole.
- Sign is 2' 6" wide and up to 4' 1" tall, with bottom of sign 7' from the ground.
- All lettering and symbols to be retroreflective.
- A casual pace travel time of six minutes per mile (10 mph) should be used for bicycle time estimates; 20 minutes per mile (3 mph) should be used for pedestrian time estimates.
- Signs to have three destinations maximum with both time and distance listed.
- Destination text to be 2" minimum height, time and distance letter height to be 1.25" minimum height.
- Text style = Clearview Highway

## CONFIRMATION Off Street

To be placed on street for bicycle and pedestrian use. Signs to have one destination with both the bicycle and pedestrian time in minutes and distance in miles. This sign will be a confidence booster assuring users they are on the correct path. The sign will feature the Greater Wichita Path Network logo as well as the Wichita city logo.



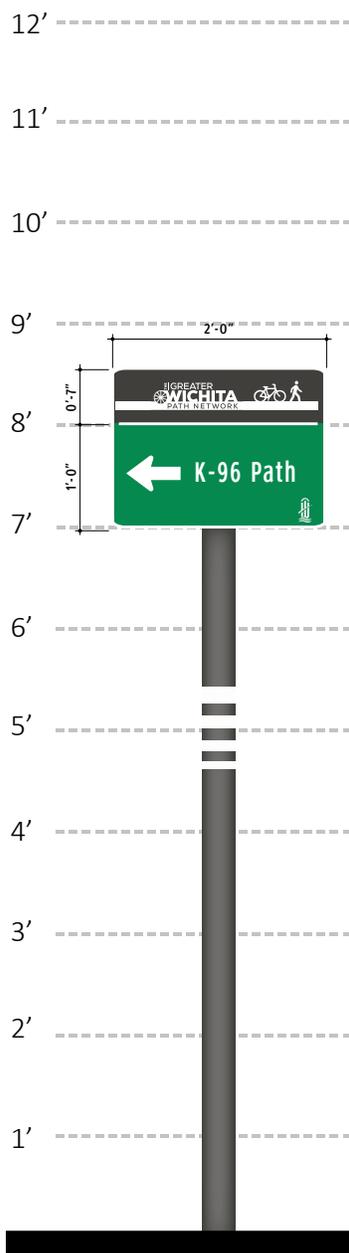
- Decorative, dark-colored pole.
- Sign is 2' wide and 2' tall, with bottom of sign 7' from the ground.
- All lettering and symbols to be retroreflective.
- A casual pace travel time of six minutes per mile (10 mph) should be used for bicycle time estimates; 20 minutes per mile (3 mph) should be used for pedestrian time estimates.
- Signs to have three destinations maximum with both time and distance listed.
- Destination text to be 2" minimum height, time and distance letter height to be 1.25" minimum height.
- Text style = Clearview Highway



## TURN

### Off Street - Option One

To be placed off street for bicycle and pedestrian use. Signs to have three destinations maximum with both time and distance listed. This will serve as a turn indication for users. The sign will feature the Greater Wichita Path Network logo as well as the Wichita city logo.

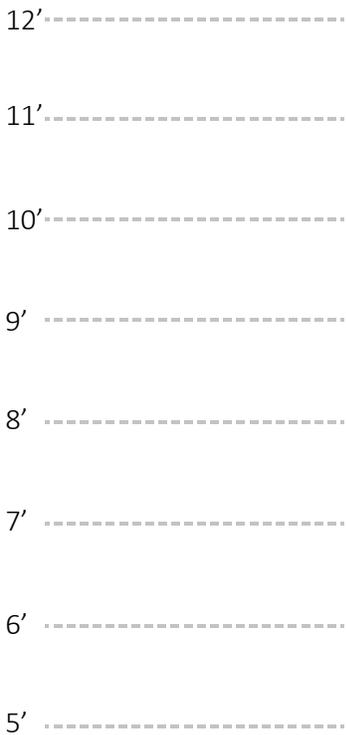


- *Decorative, dark-colored pole.*
- *Sign is 2' wide and up to 1' 7" tall, with bottom of sign 7' from the ground.*
- *All lettering and symbols to be retroreflective.*
- *Destination text to be 2" minimum height.*
- *Text style = Clearview Highway*

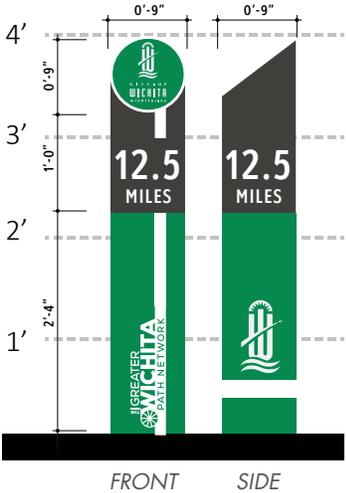
# MILE MARKER

## Off Street

To be placed off street for bicycle and pedestrian use. Markers will indicate the current mile along the path network. This will allow users where they are and how far they have traveled. The sign will feature the Greater Wichita Path Network logo as well as the Wichita city logo.



- Sign is 9" wide and 4' 1" tall and begins at the ground.
- All lettering and symbols to be retroreflective.
- Text style = Clearview Highway

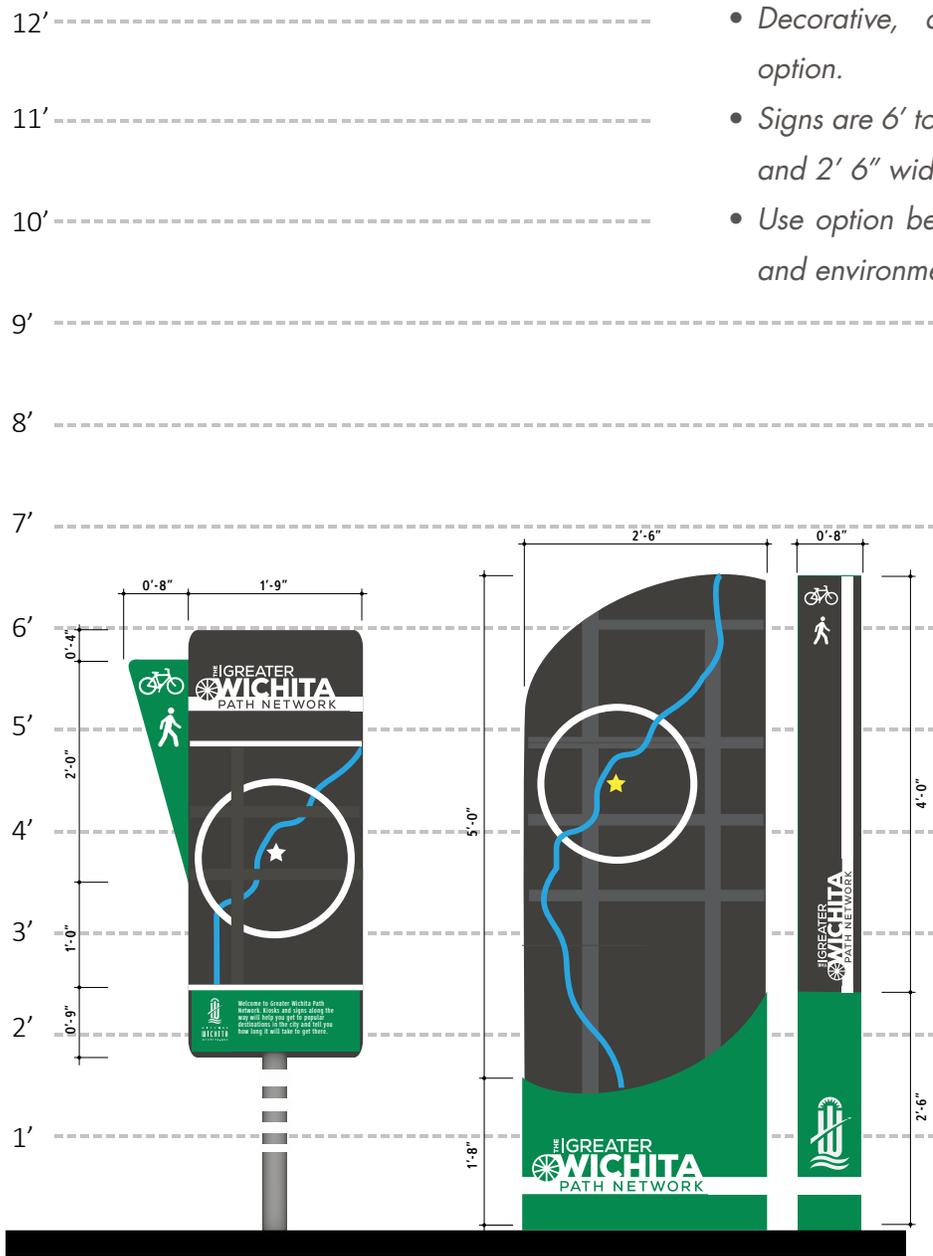




# Kiosk

## Off Street (2 Options)

To be placed off street for bicycle and pedestrian use. Kiosks can be customized to display desired content such as a path network map. The kiosk will feature the Greater Wichita Path Network logo as well as the Wichita city logo.



- Decorative, dark-colored pole on one option.
- Signs are 6' to 6' 6" tall and between 2' 5" and 2' 6" wide.
- Use option best suited for space, visibility, and environmental constraints.

POST MOUNT OPTION

MONOLITHIC OPTION  
(FRONT AND SIDE VIEWS)

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# Chapter Two

## Placement Guidance and Strategies

### Overview

This chapter provides a list of destinations to be used in the wayfinding system, guidance for placing signs, and implementation strategies.

### Introduction

The City of Wichita and neighboring communities have taken great strides in recent years to lay the foundation for a world-class bicycle transportation and recreation system. The region's commitment to bicycling can be seen in the 70 miles of shared use paths, the small but growing network of on-street bikeways, and a recently completed Bicycle Master Plan to guide future investments in bicycle facilities. As the network of trails, bike lanes, and other bicycle facilities continues to grow, residents and visitors will have greater access to local and regional destinations.

System-wide wayfinding is a vital component of any bicycle network. A comprehensive approach will:

- Improve access to popular destinations,
- Create a consistent brand and identity for the network, and
- Increase bicycling as a viable mode of transportation.

The *Wichita Bicycle Wayfinding System Plan* is intended to serve as a guide for the City of Wichita with recommendations for how the City should use bicycle wayfinding to improve conditions for bicycling in Wichita and implement the Wichita Bicycle Master Plan. This chapter provides guidance for implementing the system now and in the future.



## Bicycling Destinations

As the City’s bicycle network continues to grow, more and more trips will be taken for transportation and recreation purposes. Whether its residents are commuters traveling to schools, shopping districts, and employment centers; or recreationists enjoying the area’s many shared use pathways and linear parks, wayfinding information will assist all bicyclists traveling to, from, and between destinations and services.

Following the principle of “connecting places” this section describes an approach for selecting and prioritizing the potential destinations to which cyclists may want to travel. On-street bicycle signs only allow for three slots of information or destinations per sign. Thus, a consistent approach to selecting destinations to be included on wayfinding elements is necessary given the multitude of potential destinations possible. Signs should follow the same approach throughout the region so that the system is clear and predictable. Destinations and their names should be referred to consistently until they are reached.

The list below is a result of this planning process. Other destinations may be added at a later date; this list provides guidance for the types of destinations that should be included. *Private location names should not be used - generic titles such as “Dinning” and “Shopping” should be used instead.*

### LEVEL 1 - MUNICIPALITIES

Level 1 destinations include cities found within the Greater Wichita area. Highlighting cities provides large scale geographic orientation in support of regional cycling. Level 1 destinations provide “pull through” destinations for cyclists who are traveling significant distances. Bicycle facilities that extend beyond the boundaries of the Greater Wichita region may include prominent destination cities outside of the metro region. If a town does not include an activity center and services, it may be excluded from signs. At the primary level, it may also make sense to refer to areas of Wichita in terms of large geographic regions or readily understood locations such as northwest, northeast, southwest, and southeast.

- Andale
- Bel Aire
- Derby
- Eastborough
- Garden Plain
- Goddard
- Haysville
- Kechi
- Maize
- Park City
- Valley Center
- Wichita (for cities outside of Wichita)

### Level 1



### Level 2



### Level 3



### Level 4



## LEVEL 2 - DISTRICT & NEIGHBORHOODS

Level 2 destinations provide a finer grain of navigational information than level 1 destinations by directing users to comprehensible districts and neighborhoods. These may be city centers, post-secondary educational institutions, historic, commercial, cultural, and/or neighborhoods with a distinct name and character. Emphasis should be placed on districts providing a mix of services. Neighborhoods not offering services or attractions, need not be included.

- 21st Street International Marketplace District
- College Hill Neighborhood
- Commerce Street Arts District
- Delano Shopping Core District
- Douglas Design District
- Downtown Wichita
- Dwight D. Eisenhower National Airport
- Friends University
- McAdams Neighborhood Core District
- McConnell Air Force Base
- Midtown Neighborhood
- Newman University
- Old Town
- Riverside Neighborhood
- Wichita Area Technical College
- Wichita State University

## LEVEL 3 - LANDMARKS & REGIONAL DESTINATIONS

Level 3 destinations are specific landmarks or attractions which attract a regional audience. Landmarks include transit stations, major tourist venues, major medical centers, major shopping centers, regional parks, and civic buildings. The following are examples of destinations that could be included and signed Level 3. Businesses or private property should be named using a general destination type (i.e. Intrust Bank Arena should be "Arena").

- Alfred McDonald Park
- Arkansas River Trail
- Botanica Wichita
- Bradley Fair
- Brooks Tract Park
- Canal Path
- Carnegie Library Building
- Central Riverside Park
- Century II Convention Center
- Chapin Park
- Cheney State Park
- Chisholm Creek Park
- Clearwater Historical Society Museum
- Clifton Square
- Decorative Arts Collection Museum
- Downtown Bikeway
- Dr. Glen Dey Park
- Eck Stadium & Tyler Field
- Epic Center
- Exploration Place
- Frank Lloyd Wright Allen House Museum and Study Center
- Great Plains Nature Center
- Great Plains Transportation Center
- Gypsum Creek Path
- Hartman Arena
- Holmes Museum of Anthropology
- Indian Hills



- Intrust Bank Arena
- K-96 Path
- Kansas African American Museum
- Kansas Aviation & Museum Library
- Kansas Coliseum
- Kansas Fire Fighters Museum
- Lake Afton Public Observatory
- Lawrence Dumont Stadium
- Mid-American All Indian Center
- Museum of World Treasures
- New Market Square
- North Riverside Park
- O.J. Watson Park
- Old Cowtown Museum
- Pawnee Prairie Park
- Planeview Park
- Redbud Path
- Sedgwick County Fairgrounds
- Sedgwick County Park
- Sedgwick County Zoo
- Soldiers & Sailors Memorial Hall
- Souder Historical Farm Museum
- South Lakes Park
- Sports Hall of Fame
- Tanganyika Wildlife Park
- The Keeper of the Plains
- The Original Pizza Hut Building
- Towne East Mall
- Towne West Mall
- Ulrich Museum of Art
- Union Station
- Valley Center Historical Museum
- Veterans Memorial Park
- Via Christi St. Francis Medical Center
- Via Christi St. Joseph Medical Center
- Watson Park
- Wesley Medical District
- Westlink Shopping Center
- Wichita Art Museum
- Wichita Boathouse & Kansas
- Wichita Center for the Arts
- Wichita City Hall
- Wichita Convention & Visitors Bureau
- Wichita Farm & Art Market
- Wichita Ice Center
- Wichita-Sedgwick County Historical Museum
- Wichita Transit Center
- Wichita Water Walk

## LEVEL 4 - LOCAL DESTINATIONS

Level 4 destinations are local destinations such as local parks, recreation centers, libraries, high schools, and shopping centers. They typically occur on signs in low density areas where few other destinations are present or along bikeways not connecting higher priority level 1-3 destinations.

- Swimming Pool
- Alford Library
- Angelou Northeast Library
- Atwater Neighborhood Resource Center
- Bishop Carroll Catholic High School
- Boston Recreation Center
- Boston Swimming Pool
- College Hill Swimming Pool
- Colvin Neighborhood Resource Center
- Colvin Recreation Center
- Comotara Library
- East High School
- Edgemoor Recreation Center
- Evergreen Library
- Evergreen Neighborhood Resource Center
- Evergreen Recreation Center
- Evergreen Swimming Pool
- Harvest Swimming Pool
- Heights High School
- I-135 pedestrian bridge at Park St/East Rivera St.
- I-135 pedestrian bridge at Wassall St.
- Independent High School
- Kapaun Mt Carmel High Catholic High School
- Kellogg pedestrian bridge at Chautauqua
- Linwood Park Library
- Linwood Recreation Center
- Linwood Swimming Pool
- Local parks
- Lynette Woodard Recreation Center
- Maize High School
- McAdams Recreation Center
- McAdams Swimming Pool
- Metro Boulevard High School
- Metro-Meridian High School
- Minisa Swimming Pool
- Northeast High School
- Northwest High School
- Orchard Recreation Center
- Orchard Swimming Pool
- Rockwell Library
- Southeast High School
- South High School
- West High School
- Westlink Library
- Wichita Central Library
- Wichita Collegiate School

\*Additional health based destinations can be found in Appendix D.

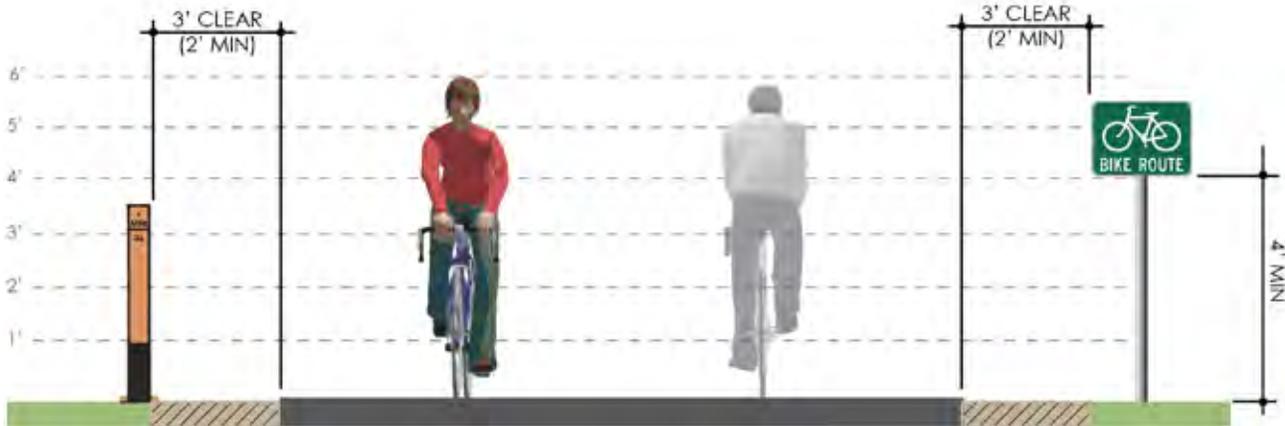


## Placement Guidance

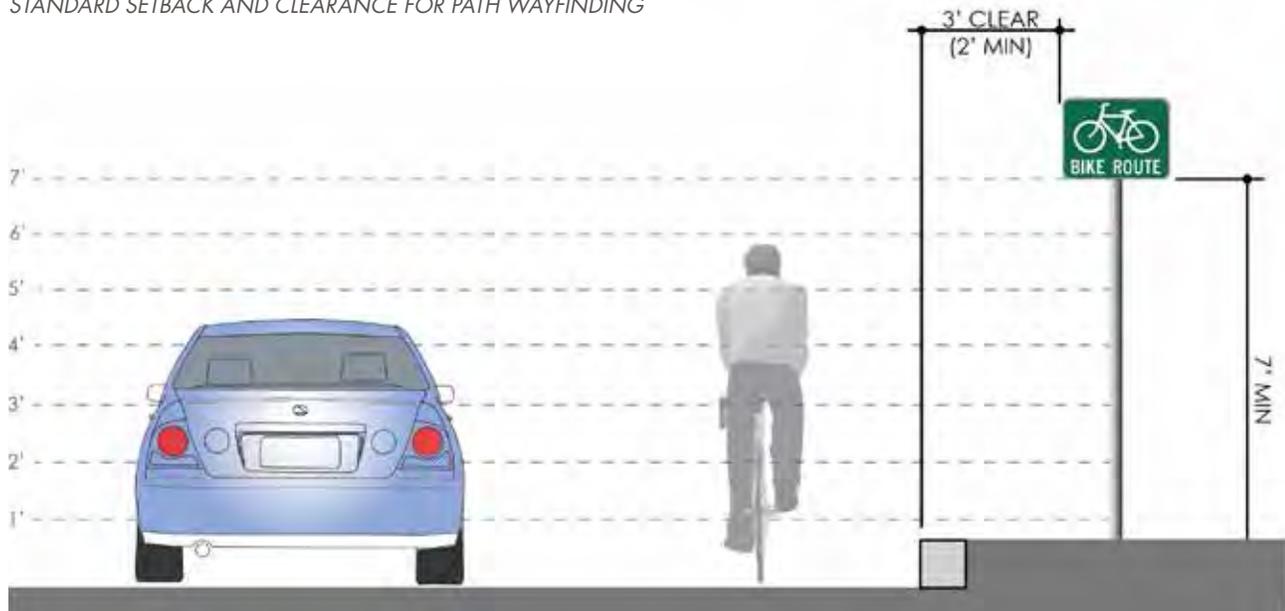
The following pages describe placement guidance for the Wichita Bicycle Wayfinding System. Elements of the wayfinding family should be located in a consistent and logical manner across the City. This will help network users learn and build confidence in the system encouraging additional bicycle use.

### SETBACK AND CLEARANCE

Per both the MUTCD and AASHTO, the nearest edge of any potential bikeway obstruction including signs and mile markers should be a minimum of two feet from the edge of travelway. The lowest edge of post-mounted signs should be five feet (four feet minimum) above finish grade for off-street or path facilities. The lowest sign edge of on-street bicycle signs should be seven feet.



STANDARD SETBACK AND CLEARANCE FOR PATH WAYFINDING



### SPACING

Bicycle-oriented wayfinding elements are designed to be legible by the cyclist while in motion. In order to help ensure that information is easily understood, care should be taken not to place multiple wayfinding signs too close together so that they obscure each other.

In general, regulatory and warning signs are a higher priority than wayfinding signs. Care should be taken to not obscure priority information. This is achieved by providing a minimum spacing between signs based on vehicle travel speeds and perception response times. Per the table below, signs may be spaced closer together when posted travel speeds are slower.

Per AASHTO, 18 mph is the design speed used on shared use pathways. Thus, all signs on paths should be spaced 75 feet apart in order to maintain their legibility. On roadways, spacing is increased so that both motorists and cyclists have adequate time to recognize and respond to information provided on signs.

Design speed should not be confused with travel time. When travel time is added to wayfinding signs, a casual pace of 10 mph or six minutes per mile is typically used.

Speed (mph)	X = Distance between signs (feet)
18	75
25	100
30	125
35	150
40	200
45	250
50	300

*DISTANCE "X" IN THE GENERAL PLACEMENT DIAGRAM BELOW IS BASED ON POSTED ROADWAY SPEED.*

*SOURCE: ODOT SIGN POLICY MANUAL*

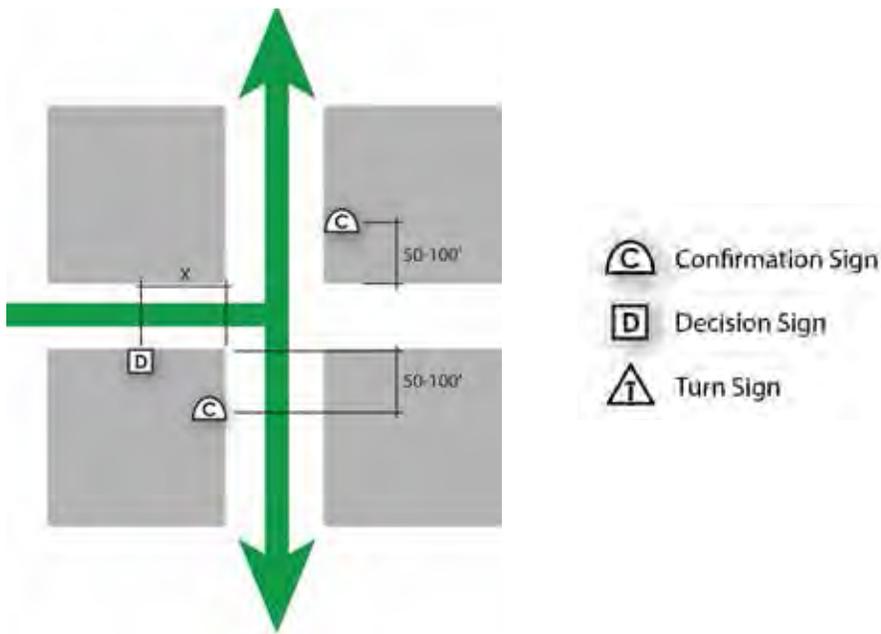


## GENERAL PLACEMENT

When two bikeways intersect, the general approach is to place a directional sign prior to the decision point followed by a confirmation sign or pavement marking after the intersection to confirm intended direction. While this approach provides redundant information, it ensures that the system does not break down if one sign is compromised.

See the text above for typical distance “x” between signs. When higher priority signs are present, the suggested sign placement distances may adjust per the above Minimum Suggested Sign Spacing table in order to not obscure other roadway signs.

Signs may be placed on existing posts, poles, or other supports as practical, if such supports allow mounting in accordance with the MUTCD.



## TYPICAL PLACEMENT SCENARIOS

A variety of navigational challenges were reported by Wichita community members. In response, the following typical placement scenarios were identified by project stakeholders as navigational issues in need of clarification:

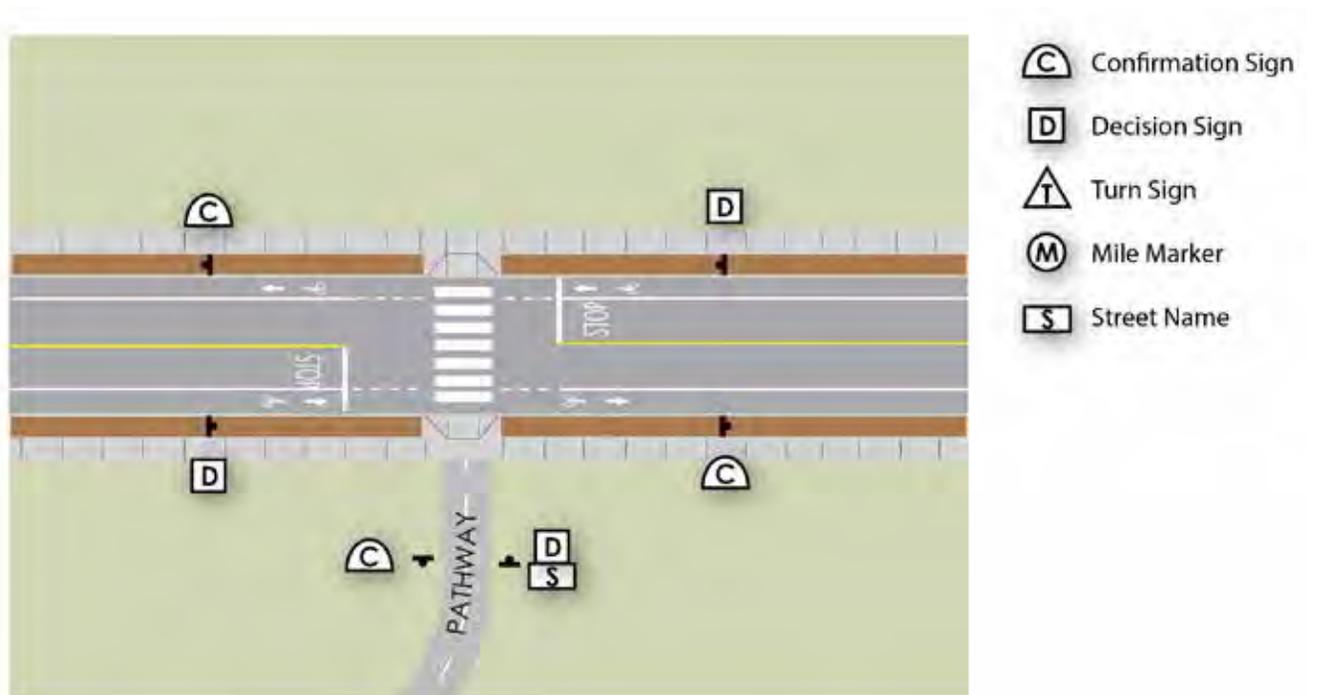
- Off-street / On-street At-Grade Transition
- Pathway Bifurcations and Under Crossings
- Off-street / On-street Transition at Path Access Point
- Navigation from Path to Destination
- Circuitous Routes

The following exhibits show wayfinding information only. Regulatory signing is to be placed as per the MUTCD.

### Off-street / On-street At-Grade Transition

When transitioning between an off-street path facility and an on-street facility, it is important to advise travelers of their route options as well as provide confirmation. In this scenario, decision signs direct cyclists to their destination choices while confirmation signs reinforce that the user is on a designated facility after they have made their transition between facility types.

When a path facility meets a road, the roadway should be identified by name. When a stop sign is present, a street name sign may be placed on top. When no stop is required, the roadway name may be included in the content of the directional sign.



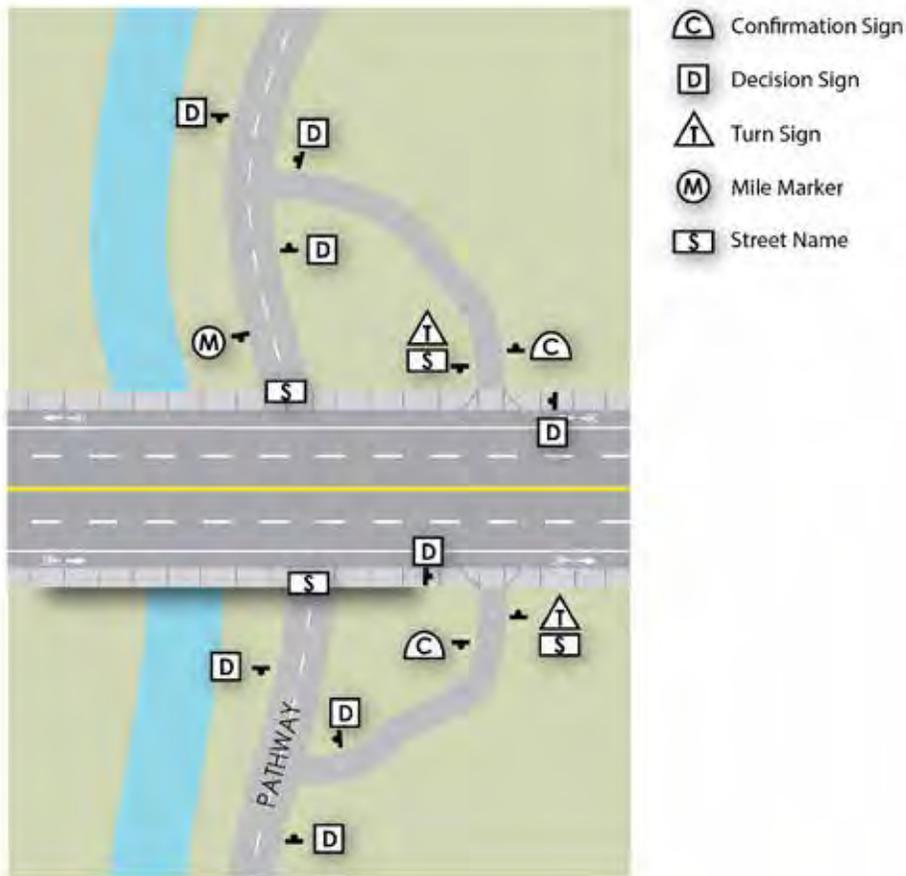
OFF-STREET / ON-STREET AT-GRADE TRANSITION



### Pathway Bifurcations and Under Crossings

Connections and access points between the off-street and on-street network may result in path bifurcations. At such junctions, it is important to inform cyclists of where the alternative route option goes. This may be done via decision signs located at junctions.

Under crossings benefit from applying street name sign blades above pathways on bridge or tunnel infrastructure. These signs should be mounted to the bridge or tunnel structure, centered over the pathway. Street name sign blades should also be added to signs when paths meet roadways at-grade. If a stop sign is located at these facility intersections, a standard street name sign blade may be added to the top.



PATHWAY BIFURCATIONS AND UNDER CROSSINGS

### Off-street / On-street Transition at Path Access Point

When transitions are made between off-street and on-street facilities, decision signs shall be placed prior to intersections with confirmation signs provided after turn movements. In a situation where a short access path connects the on-street and off-street facilities, decision signs provide both confirmation and directional options to a user entering the pathway.

In this scenario, custom street name sign blades should be used along the bicycle boulevard heightening awareness of these routes as bicycle facilities. The presence of route identifying street name sign blades and shared lane markings minimizes the need for confirmation signs along the bicycle boulevard.

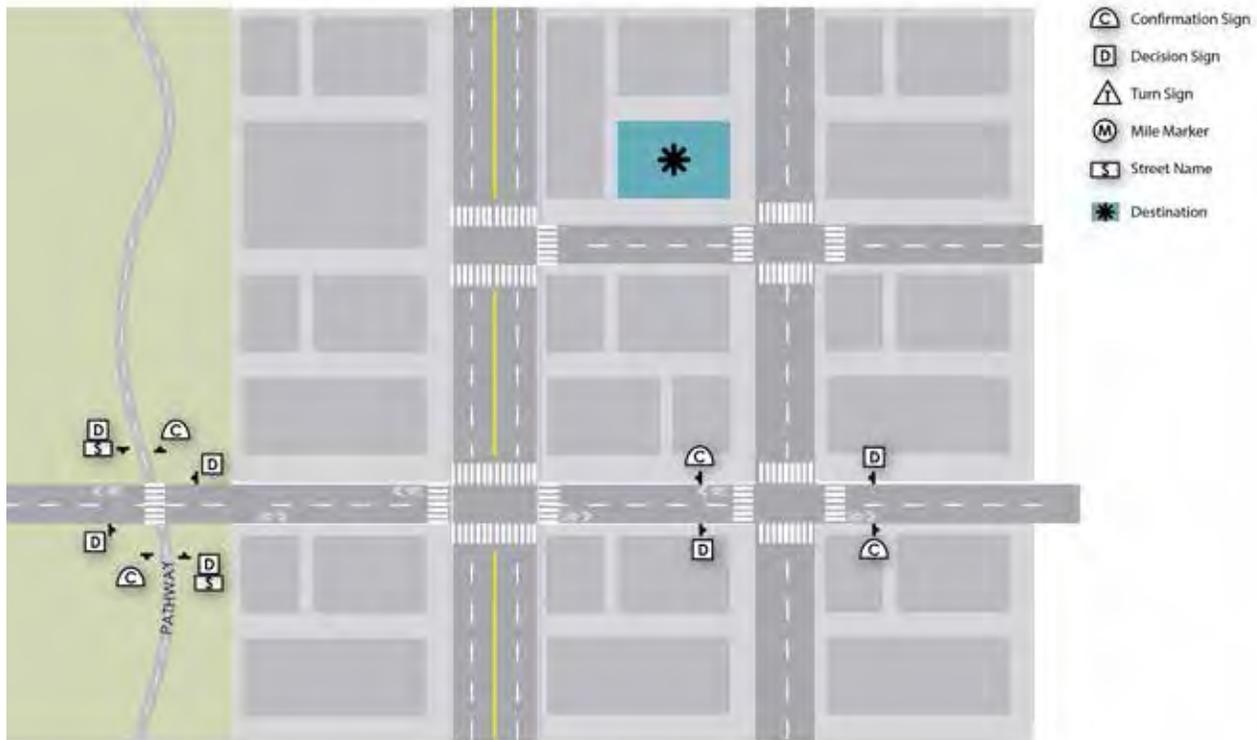


OFF-STREET / ON-STREET TRANSITION AT PATH ACCESS POINT



### Navigation from Path to Destination

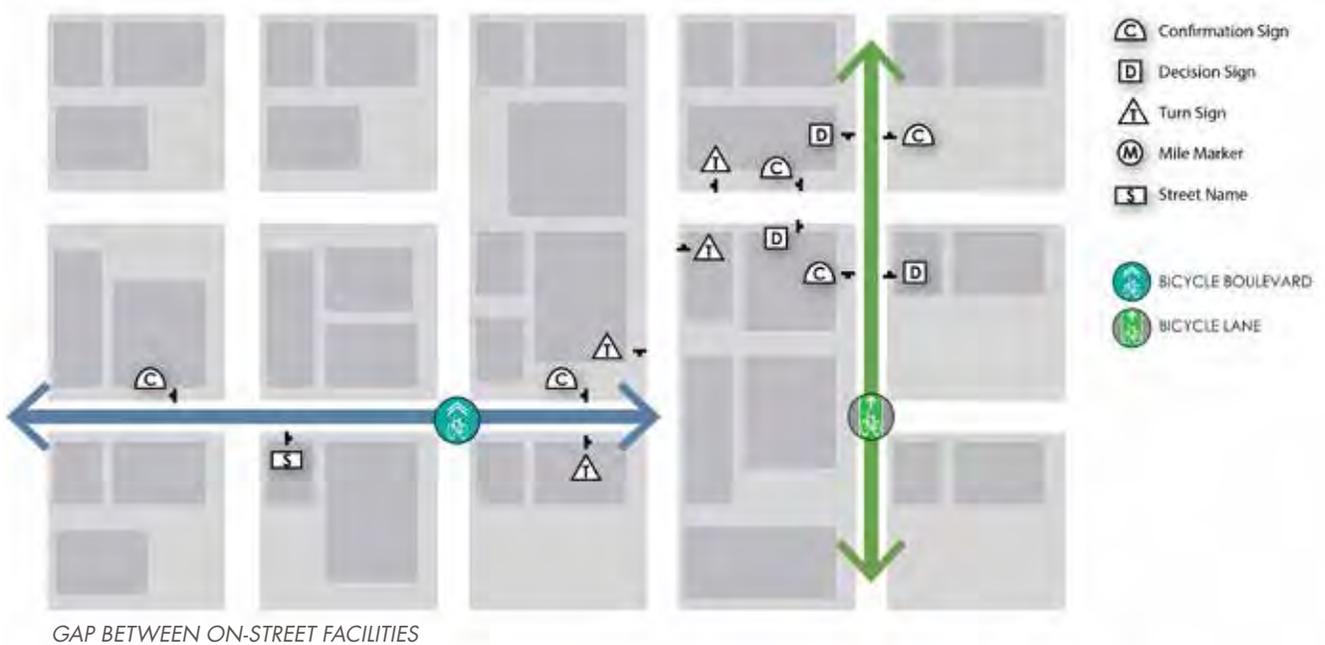
Oftentimes destinations occur without direct connections to the bicycle network. Destinations off-network may be signed when a straight, safe bicycle connection or route is available. Engineering judgment must be used to determine whether the connecting route is suitable for cycling.



NAVIGATION FROM PATH TO DESTINATION

### Gap Between On-Street Facilities

When gaps occur between on-street facilities, wayfinding signs may be used to provide connectivity if the route is suitable for bicycle travel. When jogs in an on-street route occur, a series of turn and confirmation signs should be used to emphasize the correct direction of travel. Turn signs should be placed well enough in advance of the required turn movement to allow the cyclist to perceive the information and respond accordingly. Confirmation signs need not be used after a turn movement when block size is so short that the next turn sign is visible.





## Wayfinding Improvement Prioritization

The installation of wayfinding improvements is important to the success of Wichita's growing bicycle network, because wayfinding improvements will help individuals navigate the Wichita bicycle network and encourage use of the facilities. The scope and scale of the Wichita bicycle network and the lack of funding programmed to implement wayfinding improvements means they will likely need to be installed as part of capital improvement projects or in phases over time.

### PRIORITIZATION CRITERIA

#### Route Readiness

While bicycle facilities and wayfinding improvements are not codependent, they are typically employed in tandem to provide for safe, comfortable, and simple bicycle travel. The status of a bicycle facility, simply defined as existing, planned, or no facility, is an important prioritization criterion and should be weighted accordingly. This criterion is weighted more heavily than others due to the importance of existing infrastructure to a safe travel experience. Weighting is reflected in the total number of points possible.

#### Proximity to Destinations

Not all destinations are located along a bikeway. Wayfinding improvements can provide a vital link between bikeways and high priority destinations, particularly where safe and comfortable routes support bicycle travel. The more destinations a bicycle route connects, the greater the prioritization of wayfinding improvements. Routes connecting fewer destinations should receive a lower prioritization score. The relationship to destinations is a key aspect of wayfinding, thus the scores for this criterion are weighted more heavily than other categories.

#### Need

Need for wayfinding improvements may be derived from a number of factors. These include bicycle count data; data from third-party fitness and bicycle activity tracking devices and apps (like Strava and MapMyRide); and community input derived through this and other planning processes. Utilizing this input, places with high need are expected to include locations where multiple bikeways intersect and key connections such as bridges. Available data sources should be examined to identify reliable community input that indicates need for wayfinding improvements.

#### Gap Closure

Wayfinding improvements offer a cost-effective means for connecting existing bikeways along safe and comfortable routes. Wayfinding improvements should be prioritized based on their potential to address critical gaps, thereby expanding the utility of the bicycle network.

#### Bicycle Level of Traffic Stress

Bicycle level of traffic stress (BLTS) is an analysis tool which measures the user experience or comfort level along a bikeway or at an intersection. Less stressful routes for bicycling can support a wider variety of bicyclists, from experienced recreational and commuter bicyclists to casual adult, teen, and even child riders. By prioritizing wayfinding improvements based on BLTS, Wichita can ensure that bicycle travel along designated routes is accessible and comfortable for a broad segment of the population.

BLTS is not included in the evaluation due to the lack of an existing model at the time of this writing. It is recommended that a BLTS model be developed to help inform the wayfinding prioritization process. The model should consider traffic volumes, posted speed limits, presence of dedicated bicycle facilities, number of travel lanes, quality of intersection crossings,

and functional classification. The score for any route is only as good as the weakest point along the journey.

### Evaluation Matrix

Based on the five criteria described above, the following evaluation matrix may be used to prioritize wayfinding improvements throughout the City of Wichita.

**Prioritization Criteria:** is the prioritization criteria described in the section above.

**Variable:** is the level or degree to which the proposed wayfinding improvement would meet the criteria.

**Score:** this is the weighted score that the proposed project would earn based on the variable.

Prioritization Criteria	Variable	Score
Route Readiness	Existing	8
	Planned	4
	No Facility	0
Proximity to Destinations	Route occurs within ½ mile of more than two Level I and II destinations	8
	Route occurs within ½ mile of at least two Level I or II destination	6
	Route occurs within ½ mile of multiple lower level destinations	4
	Route occurs within ½ mile of one lower level destination	2
	Route provides no direct or near access to any destinations	0
Need (Public Input)	High level of usage, input, or support	8
	Moderate level of usage, input, or support	5
	Low level of usage, input, or support	3
	No input	0
Gap Closure	Segment or route connects two existing bicycle facilities less than ½ mile apart	5
	Segment or route connects two existing bicycle facilities greater than ½ mile apart	3
	Segment safely extends the length of an existing bicycle facility	2
	Segment does not connect to any existing bicycle facility or close a gap in the bike network	0



## Approach

Facilities evaluated in this prioritization process include those identified as priority bikeways in the 2013 Wichita Bicycle Master Plan. It is important to note that two categories of planned facilities were excluded from the evaluation: planned trail facilities not in design or construction phases, and all planned on-street bikeways not identified as priority bikeways in the 2013 Wichita Bicycle Master Plan. These two groups of facilities were excluded from the analysis given the longer timeframe for project development and their relatively lower readiness for wayfinding improvements, respectively.

The following map displays the results of the prioritization scoring exercise based on three of the four prioritization criteria listed in the Evaluation Matrix above. As mentioned above, facility stress was not used in the assessment due to the lack of a working model. Need (Public Input) has not yet been included due to a lack of quantifiable data. Instead, results shall be verified via steering committee input. Also, a public input survey will gather additional information about public needs or preferences.

## Results

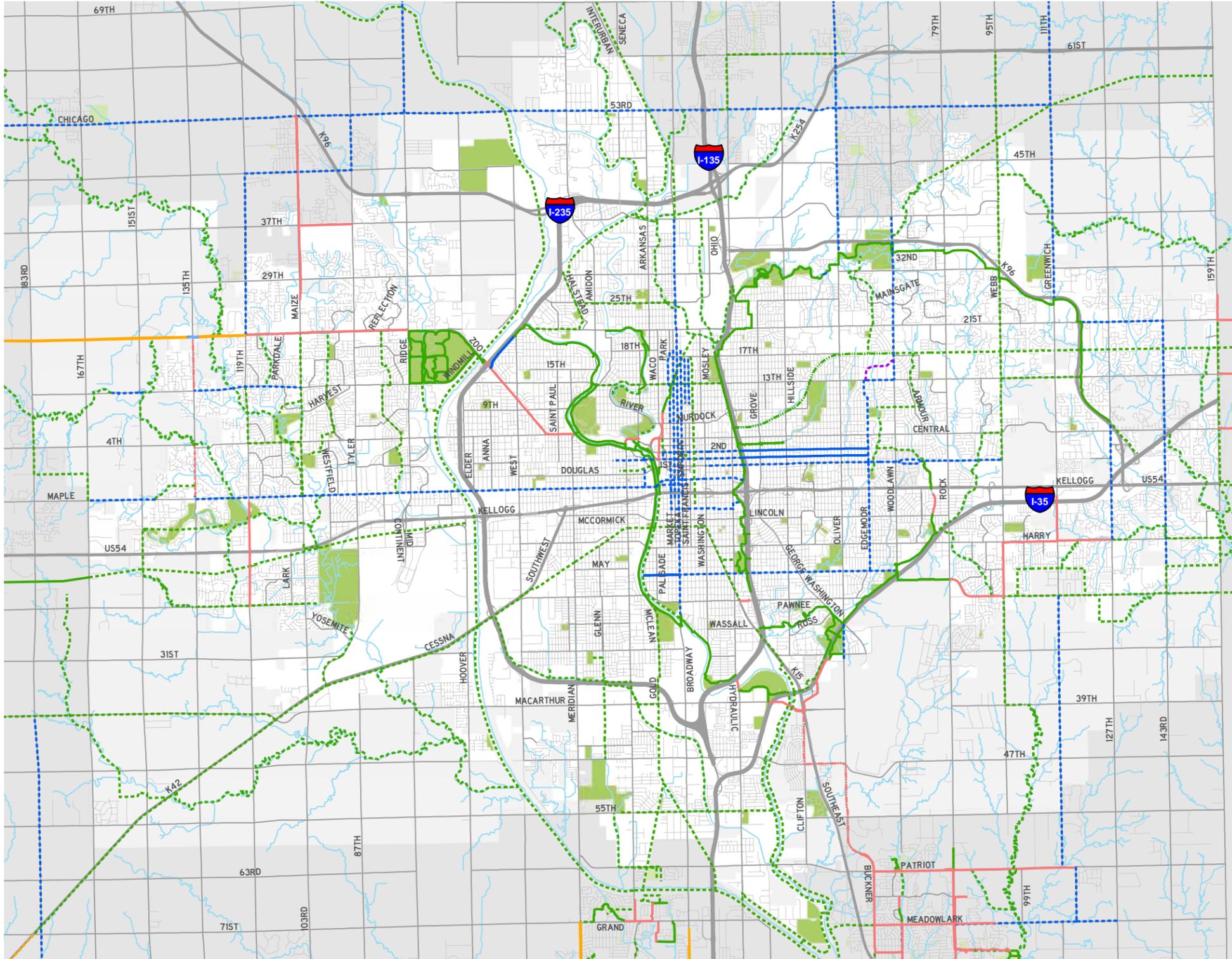
On the following Network Wayfinding Prioritization map, the dark green lines indicate existing and planned facilities with the greatest cumulative scores, thus representing the highest priority or most suitable routes for wayfinding improvements. The red lines indicate planned facilities with the lowest cumulative scores, and therefore are currently less ready for wayfinding improvements.

The results of this prioritization exercise indicate numerous existing facilities that are highly suited for wayfinding improvements. High priority bikeways include the Arkansas River Path, I-135 Path (17th St to Pawnee), Redbud Path (I-135 to Woodlawn), and 1st and 2nd Street bike lanes (Seneca to Edgemoor).

While nearly all existing facilities scored higher than all planned facilities, a number of planned bikeways in and around Downtown Wichita scored very high as well, a reflection of their proximity to high concentrations of landmarks and destinations. It is notable that the evaluation results reflect initial input received from steering committee members.



EXISTING FACILITIES



**Bicycle Facilities**

**Existing**

- Bicycle Lane
- - - Marked/Signed Shared Lane
- Paved Shoulder
- Shared Use Path
- Sidepath

**Planned**

- - - Bicycle Boulevard
- - - Bicycle Lane
- - - Paved Shoulder
- - - Shared Use Path
- - - Sidepath

**Under Design/Construction**

- · - · - Shared Use Path
- · - · - Sidepath

**Hydrology**

- Lakes and Ponds
- Rivers and Streams

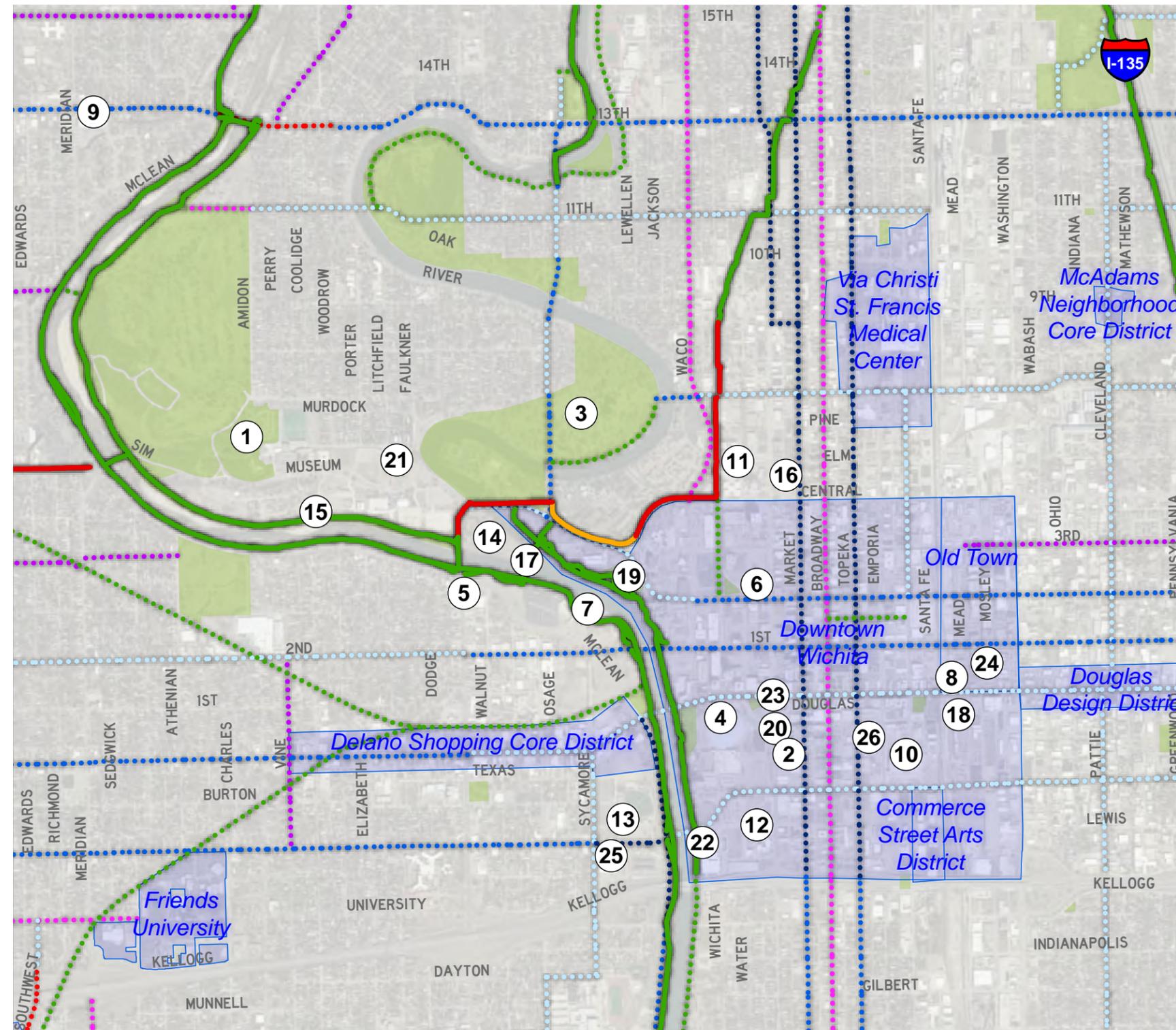
**Boundaries**

- Wichita City Limits
- 2030 Urban Growth Boundary



Data obtained from the City of Wichita and Sedgewick County  
Map created April, 2015

DOWNTOWN DESTINATIONS & BICYCLE FACILITIES



Existing Bicycle Facilities

- Sidepath
- Shared Use Path
- Bicycle Lane
- Paved Shoulder
- Marked/Signed Shared Lane
- Other Connection

Planned Bicycle Facilities

- ⋯ Sidepath
- ⋯ Shared Use Path
- ⋯ Buffered Bicycle Lane
- ⋯ Bicycle Lane
- ⋯ Bicycle Lane/Shared Use Path
- ⋯ Paved Shoulder
- ⋯ Bicycle Boulevard
- ⋯ Marked/Signed Shared Lane
- ⋯ Other Connection
- ⋯ Further Study Needed

Destinations

Level 2 Destinations

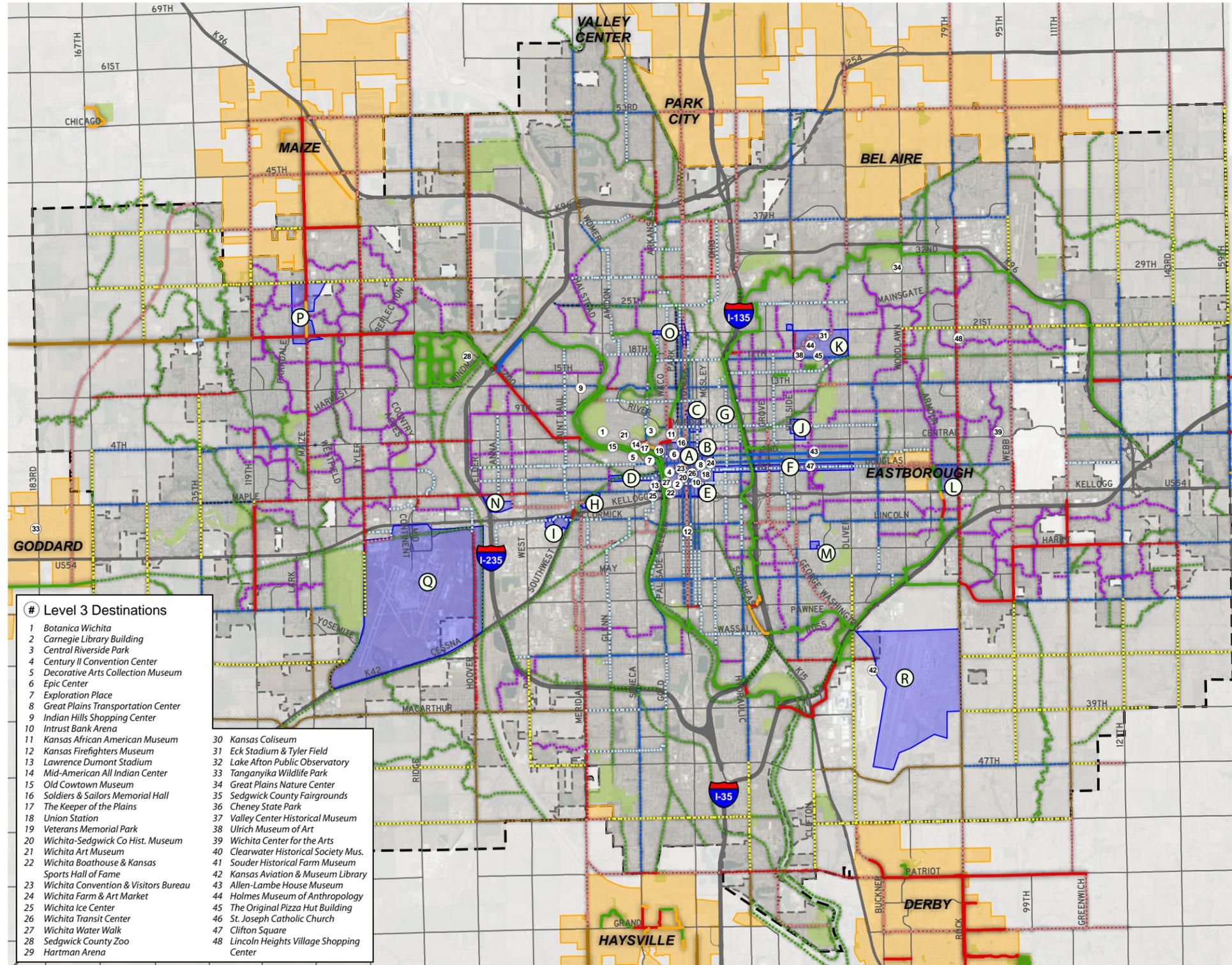
# Level 3 Destinations

- |                                      |                                                   |
|--------------------------------------|---------------------------------------------------|
| 1 Botanica Wichita                   | 16 Soldiers & Sailors Memorial Hall               |
| 2 Carnegie Library Building          | 17 The Keeper of the Plains                       |
| 3 Central Riverside Park             | 18 Union Station                                  |
| 4 Century II Convention Center       | 19 Veterans Memorial Park                         |
| 5 Decorative Arts Collection Museum  | 20 Wichita-Sedgwick Co Historical Museum          |
| 6 Epic Center                        | 21 Wichita Art Museum                             |
| 7 Exploration Place                  | 22 Wichita Boathouse & Kansas Sports Hall of Fame |
| 8 Great Plains Transportation Center | 23 Wichita Convention & Visitors Bureau           |
| 9 Indian Hills Shopping Center       | 24 Wichita Farm & Art Market                      |
| 10 Intrust Bank Arena                | 25 Wichita Ice Center                             |
| 11 Kansas African American Museum    | 26 Wichita Transit Center                         |
| 12 WaterWalk                         |                                                   |
| 13 Lawrence Dumont Stadium           |                                                   |
| 14 Mid-American All Indian Center    |                                                   |
| 15 Old Cowtown Museum                |                                                   |



Data obtained from the City of Wichita and Sedgwick County. Map created May, 2015.

DESTINATIONS & FACILITIES



Existing Bicycle Facilities

- Sidepath
- Shared Use Path
- Bicycle Lane
- Paved Shoulder
- Marked/Signed Shared Lane

Planned Bicycle Facilities

- - - Sidepath
- - - Shared Use Path
- - - Buffered Bicycle Lane
- - - Bicycle Lane
- - - Bicycle Lane/Shared Use Path
- - - Paved Shoulder
- - - Bicycle Boulevard
- - - Marked/Signed Shared Lane
- - - Other Connection
- - - Further Study Needed

Destinations

- Level 1 Destinations
- A Level 2 Destinations

- A: Downtown Wichita
- B: Old Town
- C: Via Christi St. Francis Medical Center
- D: Delano Shopping Core District
- E: Commerce Street Arts District
- F: Douglas Design District
- G: McAdams Neighborhood Core District
- H: Friends University
- I: Newman University
- J: Wesley Medical District
- K: Wichita State University
- L: Towne East Mall
- M: Via Christi St. Joseph Medical Center
- N: Towne West Mall
- O: 21st Street NOMAR District
- P: New Market Square District
- Q: Eisenhower Airport District
- R: McConnell Air Force Base



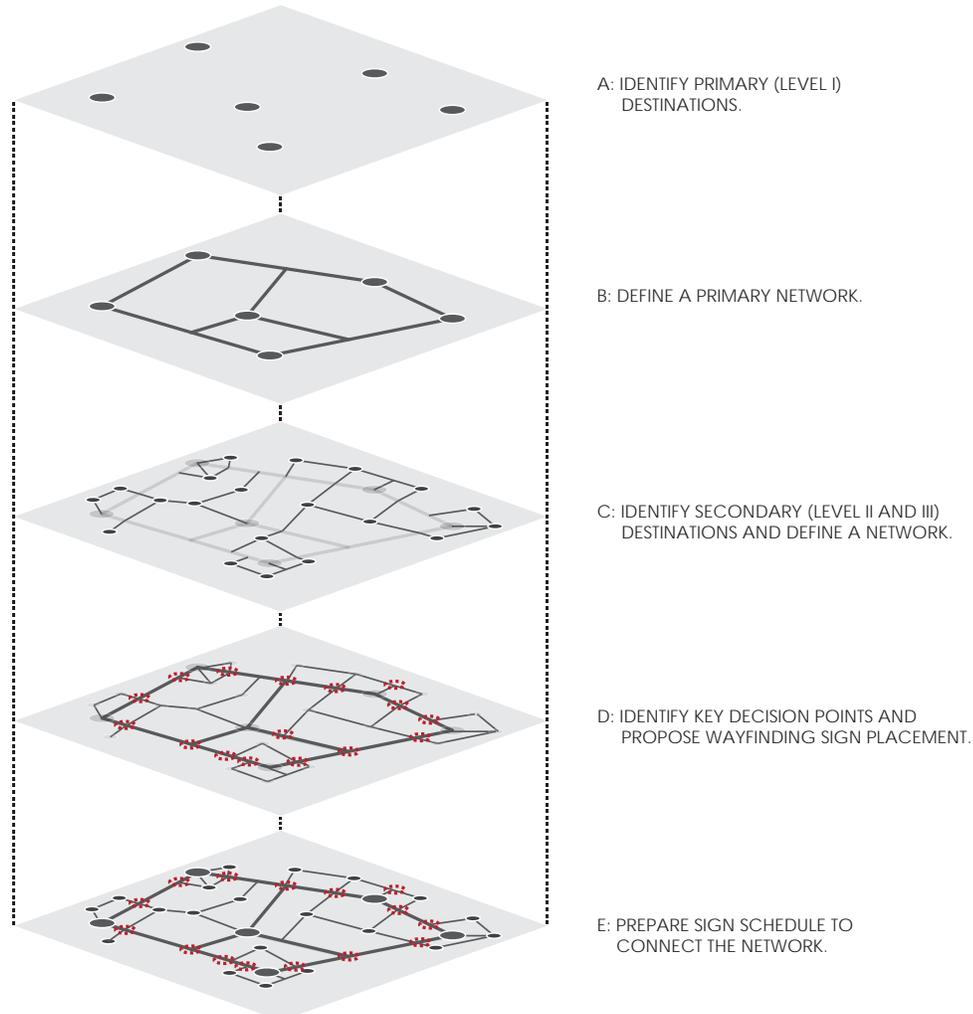
Data obtained from the City of Wichita and Sedgwick County  
Map created April, 2015

# Level 3 Destinations

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>1 Botanica Wichita</li> <li>2 Carnegie Library Building</li> <li>3 Central Riverside Park</li> <li>4 Century II Convention Center</li> <li>5 Decorative Arts Collection Museum</li> <li>6 Epic Center</li> <li>7 Exploration Place</li> <li>8 Great Plains Transportation Center</li> <li>9 Indian Hills Shopping Center</li> <li>10 Intrust Bank Arena</li> <li>11 Kansas African American Museum</li> <li>12 Kansas Firefighters Museum</li> <li>13 Lawrence Dumont Stadium</li> <li>14 Mid-American All Indian Center</li> <li>15 Old Cowtown Museum</li> <li>16 Soldiers &amp; Sailors Memorial Hall</li> <li>17 The Keeper of the Plains</li> <li>18 Union Station</li> <li>19 Veterans Memorial Park</li> <li>20 Wichita-Sedgwick Co Hist. Museum</li> <li>21 Wichita Art Museum</li> <li>22 Wichita Boathouse &amp; Kansas Sports Hall of Fame</li> <li>23 Wichita Convention &amp; Visitors Bureau</li> <li>24 Wichita Farm &amp; Art Market</li> <li>25 Wichita Ice Center</li> <li>26 Wichita Transit Center</li> <li>27 Wichita Water Walk</li> <li>28 Sedgwick County Zoo</li> <li>29 Hartman Arena</li> </ul> | <ul style="list-style-type: none"> <li>30 Kansas Coliseum</li> <li>31 Eck Stadium &amp; Tyler Field</li> <li>32 Lake Afton Public Observatory</li> <li>33 Tanganyika Wildlife Park</li> <li>34 Great Plains Nature Center</li> <li>35 Sedgwick County Fairgrounds</li> <li>36 Cheney State Park</li> <li>37 Valley Center Historical Museum</li> <li>38 Ulrich Museum of Art</li> <li>39 Wichita Center for the Arts</li> <li>40 Clearwater Historical Society Mus.</li> <li>41 Souder Historical Farm Museum</li> <li>42 Kansas Aviation &amp; Museum Library</li> <li>43 Allen-Lambe House Museum</li> <li>44 Holmes Museum of Anthropology</li> <li>45 The Original Pizza Hut Building</li> <li>46 St. Joseph Catholic Church</li> <li>47 Clifton Square</li> <li>48 Lincoln Heights Village Shopping Center</li> </ul> |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

## Sign Placement Planning

With a destination hierarchy in place, route planning may begin. Organizing and understanding bicycle circulation patterns will provide a framework for route selection to emerge. This framework helps to categorize important decision points along these routes where wayfinding signs should be placed. It is important to think of the entire network when planning routes to create a fluid wayfinding system that offers multiple routes and allows users to explore. Steps in the route identification process are organized below to give a simplified explanation of the planning process. As a component of this Master Plan, a demonstration project was selected from the prioritized routes. As the network grows, the City will continue to use the process and guidelines outlined in this plan to place signs along new routes and adjust existing wayfinding signage to display destinations that become safe to travel to by using newly implemented facilities.





## Opinion of Probable Cost

The below table illustrates potential costs per sign. These costs include the face, post, and installation.

SIGN TYPE	COST RANGE
Directional Signs (on- and off-road)	\$1,000 - \$1,200
Confirmation Signs (on- and off-road)	\$800 - \$1,000
Turn Signs (on- and off-road)	\$800 - \$1,000
Mile Marker	\$1,800 - \$2,500
Kiosks (full size)	\$5,000 - \$7,000
Kiosk (post mount)	\$1,800 - \$2,200
Sharrows	\$300 - \$500

*Note: All costs are estimates and are to be verified by sign fabricator. Costs are subject to change based market changes including on inflation in labor and material costs.*

## Sign Maintenance Cost

Maintenance is a crucial part of implementation. When wayfinding signs become worn or outdated it detracts from the mission of the City to remain current, safe, and attractive. The fabricator will provide warranties on materials and guidance for periodic maintenance.

General maintenance includes a cleaning once a year, or more frequently, as needed, with a soft cloth dampened with water (solvents and abrasive cleansers are not recommended). The surface should be rubbed lightly and evenly, the dried thoroughly.

The City should be prepared to monitor downtown signs and signs adjacent to sidewalks for periodic graffiti and sticker removal. Depending on the material selected, the fabricator can provide instructions on appropriate removal techniques. Signs in industrial areas and rural areas should be monitored for potential replacement due to collision with vehicles.

The fabricator will also provide warranties on wayfinding components. Warranties may vary based on material selection and components. Sign faces may have separate warranties from fixtures, footings, and panels.

SIGN TYPE	MAINTENANCE DESCRIPTION	COST RANGE
Directional Signs (on- and off-road)	Replace sign panel	\$400 - \$600
Confirmation Signs (on- and off-road)	Replace sign panel	\$300 - \$500
Turn Signs (on- and off-road)	Replace sign panel	\$300 - \$500
Mile Marker	Full re-paint	\$1,500 - \$2,000
Kiosks (full size)	Full re-paint	\$4,000 - \$6,000
Kiosk (post mount)	Full re-paint	\$1,500 - \$2,000

*Note: All costs are estimates and are to be verified by sign fabricator. Costs are subject to change based market changes including on inflation in labor and material costs.*

## Funding

There are multiple potential funding sources at the local, regional, state, and federal level available for bicycle wayfinding projects. Below is a listing of some potential funding sources.

### LOCAL FUNDING

#### Routine Accommodation

One of the most cost effective ways to make bicycling improvements is to include them as part of roadway and other improvements where feasible. Coordinating with other project types can be a lower cost solution for bicycle projects when compared to stand alone bicycle infrastructure projects.

#### City of Wichita Capital Improvement Program (CIP)

The City of Wichita programs funding for the majority of its transportation infrastructure projects through its Capital Improvement Program (CIP). The CIP is a budget document that provides a 10 year plan for financing of capital assets (i.e. buildings, roads, large equipment, etc.). The CIP identifies how much, what funding type, and when capital asset improvements/purchases will be undertaken.

#### City of Wichita Operating Budget

The City of Wichita programs funding for the majority of its programs and staffing (including maintenance) through the annual operating budget. The budget document is a detailed financial plan that identifies expenditures and revenues for the community. It also identifies outcome targets and an organizational overview.

#### City of Wichita Transient Guest Tax

The City of Wichita collects a transient guest tax, which supports convention and tourism promotion. Other communities have also used this funding to install wayfinding systems that improve the ability of travelers to know where they are going and how to get to their desired locations.

#### City of Wichita Administered HUD Community Development Block Grant Funds

The City of Wichita receives an annual block grant of Community Development Block Grant Funds from HUD. The funding can be used for a variety of projects, including wayfinding. Each year, the City programs the use of this funding through the One Year Action Plan.

#### Regional Funding

The Wichita Area Metropolitan Planning Organization (WAMPO) is a regional metropolitan planning organization (MPO). The MPO coordinates transportation at a regional level and administers Federal transportation funding programs for some pedestrian facilities or programs. These are described under the following Federal funding heading.



## STATE FUNDING

Implementation of Wichita wayfinding improvements could be advanced by infrastructure investments by the State of Kansas. Each year KDOT prepares a Statewide Transportation Improvement Program (STIP), the STIP provides a list of projects that will have funds obligated within the next four fiscal years. According to the KDOT website, a draft STIP document is published and available for a 30-day public comment each year in August.

## FEDERAL FUNDING

The US Department of Transportation provides funding for transportation projects to the State of Kansas and WAMPO. Wayfinding improvements are an eligible use of funding from the following federal programs listed below.

- Surface Transportation Program
- Congestion Mitigation and Air Quality
- Transportation Alternatives Program
- Highway Safety Improvement Program
- National Highway Performance Program
- Federal Transit Administration

## OTHER FUNDING

### Community Partners

A typical way to create great momentum is to work with other businesses, foundations, agencies, and organizations that have an interest in your city's wayfinding system.

### Civic Crowd Funding

Civic crowd funding is dedicated to the public good through a specific community, economic, or civic development project. Websites allow individuals and organizations to contribute to the projects that are typically inexpensive and quickly implemented. The donor base for these projects are typically place-based communities and organizations.

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# Appendix A

## Best Practices

### Overview

This appendix includes the principles of wayfinding, technical guidance, and best practices.

### Introduction

This appendix summarizes best practices and general signage guidelines associated with a community bicycling wayfinding system plan, building on the recommendations from the 2013 Wichita Bicycle Master Plan. The recommendations below take into consideration findings from applicable research, existing precedents, and policy pertaining to wayfinding signage. These best practices will be a guide for the placement and design of a wayfinding system.

The following best practices are described with respect to wayfinding principles, sign family elements, placement recommendations, and destination prioritization. This review will explain what is involved in effective wayfinding using well-researched and proven practices.

### Wayfinding Principles

The legibility of a place describes how easy it is to understand. Places are more legible when they are arranged so that people can intuitively determine the location of destinations, identify routes, and recognize areas of different character. Wayfinding helps to make places more legible by better enabling individuals to:

- Easily and successfully finding their way to their destination,
- Understand where they are with respect to other key locations,
- Orient themselves in an appropriate direction with little misunderstanding or stress; and
- Discover new places and services.

In order to help ensure that wayfinding systems are the most effective, the following guiding principles have been developed for bicycle wayfinding plans. The principles are based on best practices from around North America.



## 1: CONNECT PLACES

Effective wayfinding information should assist both residents and visitors to travel between destinations as well as discover new destinations and services accessible by bicycle. The wayfinding should help improve local economic wellbeing by encouraging Wichitans to utilize services within their own neighborhood or

city. Wayfinding should enhance connections within the city and neighboring communities. Destinations within the city should be identified as well as priority destinations throughout the region. The wayfinding navigation should be seamless on a regional level.

Wayfinding should also enhance connections and expand the bicycle network.

In addition, wayfinding elements should help create a deeper connection to place and cultivate a sense of pride in one's community by reflecting community values and identity.



## 2: PROMOTE ACTIVE TRAVEL

Wayfinding should encourage more bicycling by creating a clear and attractive system that is easy to navigate. Whether advertising directly to people traveling by bicycle or indirectly to passing vehicles, the system should encourage use of wayfinding by being both attractive and effortless to use and understand. The presence of wayfinding signs should validate cycling as a transportation option as well as reduce fear amongst those potentially interested in cycling.

Wayfinding should also expand the awareness and use of bicycle facilities. Under-utilized bicycle facilities are strong candidates for wayfinding improvements. The awareness and use of the existing bicycle network may efficiently and economically be expanded by installing wayfinding tools along facilities which are already in place. Miles of bicycle facilities and streets requiring little physical change to serve as safe and functional bikeways should be signed to raise the awareness of these route options. Wayfinding may also precede other infrastructure improvements in places.



### 3: MAINTAIN MOTION

Wayfinding information should be presented in a way that is easy to understand. Cycling requires physical effort. Frequent stopping and starting to check directions may lead to frustration. Wayfinding information that can be quickly comprehended contributes to bicycling enjoyment. Consistent, clear, and visible wayfinding elements allow bicyclists to navigate while maintaining movement.

### 4: BE PREDICTABLE

Wayfinding should be predictable and consistent. When information is predictable, it can be quickly understood and recognized. Predictability should relate all aspects of wayfinding placement and design (i.e. sign materials, dimensions, colors, forms, and placement). It also means that new situations are quickly understood. Once users trust that they will encounter consistent and predictable information, their level of comfort is raised and new journeys become easier to attempt and complete, thereby promoting an experience that is welcoming and friendly. Similarly, maps should employ consistent symbology, fonts, colors, and style. The system should work within local, state, and federal guidelines for a variety of reasons - including the ability to be funded through state and federal sources.

### 5: KEEP INFORMATION SIMPLE

Information should be presented in as clear and logical form as possible. Wayfinding signage should be both universal and usable for the widest possible demographic and with special consideration for those without high educational attainment, English language proficiency, or spatial reasoning skills. It is important to provide information in manageable amounts. Too much information can be difficult to understand; too little and decision-making becomes impossible. Information should be provided in advance of



where major changes in direction are required, repeated as necessary, and confirmed when the maneuver is complete.

These wayfinding principles combine to create a wayfinding system plan that is both legible and easy to navigate. These principles should be applied in the Wichita Bicycle Wayfinding System Plan to guide design, placement, and destination logic. By following a clear set of principles an organized approach to wayfinding design will be achieved.

## Technical Guidance

A variety of standards and guidelines influence both the sign designs and placement of wayfinding elements in Wichita. This section will address national standards for wayfinding signage.

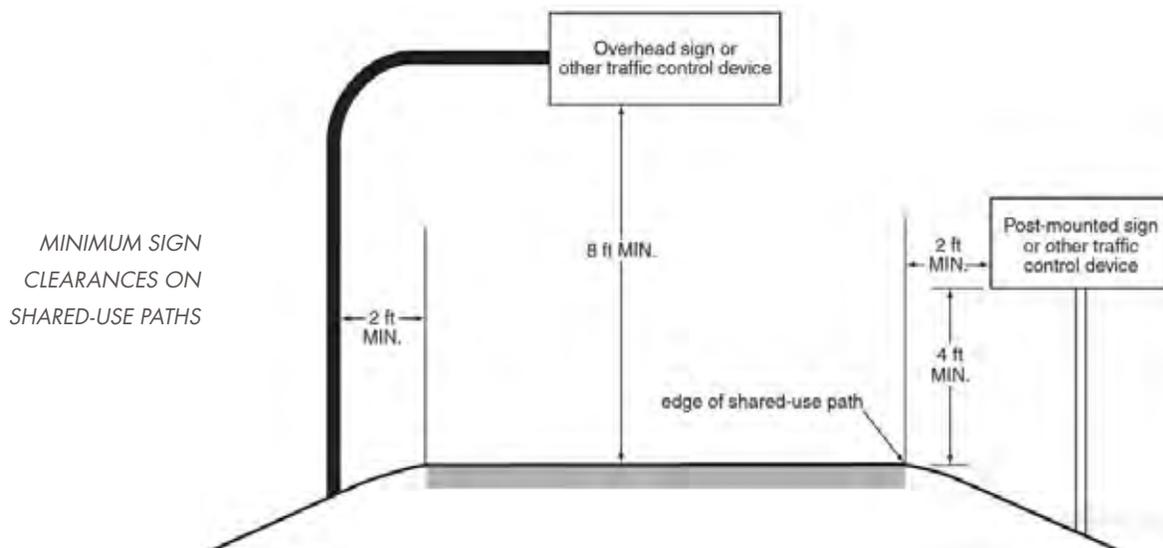


## AASHTO GUIDE FOR THE DEVELOPMENT OF BICYCLE FACILITIES

The Guide for the Development of Bicycle Facilities by the American Association of State Highway Transportation Officials, or AASHTO, provides information on the physical infrastructure needed to support bicycling facilities. The AASHTO guide largely defers to Part 9 of the Manual on Uniform Traffic Control Devices, or MUTCD (discussed in the following section) for basic guidelines related to the design of wayfinding systems for bicycles. Additional information provided by AASHTO regarding wayfinding is as follows:

- Many communities find that a wayfinding system for bicycles is a component of a bicycle network that enhances other encouragement efforts, because it provides a visible invitation to new bicyclists, while also encouraging current bicyclists to explore new destinations.
- Bicycle wayfinding signs should supplement other infrastructure improvements so that conditions are favorable for bicycling, as signs alone do not improve safety or rider comfort.

- Guide signs may be used to designate continuous routes that may be composed of a variety of facility types and settings.
- Wayfinding guidance may be used to provide connectivity between two or more major bicycle facilities, such as a street with bike lanes and a shared use path.
- Wayfinding may be used to provide guidance and continuity in a gap between existing sections of a bikeway, such as a bike lane or shared use path.
- Road/path name signs should be placed at all path-roadway crossings to help users track their locations.
- Reference location signs (mile markers) assist path users in estimating their progress, provide a means for identifying the location of emergency incidents, and are beneficial during maintenance activities.
- On a shared use path, obstacles, including signs, shall be placed no closer than 24 inches from the near edge of the travel way and no more than 6 feet away. For pole mounted signs, the lowest edge of the sign shall be 4 – 5 feet above the existing ground plane.



### ACCESSIBILITY STANDARDS

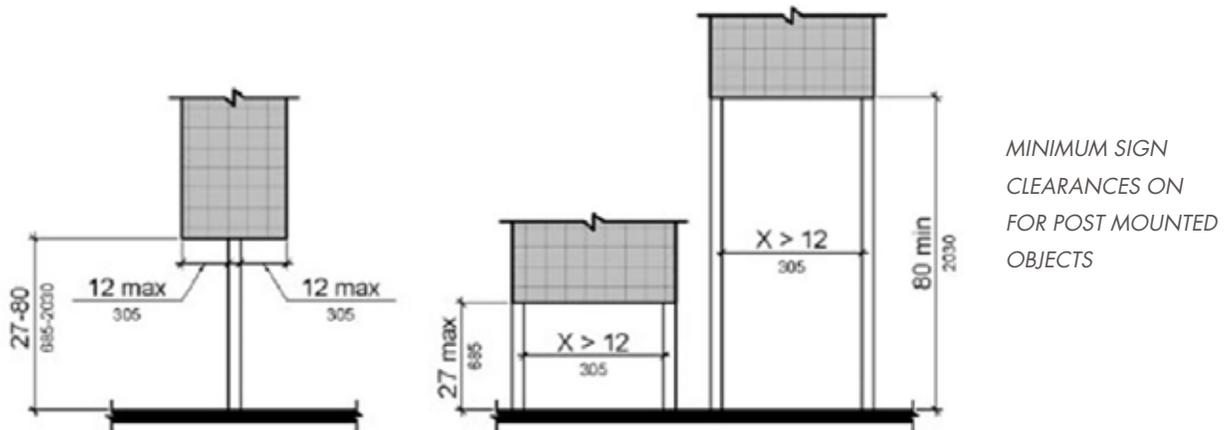
As wayfinding systems often related to accessible routes or pedestrian circulation, it is important to consider technical guidance from the ADA so that signs and other elements do not impede travel or create unsafe situations for pedestrians and/or those with disabilities. The Architectural and Transportation Barriers Compliance Board provides guidance for accessible design for the built environment. Standards which should be considered when designing and placing wayfinding signs includes the following:

#### Vertical Clearance

Vertical clearance shall be 80 inches high minimum, or 27 inches maximum when signs protrude more than 12 inches from the sign post or support structure.

#### Post-Mounted Objects

Where a sign or other obstruction is mounted between posts or pylons and the clear distance between the posts or pylons is greater than 12 inches, the lowest edge of such sign or obstruction shall be 27 inches maximum or 80 inches minimum above the finish floor or ground.

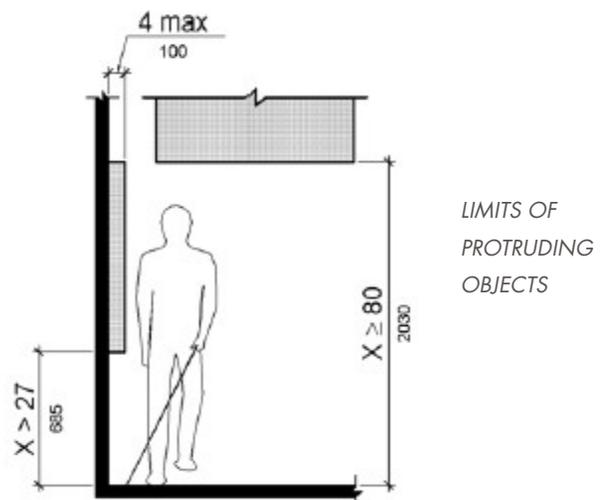


#### Protruding Objects

Objects with leading edges more than 27 inches and not more than 80 inches above the finish floor or ground shall protrude 4 inches maximum horizontally into the circulation path.

#### Required Clear Width

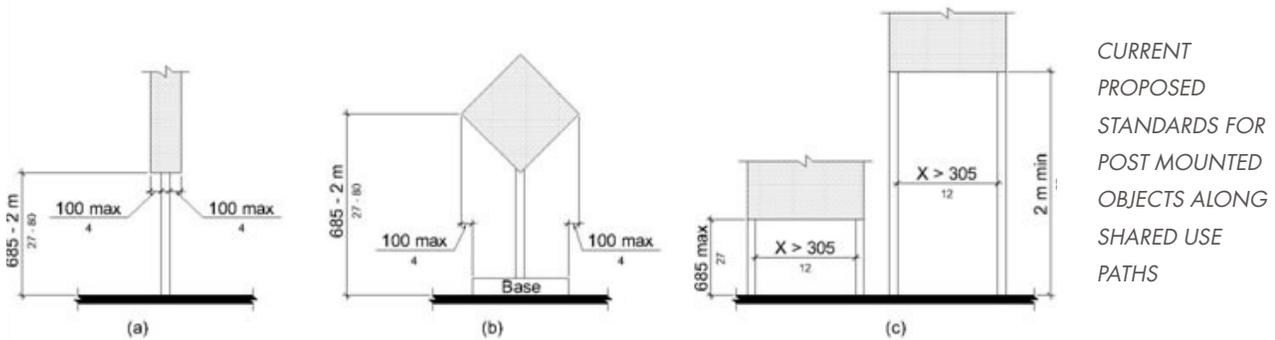
Protruding objects shall not reduce the clear width required for accessible routes. Generally this requirement is met by maintaining four feet minimum clear width for maneuvering. This requirement applies to both sidewalks and pedestrian circulation paths.





### SHARED USE PATHS

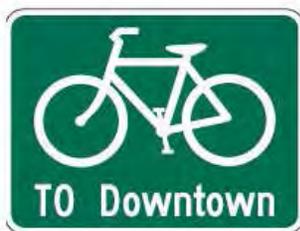
Accessibility standards for shared use paths are currently being developed. Proposed standards address post mounted objects as follows. Where objects are mounted on free-standing posts or pylons and the objects are 27 inches minimum and 80 inches maximum above the finish surface, the objects shall overhang pedestrian circulation paths 4 inches maximum measured horizontally from the post or pylon base. The base dimension shall be a minimum of 2.5 inches thick. Where objects are mounted between posts or pylons and the clear distance between the posts or pylons is greater than one foot, the lowest edge of the object shall be 27 inches maximum or 80 inches minimum above the finish surface.



### MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD)

#### Bicycle Sign Standards

The Manual on Uniform Traffic Control Devices, or MUTCD, is a document issued by the Federal Highway Administration of United States Department of Transportation. The MUTCD specifies the standard for all traffic control devices installed on any street, highway, bikeway, or private road open to public travel. The MUTCD was established in order to achieve uniformity and consistency in traffic control devices (wayfinding signage is considered a traffic control device) so that information would be readily recognized and understood by travelers. Both on-street and off-street bicycle facilities are required to follow the standards within the MUTCD.



D11-1c



M1-8



D1-3c

*EXAMPLES OF STANDARD MUTCD SIGNS*

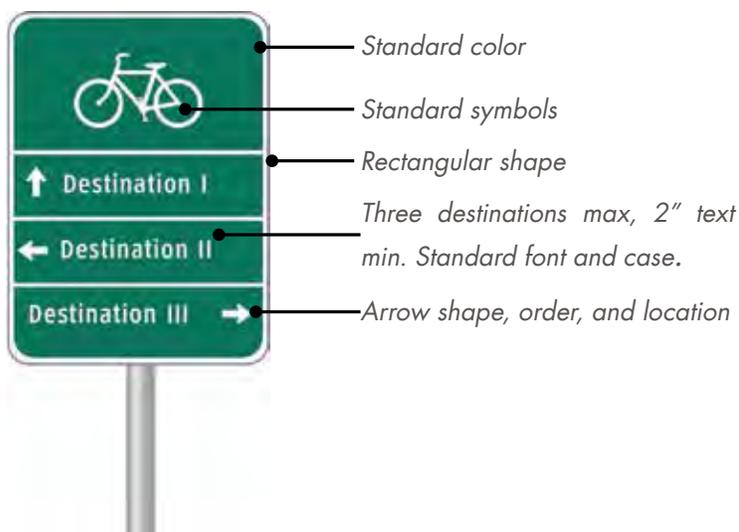
Per the MUTCD, devices should be designed so that:

- Size, shape, color, composition, lighting or retro-reflection, and contrast are combined to draw attention to the devices; simplicity of message combine to produce a clear meaning.
- Legibility and size combine with placement to permit adequate time for response.
- Uniformity, size, legibility, and reasonableness of the message combine to command respect.

The MUTCD also recommends the arrangement and amount of text, or legend, on each section of each sign:

- Guide signs should be limited to no more than three lines of destinations, which include place names, route numbers, street names, and cardinal directions.
- A straight ahead location should always be placed in the top slot followed by the destination to the left and then the right. If two destinations occur in the same direction, the closer destination should be listed first followed by the farther destination.

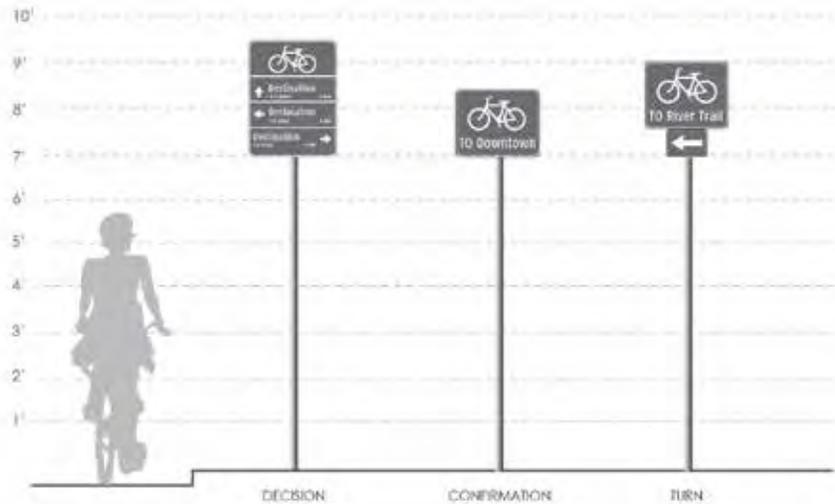
- Arrows shall be depicted as shown above for glance recognition, meaning straight and left arrows are to be located to the left of the destination name, while an arrow indicating a destination to the right shall be placed to the right of the destination name. The approved arrow style must be used.
- 19 characters (including spaces) in titlecase should be considered a maximum length for a single destination title. 10-14 characters (including spaces) in titlecase should be considered an ideal maximum length for a single destination title.
- In situations where two destinations of equal significance and distance may be properly designated and the two destinations cannot appear on the same sign, the two names may be alternated on successive signs.
- Approved fonts include the Federal Series (series B, C, or D), also known as Highway Gothic. Clearview is also currently approved for use, however the FHWA is considering rescinding the use of Clearview.
- A contrast level of 70% needs to be achieved between foreground (text and graphics) and background.





### Fundamental Navigational Elements

The fundamental family of signs which provide cyclists with navigational information consists of decision, confirmation, and turn signs. The function, content, and placement of each are described below.



FUNDAMENTAL ON-STREET WAYFINDING TOOLS

### Decision Sign

**Function and Content:** Decision signs clarify route options when more than one potential route is available. System brand mark, space for up to three destinations, distance in miles and time (based on 10 mph or 6 minute per mile travel speed). Decision signs may include specific route or path name.

Per the FHWA’s Standard Highway Sign Manual, the standard size for a three line destination sign is 18 inches high by 30 inches wide, however many municipalities use a vertical format sign being 24 inches wide by 30 or 36 inches tall. This is accomplished by omitting the bicycle symbol from each separate line and instead having a single bike symbol at the top of the sign. Generally providing six inches of vertical space per destination line allows for the 2 inch minimum text height. Sign width is not standardized by the MUTCD. These dimensions apply to both on and off-street bicycle facilities.

**Placement:** Decision signs should be placed prior to decision making points or intersections with routes having bicycle facilities. Sufficient distance prior to the intersection should be provided to allow for safe recognition and response to information provided. Care should be taken so that the turn or options the sign refers to are obvious. Decisions signs should not be placed near side or access paths that could be confused with the primary route.

### Confirmation Sign

**Function and Content:** Placed after a turn movement or intersection to reassure cyclists that they are on the correct route. System brand mark and route or pathway name may be included. A minimum size of 24" wide by 18" high should be used for bike route signs whether on-street or off-street.

**Placement:** Signs should be placed 50 – 100 feet after turns. Confirmation signs need not occur after every intersection. They should be prioritized at locations where a designated route is not linear as well as after complex intersections. Complex intersections include those having more than four approaches, non-right angle turns, roundabouts, or in-direct routing.



CONFIRMATION SIGNS MAY BE AS SIMPLE AS A STANDARD "BIKE ROUTE" SIGN OR THEY MAY INCLUDE INFORMATION REASSURING WHICH DESTINATIONS ARE AHEAD

### Turn Sign

**Function and Content:** Used to clarify a specific route at changes in direction when only one route option is available. System brand mark, route or pathway name, directional arrow. Standard D1-1 series signs may be used to indicate turns. Similar to decision signs a minimum height of 6" should be used and width may vary according to destination length.

Standard turn arrow signs (M5 and M6 series) may also be used in conjunction with bike route signs to clarify turn movements.

**Placement:** Placed at turns prior to the turning action to provide cyclists advance notice of a change in direction. Also may be used in conjunction with a decision sign at complex intersections warranting additional information.



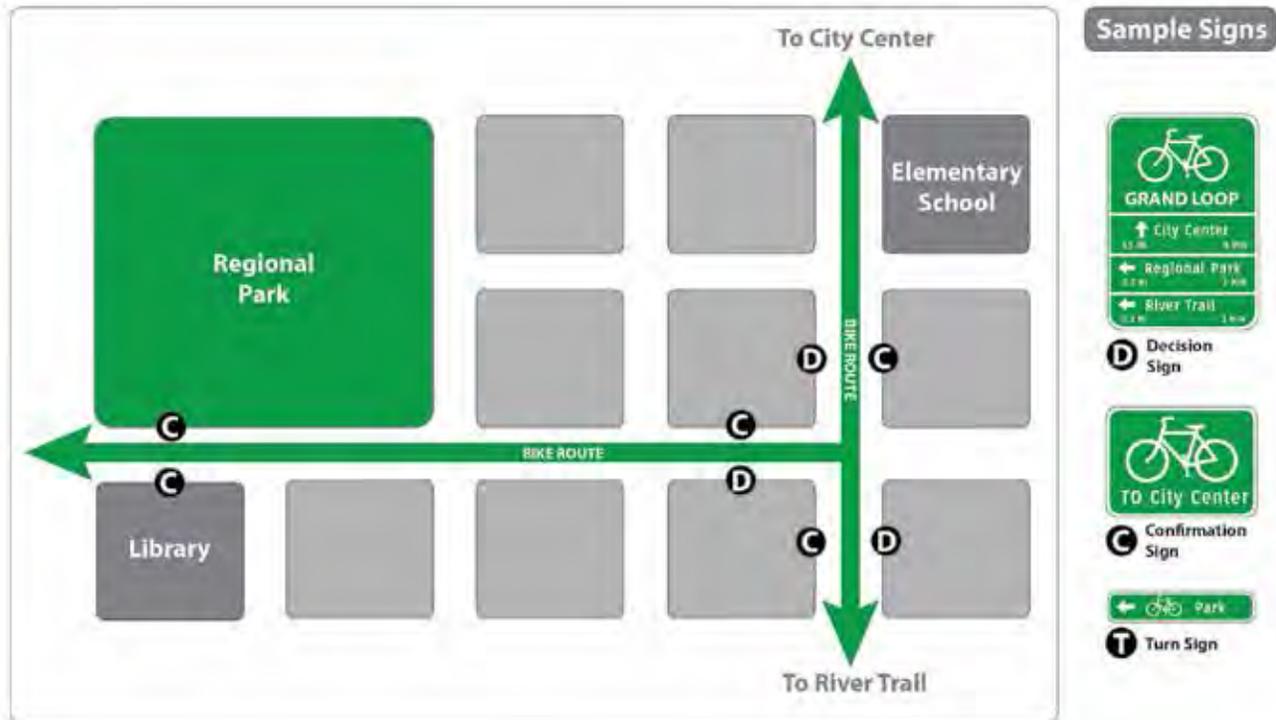
DIRECTIONAL ARROWS MAY BE ADDED TO A BIKE ROUTE SIGN TO CLARIFY THE NEED FOR A TURN MOVEMENT, CHICAGO, IL

### Clearance

The nearest edge of any sign should be placed a minimum of 24" from face of curb for both on-street bicycle facilities and paths. Mounting height should be a minimum of 7' from the bottom edge of sign to finish grade for on-street signs and a minimum of 4' for paths.



## Coordinating Placement



TYPICAL PLACEMENT SCENARIO SHOWING A DECISION SIGN BEING LOCATED PRIOR TO AN INTERSECTION OF TWO BICYCLE FACILITIES. A CONFIRMATION SIGN IS PROVIDED AFTER THE TURN MOVEMENT AS WELL AS PERIODICALLY ALONG THE ROUTE FOR REASSURANCE.

## Community Wayfinding

Wayfinding signs, which allow for an expression of community identity and pride, reflect local values and character, and may provide more information than signs which strictly follow the basic guidance of the MUTCD. Section 2D.50 of the MUTCD describes community wayfinding signs as follows:

1. Community wayfinding guide signs are part of a coordinated and continuous system of signs that direct tourists and other road users to key civic, cultural, visitor, and recreational attractions and other destinations within a city or a local urbanized or downtown area.



FLEXIBLE DIRECTIONAL OR DECISION SIGN INCORPORATING COMMUNITY WAYFINDING STANDARDS.

2. Community wayfinding guide signs are a type of destination guide sign for conventional roads with a common color and/or identification enhancement marker for destinations within an overall wayfinding guide sign plan for an area.

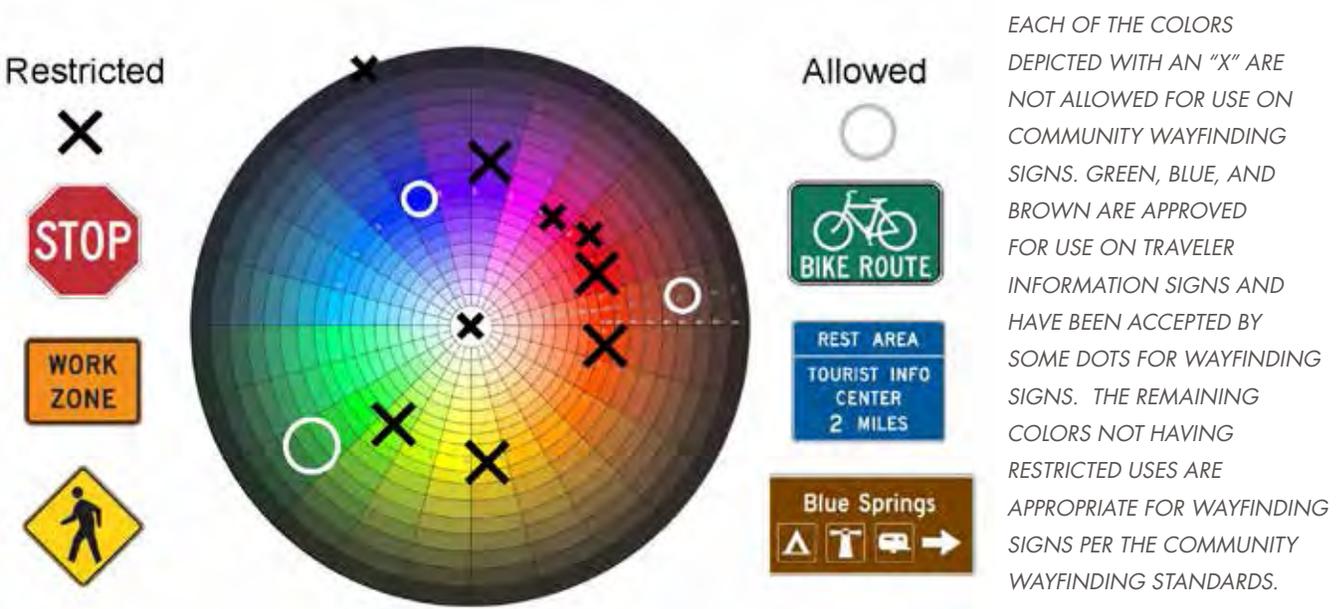
The design of the directional arrows shown on the bottom of 1-12 provides clarity, but is not approved for use by the FHWA. The standard arrow has been deemed by engineering study to have superior legibility. Enhancement markers may occupy up to 20% of the sign face on the top or side of the sign.

**Colors**

Per the community wayfinding standards, color coding may be used on wayfinding guide signs to help users distinguish between multiple potentially confusing traffic generator destinations located in different neighborhoods or subareas within a community or area. Community wayfinding guide signs may use background colors other than green in order to provide a color identification for the wayfinding destinations by geographical area within the overall wayfinding guide signing system.

The MUTCD prohibits the use of some colors for wayfinding signs, these colors are known as “assigned colors”. The “assigned colors” consist of the standard colors of red, orange, yellow, purple, or the fluorescent versions thereof, fluorescent yellow-green, and fluorescent pink. They cannot be used as background colors for community wayfinding guide signs, in order to minimize possible confusion with critical, higher-priority regulatory and warning sign color meanings readily understood by road users.

The color wheel diagram below depicts colors which are already assigned specific meanings and thus shall not be used on community wayfinding signs. Green is the standard color for guide signs. Blue and brown are also used for traveler information including destination and street name signs. The remaining colors are eligible for use on community wayfinding signs as long as they are sufficiently different from the “assigned colors”.





### Flexibility in Standards

Both the FHWA and USDOT have made statements in recent years encouraging a flexible approach in support of facilities for biking and walking:

“...DOT encourages transportation agencies to go beyond the minimum requirements, and proactively provide convenient, safe, and context-sensitive facilities that foster increased use by bicyclists and pedestrians of all ages and abilities, and utilize universal design characteristics...” (2010)

Federal Highway Administration’s (FHWA) support for taking a flexible approach to bicycle and pedestrian facility design. (2013)

While the MUTCD provides standards and guidelines for the design, size, and content of wayfinding signs, many jurisdictions have implemented unique signs to enhance visibility while reinforcing local identity. The MUTCD Spectrum figure below shows a range of wayfinding elements that have been implemented by municipalities around the nation. The range extends from rigid MUTCD on the left to the more flexible options on the right. Signs which adhere to the MUTCD basic minimum standards are readily understood by a wide audience, are economical,

and simple to fabricate and maintain. They also are clearly eligible to be implemented utilizing federal transportation funding resources. Signs that follow the community wayfinding standards may be more costly to design, fabricate, and maintain, however they have the added benefits of reflecting local character and identity. If a precedent has not already been set, the Kansas Department of Transportation should be consulted to verify that community wayfinding standards may be applied to bikeways while retaining eligibility for federal transportation funds.

### Supplemental Information – Distance and Time

The addition of measuring distance in terms of miles and minutes has been employed by a number of cities in the United States. Adding distance in familiar units has been found to be an effective encouragement tool to bicycling. While asking someone to ride their bike two miles may sound daunting, the thought of riding for twelve minutes is typically approachable. A no sweat pace of 10 miles per hour or 6 minutes per mile is the typical pace used on wayfinding signs. This is lower than typical bicycle design speed in order to best reflect and encourage the riding speed of the casual rider.

MUTCD SPECTRUM

Rigid MUTCD	MUTCD Influenced
	<ul style="list-style-type: none"> <li>• MUTCD compliant signs</li> <li>• Information is clear and consistent.</li> <li>• Regional context or local identity not present.</li> <li>• Variation in sign sizes and shapes.</li> <li>• Encouragement information not present.</li> </ul> <ul style="list-style-type: none"> <li>• D1 series signs consolidated into a single sign reduces the number of signs required, overall sign clutter, and sign dimensional variation.</li> <li>• MUTCD does not provide for travel times however numerous cities and states (Florida OR, Eugene OR, Nampa ID, Columbus, OH and Jackson WY) incorporate this additional information.</li> </ul> <ul style="list-style-type: none"> <li>• Community signs may be augmented by unique system or municipally identifiers or enhancement markers as per Section 2D.50.</li> <li>• MUTCD allows for custom framing as well as color variations for community wayfinding signs.</li> </ul> <ul style="list-style-type: none"> <li>• Directional sign with graphic map, includes clear directional information and arrows, high contrasting text, pathway facility name, and user map.</li> </ul> <ul style="list-style-type: none"> <li>• Custom framing and support structures. Unique sign shapes. High contrast graphic content, non-standard colors and layout.</li> </ul>



## Enhanced Wayfinding Tools

### PAVEMENT MARKINGS

Directional pavement markings indicate confirmation of bicyclist presence on a designated route and where bicyclists should turn. Especially in urban settings, pavement markings can often be more visible and can help supplement or reinforce signage.

### On-Street Markings

The following images show different types of pavement markings that have been used for wayfinding purposes. While the shared lane marking is currently the only FHWA approved pavement marking shown, cities have experimented with the other options.

In Berkeley, CA and Minneapolis, MN, some bicycle boulevards have large "Bicycle Boulevard" stencils that take up nearly the entire width of one travel lane.

Portland, OR has turned the chevrons on the top of the MUTCD-standard shared lane marking (sharrow) to indicate the direction of intended travel (second photo from left in the four-photo matrix). Notably, this practice is not FHWA approved or eligible for federal funding. Local transportation engineers are confident that the benefits of the turned chevrons outweigh the risks. Portland installs standard shared lane markings with federal funds, and then makes modifications later with local monies to add the directional wayfinding component.

Columbia, MO is currently conducting an FHWA approved experiment regarding the use of small wayfinding medallions on both on- and off-street bikeways (second image from right). Note: The City of St. Louis is no longer using the arrow with the Bike St. Louis logo and text. The City of Portland previously used similar small medallions to aid with wayfinding. However, these marks were viewed as less effective than shared lane markings as they were only visible to cyclists.



Standard



Flexible

### Off-Street Markings

Some pavement markings, including off-street shared use path markings can give an identity to the route and include directional and trip information, including distances or times. While such markings are not included as traffic control devices within the MUTCD, numerous agencies around the nation follow such practices.



APPLICATION OF THERMOPLASTIC TRAIL MARKERS IN RTP NORTH CAROLINA

### Mile Markers

Mile markers aid pathway users with measuring distance travelled. They further provide pathway managers and emergency response personnel points of reference to identify field issues such as maintenance needs or locations of emergency events. System brand mark, path name, and distance information in miles may be included as well as jurisdiction identification.



NORTHWEST ARKANSAS RAZORBACK GREENWAY MILE MARKER

Mile markers should be placed every  $\frac{1}{4}$  to  $\frac{1}{2}$  mile along a pathway network. Point zero should begin at the southern and westernmost terminus points of a pathway. Mile numbering should be reset at zero as a pathway crosses a jurisdictional boundary.

Although it is ideal to place mile markers on the right hand side of the path facing bicycle traffic, they may also be installed on one side of a pathway, on a single post back-to-back.

### Street Name Sign Blades

MUTCD standard street name sign blades have been enhanced by a wide number of municipalities around the nation to provide additional recognition of bikeways. Enhancements have been achieved either in the form of supplemental signs and sign toppers added to existing signs or via graphic embellishments integrated into new sign blades.

Good wayfinding practice also includes the use of street name sign blades on off-street pathways in reference to the roadway network. Numerous cities follow the practice of indicating cross streets at bridges, underpasses, and at-grade roadway crossings to inform pathway users of their location.



NEIGHBORHOOD GREENWAY SIGN TOPPER IN PORTLAND, OR (PHOTO: JONATHAN MAUS/BIKEPORTLAND.ORG)



Green, blue, and brown are all accepted colors for street name sign blades according to the MUTCD, as long as colors are used consistently across the City.



SIGN TOPPER-SHAPED ONE-PIECE SIGN ON KENDALL AVENUE BIKE BOULEVARD IN MADISON, WI



YUCCA STREET SIGN TOPPER IN LOS ANGELES, CA. BOTH THE SIGN TOPPER (FOREGROUND) AND THE WIDER, TWO-COLOR BLADE VERSION (BACKGROUND) CAN BE SEEN.

### Map Kiosks

Kiosks with area and/or citywide orientation maps, can provide helpful navigational information, especially where bicyclists may be stopping long enough to digest more information (i.e. transit stations or stops, busy intersections, trail heads). The use of icons and high contrasting colors is a good practice which makes maps comprehensible to a wide audience.

Adding circles that indicate walk and bike times provides encouragement to explore urban areas. Additionally, orienting signs with respect to the audience's view (or, a heads up orientation) is considered by wayfinding practitioners to be more intuitive than maps where north is at the top. High contrast graphics and the use of color coded areas or districts help make maps comprehensible to a wide audience.

Kiosks with maps are also a useful resource for trail users. Again the use of high contrast, simple graphics and icons enhances legibility for a broad spectrum of users. Kiosks should contain information on trail or path rules and



regulations including allowed uses. Emergency contact information is also typically present. Interpretive or educational information may also be integrated. Per the ADA standards, trailhead facilities built with federal funds shall include the following information:

- Length of the trail or trail segment;
- Surface type;
- Typical and minimum tread width;
- Typical and maximum running slope; and
- Typical and maximum cross slope.



## Destinations Selection and Prioritization

Standards do not exist for selecting and prioritizing wayfinding information on signs. Given that only three slots of information or destinations may be used on bicycle oriented sign, a rationale for choosing which destinations will be signed needs to be developed. Example cities and regions have utilized the following approach.

Priority/Place	Metro Phoenix, AZ	Oakland, CA	Metro Vancouver, BC
Primary	Cities, large communities - 3 miles	Cities, large communities - 5 miles	Cities, large communities - 3km
Secondary	Districts - 2 miles	Districts - 2 miles	Districts - 2km
Tertiary	Regional landmarks - 1 mile	Regional landmarks - 1 mile	Regional landmarks - 1 km
Quaternary	Local destinations - 1 mile		Local destinations - 1 km

## Resources

Accessibility Standards. US Access Board, 2012. <http://www.accessboard.gov/guidelines-and-standards>

"Design Guidelines for Bicycle Wayfinding." City of Oakland, CA, 2009.

"Manual on Uniform Traffic Control Devices." Manual on Uniform Traffic Control Devices. Department of Transportation, 2009. <http://mutcd.fhwa.dot.gov/index.htm>

"Guide for the Development of Bicycle Facilities, Fourth Edition." American Association of State Highway Transportation Officials, 2012.

"Standard Highway Signs," Federal Highway Administration, 2012.

"Wayfinding Signs for Shared-Use Paths." National Committee on Uniform Traffic Control Devices, Spring 2014. <http://www.ncutcdbtc.org/sponsors.html>



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# Appendix B

## Site Assessment

### Overview

This assessment includes research of existing plans and how to address community needs.

### Introduction

The City of Wichita and neighboring communities have taken great strides in recent years to lay the foundation for a world-class bicycle transportation and recreation system. The region's commitment to bicycling can be seen in the 70 miles of shared use paths, the small but growing network of on-street bikeways, and a recently completed Bicycle Master Plan to guide future investments in bicycle facilities. As the network of trails, bike lanes, and other bicycle facilities continues to grow, residents and visitors will have greater access to local and regional destinations.

The *Wichita Bicycle Wayfinding System Plan* will serve as a guide for the City of Wichita with recommendations for how the City should use bicycle wayfinding to improve conditions for bicycling in Wichita and implement the Wichita Bicycle Master Plan.





## Wichita Bicycle Master Plan

Below is a brief overview of the Wichita Bicycle Master Plan and recommendations related to bicycle wayfinding; and brief highlights of the progress to date.

### PLAN OVERVIEW

Adopted by the City Council in February of 2013, the Wichita Bicycle Master Plan (Bicycle Plan) serves as the City’s guiding document for investments in bicycle facilities and programming. The plan envisions “an interconnected network of on- and off-street bicycle facilities that accommodates bicycle riders of all skills levels; and links all areas of the City of Wichita – including employment centers, schools, parks, and other activity centers.” The Bicycle Plan goals are listed below.

**Goal 1:** Increase the amount of bicycling in Wichita

**Goal 2:** Improve the safety of bicyclists in Wichita

**Goal 3:** Foster and promote a culture where bicycling is a viable and acceptable form of transportation

In addition to the 770 miles of recommended bicycle facilities, the Bicycle Plan Strategy 2 recommends the development for a bicycle wayfinding system as an integral strategy to increase bicycling. As noted in the plan, wayfinding signs, markers and supporting materials help to “visually connect the bicycle network, allowing bicyclists to reach their destination with minimal or no use of a map.”

Action steps associated with this strategy include:

- Adopting a wayfinding protocol,
- Creating a wayfinding plan,
- Prioritizing wayfinding improvements,
- Applying for funding, and
- Installing the wayfinding system.

### IMPLEMENTATION PROCESS

The City’s Wichita Bicycle Master Plan 2014 Annual Implementation Progress Report indicates that the City has not met its annual target of an average of 20 miles of signed bicycle routes installed each year. However, the City did achieve success with regard to the wayfinding strategy by working with community partners to develop a wayfinding project along the K-96 Path and draft a memorandum of understanding for a wayfinding signage donation.



## WAMPO Regional Pathway System Plan

Below is a brief overview of the WAMPO Regional Pathway System Plan.

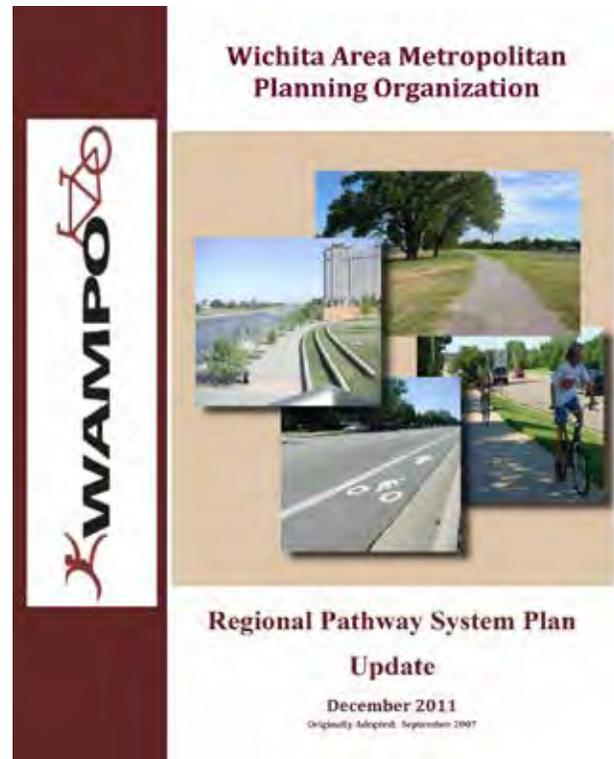
### PLAN OVERVIEW

Developed by the Wichita Area Metropolitan Planning Organization in 2007 and updated in 2011, the WAMPO Regional Pathway System Plan (RPSP) identifies primary east/west and north/south corridors that connect most of the communities in the WAMPO region. These regional corridors create a framework for biking facilities and help lay the foundation for identifying missing links. The regional corridors can be looked at as a backbone system that connects existing and future bicycle/pedestrian facilities.

The principal function of WAMPO is to serve as a regional forum for transportation decision making.

The plan addresses the following in order to meet the needs of the WAMPO region for creating connectivity, optimizing safety, and encouraging bicycling and walking to local and regional destinations:

- Multimodal transportation needs at a regional scale
- Integration of bicycles and cars
- Cohesive transportation networks that accommodate all modes of transportation
- Specific public infrastructure and private land use improvements to encourage pedestrian travel
- Site-specific projects and local planning to accomplish regional goals
- Needs for building new facilities



- Relevancy to WAMPO Metropolitan Transportation Plan (MTP) 2035
- Performance measures determining effectiveness of WAMPO MTP 2035
- Timeline of plan and implementation

Key observations of existing conditions in the region and recommendations for enhanced bicycling and walking are described. They include regional development patterns, network connectivity, and steps to move towards implementation.

## Wichita Bicycle Network

Wichita's growing bicycle transportation system is a reflection of the community's interest in bicycling for both recreation and transportation. The City of Wichita and its neighboring communities have responded to this increased desire for active recreation and alternative transportation, constructing shared use paths like the Arkansas



River Path and the Canal Hike and Bike Trail, and on-street bikeways like the bicycle lanes on 1st and 2nd Streets. While these existing bikeways encourage and support bicycling activity, the lack of a uniform and comprehensive wayfinding system presents challenges to both residents and visitors who wish to access destinations and services throughout the region.

### SHARED USE PATHS

Shared use paths represent the largest single bicycle facility type in the Greater Wichita area. Located along rivers and streams, in abandoned rail line rights-of-way, adjacent to interstate corridors, and within major parks and open spaces, 72 miles of shared use paths in Greater Wichita are enjoyed by bicyclists of all ages and abilities, from families with small children and seniors with limited physical mobility to daily commuters and avid recreational cyclists. Major paths in the region include:

- Arkansas River Path
- K-96 Bicycle Path
- McAdams Bicycle Path
- Canal Hike and Bike Trail
- Gypsum Creek Bicycle Path
- I-35/Gypsum Creek Connection
- Prairie Sunset Trail

More than 45 of the 72 miles of shared use paths are located within the City of Wichita. Their accessibility, comfort, and minimal interaction points with motor vehicle traffic make shared use paths appealing to both recreational bicyclists and commuter/utilitarian bicyclists alike. Because the majority of shared use paths are linear in nature, rather than a circle or loop path located within a park, these facilities have great potential to connect residents and visitors to many of the region's great cultural, civic, commercial, and recreational amenities.



### SIDEPATHS

Sidepaths are an integral component of the bicycle transportation and recreation network in Wichita. These bicycle facilities are similar in character to shared use paths, offering a paved travel surface for bicyclists, pedestrians, and other non-motorized users, but are located adjacent to roadways rather than in a separate corridor. Because of their position within a roadway's right-of-way, there are some unique opportunities and challenges inherent to these facilities. For example, sidepaths can serve as an ideal connector between shared use paths and popular destinations, providing a comfortable and accessible facility for most bicyclists. However, their proximity adjacent to the roadway



creates additional conflict points with motor vehicle traffic, particularly along roadways with numerous side streets and driveways.

There are approximately 51 miles of sidepaths in Greater Wichita. The 18 miles of sidepaths within the City of Wichita function as extensions to the shared use path system, connecting separate shared use paths to one another and to nearby destinations. In neighboring communities like Maize, Derby, and Andover, sidepaths are the most prevalent bicycle facilities and function as the major spines of these local bicycle networks.

### ON-STREET BIKEWAYS

The system of on-street bikeways in Greater Wichita is still in its infancy. Within the City of Wichita, there are 7.5 miles of bicycle lane miles. The most prominent bicycle lanes are located on 1st Street and 2nd Street, Westdale Drive, and Mount Vernon. Outside of the City, paved shoulders provide bicycle facility on roads like South Meridian and South Broadway near Haysville, and 21st Street west of Wichita. In addition to these designated bicycle facilities, many people bicycle on roadways without separate bicycle facilities.



## Community Needs Related to Bicycle Wayfinding

Based on previous bicycling projects, and research and observations by the project team, the following Wichita community needs have been identified related to bicycle wayfinding:

- More connections for people bicycling;
- Increased awareness of recommended locations for bicycling;
- Providing information about bicycling travel time; and
- Assistance with navigation.

Based on observations and discussions for this project, it is recommended that the bicycle wayfinding system should be oriented towards those who ride for recreation as well as transportation.



PHOTO CREDIT: TOGETHER WICHITA



### CONNECTIONS

Wichita residents and stakeholders have indicated a need for increased connections for people bicycling. The Wichita Bicycle Master Plan survey showed that the most frequent reason why participants find bicycling difficult in Wichita and neighboring areas is that “bicycle lanes are too few, and are not interconnected.”

### AWARENESS

Wichita stakeholders have also indicated an opportunity and need for increased awareness of recommended locations for cycling in the City. As part of the 2007 Wichita Parks, Recreation and Open Space Plan survey, nearly 20 percent of respondents indicated that they did not use trails or pathways in Wichita because they did not know where they are located. This was followed closely by the response that the facilities were too far away and not conveniently located. The bicycle wayfinding system can increase awareness of existing facilities and is also a great opportunity to raise awareness of cycling, including for those who prefer to drive.

### TRAVEL TIME

National best practices show that the Wichita community has a need for information about the bicycling travel time to destinations. Studies from other US cities have shown that the time to reach a destination on a bicycle is a significant perceived barrier. A wayfinding system can help address this barrier by including estimated bicycling travel time in minutes to destinations.

### NAVIGATION

People bicycling on the existing Wichita bicycle facilities have expressed a need for wayfinding to help identify the routing of some existing paths. Intersections, route interruptions, non-intuitive routes, and locating off-route destinations, are

all navigational challenges that Wichita cyclists encounter. A bicycle wayfinding system can help address these challenges through the use of confirmation signage that indicates which route people are bicycling, destination signage, and guidance where bicycle facilities intersect.

### Community Identity

Several themes are strongly ingrained into the identity of Wichita. An Internet survey of Wichita logos and visual references repeated the following core elements: agriculture and wheat, airplanes, and sunshine. The Keeper of the Plains and Wichita City flag are also popular visual identifiers.



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# Appendix C

## Public Process

### Overview

The public process included multiple opportunities for public input, including an exploration of the style, color, and shape of the on- and off-road bicycle wayfinding signs package.

### Introduction

This appendix provides an overview of the public input process for the Wichita Bicycle Wayfinding System Plan (Wayfinding Plan) and the three sign designs created based on survey feedback from Wichita stakeholders and the project Steering Committee.

### Public Input Process

As a guide for the City of Wichita, the Wichita Bicycle Wayfinding System Plan (Wayfinding Plan) was developed with input from multiple stakeholders. Building on the public involvement collected during the Wichita Bicycle Master Plan process, the Wayfinding Plan public involvement opportunities included the following:

- Wichita Bicycle Wayfinding Steering Committee meetings;
- Two on-line surveys;
- Presentations to City advisory boards, commissions, and councils.



## WICHITA BICYCLE WAYFINDING STEERING COMMITTEE

The Wichita Bicycle Wayfinding Steering Committee provided guidance and support for the development of the Wayfinding Plan. The Wichita Bicycle and Pedestrian Advisory Board created the Steering Committee as a sub-committee of the board and appointed 13 individuals at the board's May 11, 2015 meeting. The Steering Committee membership consisted of at-large citizen volunteer applicants from the general public and members of the Wichita Bicycle and Pedestrian Advisory Board (see the Acknowledgements section of the Wayfinding Plan for a complete listing of the members).

The Steering Committee met four times during the planning process. They reviewed and provided input on the Wayfinding Plan, accepted public feedback, and helped to ensure that the plan meets the needs of the Wichita community. Each of the Steering Committee meetings were public, with opportunities for members of the public to learn about the project and provide input.

## ON-LINE SURVEYS

Two web-based surveys were used to solicit input on bicycling in Wichita, possible wayfinding designs, and wayfinding priorities. The first survey in May 2015 received 215 responses, it was focused primarily on learning about the types of bicycling occurring in Wichita, what challenges people face bicycling, and the information tools people use while bicycling. The second survey in September 2015 received 172 responses and focused primarily on wayfinding design preferences and priorities for bicycle wayfinding improvements.

## BICYCLE WAYFINDING SIGNS DESIGN OPTIONS

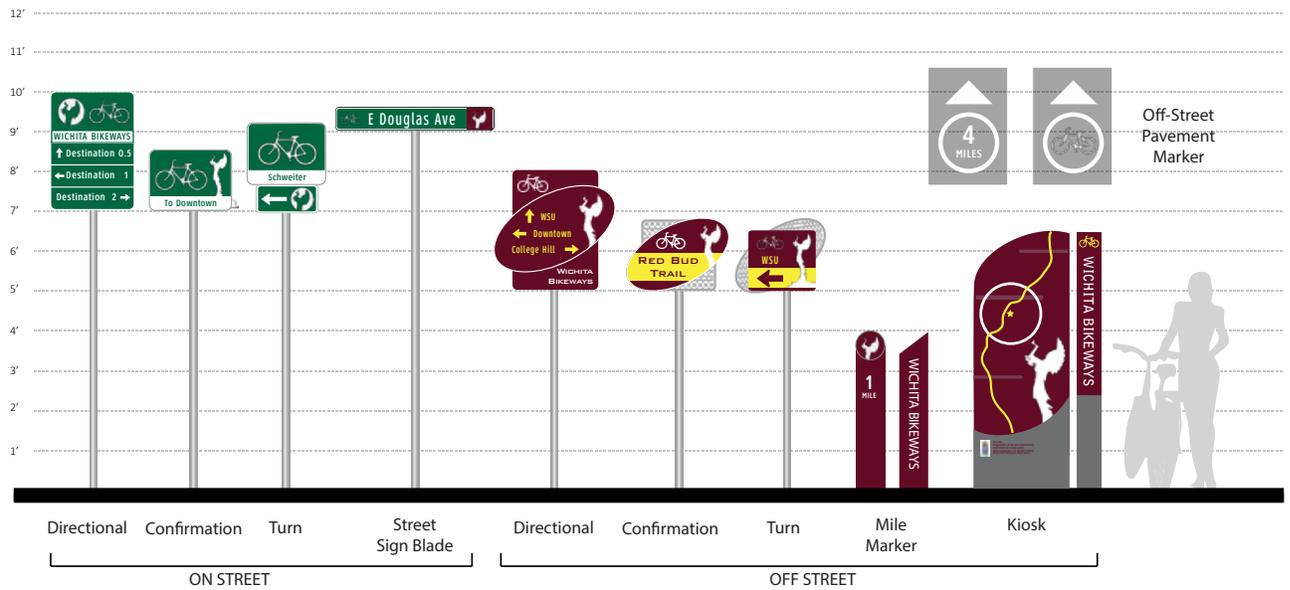
The process of identifying the preferred bicycle wayfinding sign designs began with an exploration of color, context, history, existing signage, and potential iconic figures throughout the Wichita area. Multiple draft designs were developed to illustrate how the new signs could integrate with existing signs along Wichita paths.

Based on feedback received from the Steering Committee and following public input, three sign design groups were developed – taking inspiration from the Wichita flag, a “Keeper of the Plains” and existing Greater Wichita Path Network signs. The sign design options were presented to the Wichita Park Board; Wichita Design Council; Wichita Bicycle and Pedestrian Advisory Board; KDOT staff; Wichita Development Coordinating Committee; and others. Through several rounds of presentations, meetings, and discussions with KDOT staff, the final creative package (as seen in Chapter One) was agreed upon.

# Sign Design Options

## OPTION 1: KEEPER OF THE PLAINS

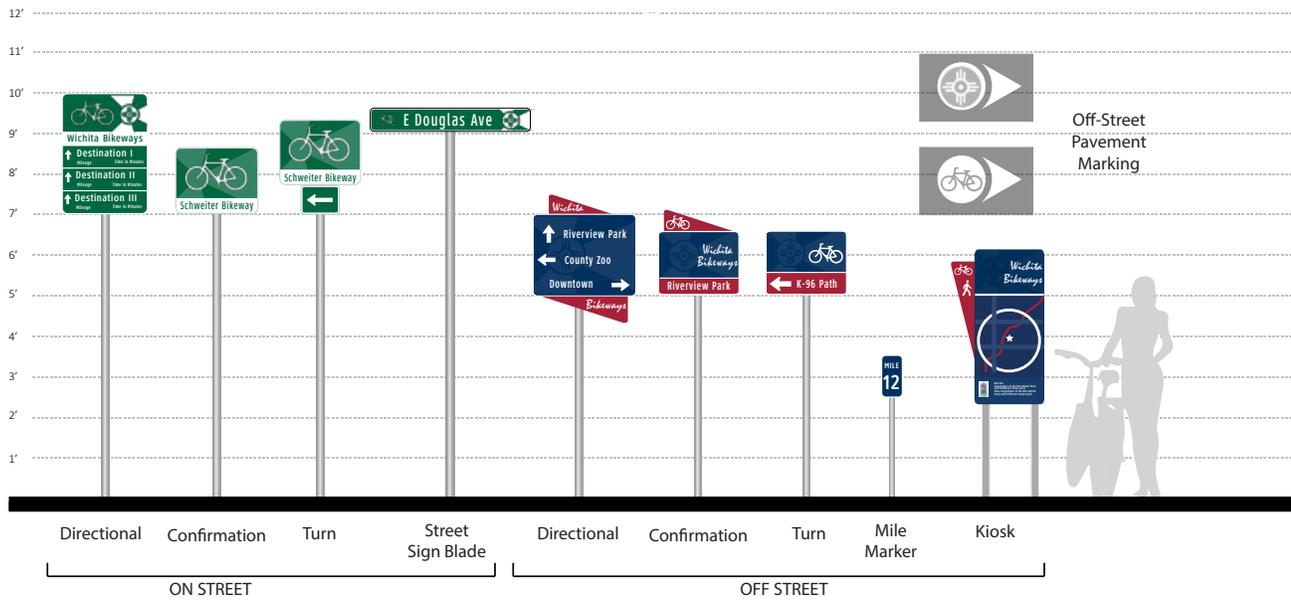
Based on feedback collected from Wichita residents throughout the planning process, the Keeper of the Plains is the most defining symbol for the City. In this option, the Keeper is highlighted throughout both on-street and off-street wayfinding elements. This option includes several custom elements which would need to be built by a custom sign fabricator.





### OPTION 2: WICHITA FLAG

The Wichita flag was noted by community members as a compelling graphic that would be an appropriate identifier for the City’s bicycle network. In this design option, wayfinding elements rely on readily available products to maximize cost effectiveness.



### OPTION 3: EXISTING INSPIRATION

The existing Greater Wichita Path Network signage was noted by community members as a compelling existing graphic that would be an appropriate identifier for the City’s bicycle network. In this design option, new wayfinding elements would complement already established signs to provide easier recognition of navigational aids throughout the area.



DIRECTIONAL/KIOSK

DIRECTIONAL



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# Appendix D

## Healthy Access

### Overview

This document describes how the prioritization process used in the Wichita Bicycle Wayfinding System Plan can be expanded to include an additional metric: access to healthy food retailers and Federally Qualified Health Centers.

### Introduction

A wayfinding sign system is composed of a distinct family. In 2013, the Wichita City Council endorsed the Wichita Bicycle Master Plan as an official guide for the City. Strategy 2 of the plan recommends that the City install a bicycle route wayfinding system that is seamless and accessible, connecting the bicycle network, and allowing bicyclists to reach their destination with little or no use of a map. In order to help implement the Wichita Bicycle Master Plan and the recommended Strategy 2, the City utilized funding from the Kansas Health Foundation to develop the Wichita Bicycle Wayfinding System Plan. The plan contains recommendations for the design, placement, destination identification, and prioritization of the bicycle wayfinding system. In 2015, the City entered into a Memorandum of Understanding with Health ICT to fund implementation of some of the bicycle wayfinding system and to develop recommendations for how bicycle wayfinding can be used to improve access to: 1) healthy food; and 2) Federally Qualified Health Centers. Funding from the MOU with Health ICT has been used to fund the development of this document.



## Health and Equity at a Glance

Like many cities across the United States, Wichita faces public health challenges as it strives to create a healthy, vibrant, and prosperous environment for current residents and future generations. A lack of physical activity and unhealthy food choices have contributed to unprecedented obesity rates and associated chronic illnesses, such as high blood pressure, high cholesterol, diabetes, heart disease, stroke, and cancer. More than 28 percent of adults in Sedgewick County are obese, and an additional 35 percent are overweight.<sup>1</sup> While the combined total of obese and overweight adults (63 percent) is lower than nationwide totals (71 percent), these figures have been rising steadily in recent decades. In Kansas, more than one in every four children in grades 6 through 12 are obese or overweight.<sup>2</sup> This childhood obesity rate is higher than the nationwide rate of one in five.

The link between health outcomes and access to healthy food is well-documented in numerous peer-reviewed studies and research articles. Residents living in neighborhoods with better access to supermarkets and limited access to convenience stores tend to have lower obesity levels and healthier diets.<sup>3</sup> The Food Trust's 2013 report, *Access to Healthy Food and Why It Matters: A Review of the Research*, summarizes importance of healthy food access for individual and community health:

"Bringing grocery stores to low-income underserved areas creates a healthier food environment that supports making healthier choices: having easy, regular access to grocery stores or other food markets that sell fruits, vegetables, produce, and other staples at affordable prices is necessary to eat the well-rounded, nutritious diet essential for good health."<sup>4</sup>

A food desert is a low-income neighborhood where a significant number of residents have low access to a supermarket or grocery store. This basic definition consists of two key components: income and access.

**Low Income** - Census tracts are defined as low-income if the poverty rate is greater than 20 percent, if median family income is less than or equal to 80 percent of the statewide median family income, or less than or equal to 80 percent of the city's median family income.

**Low Access** - Urban census tracts are defined as low-access if 500 people or 33 percent of the population are more than one mile away from a supermarket or grocery store. *Food deserts can serve as an indicator of which neighborhoods have poor access to basic goods and services, and can help to identify critical connections and destinations for bicycle and pedestrian travel.*

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1 Sedgewick County Department of Health. "Adult Obesity Health Issue Brief"

2 Sedgewick County Department of Health. "Adolescent Health Issue Brief"

3 Larson, Nicole I., Mary T. Story, and Melissa C. Nelson. "Neighborhood environments: disparities in access to healthy foods in the US." *American journal of preventive medicine* 36, no. 1 (2009): 74-81.

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4 Bell, Judith, Gabriella Mora, Erin Hagan, Victor Rubin, and Allison Karpyn. "Access to healthy food and why it matters: A review of the research." Philadelphia, PA: The Food Trust (2013).

## Current Health Initiatives in Wichita

### HEALTHY EATING

In 2013, the Health & Wellness Coalition of Wichita released *Wichita Food Deserts: Why We Should Care*, a comprehensive report assessing the food systems serving Wichita residents and their capacity to provide access to healthy and affordable food. The study team collected data from 277 stores across Wichita to determine food availability, pricing, and geographic access. By offering a clear and understandable picture of food access needs, the report raises awareness of food deserts in Wichita and serves as a guide to help inform policy decisions affecting access to healthy foods. Since the release of this study, the Health & Wellness Coalition of Wichita has released additional studies examining the local food systems, including *The Hurdles to Healthy Food Access* (2014) and *Sedgwick County Local Food System Assessment* (2014).

### WICHITA'S FOOD DESERTS

According to the report, approximately 44 square miles of Wichita are considered a food desert based on the definition above. These 44 square miles of food desert cover more than a quarter of the entire city and over a quarter of the city's population. Many Wichitans living in food deserts still have access to convenience stores, but healthy food choices are often lacking in these establishments. Although convenience stores make up 40 percent of food retailers in Wichita, only 44 percent offer fresh fruits, and only 9 percent offer fresh vegetables. Wichitans' sentiments about convenience stores closely mirror these figures. Only 37 percent of residents feel that convenience stores help citizens maintain a healthy diet.<sup>5</sup> Below you will see a list of local stores, how many there are, and percentages of what they sell.

Store Type	Numbers	% Selling Fresh Fruits	% Selling Fresh Vegetables
Convenience Stores	110	46.3%	9.1%
Grocery Stores	40	100%	100%
Other Retailers	63	4.8%	4.8%
Superstores	8	100%	100%
Specialty/Ethnic	56	46.4%	48.2%

Table: D1

As seen in the table above, grocery stores and superstores are fewer in number than convenience stores and are rarely found in Wichita's food deserts. Also unlike convenience stores, 100 percent of grocery stores and superstores offer fresh fruit and fresh vegetables, compared to rates of 4.8 percent to 48.2 percent for convenience stores, specialty/ethnic stores, and other retailers.<sup>6</sup>

<sup>5</sup> Health & Wellness Coalition of Wichita. "Wichita Food Deserts: Why We Should Care." (2013)

<sup>6</sup> Health & Wellness Coalition of Wichita. "Wichita Food Deserts: Why We Should Care." (2013)



Of the 277 food retailers surveyed as part of the report, 93 percent accept the Vision Card, which allows low-income households and elderly residents to purchase healthy foods with financial assistance through the Kansas Food Assistance Program and the USDA Supplemental Nutrition Assistance Program, or SNAP<sup>7</sup>. While the Vision Card helps with financial access to healthy foods, transportation access to, and awareness of, food retailers that sell healthy foods is still a challenge.

### ACTIVE TRAVEL

Bicycle infrastructure can have a significant impact on community health. Adding dedicated bike lanes and trails that connect to activity centers is a proven strategy to increase safety for individuals riding bicycles and to encourage more people to choose bicycling as a means of transportation and recreation. An analysis of 90 of the 100 largest U.S. cities found that cities with more bike paths and bike lanes have significantly higher rates of bike commuters.<sup>8</sup> Other studies have found that children and families are more physically active if they live in neighborhoods with sidewalks, bike lanes, and safe streets.<sup>9</sup>

In recent years, the City of Wichita has invested in bicycling and walking, based on recommendations in the 2013 Wichita Bicycle Master Plan and 2014 Wichita Pedestrian Master Plan. Recent improvements include bike lanes along key corridors leading into Downtown Wichita and the new Woodchuck and Armor bicycle boulevards. This Bicycle Wayfinding Plan builds on these recent efforts by tying together

the city's growing network of bicycle facilities and providing a branded and visible system for guiding residents and visitors to key community destinations on bicycle and on foot.

## Best Practices Linking Wayfinding and Public Health

Bicycle wayfinding is an essential component of a successful bicycle transportation system, and can be used to improve active transportation options. Much like bike lanes and trails, wayfinding is designed and intended to support active travel and physical activity. Wayfinding increases walking and bicycling, reduces pedestrian and motor vehicle crashes and fatalities, and provides air quality benefits through increased driver efficiency and reduced driving as people choose other modes of travel.<sup>10</sup> Wayfinding systems can help address perceived barriers to physical activity by equipping community residents and visitors with vital information about nearby destinations, travel distances, and even travel times. Communities across the country are increasingly incorporating health metrics like number of steps taken or calories burned into wayfinding systems, creating a direct and measurable link to active travel and positive health outcomes.

<sup>7</sup> Health & Wellness Coalition of Wichita. "Wichita Food Deserts: Why We Should Care." (2013)

<sup>8</sup> Buehler, Ralph, and John Pucher. "Cycling to work in 90 large American cities: new evidence on the role of bike paths and lanes." *Transportation* 39.2 (2012): 409-432.

<sup>9</sup> Active Living Research. "Moving Towards Active Transportation: How Policies Can Encourage Walking and Bicycling." (2016)

<sup>10</sup> Hunter RH, Potts S, Beyerle R, Stollof E, Lee C, Duncan R, Vandenberg A, Belza B, Marquez DX, Friedman DB, Bryant LL. "Pathways to Better Community Wayfinding" [Internet]. Seattle, WA; Washington, DC: CDC Healthy Aging Research Network and Easter Seals Project ACTION. (2013) Available from: [www.prc-han.org](http://www.prc-han.org)



FIGURE 1: EVANSVILLE'S UPGRADE WAYFINDING SIGNS DIRECT PEDESTRIANS TO POPULAR DESTINATIONS IN AND AROUND DOWNTOWN

The public health community has been a major driver of wayfinding systems as a strategy to increase physical activity for both recreation and destination-oriented travel. Examples of projects that link wayfinding and public health highlight the importance of strategic partnerships to achieve mutually beneficial goals.

The Olmstead County, Minnesota Public Health Services, partnered with the City of Rochester, developed a comprehensive wayfinding system to direct trail users to popular destinations, provide information about trail connections and loops, and provide mileage information for trail users. The wayfinding system, which included 18 trailhead signs, 475 wayfinding signs, and 45 mile-marker signs, was supported by online and printed bicycle maps and trail maps to encourage walking and bicycling in Rochester.<sup>11</sup>

<sup>11</sup> Olmstead County Public Health Services, Minnesota Department of Health. "All Signs Point to Active Transportation." Retrieved from: <http://www.health.state.mn.us/divs/oshii/docs/cppw/olmstedwayfinding.pdf>

A significant source of funding for the wayfinding project was the U.S. Department of Health and Human Services' Communities Putting Prevention to Work (CPPW) program, administered by the Minnesota Department of Health and awarded to Olmstead County.<sup>12</sup>

In Evansville, Indiana, the Welborn Baptist Foundation developed a pedestrian wayfinding system in and around the downtown area as part of its Upgrade program, which focuses on small behavioral changes to increase physical activity and healthy eating. The signs point to 27 destinations and include travel distances by number of steps rather than miles. This unique measuring technique changes people's perception of distance, measures activity in a similar manner to popular fitness tracking devices, and encourages residents and visitors to explore the city on foot. Support for the program came through partnerships with local agencies and community partners, including the City of Evansville and Vanderburgh County, and through funding from the CPPW program.

Nashville, Tennessee, another CPPW awardee, also created health-oriented wayfinding signs to support pedestrian mobility in high-risk neighborhoods. The signs direct people to parks and other recreational opportunities and encourage community residents to get out on bike and foot. The wayfinding project, spearheaded by the Departments of Health and Public Works, is part of a larger effort called NashVitality, a holistic program designed to encourage healthy, active, and green communities by making healthy choices easier and within reach of everyone in Nashville.

<sup>12</sup> Olmstead County Public Health Services. "Communities Putting Prevention to Work." Retrieved from: <https://www.co.olmsted.mn.us/OCPHS/programs/community/cppw/Pages/default.aspx>



## Recommendations

The following actions are recommended in order to help achieve the goals and recommendations in the Wichita Bicycle Master Plan; and to increase access to health-related destinations for Wichita residents.

**Recommendation 1: Include specific healthy food retailers and FQHCs as destinations identified by the bicycle wayfinding system.** Providing information about these destinations can improve access to healthy food retailers and affordable health care services, particularly in food deserts and underserved areas of Wichita. These destinations should be included as secondary destinations, included on wayfinding signage up to two miles away. The use of unique icons, like an apple for healthy eating, or a heart for healthcare, can further distinguish health-related destinations on wayfinding signs.

**Recommendation 2: Utilize the prioritization criteria presented in this document for wayfinding projects focused on helping to improve community health.**

## Wayfinding Prioritization

### PRIORITIZATION METHOD

The following criteria were used to identify health related destinations in Wichita that support positive health outcomes.

**1: Healthy Food Retailers.** Only grocery stores and superstores will be included as healthy food destinations, based on the Food Desert Study. Of all the food retailers surveyed for the Food Desert Study, only grocery stores and superstores offered fresh fruits and fresh vegetables at 100 percent of stores in Wichita. Below is a list of the grocery stores and superstores in Wichita.



*The icon to the left will be used when featuring the Healthy Food Market on directional signs.*

Healthy Food Retailers: As of May 2016	Address
Aldi Inc 047	2826 S Seneca St
Aldi Inc 066R	2323 N Amidon Ave
Aldi Inc 082	6835 E 21st St N
Dillon Store 012	9450 E Harry St
Dillon Store 016	8828 W 13th St N
Dillon Store 020	7707 E Central Ave
Dillon Store 033	4747 S Broadway St
Dillon Store 034	3932 W 13th St N
Dillon Store 049	10222 W 21st St N
Dillon Store 056	3707 N Woodlawn Blvd
Dillon Store 065	3211 S Seneca St
Dillon Store 066	2244 N Rock Rd
Dillon Store 072	10515 W Central Ave
Dillon Store 081	13415 W Maple St
Dillon Store 089	1910 W 21st St N
Dillon Store 091	3020 E Douglas Ave
Dillon Store 092	640 N West St
Dillon Store 96	5500 E Harry St
Farmers Market Inc	2901 N Broadway St
Green Acres Market	8141 E 21st St N
Green Acres Market	2315 W. 21ST ST N
Green Acres Market	10555 W 21ST ST N
Green Acres Market	6574 E Central Ave
Natural Grocers	1715 N Rock Rd
Ray Sales Company	206 S Emporia St

Table: D2

Save a Lot 24516	2402 E 13th St N
Save-a-Lot 24834	2404 George Washington Blvd
Target Stores T- 1944	10800 E 21st St N
Target Stores T- 1945	2727 N Maize Rd
Wal-Mart Neighborhood Market 5855	10550 W Central Ave
Wal-Mart NM 5990	2111 N Amidon Ave
Wal-Mart NM 5991	3137 S Seneca St

Wal-Mart SC 1099	501 E Pawnee St
Wal-Mart SC 1221	6110 W Kellogg Dr
Wal-Mart SC 1507	3030 N Rock Rd
Wal-Mart SC 3283	10600 W 21st St N
Wal-Mart SC 3492	11411 E Kellogg Dr
Wal-Mart SC 4321	5475 N Meridian Ave
Whole Foods	1423 N Webb Rd

Table: D2 cont.

**2: Federally Qualified Health Centers.** In addition to major hospitals, Federally Qualified Health Centers (FQHCs) will also be included as a destination for the bicycle wayfinding system. FQHCs provide healthcare services to underserved areas and populations and provide services to all persons, regardless of their ability to pay. There are 15 Federally Qualified Health Centers in Sedgwick County, all of which are operated by three providers: GraceMed Health Clinic, HealthCore Clinic, and Hunter Health Clinic. Below is a list of the FQHCs in Wichita.

Each segment of the Wichita bicycle network evaluated for the Wichita Bicycle Wayfinding System Plan was scored for its potential to increase access to healthy food retailers and FQHCs. The scoring matrix below illustrates the allocation of points for this scoring and prioritization process.



*The icon to the left will be used when featuring the Health Clinics on directional signs.*

Federally Qualified Health Centers: As of May 2016	Address
GraceMed Dodge Family Clinic	4910 W 1st St N
GraceMed Downing Family Clinic	2201 E 25th St N
GraceMed Evergreen Family Clinic	1125 W 26th St
GraceMed Good Samaritan Clinic	3701 E 13th St N
GraceMed Healthy Family Clinic	1905 S Laura St
GraceMed Jardine Family Clinic	3610 Ross Pkwy
GraceMed Meyer Family Clinic	755 W Lincoln St
GraceMed Mother Mary Anne Clinic	1131 S Clifton Ave
GraceMed Oaklawn Family Clinic	5000 S Clifton Ave
GraceMed Topeka Street Family Clinic	1122 N Topeka St
GraceMed Virginia & George Ablah FamilyClinic	1415 W 31st St S
HealthCore Clinic	2707 E 21st St N
Hunter Health Clinic	2318 E Central Ave
Hunter Health Clinic at Brookside	2750 S Roosevelt St
Hunter Health Clinic at Inter-Faith Ministries	935 N Market St

Table: D3



Priority/Place	Variable	Score
Healthy Food Retailers	Provides direct access to two or more healthy food retailers	2.5
	Provides direct access to one healthy food retailer	2
	Comes within two blocks (or 660 feet) of one healthy food retailer	1
	Does not provide access to a healthy food retailer	0
Federally Qualified Health Centers	Provides direct access to two or more FQHCs	2.5
	Provides direct access to one FQHC	2
	Comes within two blocks (or 660 feet) of one FQHC	1
	Healthy Food Retailer and FQHCs combined score, with a total possible score of 5	0
Combined Health Score	Healthy Food Retailer and FQHCs combined score, with a total possible score of 5	0-5

### PRIORITIZATION RESULTS

The first set of maps on the following pages display the prioritization results for the three criteria listed in Table D4. The pale yellow line color indicates segments that provide no access to health related destinations. The line color grows increasingly darker for line segments that provide greater access.

The results of this prioritization process reveal numerous opportunities to incorporate health-related destinations into the wayfinding network, particularly in the low-income, low-access neighborhoods identified in the Wichita Food

Deserts report. A sample of routes providing access include Douglas Ave, Lincoln St, McCormick St, W 31st St S, Osage St, W 2nd St N, and E 25th St N.

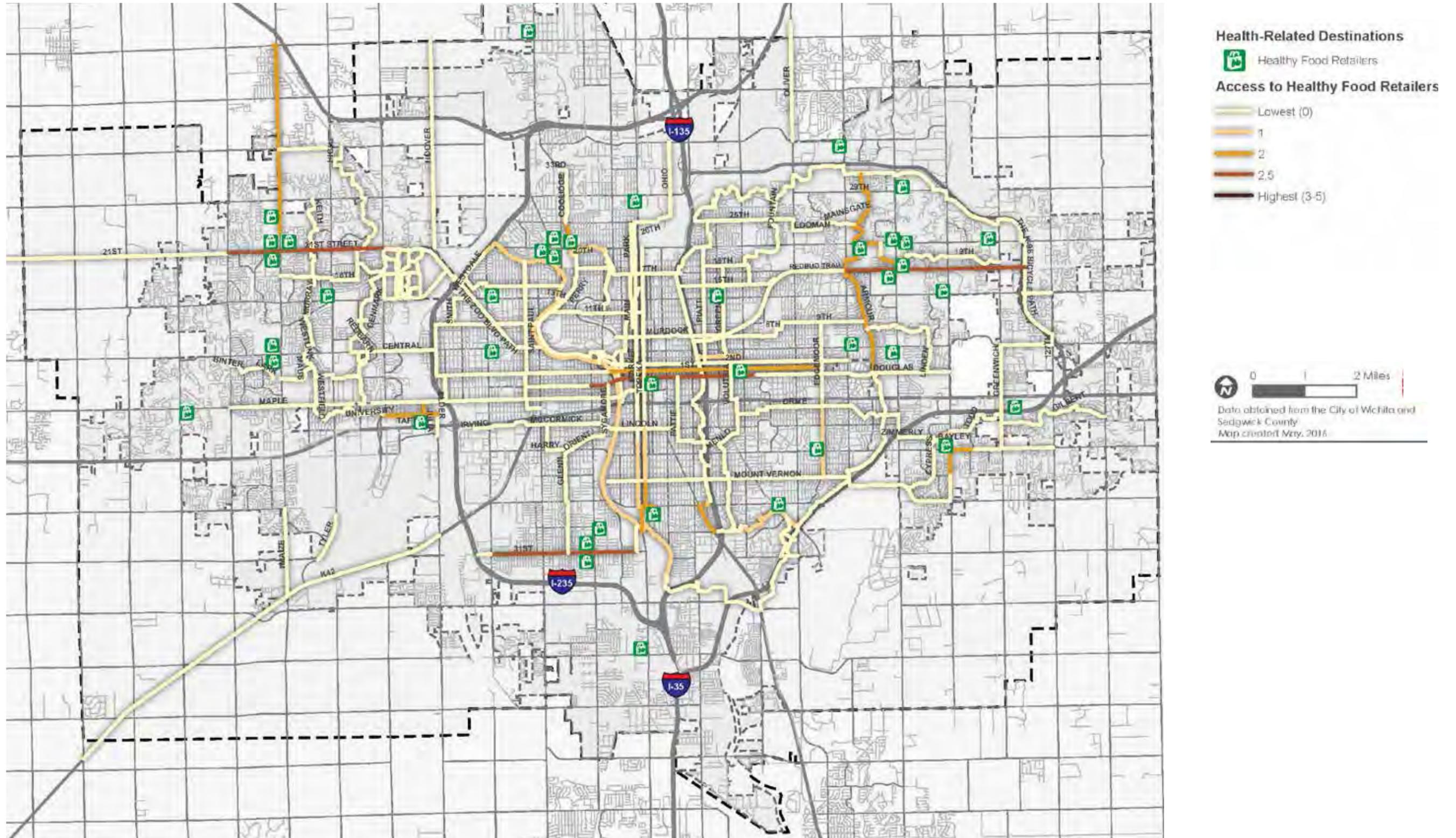
As the Wichita bicycle network continues to grow, adding health-related destinations to wayfinding signage along these and other corridors will provide environmental cues to overcome barriers to health such as lack of awareness.

The second set of maps shows the results of the initial prioritization process, the Wichita Wayfinding Bicycle Plan, and the amended prioritization process incorporating access to health-related destinations. The dark green lines indicate existing and planned facilities with the greatest cumulative scores, thus representing the highest priority or most suitable routes for wayfinding improvements. The red lines indicate planned facilities with the lowest cumulative scores, and therefore are currently less ready for wayfinding improvements.

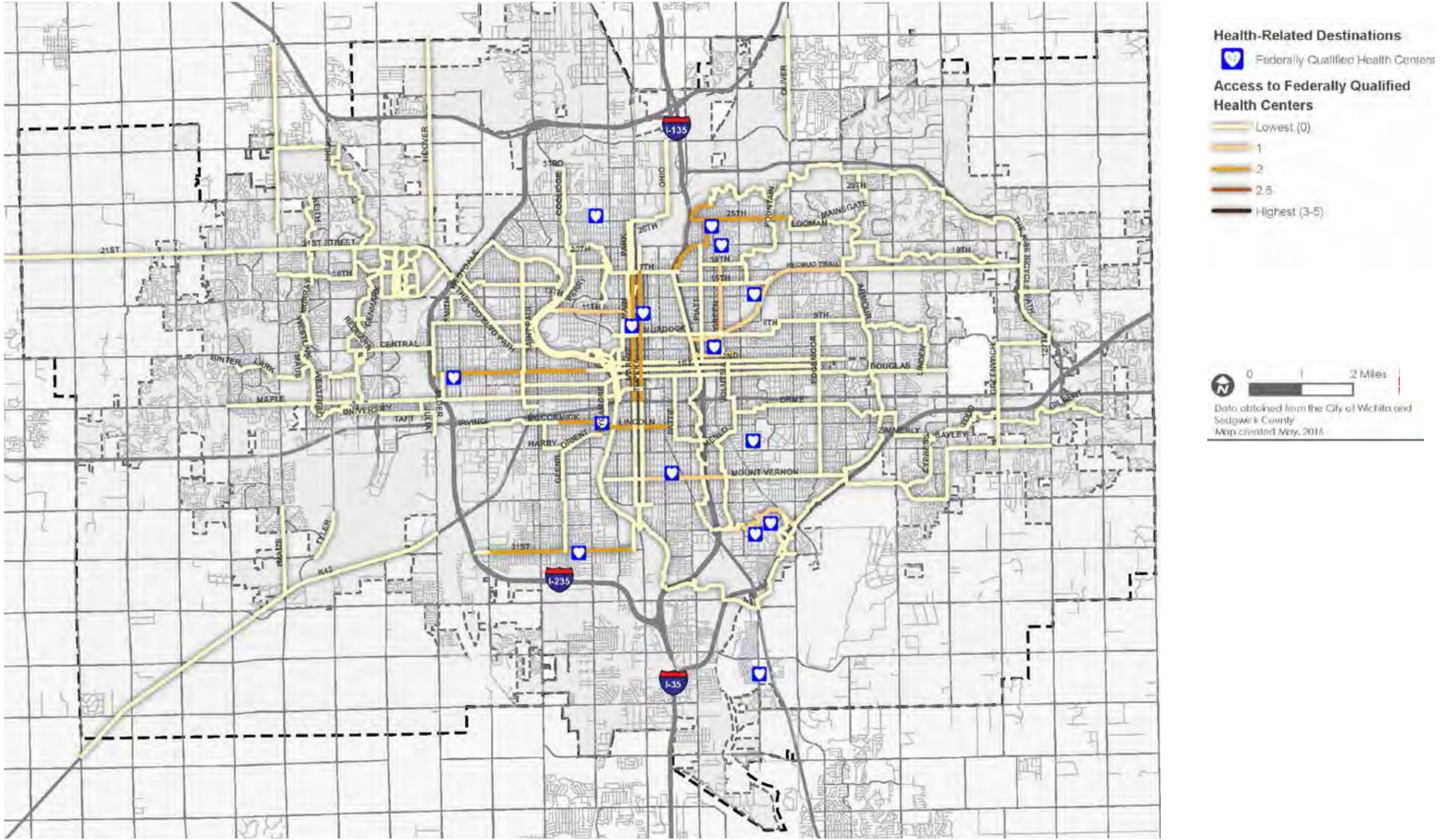
The results of the amended prioritization process are subtle, but still have an impact on wayfinding implementation. Numerous network segments received higher cumulative scores, including Douglas Ave, Lincoln St, W 21st St N, N Maize Rd, the Armour St Bicycle Boulevard, and the McAdams Bike Path.

This process illustrates the importance of developing a wayfinding system that includes healthy destinations and how these destinations begin to contribute to both the prioritization of wayfinding sign installation as well as overall facility implementation.

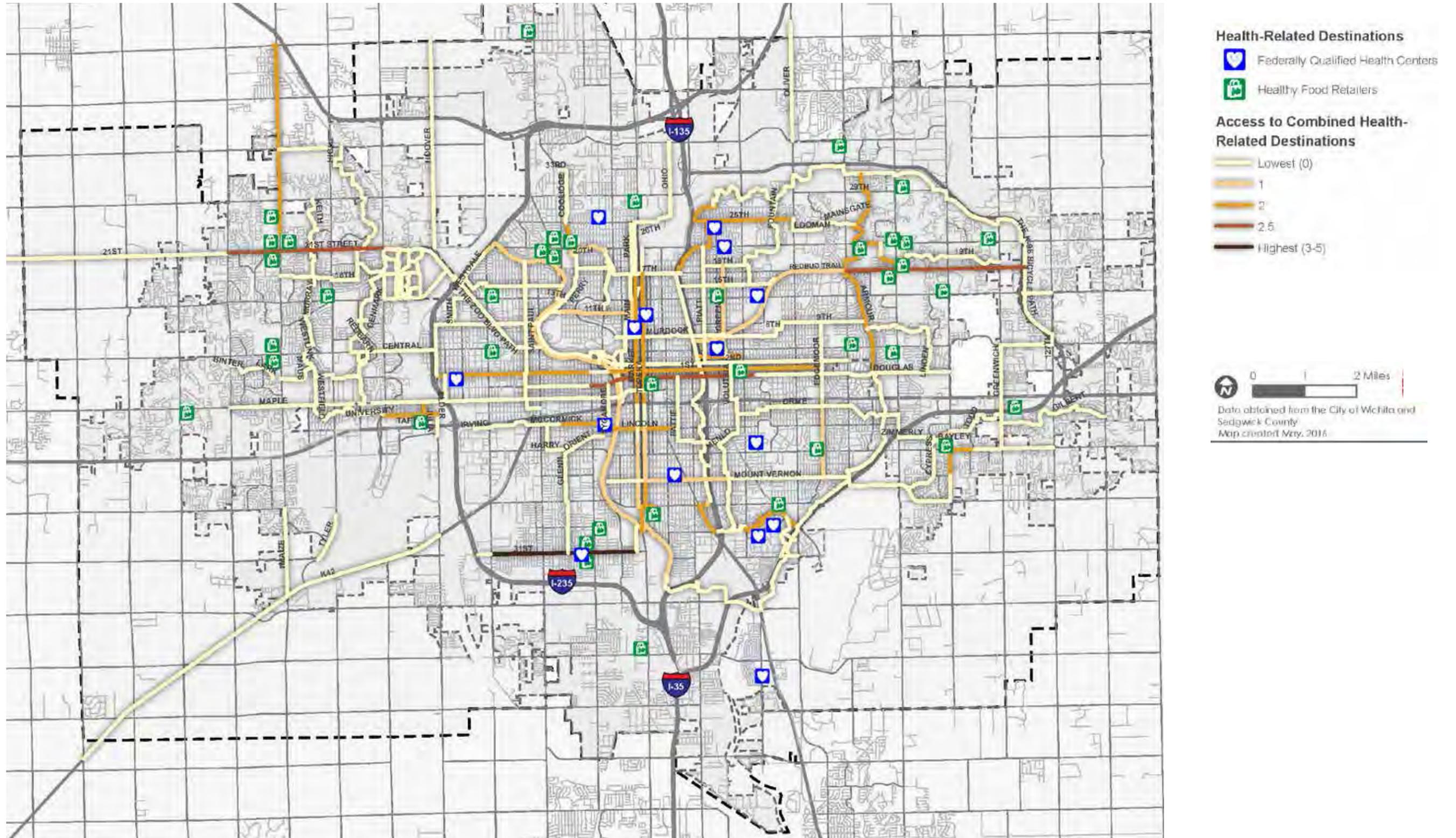
### HEALTH RELATED DESTINATIONS: FOOD



HEALTH RELATED DESTINATIONS: FQHC'S

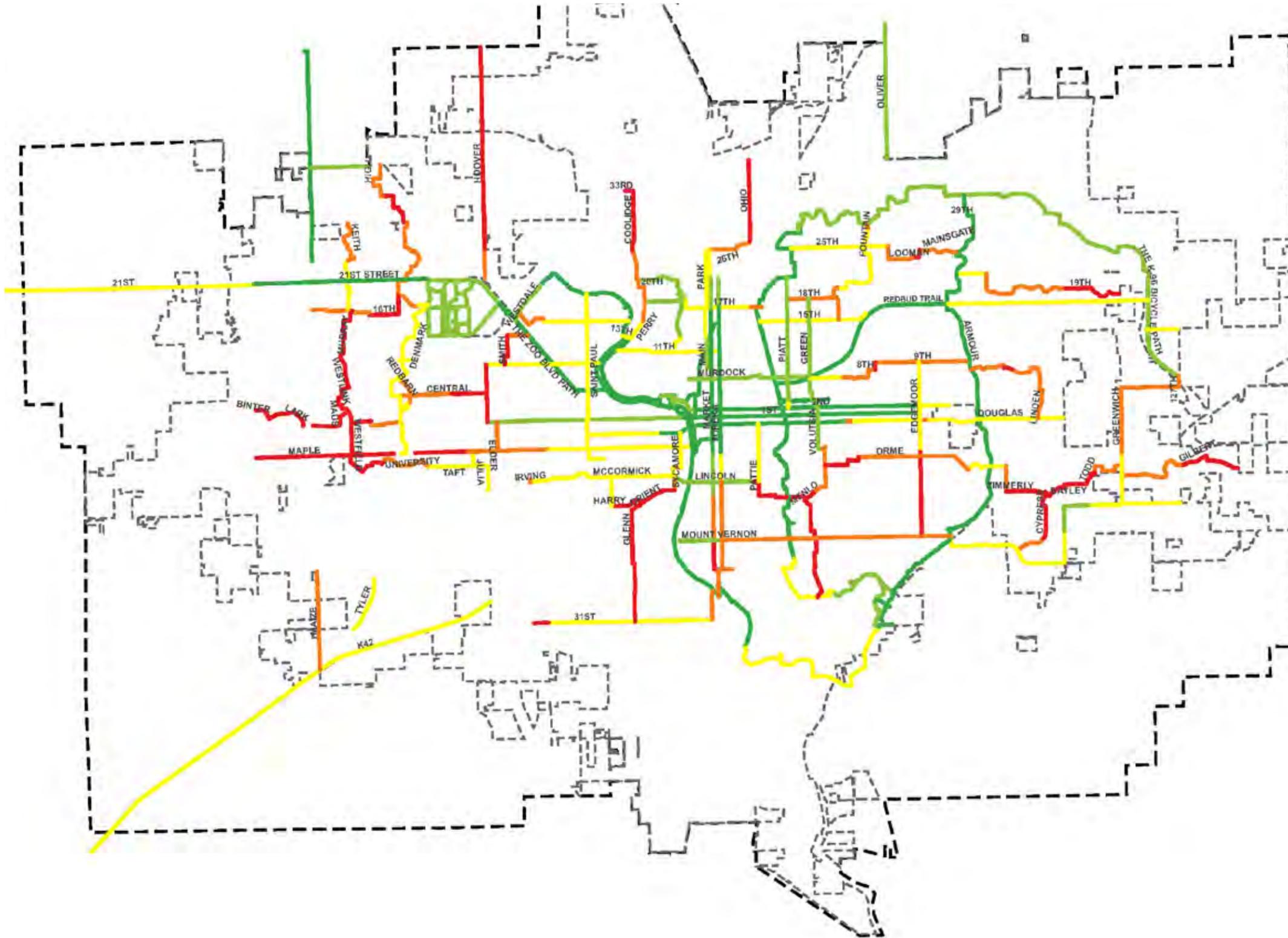


# HEALTH PRIORITIZATION COMBINED





REVISED PRIORITIZATION



Revised Prioritization Ranking\*

- Lowest (0 - 5 total score)
- 6 - 8 total score
- 9 - 12 total score
- 13 - 16 total score
- Highest (17 - 23)

\* The revised prioritization scores incorporate access to Federally Qualified Health Centers (FQHCs) and Healthy Food Retailers.



Data obtained from the City of Wichita and Sedgwick County  
Map created May, 2016





# Appendix E

## Resolution





RESOLUTION NO. 16-376

**A RESOLUTION ENDORSING THE WICHITA BICYCLE WAYFINDING SYSTEM PLAN**

**WHEREAS**, the transportation system of Wichita is an extraordinary public asset integral to the City’s economic health and community fabric; and

**WHEREAS**, the City of Wichita works to make the best use its public streets and paths to move people and goods; and

**WHEREAS**, the City of Wichita has an opportunity to improve health and to provide a variety of viable transportation options including bicycling; and

**WHEREAS**, multiple citizen surveys have shown a desire for improvements related to bicycling in Wichita, the most recent being the 2016 National Citizen Survey which reported that the satisfaction of Wichita residents with the ease of bicycle travel in the city is “lower” than the satisfaction of residents in comparable cities; and

**WHEREAS**, the City Council of the City of Wichita recognizes the importance of creating a collaborative vision and long-term plan for improving the conditions for bicycling in Wichita; and

**WHEREAS**, the City of Wichita hosted numerous events and meetings to gather input on the Wichita Bicycle Wayfinding System Plan, including two online surveys, and presentations to the Wichita Board of Park Commissioners, Wichita Design Council, and Wichita Bicycle and Pedestrian Advisory Board; and

**WHEREAS**, the Wichita Bicycle Wayfinding System Plan represents the culmination of that civic planning process; and

**WHEREAS**, the Wichita Bicycle Wayfinding System Plan is intended to help implement the Wichita Bicycle Master Plan, which has established a strategy for tripling the amount of bicycling in Wichita, while reducing the rate of bicycling crashes by one-third; and

**WHEREAS**, the outcomes of implementing the Wichita Bicycle Wayfinding System Plan includes the installation of bicycle wayfinding signage and pavement markings along priority corridors throughout the city; and

**WHEREAS**, bicycle plans should provide relevant and up-to-date guidance, and need to be updated on a regular basis as projects are completed and new opportunities present themselves.

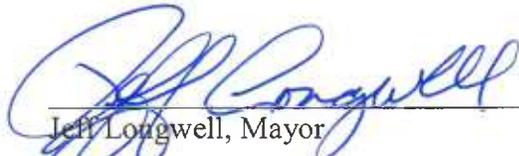
**NOW, THEREFORE BE IT RESOLVED BY THE GOVERNING BODY OF THE CITY OF WICHITA, KANSAS:**

**Section 1.** The City Council of the City of Wichita endorses the Wichita Bicycle Wayfinding System Plan, as recommended by the Wichita Bicycle and Pedestrian Advisory Board.

**Section 2.** The City of Wichita shall use the recommended design concepts and street improvements contained in the Wichita Bicycle Wayfinding System Plan as guidance in future planning and decision-making regarding public infrastructure investments, operations, and policies.

**ADOPTED** by the governing body of the City of Wichita, Kansas, this 13<sup>th</sup> day of Sept 2016.

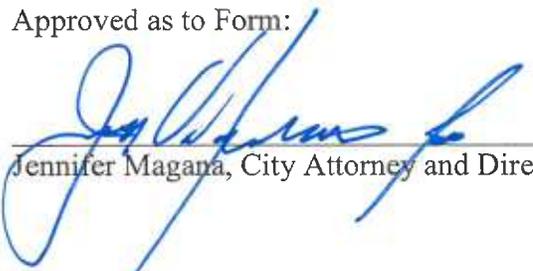
CITY OF WICHITA, KANSAS

  
\_\_\_\_\_  
Jeff Longwell, Mayor

ATTEST:

  
\_\_\_\_\_  
Karen Sublett, City Clerk  
(SEAL)

Approved as to Form:

  
\_\_\_\_\_  
Jennifer Magana, City Attorney and Director of Law



# Wichita Bicycle Wayfinding System Plan

