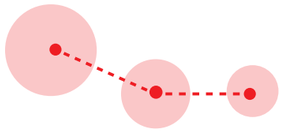
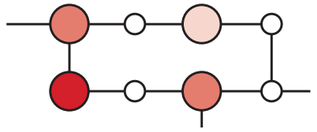


6. Create a rhythm

Establish trust with the user by placing the right signs in the right place with consistency to establish comfort and legibility.

Having information where it is needed while avoiding clutter is key to creating legible places. Some places naturally convey orientation based on the physical environment, while others require more explanation. Providing consistent sign design at welcome and decision points for pedestrians, bicyclists, and transit users in the Kansas City Region orients users and provides information about direction and interpretation. Meeting the expectations of users at each arrival and decision point provides a level of comfort and rhythm that the users grow to trust.

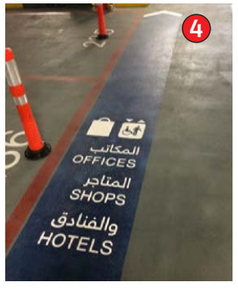
1 - Heritage Trails, New York City, NY
2 - Heritage Trails, New York City, NY
3 - Melbourne VIC, Australia
4 - Melbourne VIC, Australia



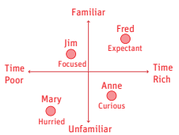
7. Convey the right information at the right time

A rationale for the placement of different sign types optimizes the wayfinding system without adding clutter.

Careful placement of signs in just the right location ensures an economically efficient approach to implementation and establishes a pattern that gives users confidence to explore. Signs should be located based upon the needs of specific user types rather than a one-size-fits-all approach. For example, a kiosk is appropriate at a junction where many people will congregate, but a smaller sign or ground application is a better approach at a location that will have fewer users.



1 - Bristol, UK
2 - Lusail City - Doha, Qatar
3 - Berlin, Germany
4 - Dubai Mall - Dubai, UAE

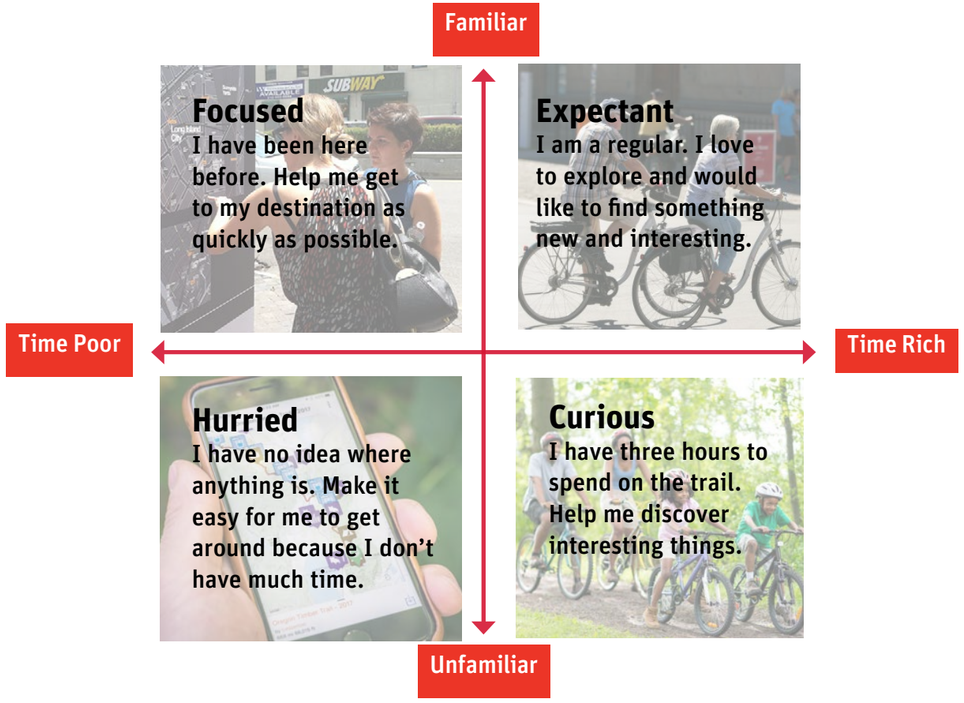


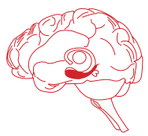
8. Design for mindsets

Understand people's state of mind and provide information for the right type of user.

An empathetic approach to design balances the needs of the audience with the needs of the facility in order to create seamless and quality experiences. This process brings a creative, human-centered method to design.

The diagram shown here illustrates four typical mindsets with which users might approach Kansas City's regional pedestrian, bicycle and transit network: Focused, Expectant, Curious, or Hurried. Each user's needs for the wayfinding information will vary and could be met through the right tools. Understanding the audience makes it possible to provide the right information for a diverse group of interests.





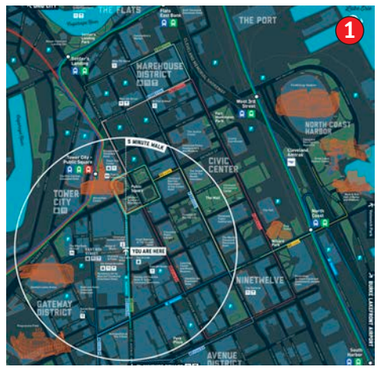
The hippocampus – the area of the brain associated with forming memories and mental mapping.

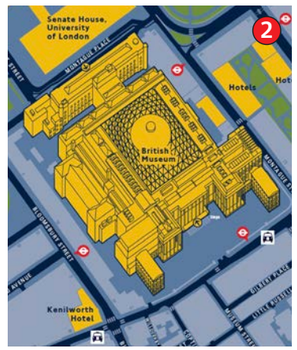
9. Create a mental map

Help people develop a visual understanding of their place in the environment.

Map-based information supports verbal directions and gives people an opportunity to learn about the region and city in a visual way. Highlighting landmarks, districts, and destinations help people match the representation of the environment with the physical environment itself.

The examples from London, Cleveland and Los Angeles show the display of iconic information to help users orient themselves in the physical environment. The hand drawn map demonstrates users' strong preference for landmarks to facilitate orientation.





1 - Cleveland, OH
2 - Westminster - London, UK
3 - Mary's Map - Boston, MA
4 - Los Angeles, CA

10. Landmark based navigation

People naturally orient themselves based upon visible landmarks in the environment.

Using landmarks as part of a map-based wayfinding system makes it difficult to get lost. When landmark destinations such as statues, monuments, plazas, and architecture are provided on maps, it aids in navigation by connecting the physical surroundings to the sign or map.

The sample images shown here demonstrate that when a landmark is provided as part of wayfinding, it allows the user to connect the orientation provided on a sign to the visual reality of the environment. Then the user no longer has to refer back to a sign or map, but may use the landmark to navigate.

1 - Rio de Janeiro, Brazil

2 - National Mall - Washington D.C.

3 - Rio de Janeiro, Brazil

4 - World War II Memorial - Washington D.C.

Wayfinding Design Application and Structure

The placement and design of the wayfinding system must follow key principles of structure and application to help users navigate the pedestrian, bicycle and transit network and to encourage use of new transportation modes. The core principles below provide a strong foundation for a well-crafted wayfinding system that will encourage people to walk, bicycle, and take transit to explore new places, areas and services.

Wayfinding Design Application and Structure

1. Single image
2. Consistency in structure
3. Thoughtful placement
4. Maintain motion
5. Flexible and manageable system
6. Technology
7. Consistent application of graphic elements
8. Adaptable graphic application from standards
9. Promote active travel
10. Modularity

1. Single image

Identify the whole while keeping opportunities for uniqueness to convey meaning.

The repetition of specific graphic elements helps users recognize the wayfinding system. Consistent use of colors, icons, and type creates visual continuity and will help users know where to look for information. The examples shown here, such as the colored square atop signs in Rio and the orange vertical line in Cleveland, demonstrate ways that repeated graphic elements can be implemented to help users recognize the wayfinding system.

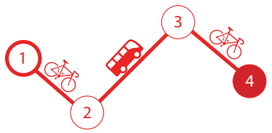
1 - High Line - New York City, NY
2 - Rio de Janeiro, Brazil
3 - Cleveland, OH
4 - Gold Coast, Australia

2. Consistency in information structure

Establish reliability in the design, naming, and coding of information.

Identifying places and things in a consistent manner facilitates clear communication. The examples below show different sets of standards for consistent use of graphic icons, maps, and the naming and coding of destinations. This principle helps guide what information is listed where, when to use icons versus text, and where to emphasize selected information.

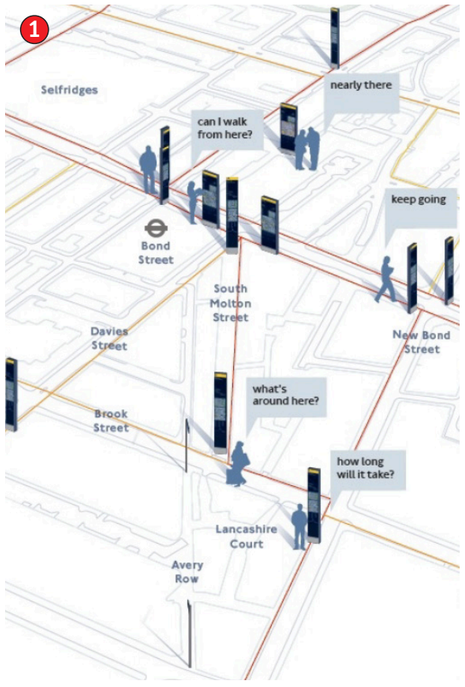
1 - Adelaide, Australia
2 - Edinburgh - Scotland, UK
3 - Oklahoma City, OK



3. Thoughtful placement

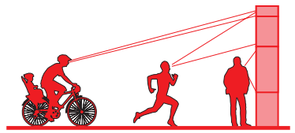
Provide relevant messaging by considering the wayfinding system's constituent parts: welcome and arrival points, decision points, and reorientation points connected by links.

Understanding access, egress, modes of travel, and destinations allows us to define the nodes, edges, paths, and districts of the Kansas City Region's pedestrian, bicycle, and transit networks. Once these are established, the planning of where information is needed for the wayfinding system becomes clear. Placing signs in a planned and thoughtful manner will ensure that welcome, access, and connection nodes all have coverage for appropriate messaging.



1 - Westminster - London, UK

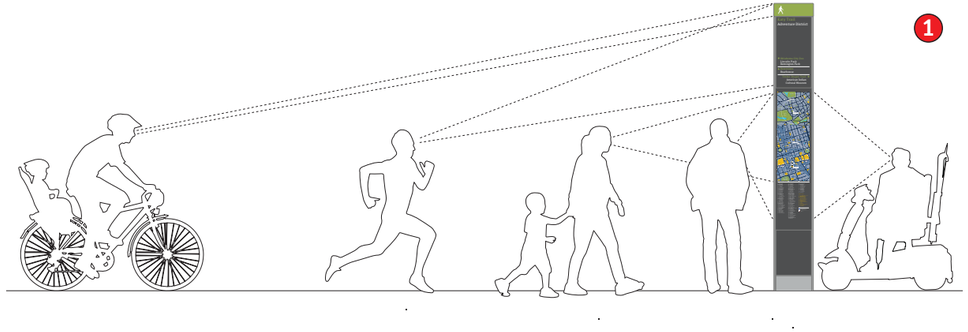
2 - Westminster - London, UK



4. Maintain motion

Provide wayfinding information so that it can be quickly read and easily understood by the traveling user.

Consistent, clear, and visible wayfinding elements allow people walking and bicycling to navigate while maintaining their state of motion. The sample images shown here demonstrate easy to read information designed specifically for the types and speeds of users that comprise the intended audience. Providing legible information to meet the needs of various users helps keep people moving and results in the need for fewer, and smaller signs. In areas where large numbers of people need to access information, large format signs allows many users to read it at once.



1 - Oklahoma City, OK

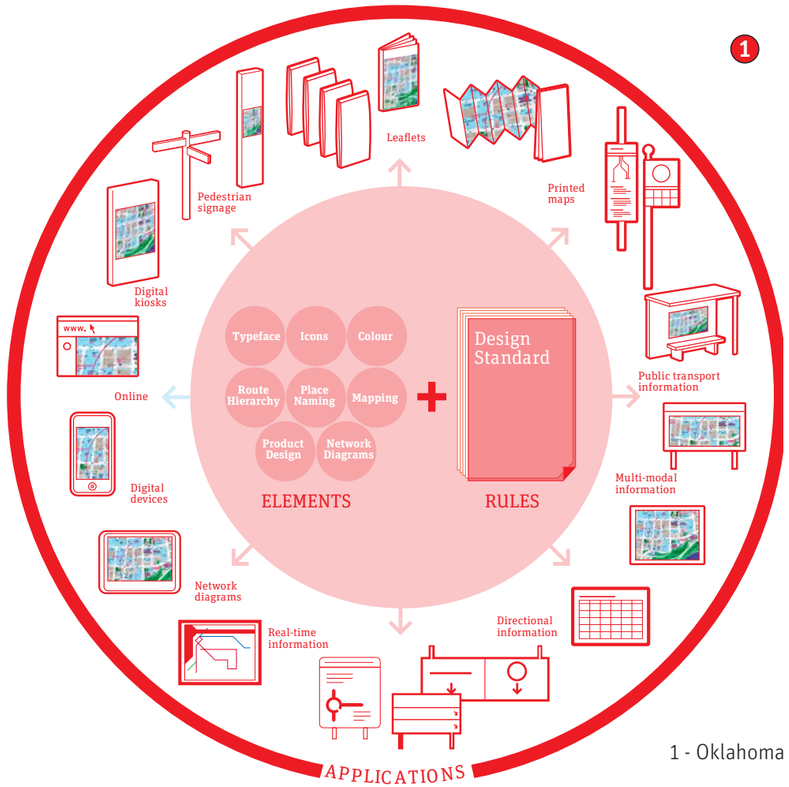
2 - Rio de Janeiro, Brazil

3 - Bechtel Reserve, West Virginia

5. Flexible and manageable system

A wayfinding system managed to ensure consistent identity while remaining responsive to changing needs.

Wayfinding systems need to have the ability to adapt to the changing environment in which they are placed. As destinations in the Kansas City area's regional pedestrian, bicycle, trail and transit networks change over time and new trails, bike facilities, and transit routes get planned and implemented, content will need to be modified. Building flexibility into the wayfinding system facilitates future expansion and other changes.

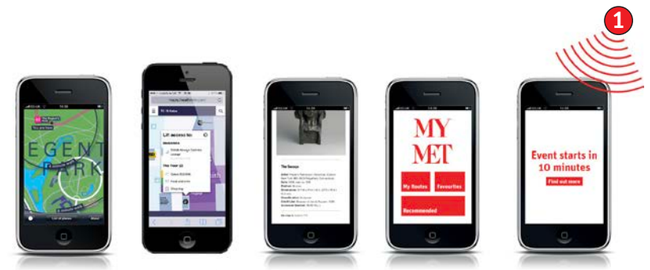


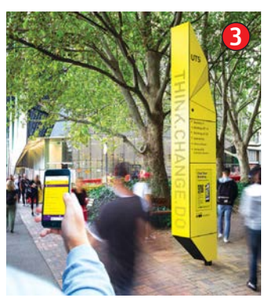
1 - Oklahoma City, OK

6. Technology

Employ real-time mobility data to enhance wayfinding.

Mobile digital devices, interactive kiosks, and online content provide the opportunity for real-time information, reflecting the pulse of the community and up to date information. They also have the ability to display complementary curated content, adding further context to community information that interests individual visitors. Digital signage can capture the rapidly changing environment, providing real time wayfinding and interpretive information on activities and events.





1 - The Metropolitan Museum of Art, NY

2 - New York City, NY

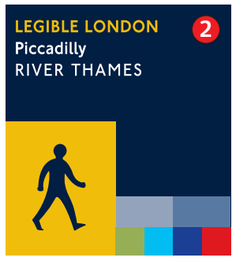
3 - University of Technology - Sydney, Australia

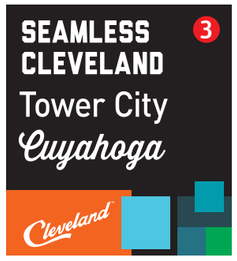
4 - Vancouver, B.C. - Canada

7. Consistent application of graphic elements

Use graphic elements consistently across wayfinding to strengthen the system's identity and add coherence.

Strong wayfinding systems create visual coherence by applying clear graphic standards. Consistent use of colors, patterns, icons, and type in the built environment and online will strengthen recognition of the Kansas City Region's pedestrian, bicycle, and transit networks.





1 - Ipswich, Australia
2 - London, UK
3 - Cleveland, OH
4 - Ipswich, Australia
5 - Ipswich, Australia

8. Adaptable mapping application derived from graphic standards

Provide information needed for navigation in a way that is adaptable for context and location.

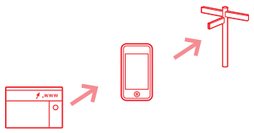
Map scale and content should vary based on the location of the user. An overview map provides a broad survey at gateway thresholds, while a detail map provides users with a more fine-grained understanding of the local area. While traveling along a route, a schematic map can provide location-based content and help the user maintain motion.

Overview type map

Detail type map

Schematic type map

1 - Central Park, NY
2 - New York City, NY
3 - Adelaide, Australia



9. Promote Active Travel

Communicate what destinations are accessible.

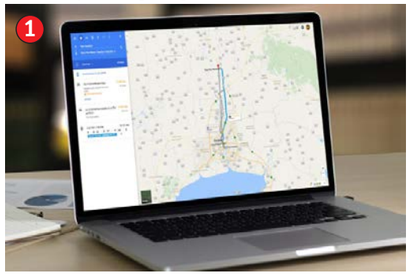
Encourage increased rates of active transportation by helping people realize they can walk and bicycle to the places they want to go. Wayfinding signs should help communicate that walking, bicycling, and taking transit to many destinations is possible in the Kansas City Region, helping to reduce barriers to using these modes for all types of trips. If existing facilities are underutilized, wayfinding improvements can be a cost-effective way of increasing use.

10. Modularity

Create a kit-of-parts.

Wayfinding systems often require changes to the information presented. Using a “kit-of-parts” approach standardizes connections and other features to create a wayfinding system that can be maintained, updated, and repaired easily and cost-effectively. The sample images shown on this page demonstrate signs that have been implemented with modular parts for ease of interchangeability.

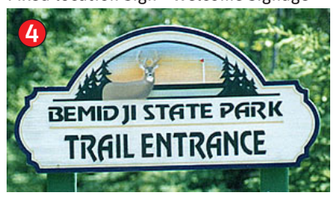
Pre-visit planning - Digital devices



Fixed location - Map-based signage

Mobile - Printed media

Fixed location sign - Welcome signage

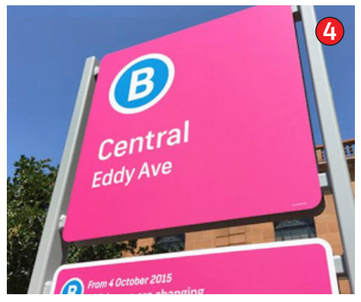


1 - Google Maps

2 - New York City, NY

3 - Queen Elizabeth Olympic Park, UK

4 - Bemidji, MN



1 - Victoria, Australia

2 - Bristol, UK

3 - Sydney NSW, Australia

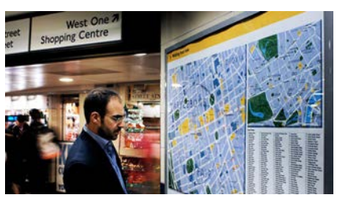
4 - Sydney NSW, Australia

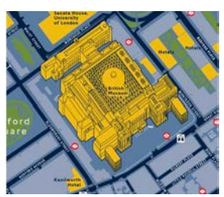
Case Studies

Many places around the world have successfully integrated wayfinding systems that include consistent pedestrian, bicycling and transit wayfinding information across regions, cities and neighborhoods. The cities of London and Cleveland are two examples of the guiding principles of design psychology and their application at work in the built environment. These serve as great examples for what the Kansas City Region could achieve through the implementation of a regional wayfinding system and the benefits to transportation, tourism, and economic development.

London, England

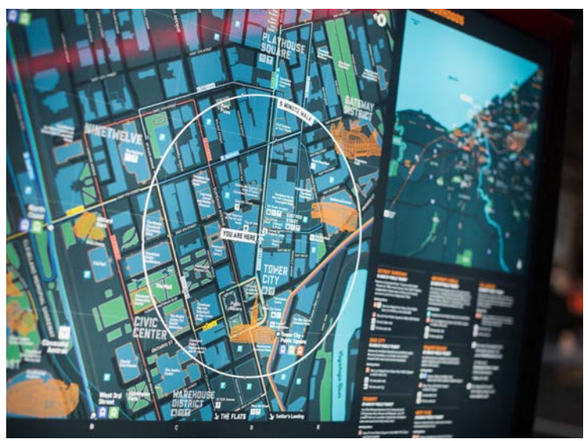
In 2013, the City of London's Mayor announced his aspiration for London to become the world's most walkable city. The spine of the city's public transit system, the London Underground Rail Network or the "Tube" had been documented as over-capacity and therefore the city's wayfinding system goals included shifting a greater number of short trips from the Tube to walking, enhancing the environment and urban realm, and improving customer information across all modes. London's resulting wayfinding system has been recognized as best in class around the world. The Legible London system created a consistent application of graphics and maps that are used across the Tube, bikeshare and on-street pedestrian system. The wayfinding system is used over 2 billion times each year by approximately 27 million visitors and 9 million residents. The city has documented a 33% reduction in pedestrian travel times, a 20% increase in geographic understanding, and 53% increase in walking confidence among visitors.





Cleveland, Ohio

Cleveland's convention and visitor's group, Positively Cleveland, wanted to ensure that visitors could easily and quickly locate all of Cleveland's visitor attractions and destinations through the implementation of a wayfinding system that includes mobile, bicycle pathway and on-street elements. The goals of the system included clarifying transit options, consistently addressing the hierarchy of places from destination to district, and the creation of a high quality, marketable approach that could be used to promote Cleveland as a visitor destination. The wayfinding system has now been implemented across mobile devices, on-street in city neighborhoods, at the international airport, and within the city's ground transit system.

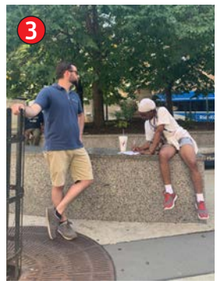


2.4 - Public Engagement

A number of engagement opportunities were provided during the course of the Connecting Our Region project to inform the public about the wayfinding system planning effort and to gain an understanding of the public's needs as they navigate the region. These opportunities included:

- An online survey of staff from local jurisdictions that make up the MARC membership;
- An online public survey (supplemented with paper copies at pop-up meetings);
- Pop-up meetings at several large local events across the region (SantaCaliGon in Independence, MO, First Friday in Kansas City, MO, and the Overland Park Fall Festival); and
- Brief intercept surveys conducted of trail and transit users during fieldwork in August 2019.

This section summarizes the results of the jurisdiction and public surveys. The findings of the intercept surveys are included in the fieldwork summary.



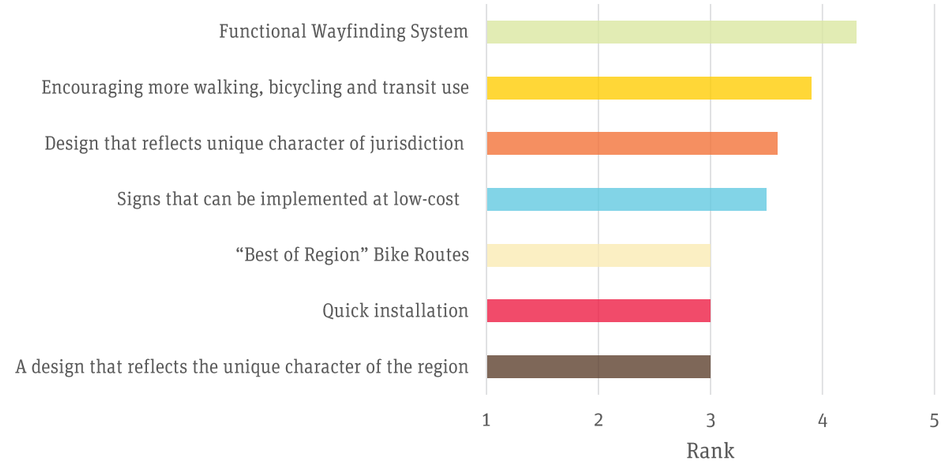
1 - The consulting team engages young members of the public at the SantaCaliGon Festival

2 - Residents complete surveys at a First Friday pop-up event in the Crossroads in Kansas City, MO

3 - A resident completes an intercept survey while waiting for the bus

Jurisdiction Survey[1]

The chart below shows the most desirable project outcomes as ranked by the local jurisdiction staff with 5 the most important ranking and 1 the least important.



Ranking of most desirable project outcomes.

The results show that the respondents consider a functional wayfinding system, encouraging more walking, bicycling and transit use, and a design that reflects the unique character of jurisdiction to be the most important project outcomes. Low-cost signs was ranked as the middle while reflecting the unique character of the region, quick installation, and identifying the "Best of Region" bike routes were considered the least important project outcomes.

1 The online survey for local jurisdictions was open between July 29th and September 20th, 2019 and received 35 total responses (15 complete responses and 20 partial responses).

Survey respondents were also asked to describe the ideal wayfinding system. The word cloud below summarizes these responses:

Words survey respondents used to describe the ideal wayfinding system.

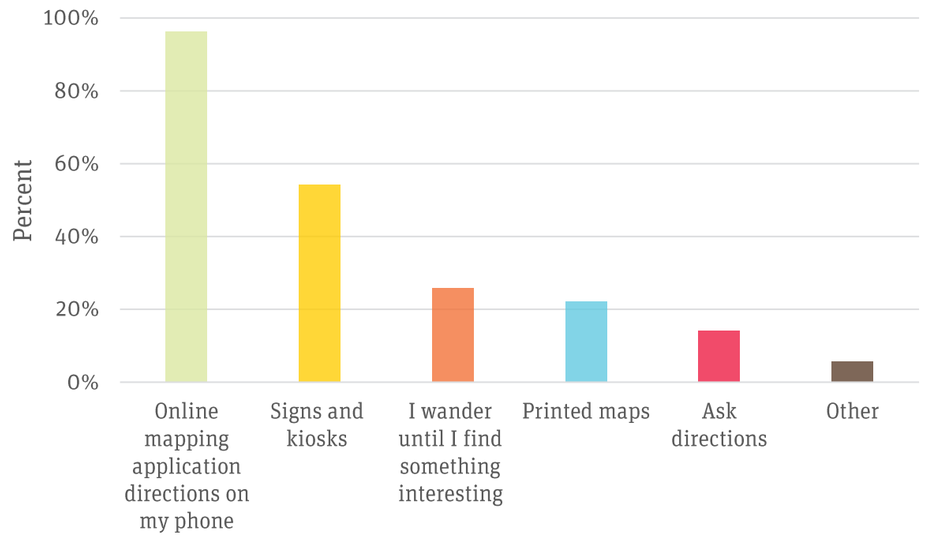
The survey also gathered feedback on which destinations it would be important to provide wayfinding throughout the broader Kansas City Region. The survey found that downtown areas, trails, regional parks, sports complexes, entertainment venues, and iconic shopping centers were among the highest priority as summarized below.

Important destinations to include in a wayfinding system according to survey respondents.

The survey also gathered some technical information about existing signs and sign production to help inform the development of a regional wayfinding system. Approximately 80 percent of the respondents indicated that they would use an outside vendor to produce the signs and approximately 60 percent responded that their jurisdiction has an existing or planned wayfinding system.

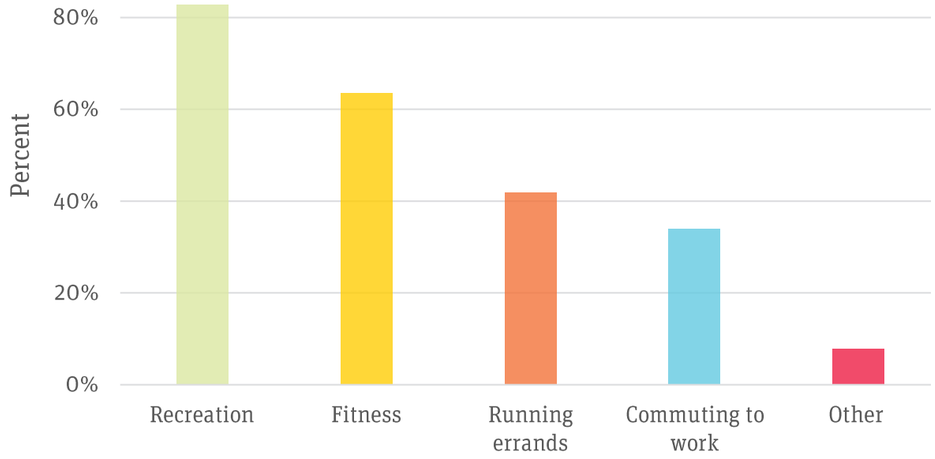
Public Survey

In addition to the survey of staff from the local jurisdictions, the consulting team also conducted an online public survey and supplemented this survey with some identical paper versions at the pop-up engagement meetings. The survey indicated that the majority of people use online mapping applications, such as Google Maps, to navigate through the region. Additionally, 50 percent of people identified signs and kiosks as a common tool that they use to find directions. The results are shown in the figure below:



Common tools people currently use to find directions.

The survey also gathered feedback from the public about their current reasons for using the regional bikeway system. Respondents identified recreation and fitness as their main reasons to use the bikeway system with running errands and commuting to work identified as lower priorities as shown in the graphic below:



Common reasons people currently use the regional bikeway system.

When asked if they would consider biking, walking, or taking transit to other destinations in the Kansas City Region if they better understood how to access them by using these modes, about 80 percent of the respondents said they would consider these modes to get around the region.

Pop-Up Meetings

To gain additional information from the public, 3 pop-up events were held and engaged an estimated 1000+ residents and visitors in the Kansas City Region. These events included the SantaCaliGon Festival in Independence, MO, First Friday in Kansas City, MO, and the Overland Park Fall Festival in Overland Park, KS. At these events, members of the consulting team talked with the public about their project to both share information and gather feedback. They also provided flyers and other information and provided paper copies of the survey for those members of the public who preferred that form over the online version.

2.5 - Fieldwork Summary

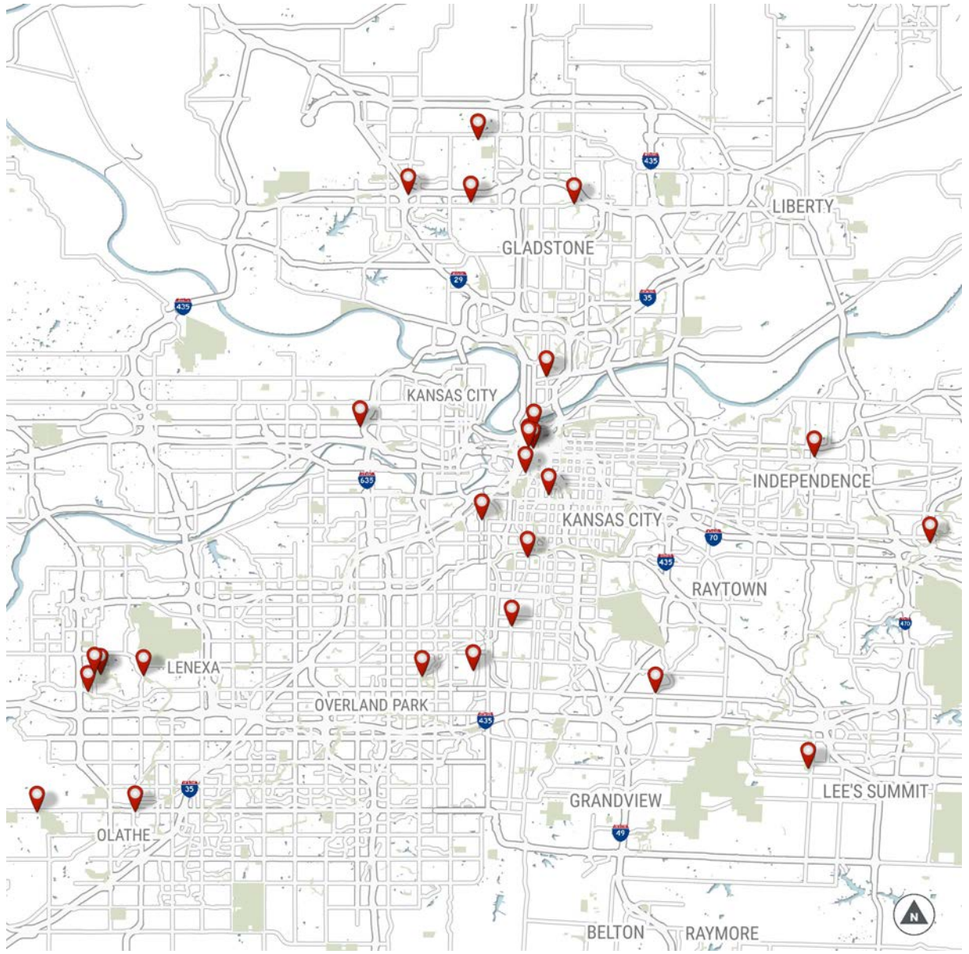
The project team visited 25 locations across the Kansas City Region to gather data on existing wayfinding systems and to gain an understanding of the region's unique challenges and assets. The team documented the use of wayfinding signs at various regional destinations, trails, bikeways, and transit hubs and collected information on where signs may be appropriate in the future.

Overall, the team found a wide range of aesthetic sign styles, colors, and usage across the region. Most of the existing wayfinding is motor vehicle-oriented, but some bicycle, pedestrian, and trail wayfinding is found throughout the region. Generally, the team found:

- Clear intent to provide an improved user experience through wayfinding and signage, but conflicting approaches in execution;
- Lack of coordination and consistency between wayfinding systems across jurisdictions;
- Outdated or ineffective non-motorized wayfinding practices

The following summary of fieldwork and existing conditions is not intended to be a comprehensive look at every wayfinding sign in the region, nor is it meant to call out individual jurisdictions specifically. Rather, its purpose is to highlight opportunities for improvement across the region.

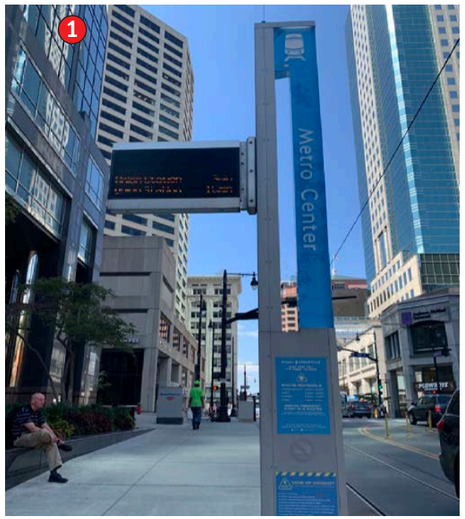
Overview Map of Fieldwork Site Visit Locations



Existing Transit Wayfinding

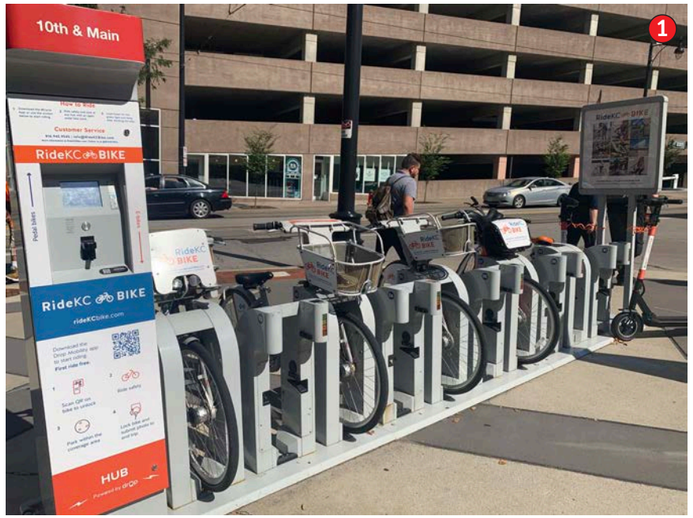
Throughout the Kansas City metro area, the project team found that regional and local bus stops and streetcar stations feature consistent branding. The team noted a variety of stages of implementation of the branded signage; high-ridership stations typically have updated signage, while lower-volume ridership stations often lack any information beyond a bus stop sign.

From talking with transit riders and people around the station hub areas, the team learned that most people feel the existing transit signage works well for navigating the bus routes but lacks information for last mile connections. When riders get off at unfamiliar stations, they have trouble orienting themselves with the surrounding area and accessing nearby destinations.

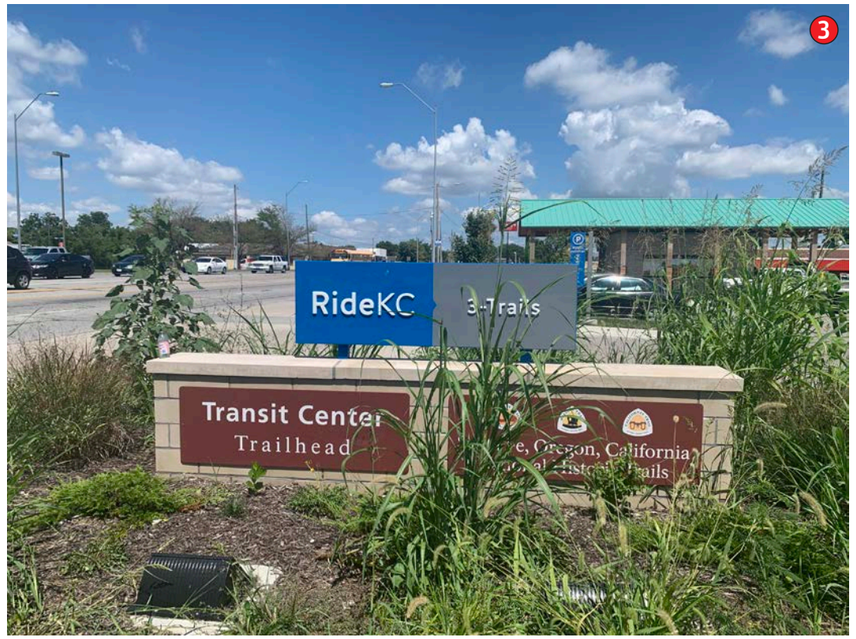


1 - Wayfinding and Electronic Message Boards at Metro Center Transit Station in Downtown Kansas City
2 - Typical Bus Stop Sign Found Around the Region
3 - Wayfinding and Electronic Message Boards at River Market North Streetcar Platform
4 - Wayfinding and Electronic Message Boards at River Market North Streetcar Platform
5 - Bus Station with Detailed Bus Information
6 - Adjacent Bike Route sign with Minimal Information

At several transit stations, the team noted the presence of bicycle racks, bikeshare stations, dockless e-scooters, and sidewalks. This demonstrates a commitment from the region to create last mile connections via bicycling and walking. Additional wayfinding signage aimed at communicating destination access for people biking and walking to and from transit stations could encourage more people to use these modes of transportation.



Some of the existing wayfinding and identification signs are hidden by overgrown vegetation.



1 - Bikeshare Station at Transit Station in Downtown Kansas City

2 - Dockless E-Scooters and Bicycle Racks at Bus Stop

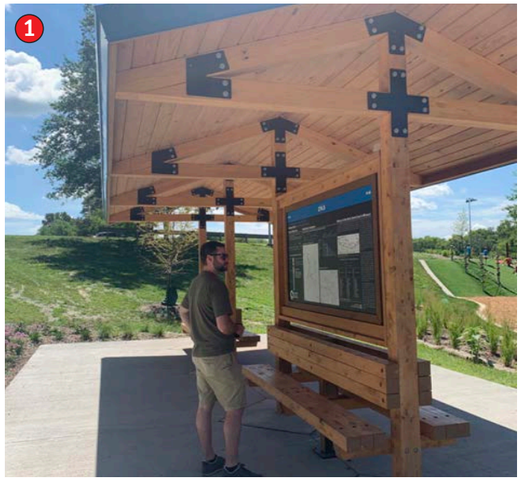
3 - Identification Sign Hidden by Overgrown Vegetation at the 3 Trails Transit Center Station

Existing Trail Wayfinding

The fieldwork team visited several trails, parks, and trailheads throughout the region including, but not limited to:

- Little Blue Trace Hartman Heritage Trailhead
- Trolley Track Trail
- Rock Island Hartman Park Trailhead
- Black Hoof Park
- Sar-Ko Par Park
- Shawnee Mission Park
- Heritage Riverfront Trail
- Gary Haller Trail
- Indian Creek Trailhead
- Tomahawk Creek Trail
- Meadowbrook Park

The team found that much of the region's trail wayfinding is inconsistent and varies greatly in branding, level of information provided, and frequency and location of placement. Where wayfinding is present, signs are typically only located at trailheads and in parking lot areas. These signs focus on park rules or interpretative and educational information with little to no signage along the trails.



1 - Example of Custom Signage in Lees Summit - Hartman Memorial Park

2 - Rock Island Trail Head - Hartman Park Access

3 - Example of Trail Spur in Leawood, City Park with no wayfinding information

4 - Example of Trail Access Point with wayfinding decision sign in Penn Valley Park

5 - Example of Trail Access Point with wayfinding decision sign in Penn Valley Park

Most trail wayfinding signs throughout the region are located at trail heads and parking areas without providing information along the route. Text is often too small, and requires a bicyclist to dismount and potentially block the trail to stop and review the information on the sign. A large destination identification sign at the Rock Island Trail Hartman Park Access point provides a better solution. It helps users identify the trail they are about to enter and the Map Kiosk on the right provides more detailed information and a small pull off area to avoid having users stop in the middle of the trail.

Often where trails intersect or spur, it is unclear which direction a trail user should turn to stay along the trail, or where these spurs go. The addition of decision signs at trail junctions, as show in Image 3, 4 and 5 below help trail users orient themselves along the trail and provide critical navigational information.

Etiquette signs describing the rules and regulations of the trail are the most frequent sign type along trails in the region. The information on the signs as well as the material and overall look of the signs varies greatly across the region's trails. Additionally, some trails have mile markers or emergency response numbering, but their presence is inconsistent.

Other sign types throughout the region include interpretive or educational signage and gateway or destination identification signage. These signs are used inconsistently throughout the region, but provide additional information and confirmation for trail users for all modes of travel.

1 - Example of etiquette and information signs at Little Blue Trace Trail in Independence
2 - Example of emergency response numbering and mile marker along the Rock Island Trail
3 - Example of an etiquette sign at a trailhead in Lenexa
4 - Example of interpretive signage at Evan Knaus Memorial Tree Walk
5 - Example of Destination Identification or Gateway Signage
6 - Example of Bike Route Sign
7 - Example of pedestrian-scale wayfinding at Historic City Market
8 - Example of vehicular wayfinding at the University of Kansas Hospital

Existing Urban and Suburban Wayfinding

The urban bicycle and pedestrian wayfinding signs throughout the Kansas City Region include a mix of basic MUTCD standard signs and more uniquely branded signs for individual jurisdictions. As a general principle, bicyclists and pedestrians have very different needs when it comes to wayfinding signs. Pedestrians (and transit users before and after their journey) can view smaller text, need signs to be closer to eye level, can stop to review a sign, and are not willing to walk as far as a bicyclist could travel. Bicyclists, on the other hand, are willing to travel farther, are often on the roadway, and need to maintain movement which requires larger text heights and simplified, easily understood information.

The bicycle wayfinding across the region is typically limited to standard MUTCD D-Series signs without route names or destinations. The signs often only include simple directional arrows. The frequency and placement of these signs is very inconsistent and does not include information about where the bike routes lead.

The pedestrian-scale wayfinding signs vary more widely in font type, color, size, shape, and level of information. Some pedestrian wayfinding signs in the region are easier to read and understand than others.

Generally, maintenance and consistency are issues for both the bicycle and pedestrian urban wayfinding systems throughout the region.

2.6 - Regional Wayfinding Workshop

After completing the background and best practices research, conducting fieldwork, and compiling the results of the input from local jurisdictions and the public, the planning team facilitated a highly interactive regional wayfinding workshop in September 2019. This workshop brought together representatives of city and county government from across the region to discuss the findings of the background research and to come to consensus on design style, function, application and other important elements of the Kansas City Regional Wayfinding System. The graphics on this page and the next show a summary of the dot-voting exercises that meeting attendees participated in to prioritize principles of design and application for the regional wayfinding system.

Psychology

1. Progressively disclose information
Effective wayfinding systems offer different levels of information in successive stages.

2. Make information predictable
Information consistency, integrity and availability, are crucial to achieving predictability.

3. Create a mental map
Help people develop a visual understanding of the facility layout and their place in the system.

4. Don't make me think
The simpler the information, the easier it will be to understand.

5. Make it frictionless
Integrate information across modes and media to reflect the real journeys people make.

6. Create a rhythm
Establish trust with the user by placing the right signs in the right place with consistency to establish comfort and legibility.

7. Strike an information balance
Display the right amount of information at all stages of a journey.

8. Design for mindsets
Understand people's state of mind and provide information for the right type of user.

9. Landmark based navigation
People naturally orient themselves based upon visible iconic elements in the environment. Using landmarks as part of a map-based wayfinding makes it difficult to get lost.

10. The right information at the right time
A rationale for placement of a family of different sign types, optimize the placement of signage in the environment without adding clutter.

Application

1. Flexible and manageable system
A wayfinding system, for a fluid environment, should be an asset which is controlled and managed to ensure consistent identity and is responsive to changing needs.

2. Maintain motion
Consistent, clear, and visible wayfinding elements allow people walking, bicycling and driving to navigate while maintaining their state of motion.

3. Technology
Mobile digital devices, interactive kiosks and online content provide the opportunity of real time/changing information, reflecting the pulse of the place and up to date information.

4. Single Image
Identify the whole while keeping opportunities for uniqueness to convey the meaning through graphic consistency.

5. Promote active travel
Communicate what destinations, transit and parking areas are accessible and within walking distance.

6. Consistency of structure
Reliability in design and coding of information facilitates certainty and comfort for the new user.

7. Thoughtful placement
Optimize the planning of family of sign types into its constituent parts: welcome and arrival points, decision points, and reorientation points connected by links.

8. Consistent application of graphics
The consistent use of graphic elements across wayfinding outputs strengthens the project identity and adds coherence to the visual wayfinding system.

9. Adaptable map
Signage, print and digital applications of a map will be helpful to the user to plan new routes.

10. Modularity
Create a kit-of-parts modular wayfinding system that can be easily maintained, updated and repaired with a standard structure.

Form

Style

Function