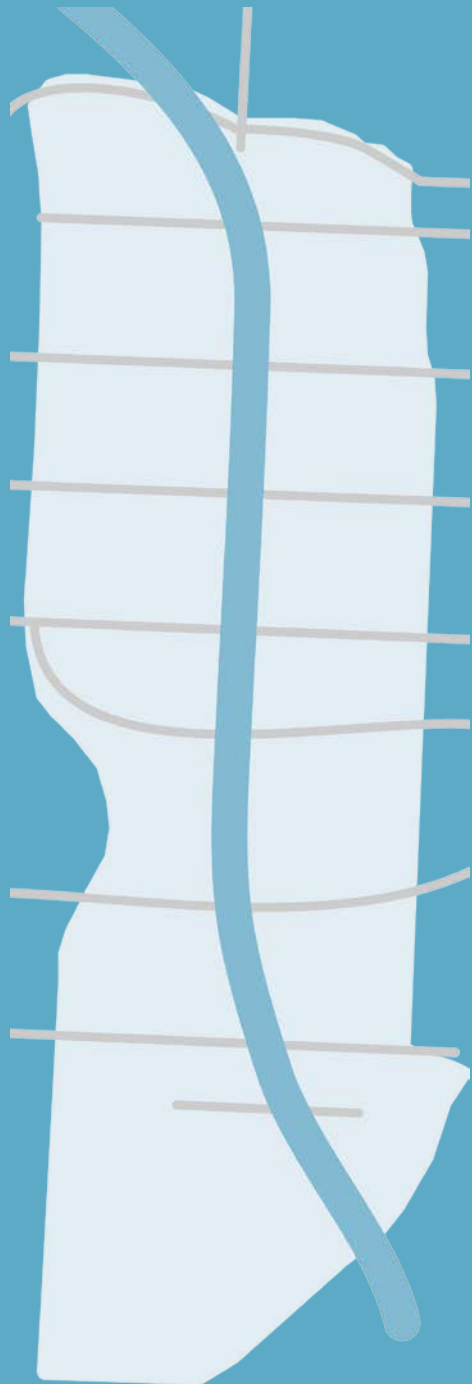


CONNECTING SWOPE



EXISTING CONDITIONS REPORT

Kansas City Area
Transportation Authority

February 2018



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1 REVIEW OF EXISTING PLANS & POLICIES

This chapter reviews the existing plans and policies in place for the Swope area in Kansas City. These guiding documents provide a policy context for development in the area and a solid foundation for understanding the community's goals, values, and vision. The results of this review will become a section in the existing conditions report.

Plans reviewed included the following documents from the neighborhood, city, region, and state levels:

- Kansas City Swope Area Plan
- Kansas City FOCUS Comprehensive Plan
- Kansas City Major Streets Plan
- Kansas City TOD Plan
- KCATA Prospect MAX Planning Assessment Study
- MARC Smart Moves 3.0 Transit Study
- MARC Transportation Outlook 2040
- MARC Complete Streets Handbook
- MDOT Practical Design

KEY FINDINGS

Vision and Goals

All of the plans reviewed share a vision for a transportation network that is connected, multimodal, and supports economic growth. The Swope Area Plan incorporates all these elements into a succinct goal statement:

Create an interconnected multimodal transportation system in the Swope area that integrates with land use patterns, connects neighborhoods and businesses, and increases transportation choice.

This statement refines the goals outlined in the FOCUS plan, which calls for the strengthening and resurgence of the urban core, knit together by connected, multi-modal street grid and key service corridors. Subsequent plans, such as the City's Major Streets Plan and recently adopted Transit Oriented Development (TOD) policy, work

hand in hand with area transit plans to strategically invest in key corridors, including Prospect Avenue.

With extensive community input and engagement reflected in the Swope Area Plan, the KCATA Prospect MAX Planning Assessment Study, and the Major Streets Plan, among others, there appears to be widespread consensus in the Swope area and within the larger community on the goals and vision for the transportation system.

Opportunities

To realize this vision, nearly all of the plans reviewed tied transportation investments to meeting the travel and economic needs of the Kansas City metropolitan area current and projected future population and employment. MARC's Transportation Outlook 2040 forecasted that the region would grow by more than 30% in the future, adding 600,000 residents and 320,000 jobs in the next 30 years. The FOCUS citywide plan notes that increasing safe and convenient options for multimodal travel will increase access for employers and employees. At the neighborhood scale, the Swope area plan has a focus on connecting activity centers and regional destinations.

At the same time, the plans also contained a desire for sustainable development that reflects the community character that makes Kansas City and its neighborhoods unique. For example, many of the plans mention enhancing mobility through transit and placemaking and reducing single-occupancy vehicle (SOV) travel. However, there was also a focus on being strategic about investments by prioritizing key corridors along with critical transit service routes. Highway 71, for example, was called out as high priority commuter corridor in some documents; Prospect Avenue was also deemed a key service corridor in some of the plans.

While regionally, residents were concerned about environmental and mobility concerns, within the Swope area, economic development, health and safety in the community were equally as important. Outreach efforts revealed that residents would use transit and other non-motorized modes, like biking and walking, more if they felt safe and comfortable doing so. High speeds, crime and/or perception of crime, and the lack of uniform pedestrian infrastructure was identified as a hindrance to changing travel habits.

Multiple plans acknowledged the connectivity and environmental justice barriers throughout the Kansas City metropolitan area, such as rivers, railroads, and highways. These physical and environmental barriers were mentioned as impediments to connecting neighborhoods of color with opportunities. The Prospect MAX Planning Assessment Study acknowledges the trend of historic outmigration from the urban core into newer suburban developments, citing population decline, segregation, disinvestment, crime, vacant land, and deteriorating physical conditions as key factors the project will seek to address.

Many plans noted the nexus between transportation and land development and identified locations within the Swope area to target with development guidelines. The City of Kansas City TOD Policy creates design guidelines for compact and mixed-use development, which enhances walkability near transit stations and stops. The urban neighborhood guidelines would seem most appropriate for the Prospect MAX station areas. The Major Streets Plan provides design recommendations for the streets in Kansas City, classifying Prospect Ave as a "Local Link" that connects neighborhoods and

services, serving primarily residential areas and accommodating bicycle, foot and auto traffic.

Finally, the Swope Area Plan recognized the need for additional pedestrian connections across Highway 71 spaced ideally every ¼ mile or more frequently across the highway. MoDOT has a Complete Streets policy and the MoDOT Practical Design handbook provides considerations for bicycle and pedestrian facilities to be added on major arterial streets. These include having local policies and plans in place, a local funding sponsor to pay for the facilities, there is demonstrated public support, and the proposed project would address a barrier, man-made or natural.

The toolkit of possible bicycle facilities includes “bike lanes, wide, curb lanes, paved shoulders or a shared use path separated from the travel way by a barrier curb.

Projects

Two specific projects were discussed in the plans as they related to the Swope area:

- *MAX Bus Rapid Transit:* Already operating along Main Street and Troost Avenue, MAX BRT is currently being studied by KCATA and the City along Prospect Avenue. Goals for the project include faster, more reliable, and more cost effective transit service, new business and economic development along the Prospect Corridor, and improved passenger amenities to spur ridership. In addition to rapid bus service, the corridor was called out in multiple plans for streetscape improvements, multi-modal infrastructure (including more pedestrian crossings), denser land uses at key intersections (such as Prospect Avenue and 63rd Street), and enhanced placemaking. If the project is deemed successful, it could potentially be evaluated for streetcar service in the future. Additional information on this project is outlined in the appendix.
- *Highway 71 Transit Study:* Integrated into Smart Moves 3.0 was an alternatives analysis for enhanced transit service along Highway 71. Service options were evaluated not only along 71 itself, but also how they may integrate into the Downtown Streetcar project along with Prospect Avenue and adjacent railroads. The study determined that while ridership was fairly strong along the arterial (5,500 passenger trips per week), budget limitations had reduced service over the years, limiting its potential for increased ridership and economic vibrancy.

DETAILED DOCUMENT REVIEW

Kansas City Swope Area Plan

Adopted: 2014 | **Principal Purpose:** Neighborhood Plan

Kansas City maintains 18 neighborhood area plans serving as amendments to the larger city-wide Comprehensive Plan. The Swope Area Plan was adopted in 2014 and includes recommendations, strategies and actions to guide the community's long term vision for the future in areas such as land use, housing, capital improvements, transportation and city services.

In a survey of more than 400 Swope residents, the Plan found mixed opinions on the current transportation in the neighborhood:

- 44% indicated satisfaction with overall traffic flow in the area
- 59% indicated satisfaction with pedestrian friendliness
- 41% indicated satisfaction with bicycle friendliness

When asked what transportation elements could be improved, crime and perception of safety arose as recurring impediments to walking, biking and taking transit. Many residents indicated they would be more willing to walk, bike and take transit if there was less crime, more sidewalks and bike lanes, improved bus shelters, and improved lighting/safety.

In response to the survey and other community engagement efforts, the Plan came up with five goals for Swope:

- *Livable*: Revitalize neighborhoods and provide needed services and amenities;
- *Connected*: Improve connections and improve transportation options;
- *Thriving*: Support and enhance areas of employment and create thriving business districts;
- *Sustainable*: Create a sustainable community that is economically, environmentally, and socially healthy and resilient;
- *Targeted*: Build on previous investments and areas of citywide impact;

For transportation, the key goal is to

Create an interconnected multimodal transportation system in the Swope area that integrates with land use patterns, connects neighborhoods and businesses, and increases transportation choice.

Within the Transportation chapter, certain streets are marked as “Image Streets and Gateways”; these are generally key corridors to be designed and maintained to a high aesthetic standard. Within the plan, Prospect Avenue/Bruce R. Watkins Drive is recommended to be both an “Image street” as well as a major pedestrian corridor.

The need to address pedestrian barriers posed by Bruce R. Watkins Drive is specifically noted as a high priority. The plan suggests the City work with MoDOT to study the locations of ‘improvised’ crossings and create at least four legal crossings per mile along this stretch.

The map below highlights the proposed locations for the additional crossings along the northern and southern portions of the corridor. Specifically, the plan proposes new crossings at 53rd St, 57th St, 68th St, and 73rd St.



Additional areas to explore due to the frequency of ‘improvised’ crossings indicating existing demand are from 51st St to 59th St and 67th St to 75th St.

Prospect Avenue is recommended to be a primary transit corridor and second-level bicycle route. The Swope Area Plan echoes the U.S. 71 Transit Study’s recommendation to advance MAX BRT on along Prospect Avenue and explore streetcar expansion in the

future. As a supplement to expanded transit service, this Plan also targets densification and TOD at the intersection of Prospect Avenue and the 63rd street corridor.



Kansas City FOCUS Comprehensive Plan

Adopted: 1994-1997 | **Principal Purpose:** Comprehensive Plan

Adopted in the mid 1990's, the Kansas City FOCUS (Forging Our Comprehensive Urban Strategy) Plan sets a blueprint for responsible, people-centered urban development for the 21st century. Unlike traditional comprehensive plans, FOCUS does not have individual chapters dedicated to topical areas such as land use, transportation, environment, etc. Instead, the Plan includes a physical framework plan, preservation strategy, governance plan, and human investment plan. FOCUS has 14 goals for Kansas City:

to reaffirm and revitalize the urban core, advance and encourage quality suburban development; plan for a well-designed city framework; strengthen neighborhoods, ensure environmental stewardship; create a secure city; respect diversity; advance education; culture and the arts; develop jobs for the future; create opportunity; create a better future for our young people; target financial investments strategically; build government through a partnership with citizens; and build metropolitan leadership and regional cooperation.

Within the Physical Framework Plan, the aspirational goal for transportation is to create an integrated, multi-modal transportation system that is accessible and useful for all residents and visitors. Actions transportation center around multi-modality and expanding arterial access:

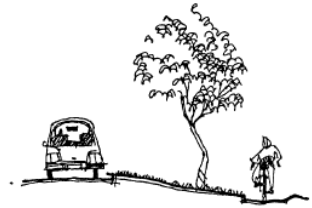
- Complete the arterial street and boulevard system where gaps in the system exist, particularly in the Northland and in other suburban areas
- Develop standards and systems that accommodate the automobile, transit, bicycles, and pedestrians. Extend light rail and supporting transit improvements throughout the city, including into the city's Northland.
- Prioritize programs, which allocate federal, state, and local resources in a cost-effective manner and include the following categories: congestion management on existing roadways; enhanced arterials; light rail transit; bicycle; pedestrian; mobility strategies; and highways and arterials. Develop and implement design and level of service standards for each category.
- Strategically implement the Major Street Plan to target emerging, logical, contiguous development and infill development areas; link the degree of public arterial street funding to these areas; and require private funding for arterial street development in outlying, or non-contiguous areas.
- Require traffic impact studies for future development that address all transportation modes, including transit, pedestrian, and bicycle, where appropriate.
- Use transit oriented development guidelines (TODs) and pedestrian oriented development guidelines (PODs) when preparing recommendations to the City Plan Commission and City Council for new development and the rehabilitation of existing development.

The Urban Design Guidelines included in the plan note five pedestrian levels of service measurements:

Pedestrian Guidelines

Utilize the following five pedestrian levels of service measurements:

- **Directness:** The actual pedestrian distance from trip origin to destination (i.e., home to transit stop, school, park, commercial center, or activity area)
- **Continuity:** The measurement of the completeness of an identifiable sidewalk/walkway system
- **Street Crossings:** Critical street crossing elements (signalized, unsignalized and mid-block) to provide pedestrian safety. These elements include number of lanes to cross, pedestrian signal phasing, signal indications, presence of crosswalks, lighting, median type and width, location and availability of corner ramps, and visibility.
- **Visual Interest and Amenity:** Elements that define an aesthetically pleasing and functional pedestrian environment to promote pedestrian usage
- **Security:** Elements that define a sense of security through visual line of sight with others and separation from vehicles

**Kansas City Major Streets Plan**

Adopted: 2011; Amended 2016 | **Principal Purpose:** Network

The Major Streets Plan addresses the capacity needs of the City's major streets, as well as context-reflective, multi-modal street designs. It also expands on the collaborative history and abilities of three City departments – City Planning and Development, Parks and Recreation, and Public Works – in order to more fully integrate visions into one plan. Legally, the Major Street Plan serves to define the ultimate arterial network and preserve the right-of-way needed to support that network.

The plan creates a street typology with eight street types. Six of the eight typologies each have a series of applicable typical sections, which will vary depending on local context. These are shown below.

The Plan classifies Prospect Avenue a Local Link road north of 63rd St. and as a Thoroughfare south of 63rd St. In the north, the Local Link designation indicates that Prospect Avenue connects neighborhoods and services, serving primarily residential areas and accommodating bicycle, foot and auto traffic. Heading south however, the Plan indicates that the character of the street changes into an arterial thoroughfare with commercial buildings set back from the road. The plan notes that the character of the street changes from mixed-mode to primarily auto-oriented intended for the throughput of vehicular traffic.

The Plan notes the Prospect Ave./Highway 71 corridor as a "Special Purpose Mass Transit Corridor" for regional transit.

Each of the Street Typologies has a unique context and intent. Six of the eight typologies each have a series of applicable typical sections. The choice of the appropriate section is a function of other contextual parameters and may vary by segment. The graphics below illustrate the typical sections, with widths (in feet) shown for elements within the section, as well as the overall right-of-way requirement for each section. The following page provides more definition of the section elements, and summarizes the process for determining which section is appropriate for a given street segment.



Intent
Create a reduced emphasis on automobile traffic and a heightened pedestrian environment. May be closed to vehicular traffic at certain times for entertainment and street retail activity.

Diagram illustrating a 100-foot wide road with 10 lanes. The road is divided into 10 lanes by white lines. The lanes are numbered 1 to 10 from left to right. The road is flanked by trees and a sidewalk. A red bracket on the left side of the road indicates the 100-foot width.

Intent
Provide a pleasant drive through a variety of land uses; an environment where vehicles and pedestrians can coexist. Follow the grid system, accommodating multiple points of access with intersections at cross-streets.

Intent
Form a highly interconnected network (grid), dispersing "through" traffic and providing convenient routes for pedestrians, bicyclists, and transit users.

Intent
Serve residential traffic to and from destinations, linking neighborhoods and services. Encourage walkability and multi-modal transportation. Carry moderate levels of traffic in a way that is compatible with bicycle and foot traffic.

[illegible]

Intent
Retaining a pastoral quality even while winding through developed areas. There are several segments in the Major Street Plan named "Parkway" that have a Boulevard typology and cross-section.

Intent
Emphasis placed on vehicular mobility and "through" or "destination" traffic.

No specified cross-section

Intent
Retain existing cross-section (for Major Street Plan purposes); no additional right-of-way required.

Boulevard / Parkway*	No specified cross-section
----------------------	----------------------------

Typical Context
Historic: Parkways and Boulevards from the original Kessler system. *Established:* Facilities already built to previous standards.

Kansas City TOD Policy

Adopted: 2016-2017 | **Principal Purpose:** Policy framework / design guidelines

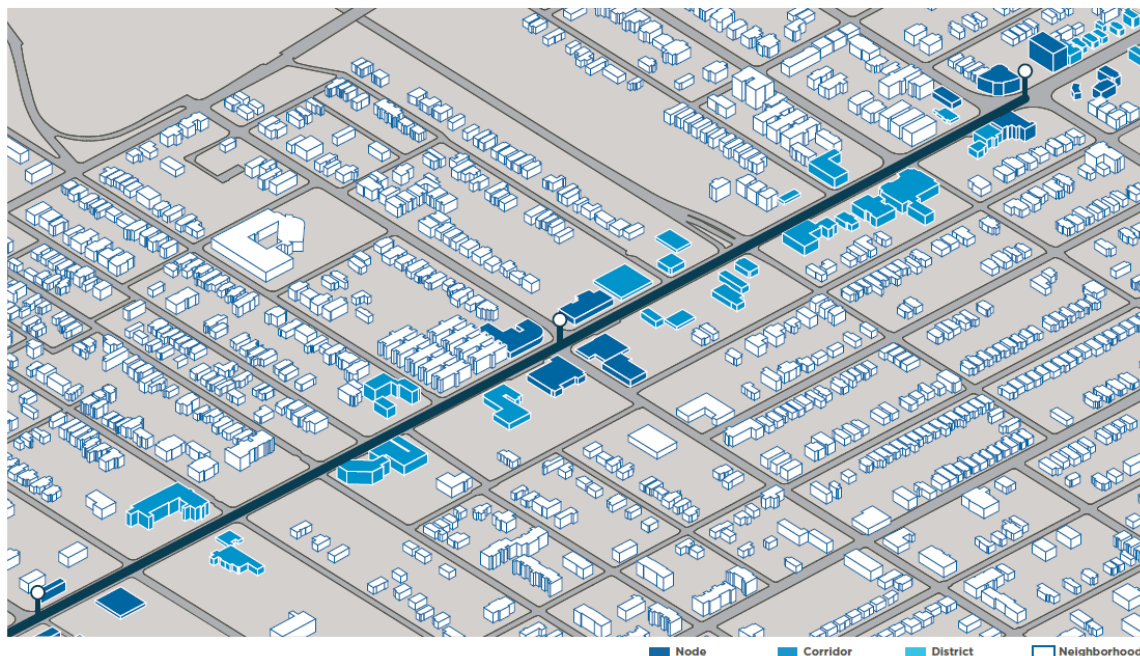
The City of Kansas City recently adopted a TOD policy document to guide future development around transit stations and along major transit corridors. Overall, the policy supports dense, compact and mixed-use development which enhances walkability near transit. It divides development into the following six categories:

- Urban Center (Downtown)
- Urban District
- Urban Community
- Urban Neighborhood
- Suburban Center
- Town Center

Not only does this document provide policy support and guidance, it also provides a roadmap for implementation. This takes the form of specific design standards and financing strategies. The policy applies to all transit station areas and corridors served by some form of fixed guideway or rapid transit, including streetcar, commuter rail, MAX bus service and other bus rapid transit.

Urban Neighborhood

The Green Impact Zone, Marlborough Coalition of neighborhoods, Brookside, and Pendleton Heights are examples of this typology. The typology designation is primarily single-family residential in nature with locally-serving commercial development along the major streets and at primary intersections. Development is limited to increased density along transportation corridors due to a desire to preserve neighborhood character, small lot sizes and limited buffering between commercial and residential uses. This typology would be generally served by bus rapid transit, streetcar and/or light rail.



KCATA Prospect MAX Planning Assessment Study

Initiated by KCATA, the Prospect MAX Planning Assessment Study is a continuation of a series of analyses examining the feasibility of implementing MAX bus rapid transit service along Prospect Avenue. The analyses determined that despite historical population declines in the urban core, density in the study area was sufficient to support enhanced transit along Prospect Avenue between 27th and 47th Street, particularly in block groups with low rates of vehicle ownership.

Although KCATA had assessed the feasibility of MAX service prior to the start of the Planning Assessment Study in June 2013 the initial assessment did not include public involvement. Thus, the Planning Assessment Study involved a comprehensive public outreach component to inform residents and bus riders in and along the Prospect Avenue corridor and the adjacent neighborhoods regarding plans for the proposed MAX service and to obtain input from the community. Approximately 12,000 flyers were distributed at bus stops, in surrounding neighborhoods and at businesses in the area. An additional 6,000 flyers were placed on buses. A Street/Engagement Team walked the streets, visited residences door-to-door and road buses to meet with the public one-on-one. In addition, there were two public meetings and three Advisory Committee meetings.

After conducting demographic, technical, environmental and economic analysis, evaluating land use development potential at stations, laying out extensive site planning and station design guidelines, and conducting extensive community outreach, 28 core stations were proposed along the Prospect Avenue corridor from 75th Street heading north to and west along 12th Street, ending at the West Loop Transit Center. By spacing out stations and potentially evaluating the costs and benefits of off-board fare collection, the project aims to reduce running time by 20% through the preferred service plan outlined above. Major funding for this project is anticipated to come from a Federal Transit Administration "New Starts/Small Starts" grant, as well as from the creation of a Transportation Development District and local sales taxes.

MARC Smart Moves 3.0 Strategic Transit Plan

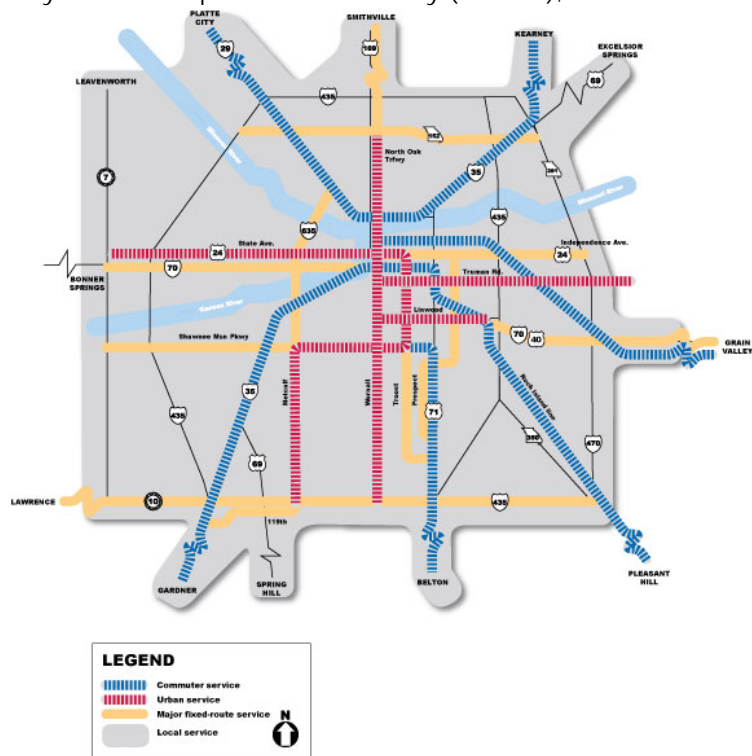
Adopted: In process (anticipated 2017) | **Principal Purpose:** transit

Originally developed in 2002, Smart Moves 3.0 is the third iteration of the region's transit plan. Smart Moves provides a strategic framework to guide transit investments in the greater Kansas City metropolitan area. It is a collaboration between MARC and regional transit agencies, including the Kansas City Area Transportation Authority (KCATA), Unified Government Transit (UGT), Johnson County, the city of Independence and the Kansas City Streetcar Authority.

The Plan's goal is to double the number of jobs accessible by transit by:

- Focusing on key service corridors
- Improving and investing in placemaking
- Deliver new innovations in mobility
- Build mobility hubs as places to promote multimodal connection

Since the Plan's inception, there have been a number of successful transit projects in the region. These include new commuter bus service between Overland Park and Lawrence, MAX Bus Rapid Transit in Kansas City and the Kansas City Streetcar in downtown. The Plan also recognizes Prospect Avenue south of the river as a key service corridor.



MARC Transportation Outlook 2040

Adopted: 2015 | **Principal Purpose:** regional planning

Outlook 2040 is the region's long-range transportation plan which will guide MARC's capital spending for the next twenty years. Updated from 2010, the plan covers 119 cities, nine counties, and two states. It forecasts moderate future growth – the region is expected to grow by 31 percent in the next couple decades, from 1.9 million residents to 2.5 million residents by 2040. Employment is expected to grow similarly by 30 percent, adding approximately 320,000 jobs. To keep up with growth, the Plan's Vision calls for sustainable development that will grow the economy while protecting the environment. Environmental justice is a key theme throughout the Plan. It challenges local jurisdictions planning transportation improvements to improve transportation costs, mode diversity, job access for disadvantaged populations, and bicycle and pedestrian facilities.

MARC Complete Streets Handbook

Adopted: 2012 | **Principal Purpose:** Design guidelines/regional planning

MARC's Complete Streets Handbook provides impetus and guidance for municipalities wishing to adopt Complete Streets policies. The document outlines the what, how and why of Complete Streets, as well as gives examples of ten policies already adopted in the region. The City of Kansas City and the State of Missouri, for example, both adopted Complete Streets policies in 2011. The Handbook also provides basic guidance for developing implementation items, such as a Street Prioritization Map and Street Design Guidelines.

MoDOT Practical Design

Adopted: 2006 | **Principal Purpose:** Design guidelines

MoDOT's Practical Design handbook sets practical, implementable guidelines for "good projects...to achieve great systems". It sets a framework for feasible, low-cost, safe and innovative road improvements. The majority of the handbook focuses on highway and bridge engineering for major and minor arterials. The last chapter includes two sections on bicycle and pedestrian facilities.

MoDOT recognizes bicyclists as legitimate users of the road and permits bicyclists to "take the lane" when a bicycle lane is not present. According to the handbook, MoDOT will consider adding bicycle facilities to projects in the MoDOT right-of-way if any one of the following conditions are met:

- The local jurisdiction has a bicycle policy for the project area.
- The local jurisdiction is willing to fund the project's construction and maintenance.
- There is evidence of current bicycle traffic and/or generators of future bicycle traffic.
- There is public support of bicycle facilities in the area.
- The facility would provide bicycle access over a man-made or natural barrier.

The toolkit of possible bicycle facilities includes "bike lanes, wide, curb lanes, paved shoulders or a shared use path separated from the travel way by a barrier curb. Mountable curbs are prohibited as a positive separation" (MoDOT 24).

The Practical Design handbook outlines similar conditions for pedestrian facilities to be considered in MoDOT improvement projects. In addition to the conditions outlined in the Bicycle Facilities chapter, MoDOT will also replace sidewalks if the project disturbs existing sidewalks. Sidewalks should be designed in accordance with the Americans with Disabilities Act and AASHTO: 5' wide, 4" thick, and separated by a barrier curb (not mountable curb).

2 EXISTING CONDITIONS & BARRIERS TO CONNECTIVITY

This chapter reviews existing conditions data associated with demographics, transportation networks, and safety in the Connecting Swope study area. The study area being analyzed is contained within Swope Parkway, Paseo, 85th Street and Brush Creek, as seen in Figure 2-1.

While many destinations are found within the immediate periphery of the study area, the right of way assigned to Highway 71 splits the area in two. This significant barrier limits connectivity and accessibility for people living on either side of Highway 71. With a comprehensive understanding of existing conditions, the project team will be able to deliver recommendations to strengthen connectivity between communities separated by the highway.

Highlights from the findings include:

- More than half (62%) of the people living in the area are vulnerable users of the transportation system - 36% are young people and 26% are older adults.
- There are less than 10,000 jobs in the area, concentrated in two locations around the Research Medical Center and Alhambra.
- The street grid is less well connected around these two large employment centers, channeling travel on to 63rd St and 75th St.
- The pedestrian network is better connected to the west of Hwy 71 and less well connected on the east.
- With distances between Highway 71 crossings ranging from 1,800 to 3,400 feet, informal crossing locations have been utilized by community members at 53rd St, 57th St, and 69th St.
- Pedestrians are 20 times more likely than drivers to be involved in a fatal collision in the study area.
- There are 12 transit routes in the area with significant transfers at:
 - Prospect & Swope Pkwy,
 - Prospect & 63rd, and
- Prospect & 75th.

Figure 2-1 Project Study Area



Source: 2015 Census ACS Data

COMMUNITY DEMOGRAPHICS

Income and Poverty

Generally, the households within the study area are on the lower-end of the socio-economic spectrum. Approximately, 62% of households earn less than \$35,000 annually and only 22% earn more than \$50,000 as seen in Figure 2-2. This suggests that improving access and creating safe connections to public access may contribute in a positive way for many households.

Figure 2-2 Household Income Levels in Study Area (2015)

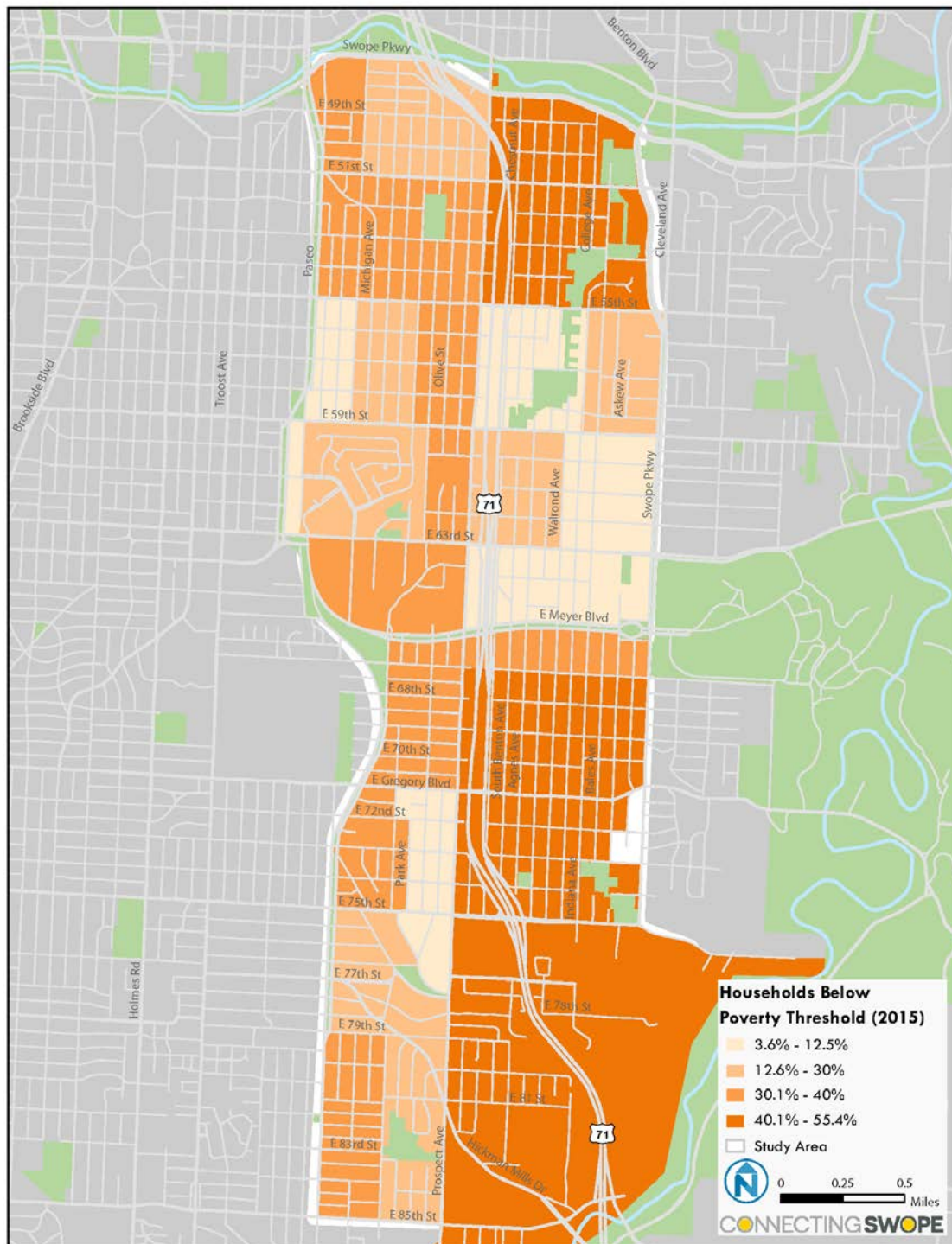
Income	Split
Less than 15,000	30%
15,000-24,999	16%
25,000-34,999	16%
35,000-49,999	15%
50,000-74,999	13%
75,000 and more	9%

Source: 2015 Census ACS Data

Figure 2-3 visualizes households identified as being below the poverty line as of 2015. Nearly a third of households in the study area are identified as being below the poverty line, with many segments of the study area exhibiting higher rates of poverty. The highest rates are identified in the northeastern and southeastern neighborhoods of the study area, where more than 40% of households are below the poverty line.

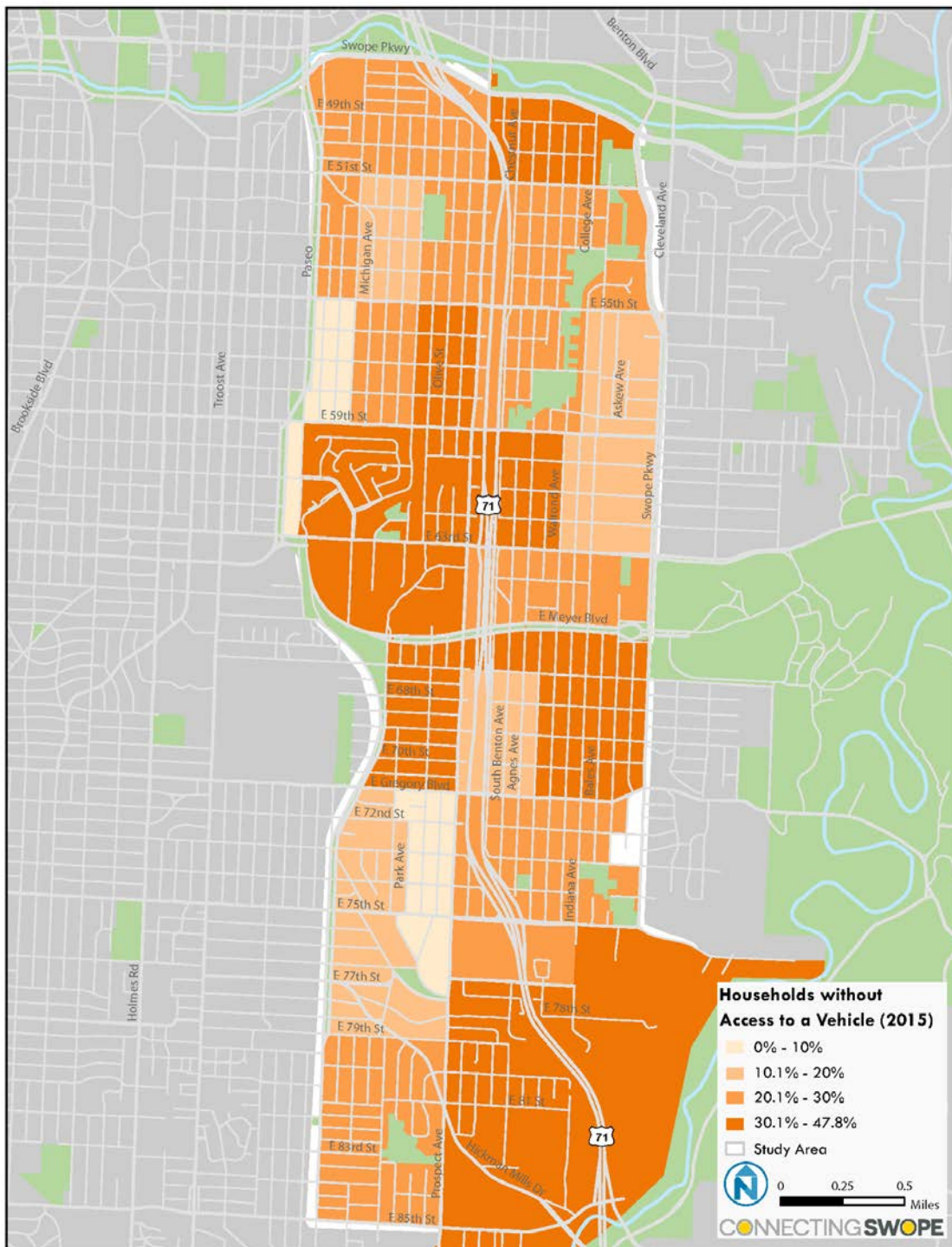
Communities identified with higher rates of poverty align with households without access to a vehicle, as seen in Figure 2-4. Additionally, many neighborhoods along Meyer Boulevard in the center of the study area also exhibit the highest rates of no vehicle access, where over 30% of homes do not have access to a vehicle. Overall, 20% of households in the study area do not have vehicle access. This once again reinforces the need for creating safe, affordable, and accessible transportation alternatives for communities.

Figure 2-3 Households Below the Poverty Line by Block Group (2015)



Source: 2015 Census ACS Data

Figure 2-4 Household Vehicle Access by Block Group (2015)



Source: 2015 Census ACS Data

Race/Ethnicity Data

Residents in the study area self-identified primarily as Black/African American (85%), with the second most represented group being Caucasian (10%).

Figure 2-5 Race/Ethnicity Representation in Study Area (2015)

Race/Ethnicity	Split
Black or African American alone	85%
Caucasian	10%
American Indian and Alaska Native alone	1%
Asian alone	1%
Native Hawaiian and Other Pacific Islander alone	0%
Some other race alone	1%
Two or more races:	2%

Source: 2015 Census ACS Data

Age

More than half of the people living in the area are vulnerable users of the transportation system. More than a third (36%) are young people while a quarter (26%) are older adults in or near retirement.

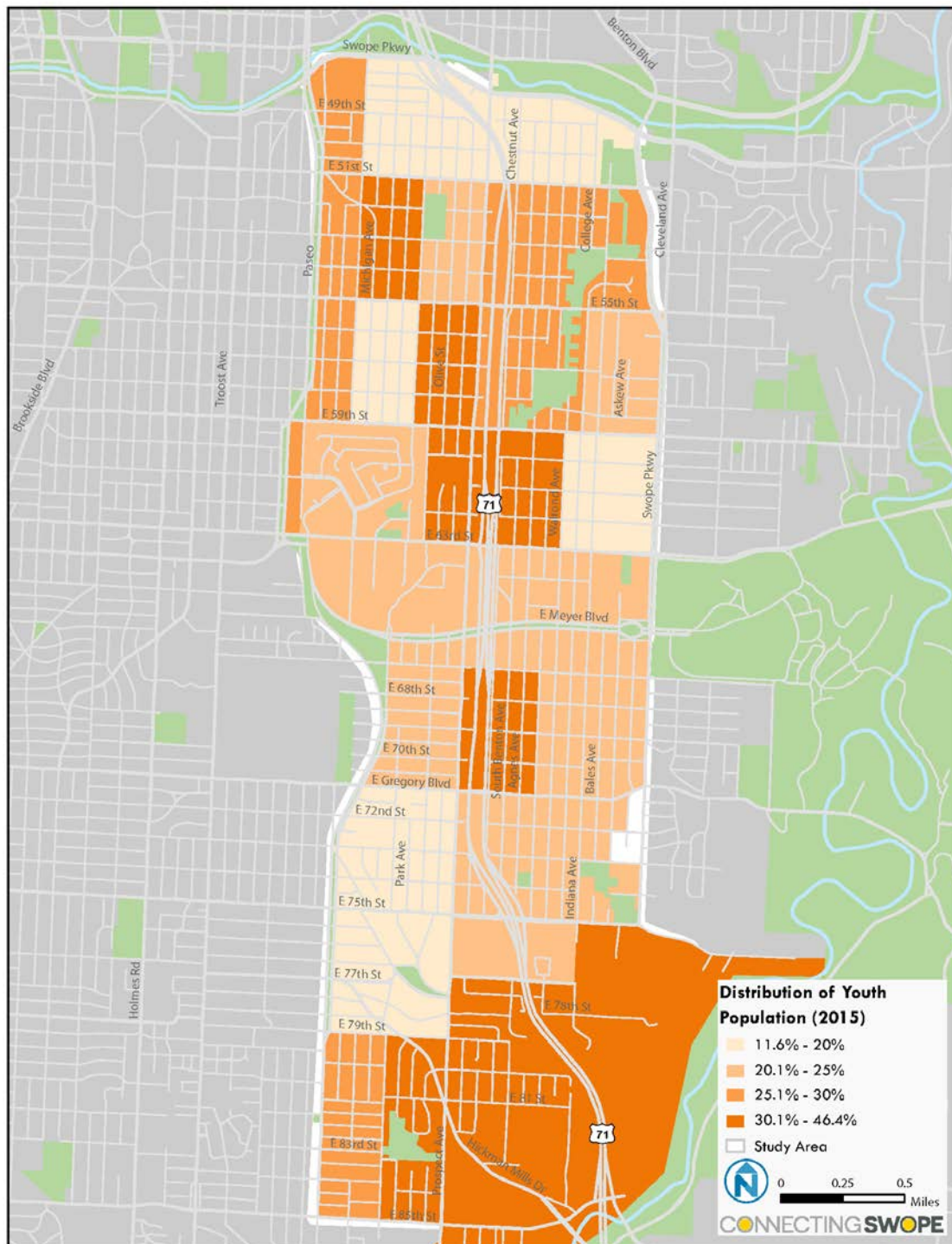
Figure 2-7 and Figure 2-8 show the distribution of youth and older adults by Census block groups, respectively. Areas with higher proportions of young people are relatively well distributed throughout the study area. However, older adults are represented in higher rates north of and along Meyer Boulevard within the study area. When developing options for connectivity, it is important to consider the needs, safety, and comfort of these age groups, as they represent some of the most vulnerable roadway users.

Figure 2-6 Age Distribution in Study Area (2015)

Age	Split
Below 18	27%
18-24	9%
25-34	14%
35-44	10%
45-54	14%
55-64	11%
65+	15%

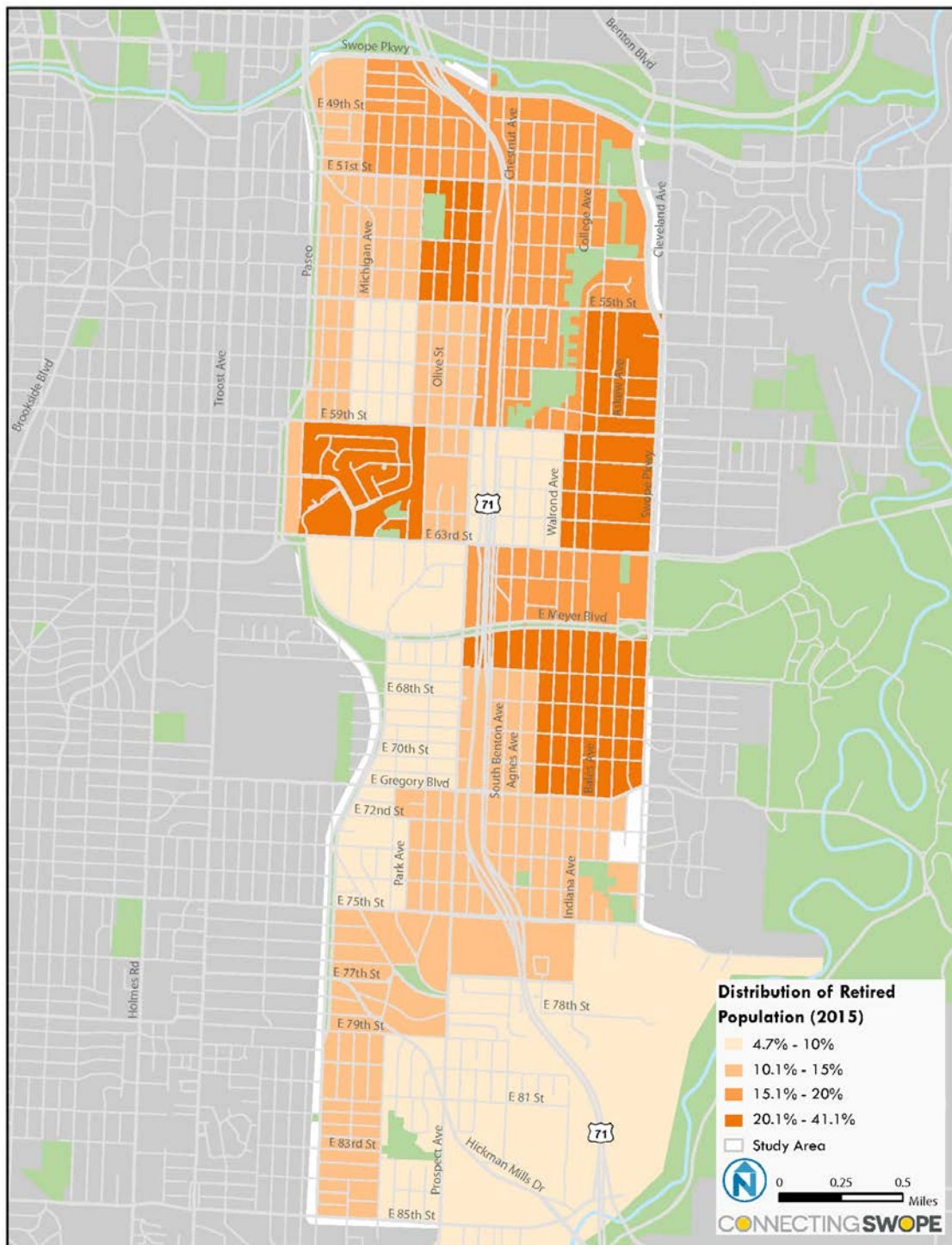
Source: 2015 Census ACS Data

Figure 2-7 Age Distribution by Block Group – Youth (<18) (2015)



Source: 2015 Census ACS Data

Figure 2-8 Age Distribution by Block Group – Retired (65+) (2015)

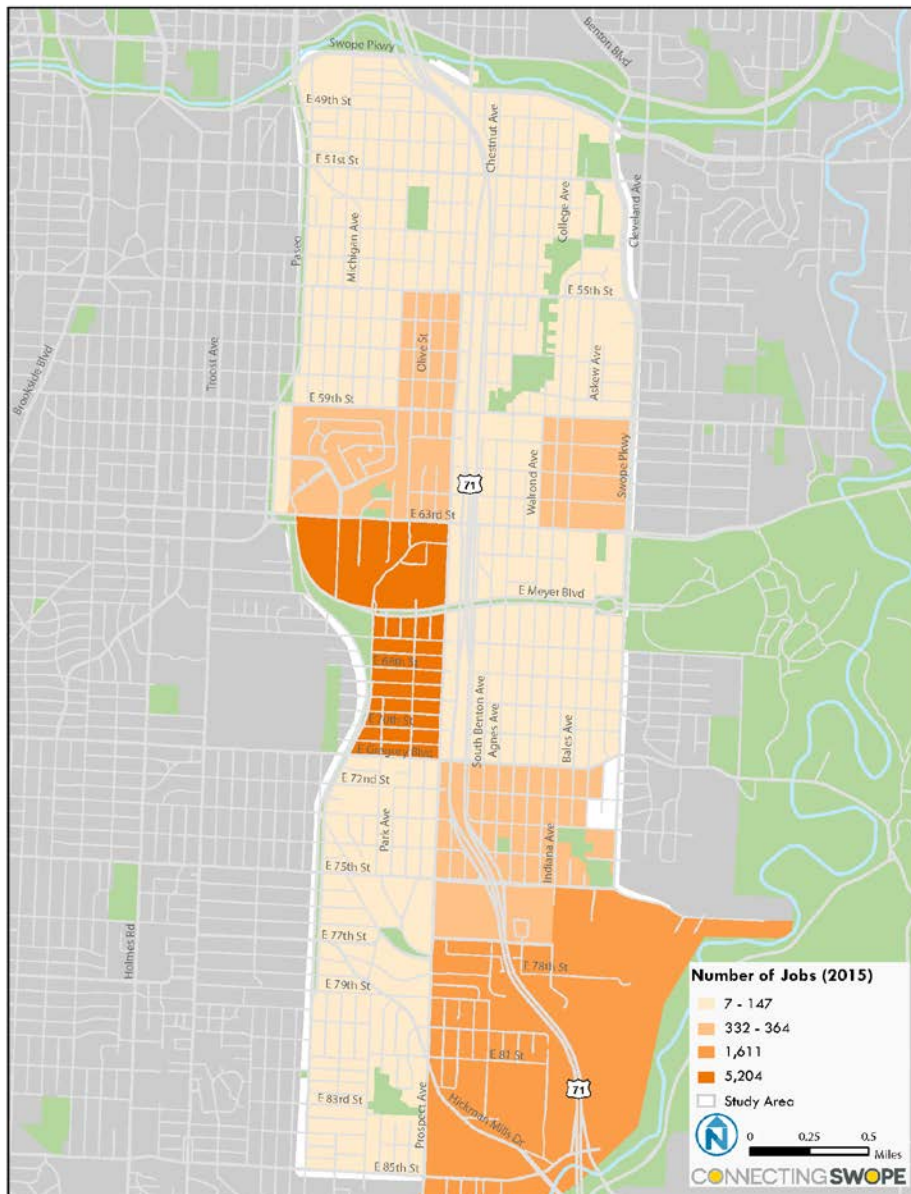


Source: 2015 Census ACS Data

Employment

Within the study area, approximately 9,138 jobs were reported in 2015. While most block groups had less than 150 jobs, two block groups contained nearly 75% of jobs. In the southern end of the study area, 1,611 jobs are assigned to a single block group, which contains the Alphapointe headquarters, Metro Patrol Police Station, and a hub of industry along the Blue River banks. Along Meyer Boulevard, a single block group contains 5,204 jobs, anchored primarily by the Research Medical Center. As major job centers, these areas represent opportunities to establish multi-modal connectivity.

Figure 2-9 Job Distribution by Block Group (2015)



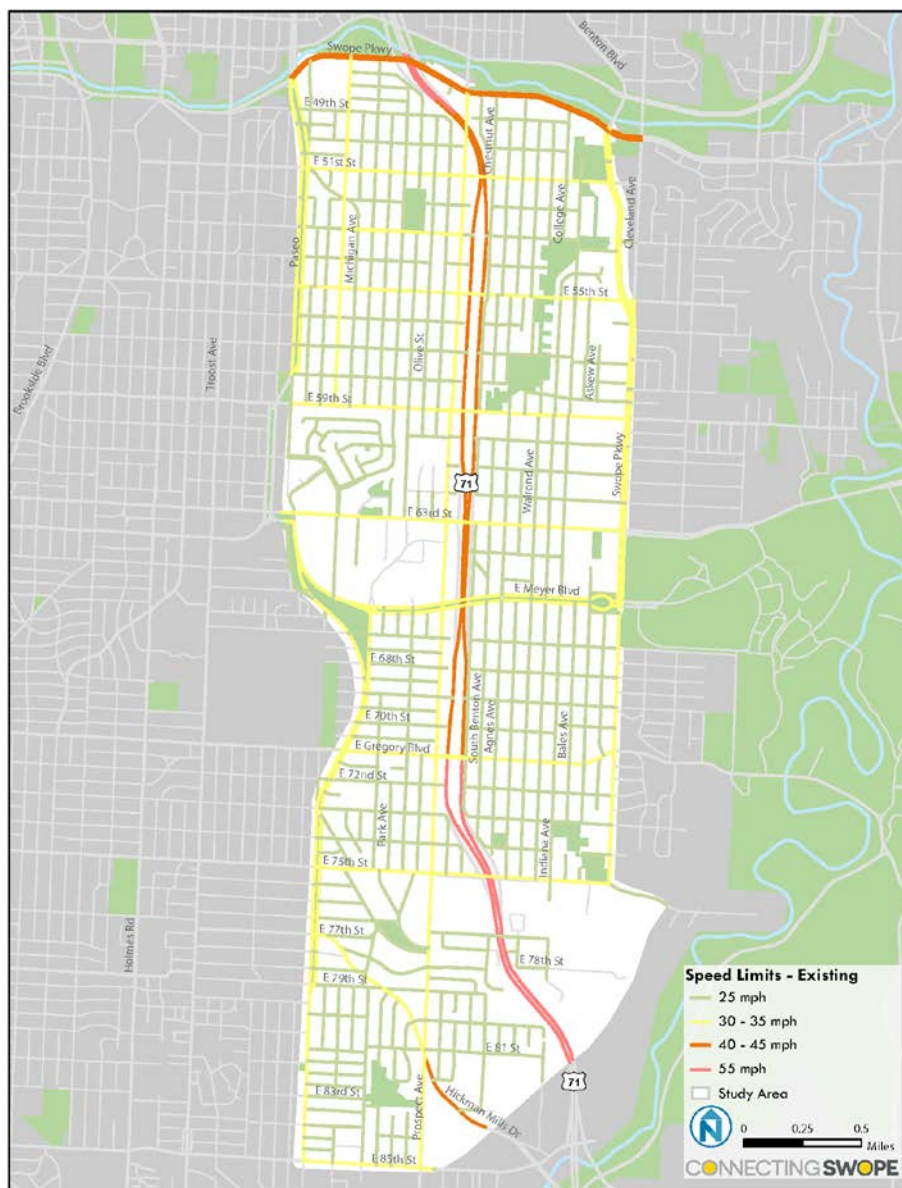
Source: 2015 Census ACS Data

EXISTING TRANSPORTATION NETWORK

Speed

Due to the dominance of residential land uses in the study area, most streets have speed limits set to 25 mph. All arterials crossing Hwy 71 or running parallel north-south are set to 35 mph, which is relatively low compared to arterials in other communities. Highway 71 speeds are set primarily to 40-45 mph when travelling along residential communities, though signage postings are for 55 mph in the southern segment of the highway within the study area.

Figure 2-10 Existing Speed Limits



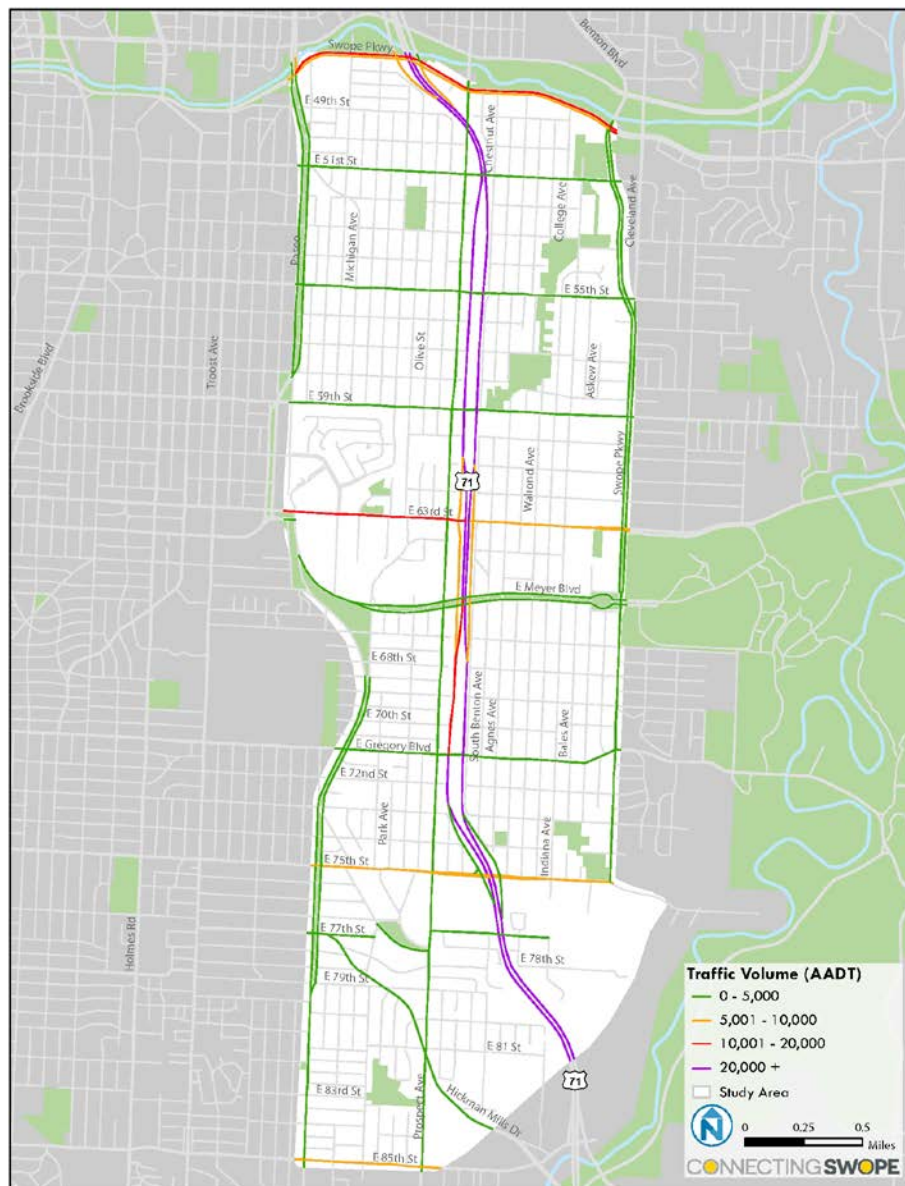
Source: 2015 Census ACS Data

Traffic Volumes

Figure 2-11 shows typical traffic volumes, measured by Average Annual Daily Trips along major corridors in 2016. With the exception of E 63rd, West of Hwy 71, arterials within the study area see less than 10,000 vehicle trips per day.

As would be expected, Highway 71, and Swope Parkway carry the highest volumes, as they primarily serve regional drivers.

Figure 2-11 Traffic Volumes – Average Annual Daily Trips (2016)



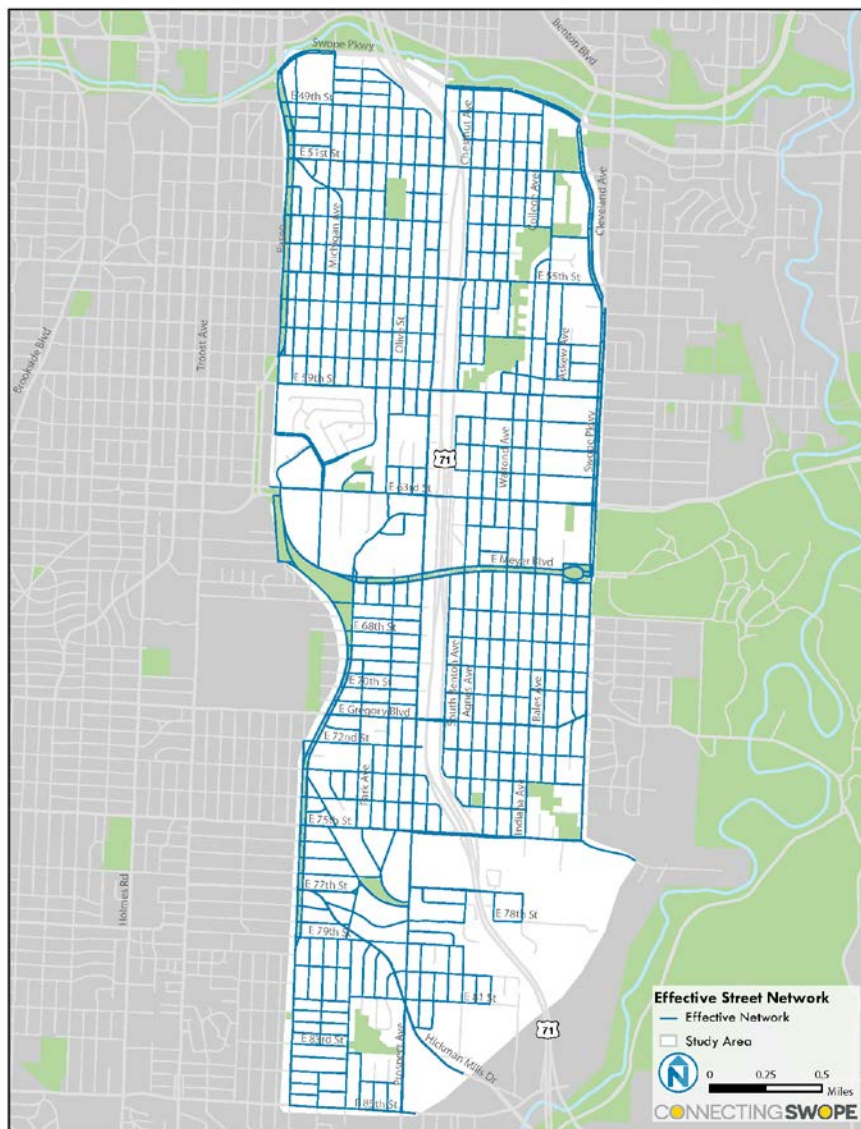
Source: 2015 Census ACS Data

Effective street network map

The effective street network, shown in **Error! Reference source not found.**, refers to sections of the street network that create a well-connected grid, typical of historic urban communities. Within the study area, much of the streets are identified as part of the effective network due to a high density of intersections, and smaller block sizes. Such network design facilitate connectivity for multiple modes.

The street grid breaks down where hospitals or other large campus developments exist. Highway 71 creates the most significant limitations to the network, with limited crossing opportunities to connect communities on either side.

Figure 2-12 Effective Street Network



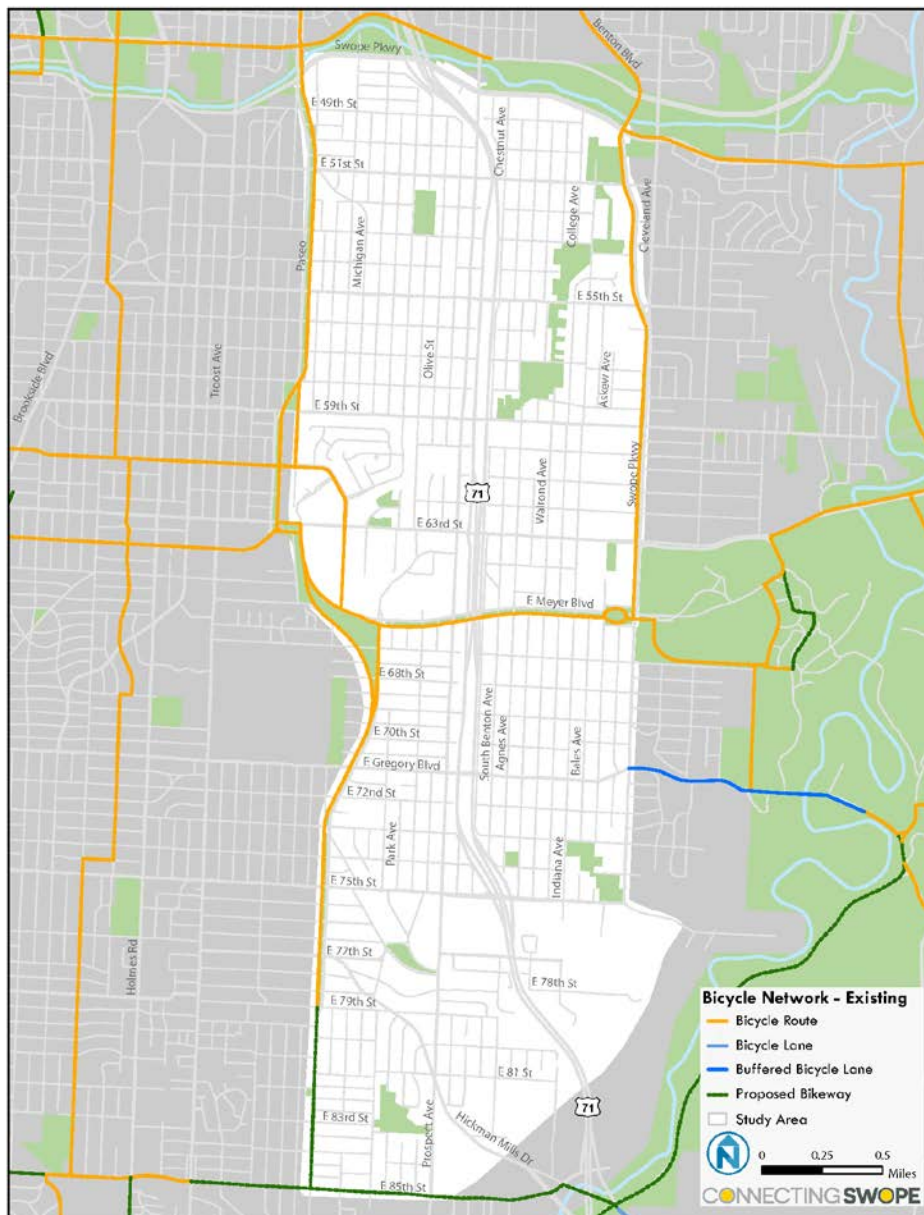
Source: 2015 Census ACS Data

Bicycle network

The existing bicycle network in this area is limited. A buffered bicycle lane just east of the study area connecting to nearby golf courses and recreational area is the highlight of the network here.

Much of the network is composed of bicycle routes marked by posted signs, many on well-travelled roads, which can create an uninviting environment for bicyclists. As such, these facilities are unlikely to be used by most individuals, with the exception of more experienced bicyclists.

Figure 2-13 Bicycle Network



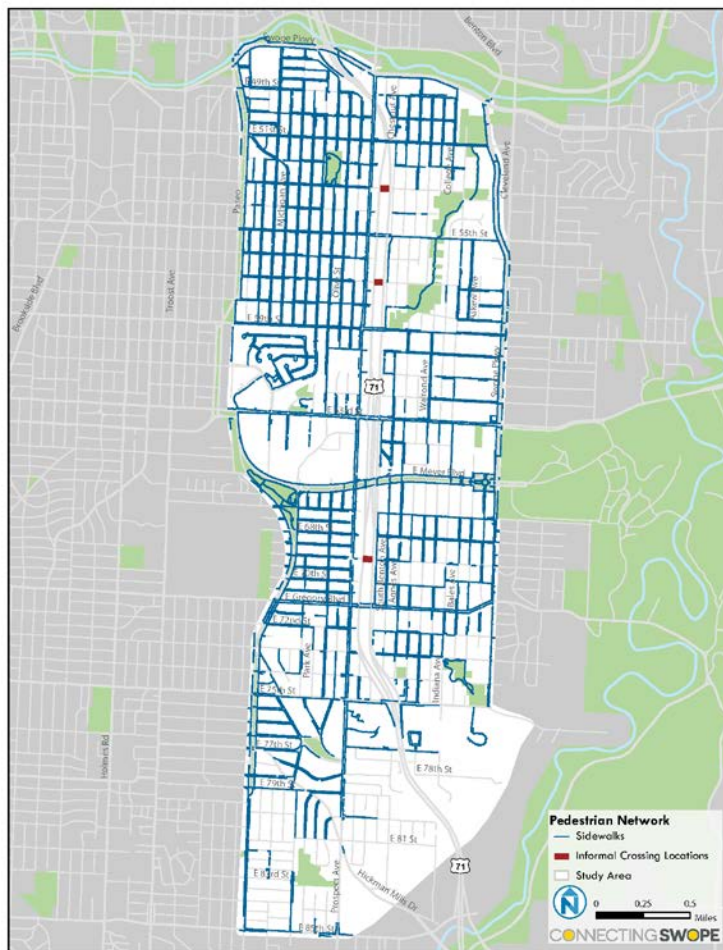
Source: 2015 Census ACS Data

Pedestrian Network

In August 2017, the City established a program to systematically evaluate, repair, and replace sidewalks over the next 20 years. A quantitative prioritization analysis has been created, which has determined many of the gaps below to be medium to low priorities, with the exception of high priority segments along Meyer Boulevard and 63rd Street.¹

As seen in Figure 2-14, the study area has a relatively well-connected network of sidewalks. Gaps in the network are identified primarily to the east of Highway 71. The main concern regarding the pedestrian network are the limited crossing opportunities across Highway 71. With distances between crossings ranging from 1,800 to 3,400 feet, informal crossing locations have been utilized by community members, as evident by aerial imagery, and represented in Figure 2-14. These informal crossings create dangerous situations for pedestrians, and represent the need for improved connectivity along the Highway.

Figure 2-14 Pedestrian Network



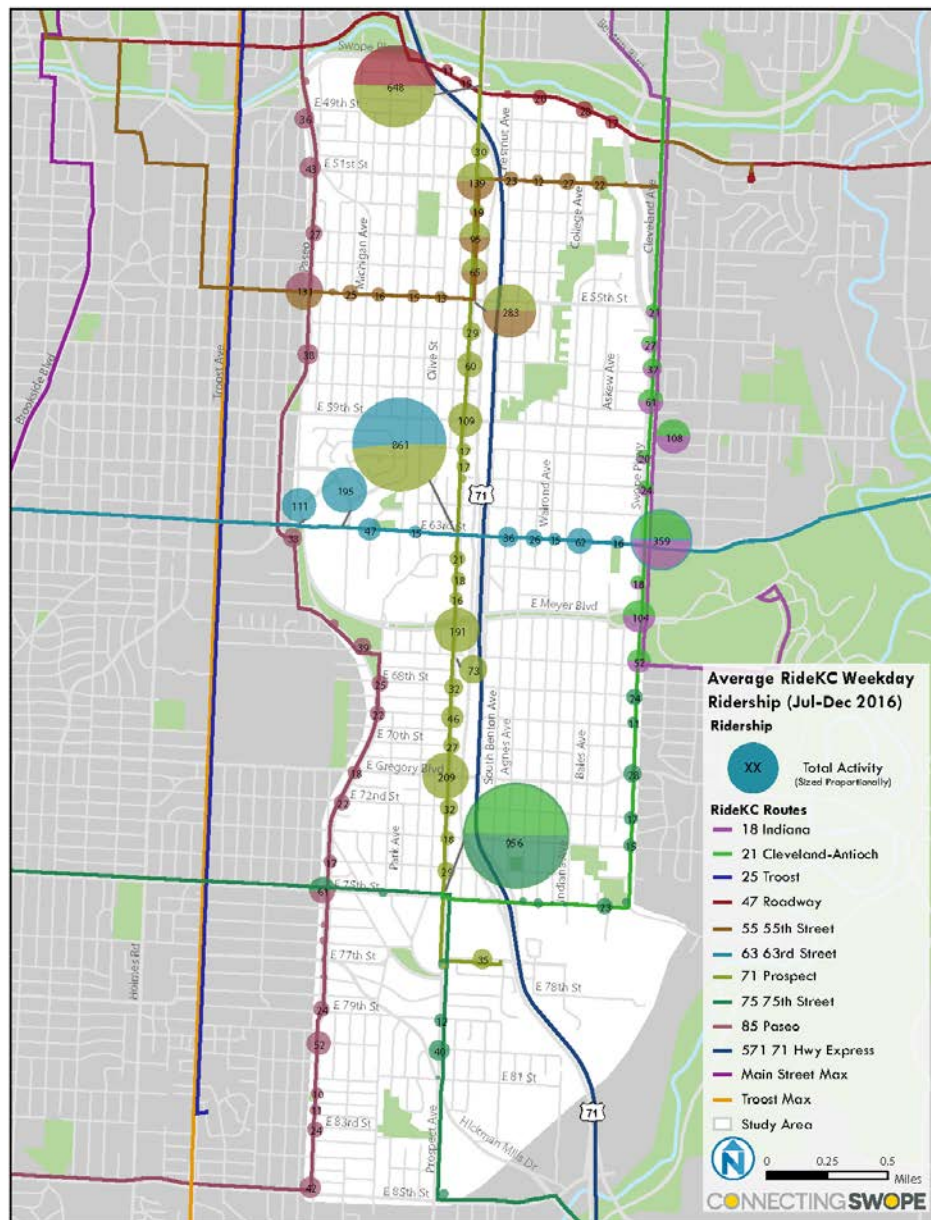
Source: 2015 Census ACS Data

¹ <http://kcmo.gov/publicworks/sidewalks/>

Transit Activity

Twelve RideKC routes serve the study area and surrounding communities. Figure 2-15 showcases average ridership data for the second half of 2016. This analysis identifies the highest transit activity in the study area along Prospect Avenue, where residents/visitors utilized Route 71 to travel north/south along the corridor. The high volume stops provide insight as to where high levels of pedestrian activity may be occurring, where safety and connectivity improvements may be most valuable.

Figure 2-15 Average RideKC Weekday Ridership



Source: 2015 Census ACS Data

SAFETY AND CHALLENGES

Pedestrian and Bicyclist Involved Collisions in Study Area

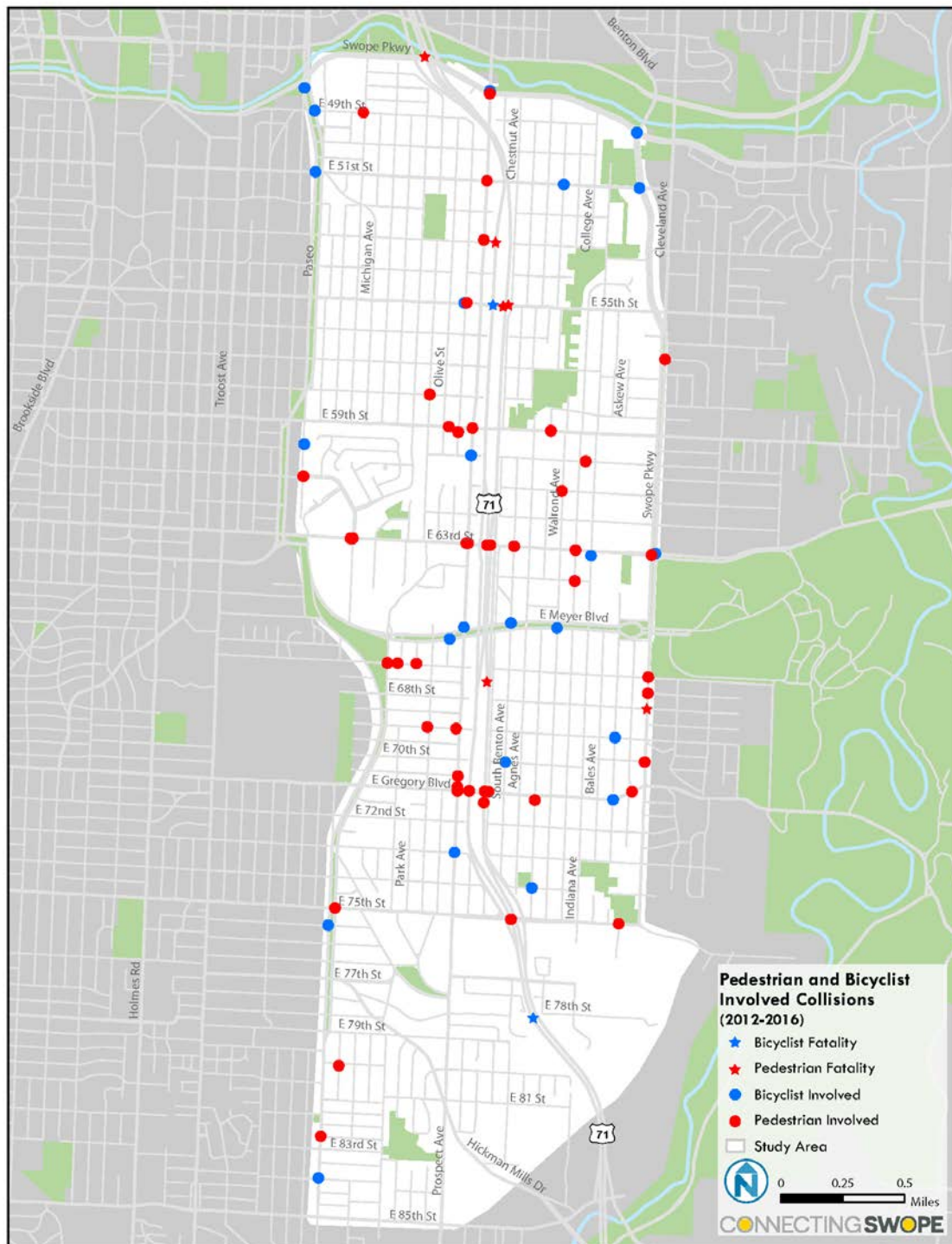
Between 2012 and 2016, 86 collisions involved pedestrians or bicyclists within the study area; 61 collisions involved pedestrians, and 25 involved bicyclists, as visible in Figure 2-16. Nearly 41% of these collisions occurred along streets intersecting Hwy 71. Figure 2-17 shows a heat map of these collisions, identifying the crossings along 63rd Street and Gregory Boulevard as the most dangerous locations for pedestrians and bicyclists.

In collisions involving pedestrians, 10% resulted in a, "disabling injury," and another 10% resulted in a fatality. Half of the collisions resulting in a disabling injury occurred within the Highway 71 right of way, or on an east/west arterial crossing Highway 71. Of six pedestrian involved fatalities, four occurred within the Highway 71 right of way, and one on an arterial crossing the Highway.

Similarly, of collisions involving bicyclists, 12% resulted in a disabling injury and 8% were fatal. One of three collisions resulting in a disabling injury occurred on an east/west arterial crossing Highway 71, and one of two fatalities occurred within the Highway 71 right of way, approximately 800 feet south of 77th Street.

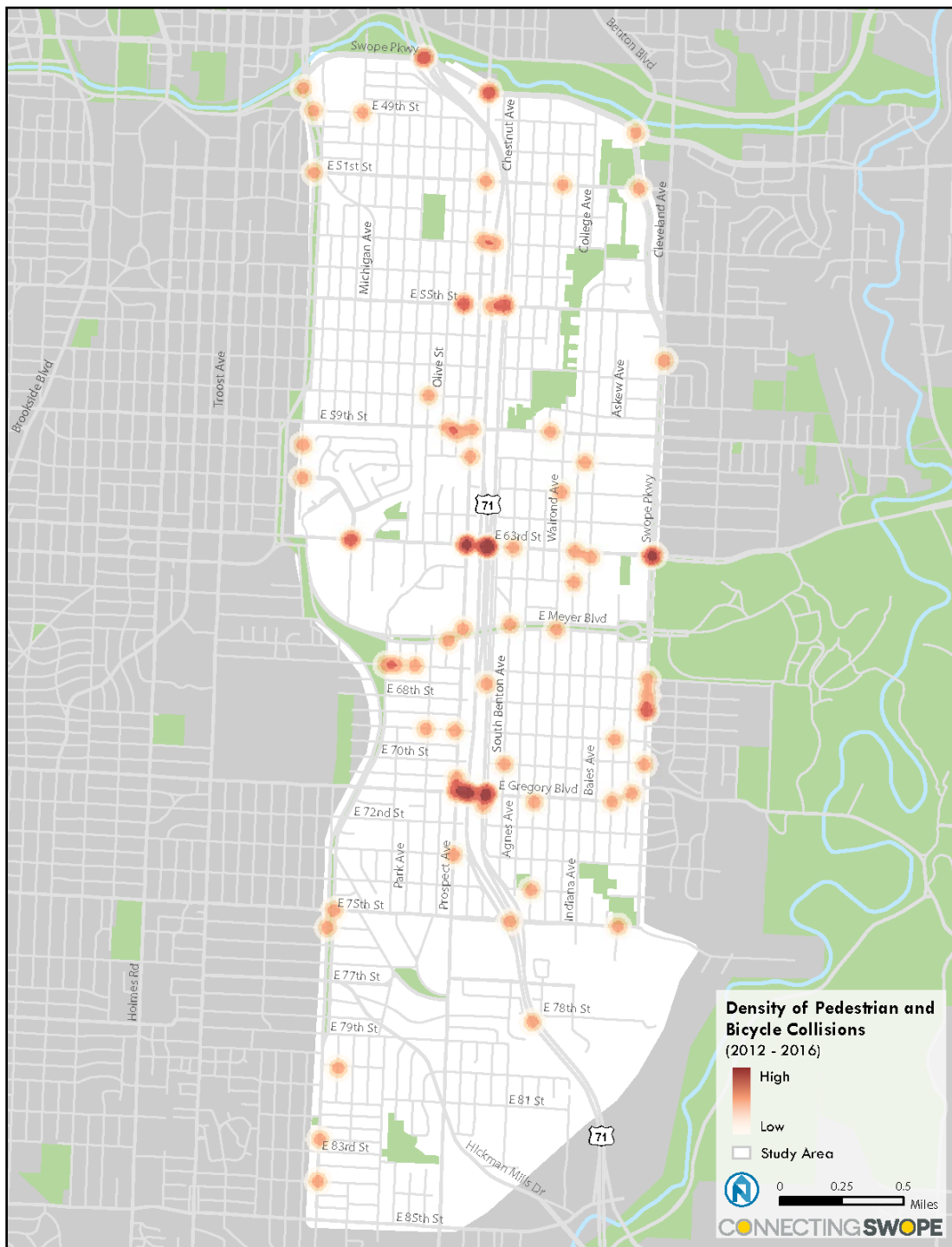
For comparison, risk of fatality in auto only collisions is significantly less. Of 4,125 vehicle only collisions in the study area, only 19 (0.5%) were fatal (six occurring along Highway 71). This means that pedestrians are 20 times more likely than drivers to be involved in a fatal collision in the study area. This is one of the most poignant findings highlighting the need to improve connectivity and safety for non-auto modes.

Figure 2-16 Pedestrian and Bicyclist Involved Collisions by Locations (2012-2016)



Source: 2015 Census ACS Data

Figure 2-17 Density of Pedestrian and Bicycle Involved Collisions (2012-2016)



Source: 2015 Census ACS Data

Pedestrian Connectivity

Figure 2-18 shows the results of a pedestrian connectivity analysis. This analysis considers factors that facilitate a network welcoming for pedestrians. Key factors include:

- Posted speeds
- Number of lanes on a roadway
- Intersection Density
- Signalized Intersection Controls

These factors are used to generate an overall score for roadway segments, classifying them by how challenging they are to navigate for pedestrians.

As shown below, residential streets do not pose significant challenges, primarily due to the low speed limits, and low number of lanes. However, major arterials traversing the study area are identified as challenging, primarily due to higher speeds and wider roadway configurations that create less inviting environments for pedestrians. This analysis is helpful for considering how the roadway network serves pedestrians, and begin discussions regarding tradeoffs of different designs and accommodations for different modes of transportation.

Pedestrian Connectivity

- Challenging
- Moderately Challenging
- Less Challenging
- Signalized Intersections
- Study Area

0 0.25 0.5 Miles

CONNECTING SWOPE

Nelson\Nygaard Consulting Associates, Inc. | 2-20

Pedestrian Level of Comfort

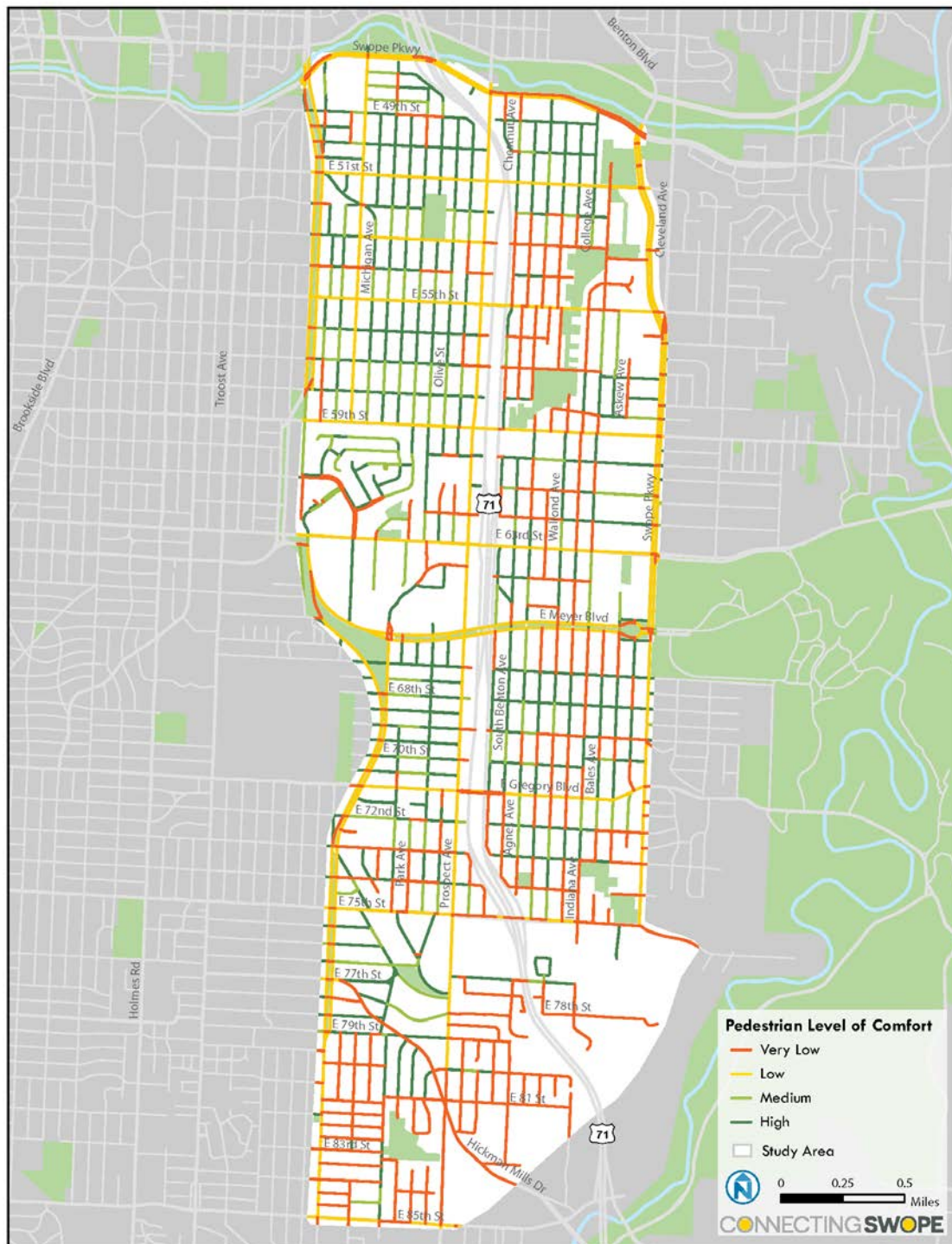
Similarly, to the pedestrian connectivity analysis, the pedestrian level of comfort analysis, reflected in Figure 2-19, considers factors that enhance and take away from the walkability of an area. This analysis considers:

- Posted speeds
- Number of lanes on a roadway
- Streetlight spacing
- Sidewalk presence
- Traffic volumes

The intent of this analysis is to identify how comfortable or stressful conditions may be for the average pedestrian. Due to the lack of bicycle facilities in the study area, the level of comfort is representative of what an average bicyclist would experience as well.

Many of the corridors identified as challenging in the pedestrian connectivity analysis are identified as being, "low," or, "very low," in the comfort analysis. This again highlights the need to consider tradeoffs in roadway design and other approaches for improving connectivity for all modes. It should be noted that the proliferation of, "Very Low," comfort in residential streets is primarily a result of the limited sidewalk network, which the city has developed a timetable for addressing citywide, as previously discussed.

Figure 2-19 Pedestrian Level of Comfort



Source: 2015 Census ACS Data

3 LEARNING FROM OTHERS: CASE STUDIES

This chapter provides a “look book” of case studies that exemplify successful applications of best practices for improving neighborhood connectivity across highways, spurring economic development with bus rapid transit (BRT), and supporting local development and transit access in a context-sensitive way. These case studies are intended to serve as examples of tools that can be successfully implemented to maximize the impact of BRT investments in Kansas City.

Each study is formatted to briefly define the tool, summarize its application and notes key takeaways for consideration within the context of this study. All case studies featured in this memorandum are listed in Figure 3-1.

Figure 3-1 Case Studies

Concept	Project Type	Case Study	City	State	Year
Improve connectivity across highways	Infrastructure	Park East Freeway Removal	Milwaukee	WI	2002
	Infrastructure	Underpass Park	Toronto	ON	2012
	Infrastructure	Cap at Union Station	Columbus	OH	2004
	Infrastructure	Depot Avenue Trail Pedestrian Bridge	Gainesville	FL	2009
	Infrastructure	Eastern Market Pedestrian Bridge Over I-75	Detroit	MI	
	Infrastructure	Artistic Crosswalks	Denver	CO	2016
	Operations	Wayfinding Signage	Ypsilanti	MI	2016
	Operations	Median refuge islands and high visibility crosswalks	Portland	OR	2010
	Technology	Real-Time Display at TriMet MAX Stations	Portland	OR	2013
	Education	Walking School Bus Program	Holt	MI	2011
	Education	Safe Routes to School	Highland	MI	2008
Economic development around BRT	BRT	Healthline BRT	Cleveland	OH	2008
Policy tools that support development in a context sensitive way	Inclusionary Zoning	Inclusionary Housing Requirement	San Francisco	CA	2002
	Land Banking	Kansas City Land Bank	Kansas City	MO	2012

Concept	Project Type	Case Study	City	State	Year
Policy tools that support transit access in a context sensitive way	Transit Station Area Design Guidelines	BART Station Area Design Guidelines	San Francisco	CA	2017
	First/Last Mile Guidelines	LA Metro First/Last Mile Guidelines	Los Angeles	CA	2014
	Mobility Hub	Multimodal Hubs in Chicago's South Side	Chicago	IL	2013
	Cash Payment and Free/Reduced Fare Program for Bikeshare	Indego	Philadelphia	PA	2015

IMPROVING CONNECTIVITY

The following ten case studies showcase how communities can overcome physical barriers and challenging roadways through the use of infrastructure, operational, technological, and educational solutions. They depict facets of a multi-pronged approach that can be utilized to better connect communities and transportation assets.

Infrastructure

Right of Way Reconfiguration: Park East Freeway Removal, Milwaukee, Wisconsin (2002)

Figure 3-2 New Development on Water Street at Pleasant Street, in the Footprint of the Former Park East Freeway



Source: OnMilwaukee.com, LLC

What is it?

Development adjacent to a large, well-traveled boulevard creates opportunities for new retail and housing, while reducing traffic speeds.

Application

A 0.8 mile section of grade-separated freeway between 12th Street to N Jefferson Street was converted into a six-lane at-grade boulevard, now McKinley Avenue and Water

Street.^{2,3,4} Surface parking lots and old industrial parcels dominated the area surrounding the freeway,⁵ and the marked underutilization of the land inhibited the development potential of neighboring properties.⁶

The \$45 million investment spurred significant redevelopment in Milwaukee's Lower East Side, including:

- The average assessed land values per acre grew by over 180%, from 2001 to 2006, in the area formerly occupied by the freeway.⁷
- The Park East Tax Increment District experienced a 45% growth in average assessed land values from 2001 to 2006. During the same period, average assessed land values citywide, increased by 25%.⁸
- Traffic congestion never materialized as a result of the removal.⁹
- Twenty-six acres of downtown land were freed up for 28 city blocks of new development.¹⁰
- Three new neighborhoods were established – the McKinley Avenue, Lower Water Street, and Upper Water Street districts – where the highway used to physically divide communities.¹¹
- The previous urban street grid was reconnected.¹²
- New developments spurred by the freeway removal include:
 - Manpower Corporation, a Fortune 500 company, moved its headquarters to a block from the former highway site¹³
 - Wisconsin Entertainment and Sports Center under construction as the future home of the Milwaukee Bucks¹⁴
 - Viets Field constructed by the Milwaukee School of Engineering for soccer, lacrosse, and rugby¹⁵

² Milwaukee County and City of Milwaukee. (2016). History. Park East Milwaukee Downtown. <http://parkeastmke.com/about/history/>

³ Congress for New Urbanism. Milwaukee Park East Freeway. Freeway Removal. <https://www.cnu.org/highways-boulevards/model-cities/milwaukee>

⁴ City of Milwaukee Department of City Development. Park East Freeway-Removal and Redevelopment History. <http://city.milwaukee.gov/Projects/Park-East-Redevelopment/Park-East-History.htm#.WdP7hGiPKUk>

⁵ Congress for New Urbanism. Milwaukee Park East Freeway. Freeway Removal. <https://www.cnu.org/highways-boulevards/model-cities/milwaukee>

⁶ City of Milwaukee Department of City Development. Park East Freeway-Removal and Redevelopment History. <http://city.milwaukee.gov/Projects/Park-East-Redevelopment/Park-East-History.htm#.WeVj-WiPJaR>

⁷ Congress for New Urbanism. Milwaukee Park East Freeway. Freeway Removal. <https://www.cnu.org/highways-boulevards/model-cities/milwaukee>

⁸ Congress for New Urbanism. Milwaukee Park East Freeway. Freeway Removal. <https://www.cnu.org/highways-boulevards/model-cities/milwaukee>

⁹ Syracuse Metropolitan Transportation Council. Case Studies for the I-81 Challenge. <http://thei81challenge.org/cm/ResourceFiles/resources/Milwaukee-ParkEast.pdf>

¹⁰ Project for Public Spaces. (2013) Conversion of Park East Freeway Sparks Economic Revitalization. <https://www.pps.org/reference/conversion-of-park-east-freeway-sparks-economic-revitalization/>

¹¹ Project for Public Spaces. (2013) Conversion of Park East Freeway Sparks Economic Revitalization. <https://www.pps.org/reference/conversion-of-park-east-freeway-sparks-economic-revitalization/>

¹² Project for Public Spaces. (2013) Conversion of Park East Freeway Sparks Economic Revitalization. <https://www.pps.org/reference/conversion-of-park-east-freeway-sparks-economic-revitalization/>

¹³ Project for Public Spaces. (2013) Conversion of Park East Freeway Sparks Economic Revitalization. <https://www.pps.org/reference/conversion-of-park-east-freeway-sparks-economic-revitalization/>

¹⁴ Tanzilo, B. (2017) Gizmodo: Park East Freeway Demolition Changed Milwaukee Forever. <https://onmilwaukee.com/buzz/articles/park-east-changed-city-forever.html>

¹⁵ Tanzilo, B. (2017) Gizmodo: Park East Freeway Demolition Changed Milwaukee Forever. <https://onmilwaukee.com/buzz/articles/park-east-changed-city-forever.html>

- Hotels, apartments, condos, and grocery stores¹⁶

Takeaways for Kansas City

The US-71 right-of-way between 51st and 63rd streets is approximately three times the land area as the developable land freed up by the Park East Freeway conversion. Further, the current paved ROW width of US-71 is nearly equivalent to Milwaukee's McKinley Avenue/Water Street six-lane boulevard. Allowing development to occur along the parkway along US-71 would create a new opportunity for investment in the community and potentially reduce speeds.

¹⁶ Tanzilo, B. (2017). Gizmodo: Park East Freeway Demolition Changed Milwaukee Forever. <https://onmilwaukee.com/buzz/articles/park-east-changed-city-forever.html>

Art-Activated Underpass: Underpass Park, Toronto, Ontario (2012)

Figure 3-3 Murals at Underpass Park



Source: Justin+ Lauren Adventure & Kind Travel blog

What is it?

Use of art and creative placemaking can activate underutilized spaces and encourage people to connect across a high-capacity roadway.

Application

Underutilized land beneath the Gardner Expressway¹⁷ in Toronto was converted to a 2.5 acre urban park. Previously empty and unused, the park now contains parks, trails, skateboarding ramps, murals, flexible community space, playgrounds, sustainable landscaping, lighting and seating.¹⁸ Eventually, the southwestern edge of the park will contain community gardens for residents to grow food.¹⁹

The highway acted as a barrier to divide the north and south parts of the West Don Lands neighborhood because crossing underneath the overpasses was uninviting and

¹⁷ Waterfront Toronto. Underpass Park. <http://www.waterfronttoronto.ca/nbe/portal/waterfront/Home/waterfronthome/projects/underpass+park>

¹⁸ Lubell, Sam. (2016). If Trump Wants to Fix Infrastructure, He Has to Learn From These Projects. *Wired*. <https://www.wired.com/2016/11/trump-wants-fix-infrastructure-learn-projects/>

¹⁹ Waterfront Toronto. Underpass Park. <http://www.waterfronttoronto.ca/nbe/portal/waterfront/Home/waterfronthome/projects/underpass+park>

felt unsafe.²⁰ After construction, the park now acts as a bicycle and pedestrian connector as well as a safe, well-lit, and active gathering space for children, teenagers, and adults from the neighborhood. Underpass Park has won numerous awards through its innovative reuse of abandoned land. Today, it has helped spark the revival of the Toronto Waterfront, serves as a hub for public art, and hosts seasonal farmer's markets and coffee shops.²¹

Takeaways for Kansas City:

Art can be used to make traditionally uninviting spaces more comfortable for pedestrians. Harnessing the community's creativity into public art and programming in urban public spaces can radically increase the perception of safety in a place, reinstate community character, and give residents a safe, active place to play without a large capital investment. While US-71 does not currently have any overpasses, these concepts could be used to insert art into at-grade or overpass crossings.

²⁰ Waterfront Toronto. Underpass Park. <http://www.waterfronttoronto.ca/nbe/portal/waterfront/Home/waterfronthome/projects/underpass+park>

²¹ Lauren (2016, November 17). Underpass Park Toronto – Transforming Urban Spaces with Street Art. Message posted <http://justinpluslauren.com/underpass-park-toronto-street-art/>.

Infill Development: The Cap at Union Station, Columbus, Ohio (2004)

Figure 3-4 Newly-Constructed Retail Opens Available at the Cap at Union Station



Source: Columbus Underground

What is it?

A cap over the freeway could include a park or opportunities for new development and affordable housing.²²

Application

A \$7.8 million retail development in Columbus acts as a 'cap', or land bridge,²³ over the sunken I-670 inner belt highway. It connects Downtown with the Short North arts and entertainment district. The new development created nearly 26,500 square feet of new leasable retail space²⁴. Due to its depth, I-670 isolated downtown from other neighborhoods and acted as a barrier to safe crossing from one side to the other. Designed to look like a regular city street,²⁵ the cap reestablished automobile and pedestrian connectivity between Downtown and the Short North.

²² FHWA Successes in Stewardship Newsletter. March 2016. <https://www.environment.fhwa.dot.gov/stirling/newsletters/mar16nl.pdf>

²³ Kamin, B. (2011, October 27). Ohio Highway Cap at Forefront of Urban Design Trend. *Chicago Tribune*. http://articles.chicagotribune.com/2011-10-27/news/ct-met-kamin-highway-caps-20111027_1_cap-union-station-interstate-highway

²⁴ Urban Land Institute. (2015). ULI Development Case Studies: The Cap at Union Station. <https://casestudies.uli.org/wp-content/uploads/sites/98/2015/12/C035010.pdf>.

²⁵ Urban Land Institute. (2015). ULI Development Case Studies: The Cap at Union Station. <https://casestudies.uli.org/wp-content/uploads/sites/98/2015/12/C035010.pdf>.

Takeaway for Kansas City:

While highway cap projects are often thought of as opportunities for parks, green space, or pedestrian-only space, infill development can be another way to provide connectivity while bringing retail destinations to a community. Hwy-71 is quite wide, however, so a cap project could be very expensive and should be informed by community input to ensure the result meets the needs of a community.

Pedestrian Bridge Activation: Depot Avenue Trail Pedestrian Bridge, Gainesville, Florida (2009)

Figure 3-5 Depot Avenue Trail Pedestrian Bridge



Source: RS&H

What is it?

Pedestrian bridges designed with art provide a more comfortable crossing experience.

Application

The Depot Avenue Trail Pedestrian Bridge allows pedestrians and bicyclists to cross US Hwy 441 along the Waldo Road Greenway-Depot Rail Trail in Gainesville, Florida. Prior to the reconstruction, the bridge reflected an aging industrial structure, highlighted by a steel cage and barbed wire, reminiscent of the city's past railroad-based enterprise.²⁶ In 2009, the Community Redevelopment Agency decided the bridge needed to be recreated to better reflect the bicycle-friendly reputation of Gainesville.

Today, the Depot Avenue Trail Bridge serves bicyclists and pedestrians alike with inviting architectural design, and pedestrian-scale lighting, providing an appropriate feature along the southern gateway into the city.

Takeaways for Kansas City

Aesthetic and architecture play a key role in the use of a space, whether as a destination or as a pathway. Long-term value and use is positively associated with sensory appeal – people gravitate toward taking care of and using something considered beautiful.²⁷ The addition of creative and inviting human-scale architecture to

²⁶ Sill, R. (2013 Winter). Depot Trail Pedestrian Overpass: A New Twist for an Old Bridge. *Florida Landscapes*. <http://www.nxtbook.com/nxtbooks/naylor/AFLQ0113/index.php#/10>

²⁷ Hosey, L. (2013, May 3). A Case for Why Green Design Must Be Beautiful. *Fast Co. Design*. <https://www.fastcodesign.com/1672322/for-green-design-to-have-a-chance-it-should-be-beautiful>

crossings such as 55th Street or 59th Street can encourage pedestrian activity from people traveling between neighborhoods or to the crossings themselves, as destinations.

Pedestrian Bridge Marketplace: Eastern Market Pedestrian Bridge Over I-75, Detroit, Michigan

Figure 3-6 Informal Market on Pedestrian Bridge



Source: Jeramey Jannene

What is it?

Facilitating and encouraging non-traditional uses of pedestrian bridges can create opportunities for placemaking and community benefits.

Application

An informal market operates on a pedestrian bridge over I-75 in Detroit. The bridge connects Detroit's Eastern Market and Lafayette Park districts,²⁸ serves as an unofficial extension of formal market activities that operate nearby in the Eastern Market Corporation's shed spaces.

The bridge serves as one of four crossings between two neighborhoods separated by a sunken freeway. It also offers space for local artists, artisans, and other non-agricultural merchants^{29,30} to sell their products to farmers market patrons at a lower barrier of entry.

²⁸ Google Maps. (2017). Eastern Market. <https://www.google.com/maps/place/Eastern+Market,+Detroit,+MI/@42.3433019,-83.0420217,15z/data=!4m5!3m4!1s0x8824d2d7340e6207:0xc2c7a04fec0e2f10!8m2!3d42.3484978!4d-83.0401653>

²⁹ Jannene, J. (2016, June 8). Eyes on Milwaukee: 5 things Milwaukee Should Steal from Detroit. <http://urbanmilwaukee.com/2016/06/08/eyes-on-milwaukee-5-things-milwaukee-should-steal-from-detroit/nggallery/image/pedestrian-bridge-market/>

³⁰ Nicole. One Day in Detroit. Eastern Market Saturday Mornings. <http://onedayindetroit.com/tours/15>

The pedestrian bridge is considered to be a key element to the spirit and identity of the Eastern Market, even though it is not an official component of the Eastern Market Corporation.^{31, 32}

Takeaways for Kansas City

Activating previously unused public spaces with pedestrian scale retail and activity can not only reduce the perception of an underlying highway as a barrier, but also establish a new staple of the community identity. Activating the limited crossing opportunities along US-71 may encourage individuals to use designated crossings.

³¹ Eastern Market 2025 Strategic Planning Study. (2015, July 15). Public Workshop Key Takeaways. <http://9b32aa63de0c5aa2a1c4-ac3abd6e34c389d1c003fbc359fc9e18.r96.cf1.rackcdn.com/Downloads/EM-PublicWorkshop-KeyTakeaways.pdf>

³² Nicole. One Day in Detroit. Eastern Market Saturday Mornings. <http://onedayindetroit.com/tours/15>

Community Streets and Artistic Crosswalk Program Denver, Colorado

Figure 3-7 Creating a More Inviting Colfax Avenue



What is it?

Allowing local neighborhoods and community groups to paint their own crosswalks in an effort to make arterials more inviting to pedestrians.

Application

In 2016, the City of Denver launched its Community Streets Program, an effort called for in the City's 2020 Cultural Plan³³. The program accepts and reviews applications for street revitalization projects managed and funded by neighborhoods and community groups. While it does not provide funding, the program acts as a central resource for all necessary guidance, applications and permits needed to get projects constructed. So far, Community Streets allows three categories of projects: a) artistic crosswalks; b) intersection murals and graphics; and c) Pop-up Events and Demonstration Projects.

³³ City and County of Denver. (2016). Community Streets Program.
<https://www.denvergov.org/content/denvergov/en/transportation-mobility/services/community-streets.html>

Design, installation, and maintenance of all street art are the responsibility of the applicants³⁴.

The program draws from successful precedents of artistic crosswalks along Colfax Avenue, where numerous volunteers gathered to paint crosswalks at the intersection of Colfax and Raleigh and Perry Streets. The end product cost approximately \$20,000 and was a collaboration between Bluebird Business Improvement District, Denver Arts and Venues, Walk Denver, and the City³⁵. Anecdotally, BID representatives said they could see the new crosswalk mural having a visible effect on slowing traffic and attracting pedestrians.

Takeway for Kansas City

In a city of as many neighborhoods as Kansas City, Denver's Community Streets program shows that given some structure and guidance from the City, residents, community groups, and the business community can come together to fund and complete successful street transformation projects. Often times, grassroots projects can have positive spillover effects not directly related to transportation, such as placemaking and beautification, increased local spending, improved relations between residents and local government, and a renewed sense of community togetherness.

³⁴ Vargas, J. (1 Dec 2016). Walk Denver. Denver Public Works Announces its New Community Streets Program. <http://www.walkdenver.org/denver-public-works-announces-its-new-community-streets-program/>

³⁵ Schildmeyer, A. (7 Aug 2016). "Groups Hope Art In Crosswalks Will Make Colfax Safer for Pedestrians". *The Denver Channel*. <http://www.thedenverchannel.com/news/front-range/denver/groups-hope-art-in-crosswalks-will-make-colfax-safer-for-pedestrains>

Operations

Median Refuge Islands and High Visibility Crosswalks: Martin Luther King, Jr. Boulevard, Portland, Oregon (2010)

Figure 3-8 Bicyclist Approaches Refuge Island Cut-Through – Space to Wait if Unsafe to Cross



Source: Nelson\Nygaard

What is it?

A median refuge island featuring a cut-through for cyclists, is combined with advanced stop bars, ladder-bar crossings for pedestrians, and a combined bicycle and pedestrian sign to alert motorists at the crossing.³⁶ This configuration minimizes mode conflicts at a busy intersection, through more defined spaces dedicated for walking, biking, and motorized transportation.

Application

Martin Luther King Boulevard is a 58' four-lane arterial road and former state highway with 2,400 vehicles per day during peak periods. It is a major North-South traffic street built up with commercial storefronts. Pedestrians and cyclists are given safe space to

³⁶National Association of City Transportation Officials. Case Study: Median Refuge Island at the crossing of Martin Luther King, Jr. Boulevard and Going Street Bicycle Boulevard, Portland, OR. <https://nacto.org/case-study/median-refuge-island-at-the-crossing-of-martin-luther-king-jr-boulevard-and-going-street-bicycle-boulevard-portland-or/>

stop if they cannot cross the boulevard all the way at once, and are made more visible in the intersection. Motorists are also prompted into safe driving behaviors through the constrained road space between curbs.

Cyclist counts in the evening peak are up to 83 cyclists per hour, and according to users, bicyclists and pedestrians are now yielded to at about the same rate by motorists.³⁷

Takeaways for Kansas City:

This new roadway configuration makes a ROW about the same as Swope Parkway safer and more comfortable for pedestrians and cyclists to cross, reconnecting the east and west sides of Portland's King neighborhood. While this is not appropriate for crossing Hwy-71, it could be used to ease crossings within arterial streets in the study area or across Swope Parkway near the zoo.

³⁷ National Association of City Transportation Officials. Case Study: Median Refuge Island at the crossing of Martin Luther King, Jr. Boulevard and Going Street Bicycle Boulevard, Portland, OR. <https://nacto.org/case-study/median-refuge-island-at-the-crossing-of-martin-luther-king-jr-boulevard-and-going-street-bicycle-boulevard-portland-or/>

Communicating Information

Wayfinding Signage: Ypsilanti, Michigan (2016)

Figure 3-9 Wayfinding Signage Near Ypsilanti Transit Stops



Source: City of Ypsilanti

What is it?

A wayfinding system uses visually cohesive signage and/or pavement markings to guide street users to local destinations. These can be used to guide people along preferred routes for specific uses or by the most direct route. Wayfinding works best when signs are located at decision points, such as intersections, crosswalks, or at key locations in the corridor or neighborhood.³⁸

There are three types of wayfinding signs:³⁹

- Confirmation signs: identify the route a street user is currently on
- Turn signs: indicates the direction of a new route or a nearby destination, usually with an arrow and/or the distance to a destination

³⁸ National Association of City Transportation Officials. *Urban Bikeway Design Guide*. Bike Route Wayfinding Signage and Markings System. <https://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/bike-route-wayfinding-signage-and-markings-system/>

³⁹ National Association of City Transportation Officials. *Urban Bikeway Design Guide*. Bike Route Wayfinding Signage and Markings System. <https://nacto.org/publication/urban-bikeway-design-guide/bikeway-signing-marking/bike-route-wayfinding-signage-and-markings-system/>

- Decision signs: indicate the direction of multiple destinations from a street user's current location

Application

Ypsilanti and Ypsilanti Township use decision wayfinding signs⁴⁰ to guide people to popular destinations, shopping, recreation, and public parking locations.⁴¹ Signs feature city-based branding⁴² and arrows pointing to nearby points of interest.

The system is designed for use by pedestrians, cyclists, and motorists, as sign text and directional arrows are large and clear enough to be legible at a pedestrian pace or the speed limit of motor vehicles. Color-coding denotes college-affiliated points of interest and non-college-affiliated points of interest. Placement of wayfinding signage near transit stops offers convenient directional guidance for arriving transit riders.⁴³ In addition, signs are located both in and outside of downtown neighborhoods.

Takeaways for Kansas City

Wayfinding signage, such as what is currently found in downtown Kansas City, includes both confirmation and decision wayfinding signs. Confirmation signs denote downtown district identities and decision signs point to downtown points of interest.⁴⁴ As demonstrated in Ypsilanti, wayfinding signage can be expanded to neighborhoods beyond downtown, to increase the navigability of the community. Such signage may be helpful in directing pedestrians to key destinations and/or transit access points within the study area.

Figure 3-10 Wayfinding Signage at Grand Rapids Downtown Market



⁴⁰ Washtenaw County Convention & Visitors Bureau. Ypsilanti Wayfinding and Signage. Presentation retrieved from <http://cityofypsilanti.com/DocumentCenter/Home/View/1391>

⁴¹ City of Ypsilanti. (2017). Ypsilanti Wayfinding and Signage Project. <http://cityofypsilanti.com/644/Ypsilanti-Wayfinding-and-Signage-Project>

⁴² Haynes, J. (2017, March 8). New Wayfinding Signs in City, Township are 'Very Ypsilanti'. *Ann Arbor News*. http://www.wlve.com/news/ann-arbor/index.ssf/2017/03/new_wayfinding_signs_throughou.html?ath=afea634b97193dc21335162d860aba7b

⁴³ Washtenaw County Convention & Visitors Bureau. Ypsilanti Wayfinding and Signage. Presentation retrieved from <http://cityofypsilanti.com/DocumentCenter/Home/View/1449>

⁴⁴ Corbin Design. Kansas City. <http://www.corbindesign.com/our-work/civic/downtown-kansas-city/>

Real-Time Display: TriMet MAX Stations, Portland, OR (2013)

Figure 3-11 Real-Time Arrival Displays Installed at TriMet Stations



Source: TriMet

What is it?

Not all riders have smartphone access to use transit apps or a transit system's mobile website, and many others do not use paper schedules. Installing real-time information boards on high-volume stations let passengers know about important transit information in an easily accessible and conveniently located format. Due to the digital nature of the boards, arrival times can easily be adjusted and updated to reflect delays and cancellations. The material of the screens are designed to withstand temperature fluctuations and contained in easily removable, tamper-resistant glass for screen protection.

Application

TriMet has installed 58 digital flat screens and reader boards at more than a dozen stations on its Blue and Red light rail lines.⁴⁵ Dubbed "Transit Trackers", these screens not only display real-time transit arrival information, but also allow TriMet to communicate service announcements to passengers.

⁴⁵ Altstadt, R. (2013, July 3). TriMet Invests in More Digital Information Displays at MAX Platforms to Keep You Informed. TriMet News. <http://news.trimet.org/2013/07/trimet-invests-in-more-digital-information-displays-at-max-platforms-to-keep-you-informed/>

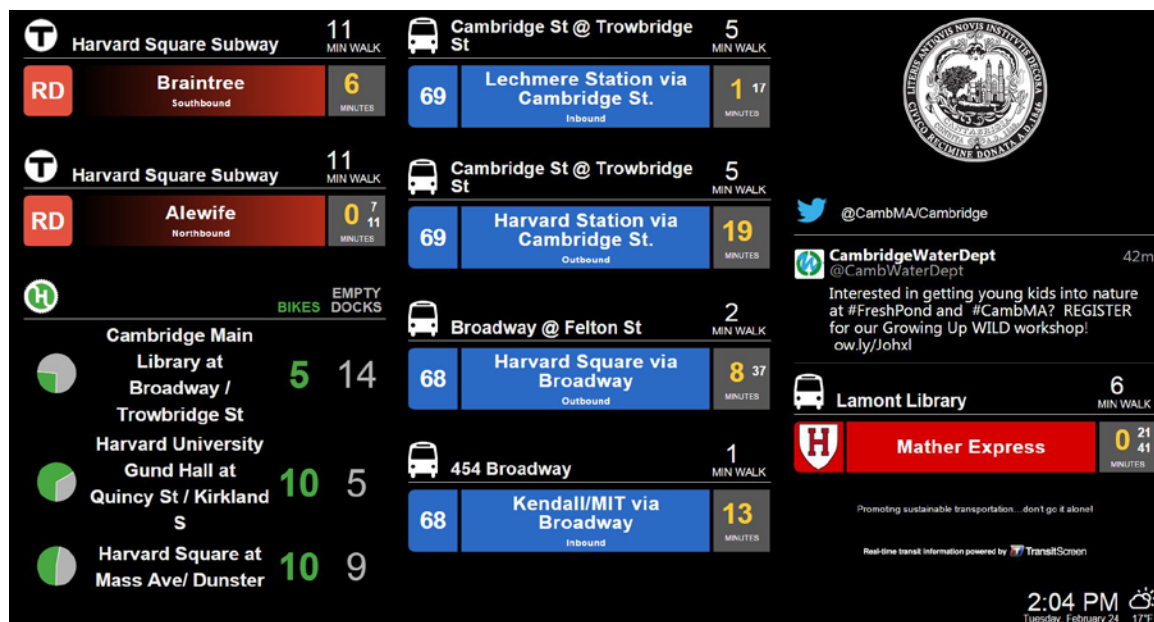
Real-time arrival information can help transit riders feel more in control of their trip, and can also decrease perceived wait times. An intercept survey commissioned by TriMet in November 2013 found that 83% of MAX riders used the Transit Tracker displays to help them with their trip, making the displays the second most used pieces of customer information at MAX stations.⁴⁶ Comparatively, only 36% of those surveyed used smart phone apps and 16% used either the TriMet website or Google at the station,⁴⁷ despite 85% of users having a smartphone⁴⁸. In addition to passengers gaining real-time information, Tri-Met as an agency greatly benefitted from having the ability to dispatch service announcements via screen.⁴⁹

In some cases, local business leaders opted in to fund the purchase of additional screens with the understanding that the displays would allow for transit customers to spend less time waiting at transit stops and more time shopping, dining, or working, thus increasing the value of their property and businesses.⁵⁰

Takeaways for Kansas City

Although Portland installed real-time arrival information on its light rail, this technology can also be used with bus rapid transit, at mobility hubs, or even at community destinations. This case study shows how technology can benefit passengers by improving convenience, the transit agency by improving the overall branding, and businesses by attracting support.

Figure 3-12 Transit Screen from Boston with Mobility Information



⁴⁶ TriMet. (2013, November 11) MAX Platform Signage Intercept Survey Analysis Final Report.

⁴⁷ TriMet. (2013, November 11) MAX Platform Signage Intercept Survey Analysis Final Report.

⁴⁸ Nelson\Nygaard (2017, October 18). Email correspondence with Virginia Shank, Senior Research Analyst for TriMet Public Affairs.

⁴⁹ Altstadt, R. (2013, July 3). TriMet Invests in More Digital Information Displays at MAX Platforms to Keep You Informed. TriMet News. <http://news.trimet.org/2013/07/trimet-invests-in-more-digital-information-displays-at-max-platforms-to-keep-you-informed/>

⁵⁰ Nelson\Nygaard (2017, 16 October). Interview with TriMet Capital Projects and Construction Division.

Education

Walking School Bus Program: Horizon Elementary School, Holt, Michigan (2011)

Figure 3-13 Students in Walking School Bus on Their Way to Horizon Elementary School



Source: Horizon Elementary School

What is it?

A walking school bus is a program through which a group of students and one or more adults walk to school on a designated route to school that incorporates meeting points near students' homes where they can join the walk.

Application

Horizon Elementary School established walking school bus program in 2011.⁵¹ At the time Horizon established the program, 28 out approximately 200 students living within walking or biking distance to the school were doing so.⁵²

⁵¹ Kangas, W. (2014, September 12). Walking Bus Program Grows at Holt. *Lansing State Journal*. <http://www.lansingstatejournal.com/story/news/local/community/holt/2014/09/12/walking-bus-program-grows-holt/15505923/>.

⁵² Millich, G. Horizon Elementary Celebrates International Walk to School Day. *WKAR News*. <http://wkar.org/post/horizon-elementary-celebrates-international-walk-school-day#stream/0>

Walking school buses raise awareness in the neighborhood for kids walking to school, puts eyes on the street, familiarizes kids with safe walking routes in their neighborhood, and gets kids active before and after school.⁵³

Within two years, the number of students switching to walking school buses, enabled Horizon Elementary School to drop a full bus route. By 2015, the walking school bus program had grown to 125 students participating on a daily basis,⁵⁴ approximately five times the number of students walking or biking to school when the program started. The principal has reported lower levels of motor vehicle traffic and emissions around the school,⁵⁵ and the program has expanded to other schools within the Holt Public Schools district.⁵⁶

Takeaways for Kansas City:

Kansas City's street grid is more connective and robust than those in Holt, Michigan. A walking school bus program may be successful with local community and school support, as navigating the community is quite easy. There are also a number of schools in the study area.

⁵³ Sweat, J. (2016, March 17). The Bigger Picture: Walking School Buses Create Safer Communities. *Inspired*. <http://www.inspiredmichigan.com/features/3.16walkingschoolbus.aspx>.

⁵⁴ McLane, J. (2015, April 16). Q&A: Safe Routes to School Encourage Walking and Biking. *Inspired*. <http://www.inspiredmichigan.com/features/4.15qa.aspx>

⁵⁵ Millich, G. Horizon Elementary Celebrates International Walk to School Day. *WKAR News*. <http://wkar.org/post/horizon-elementary-celebrates-international-walk-school-day#stream/0> 1

⁵⁶ Kangas, W. (2014, September 12). Walking Bus Program Grows at Holt. *Lansing State Journal*. <http://www.lansingstatejournal.com/story/news/local/community/holt/2014/09/12/walking-bus-program-grows-holt/15505923/>

Safe Routes to School Education Program: Highland Park, Michigan (2008)

Figure 3-14 Students in a Detroit Area School Participate in Walk to School Day



Source: Detroit Public Schools Community District

What is it?

Safe Routes to School Programs bring together communities to engineer infrastructure solutions to traffic safety issues while also using education, enforcement, encouragement, and evaluation tools to develop a culture that prioritizes travel options and safety for students travelling to and from school. In many communities, Safe Routes to School Programs are spearheaded by community members and/or community organizations.

Application⁵⁷

Highland Park is a suburb of Detroit, which has been faced by the economic decline of the region, resulting in negative impacts on infrastructure, specifically unsafe crossings,

⁵⁷ Safe Routes to School National Partnership. (June 2010). Implementing Safe Routes to School in Low-Income Schools and Communities: A Resource Guide for Volunteers and Professionals. <https://www.saferoutespartnership.org/resourcecenter/publications/low-income-guide>

and personal safety concerns. In response, the Reggie McKenzie Foundation, a local nonprofit, began engaging community members in 2006 after attending a SRTS training.

Working together, Safe Routes to School Action Plans were developed for three schools, serving 1,500 students, and funding applications were submitted in 2008, with the assistance of Michigan's Department of Transportation. Over \$950,000 were awarded to improve sidewalks, cleanup abandoned lots, and to provide safety education.

The program was been effective in engaging volunteers and other community partners in order to engage over 500 students in safety education efforts in the 2009-2010 school year. Additionally, trained volunteer crossing guards and parent volunteers to help students walk through community streets were recruited to complement infrastructure improvements, increasing student visibility and safety during arrival and dismissal times.

Takeaways for Kansas City

The study area has a high concentration of schools and community organizations, creating an opportunity for collaboration within the community to spark a change for improved safety for students.

BRT AND ECONOMIC DEVELOPMENT

The following case study demonstrates the economic development that can be fostered alongside the implementation of bus rapid transit (BRT)^{58, 59, 60} service that includes dedicated lanes.

Healthline Bus Rapid Transit, Cleveland, Ohio (2008)

Figure 3-15 Healthline BRT Station at Euclid Ave and 24th Street in Cleveland



Source: Transportation for Michigan

What is it?

The HealthLine is a 7.1-mile bus rapid transit investment tied to a broader Euclid Avenue corridor enhancement and placemaking project that has helped revitalize the neglected Euclid corridor. The project has sped commutes, linked two downtown hospital anchors, and leveraged transit-oriented development. Linking Downtown Cleveland to University Circle along Euclid Avenue, Cleveland's HealthLine Bus Rapid Transit (BRT) connects northeast Ohio's two largest commercial districts. Bus Rapid Transit is a high-quality, bus-based mass transit system with a specialized design to

⁵⁸ Institute for Transportation & Development Policy. What is BRT? <https://www.itdp.org/library/standards-and-guides/the-bus-rapid-transit-standard/what-is-brt/>.

⁵⁹ Jaffe, E. (2014, May 5). The Importance of Running True BRT through Downtown. *CityLab*. <https://www.citylab.com/transportation/2014/05/importance-running-true-brt-through-downtown/9033/>

⁶⁰ Malouff, D. (2013, January 17). The US Has Only 5 True BRT Systems, and None are "Gold". *Greater Greater Washington*. <https://gwwash.org/view/29962/the-us-has-only-5-true-brt-systems-and-none-are-gold>

accommodate fast service, efficient boardings, and infrastructure to bypass typical delay like congestion at intersections.

The HealthLine BRT corridor ties the central business district to cultural and civic institutions such as the Botanical Gardens, Museum of Art, and Museum of Natural History; major employment and activity centers including The Cleveland Clinic and University Hospitals; university such as Case Western Reserve University and the Cleveland Institute of Art; and lodging. It also represents a significant investment in placemaking, creating regular open space amenities and developing the corridor into a linear park. A naming rights agreement with the Cleveland Clinic and University Hospitals led to the corridor's name in exchange for maintenance and landscaping costs.

Application

The HealthLine BRT project addressed transportation, investment, quality of life, and health issues along the Euclid corridor. After years of neglect, Euclid Avenue featured dilapidated buildings, high crime, and limited investment. Bus ridership was down, pedestrian and bicyclist safety was poor, and the environment along Euclid Avenue was uninviting to businesses and passersby. Euclid's redesign and introduction of HealthLine has addressed these problems head on, and made transformative impact on downtown Cleveland.

The \$200 million investment has spurred a great makeover of Euclid Avenue, including:

- Over \$3 billion in new construction and \$2.4 billion in building rehabilitation (greater than \$114 for each dollar invested)
- More than 13,000 new jobs
- 7.9 million square feet in commercial development
- 4,000 new residential units along the route
- 1,500 trees planted
- 47% higher ridership compared to former bus line along route
- 34% faster average speed than previous line

Takeaways for Kansas City

BRT was first launched in Kansas City in 2005 with the implementation of the Main MAX line, and later the Troost MAX line. Planning is currently underway for the Prospect MAX line to run along Prospect Avenue to Downtown. While MAX BRT already has distinctive branding and station amenities, faster running times and incorporation of attractive landscaping standards that serve stormwater management needs can facilitate real estate investment along these corridors.

POLICY TOOLS FOSTERING TRANSIT ACCESS AND DEVELOPMENT IN A SIMILAR CONTEXT

The following six case studies exemplify policy tools that promote transit access and development in communities with similar contexts as exhibited in the study area. The first two focus on local development, and the latter four support transit access.

Inclusionary Zoning: San Francisco, California (2002)

Figure 3-16 Development in San Francisco – Inclusionary Zoning Ordinance Since 2002



Source: San Francisco Housing Action Coalition

What is it?

Inclusionary zoning utilizes incentives or requirements to incorporate the production of affordable housing with the development of market rate housing.

Application

San Francisco's Inclusionary Housing Program requires a percentage of "below market rate" (BMR) units - affordable for low or middle income households - in residential

development projects constructing 10 or more units. If this requirement is not met, the developer is charged an Affordable Housing Fee to the developer.⁶¹

A 2008 policy brief by New York University's Furman Center for Housing Policy reviewed the impacts of inclusionary zoning on the housing markets of San Francisco, Washington DC, and Suburban Boston areas identified the following:⁶²

- Proponents see it as a tool for maintaining economic and racial diversity/integration in communities, while opponents claim such zoning can constrict development and raise prices.
- The data suggests that flexible inclusionary zoning policies, such as what is seen in San Francisco by exempting smaller projects and awarding density bonuses, yields higher production.
- There are benefits to surrounding jurisdictions adopting inclusionary zoning policies, as this would make such policies less likely to scare away development.
- Data in the San Francisco region does not suggest that inclusionary zoning impacts pricing or production of single family homes, though suburban Boston saw minor decreases in production and slight increases in pricing of single family homes.
- Inclusionary zoning is only one tool to address housing concerns in American cities.

Takeaways for Kansas City

Kansas City may experience a mix impacts identified above from the application of inclusionary zoning. However, the tool should be considered in order to minimize displacement in communities where increased investment and development may result in increased costs of living.

⁶¹ City and County of San Francisco. Mayor's Office of Housing & Community Development. Inclusionary Housing Program. <http://sfmohcd.org/inclusionary-housing-program>.

⁶² Center for Housing Policy. (2008, March). *The Effects of Inclusionary Zoning on Local Housing Markets: Lessons from San Francisco, Washington, DC and Suburban Boston Areas*. <http://furmancenter.org/files/publications/IZPolicyBrief.pdf>.

Land Banking: Kansas City Land Bank, Kansas City, MO (2012)

Figure 3-17 Property for Sale by Kansas City Land Bank in Blue Hills Neighborhood



Source: Kansas City Land Bank

What is it?

A land bank is a public authority created for the purpose of efficiently acquiring, managing, developing, selling, and transferring abandoned and tax-foreclosed land, in order to return the land to active use.⁶³

Application

The Kansas City Land Bank is a third generation land bank, established by state law in August 2012 as an entity operated by the City of Kansas City. It has the authority to acquire, manage, and sell land, as well as the power to raise its own revenue and issue bonds. It received approximately 3,500 properties from the Land Trust of Jackson County in its first year.⁶⁴

Takeaways for Connecting Swope































The Kansas City Land Bank may consider actively acquiring defunct properties within the study area. Doing so will provide the opportunity to develop land uses that will foster the economic growth potential of BRT services. Such an effort should be informed heavily by community input to ensure the outcomes reflect the needs and desires of the community.

⁶³ Center for Community Progress. (2011, June). Land Banks and Land Banking. https://web.archive.org/web/20130606080059/http://www.smartgrowthamerica.org/documents/ccp_land_banks.pdf. Flint, MI: Frank S. Alexander.

⁶⁴ Local Initiative Support Corporation (LISC). (2013, January). *Advocacy in Action: The Story of the Kansas City Land Bank, Case Study*. http://programs.lisc.org/Kansas_City/Images/Land_Bank_Case_Study.pdf. Kansas City, MO.

Transit Station Area Design Guidelines: BART Station Area Design Guidelines, San Francisco, California (2017)

Figure 3-18 BART Station Access Investment Framework

STATION TYPE	PRIMARY INVESTMENTS	SECONDARY INVESTMENTS	ACCOMMODATED	NOT ENCOURAGED
URBAN	  Walk Bicycle	 Transit and Shuttle	  Taxi and TNC Drop-Off and Pick-Up	 Auto Parking*
URBAN WITH PARKING	  Walk Bicycle	 Transit and Shuttle	  Taxi and TNC Drop-Off and Pick-Up	 Auto Parking*
BALANCED INTERMODAL	  Walk Bicycle	  Transit and Shuttle Drop-Off and Pick-Up	  Taxi and TNC Auto Parking*	
INTERMODAL/AUTO RELIANT	 Walk	   Bicycle Drop-Off and Pick-Up Transit and Shuttle	  Taxi and TNC Auto Parking*	
AUTO DEPENDENT	 Walk	    Bicycle Drop-Off and Pick-Up Auto Parking Transit and Shuttle	 Taxi and TNC	

Source: Nelson\Nygaard

What is it?

Station Area Guidelines are a fairly recent type of policy tool to guide the direction of capital improvements made in and around transit stations in order to increase access to transit and improve the passenger experience. These design guidelines specify a set of standards for each category of station type, prioritizing different types of treatments based on both passenger volume and surrounding land use. The design of station areas is critical in making systems comfortable, safe, and accessible for all riders.

Application

The Bay Area Transit Authority's Multimodal Access Design Guidelines (MADG) are focused on passenger experience, with the goal of making station areas contribute to the community fabric and encourage transit ridership, while prioritizing non-driving and high-occupancy modes. By prioritizing human activity, the MADG ensures that all modes can access stations with little to no conflict with other modes; access routes are direct

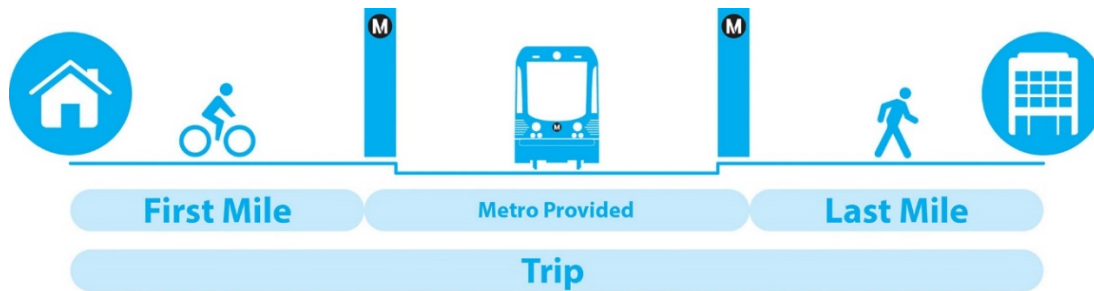
and place people where they want to be, stations are easy to navigate, and humans feel safe and secure when traveling to, from, or waiting at the station. In addition to a “pedestrians first” approach, the guidelines emphasize compact design and regional connections that reduce travel time and distance. The effort also supports system-wide goals, including increased efficiency and productivity, through cost-effective access improvements that allay costly efforts to expand parking.

Takeaways for Kansas City

The MADG provides easy-to-use guidance for planning the access to and around transit stations for transit staff, future developers, and local municipalities, yielding a high quality experience for customers from the moment they enter one station area to moment they leave at the end of their transit trip. Station area design guidelines produced to be similarly versatile in their ease of use by staff of RideKC providers, future developers, and the City of Kansas City could simplify the path to RideKC stations, BRT stops, and mobility hubs that are more user friendly across modes of access.

First/Last Mile Guidelines: Los Angeles Metro First/Last Mile Strategic Plan & Planning Guidelines, Los Angeles, California (2014)

Figure 3-19 Los Angeles Metro Graphic Describing First/Last Mile



Source: Los Angeles County Metropolitan Transportation Authority

What is it?

One person's trip is her or his complete journey from origin to destination. Individuals can use a single mode, or combine multiple modes in a single trip. A transit trip may cover the majority of a trip's distance, but riders inevitably have to make the first and last legs of the trip on their own. As the example of **Error! Reference source not found.** illustrates one may first bike to the nearest transit stop, and walk the remaining distance to her or his destination. Regardless of actual distances, these first and last parts of the trip are known as the first and last mile of a trip, or "first/last mile" (FLM).⁶⁵

Application

As the Los Angeles County Metropolitan Transportation Authority (Metro) continues to rapidly expand its rail network, it is anticipated that a total of 7.8 million residents will be within 3 miles of a station. In order to maximize the utility of the rail infrastructure investments Metro is making, it is important to create environments

Metro's First/Last Mile Strategic Plan & Planning Guidelines, developed in 2014, provide a pathway for the integration of multi-modal solutions for access to the transit network. It is a coordination tool for inter-agency and public-private collaboration. The document provides a consistent methodology to be utilized by the region, as well as a toolbox of strategies to strengthen connections between communities and transit.

Takeaways for Kansas City

First/Last Mile planning is critical for all types of transit in order to ensure people have access to and from transit stops. Kansas City can improve transit access by intentionally planning for and collaborating with outside agencies and organizations to provide direct connectivity between multiple transportation modes and RideKC stops. This includes bolstering bicycle facilities in the study area and maintaining a complete sidewalk network within the study area, to ensure community members can reach new BRT services.

⁶⁵ Metro. Metro First/Last Mile. <https://www.metro.net/projects/sustainability-first-last/>.

Mobility Hub: CTA/Divvy Multimodal Stations, Chicago, IL (2013)

Figure 3-20 Chicago Cottage Grove Transit Station



Source: Google Streetview

What is it?

Mobility hubs are locations that integrate connections between multiple modes of transportation in a way that people can easily transfer from one mode to another. Maximizing these connections can optimize first/last mile connectivity.⁶⁶ Multi-modal stations specifically branded as “mobility hubs” can be known to feature shared mobility connections and mobile application integrations,^{67,68} however any multimodal center that facilitates transfer between several modes of transportation can serve as a neighborhood mobility hub.

Application

Chicago’s Cottage Grove Station in Woodlawn, and Ashland/63rd Station in West Englewood are two examples of neighborhood mobility hubs on the city’s south side. Each station is anchored by the Chicago Transit Authority’s Green Line train, and

⁶⁶ City of Los Angeles. Urban Design Studio. An Introduction to Mobility Hubs. <http://www.urbandesignla.com/resources/docs/MobilityHubsReadersGuide/hi/MobilityHubsPamphlet.pdf>

⁶⁷ Wendel Duchscherer Architects & Engineers and American Public Transit Association. (2012). Mobility Hubs vs. Intermodal Centers: A Case Study of Mystic, Connecticut. <http://www.apta.com/previousmc/rail/previous/2012/papers/Papers/Neal-S-Mobility-Hubs-vs-Intermodal-Centers.pdf>. Minneapolis, MN: Scott R. Neal.

⁶⁸ Mah, N. (2016, November 15). SDOT Mobility Innovations First Forum on Mobility Hubs. Message posted to SDOT Blog. <http://sdotblog.seattle.gov/2016/11/15/sdot-mobility-innovations-first-forum-on-mobility-hubs/>.

includes connections to multiple bus routes, as well as a Divvy bikeshare station.^{69,70,71} The Ashland/63rd Station also includes a park and ride lot. With connectivity to three or more modes of transportation, each station connects many different users to networks extending throughout the city.

Takeaways for Kansas City

Kansas City has made significant progress with multimodal connectivity through the recent alignment of five local public transit modes – fixed-route bus, paratransit, bus rapid transit, streetcar and bikeshare – all branded with the RideKC identity. Continued connectivity of RideKC services at individual stop locations can increase accessibility and mobility throughout the city.

⁶⁹ Google Maps. Ashland/63rd Station. <https://www.google.com/maps/place/Ashland%2F63rd/@41.7791926,-87.6643116,400m/data=!3m1!1e3!4m5!3m4!1s0x880e2e5370e9b143:0xbd3476f7ddbe51e!8m2!3d41.7788608!4d-87.6637664>

⁷⁰ Google Maps. Cottage Grove Station. <https://www.google.com/maps/place/Cottage+Grove/@41.7801523,-87.6071939,801m/data=!3m1!1e3!4m8!1m2!2m1!1sCottage+Grove+station,+Chicago,+IL!3m4!1s0x0:0x9f781cd2ad5e9fa2!8m2!3d41.7805089!4d-87.6059031>

⁷¹ Divvy. (2016). Station Map. <https://member.divvybikes.com/stations>

Cash Payment and Free/Reduced Fare Program for Bikeshare: Indego, Philadelphia, PA (2015)

Figure 3-21 Indego Bikeshare in Philadelphia



Source: Billy Penn

What is it?

Credit card is the primary form of payment accepted by most bikeshare systems in the United States. This effectively prevents access to a bikeshare system for individuals who do not have a credit or bank card. Cash payments enable bikeshare access for all users, regardless of credit or bank access.

In addition, some cities feature reduced fare programs, enabling riders with low and fixed incomes to access the service, and connect to destinations throughout its service area.

Application

In April 2015, the City of Philadelphia launched the Indego Bike Share Program with the goal of creating a bikeshare system that is used and valued by a diverse cross-section of Philadelphians.

Bikeshare stations are located along major SEPTA transit corridors and at many bus or rail stops throughout the city. Other stations are located at key destination points further away from transit. This distribution allows users to take a bicycle from close to their home or work and ride it to a transit station that may be too far away to be a comfortable walking distance. Having both transit and bike share provides more flexibility to

Philadelphians. Some people have even lowered their monthly transportation costs by substituting some transit trips for the lower cost bike share trip.

Indego also took further steps to establish social equity by being the first system in the country to offer a cash payment option at launch to reach unbanked populations. In addition, the system offers discounted \$5 monthly passes to ACCESS/EBT card holders and has strategically expanded into low-income neighborhoods.

Takeaways for Kansas City

Kansas City B-Cycle has been in service since July 2012.⁷² Currently it offers a reduced fare structure to seniors, military, and students, but not for people with low-income. In addition the system does not accept cash payments. Advancements in either of these capacities, as done by Philadelphia's Indego bikeshare, would increase bikeshare access to a more diverse population within the City.

⁷² Campbell, M. (2012, July 2). Bike Sharing Rolls Into Kansas City. *The Kansas City Star*. <http://www.kansascity.com/news/local/article304855/Bike-sharing-rolls-into-Kansas-City.html>.