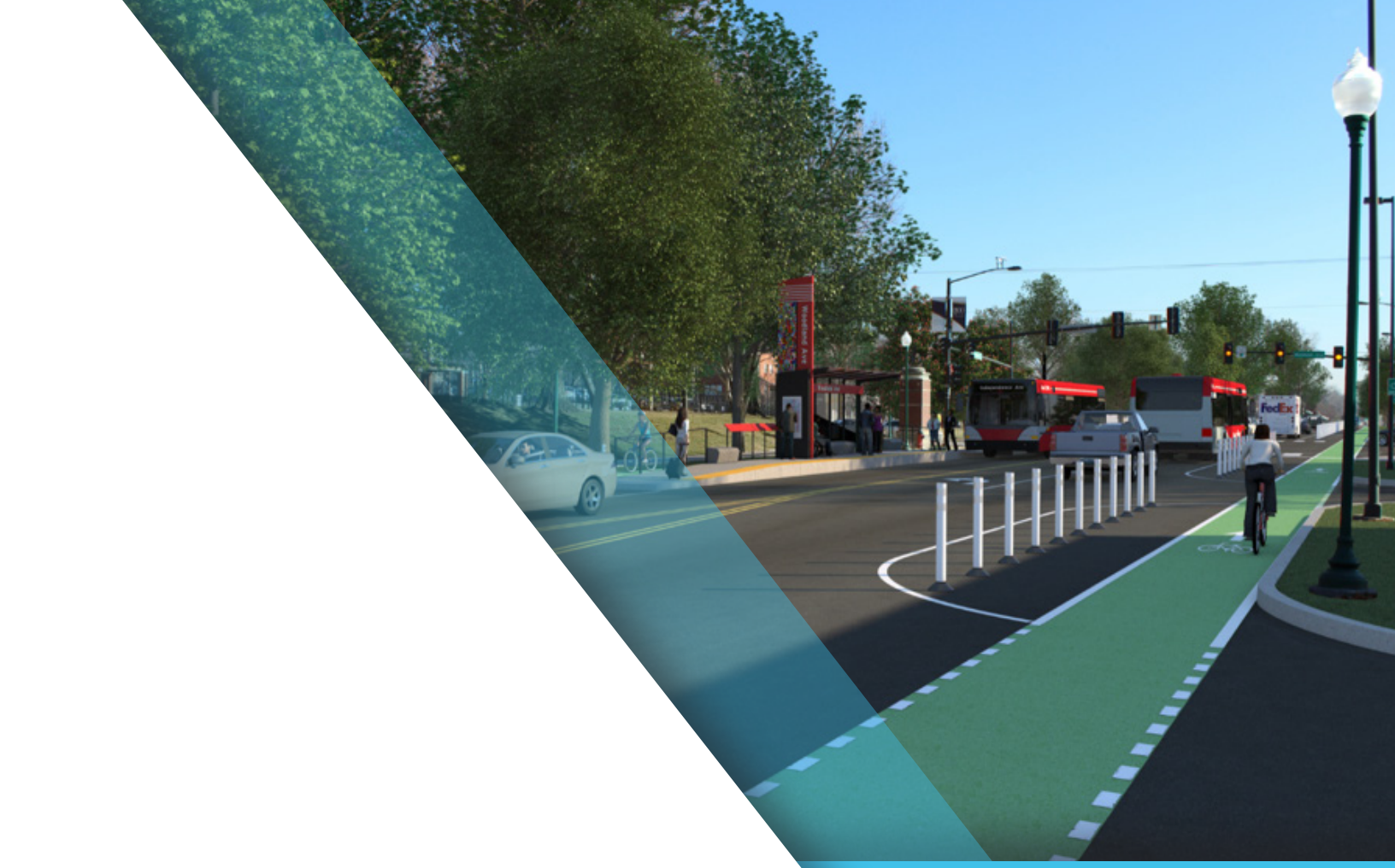

RideKC CONNECTING Independence Ave.

BRT Planning and Feasibility Study

MARCH 2019

wsp

kcATA

Independence Avenue BRT Planning and Feasibility Study

Prepared for:

Kansas City Area Transportation Authority

In partnership with:

City of Kansas City, Missouri

City of Independence, Missouri

Mid America Regional Council

Prepared by:

WSP USA

In partnership with:

CONFLUENCE HALFF PARSON + ASSOCIATES URI URBAN REALTY INTERESTS, INC.

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1.0 EXECUTIVE SUMMARY

Early in 2018, the Kansas City Area Transportation Authority (KCATA) initiated a planning study of the Independence Avenue corridor. The primary purpose of this effort was to assess the feasibility of development of a new MAX Bus Rapid Transit (BRT) service along Independence Avenue, potentially making this the fourth MAX corridor in the KCATA system following Main Street, Troost and Prospect MAX. Joining KCATA in the *Independence Avenue BRT Planning and Feasibility Study* were the partnering agencies of City of Kansas City, Missouri, City of Independence, Missouri, and the Mid-America Regional Council (the metropolitan planning organization for the Kansas City region).

At the outset of the study, six goals were established to guide the development of the project:

- **Goal 1:** Develop recommendations to improve transit and mobility options along Independence Avenue to connect residents to employment opportunities, education, and essential services
- **Goal 2:** Support and strengthen current and future economic development along and around the Independence Avenue corridor
- **Goal 3:** Improve safety and security along Independence Avenue study corridor
- **Goal 4:** Enhance and highlight community character in BRT planning
- **Goal 5:** Improve environmental sustainability and support regional goals for improved air quality
- **Goal 6:** Develop a project eligible for federal funding to implement preferred alternative from BRT planning study

The project study area (**Figure 1**) is approximately twelve miles in length generally from the Central Business District of Kansas City, east to the historic square in downtown Independence. Many of the neighborhoods along the Independence Avenue corridor are some of the most historic and diverse in the entire Kansas City metropolitan region. In recent decades, the Historic Northeast has become home to many new immigrants and refugees from around the world, with over fifty languages spoken in the area.

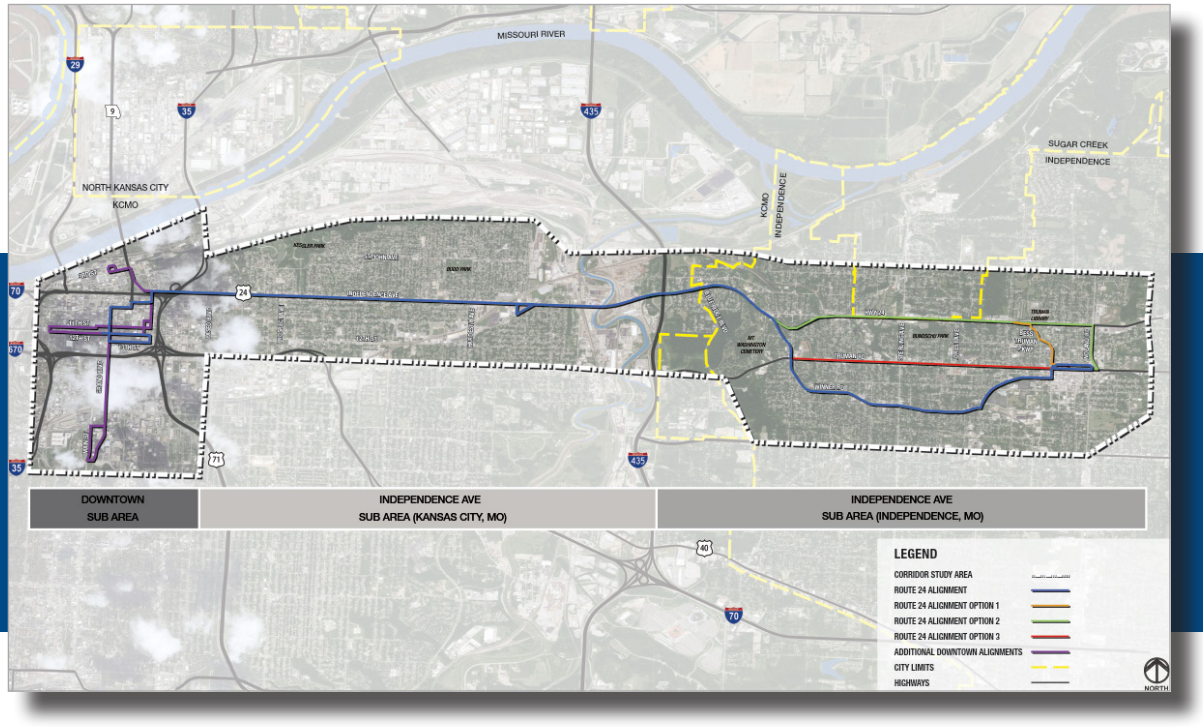


Figure 1: Independence Avenue BRT Study Area

PUBLIC ENGAGEMENT

The yearlong study process was developed with the help and input of many residents, stakeholders and transit users as part of a robust public engagement effort. Through the course of the planning study an Advisory Committee, comprised of business owners, social service agencies, transit riders, Kansas City Police Department, and several other stakeholders, met to guide the study team and provide direction on key planning decisions. An online survey was utilized to gather information on existing conditions for transit in the study area and priorities needed to improve transit service and overall mobility. The survey was made available in the predominate languages spoken in the study area: English, Spanish, Vietnamese, Arabic, and Swahili. Two public open house meetings were held on the Independence Avenue corridor to present BRT planning concepts and listen to riders, neighbors, property and business owners, and other interested members of the public. Input gathered from these multiple sources helped to better shape the BRT project to best meet the mobility needs of the community it would serve. Information on the public engagement effort and results are provided in **Section 10.0**.

PREFERRED BRT ALIGNMENT

The *Independence Avenue BRT Planning and Feasibility Study* reviewed multiple planning reports and documents specific to the study area which provided many objectives and aspirations for further enhancement of public transit in the corridor. The current conditions and operations of 24 Independence that connects downtown Kansas City to the City of Independence, along with other intersecting RideKC bus routes were examined. Looking to the future BRT route alternatives, the study team used a data-driven approach to evaluate several alignment options both in downtown Kansas City and within the City of Independence. Through this evaluation process, input from the Advisory

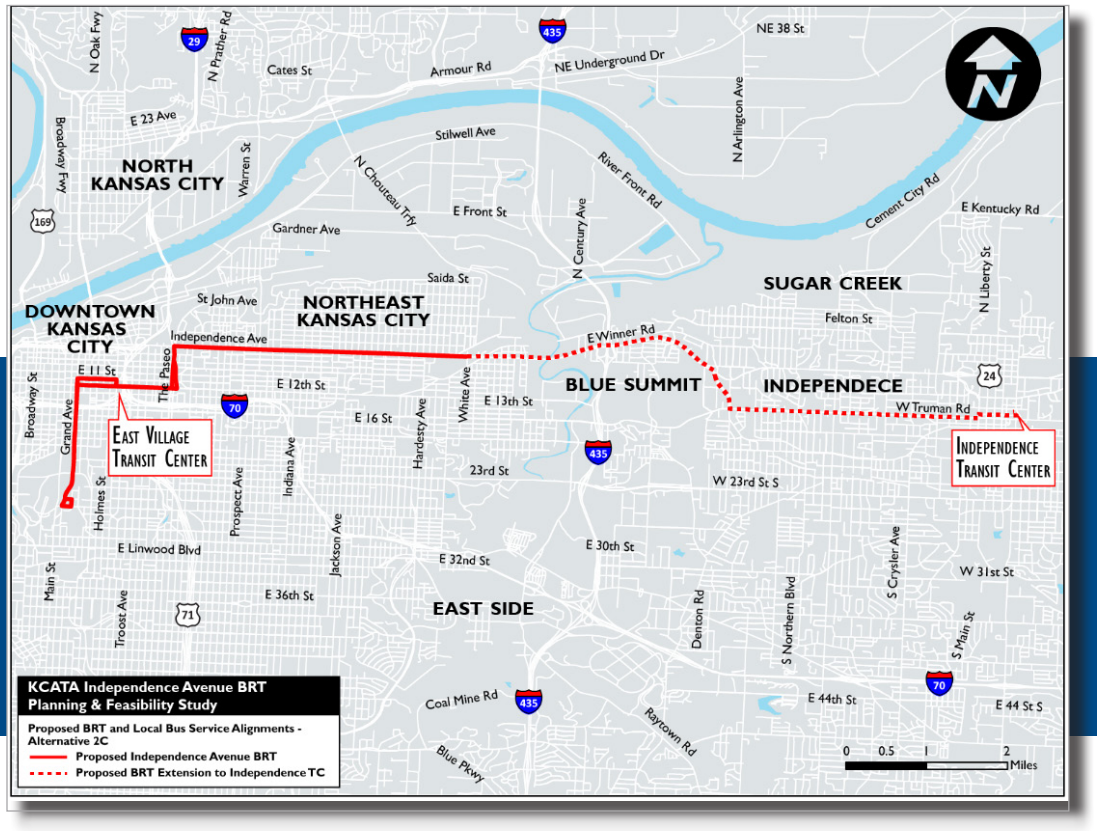


Figure 2: Conceptual Independence Avenue BRT Alignment

Committee and public input, a preferred alignment was developed for a conceptual BRT service.

The BRT alignment as depicted in **Figure 2**, with ten-minute frequency, would operate between Crown Center and the vicinity of Independence Avenue and White Avenue on weekdays. Once an hour, a MAX bus would extend to the Independence Transit Center to facilitate connections with the IndeBus system. The hourly connection to Independence would operate on weekdays and Saturdays, with no Sunday Service as consistent with current service offerings in Independence.

Due to closer station locations along the route, the operations plan for the Independence Avenue MAX would not recommend the continuation of the RideKC Bus 24 Independence route as it would be overly redundant with the new MAX service. More details on the proposed MAX BRT operations plan can be found in **Section 4.3**. Service to Independence may increase over time if warranted by demand and funding is provided.

MAX STATION LOCATIONS

As with alignment alternatives and operations plans, the Advisory Committee and public input coupled with existing data and transit planning analysis, led to the selection of forty MAX BRT station locations for the Independence Avenue MAX (**Figure 3**). The study examined current boarding patterns and locations of major trip generators to determine the optimal BRT station locations along the alignment.

PROTECTED BICYCLE LANE INTEGRATION TO INDEPENDENCE AVENUE

Development of safe and convenient connections to the Independence Avenue corridor by multiple transportation modes is an important component to the *Independence Avenue BRT Planning and Feasibility Study*. Early in the study, the City of Kansas City informed the study team of the developing city-wide Bicycle Master Plan's recommendation to build a protected bicycle facility along Independence Avenue from approximately Paseo Boulevard east to the city limit. The BRT planning team developed a road diet solution that could feasibly accommodate MAX BRT operations, existing and future traffic volumes and the proposed protected bicycle facility along

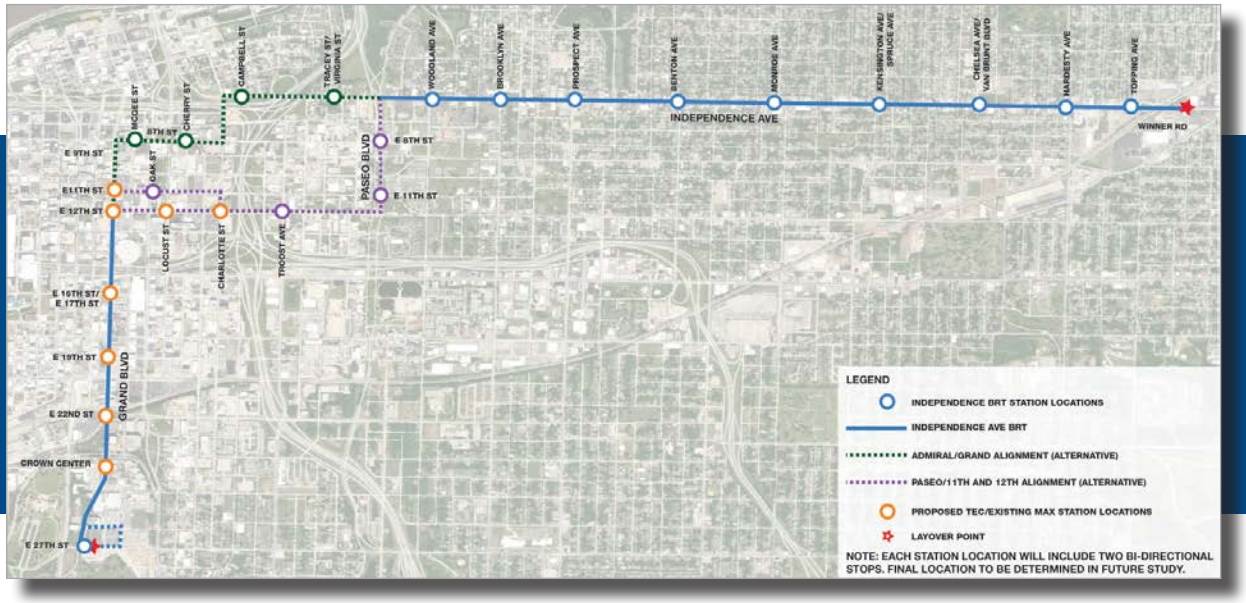


Figure 3: Proposed Independence MAX Station Locations

Independence Avenue from Paseo Boulevard to White Avenue. As seen in **Figure 4** the road diet scenario would reallocate in-street lane width to accommodate the protected bike lane and transit station infrastructure and turn the four-lane corridor into a three-lane corridor featuring a singular travel lane in the east and west bound directions with a continuous center turn lane.

Traffic engineering analysis demonstrated that the reduction in lane capacity would have minimal impact to traffic flow, only adding 18 to 33 seconds to current travel times between Paseo Boulevard to White Avenue. There are multiple opportunities to better coordinate traffic signals and improve traffic and BRT operations through the introduction of Transit Signal Priority along the Independence Avenue MAX route. Assessment of traffic impacts from the envisioned protected bicycle lane and planning for BRT operations is detailed in **Section 5.3.2**.

MAX STATION DESIGN CONCEPT

MAX BRT stations are some the most visible and permanent elements of the BRT project and their design and function is a critical part of the infrastructure for the proposed MAX route. The Independence Avenue corridor is one of the most culturally diverse corridors within the Kansas City metropolitan area. Based on a series of community engagement efforts and multiple conceptual design studies, the proposed station design reinforces and celebrates this cultural diversity by integrating creative elements, such as color and pattern, as an expression of the corridor's character.

These stations have the opportunity to serve as an iconic, unifying feature along the corridor that celebrates the many different cultures found in the surrounding neighborhoods to help reinforce a sense of pride and excitement about the adjacent neighborhoods served by this BRT service. To help celebrate the diversity of the community Independence MAX would serve, several concepts were developed to incorporate the uniqueness of the area. These concepts included a mosaic of international flags, representing many of the nationalities that reside in the surrounding neighborhoods, into the roof panels of the shelter structure. Other concepts are detailed in **Section 5.1.3**, **Figure 5** provides a schematic of a typical Independence MAX Station. Features to be included are a raised, level boarding platform, integration with the protected bicycle lane, lighted shelters, incorporation of real-time next bus arrival information and interactive touch screen kiosk, free public WIFI, and other elements.

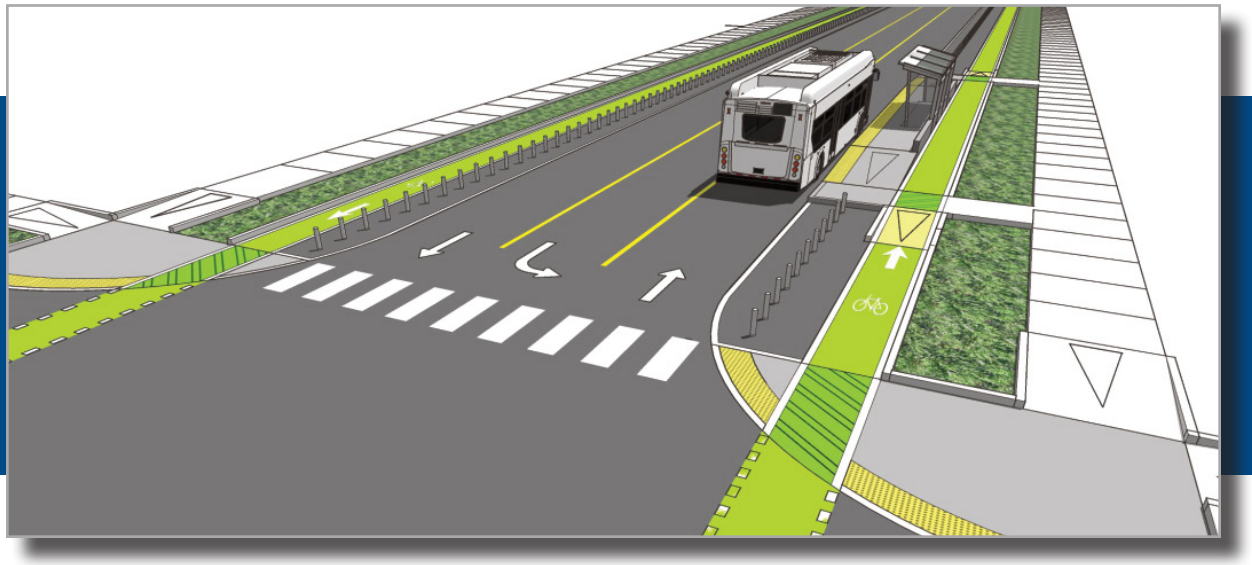


Figure 4: Independence Avenue Protected Bicycle Lane and BRT Concept

Figure 5 (above): Conceptual Independence MAX Station

Figure 6 (below): Independence at Woodland MAX Station Concept

Figure 6 on the previous page provides a visualization of how a future MAX station would integrate into the existing corridor located on Independence Avenue at Woodland Road, westbound incorporating all project elements including bicycle lanes and new MAX BRT operations.

CAPITAL & OPERATING COST ESTIMATION

Critical to the implementation and operation of the Independence Avenue MAX project are reliable capital and annual operation cost estimations. Current unit price information from the Prospect MAX construction project was used to develop a conservative capital cost estimate for the Independence Avenue MAX project. Capital costs were escalated to the assumed year of expenditure, 2024. Total capital costs for the project are estimated between $60 - $64 million. A summary of the capital cost estimate details is provided in **Table 1**.

Table 1: Independence MAX Capital Cost Estimate

Capital Elements	Total
Guideway/Roadway	$607,042
Stations/Terminals	$15,707,311
Support Facilities	$0
Sitework and Special Conditions	$12,464,591
Systems	$7,319,189
ROW, Land, Existing Improvements	$462,508
Vehicles	$8,672,025
Professional Services	$5,426,094
Subtotal	$50,658,760
Contingency (20%)	$10,131,752
Total Capital Cost	$60,790,512

Annual costs to operate and maintain the Independence MAX BRT service are estimated to be $4 million and summarized in **Table 2**. Enhancement of bus service to BRT frequency would increase O&M costs for the route by approximately 54 percent for KCATA. Changes recommended for local extension to the City of Independence would increase that community's annual cost for transit service by approximately 64 percent.

Operations and maintenance cost estimates are provided in **Section 4.0** and capital cost estimates in **Section 7.0**.

Table 2: Independence MAX Annual Operations Cost Estimation

Service Alternative	Total Annual Miles	Total Annual Hours	Annual Operating Cost	KCATA Annual Operations Cost Increase	Percent Change	City of Independence Annual Cost	City of Independence Percent Change
Current 24 Independence	269,578	27,721	$2,569,830	NA	NA	$108,805	NA
Independence Ave. MAX with extension to Independence Transit Center	**407,966**	**33,387**	**$3,967,474**	**$1,397,645**	**54.4%**	**$178,843**	**64.4%**

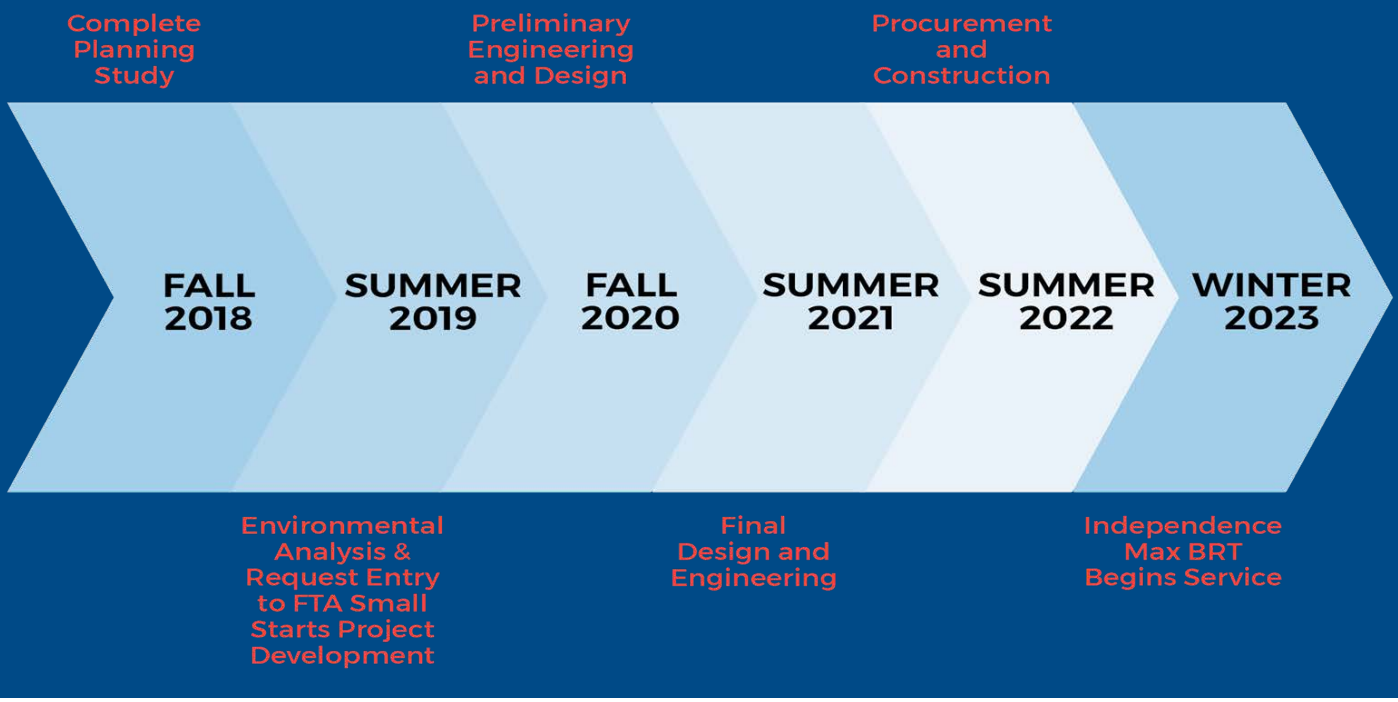
CONCLUSION AND NEXT STEPS

The Independence Avenue MAX project will incorporate ten-minute BRT service on one of KCATA's most utilized routes and be the first primarily east / west MAX route in the metro region. In addition to BRT operations, the project will incorporate planned protected bicycle lanes along Independence Avenue. Bringing the bicycle mode to the corridor will extend the reach and benefits of the MAX system beyond the Independence Avenue corridor.

To bring this planned vision for rapid transit service to the Independence Avenue corridor further study, data analysis, engineering and design activities remain. **Figure 7** presents a conceptual project schedule for the next phases of the Independence MAX project. This five-year timeframe from planning to launch of BRT operations is consistent with KCATA's experience in development of its three previous MAX projects.

Study, planning, analysis and community input from this process has resulted in a highly feasible project that can become the Kansas City region's fourth MAX BRT line. The Independence MAX would bring a multitude of benefits to the corridor and surrounding neighborhoods including enhanced mobility from more rapid and reliable transit service along Independence Avenue. Other anticipated benefits include economic development opportunities, bicycle and pedestrian infrastructure enhancements, safety, and an overall improvement in connecting people to opportunities throughout the greater Kansas City region.

Figure 7: Conceptual Project Implementation Schedule



2.0 INTRODUCTION

2.1 PROJECT BACKGROUND & CONTEXT

Early in 2018, the Kansas City Area Transportation Authority (KCATA) along with its partners, the City of Kansas City, Missouri (KCMO), Mid America Regional Council (MARC) and the City of Independence, Missouri, initiated the *Independence Avenue Bus Rapid Transit (BRT) Planning and Feasibility Study.* Independence Avenue is one of the oldest public transit routes in the Kansas City metro region. For over 100 years, the corridor has served as a critical link between Independence and Kansas City. The main goal of the *Independence Avenue BRT Planning and Feasibility Study* is to determine the potential for the development of a new BRT route.

Since 2005, KCATA has had great success with the implementation of BRT with their Metro Area Express (MAX) services in the Main Street and Troost Corridors (**Figure 8**). The introduction of MAX BRT led to significant increases in ridership as well as customer satisfaction and increased economic development around key transit nodes. Currently the KCATA has completed design of its third MAX BRT route along the Prospect Avenue corridor and is beginning construction. The Prospect MAX BRT line is expected to begin operations in late 2019 or early 2020. The MAX network is a national model of successful arterial-based BRT design and operation. It has been highly beneficial for riders and an excellent tool to improve the corridors and communities served.

Figure 8: Three Trails Transit Center Troost MAX Station

The Independence Avenue corridor has been included as part of a coordinated long-term regional vision for the expansion, and improvement of public transit services, known as Smart Moves. The updated Smart Moves 3.0 plan envisions a regional transit system built around several key, high frequency corridors. If implemented, the Independence Avenue route would become the fourth MAX BRT line in Kansas City and move the region a step closer to its aspirations of a more connected region.

WHAT IS BRT?

Bus Rapid Transit in the United States has evolved over the last two decades, with BRT projects having many variations to best fit the corridors and communities they serve. At its core BRT is a high-quality public transit service that emulates light rail or streetcar service using a specialized bus. In many instances, BRT utilizes a dedicated bus only lane, or 'guideway,' that allows the bus to travel without delay caused by general traffic, making the transit trip faster and more attractive. Other elements of BRT may include unique branding to identify the premium service, passenger stations with well-lit shelters, next bus real-time arrival information, public access Wi-Fi, wayfinding information, and off-board fare collection. BRT stations are typically spaced between 0.5 to 1.0 mile apart as another technique to speed the travel time along the route.

Because BRT corridors do not require the construction of rail, overhead electrification systems and other infrastructure, BRT systems have proven to be more cost effective than rail transit systems while providing many of the same benefits of more reliable schedules, faster travel times and more comfort and convenience for passengers.

In the mid-2000's KCATA developed an innovative approach to BRT with the introduction of BRT operating along urban arterials in mixed traffic on the Main Street MAX line. Main Street MAX features

high-quality passenger amenities, branded BRT buses, real-time arrival information and a dedicated bus lane only for the peak weekday travel time in the peak direction (e.g. northbound in the AM and southbound in the PM). This BRT model did not require the construction of fully dedicated bus only lanes due to low levels of existing traffic congestion. This helped make the new BRT model even more cost effective for KCATA to implement while providing the fast and frequent service of BRT operation.

2.2 PROJECT VISION AND GOALS

At the outset of the *Independence Avenue BRT Planning and Feasibility Study* an Advisory Committee consisting of neighborhood leaders, business owners, residents and other key stakeholders was formed to help provide guidance and insight as plans developed. This group, along with feedback from the public, helped craft the vision for the future of the Independence Avenue corridor through the improvement of public transit services. The vision for the project would establish the Independence Avenue corridor as,

> ***"a vibrant, culturally diverse and cohesive corridor featuring safe, fast and environmentally-conscious mobility options that conveniently and efficiently connects people to jobs, businesses, tourist attractions and services by providing enhanced public transportation to residents and visitors."***

The initial task for the Advisory Committee was to assist the study team in defining the vison and goals for the Independence BRT study. The group identified six key goals for the BRT planning study:

- **Goal 1:** Develop recommendations to improve transit and mobility options along Independence Avenue to connect residents to employment opportunities, education, and essential services
- **Goal 2:** Support and strengthen current and future economic development along and around the Independence Avenue corridor
- **Goal 3:** Improve safety and security along Independence Avenue study corridor
- **Goal 4:** Enhance and highlight community character in BRT planning
- **Goal 5:** Improve environmental sustainability and support regional goals for improved air quality
- **Goal 6:** Develop a project eligible for federal funding to implement preferred alternative from BRT planning study

2.3 PLANNING HISTORY SUMMARY

The Independence Avenue corridor, from downtown Kansas City to Independence Square, has been the subject of several planning efforts over the last two decades. Many of these plans make recommendations relating to development of integrated transportation and facilities.

The *Independence Avenue BRT Planning and Feasibility Study* began by reviewing key planning documents to extract and synthesize the most relevant goals, visions and recommendations. These past planning efforts were used to guide the direction of the BRT planning study, considering what residents, business owners, transit riders and elected officials have determined to be their priority for the improvement of public transit in this corridor. The following provides a brief description of each plan that includes important outcomes related to public transit and how it impacts this BRT Planning Study.

2.3.1 FOCUS (1997)

Kansas City's current comprehensive plan, FOCUS (Forging Our Comprehensive Urban Strategy) adopted in 1997, has set many of the strategic priorities that have led to Kansas City's success and established a foundation for city-wide planning that continues today. Of the many critical areas addressed in the plan, mobility options for the city was a high priority focus. The plan stated that:

"The intent of FOCUS is to increase the ease of, and broaden the options for, moving about the city, and to create logical extensions of the existing transportation network...Many people will walk if there is a direct, continuous, safe, pleasant and secure pedestrian route for doing so. People will ride bicycles if they can do so safely. People use public transportation if it is convenient and pleasant and there are pedestrian connections between the transit stop and destination. People will use modes of transportation besides the automobile if the other modes provide reasonable alternatives. Moving about the city requires attention to, and integration of, many different ways of moving from place to place – called multimodal transportation." (FOCUS Kansas City Plan)

Many other targeted planning studies have been completed since this integrated multimodal transportation vision was adopted. The FOCUS Plan has been the guiding planning document for Kansas City for decades and helped create a more multi-modal transportation system for the city.

2.3.2 KC METROPOLITAN GREENWAY SYSTEM (METROGREEN) (2002)

MetroGreen Regional Greenway Initiative provides a greenprint for a metropolitan system joining urban and rural corridors throughout the seven-county Kansas City metro region. This plan was designed to protect and improve water quality and enhance the existing natural elements in the region. This plan was primarily based on the efforts of the seven counties and the municipal governments to:

- Promote extensive system of greenways, trails and open spaces
- Defines the environmental stewardship and urban growth management relationship and
- Articulates a future development strategy

The plan also proposes:

- Preservation and restoration of natural streamways and environmental resources
- Alternative modes of transportation modes to commute from home to work or school
- Increases awareness of recreational facilities
- Connects economic, cultural and historic destinations throughout the region

The plan was originally designed by George Kessler in 1894 and was revised in 1991 as ASLA Prairie Gateway Chapter. MARC made a great effort in 2001 to expand the 1991 vision plan called MetroGreen. MetroGreen enlarges upon original Kessler concepts and the 1991 Vision Plan by adding connections throughout the region and creating a system of green corridors and open space that will improve and enhance an eco-friendly and safe environment for all the residents and promotes their cohesive interaction. 24 Independence currently intersects with the planned MetroGreen trail in future Blue River Greenway. When this piece of the MetroGreen plan is constructed, efforts should be made to considered to link these mobility assets.

2.3.3 KC WALKABILITY PLAN (2003)

The Kansas City Walkability Plan was developed in 2003 to address a wide range of pedestrian issues in the city. This plan identified where pedestrian demand existed, examined the current pedestrian system, recommended pedestrian infrastructure improvements, established priorities for public investment in the pedestrian network and recommended changes for current codes, ordinances, standards and policies. The plan provided a systematic way to measure the quality of the pedestrian system in the community as defined below:

- **Directness** – The measure of distance between any origin and destination. A person is more likely to walk if the sidewalk network is direct and minimizes the travel time
- **Continuity** – Completeness of the sidewalk system and identifying gaps
- **Street Crossings** – These are the intersections of roads where pedestrians cross and interface with automobiles, which can result in safety concerns. Several factors like traffic control, width and number of lanes, travel speeds and traffic volumes affect the pedestrian comfort and safety
- **Visual Interest and Amenities** – The pedestrian system having a basic visual quality with basic amenities in the areas that are pleasing and appealing with activities along the route are used more often
- **Security** – Pedestrians require a sense of security, both through visual line of sight of others and separation from vehicles

The KC Walkability Plan made specific recommendations to improve the pedestrian system in the Independence Avenue area as summarized below:

- Create pedestrian connections to adjacent neighborhoods and within the study area that promotes safety, quality aesthetics, walkability and minimizes the existing road divisions
- Additional landscaping, widened walkways, sidewalk maintenance and better connection between area parks and activity centers

2.3.4 GREATER DOWNTOWN AREA PLAN (2010)

Greater Downtown Area Plan (GDAP) is one of the 18 area plans of Kansas City, Missouri, prepared for the downtown area which includes 14 diverse neighborhoods in Kansas City, Missouri geographically bordered by 31st Street on the south, North Kansas City on the north, State Line on the west and Woodland Avenue on the east. (**Figure 9**) This plan integrates the community values and core principles gathered through public input and technical analysis.

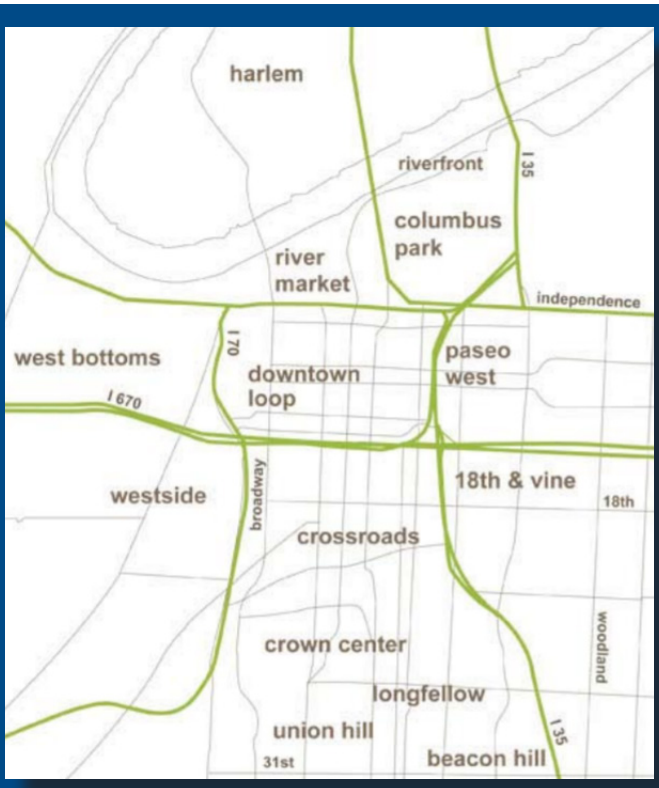


Figure 9: GDAP Area

The vision, goals, guiding principles and recommendations stated in this area plan are the result of intense public engagement and planning process which helped to identify and analyze challenges and opportunities in the Downtown Area.

The overarching goal in the aspect of transportation is to make walking the major mode of transportation in the downtown area. The recommendations related to transportation promote the following goals of the plan:

- **Double the population** – By creating a walkable downtown that is appealing to urban dwellers

- **Increase employment** – By providing a transportation system that supports existing development and encourages future growth
- **Create a walkable downtown** – By elevating the importance of walkability and providing strategies and infrastructure to ensure downtown is walkable
- **Retain and promote safe, authentic neighborhoods** – By promoting pedestrian activity, which creates more "eyes on the street"
- **Promote Sustainability** – By promoting alternative modes of transportation, increasing transportation options and decreasing dependency on single occupancy automobiles

Most applicable to the *Independence Avenue BRT Planning and Feasibility Study*, the following are the major transit recommendations in GDAP to ensure that public transit is frequent, reliable and safe:

- Develop transit alternatives that support Smart Moves plan
- Improve service to the areas where transit has been reduced
- Improve the quality of transit-related information system-wide as developed in MAX corridors
- Support, market and enhance connections to regional transit

2.3.5 KC PARKS AND BOULEVARD STANDARDS (2010)

The Boulevard & Parkway Standards guide was adopted by the Board of Parks and Recreation Commissioners in 2010. This document sets out standards and guidelines by type of roadway (boulevard, parkway, park roads and streets), with notations of design standards that apply to each type of roadway and generally differ from the general requirements used by the City of Kansas City Public Works Department. The City has over 135 miles of boulevards and parkways that were initially planned and developed in the late 1800's by George Kessler to link the fast-growing city with an interconnected system of attractive thoroughfares.

This report briefs the standards that are required by the roadways that are related to current Independence Bus Rapid Transit Planning and Feasibility. With the BRT study area, there are multiple parkways, boulevards, and other street types that are applicable to these standards as listed in **Table 3**.

Table 3: Boulevards and Parkways in Study Area

Type of Roadway	Roadway Name
Boulevards	Admiral Boulevard
	Benton Boulevard
	Grand Boulevard
	Independence Boulevard
	Prospect Boulevard
Parkways	The Paseo
Park Roads	Lexington Avenue
Park Streets	12th Street
	Locust Street

The standards detail materials that are acceptable for crosswalks, bicycle facilities, sidewalks, landscaping, lighting, design of transit facilities and many others that will need careful attention as the BRT study progresses. Related to transit stations the Boulevard and Parkways Standards states, "Transit stops are essential along all parts of the boulevard and parkways system. They should always be open air and fit into the environment or neighborhood they are placed. They should not all be the same and must offer some differentiating characteristics in a traditional style" (p.500-9). Design and color schemes must all be approved by the Parks Department Development Review Committee and then by the Park's Board of Commissioners.

2.3.6 HARDESTY RENAISSANCE PLANNING PROJECT (2011)

The former Federal complex located at the southeast corner of Independence Avenue and Hardesty Avenue is an 18-acre site with six buildings of 572,000 square feet of space located adjacent to the Kansas City Terminal Railroad. This was originally built in 1941 as Quartermaster's Depot and later served for many government purposes until 2002. Hardesty Renaissance Economic Development Corporation (EDC), a non-profit organization formed in 2011, bought the Hardesty Complex property that had been vacant for over 10 years with the following vision:

> ***"To revitalize the site: create new jobs and a destination that becomes a catalyst for redevelopment in Northeast KC, propelling into a sustainable place for all."***

Many plans are in development for various uses of the Hardesty Complex, like food hub for identified gaps in our region's food system and rehab which offers great space and employment for various tenants, operators and partners. This redevelopment, as shown in **Figure 10**, could bring a great amount of activity to the complex for the first time in decades.

Currently the Hardesty project is pursuing multiple development opportunities to revitalize the area. In 2017 the Hardesty Renaissance Economic Development Corporation (HREDIC) began the development of Building 11. When completed, this project will serve as a new regional education hub in partnership with Northwest Missouri State University. As this area redevelops, the KCATA should continue to seek partnerships to best provide high-quality and high-frequency multimodal transportation service to this site.

2.3.7 TRUMAN AREA PLAN (2012)

Truman Plaza area is one of the eighteen (18) geographic areas for which plans are prepared to implement the policies of the KCMO's planning and development plans like FOCUS. This plan reviews and analyzes existing conditions and recommends strategies to help the local community improve and thrive into the future.

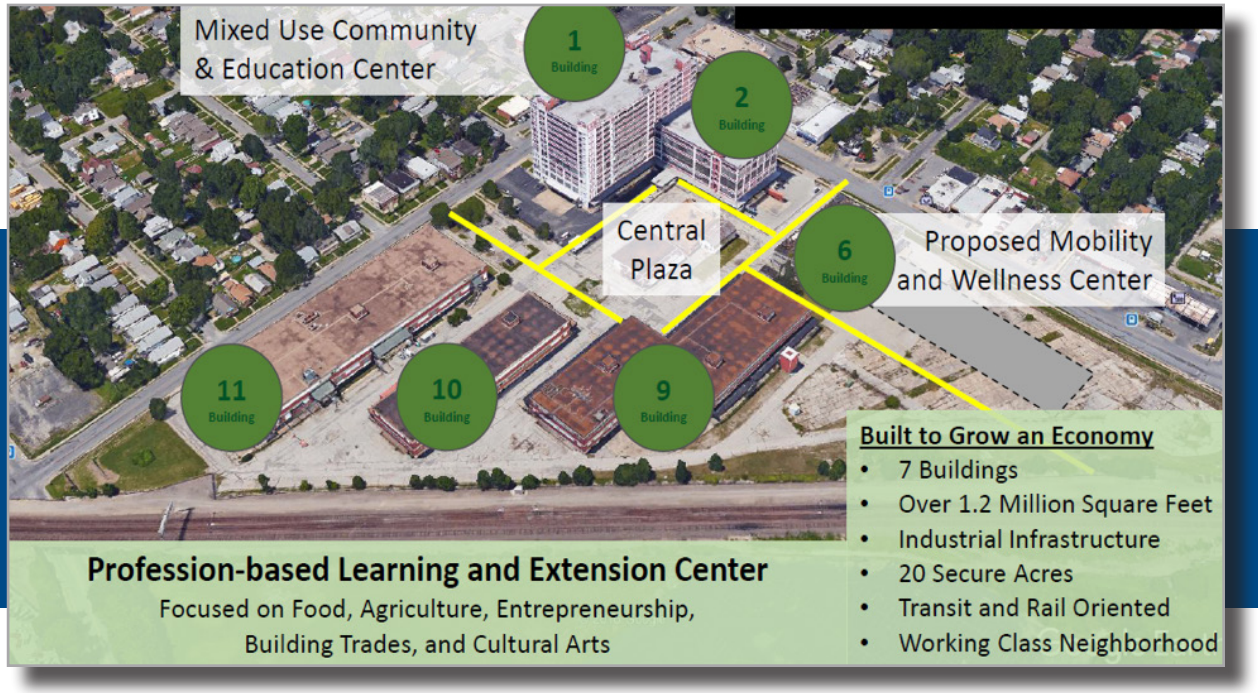


Figure 10: Proposed Hardesty Redevelopment Plan

The boundaries of the Truman Plaza area are illustrated in **Figure 11**. This plan represents the collective vision of the Truman Plaza area and reflect its diversity of neighborhoods, people, cultures, jobs, streets and institutions. This area is urban, socially and physically well-connected to the city's infrastructure, and its neighborhoods are dense, vibrant and have unique character.

Through extensive public workshops, steering committee meetings and the planning team's efforts, the city, plan participants, area stakeholders and residents together created the following vision statement to guide the future of the Truman Plaza area:

"Truman Plaza residents, businesses and stakeholders take pride in and promote their vibrant, self-sustained community which consists of diverse, safe, historic and affordable neighborhoods with easy access to area services, resources and jobs."

The following goals were developed to achieve and support the vision statement and serve as the core components of the plan on which recommendations and actions are based.

- Promote safe and clean neighborhoods and decrease the crime rates
- Promote Truman Plaza as the ethnic and cultural hub of Kansas City, Missouri
- Attract businesses and organizations that increase employment for area residents
- Capitalize on and encourage a walkable layout of the community and promote multi-modal transportation
- Emphasize, promote and protect the attractive and historic character of the area's neighborhoods and corridors

Figure 11: Truman Plaza Study Area

Table 4 summarizes the guiding principles and action steps made to achieve these goals specifically related to the *Independence Avenue BRT Planning and Feasibility Study*.

2.3.8 MARC COMPLETE STREETS GUIDEBOOK (2012)

The *MARC Complete Streets Handbook* was developed to serve as guide and reference for local communities in the region who wish to move forward implementing complete streets facilities and supportive policies. The purpose of the handbook is to help communities who may be at different stages of complete streets policy and/or facility implementation.

Table 4: Truman Plaza Area Plan Action Steps

Guiding Principles	Action Steps
Orient redevelopment and new development to facilitate the use of transit and multi-modal transportation.	Apply the concepts of transit-oriented development (TOD) along the primary transit corridors and near future transit stations. Independence is a primary transit corridor, and stops at Belmont & St. John and Hardesty & 24th are primary, due to the high number of boardings.
Modify the transportation system to ensure it serves all modes of transportation (Complete Streets or Livable Streets).	• Eliminate or reduce the negative impacts barriers have in the area. • Ensure any proposed transit addition meets the goals and follows the recommendations of this Plan.
Improve Pedestrian Access (Walkability).	• Pursue traffic calming in neighborhoods. Traffic calming techniques are used to slow down automobile traffic. One of the traffic calming includes Independence Avenue. • Add and/or improve crosswalks in key locations, as shown on the Proposed Connectivity Improvements Map (Map2). Primary and Secondary Pedestrian Intersections should receive the best (most enhanced) crosswalk treatments. Key locations on Independence Avenue for improved crosswalks include: Paseo to Woodland, Prospect, Benton, Wabash, Hardesty and Van Brunt.
Enhance the public transportation system locally and regionally to improve access and rideability.	• Ensure transit stops are equipped with adequate lighting. • Make it easier for people to know how to use the bus by increasing the availability of transit related information (maps, schedules, ticket purchasing locations, etc.) and market the recommended improvements. • Make aesthetic improvements to bus stops, so they are consistent in design and complementary to the architecture and character of the area.

Complete Streets are designed and operated to enable safe access for all transportation modes users, including pedestrians, of all ages and abilities. The goal of Complete Streets is to ensure the provision of safe facilities for all users. They can improve roadway efficiency and capacity for all users by moving more people in the same amount of space – reducing traffic so all modes work better which helps to create livable communities for all types of road users.

Many communities in the Kansas City region have already developed complete streets policies to provide safe and convenient facilities for all roadway users. **Table 5** summarizes the policies adopted by communities involved in current project in the Kansas City region.

The handbook highlights complete streets design standards and guidelines which help to describe various design tools. Its purpose is to help communities determine whether design modifications are warranted, and those that can help implement complete streets.

With respect to the current Independence BRT project, a community should consider the following design guiding principles:

- Designing with a variety of users in mind, spanning different modes, ages and abilities
- Being aware of local land uses and related activities
- Heightened priority on improving overall network connectivity
- There is no one optimal complete streets design or cross section
- A 'perfect' design should not be the enemy of a 'good' design
- Every time a street is retouched is an opportunity to improve it in some way for pedestrians, bicyclists, transit riders and motorists

Table 5: Complete Streets Policy Summary

Complete Street Communities	Date of Adoption	Policies Summary
Kansas City, MO	1/27/2011	• One of its aims is to promote active living and travel to create multimodal, sustainable communities. • The policy resolution is mostly general, mainly laying out definitions, most of which coincide with the National Complete Streets Coalition Best Practices.
Independence, MO	6/6/2011	• Policy aims to promote public health by encouraging walking, bicycling and active living. • Applicability includes design and construction of private and public improvement projects. • Adoptability is required for all public strategies plans, standards and regulations, and applies to development codes and the capital improvement plan. • Achievements are expected by incorporating elements through a series of improvements or activities over time.

2.3.9 KCATA COMPREHENSIVE SERVICE ANALYSIS (2012)

In 2012, KCATA undertook a comprehensive evaluation of its services to better provide a fast and efficient public transit service to its customers. The comprehensive system assessment consisted of:

- A market analysis that assessed the demand for transit service throughout Kansas City
- A detailed evaluation of the performance of all KCMO routes
- The development and evaluation of alternative service scenarios
- The recommended service changes

This process included a stakeholder input process through web input, meeting with public, city councilors and staff. Based on their input, initial recommendations are made with large number of changes in the existing transit route services which are designed to:

- Make service easier to use
- Make service easier to understand
- Make service more convenient
- More service faster and more direct
- Better match service to demand

Following are the recommended changes to the past service for then 24 Independence and 24X Independence Express routes. These recommendations were successfully implemented and are in effect on current transit services along the Independence BRT project corridor:

- **24 Independence** – All Independence service will begin and end at the Independence MetroCenter, and service would be rescheduled to provide clockface headways. Daytime Saturday service levels between downtown Kansas City and Winner Road/Brookside Avenue would also be reduced to every 20 minutes to better match service levels with demand.
- **24X Independence Express** – 24X Independence Express would be replaced with a new route 16 Truman Road, which would provide peak period service between Independence and Downtown Kansas City in a manner like existing 24X Independence Express, but with more convenient schedules.

2.3.10 INVEST NORTHEAST PLAN (2013)

The *Transportation System Priority Improvements Plan* within the Historic Northeast identified the following specific improvements through an inventory of existing transportation modes and routes, access barriers and current transportation system analysis:

- Improve modal connectivity
- Strengthen transit-oriented development
- Increase commerce and business investment
- Attract new employment
- Improve and address safety issues
- Increase attractiveness of the corridor and
- Enhance quality of life within the corridor

The specific transportation system priority improvements are identified primarily along the east-west corridors of Independence Avenue and 9th Street at Prospect Avenue, Benton Boulevard, Van Brunt Boulevard and Hardesty Avenue. The potential future transportation investment along Independence Avenue needs to interface and support the development of the surrounding opportunities in land use and coordinate with other elements. The *Invest Northeast Plan* also recommended that in the future all transit stops in the Independence Avenue corridor are provided with a shelter that incorporates consistent branding elements and have acceptable sidewalk conditions near all RideKC stop locations.

2.3.11 PASEO GATEWAY TRANSFORMATION PLAN (2013)

The purpose of the *Paseo Gateway Neighborhood Transformation Plan* (**Figure 12**) is to leverage the redevelopment of the 140-unit Chouteau Courts family public housing site–located on the north side of Independence Avenue between Forest Avenue and Lydia Avenue as a catalyst for the revitalization of the surrounding Paseo Gateway district. The plan aims to address the community's needs for housing, economic development, safety and quality of life improvements by building on existing assets and established of the community.

The planning area includes east of downtown Kansas City, the Chouteau Courts public housing site, and the neighborhoods of Pendleton Heights, Paseo West and Independence Plaza.

The stated vision for the Paseo Gateway plan is:

"The Paseo Gateway Neighborhood Transformation Plan seeks to develop a road map for supporting the quality of life for the district's diverse residents and to build a location of choice – one that is clean and safe, with high quality housing, great schools, walkable neighborhoods, quality public transportation and a range of services and jobs."

One major outcome of this plan has been the proposed redesign of the intersection of Paseo Boulevard and Independence Avenue. The redesigned roadway will incorporate new bicycle lanes along the east side of Paseo as well as along the north side of Independence Avenue, west of the intersection. The new configuration should shrink the footprint of the intersection and make turning movement from Independence to Paseo easier and safer. As BRT planning advances KCATA will need to remain in close coordination with the City of Kansas City and the KCMO Parks Department as this critical intersection's design evolves and is reconstructed.

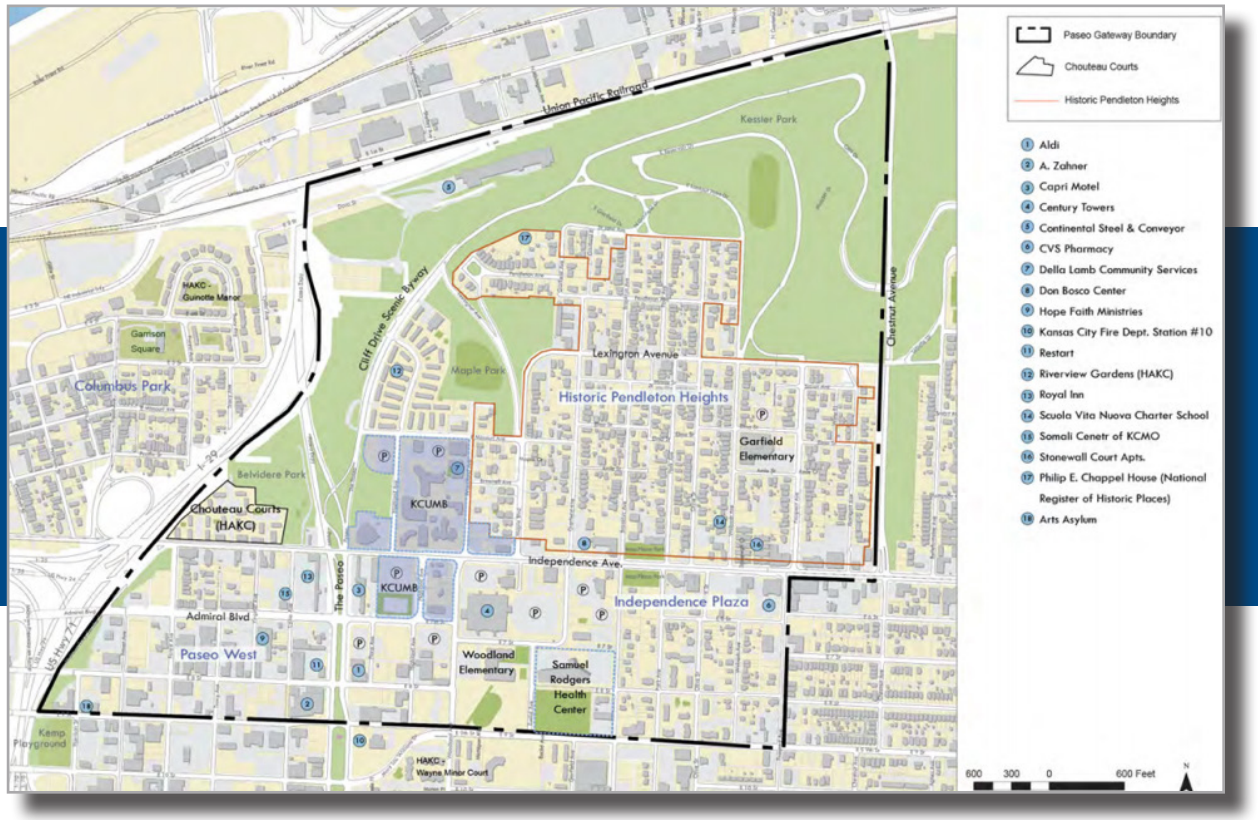


Figure 12: Paseo Gateway Area

2.3.12 NEXTRAIL KC PLAN (2014)

In 2014, the City of Kansas City conducted the *NextRail KC* streetcar expansion plan. This effort identified seven corridors for their potential to expand the 2.2-mile downtown streetcar starter line these corridors included:

- Independence Avenue
- 12th Street
- 18th Street
- Southwest Boulevard
- Linwood Boulevard/31st Street
- Main Street (south)
- Country Club Right of Way

Each of these corridors were evaluated based on estimated capital cost, projected ridership, potential to receive federal funding, economic development and social equity. Through this analysis three corridors were selected to advance in to conceptual engineering for more detailed analysis. One of these three was the Independence Avenue corridor.

The proposed alignment as depicted in **Figure 13** was envisioned to connect to the streetcar starter line at the intersection of 3rd Street and Grand Boulevard in the River Market District and proceed east along 3rd Street, connecting to the Independence Avenue corridor via the Columbus Park Neighborhood. The planned Independence Avenue streetcar extension would terminate at Benton Boulevard. The 2.2-mile Independence Avenue streetcar extension was planned to be curb running and operate in mixed-traffic. Ridership on weekdays was estimated in a range between 2,300-5,200 (depending on varying operating plan assumptions). Total capital cost for this streetcar extension was estimated at $142.5 million in 2019 dollars. The NextRail study identified station locations for a future Independence Avenue streetcar extension. These station intersections included:

- On Independence at 5th
- On Independence at Harrison
- On Independence at Tracy
- On Independence at Highland
- On Independence at Brooklyn
- On Independence at Prospect
- On Independence at Benton

In 2014 a package of streetcar extension corridors that included Independence Avenue, Main Street (south to the Plaza) and the Linwood/31st Street corridor was put on the ballot for Kansas City voters within a potentially new Transportation Development District (TDD). This ballot initiative to expand streetcars along these three corridors was unsuccessful in gaining support needed from voters.

Figure 13: Next Rail Study Proposed Independence Ave. Alignment

Source: NextRail KC Expansion Plan, 2014

2.3.13 FAIRMOUNT BUSINESS DISTRICT PLAN (2017)

The City of Independence created the *Fairmount District Area Plan* to encourage redevelopment, renew energy, safety and excitement for the historic neighborhood. This plan was funded through Planning Sustainable Places Program (PSP) which was one of the nineteen (19) regional projects selected to support and advance detailed local planning and project development activities for the creation of vibrant and connected places with a variety of transportation options and green places that support healthy living and natural environment. The plan desired to accomplish the following overall goals:

- Equitably engage the Fairmount community and neighbors
- Create a plan for all forms of transportation, considering MoDOT requirements
- Create pedestrian connections throughout the area eliminating public safety hazards
- Create streetscape enhancements to improve the overall pedestrian experience
- Protect and restore the natural resources
- Facilitate revitalization efforts in the Fairmount District and surrounding neighborhoods

The Fairmount study area is generally along the US 24 Highway corridor in northwestern Independence from Wilson Road to Sterling and includes the commercial areas and neighborhoods to the north and south of the highway. The plan noted difficulties for transit users, pedestrians and cyclists due to the wide, five lane configuration of 24 Highway and recommended that wider sidewalks and protected bike lanes should be incorporated along this corridor to improve multimodal connectivity, pedestrian experience and overall safety. The Fairmount plan also identifies the need to improve public transit stops and accommodations, with new bus stops identified far side in both east and west bound directions at a reconfigured South Ash Street.

2.3.14 SMART MOVES 3.0 (2017)

The Smart Moves Plan was originally initiated as a 20-year plan designed to increase transit service in the Kansas City region. The vision for Smart Moves states;

> ***'Smart Movies imagines a Kansas City region with viable mobility solutions for empowered residents, successful businesses and vibrant communities.'***

The first Smart Moves plan was adopted in 2005 with a new policy direction for transit and paratransit services which is largely a bus-based plan and was successfully implemented by the completion of the MAX BRT service on Main Street along with many other local and regional milestones. In response to the increasing interest in regional transit services, the Smart Moves plan was revised and updated in 2008 with extensive public and technical input. The Smart Moves Plan was successful in identifying critical corridors across the region and made recommendations for service needed improvements and set conceptual service standards in terms of headway, span of service and minimum days and hours of service.

The third version of the Smart Moves Plan (Smart Moves 3.0) was adopted in 2017 and serves as the regional blueprint for implementation of a new and improved transit and mobility system. This plan will be used to guide the development of new projects and initiatives that seek to:

- Increase the number of jobs accessible by transit and mobility services
- Increase ridership of transit and use of other mobility options
- Increase development/redevelopment along high-capacity corridors and near mobility hubs
- Increase availability of customer information and resources through technology

- Increase funding for transit and mobility services
- Decrease greenhouse gas emissions and other transportation-related pollutants

This new version of the plan specifically encourages and aims to develop network of "mobility hubs" connected by efficient and effective fixed route transit, emphasizing on job access and the integration of transit-oriented development concepts. As seen in **Figure 14** the Independence Avenue corridor is included as part of the "fast and frequent network" that should support 15-minute headways or better. Two potential mobility hub locations are identified along the Independence Avenue BRT study area, with one near Independence and Woodland and the other at the Independence Transit Center.

Figure 14: Smart Moves Fast and Frequent Network

Implementation of MAX BRT service along the Independence Avenue corridor would continue progress toward achievement of the vision and goals established in the Smart Moves 3.0 plan that would improve transit service on key corridor, increase regional mobility options, improve the environment, and create further opportunities for economic development.

2.3.15 INDEPENDENCE AVENUE PEDESTRIAN SAFETY IMPROVEMENT STUDY (2018)

The *Independence Avenue Pedestrian Safety Improvement Study* is a significant planning study concluded in the winter of 2018. This study was initiated by the City of Kansas City, in coordination with MARC, and a Steering Committee of stakeholders. The study area includes the five miles on Independence Avenue between Forest Avenue on the west and Ewing Avenue on the east. This study supports the vision of the newly created Independence Avenue Special Character Overlay District and aims to move the transportation recommendations of the Invest Northeast Plan forward.

Based on community feedback and analysis gathered throughout the process from public meetings, social media, online survey options and other public events, the study team arrived at a series of goals, strategies and recommended improvement projects for the study corridor. These are summarized below.

<u>Goals for improved pedestrian safety include:</u>

- Meet the transportation needs of all corridor users
- Recognize that the future corridor should include:
  - Safer crossings
  - Safer routes to school
  - Bicycle accommodations
  - A reconnected street grid
- Improve the look and feel of the corridor while respecting its unique character
- Provide smaller-scale projects that can be completed quickly as well as major improvements
- Enhance economic development activity

Strategies for achieving the goals include:

- Eliminating sidewalks gaps
- Installing traffic-calming mechanisms
- Applying specific interventions to targeted Pursuing Federal funding and Safe Routes to School Program dollars
- Developing standardized intersections
- Managing vehicular access
- Being sensitive to maintenance and upkeep needs

To accomplish these goals and strategies along all other major transit corridors, the following are the key projects recommended for the future:

- Road diet on the Independence Avenue corridor with a new separate bike lane that connects to bicycle accommodations planned with the Paseo Gateway and the Lexington/Gladstone bikeways projects
- Addition of short and long medians with landscaping and pedestrian refuge areas between Paseo Boulevard and Benton Boulevard
- Installing curb extensions and islands at the un-signalized intersections
- Targeting specific major intersections on Independence Avenue corridor mentioned below for pedestrian safety improvements:
  - Paseo Boulevard
  - Woodland Avenue
  - Olive Street
  - Prospect Avenue
  - Myrtle Avenue
  - Van Brunt Boulevard
  - Denver Avenue
  - Hardesty Avenue
  - Topping Avenue/Wilson Avenue
- Continued coordination with RideKC for the new proposals and implementation of the future transit projects

Public transit needs were an important component to the Pedestrian Safety Study. According to RideKC, the highest average weekday boarding volumes occurred on Independence Avenue at Woodland Avenue, Prospect Avenue, Topping Avenue and White Avenue stops served by 24 Independence. The Wilson Road and Winner Road stops independently average 300 – 500 daily boardings. Other high boarding stops include Woodland Avenue and Prospect Avenue, with average daily boarding activity of 100 – 300 passengers. At this high pedestrian usage areas, the plan recommended improvements to Independence Avenue that included the construction of a center island median as a pedestrian refuge area and building 'bulb-outs' along the curbs near intersections. This would help to slow auto traffic and shorten the street crossing distance for pedestrians. Other, more capital intensive recommendations to improve pedestrian safety included:

- **Van Brunt Boulevard**: Realign the south leg of Van Brunt Boulevard to line up with the north leg. The wide median would be relocated to the east to provide a community space for the neighborhoods.
- **Hardesty Avenue**: Utilize existing right-of-way and add an exclusive right-turn lane for northbound traffic. Separate the northbound shared left-through lane into exclusive left lane and through lane.
  - Add a southbound left turn lane to obtain satisfactory operational levels on Hardesty Avenue. This will require right-of-way acquisition and needs to be analyzed in greater detail than permitted with the current study.

- **Topping/Wilson Avenue**: Eliminate the stairs on the sidewalk west of the railroad bridge. Realign Topping Avenue by curving it east to form a standard T-intersection at Wilson Avenue to prevent the perception of a free right turn. Construct a new sidewalk on the south side of Wilson Avenue to tie into the sidewalk on the north side of Independence Avenue. Doing so will provide greater pedestrian access to the neighborhood northwest of this intersection.

2.3.16 BIKE KC PLAN (2019)

The City of Kansas City is currently developing a new city-wide bicycle master plan, Bike KC. The plan will identify specific corridors to receive bicycle facilities and varying types of bicycle facilities to be incorporated onto existing roadways. At the time of the *Independence Avenue BRT Planning and Feasibility Study*, the final KCMO Bicycle Comprehensive Master Plan was not complete. The city was able to identify Independence Avenue, from Paseo to the eastern city limit with the City of Independence, as a 'Major Projected Bicycle Facility'. Through the BRT planning process coordination with KCMO planning staff determined how best to incorporate this new bicycle facility and a future high capacity/high frequency BRT service in the Independence Avenue corridor. Other streets with planned bicycle facilities from this plan will intersect the Independence Corridor at Paseo Boulevard and Benton Boulevard.

3.0 INDEPENDENCE AVENUE STUDY AREA OVERVIEW

3.1 INDEPENDENCE AVENUE CORRIDOR STUDY AREA

The study area for the *Independence Avenue BRT Planning and Feasibility Study* is presented in **Figure 15**. The study area is approximately twelve (12) miles in length from the west side of the downtown 'loop' in Kansas City, to a half-mile past the historic downtown square in Independence, Missouri. Along Independence Avenue, the study area extends roughly one-half mile north and south within Kansas City municipal boundaries. In the downtown core of Kansas City, the study area encompasses the River Market, Central Business District (CBD), Crossroads, and Crown Center area. Within the City of Independence, the study area extends one-half mile north of U.S. 24 Highway and one-half mile south of Winner Road. The one-half mile buffer surrounding the Independence Avenue corridor was established because one-half mile represents a ten-minute walk. The ten-minute walkshed is typically recognized as the greatest distance the average person is willing to walk to access a transit route.

To examine this large study area in greater detail, the area was divided into three subsections that shared common characteristics in terms of land use, population density, socioeconomics and other factors. The three subareas are:

- **Downtown Kansas City Area** – Paseo, west to the I-35 corridor and River Market to Crown Center
- **Independence Avenue Core Area** – Independence Avenue corridor within Kansas City
- **City of Independence Area** – Eastern portion of the study area within the City of Independence

The Independence BRT Planning and Feasibility Study Area is one of the most diverse in the entire Kansas City metropolitan region in terms of racial and ethnic makeup, languages spoken, and socioeconomics. Today there are over fifty (50) different languages spoken in the area and over twenty-percent (20%) of the population is foreign-born.[1] The neighborhoods surrounding the

[1]**Truman Plaza Area Plan. P. 7.** https://data.kcmo.org/Area-Plans/Truman-Plaza-Area-Plan/9bjb-jqeh/data**. January 5, 2012.**

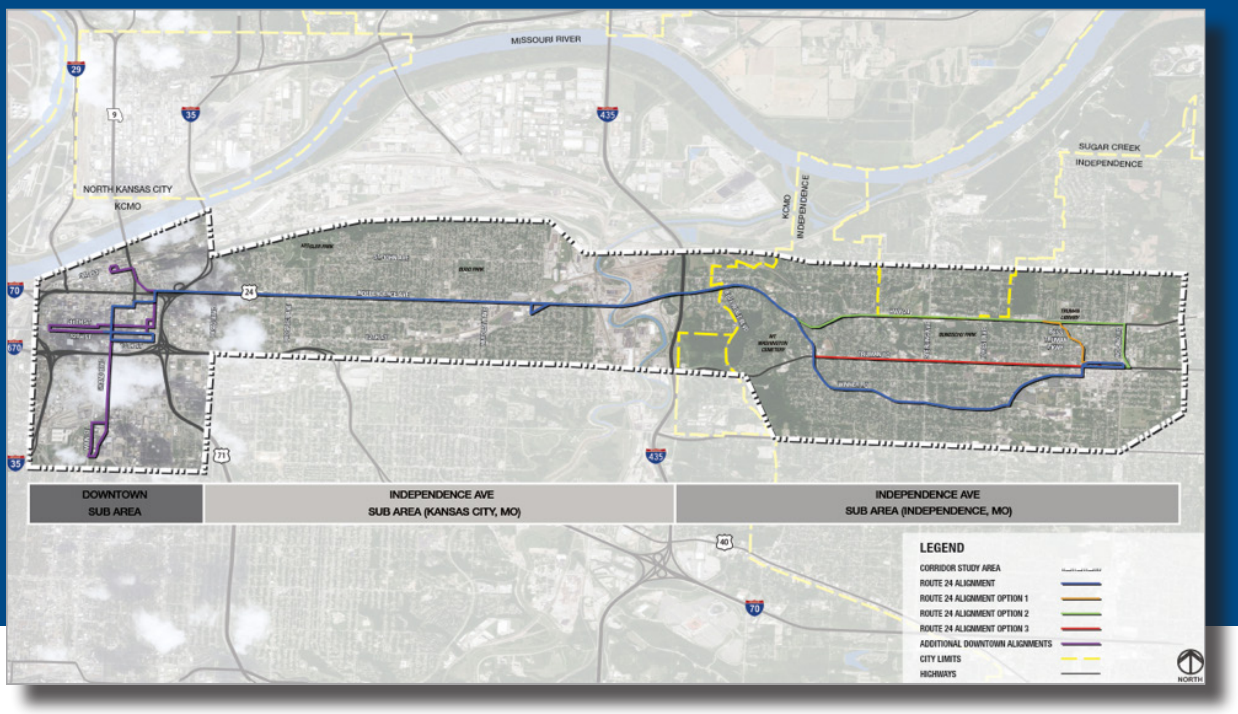


Figure 15: Independence Avenue BRT Study Area

Independence Avenue subarea include Pendleton Heights, Forgotten Homes, Independence Plaza, Scarritt Renaissance, Lykins, Indian Mound and Sheffield and are some of the oldest and most historic in Kansas City.

This section analyzes many of the most significant demographic characteristics that have been found to have an impact on public transit usage some of which include population density, auto ownership and poverty. This section also details the racial and ethnic composition of the area and details the various languages that are spoken within this this diverse study area.

3.2 DEMOGRAPHICS AND SOCIOECONOMIC ANALYSIS

To better understand the composition and context of the community within the *Independence Avenue BRT Planning and Feasibility Study* area, current demographic was assessed. The following section summarizes the analysis to the demographic analysis. Information was assessed at the block group level for all following maps in this section. Data used in the analysis was sourced from the United States Census Bureau's American Community Survey 5- Year Average (2012 – 2016).

The *Independence Avenue BRT Planning and Feasibility Study* area is home to several unique and distinct neighborhoods. **Figure 16** displays these historic neighborhoods.

3.2.1 POPULATION AND EMPLOYMENT DENSITY

Population and employment density can have some of the greatest influences on the utilization of public transit services. According to a recent KCATA/ RideKC survey of passengers, 45 percent[2] of current transit riders use the service to get to and from work. Because of this, it is especially important to analyze where areas of high employment densities

[2] KCATA 2017 Customer Survey, Rider Profile, p. ii. KCATA/ETC Institute. May, 2017.

exist and connect those places as directly as possible with public transit services.

The total population of the study area is 86,784 according to the most current information available (ACS 2012-2016 Fiver-Year Estimates) from the U.S. Census Bureau. **Figure 17** displays the population densities of the study area. Census blocks with the greatest density are located along the Independence Avenue corridor from the Blue River, west into the downtown subarea. While this area has the greatest densities of the study area, it has also experienced the greatest population decline since 2010 as seen in Figure 18. The areas of greatest density in the study area are from approximately White Avenue in Kansas City, west along Independence Avenue into the Central Business District. Population density drops east of Interstate 435 and into the City of Independence.

Figure 18 displays areas of population gain and loss between 2010 and 2015. Areas of population growth are shown in green and areas of decline are shown as red. Overall, the study area experienced a population decline of 5,368 people in the five-year period, while the Kansas City Metropolitan Statistical Area (MSA) recorded population growth of 81,803 new residents. Most of the census blocks along Independence Avenue in Kansas City have experienced population loss. The areas of greatest population gain are in the River Market, CBD, Crossroads and Crown Center areas. Within the City of Independence, population growth generally occurred in the census blocks between U.S. Highway 24 and Truman Road.

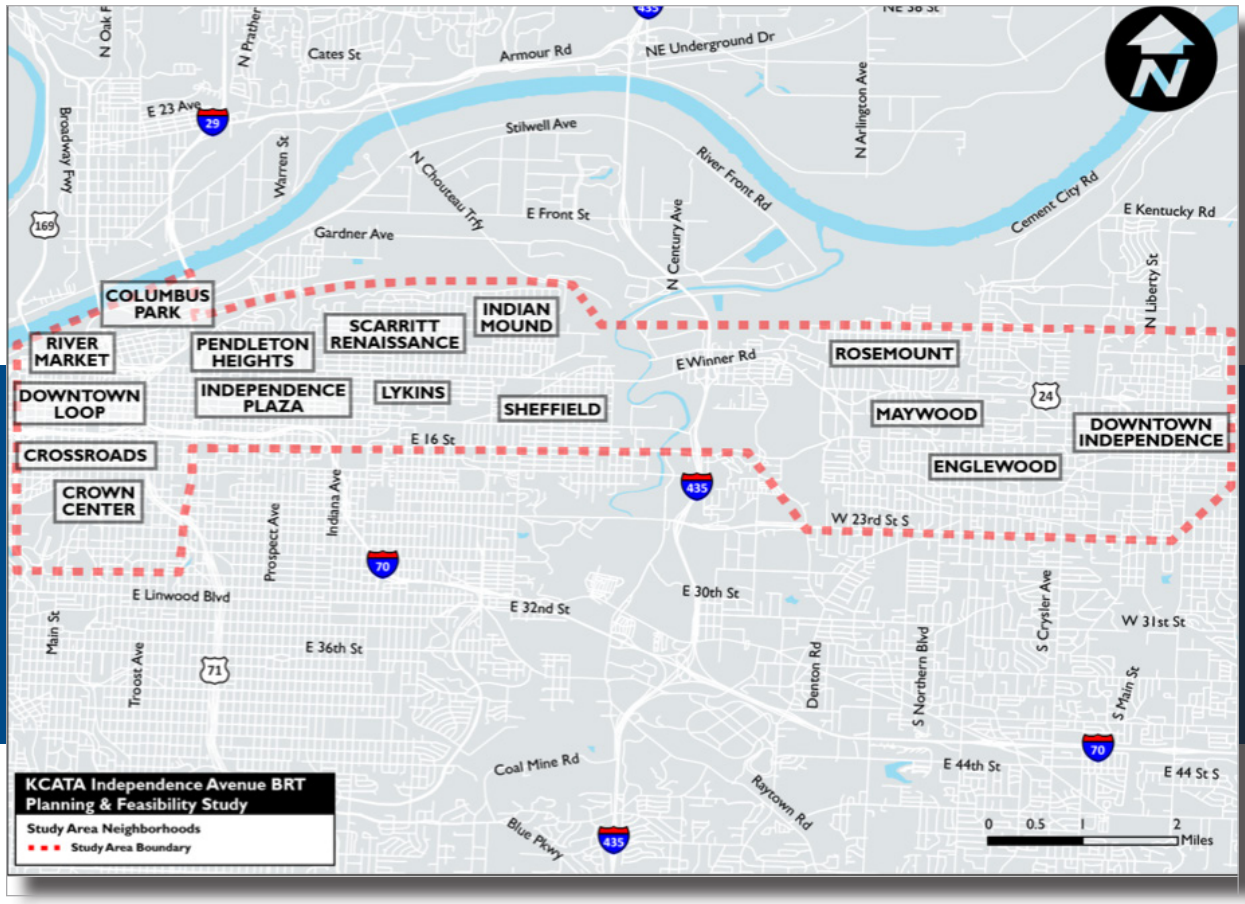


Figure 16: Study Area Neighborhoods

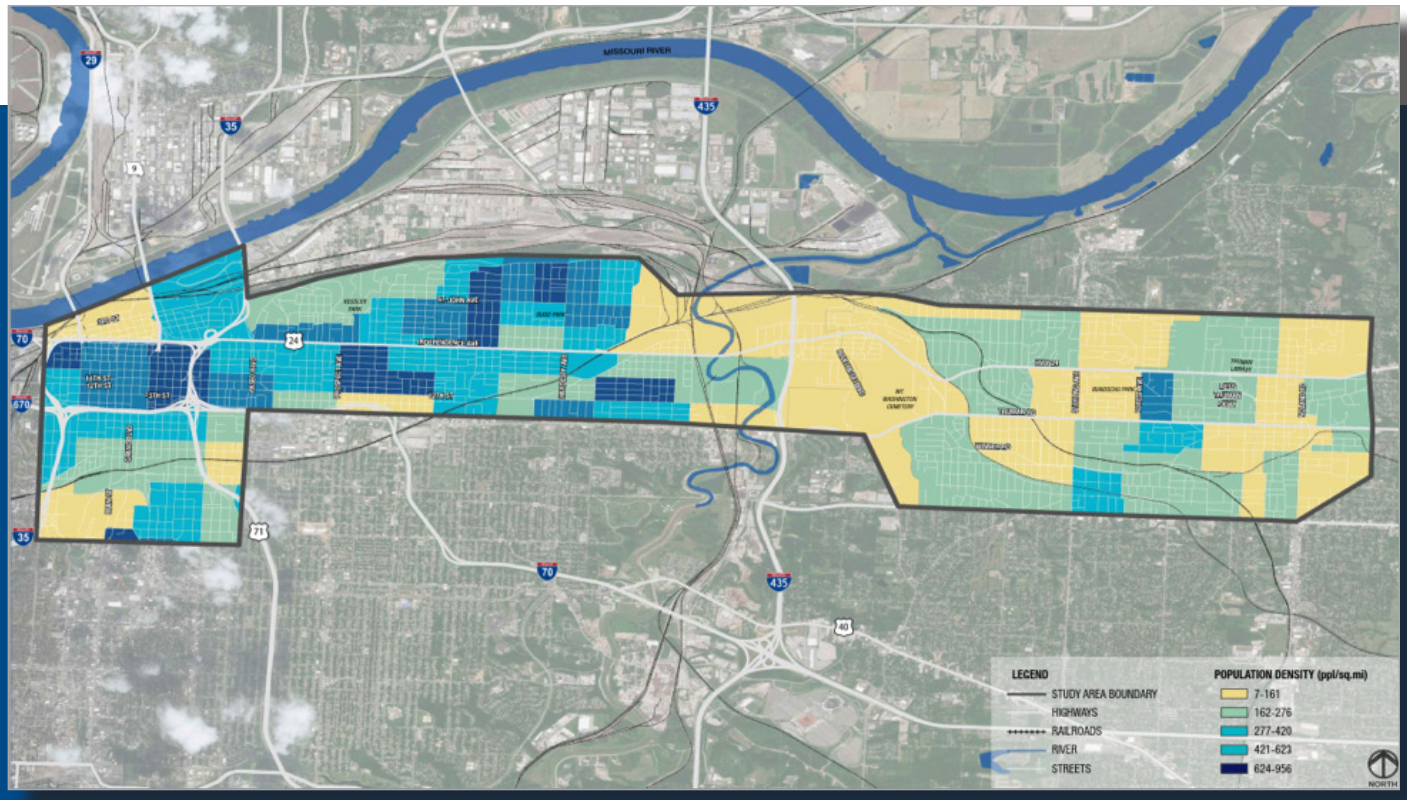
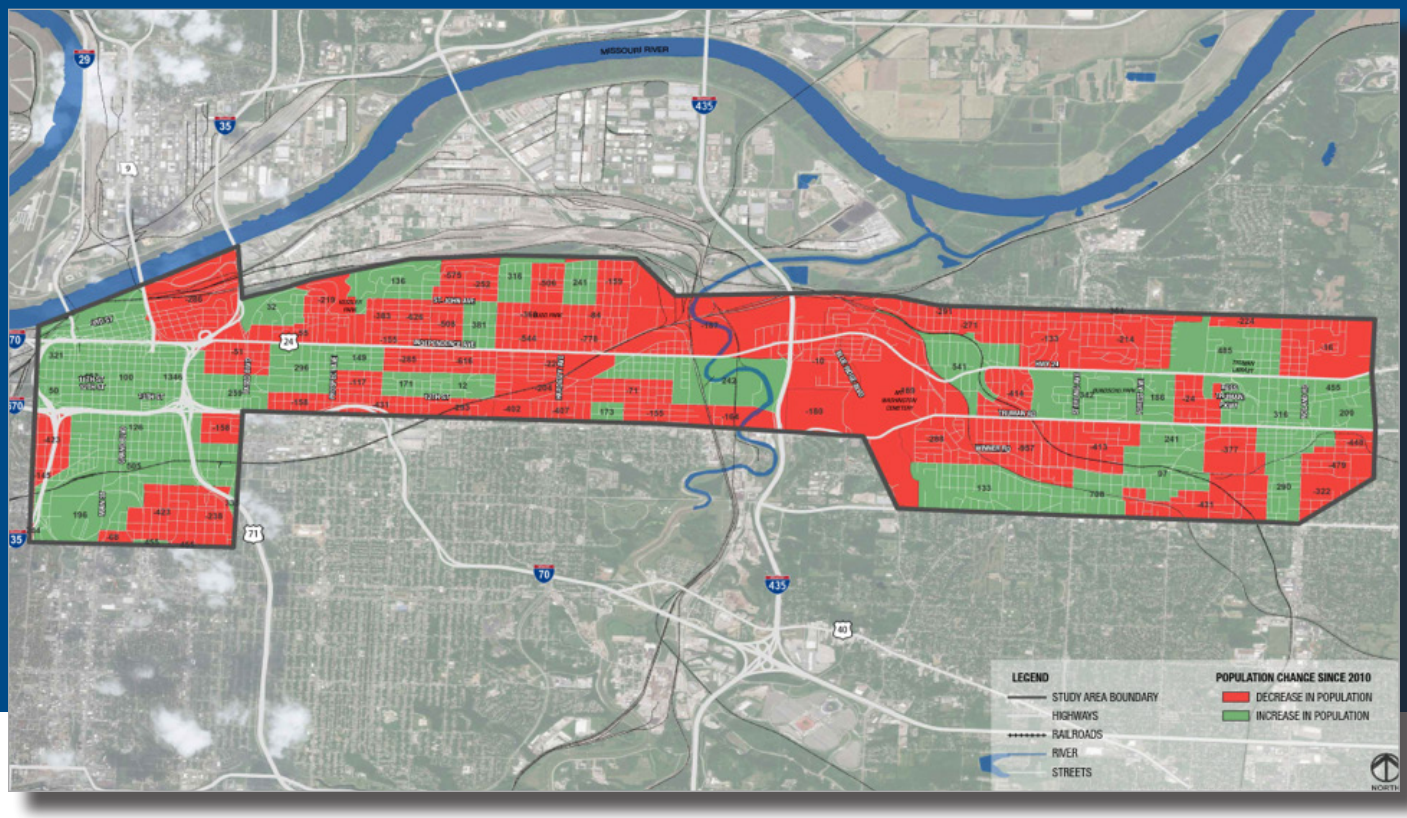


Figure 17 (above): Population Density

Figure 18 (below): Population Change 2010-2015



Employment density is illustrated in **Figure 19**. From this analysis, the highest concentration of jobs in the study area is found in the CBD and the Crown Center / Hospital Hill areas.

Within the CBD, the Government District includes City Hall, Jackson County Courthouse and the Richard Bolling Federal Building located near East 12th Street and Locust Street. Crown Center is headquarters to Hallmark Greeting Cards as well as multiple legal and other professional service firms and is located near Grand Boulevard and Pershing Road.

The Hospital Hill area is home to three major medical facilities: Truman Medical Center, Children's Mercy Hospital and the University of Missouri-Kansas City Schools of Medicine and Dentistry. Hospital Hill is located directly east of Crown Center. Hospital Hill is generally bounded by Gillham Road on the west, East 22nd Street to the north, Troost Avenue on the east, and East 25th Street on the south. Overall, Hospital Hill has the highest concentration of employment in the study area.

3.2.2 POPULATION RACE, ETHNICITY, AND LANGUAGES SPOKEN

As noted previously, the neighborhoods surrounding the Independence Avenue corridor in Kansas City are some of the most diverse in the metro region. **Figures 17 through 24** detail the racial, ethnic and linguistic diversity within the study area.

Table 6 provides comparative numbers for the Independence Avenue Study Area and the Kansas City MSA. Within the study area 60.2 percent of residents are white with 39.8 percent identifying as minority. For the Kansas City MSA the percent minority is 21.1 percent. The population of the Independence Avenue study area has a minority population that is 18.7 percent higher than the region.

Of the minority groups residing in the study area, African Americans and Hispanics are the largest minority groups represented. African Americans comprise 18.9 percent and Hispanics are 23.4 percent of the study area population. As seen in **Figure 21** and **Figure 22**, African American populations generally reside further west in the study area, near Independence Avenue and Paseo Boulevard, and Hispanic populations largely

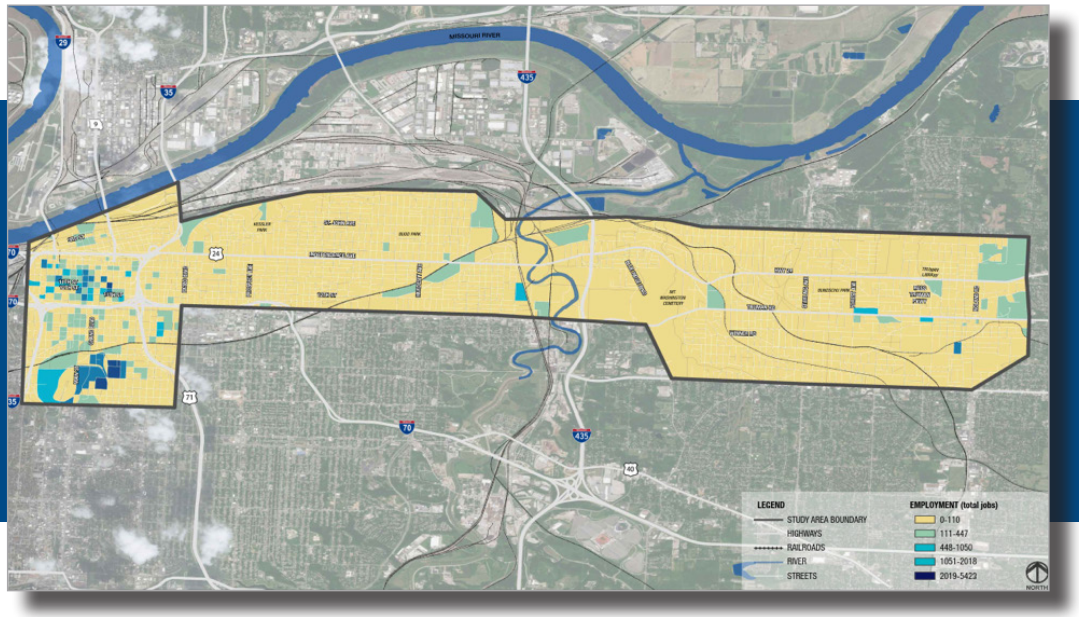


Figure 19: Employment Density

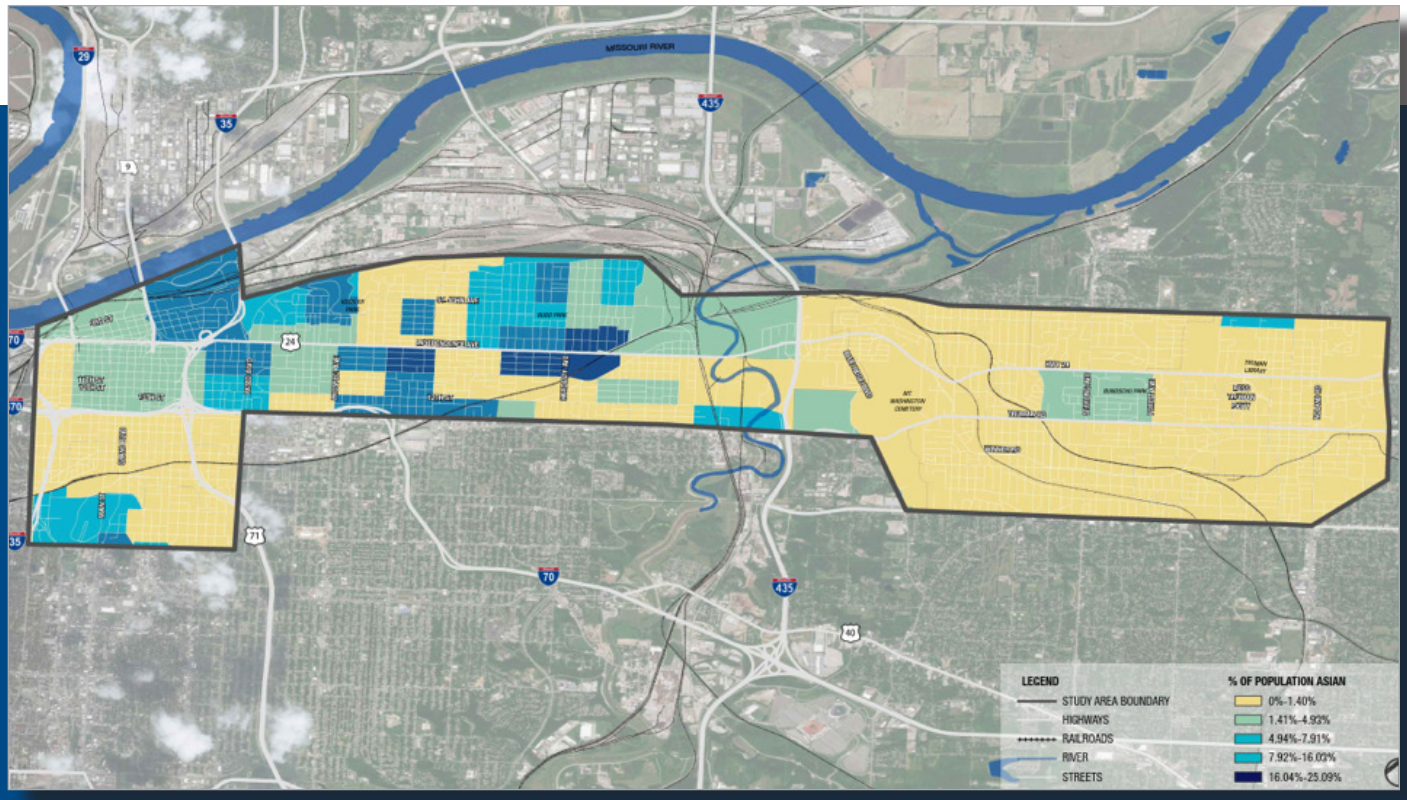


Figure 20 (above): Percent of Population Asian

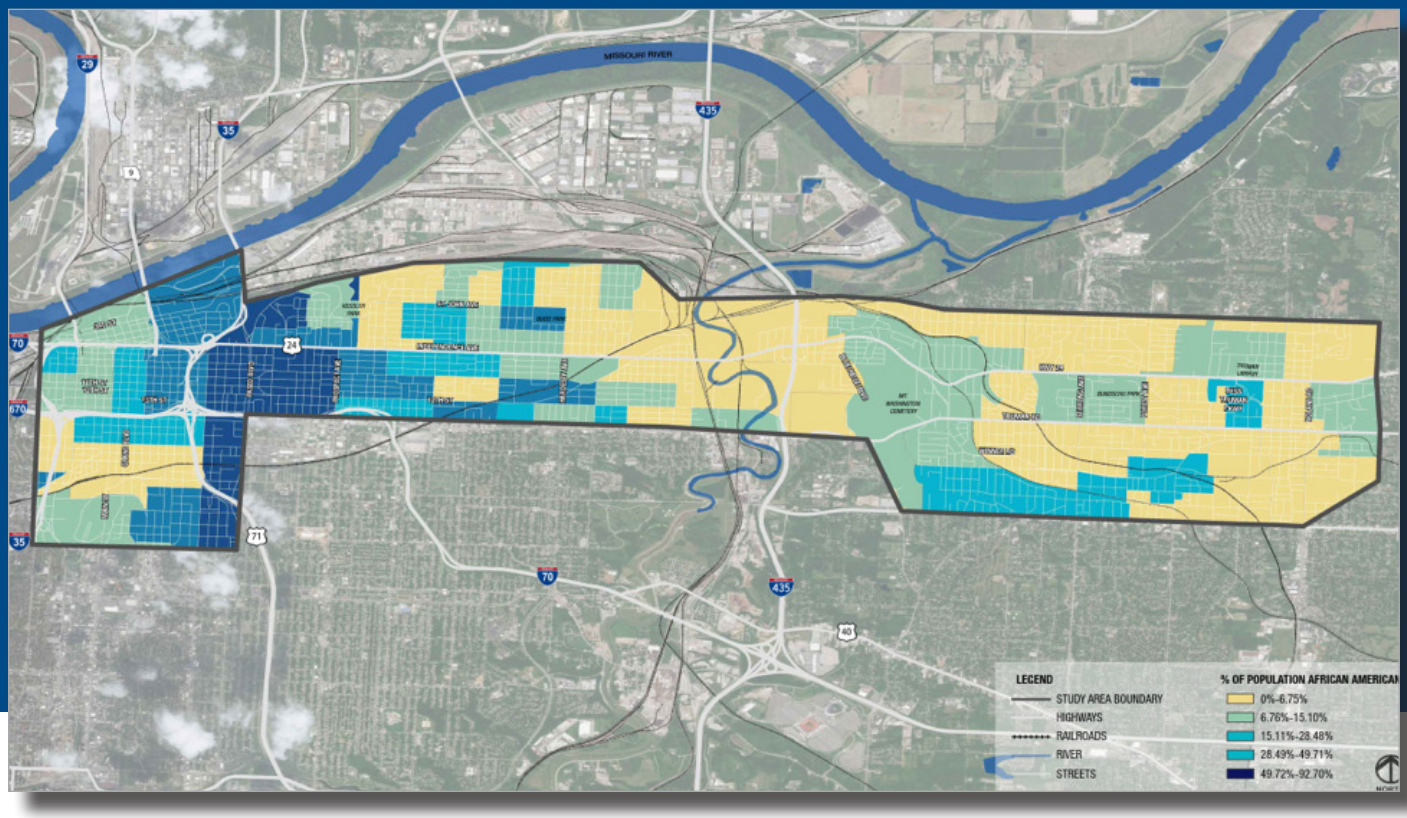


Figure 21 (below): Percent of Population African/American/Black

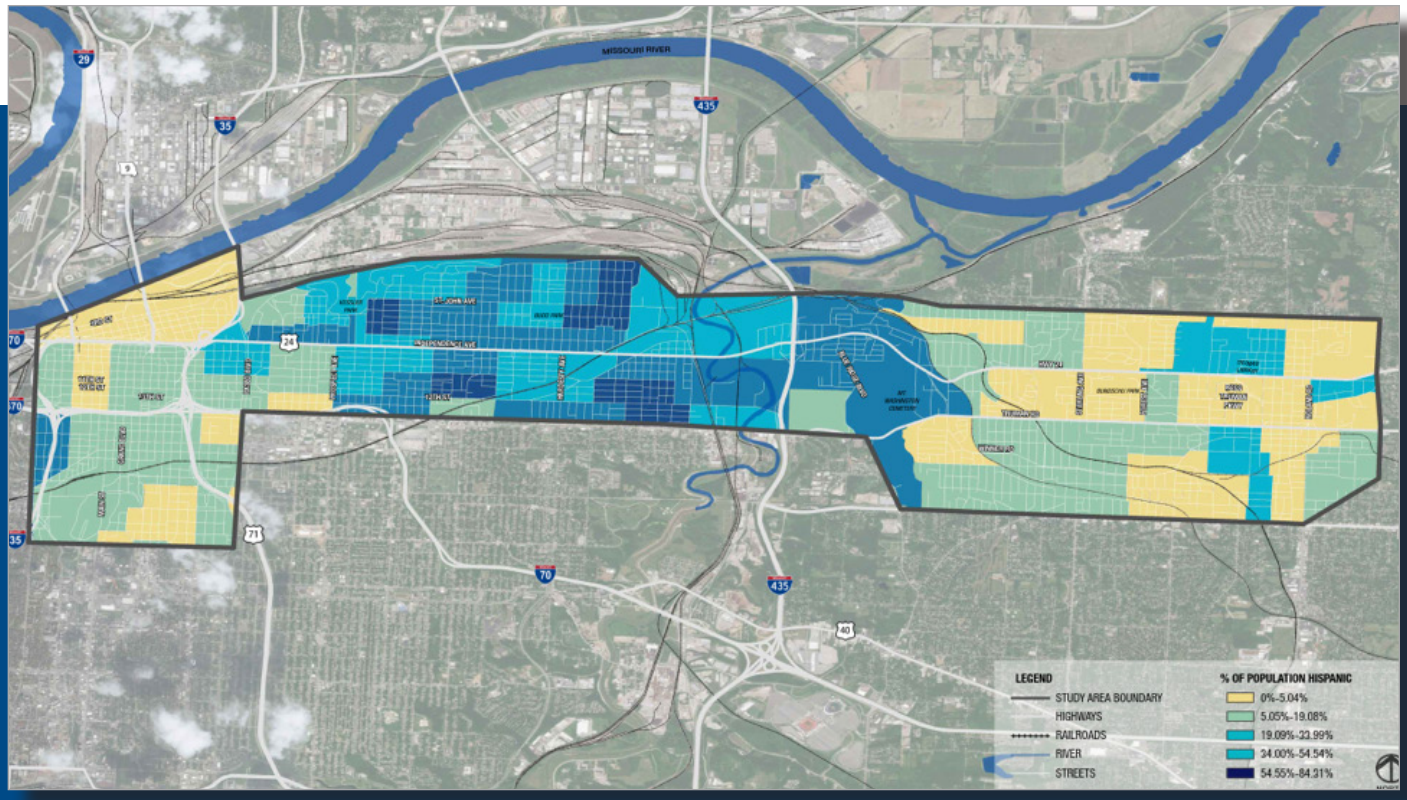


Figure 22 (above): Percent of Population Hispanic

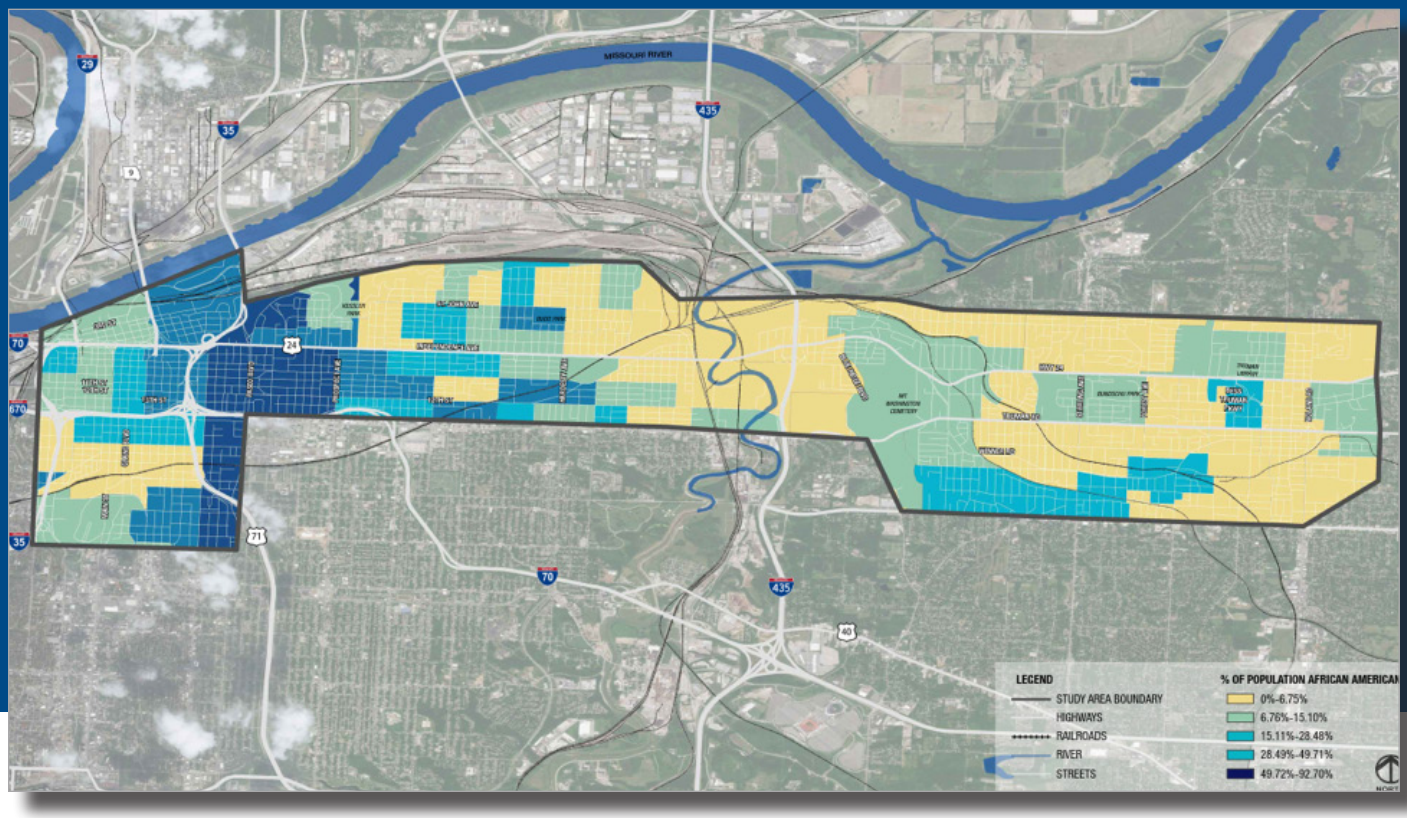


Figure 23 (below): Percent of Population White

reside in the central portion of the study area. The Independence Avenue study area also has a highly diversified number of languages spoken. The highest number of houses using various languages are displayed in **Figure 24** through **Figure 27**. In the Kansas City MSA, 81.5 percent of households speak English as the primary language. In the Independence Avenue study area, only 62.3 percent speak English, 19.2 percent lower than the region. The predominate, non-English language spoken in the study area is Spanish, 12.8 percent of households in the study area speak Spanish as its primary language, 7.8 percent higher than the MSA. Generally, the highest concentration of Spanish speaking households is in the central portion of the study area. This aligns closely with the location of Hispanic populations in **Figure 22**. The highest concentrations of English speaking households are located at the eastern and western ends of the study area.

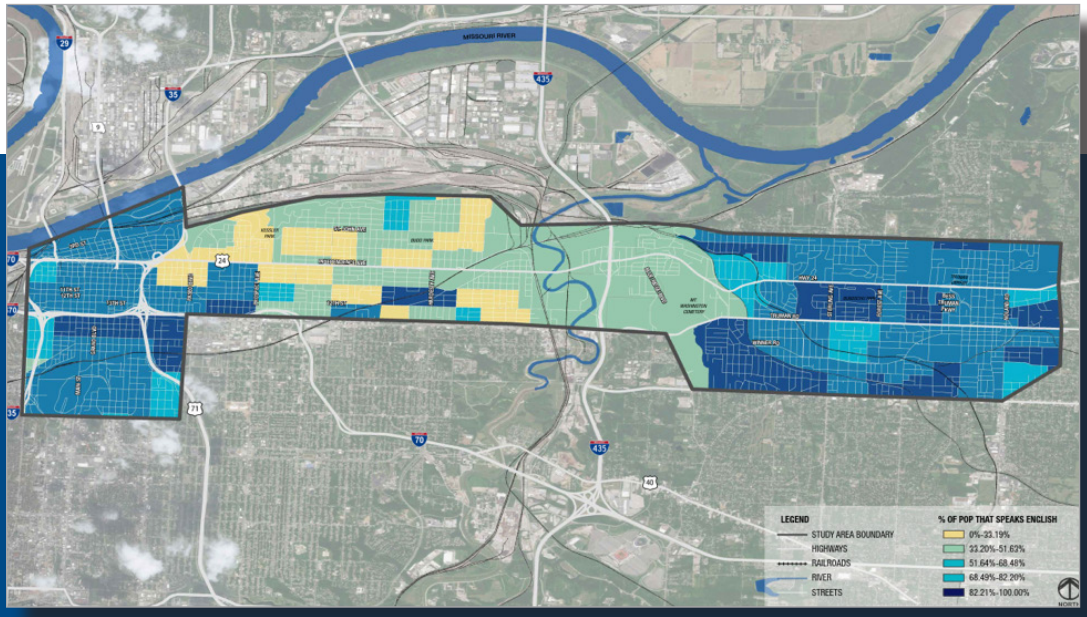


Figure 24 (left): Percent Population Speaks English

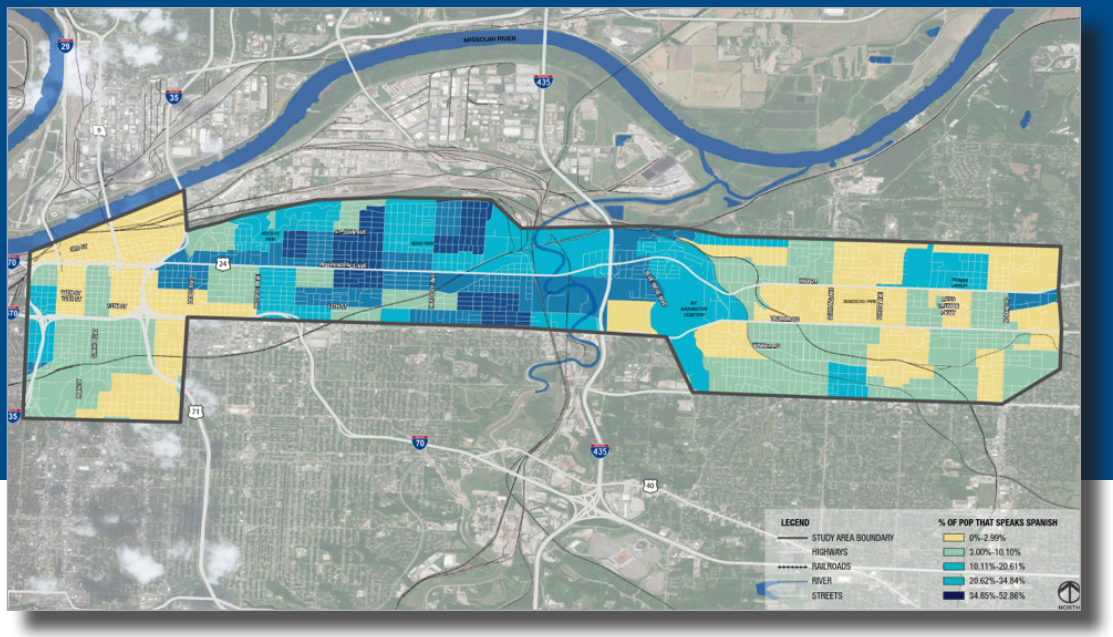


Figure 25 (right): Percent Population Speaks Spanish

Figure 26 (below): Percent Population Speak Indo-European Languages

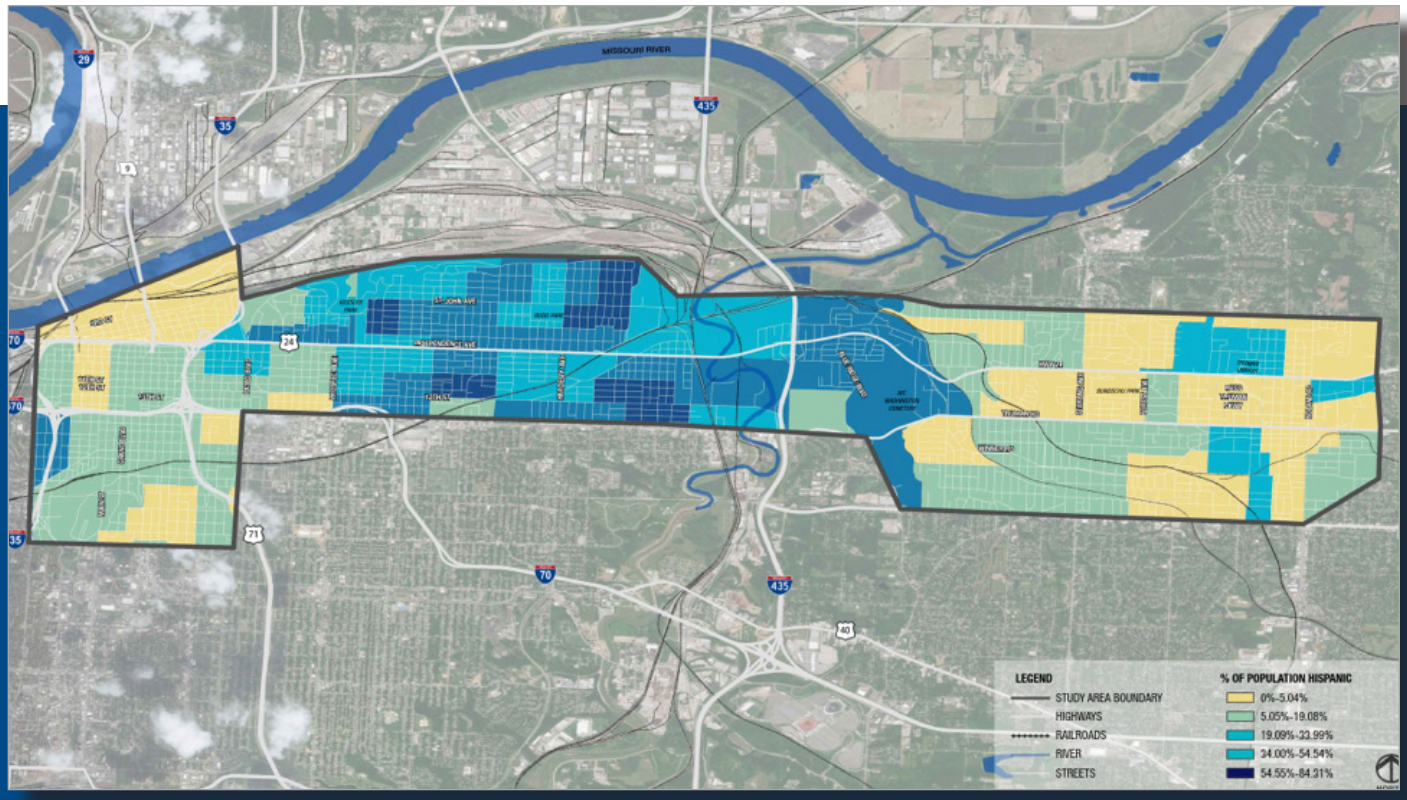
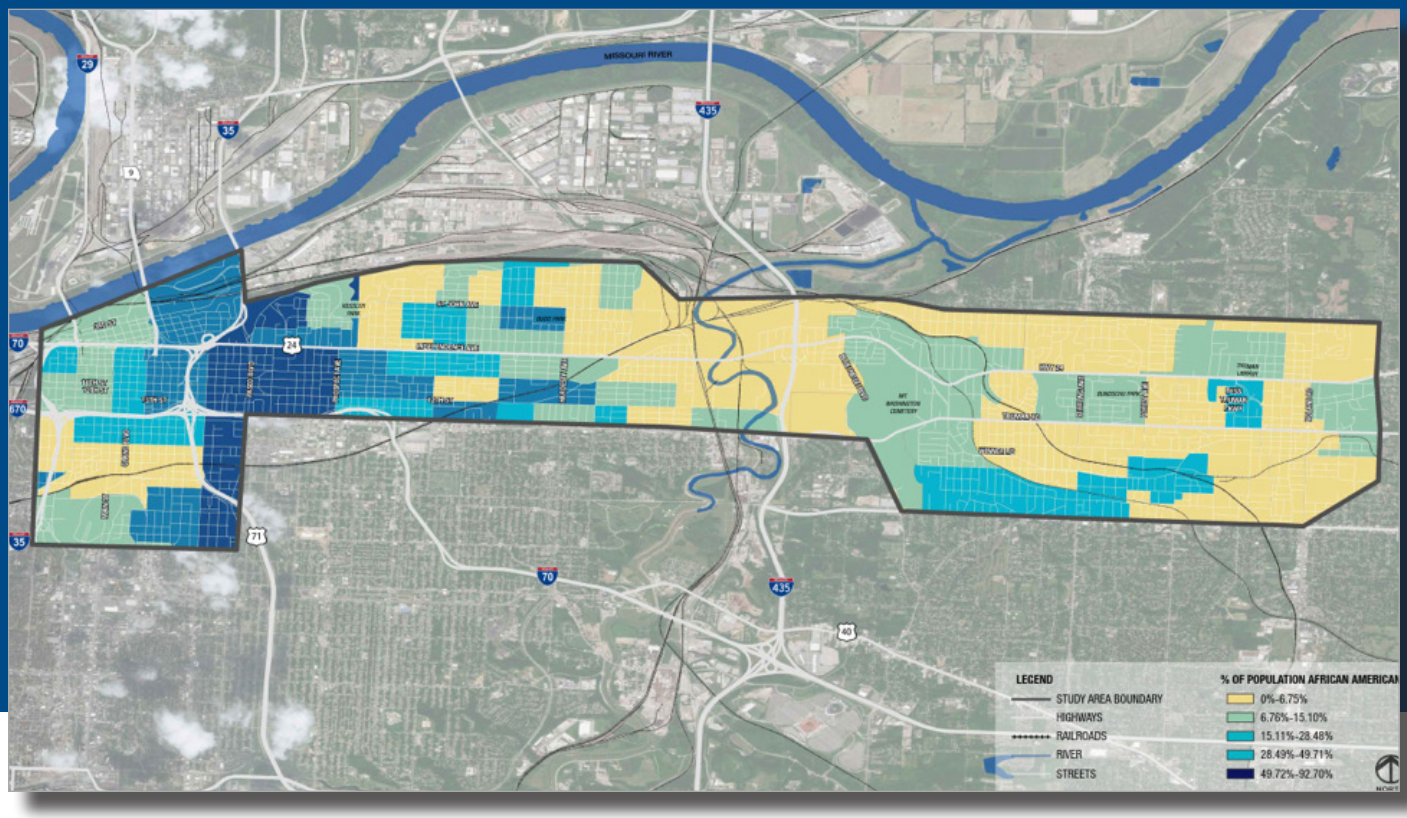


Figure 27 (below): Percent of Population Speaks Asian Languages



3.2.3 POVERTY AND AUTO OWNERSHIP

Two other important factors impacting likelihood for individuals to use public transit relate directly to poverty and access to a personal automobile. **Figure 28** and **Figure 29** show concentrated areas of households living below the federal poverty thresholds and households without access to a personal automobile.

According to the U.S. Department of Health and Human Services (HHS), the poverty guidelines for 2018 define a household with four individuals with a total household income of $25,100[3] or less are deemed to be in poverty. Within the study area, two of the highest concentrations of households falling below the poverty line are found south of Independence Avenue between Troost Avenue and Prospect Avenue. Another area is found north of Independence Avenue along Cliff Drive. In the City of Independence, there is one area with a high concentration of households in poverty located south of U.S. Highway 24, north of Truman Road, between South Home Avenue and South Sterling Avenue.

Each of these areas noted are census blocks where approximately 50 to 85 percent of households are in poverty.

Figure 29 shows neighborhoods with limited access to a personal automobile. Areas shaded in dark blue represent areas where 25 to 45 percent of the households have no access to an automobile. Generally, the areas of limited auto ownership align with the households below poverty between Troost and Prospect, south of Independence Avenue, and along Cliff Drive. Overall, households south of Independence Avenue has more households without automobile access than north of Independence Avenue. Greater detail regarding analysis of demographics and socioeconomics of the study area can be found in Appendix 1. **Table 6** provides a summary of the demographics of the study area in comparison to the greater Kansas City Metropolitan Statistical Area.

[3] U.S. Department of Health and Human Services. HHS Poverty Guidelines for 2018. https://aspe.hhs.gov/poverty-guidelines.

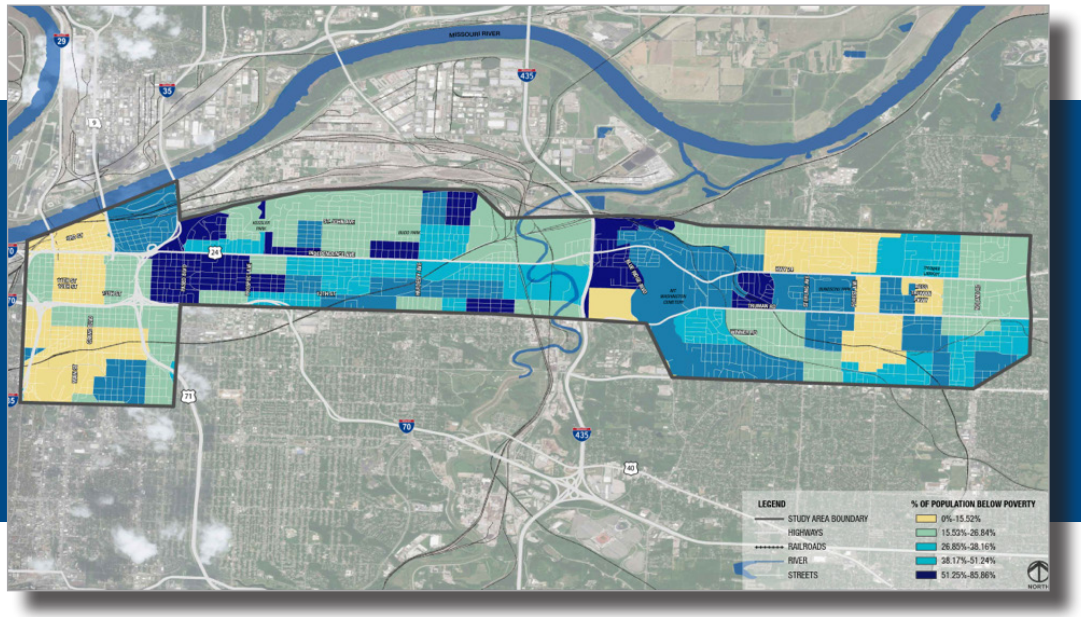


Figure 28: Percent Below Poverty Line

Figure 29: Percent Population Without a Car

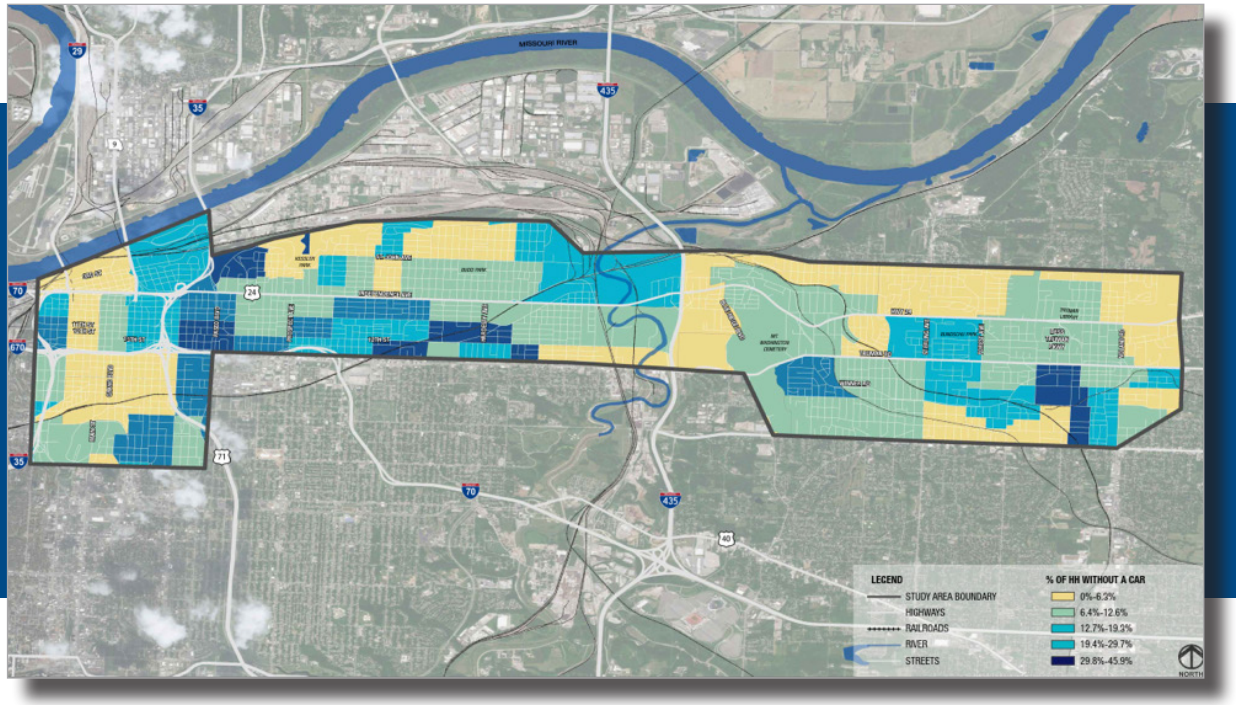


Table 6: Independence Study Area and Kansas City MSA Demographics

Study Corridor	Total	Percentage	Kansas City MSA	Total	Percentage
Population	86,784	100.0%	Population	2,055,823	100.0%
Population Change 2010-2015	-5,368	N/A	Population Change 2010-2015	81,803	N/A
Below Poverty Line	5,781	6.7%	Below Poverty Line	245,187	11.9%
Asian/Pacific	2,737	3.2%	Asian/Pacific	52,506	2.6%
African American	16,413	18.9%	African American	256,853	12.5%
American Indian	385	0.4%	American Indian	9,266	0.5%
Hispanic	20,344	23.4%	Hispanic	176,695	8.6%
White	52,287	60.2%	White	1,622,696	78.9%
Jobs	94,277	N/A	Jobs	997,976	
Households	47,008	100.0%	Households	880,751	100.0%
Speak English	29,263	62.3%	Speak English	718,085	81.5%
Speak Spanish	6,038	12.8%	Speak Spanish	44,384	5.0%
Speak Asian/Pacific	857	1.8%	Speak Asian/Pacific	14,250	1.6%
Speak Indo European	679	1.4%	Speak Indo European	16,767	1.9%
Speak Other	615	1.3%	Speak Other	6,521	0.7%

3.3 CRIME AND SAFETY

Safety of transit users, both onboard buses and those waiting at stations, is of primary importance to KCATA. This section reviews past trends of various forms of criminal activity within the Independence study area. This information can assist in targeting key station locations that may need attention for safety and security enhancement as station area plans are developed in greater detail. The study team received data on criminal activity from both the Kansas City and City of Independence Police Departments for this review.

Figure 30 below displays a total of all types of crimes committed along major corridors in the study area between 2013 and 2017. In this timeframe, overall crimes along the Independence Avenue corridor have seen a significant decline, but the corridor has the highest criminal activity compared to the other major corridors in the study area with over 200 crimes committed in 2017.

Figure 31 (next page) shows data from the City of Independence Police Department for total annual crimes committed in the study area within the City of Independence between 2015 and 2017. Generally, the number of crimes are trending upwards in this portion of the study area, but total number of crimes are lower than the Kansas City portion of the study area. This is most likely due to the lower population density in the City of Independence. Two corridors with highest total crime incidents are U.S. 24 Highway and Truman Road.

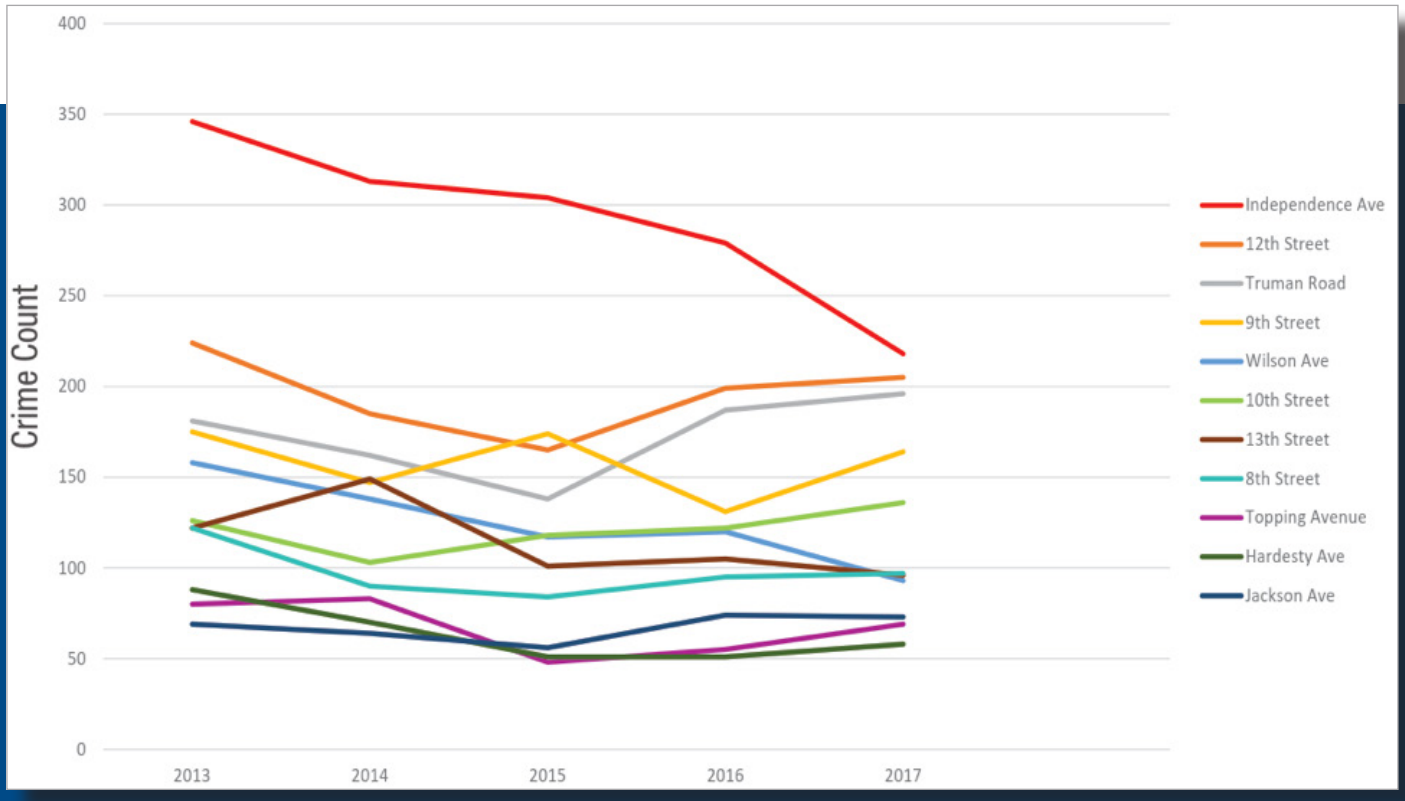


Figure 30: Total Crime Count - Independence Avenue and Surrounding Corridors

Figure 31 (below): Total Crime Count - City of Independence

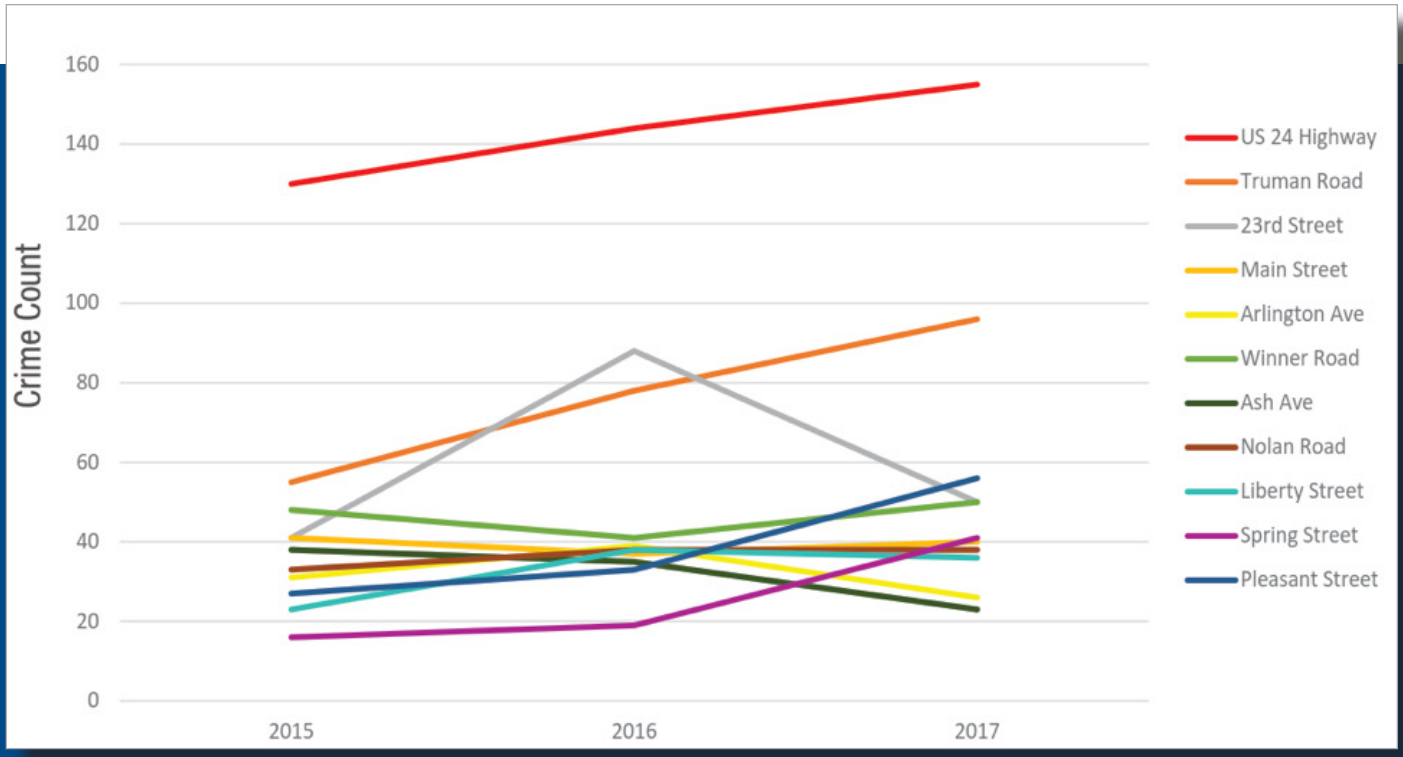


Figure 32 (below): Independence Avenue Study Area Total Crime Heat Map

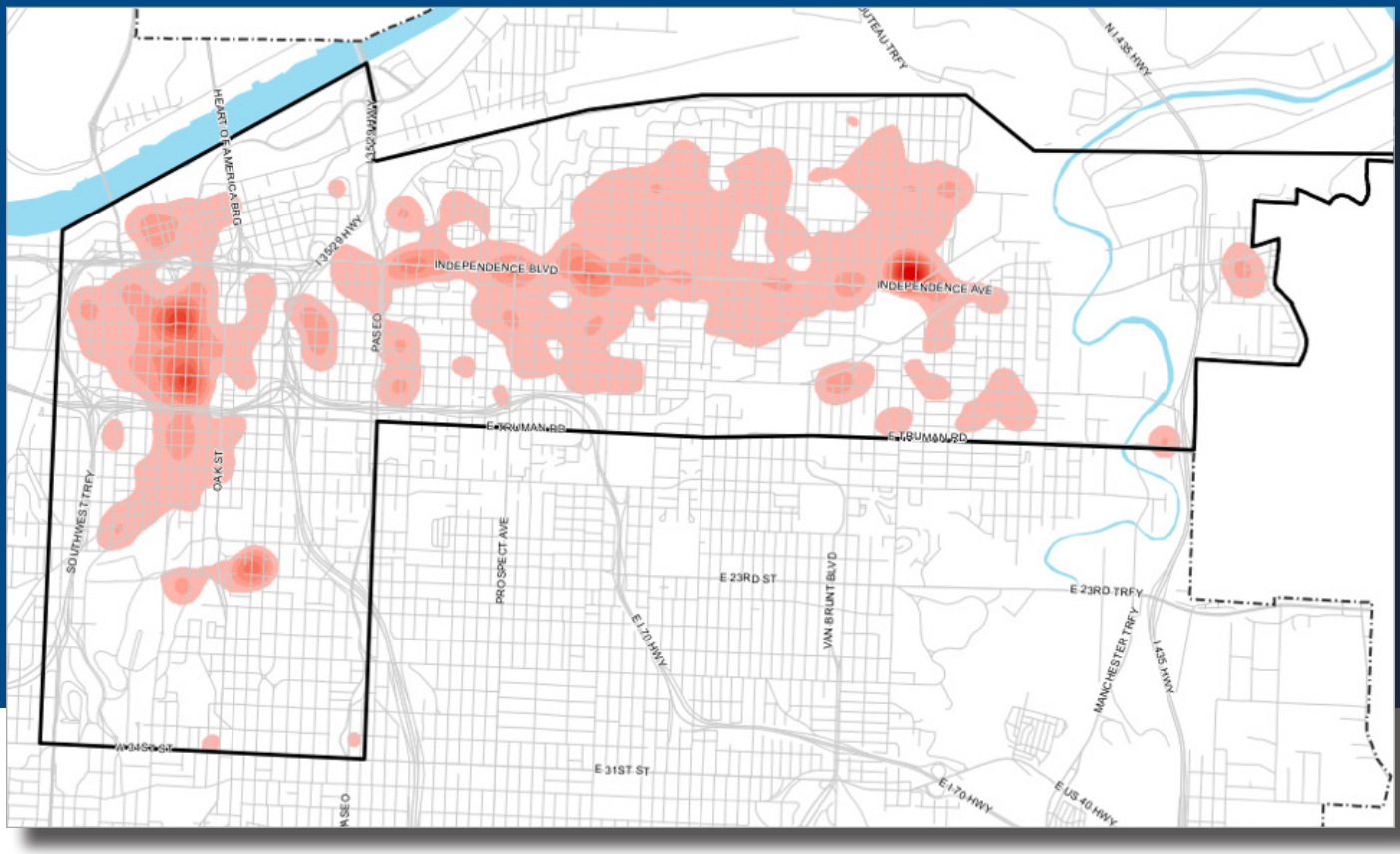


Figure 32 was provided by the City of Kansas City Police Department (KCPD), and maps areas where the greatest number of crimes have been committed between 2013 and 2017. Many of the highest concentrations of criminal activity are along the Independence Avenue corridor between Paseo Boulevard and Topping Avenue. The area of greatest concentration of crimes is located near the intersection of Independence Avenue and Topping Avenue. For many years, this has been an area of concern for KCATA and passengers using the RideKC Bus service. KCATA has worked closely with KCPD and the Independence Avenue Community Improvement District (CID) to take steps intended to mitigate criminal activity in this area. As future BRT station plans are developed, this location will require special attention to incorporate crime preventative design features.

Other areas with higher rates of criminal activity exist in the CBD, near the Power and Light entertainment district as well and the Crossroads area. As station designs are advanced and developed in further detail, it is recommended that a Crime Prevention Through Environmental Design (CPTED) approach/evaluation be undertaken in partnership with the KCPD and other stakeholders to build crime mitigations and public safety enhancements into key BRT station areas.

Further information on more recent criminal activity in recent years within the study area can be found in Appendix 2.

3.4 EXISTING TRANSIT SERVICE

For many years, public transit service in the Independence Avenue corridor has been provided by KCATA's 24 Independence. Over the decades this route has been operated by streetcars, electrified buses, diesel buses and today compressed natural gas buses. It is an historic alignment that has connected the cites of Kansas City and Independence. The current alignment of 24 Independence is displayed in **Figure 33**. The Independence Avenue route operated

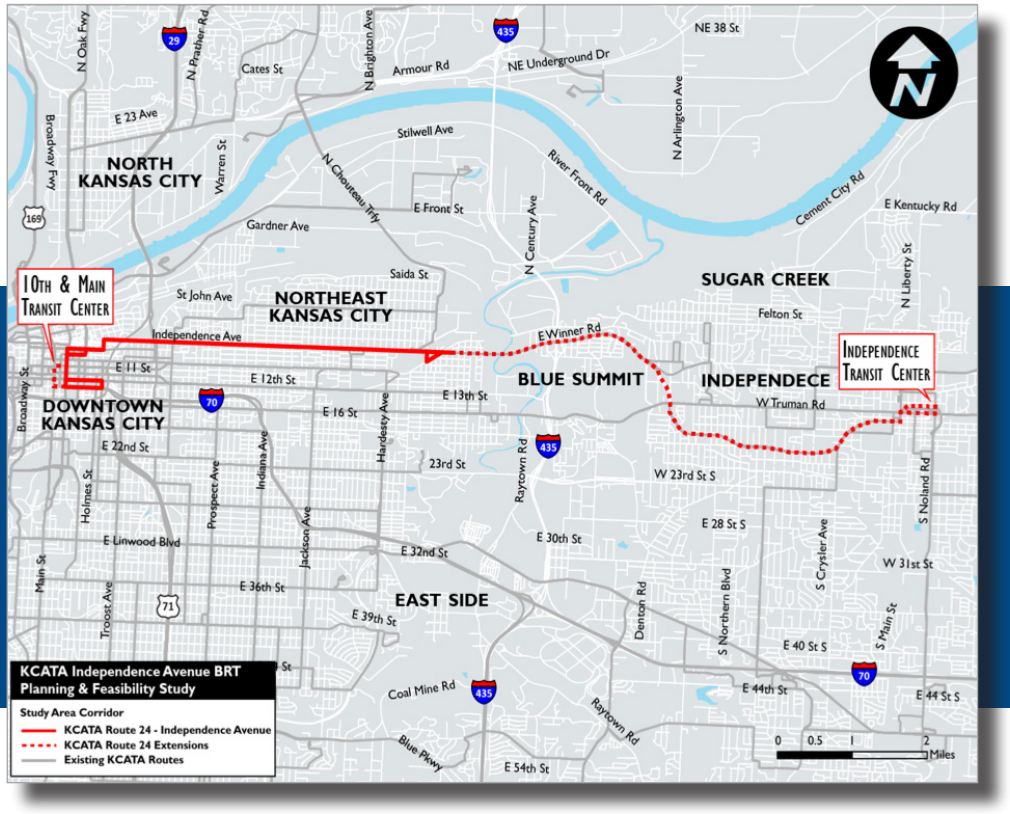


Figure 33: 24 Independence Current Alignment

between downtown Kansas City eastward along Independence Avenue to Winner Road. Located near the intersection of Winner Road and White Avenue is a bus pull off and layover point. From this location, most trips of 24 Independence turn west and return to downtown Kansas City. Once an hour 24 Independence extends into the City of Independence along East Winner Road where it makes a timed connection with the six-route IndeBus transit system at the Independence Transit Center located near Truman Road and Noland Road. There are also a small number of 24 Independence trips that end at 24 Highway and Brookside.

24 Independence operates seven days a week in Kansas City and provides service in the City of Independence Monday through Saturday. The route operates between 4:45 am and 12:30 am on weekdays with a 15-minute headway throughout the day, with hourly headways to the Independence Transit Center between 5:00 am and 7:00 pm.

On Saturdays, 24 Independence operates between 5:00 am and 11:00 pm on a 20-minute headway in the morning, mid-day and evening period. Night service is provided at a 60-minute headway. 24 Independence operates a 60-minute headway to the Independence Transit Center between approximal 6:00 am and 7:00 pm.

Sundays and holidays, 24 Independence only operates between downtown Kansas City and the turnaround near Winner Road and White Avenue–with no service to and from Independence. Sunday service frequency is every 30-minutes in the morning, mid-day and evening periods, with hourly service early in the morning and later evening periods. Sunday service is operated between 5:45 am and 10:30 pm.

Passenger boardings of 24 Independence vary by location, with the highest levels of boarding activity occurring in the Central Business District. Figure 34 through Figure 36 present average weekday passenger boarding activity at all bus stops along the current 24 Independence alignment.

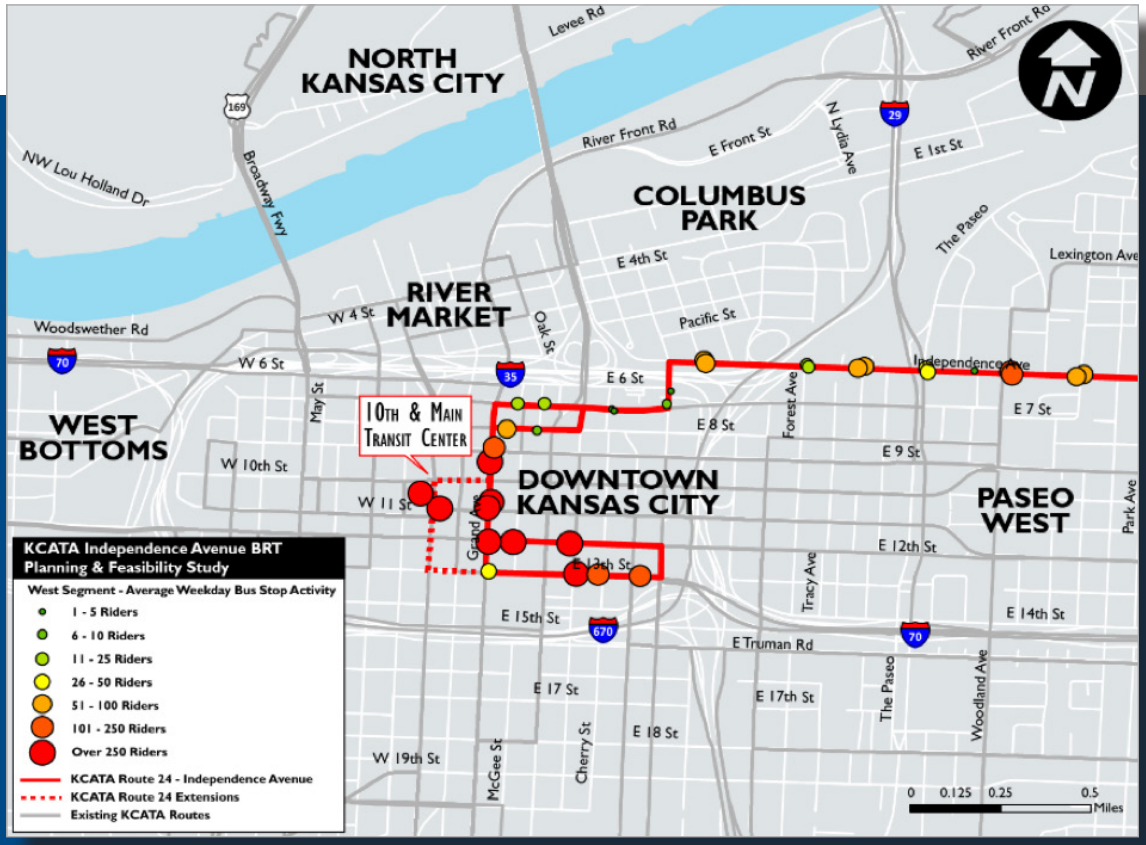
Figure 34 shows boarding patterns in the CBD along 12th and 13th Streets, Grand Boulevard and the western most segment of the Independence Avenue corridor. The stops on Grand Boulevard at 11th and 12th Streets, in both the northbound and southbound directions, have the highest levels of passenger activity.

Figure 35 details boardings along Independence Avenue from Paseo Boulevard to Interstate 435. Bus stops in this segment have generally consistent activity with most stops having 50 – 100 average daily boardings. One of the key boarding locations in this area is on Independence Avenue at Topping Avenue. Stops near this intersection provide service to a nearby grocery store as well as a branch of the Kansas City Library. Boarding activity drops off rapidly east of the turnaround at Winner Road and White Avenue.

Figure 36 presents boardings within the City of Independence. Ridership in this portion of 24 Independence is considerably lower than the portion of the route in Kansas City. The two stops in Independence with higher levels of boarding activity are located on 24 Highway at Brookside Avenue and the Independence Transit Center.

Table 7 details the most highly used bus stops along the existing 24 Independence route assessing average weekday boardings. The two highest volume boarding location are in downtown Kansas City and downtown Independence. Along the Independence Avenue corridor there is consistent boarding activity.

Figure 34 (right): 24 Independence Boarding Activity Part 1



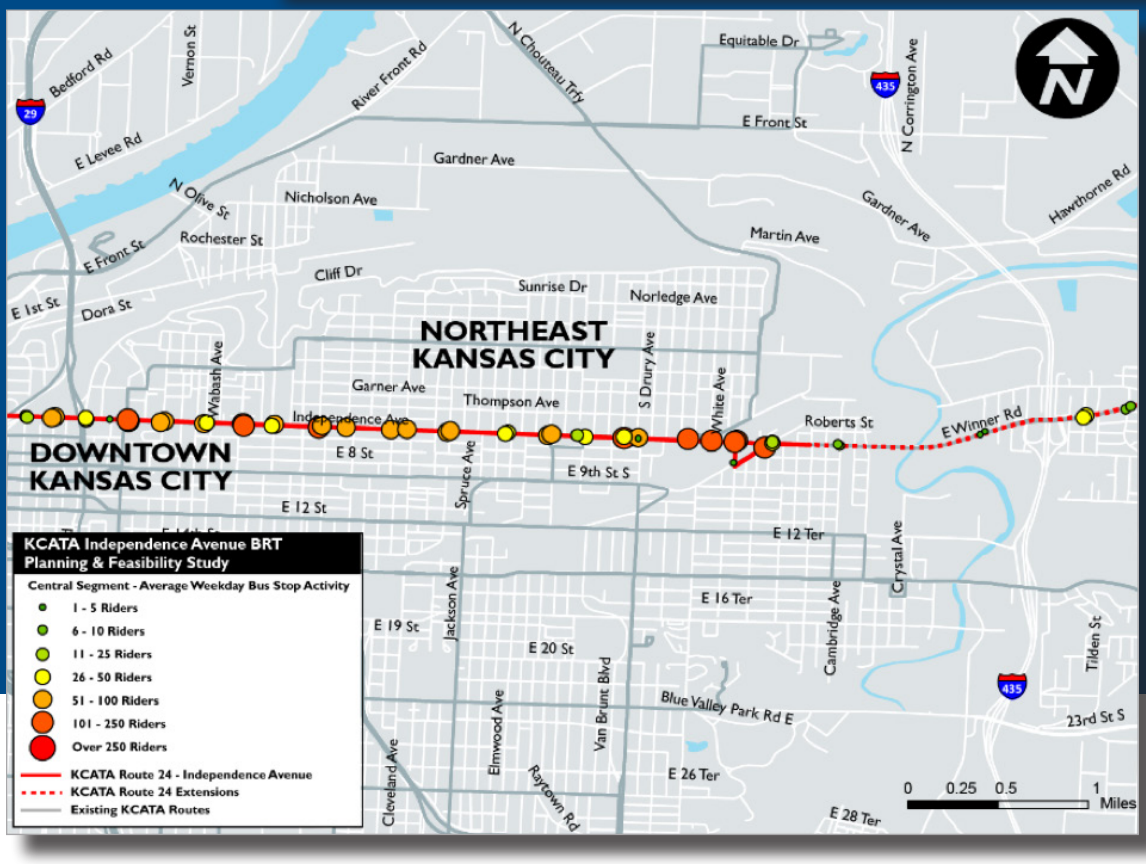


Figure 35 (left): 24 Independence Boarding Activity Part 2

Figure 36: 24 Independence Boarding Activity Part 3

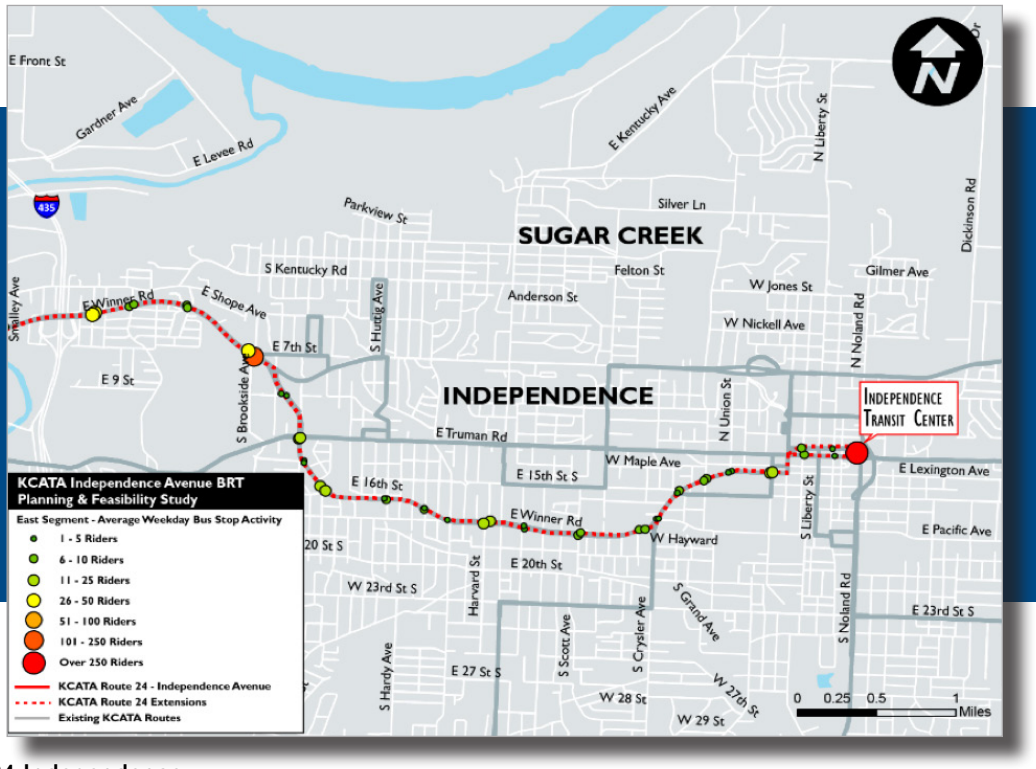


Table 7: Top boarding locations - 24 Independence

Stop Rank	Stop Location	Direction	Average Weekday Boardings
1	Grand at 11th	Northbound	524
2	Independence Metro Center	End of Line	141
3	Independence at Hardesty	Westbound	120
4	Winner at Independence	Eastbound	86
5	Independence at Prospect	Westbound	85
6	Independence at Wilson	Westbound	75
7	Independence at Woodland	Westbound	71
8	Independence at Woodland	Eastbound	65
9	13th at Locust	Westbound	61
10	Grand at 9th	Northbound	60
11	Independence at Van Brunt	Westbound	60
12	Independence at White	Westbound	60
13	Independence at Monroe	Westbound	57
14	Independence at Benton	Westbound	52
15	Independence at Benton	Eastbound	50

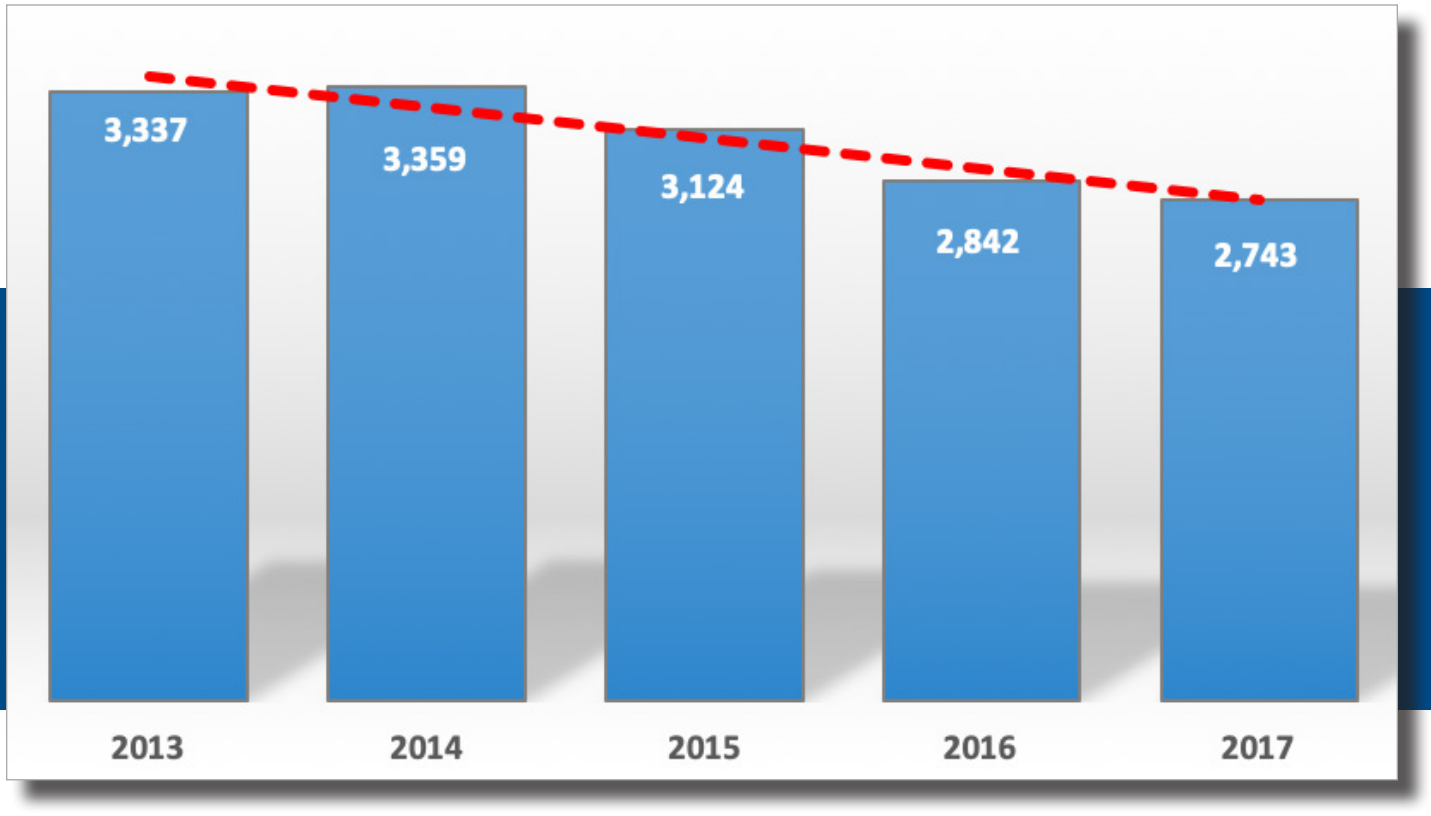
Ridership on 24 Independence has been declining over the last five years as detailed in **Figure 37**. Average weekday ridership fell by 594 passengers on weekdays between 2013 and 2017, a decline of 17.8 percent. This ridership decline on 24 Independence has not occurred in isolation. Similar ridership declines have been experienced across the KCATA system and with many other larger urban transit systems across the United States. Even with the decline in ridership, 24 Independence continues to rank 5th out of KCATA's 56 total number of bus routes in annual total ridership as presented in **Table 8**. The top three most utilized routes are, or are soon to be, MAX BRT routes that include Troost MAX, Route 71 Prospect and Main Street MAX.

Table 8: RideKC Routes Rank by Total Annual Ridership

Rank	Route	Total 2017 Ridership
1	Troost MAX	1,181,000
2	71 - Prospect*	1,175,000
3	Main Street MAX	1,004,000
4	31 - 31st Street	747,000
5	24 - Independence	694,000

*** 71 - Prospect will become MAX BRT in 2019**

Figure 37: 24 Independence Five-Year Weekday Ridership Trend



3.5 MULTIMODAL CONNECTIVITY EXISTING CONDITIONS

BRT routes depend upon a network of pedestrian and bicycle infrastructure to extend the reach of enhanced transit services into the community and expand ridership markets. Coordinated pedestrian and bicycle infrastructure provides passengers with important "first / last mile" travel options – direct paths between the nearest transit stop and each passenger's personal trip origin and destination, such as home, work, school, etc.

In planning the Independence Avenue BRT, it is especially important to assess and consider the pedestrian and bicycle infrastructure that will link the highly-populated northeast Kansas City neighborhoods north and south of the corridor with planned MAX stations and mobility hubs. Due to the geographic layout of the area and similar to today's 24 Independence Avenue local bus service, the Independence Avenue BRT will have limited transfer opportunities and passengers will primarily rely on the multimodal network to access BRT via walking or bicycling from intersecting corridors. Hence, the existence, condition, safety, directness, and continuity of these pathways are important factors in ensuring the Independence Avenue BRT route can successfully serve the community and attract riders.

3.5.1 CONNECTING SIDEWALKS EXISTING CONDITIONS METHODOLOGY:

As one of the older areas of the city, Northeast Kansas City developed at the pedestrian scale and has the benefit of sidewalk networks throughout its neighborhoods and to and from Independence Avenue. Before the rise of personal automobile ownership, this sidewalk network was especially important in connecting nearby residents with streetcar and bus services along Independence Avenue, St. John, and 9th Street. Today, the sidewalk network is aging and includes some spot improvements made over the years. With the introduction of Independence Avenue BRT, it is important to assess the conditions of sidewalk paths connecting nearby neighborhoods with the BRT stations and develop a program of improvements to enhance pedestrian access and attract riders.

For this analysis, a visual survey was conducted (on-foot and via aerial imagery) that identified the current conditions and recommended pedestrian improvements for sidewalks along principle neighborhood streets that will connect with BRT stations along Paseo Boulevard and Independence Avenue. The survey generally focused on the ¼-mile walk distance between the planned BRT stations and the adjacent neighborhoods via the adjacent intersecting arterial or collector. Corridors that would connect neighborhoods to a planned BRT station are generally spaced approximately 1/3-mile apart, and they provide east-west pedestrian movement to and from the planned BRT stations for Paseo Boulevard and north-south pedestrian movement for the planned stations on Independence Avenue between Paseo and Winner Road.

Corridor sidewalk conditions were rated with the following descriptive scale that correlates with the estimated amount of sidewalk needing repair and/or replacement:

- **Very Good**: No sidewalk repairs needed
- **Good**: 25% of sidewalks need spot repair/ replacement
- **Fair**: 50% of sidewalks need repair/replacement
- **Poor**: 75% of sidewalks need repair/replacement
- **Very Poor**: 100% of sidewalks need replacement

Using Google Maps, the average slope of the sidewalk from the BRT stations was determined to provide a general gauge of the inclines required for pedestrians to transverse in walking to and from the stations. In general, slopes with greater numbers (greater than +/- 3%) are less attractive for users and design treatments may need to be considered to improve the pedestrian environment (i.e. adequate

street lighting, wider sidewalks with clear sightlines, leveling ADA curb ramps at intersections, etc.)

Table 9 is a summary table and summary descriptions of the general pedestrian environments and conditions of the primary corridors connecting BRT stations with nearby neighborhoods as assessed from the visual survey:

Tabe 9: Pedestrian Connections to Independence Ave. BRT Corridor

BRT Station	Pedestrian Corridor	Direction	From	To	Condition	Average Stop
Paseo/11th Street, SB	12th Street	westward	Paseo Blvd	Virginia Ave	Very Good	3.1%
Paseo/11th Street, NB	12th Street	eastward	Paseo Blvd	Woodland Ave	Very Good	-0.7%
Paseo/ 8th St, NB	8th Street	westward	Paseo Blvd	Virginia Ave	Very Good	0.8%
Paseo/8th Street, SB	8th Street	eastward	Paseo Blvd	Woodland Ave	Good-Fair	-0.5%
Ind./Woodland Ave, EB	Woodland Ave	southward	Independence	9th Street	Good-Fair	-2.8%
Ind./Maple Blvd, WB	Maple Blvd	northward	Independence	Missouri Ave	Good	1.8%
Ind./Brooklyn Ave, EB	Brooklyn Ave	southward	Independence	9th Street	Good	-3.0%
Ind./Brooklyn Ave, WB	Brooklyn Ave	northward	Independence	Lexington Ave	Good	3.1%
Ind./Prospect Ave, EB	Prospect Ave	southward	Independence	9th Street	Good	-0.6%
Ind./Prospect Ave, EB	Prospect Ave	northward	Independence	Lexington Ave	Poor	0.1%
Ind./Benton Blvd, EB	Benton Blvd	southward	Independence	9th Street	Good	0.6%
Ind./Benton Blvd, WB	Benton Blvd	northward	Independence	Lexington Ave	Fair	1.9%
Ind./Monroe Ave, EB	Cleveland Ave	southward	Independence	9th Street	Poor	3.7%
Ind./Monroe Ave, WB	Monroe Ave	northward	Independence	Smart Ave	Poor	3.1%
Ind./Spruce Ave, EB	Spruce Ave	southward	Independence	9th Street	Poor	-4.8%
Ind./Kensington Ave, WB	Kensington Ave	northward	Independence	Smart Ave	Good	0.8%
Ind./Van Brunt Blvd, EB	Van Brunt Blvd	southward	Independence	9th Street	Poor	-2.2%
Ind./Chelsea Ave, WB	Chelsea Ave	northward	Independence	Thompson Ave	Fair	4.6%
Ind./Hardesty Ave, EB	Hardesty Ave	southward	Independence	9th Street	Good	-2.2%
Ind./Hardesty Ave, WB	Hardesty Ave	northward	Independence	Smart Ave	Good	1.4%
Ind./Topping, WB	Topping Ave	northward	Independence	Smart Ave	Fair	1.3%
Ind./Topping, WB	Wilson Avenue	northward	Independence	Belmont Ave	Very Poor	1.0%

3.5.2 INDEPENDENCE AVENUE CONNECTING CORRIDOR SIDEWALK CONDITIONS

12th Street, westward and eastward – Access to Paseo at 11th Street stations

- **Westward, Paseo Boulevard to Virginia Avenue**: Sidewalks that provide a path into downtown and the Paseo West Neighborhood are in **very good condition**.
- **Eastward, Paseo Boulevard to Woodland Avenue**: Sidewalks that connect with the Parkview and Forgotten Homes neighborhoods and various multifamily complexes and are generally in **very good condition**.

8th Street, westward and eastward – Access to Paseo at 8th Street stations

- **Westward, Paseo Boulevard to Virginia Avenue**: Sidewalk serves the Kansas City Community Kitchen and other social service agencies concentrated along 8th Street between Paseo and downtown. Sidewalks are in **very good condition**.
- **Eastward, Paseo Boulevard to Woodland Avenue**: Pathway connects with the Aldi Grocery Store, Woodland Elementary School, and the Parkview Neighborhood. It is in **good-fair condition** yet lacks ADA crosswalk ramps.

Woodland Avenue, southward – Access to Independence at Woodland station (eastbound)

- **Southward, Independence Avenue to 9th Street:** Sidewalks connect to the KCMO Office of Emergency Management, Samuel U. Rodgers Health Center (via 7th Street), and Woodland Elementary School. The sidewalks are in **good-fair condition** yet lack many ADA ramps for street crossings.

Maple Boulevard, northward – Access to Independence at Woodland station (westbound)

- Northward, Independence Avenue to Missouri Avenue: Sidewalks connect to Kansas City University and the Pendleton Heights Neighborhood and are in generally **good condition**, with ADA ramps missing at neighborhood intersections and some uneven sidewalk spots. **(Figure 38)**

Figure 38: Westside of Maple, Looking North - Spot Treatment Example

Brooklyn Avenue, southward and northward – Access to Independence at Brooklyn stations

- **Southward, Independence Avenue to 9th Street**: Sidewalks connect to Samuel U. Rodgers Health Center and the Forgotten Homes and Parkview neighborhoods; sidewalks are in **good condition**, with ADA crosswalks needed at side-street intersections and some spot treatments to fix uneven sidewalks. Full sidewalk replacement needed between 8th and 9th on the westside.
- **Northward, Independence Avenue to Lexington Avenue**: Sidewalks link to the Pendleton Heights Neighborhood and are in **good condition**, with ADA ramps needed at neighborhood cross-streets.

Prospect Avenue, southward and northward – Access to Independence at Prospect stations

- Southward, Independence Avenue to 9th Street: Sidewalks serve the Independence Plaza Neighborhood and are in generally **good condition** yet lacking ADA ramps at intersections.
- **Northward, Independence Avenue to Lexington Avenue**: Serving the Pendleton Heights Neighborhood and Garfield Elementary School, the sidewalks are in **poor condition** and in need of major repair including new ADA curb ramps and crosswalks at all neighborhood sections. Special treatments needed to better connect pedestrian infrastructure and crosswalks at Garfield Elementary School. **(Figure 39)**

Figure 39: Prospect, westside Looking North from Garfield Elementary School - No curb or ADA accomodations

Benton Boulevard, southward and northward – Access to Independence at Benton stations

- **Southward, Independence Avenue to 9th Street**: Linking to the Independence Plaza and Lykins neighborhoods, sidewalks in **good condition** with ADA ramps and crosswalks needed at neighborhood street intersections.
- **Northward, Independence Avenue to Lexington Avenue**: Sidewalks connect with the Scarritt Point Neighborhood, St. Anthony's Church, and The Concourse Park and are in **fair condition**, needing noticeable repair and ADA ramps and crosswalks at neighborhood streets.

Cleveland Avenue, southward – Access to Independence at Monroe station (eastbound)

- **Southward, Independence Avenue to 9th Street**: Serving the Lykins Neighborhood, sidewalks are exhibiting significant bucking, narrow, and in poor condition. ADA ramps are also lacking at neighborhood street crossings. **(Figure 40)**

Figure 40: Cleveland Ave, at 9th Street (eastside) Looking North - No ADA Ramps

Monroe Avenue, northward - Access to Independence at Monroe station (westbound)

- **Northward, Independence Avenue to Smart Avenue**: Sidewalks connect to the Scarritt Point Neighborhood and are narrow, bucking, and in **poor condition**. ADA ramps not present at neighborhood street intersections.

Spruce Avenue, southward –Access to Independence at Spruce station (eastbound)

- Southward, Independence Avenue to 9th Street: Connecting to the Lykins Neighborhood, sidewalks are narrow, uneven, and have deteriorated to **poor condition**. ADA ramps lacking at crossing neighborhood street intersections.

Kensington Avenue, northward–Access to Independence at Kensington station (westbound)

- **Northward, Independence Avenue to Smart Avenue**: Sidewalks serve the South Indian Mound Neighborhood and are in generally **good condition**, with ADA ramps missing at intersections.

Van Brunt Boulevard–Access to Independence at Van Brunt station (eastbound)

- **Southward, Independence Avenue to 9th Street**: Sidewalks serve the Lykins Neighborhood and are in generally **poor condition** – narrow, uneven, in disrepair, and missing ADA ramps at cross-streets. Bus stops for RideKC Route 21-Cleveland Avenue lack pedestrian connections between curb and sidewalks at 6th and 9th Streets. **(Figure 41) (Figure 42)**

Figure 41: Van Brunt (westside) at 9th, Looking North - RideKC Stop with Poor Pedestrian Connection

Figure 42: Van Brunt at 9th (eastside) Looking North - RideKC Stop without Pedestrian Access

Chelsea Avenue – Access to Independence at Chelsea station (westbound)

- **Northward, Independence Avenue to Smart Avenue**: Sidewalk connects to Northeast High School and the South Indian Mound Neighborhood. Sidewalks considered to be in **fair condition**, as the eastside of Chelsea is in very good condition but the west side needs full replacement. ADA ramps missing along Van Brunt between Independence and Smart Avenue also need to be considered in improving access to Northeast High School.

Hardesty Avenue –Access to Independence at Hardesty stations (eastbound and westbound)

- Southward, Independence Avenue to 9th Street: Providing a connection to Lykins Neighborhood, sidewalks are in relatively **good condition**. ADA ramps are lacking at street intersections on the west side.

- **Northward, Independence Avenue to Smart Avenue**: Accessing the South Indian Mound Neighborhood, sidewalks are in generally good condition with ADA ramps needed at intersections.

Topping Avenue – Access to Independence at Topping station (westbound)

- **Northward, Independence Avenue to Smart Avenue**: Sidewalks provide access to the Price Chopper grocery store and the South Indian Mound Neighborhood. Sidewalk conditions are **fair**, with deteriorating, uneven, and narrow segments. ADA ramps are also lacking at intersections. Additionally, sidewalk improvements from Topping Avenue northeast along Wilson Avenue are recommended to improve access to nearby retail stores, the Northeast Library, and nearby residential areas. **(Figure 43)**

Figure 43: RideKC Stop on Wilson at Bellaire with Limited Passenger Amenities

3.5.3 SUMMARY CONCLUSIONS – EXISTING SIDEWALK FACILITIES:

In summary, this high-level assessment reveals that a sidewalk network, in varying conditions, is in place to connect nearby neighborhoods with the planned BRT service. However, the sidewalks are in various states of condition; sidewalk improvements and new infrastructure are needed to enhance pedestrian access to and from the Independence Avenue BRT. The improvements range from spot repair for deteriorating sidewalk concrete to full replacement for broken, uneven, and narrow sidewalk segments. Additionally, there are significant needs for new curb ramps and crosswalks, as appropriate, to provide for continuous ADA access along these sidewalk paths to and from nearby stations.
A package of priority neighborhood sidewalk improvements that compliment and connect with the pedestrian and station improvements that will come along Independence Avenue with the BRT is recommended and further detailed in Section 5.3.

3.5.4 EXISTING CONDITIONS – BICYCLE FACILITIES

Concerted efforts are underway for the continued buildout of an extensive bicycle network across Kansas City and the region. Besides providing expanded transportation options, bicycle facilities also help extend transit access into nearby neighborhoods and along intersecting and parallel corridors.

In Kansas City, on-street bicycle facilities are typically located on corridors that have low to medium traffic volumes and offer sufficient shared lane space to safely accommodate both vehicular and bicycle travel. These shared lane bike paths are often marked with signage and “sharrows” (**Figure 44**) to indicate where bicyclists should position themselves in the lane and reinforce to motorists that bicyclists belong and are present in the lane.

Figure 44: Shared Bike Lane Signage Example - Wilson Avenue

Within the Independence Avenue BRT study area, there are several signed shared-lane bicycle routes that intersect the planned BRT route and have potential to provide extended "first / last-mile" bicycle travel between proposed BRT stations and neighboring areas:

- **12th Street Signed Bike Route**: The 12th Street bicycle route connects downtown and the Independence Avenue and Winner Road area via 12th Street and Winner Road, traversing the Paseo West, Parkview, Forgotten Homes, Independence Plaza, and Lykins neighborhoods. It will intersect the Independence Avenue BRT at 12th and Paseo and connect with the BRT at proposed stations along 12th Street and at Independence and White.
- **11th Street Signed Bike Route**: Traveling via 11th Street between downtown and Woodland Avenue, the 11th Street route provides connections to inbound stops along 11st Street westbound thru downtown. It also merges with the 12th Street route at Woodland.
- **Independence Avenue Signed Bike Route (Charlotte to Chestnut segment)**: The Independence Avenue on-street bike route runs for 1.5-miles between Charlotte Avenue and Chestnut Boulevard/N. Chestnut Trafficway; signed bike route options at both Charlotte and Chestnut endpoints allow continued travel north and south of Independence Avenue. The route connects the Paseo West, Pendleton Heights, Parkview, Forgotten Homes, and Independence Plaza neighborhoods via Independence Avenue.
- **Paseo Boulevard Signed Bike Route**: Running 9.5-miles between Independence Avenue and 85th Street, the Paseo Boulevard Bike route will connect with future BRT stops along Paseo and provide a direct connection to Independence Avenue. The Paseo bike route serves the Paseo West and Parkview neighborhoods in the study area, and local plans seek to add bikeways along Paseo when funding becomes available.
- **Woodland Avenue Signed Bike Route**: The Woodland Avenue route travels north-south between Missouri Avenue and 18th Street and intersects Independence Avenue at Woodland, where BRT stations are planned. The northern portion of this route is part of a continuous circuit through the Northeast neighborhoods via Lexington Avenue, Gladstone Boulevard, Belmont Boulevard, and Wilson Avenue that ultimately reconnects with Independence Avenue at Topping Avenue. Its southern segment serves the Parkview, Forgotten Homes, and Independence Plaza neighborhoods and terminates at the 18th Street bike route for continued travel to 18th & Vine and the Crossroads District.
- **N Chestnut Trafficway/Chestnut Avenue Signed Bike Route**: Intersecting Independence Avenue at Chestnut Avenue, the N. Chestnut Parkway portion runs north to the Northeast Industrial District, and the Chestnut Avenue segment runs south through the Independence Plaza Neighborhood to Truman Road and merges with the Benton Boulevard bikeway for continued travel south to Cleaver Boulevard.

- **Wilson Avenue Signed Bike Route**: The Wilson Avenue bike route travels north from the Independence Avenue and Topping Avenue intersection via Wilson Avenue and Belmont Boulevard, connects with Gladstone Boulevard for travel through the Northeast neighborhoods, and reconnects with Independence Avenue via Woodland Avenue. The route is adjacent to a planned westbound BRT at Topping.
- **Winner Road Signed Bike Route**: The Winner Road route runs at in a diagonal in the Sheffield Neighborhood between the southside of Independence Avenue and the Van Brunt Boulevard/12th Street intersection, where it merges with the 12th Street signed bike route for westward travel to downtown. A mobility center is planned near the Independence Avenue and Winner Road intersection.
- **Independence Avenue Signed Bike Route (Topping to Ewing segment)**: The 0.6-mile Independence Avenue bike route between Topping and Ewing in the Sheffield Neighborhood provides a connection between the Wilson Avenue and the Winner Road bike routed–allowing continuous north-south bicycle travel across Independence Avenue as these routes approach and terminate at Independence Avenue from different directions.

3.5.5 SUMMARY CONCLUSIONS – EXISTING BICYCLE FACILITIES

The Independence Avenue BRT corridor has a series of share-the-road, signed bike routes that intersect the route and have potential to expand neighborhood access to transit services. These bicycle facilities are basic in nature and lack dedicated bicycle lane striping and buffers from traffic, limiting their attractiveness through requiring cyclists to share travel lanes with auto vehicle traffic. Furthermore, without lane striping and informative route signage, it is difficult for potential users to visually recognize the bike routes as options to connect to and from Independence Avenue BRT service. The City of Kansas City is actively working to update its local bicycle plan and improve the bicycle network serving the community. Strategies that improve bike routes' visual presence, safety, wayfinding markings, and connections to Independence Avenue BRT stations and mobility hubs are recommended to further enhance multimodal connectivity and community access to transit.