BI-STATE
SUSTAINABLE REINVESTMENT CORRIDOR
ASSESSMENT AND STRATEGY ACTION PLAN

SEPTEMBER 2025

TABLE OF CONTENTS

LIST OF ABBREVIATIONS

ABBREVIATION	DEFINITION
AARP	American Association of Retired Persons
ADA	Americans with Disabilities Act
ADU	Accessory Dwelling Unit
ARPA	American Rescue Plan Act
BRT	Bus Rapid Transit
BSRC	Bi-State Sustainable Reinvestment Corridor
BUILD	Better Utilizing Investments to Leverage Development (grant)
CE	Categorical Exclusion
CIG	Capital Investment Grant
CPKC	Canadian Pacific Kansas City
EA	Environmental Assessment
FTA	Federal Transit Administration
GIS	Geographic Information System
HOV	High-occupancy Vehicle
KCATA	Kansas City Area Transportation Authority
KCK	Kansas City, Kansas
KCMO	Kansas City, Missouri
LWCF	Land and Water Conservation Fund Act
MARC	Mid-America Regional Council

ABBREVIATION	DEFINITION
MOE	Measures of Effectiveness
NBIS	National Bridge Inspection Standards
NEPA	National Environmental Policy Act
PEA	Programmatic Environmental Assessment
RAISE	Rebuilding American Infrastructure with Sustainability and Equity
ROW	Right of Way
RRIF	Railroad Rehabilitation and Improvement Financing
SHPO	State Historic Preservation Office(r)
TDD	Transportation Development District
THPO	Tribal Historic Preservation Office(r)
TIF	Tax Increment Financing
TIFIA	Transportation Infrastructure Finance and Innovation Act
TIGER	Transportation Investment Generating Economic Recovery (grant)
TOD	Transit-Oriented Development
TSMO	Transportation Systems Management and Operations
TSP	Traffic Signal Priority
USACE	U.S. Army Corps of Engineers
USDOT	United States Department of Transportation

LIST OF TABLES

LIST OF FIGURES

EXECUTIVE SUMMARY

The Bi-State Sustainable Reinvestment Corridor (BSRC) is a forward-looking transit and community development initiative spanning the Kansas–Missouri state line. Its primary goal is to establish a high-capacity east–west transit route connecting major activity centers in Kansas City, Kansas (KCK); Kansas City, Missouri (KCMO); and Independence, Missouri.

The roughly 24-mile corridor encompasses about 200,000 residents and 150,000 jobs, and includes many underserved neighborhoods. Existing public transportation in this area is limited – 22.3% of corridor households live in poverty and 12.7% have no personal vehicle, yet current transit service is sparse or inefficient. It is not uncommon for a full end-to-end bus trip along the corridor to take over two hours, a duration that severely restricts access to employment, education, healthcare, and other opportunities. The BSRC project responds to these challenges with a holistic approach: combining transit improvements with broader strategies (e.g., Transit-Oriented Development (TOD), affordable housing, workforce training, and broadband infrastructure) to ensure better mobility and equitable economic growth for corridor communities. In short, the BSRC is not just about a new transit line – it's about using transportation as a catalyst to enhance quality of life and spur reinvestment in long-disadvantaged Kansas City metro neighborhoods.

Aerial View of the Corridor

EVOLVING PRIORITIES

Over the past 18 months, the project team has navigated significant shifts in both federal policy and local transit conditions, requiring agile adaptations. At the national level, administration priorities have shifted from a previous emphasis on transit electrification and equity to a focus on connecting workers to jobs and driving economic growth. **The BSRC planning process has adjusted to these changing priorities while reaffirming its commitment to inclusive and long-term transit solutions.** Notably, substantial federal funding remains available for transit expansion under the Bipartisan Infrastructure Law, reflecting a strong nationwide push to modernize transit and create jobs.

At the local level, the transit landscape in the Kansas City region has been in flux, presenting immediate challenges to corridor planning. **Two of the BSRC's key partner cities – KCK and Independence, Missouri – have recently scaled back their fixed-route bus services due to budget constraints.** In Wyandotte County, officials facing a post-COVID funding shortfall proposed eliminating two fixed bus routes in 2024 to cut costs. Similarly, Independence eliminated several of its RideKC bus routes in early 2025 due to limited city transit funds. The project team has accounted for these changes by exploring first/last-mile solutions (like mobility hubs and on-demand links) to ensure areas losing fixed-route service can still feed into the high-capacity corridor.

Implementing the BSRC vision will require unprecedented regional cooperation and commitment to transit. **Encouragingly, this project is backed by a broad bi-state partnership: key stakeholders include the Unified Government of Wyandotte County/KCK, the City of KCMO, Jackson County, the City of Independence, the City of Sugar Creek, the Kansas City Area Transportation Authority (KCATA), and the Mid-America Regional Council (MARC).** This coalition of city, county, and agency leaders recognizes that a seamless transit corridor cannot be achieved by any single jurisdiction alone – it demands coordination across state and city lines. The BSRC planning process itself has fostered trust and alignment among these partners, laying the groundwork for joint implementation.

Just as importantly, the region must confront its longstanding transit funding gap. Kansas City's peer metros that have built robust transit systems invest significantly more local funding per capita. **A recent regional analysis found that Kansas City transit agencies spent just $46.53 per resident in local and state transit funding in 2022 compared to roughly $138 in peer metros with robust networks.** This shortfall is visible in the fragmented service: aside from KCMO – which dedicates a sales tax to transit – most area municipalities contribute little or no stable funding to KCATA. This patchwork approach has left the metro without the comprehensive transit network it needs. As one local transit official noted, **"You can't run a transit system on the cheap… it does require resources."**

To move from plan to reality, Kansas City must embrace a new regional funding model. Local commitments will not only stabilize services and prevent further cuts, they will also unlock federal matching dollars. **The region is well-positioned to pursue federal capital funds next, including U.S. Department of Transportation (USDOT) Better Utilizing Investment to Leverage Development (BUILD), and Federal Transit Administration (FTA) Capital Investment Grants (CIG).** Aligning local policies and funding to demonstrate "one voice" support for the BSRC will strengthen applications for these competitive programs. In short, if Kansas City's leaders step up with bold, unified transit funding, they can leverage Washington's dollars to make the BSRC a reality. Without it, the corridor's promise could be unrealized.

PREFERRED TRANSIT ALIGNMENT AND BENEFITS

After extensive technical analysis and community input, the BSRC study has identified a preferred transit alignment and mode to meet the corridor's needs. **The recommendation is to implement a combination BRT and "BRT-Lite" route approximately 24 miles long. This modern transit line would stretch from the Village West/Legends area in western KCK to the Independence Transit Center in eastern Independence, Missouri, largely following State Avenue on the Kansas side and Independence Avenue (US-24) on the Missouri side.**

KEY FEATURES OF THE BSRC

FREQUENT, RAPID SERVICE

Buses would run as often as every 10 minutes in core segments, with priority lanes or dedicated right-of-way where feasible to bypass traffic delays. This is a dramatic improvement over current bus options – today a trip from one end of the corridor to the other can take well over 2½ hours, an untenable commute that the BRT line will shorten considerably.

BRT & BRT-LITE SEGMENTS

High-demand, dense segments (e.g., central KCK, downtown KCMO, and Independence Avenue) are slated for full BRT service with robust stations, all-door boarding, and other enhancements. Less dense stretches at the far west and east ends would use "BRT-Lite" – a scaled version of BRT similar to Kansas City's existing MAX lines – still featuring branded buses, upgraded stops, and 10–30 minute frequencies. This configuration balances speed and coverage: express service where ridership is highest, and slightly slower service with more stops in outlying areas so that smaller communities like western KCK and Sugar Creek/ Independence remain included.

MAJOR DESTINATIONS AND CONNECTIONS

The route is designed to connect multiple regional destinations – from the Village West entertainment district and KU Med campus in KCK, through Downtown KCMO, past civic centers like City Hall and Union Station, out to Historic Independence Square. Stations will be placed roughly every ¼ to ½ mile, often at key intersections where riders can transfer to local buses or future microtransit services. By stitching together three urban centers and numerous job hubs, the BRT corridor will significantly expand access to employment. (Roughly 14% of the metro area's jobs are located in the BSRC study area, and many of those will become far more reachable via the new line.)

SAFETY IMPROVEMENTS

The BSRC is being planned with a strong accessibility lens. Given the corridor's high concentration of transit-dependent residents, the preferred investment (BRT on Independence Avenue and State Avenue) directly serves areas with the greatest need for affordable mobility. Station designs and street improvements will emphasize safety, accessibility, and comfort – for example, well-lit stops with shelters, safer crosswalks at BRT stations, and first/last-mile accommodations like bike lanes or sidewalks in station areas. Community feedback consistently highlighted the importance of safety and inclusive access, and the recommended plan reflects those values. Additionally, the BSRC plan contemplates zero-fare continuity where applicable and explores environmentally friendly features such as energy-efficient buses and EV charging infrastructure at mobility hubs, ensuring the corridor improves accessibility and sustainability hand-in-hand.

By prioritizing sustainable transportation, renewable-energy use, and community-centered investment, the preferred alternative sets the stage for long-term growth across the region. Faster, more reliable transit will reduce travel barriers for low-income residents and link workers to jobs across state lines in a way that has never before been possible in Kansas City. At the same time, concentrated development around BRT stations (mixed-income housing, neighborhood services, and employment centers) will help revitalize corridors like State Avenue and Independence Avenue with new economic activity. In sum, the BSRC's recommended plan offers a transformative blueprint to improve mobility, economic opportunity, and quality of life for communities on both sides of the Kansas–Missouri border.

01
INTRODUCTION

CONTENTS

1 INTRODUCTION

The **Bi-State Sustainable Reinvestment Corridor (BSRC) is a 24-mile transformative investment** corridor spanning from Village West in western Kansas City, Kansas to Independence Square in eastern Independence, Missouri. This corridor crosses two states and two counties, linking the communities of Kansas City, Kansas (Wyandotte County); Kansas City, Missouri; Sugar Creek, Missouri; and Independence, Missouri (Jackson County).

The BSRC aims to enhance regional connectivity and spur community-focused, sustainable redevelopment across these jurisdictions. Led by the Mid-America Regional Council (MARC) and the Kansas City Area Transportation Authority (KCATA), the project was launched with the support of a competitive $5.6 million Rebuilding American Infrastructure with Sustainability and Equity (RAISE) planning grant awarded in 2022. Federal funding for the Assessment and Strategy Phase was secured via the Bipartisan Infrastructure Law, championed by local congressional leadership (Representatives Emanuel Cleaver II of Missouri and Sharice Davids of Kansas). This strong start reflects broad support for the corridor vision and underscores the project's importance to the Kansas City metropolitan region.

TRANSFORM

At its heart, the BSRC project is about providing high-frequency, reliable, and convenient public transit as the backbone of a zero-emission transportation network, complemented by strategic investments in housing, technology, and infrastructure. The corridor will establish a rapid east-west transit route across the metro, improving connections between major activity centers and neighborhoods. By prioritizing sustainable transportation, renewable energy use, and community investment, the BSRC sets the stage for long-term growth and an improved quality of life throughout the region.

Aerial View of the Corridor

1.1 PROJECT PARTNERS

A project of this magnitude requires unprecedented regional collaboration. The BSRC is being developed through a broad partnership of civic and government organizations across the bi-state area. Key partners include the Unified Government of Wyandotte County/Kansas City, KS; the City of Kansas City, MO; Jackson County, MO; the City of Independence, MO; the City of Sugar Creek, MO; KCATA; and MARC.

Each jurisdiction and agency brings a unique role – from transit operations and service planning, to land use policy and infrastructure development. This cooperative, multi-jurisdictional approach ensures that the corridor plan aligns with local community needs while advancing a unified regional vision. By working together, these partners are laying the groundwork for a seamless transit corridor that transcends city and state lines, demonstrating a model of regional unity in addressing transportation and development challenges.

FIGURE 1: PROJECT PARTNERS

1.2 OVERVIEW

The BSRC connects three urban downtowns (downtown Kansas City, KS; downtown Kansas City, MO; and downtown Independence, MO) as well as numerous employment centers, educational campuses, healthcare hubs, and cultural/tourism destinations in between. Notably, the route links areas like the Village West entertainment and retail district in western Wyandotte County, the urban core of Kansas City, and historic Independence Square. In doing so, transit and land use investments can connect under-served and under invested areas with centers of opportunity.

The Study Area broadly follows the State Avenue corridor in Kansas and the Independence Avenue corridor in Missouri, with width varying between 1 and 5 miles north and south, to include surrounding communities. In total, about 196,428 residents and 150,058 jobs lie within the corridor – representing a substantial share of the region's population and economic activity. By improving east-west connectivity through high-capacity transit, the project seeks to reduce travel barriers for residents, link workers to jobs across the state line, and catalyze reinvestment in long-disadvantaged areas.

COMPREHENSIVE APPROACH

The vision for the corridor is comprehensive. Rather than focusing solely on transit, the BSRC initiative combines transportation improvements with community development strategies to create a holistic model for sustainable growth.

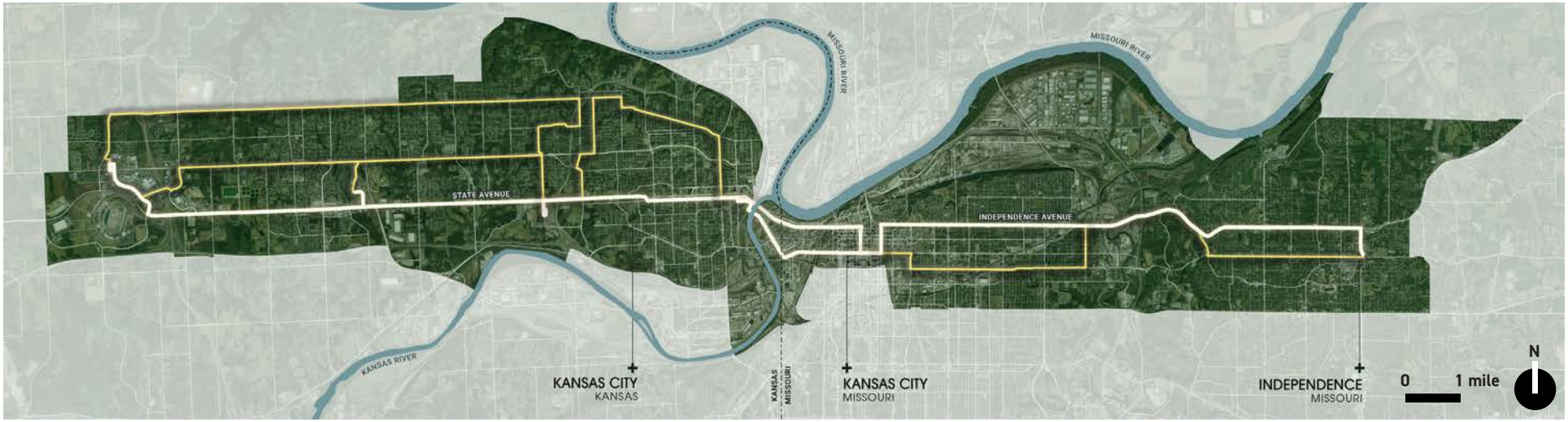
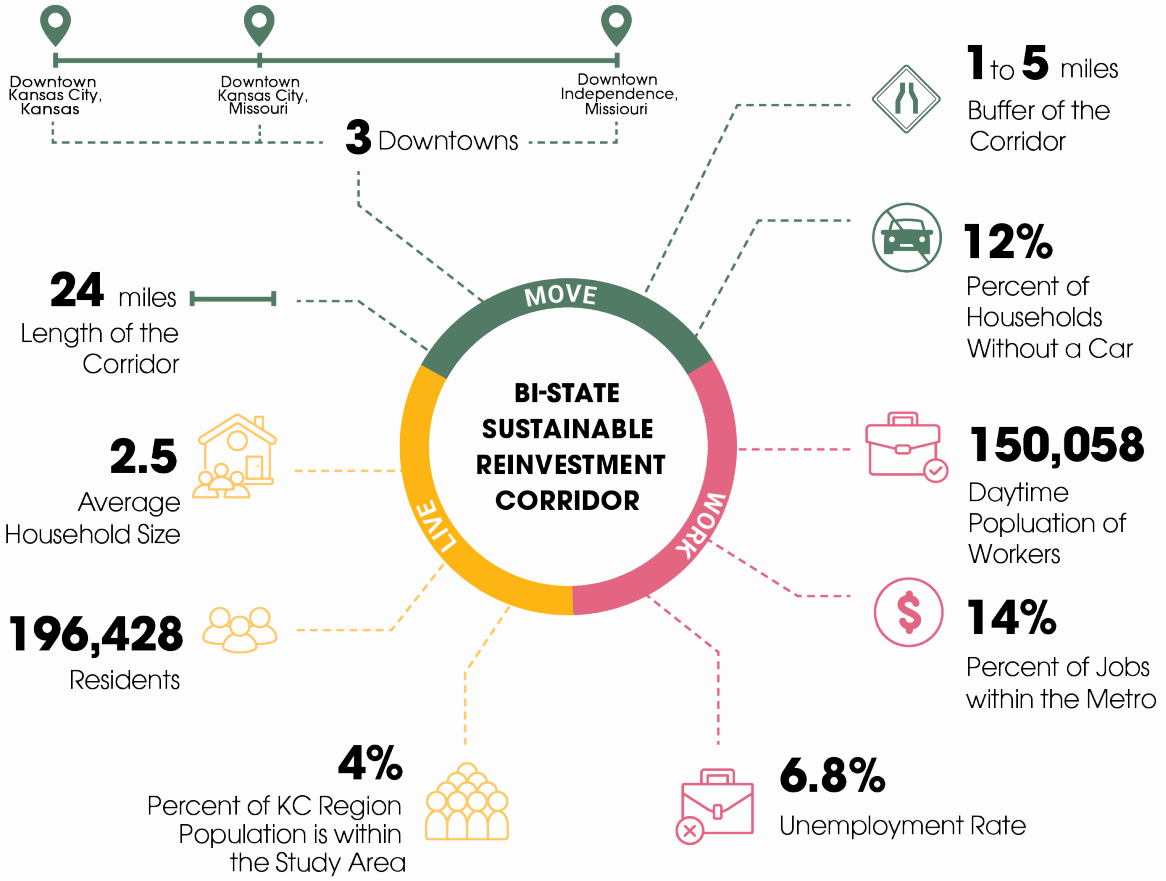


FIGURE 2: STUDY AREA MAP

STUDY AREA CHARACTERISTICS AT A GLANCE



PROJECT FUNDING

The U.S. Department of Transportation awarded a competitive $5.6 million Rebuilding American Infrastructure with Sustainability and Equity (RAISE) Grant to MARC to conduct this work in partnership with KCATA and the cities and counties along the corridor.

This funding will be used for planning activities for the east-west high-capacity transit corridor and related improvements. Funding for this study was secured as part of a bi-state effort by Congressman Emanuel Cleaver II and Congresswoman Sharice Davids.

FIGURE 3: STUDY AREA INFOGRAPHICS

KEY FOCUS AREAS

By integrating the below key focus areas, the BSRC project goes beyond a traditional transit plan to become a catalyst for community revitalization. Improved public transit will be the thread that ties these efforts together, providing the mobility necessary to connect people to new housing, jobs, and services. Investments in digital connectivity, affordable housing, and environmental resilience will ensure that the benefits of the corridor are broadly shared and sustained for future generations.

High-Capacity Transit
Establishing a BRT system as the spine of the corridor's transit network, featuring fast, frequent, and reliable bus service linking key destinations across the corridor.

Zero-Emission Transportation
Converting to clean electric vehicles and expanding low-carbon mobility options, thereby reducing pollution and supporting cleaner air for the region.

Equitable Transit-Oriented Development (TOD)
Encouraging mixed-use, mixed-income development around transit stations, including retrofitting aging buildings and promoting infill housing to increase affordable housing options near transit.

Broadband and Smart Infrastructure
Expanding high-speed internet access along the corridor to bridge the digital divide, and deploying smart city technologies to improve safety and efficiency (such as smart traffic management, public Wi-Fi, and connected infrastructure).

Green Infrastructure and Resilience
Enhancing the urban environment with green solutions – planting trees and improving the tree canopy, implementing advanced stormwater management systems, and supporting renewable energy installations - solar power, energy-efficient systems to make the corridor more resilient and sustainable.

PROJECT PHASES

I Assessment and Strategy Phase

This phase involves a comprehensive analysis of existing conditions—including land use, transportation infrastructure, and community needs—to establish a clear vision and set of goals for future development. It identifies a potential alignment for enhanced transportation within the Study Area, along with corresponding station locations, on and off-axis last-mile connections, and multimodal enhancements to the surrounding roadway network for pedestrians, automobiles, and transit users.

II Implementation Strategy Phase

Building on the identified enhancements and strategic framework, this phase focuses on the design and execution of a preferred alternative that meets National Environmental Policy Act (NEPA) requirements. It translates the vision into actionable, prioritized projects through detailed planning, stakeholder coordination, timeline development, and funding strategies to support long-term implementation and corridor success.

1.3 PROJECT EVOLUTION

The BSRC concept is grounded in years of prior planning work and community engagement along this corridor. This program intentionally builds on a strong foundation of local and regional plans, ensuring that it complements and amplifies existing community goals. Several key recent studies and initiatives have informed the corridor plan, a few examples are highlighted below:

- **Independence Avenue Pedestrian Safety Improvement Plan** – a community-driven plan addressing safety and walkability along the Independence Avenue corridor in Kansas City, MO.
- **Independence Avenue BRT Planning and Feasibility Study** – an early examination of BRT possibilities on the Independence Avenue corridor, exploring routes, ridership, and feasibility.
- **U.S. 24 Highway Corridor Study** – a study of transportation and development opportunities along the parallel U.S. 24 corridor, which overlaps portions of the BSRC area.
- **goDotte Strategic Mobility Plan** – Wyandotte County's comprehensive mobility strategy **(2022)**, which prioritizes transit and multimodal improvements like those envisioned for State Avenue in Kansas City, KS.
- **PlanKCK** – the City of Kansas City, KS's latest long-range comprehensive plan, which calls for corridor revitalization and transit-supportive land use along State Avenue and connecting into downtown KCK.
- **Smart Moves 3.0 Plan** - The Kansas City region's 20-year transit and mobility plan envisions efficient, high-ridership service connected by strategically located mobility hubs for seamless transfers. It emphasizes the link between density and quality transit. State Avenue and Independence Avenue are designated as fast, frequent transit spines with service every 15 minutes or less. Major Mobility Hubs include Village West, KCKCC, Indian Springs Mall site, Downtown KCK, 12th & Grand, East Village Transit Center, KCU, and Independence Metro Transit Center.

A detailed summary of plans in the study area is provided in **Section 3.6**.

These and other efforts – including local comprehensive plans, neighborhood master plans, and previous transit studies – have engaged thousands of residents and laid out visions for safer streets, better transit, and reinvestment in corridor communities. The BSRC will unify and advance these threads into a single actionable program. By leveraging previous planning and community input, the project team can avoid "reinventing the wheel" and instead focus on implementing shared priorities across the entire corridor.

1.4 PROJECT GOALS

The BSRC project takes a comprehensive approach to corridor planning including zero-emission transit, public infrastructure upgrades, energy-efficient housing, equitable TOD, area-wide broadband, pedestrian and bicycle infrastructure, and workforce training associated with nearby industries.

The project goals focus on this comprehensive approach.

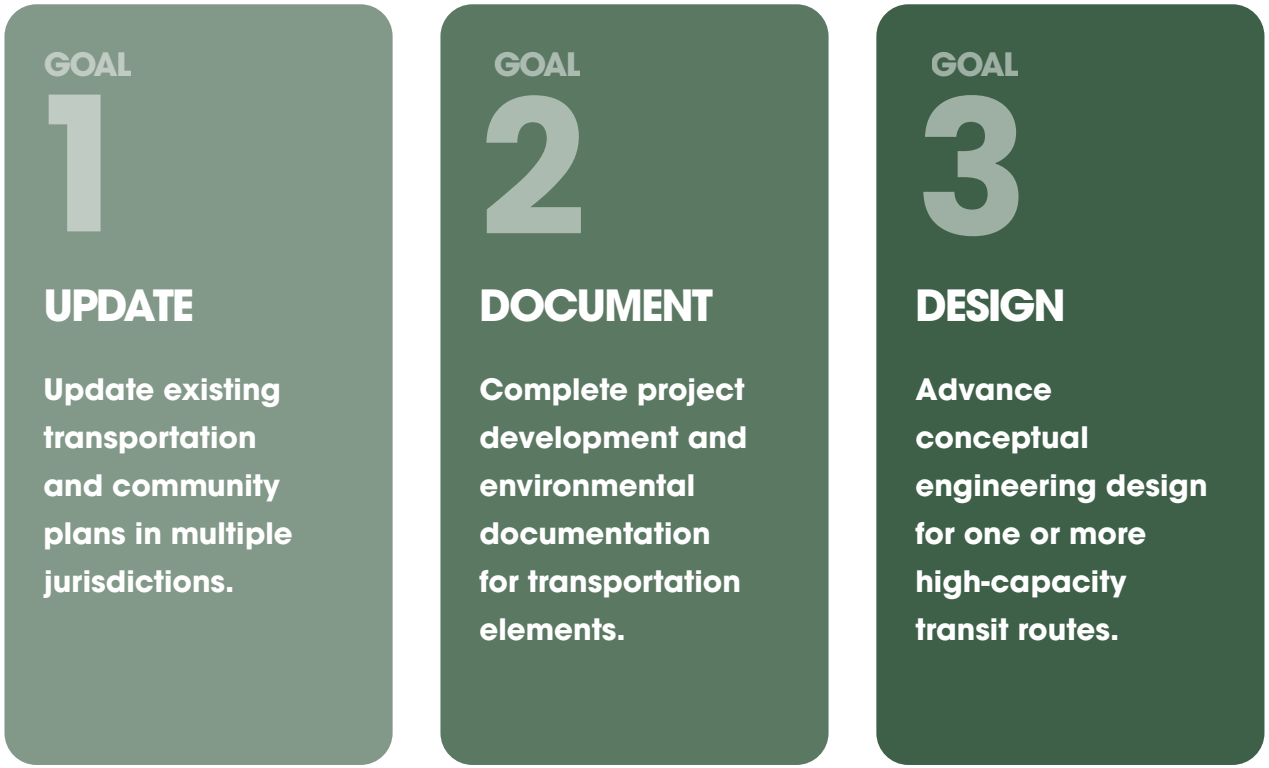


FIGURE 4: PROJECT GOALS

1.5 PROJECT TIMELINE AND MILESTONES

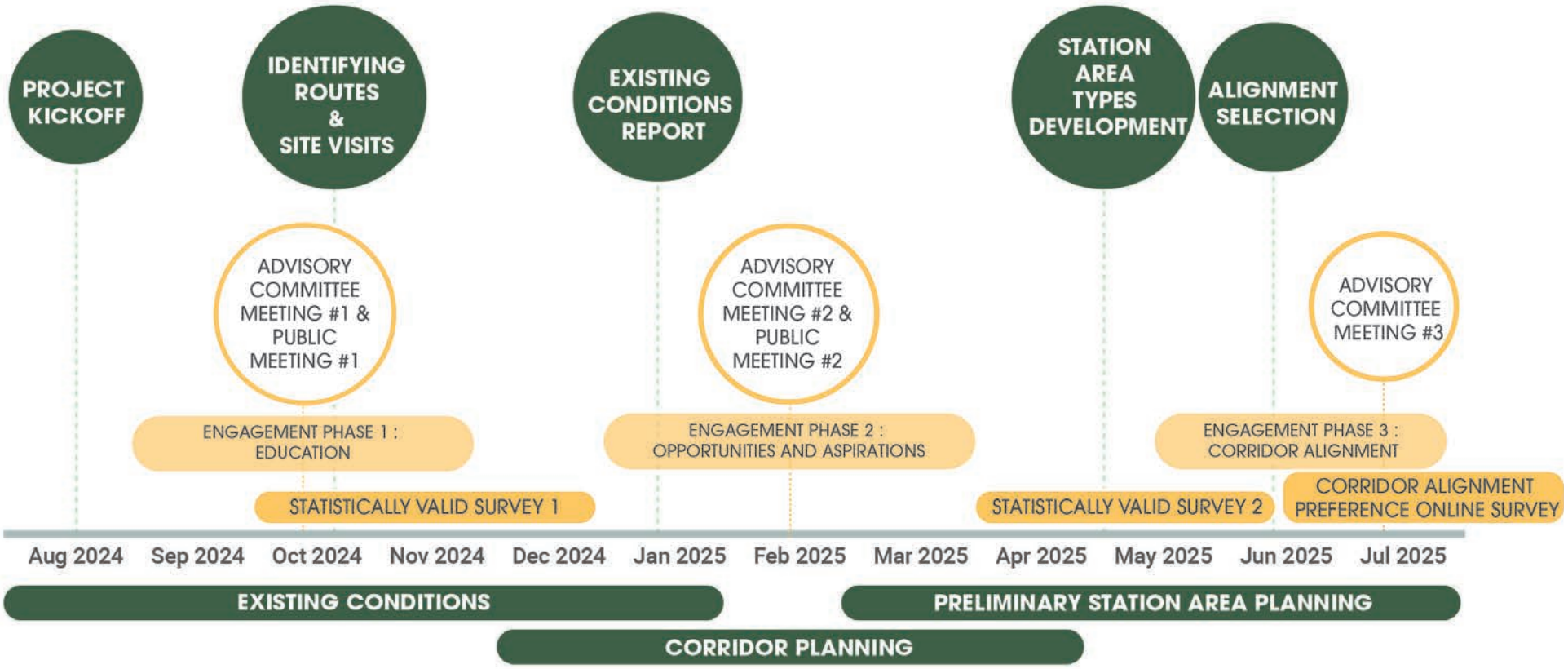


FIGURE 5: PROJECT TIMELINE

1.6 PURPOSE AND NEED

A Purpose and Need Statement is a foundational element of the NEPA environmental review process. It defines the underlying transportation problems or community issues that a project is intended to address and establishes the goals the project is expected to achieve. The statement provides the rationale for considering federal/state action and serves as the basis for developing, screening, and comparing project alternatives. In the context of NEPA, a clear and well-supported Purpose and Need Statement is essential for determining the scope of analysis, focusing environmental review efforts, and demonstrating that the selected alternative is responsive to the identified need.

The Purpose and Need Statement was developed by MARC and its community partners.

PRELIMINARY PURPOSE AND NEED STATEMENT

The purpose of the BSRC project is to develop an integrated and forward-thinking transportation and infrastructure framework that enhances mobility, reduces carbon output, and promotes fair access to housing, employment, education, and healthcare along a key east-west corridor within the Kansas City metropolitan region. The project aims to align transportation improvements with community needs, foster economic growth, and address environmental quality goals in collaboration with regional, state, and local partners.

The BSRC project addresses critical safety, mobility, economic, and infrastructure challenges within the Kansas City metropolitan region. The corridor has experienced significant safety issues, including 104 fatal crashes, 116 traffic fatalities, 24 pedestrian deaths, and 2 bicycle fatalities between 2017 and 2021. Individuals traveling on foot and by bicycle face heightened risks due to insufficient infrastructure, underscoring the need for safer multimodal transportation options and enhanced traffic safety measures.

The project corridor is also characterized by limited public transportation services that restrict access to essential opportunities such as employment, education, healthcare, and other services. With 22.3% of households in poverty and 12.7% lacking access to a vehicle, many residents depend on transit options which are currently unreliable and inaccessible. The corridor stretches across several key regional and local activity centers, but suffers from excessive transit travel times and a lack of seamless connections between modes. This further compounds barriers to mobility and community cohesion.

Economic development and balanced opportunity are pressing needs along the corridor. Investments in low-emission transit, housing, and TOD aim to **support communities, catalyze private investment, and create new economic opportunities**. The corridor's focus on workforce training and broadband infrastructure **will strengthen community preparedness and advance regional economic growth while improving access to resources**.

Enhancing environmental quality is a central goal of the project. The corridor faces challenges related to **transportation emissions and aging infrastructure, necessitating modernization and alignment with regional planning goals**. The project will promote energy-efficient transit options, reduce vehicle miles traveled, and incorporate sustainable infrastructure such as tree planting and stormwater management to **enhance preparedness and public well-being**. The project will also focus on community-driven solutions.

The BSRC builds on the successful implementation of previous regional initiatives led by the MARC, such as the Better Utilizing Investments to Leverage Development (BUILD - previously Transportation Investment Generating Economic Recovery (TIGER)) grants. These efforts have demonstrated the region's ability to execute complex, multi-jurisdictional projects that integrate transportation with community needs. By leveraging existing zero-fare transit services, advancing strategies like energy-efficient buses and mobility hubs, and modernizing critical infrastructure, the BSRC project represents a transformative opportunity to **enhance safety, fairness, environmental quality, and economic vitality throughout the region.**

RideKC MAX Bus Stop

METHODOLOGY

MARC developed a preliminary Purpose and Need Statement to inform the evaluation of alternatives and lay the foundation for subsequent NEPA environmental review in the Implementation Phase of this project. This statement was crafted in coordination with stakeholder partners and informed by early public engagement activities, including scoping meetings.

The preliminary Purpose and Need Statement was developed to be consistent with the region's adopted transportation vision, particularly the goals and strategies articulated in Connected KC 2050, the metropolitan transportation plan for the Kansas City region. The draft statement also incorporates the broader vision and multimodal objectives described in the BSRC RAISE grant application, including goals related to housing, mobility, environmental resilience, and economic opportunity.

The preliminary Purpose and Need Statement developed during the Assessment and Strategy Phase will be revisited and refined as the project advances into the Implementation Strategy Phase and formal programmatic NEPA environmental review. This refinement will occur in coordination with federal, state, local agencies, and project partners. Updates to the statement will also be informed by feedback received through ongoing stakeholder and public engagement to ensure it continues to reflect community priorities and project objectives.

RideKC Bus

MEASURES OF EFFECTIVENESS

To guide the evaluation of alternatives in the Assessment and Strategy Phase, a multi-factor scoring methodology was developed using a comprehensive set of Measures of Effectiveness (MOEs). These MOEs provide a transparent, data-driven method for evaluating how well each alternative addresses the project needs articulated in the preliminary Purpose and Need Statement. This approach also establishes a strong analytical foundation for the subsequent NEPA review, where the Purpose and Need Statement shapes the comparison of reasonable alternatives.

The MOEs encompass a broad range of criteria that align with the stated needs and goals of the BSRC project. Transit service metrics such as ridership potential, frequency, and connectivity assess how well alternatives improve mobility for users across the corridor. Socioeconomic indicators, including share of zero-vehicle households and poverty rates, evaluate the potential for alternatives to improve access to essential services. Safety metrics such as the number of crashes, pedestrian and bicycle collisions, and fatality locations are used to determine the effectiveness of improvements in reducing transportation-related harm.

MEASURES OF EFFECTIVENESS CONSIDERED IN EVALUATION

- **Cost of Good Repair**
- **Access**
- **Transit Readiness**
- **Redevelopment Potential**
- **Socio-Economic**
- **Transit Connectivity**
- **Roadway Impacts**
- **Local Opportunity**
- **Safety**

Environmental quality and infrastructure modernization are addressed through MOEs that evaluate low-emission transit options, state of good repair needs, and Right-of-Way (ROW) impacts. Measures related to land use and development readiness, such as residential and job density, redevelopment potential, and station area typologies, are used to assess how well alternatives can support long-term economic vitality and sustainable growth. Finally, multimodal connectivity metrics, including bicycle network expansion and pedestrian infrastructure, evaluate the integration of transit within the broader transportation system and the potential to provide a seamless and safe travel experience across multiple modes of travel.

These MOEs will continue to inform project decision-making into the NEPA environmental review to be conducted in the Implementation Phase.

02
COMMUNITY ENGAGEMENT

CONTENTS

2 COMMUNITY ENGAGEMENT

Community engagement has been an essential driver for the BSRC, shaping key decisions and reinforcing the project's responsiveness to community needs and values. This chapter outlines the deliberate and structured approach taken to engage the public throughout the study, carefully addressing concerns of past planning fatigue within corridor communities. This allowed for a fresh dialogue that emphasized transparency, responsiveness, and genuine inclusion of local voices.

Through multiple rounds of outreach, workshops, and surveys, residents provided significant insights regarding their transportation needs, neighborhood aspirations, and expectations for equitable transit investment. The community's consistent concerns—such as displacement risks, transit accessibility, and pedestrian safety—were central to informing corridor alignment and mode selection.

This chapter establishes the critical connection between public participation and the project's long-term success and equitable outcomes.

Neighborhood Meeting at Lykins

Neighborhood Meeting at Columbus Park

Open House at BlendWell Cafe (Independence, MO)

2.1 COMMUNITY DRIVEN ENGAGEMENT

Over nearly a year, the engagement team met regularly with residents and neighborhood leaders across the corridor to shape a transportation and economic opportunity plan rooted in community values. Nearly 50 engagement touch points—through meetings, events, and workshops—created space for transparent conversations about how transit could enhance mobility, safety, and quality of life. These sessions shared technical updates and offered open forums for dialogue, with recurring themes of connectivity, safety, accessibility and community identity.

The approach prioritized listening first. Residents were asked how the project could best serve them, what benefits it should bring to their communities, and what future they envisioned for themselves. Feedback highlighted a strong desire for transformation, including more accessible transit, improved walkability, safer crossings, and neighborhood-focused development. Residents also raised critical concerns about feasibility, trust, displacement, and ensuring that the project is community-serving.

50 **ENGAGEMENT TOUCHPOINTS**

PRIORITIES

- Accessible & reliable transit
- Safety
- Neighborhood-focused development

CONCERNS

- Implementation that is reflective of the community's priorities
- Displacement of businesses and residents
- Disruption of daily routine

FIRST ROUND OF ENGAGEMENT - EDUCATION

In the first round of engagement, the team introduced the project and invited residents to re-imagine transportation and development in their neighborhoods and along the corridor. Community members envisioned a corridor that better connects people to daily needs, such as grocery stores, schools, jobs, and parks, through safer streets and reliable transit. Common priorities included safer crosswalks, sidewalk repairs, Americans with Disabilities Act (ADA) accessibility, lighting, and improved bus stop amenities.

Questions also emerged. The engagement underscored the need for inclusive planning for youth, older adults, low-income households, and people without cars.

Who will benefit from this project?

Will long-time residents be displaced?

Will investments reflect the needs of each neighborhood?

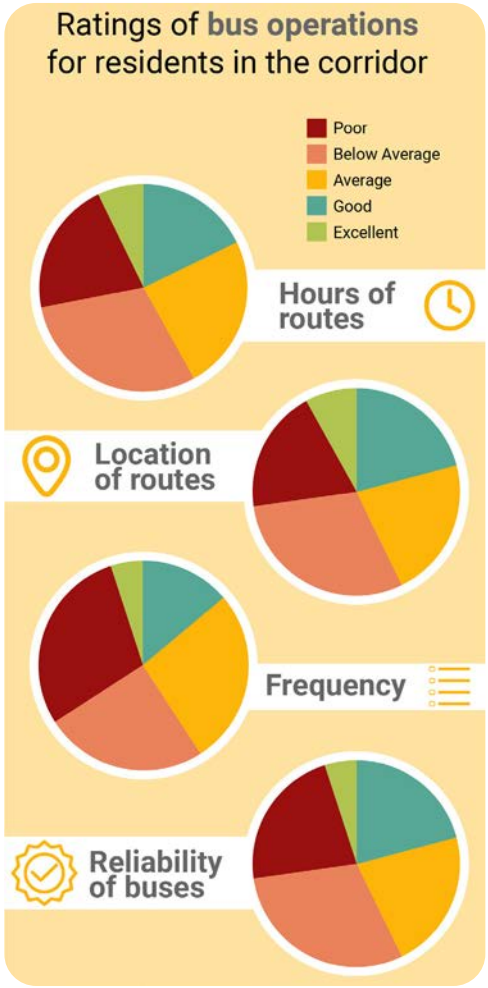
2.2 STATISTICALLY VALID SURVEYS

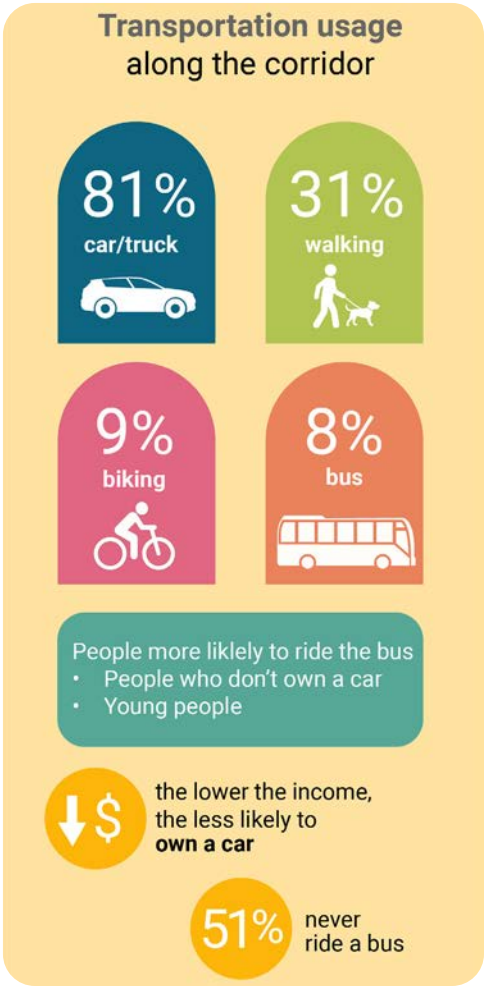
SURVEY 1

Two statistically valid surveys gathered feedback from the three main geographical areas (KCK, KCMO, and Independence/ Sugar Creek) along the corridor. Insights gathered from these surveys were instrumental in aligning the study's objectives and methodologies with the community's expectations and requirements. The first survey focused on the types of transportation respondents use, experiences using the bus system and public infrastructure, and community development priorities.

SURVEY 1 HIGHLIGHTS

- Gas-powered vehicles remain the primary mode of transportation.
- Lower-income and financially strained residents are far less likely to own cars, and thus more transit-reliant.
- Bus operations rated low, with over half rating service frequency, hours, and stop safety as average or below.
- Walking and biking conditions rated poorly, more than half gave low marks to sidewalk availability, lighting, crosswalks, and biking infrastructure.





KEY CONCERNS

Concerns around pedestrian and rider safety were raised at every engagement point. Residents shared vivid examples of daily risks - people walking on shoulders of bridges, children darting across busy streets without crosswalks, and wheelchair users navigating disconnected or broken sidewalks. Others described walking to work in early morning hours with no lighting or shelter at bus stops. There was also skepticism about bike infrastructure, with some residents not identifying as cyclists due to age, safety, or current lack of bike-friendly facilities. The question of who the project is really for was raised repeatedly. Residents fear displacement, lack of representation in the improvements, and unequal benefits if development favors already-thriving areas.

OPPORTUNITIES AND ASPIRATIONS

The second round of engagement focused on building community vision and identifying alignment-specific priorities.

Community members were shown data from the Existing Conditions Report including:

- Crash rates
- Transit frequency
- Household demographics

They also reviewed proposed alignment options and discussed which would have the greatest impact. The preferred route in most neighborhoods was the one with the highest existing transit use, central location, and best business access. However, some residents voiced concerns about traffic speeds and safety. Residents emphasized the need for a design that slows traffic, improves access, and brings equal investment to all communities along the corridor.

Open House at BlendWell Cafe

Pop-up at Independence Plaza

3rd Friday Art Walk in Downtown KCK

COMMUNITY INPUT ON ALIGNMENTS AND MODES

The second round of engagement provided residents an opportunity to review maps of proposed alignments in their area and share how each would impact daily travel, community access, and development potential. **Figure 6** shows proposed alignment alternatives within the 5 corridor segments. For additional details on the corridor segments and alignment alternatives refer to **Chapter 5**.

SEGMENT 1 (BRT/BRT-LITE)

Kansas City, KS - Legends to I-635

One of the three alignment alternatives, State Avenue is a direct, developable, transit-ready corridor connecting to more jobs and destinations, as shown by high ridership. State Avenue is identified as a high frequency transit corridor in numerous local and regional plans.

SEGMENT 2 (BRT/BRT-LITE)

KCK - I-635 to Downtown KCK

State Avenue has a large population for whom transit is a necessity, reflected in part by the solid ridership of the transit routes that currently serve these corridors. This corridor is dense and direct, meaning transit investments here can serve more people cost effectively.

SEGMENT 3 (STREETCAR/BRT/BRT-LITE)

Downtown KCK to Downtown KCMO

The key tradeoff in this segment is between fast, direct BRT service via I-70 or a slower BRT or Streetcar route with more local stops through the West Bottoms. The I-70 option prioritizes speed and efficiency, creating a transformative link between Downtown KCMO and Downtown KCK with major infrastructure upgrades. There is also great value in serving the West Bottoms with frequent transit service along 12th and James Streets. This option enhances neighborhood connectivity, safety, and economic development, while offering a high-quality rider experience and long-term growth potential.

SEGMENT 4 (BRT/BRT-LITE)

Northeast KCMO

This segment will serve existing communities and current transit demand on Independence Avenue, where the need and ridership are already high. There is an important choice between the robust and longer-term infrastructure of full BRT or a more flexible, lower-cost BRT-Lite option, with future incremental development improvements on Independence Avenue.

SEGMENT 5 (BRT/BRT-LITE)

Eastern KCMO, Independence, Sugar Creek

The decision in Segment 5 centers on whether to pursue a high-impact, long-range investment in full BRT on Independence Avenue (US-24) to drive regional growth and connectivity – or to opt for BRT-Lite to provide more modest, near-term improvements aligned with existing conditions and access to key destinations and communities.

TRANSIT MODE KEY FEATURES

BRT-LITE

- **Branded Service** including branding for vehicles, stops, and wayfinding, similar to KCATA MAX.
- **Frequent Bus Service** that offers consistent and reliable transit.
- **Transit Priority Elements** such as Transit Signal Priority (TSP) and some dedicated bus lanes.

BRT

- **Dedicated ROW** for buses.
- **High-Frequency Service** that operates at 10-minute or better intervals.
- **Enhanced Rider Amenities** including stop shelters, real-time travel information and potential integration with pedestrian and bicycle networks.
- **Requires dual-side boarding buses** to accommodate dedicated lane configurations.

STREETCAR

- **Fixed-Route Track-Based Service.**
- **High-Frequency Service** that operates at 10-minute or better intervals, similar to BRT.
- **Shared ROW**, though some models include partial lane separation from vehicular traffic.
- **Enhanced Rider Amenities** including stop shelters and real-time travel information.
- **Higher Capital Investment** for track installation and specialized vehicles.

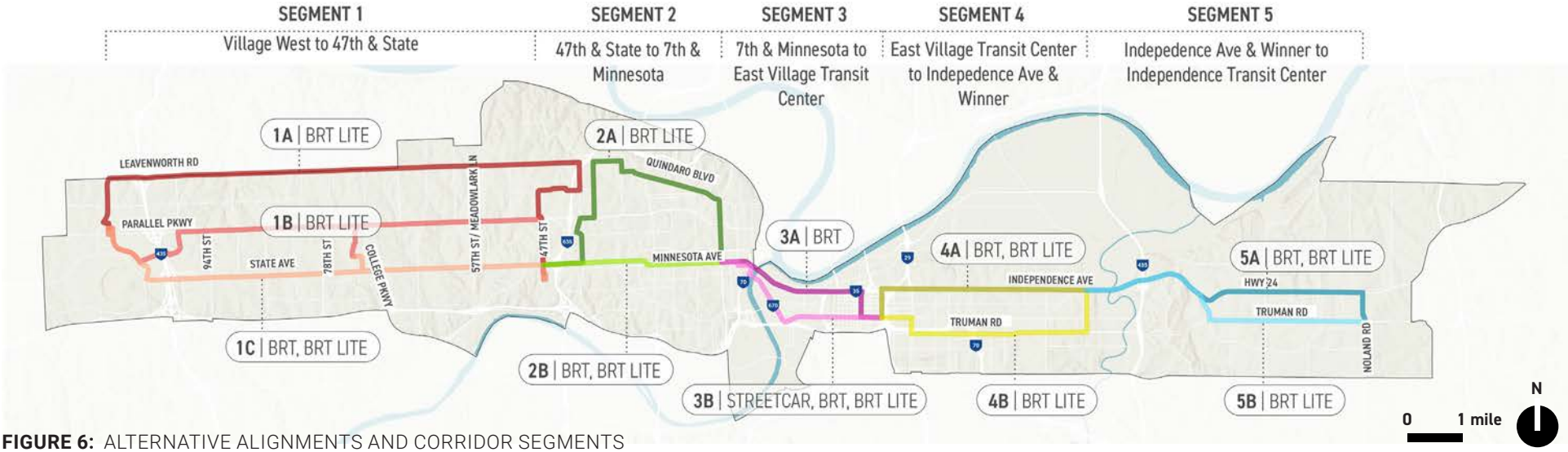


FIGURE 6: ALTERNATIVE ALIGNMENTS AND CORRIDOR SEGMENTS

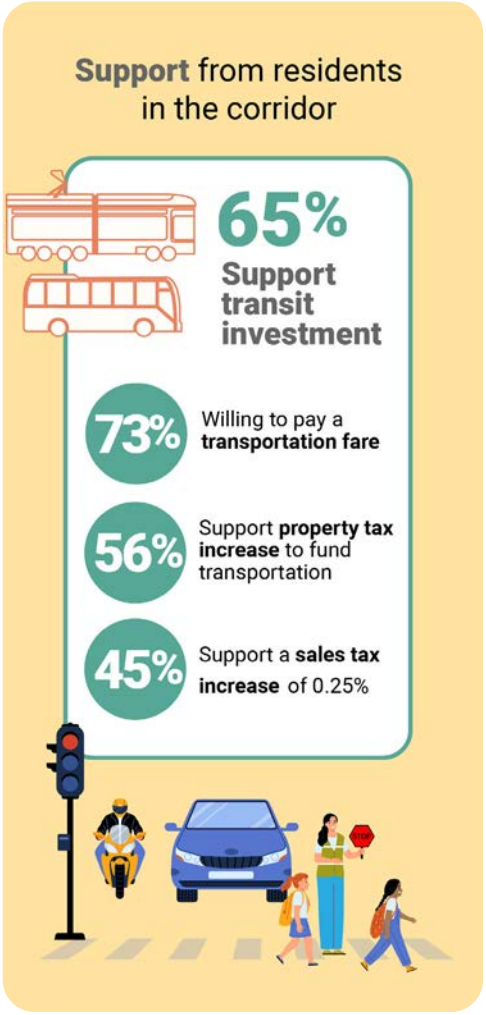
TRANSIT INVESTMENTS SURVEY

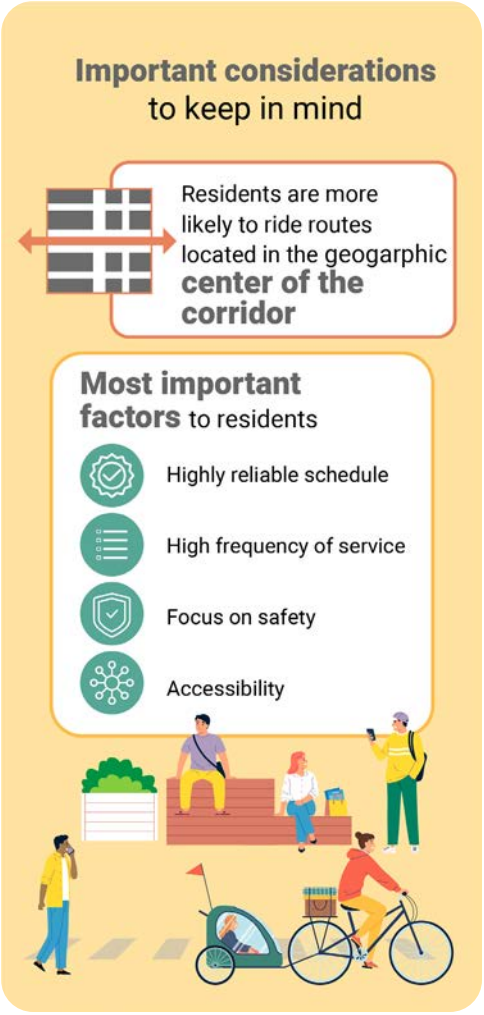
SURVEY 2

The second survey asked residents to weigh in on transit investment decisions—mode preferences, alignment options, and funding support.

SURVEY 2 HIGHLIGHTS

- Feedback showed readiness for change, provided it is inclusive, practical, and tied to community benefits. Fairness in access remains critical—especially for zero-car households and those in underserved areas.
- There was a strong preference for making transit investments over taking no action.
- BRT received broad support. Streetcar received both strong support and strong opposition.
- Residents expressed a higher likelihood of using routes in the central corridor.
- Safety is the top-ranked priority. Residents desire options for walking, biking, driving, and transit that are safe and convenient. Support for public transit investments is strong if it improves safety and connectivity.
- Proximity to transit and travel time are equally important. Most residents are willing to wait 10–15 minutes for a transit vehicle and walk 5–10 minutes to a transit stop.
- Most respondents supported revenue sources such as fares and property tax increases.





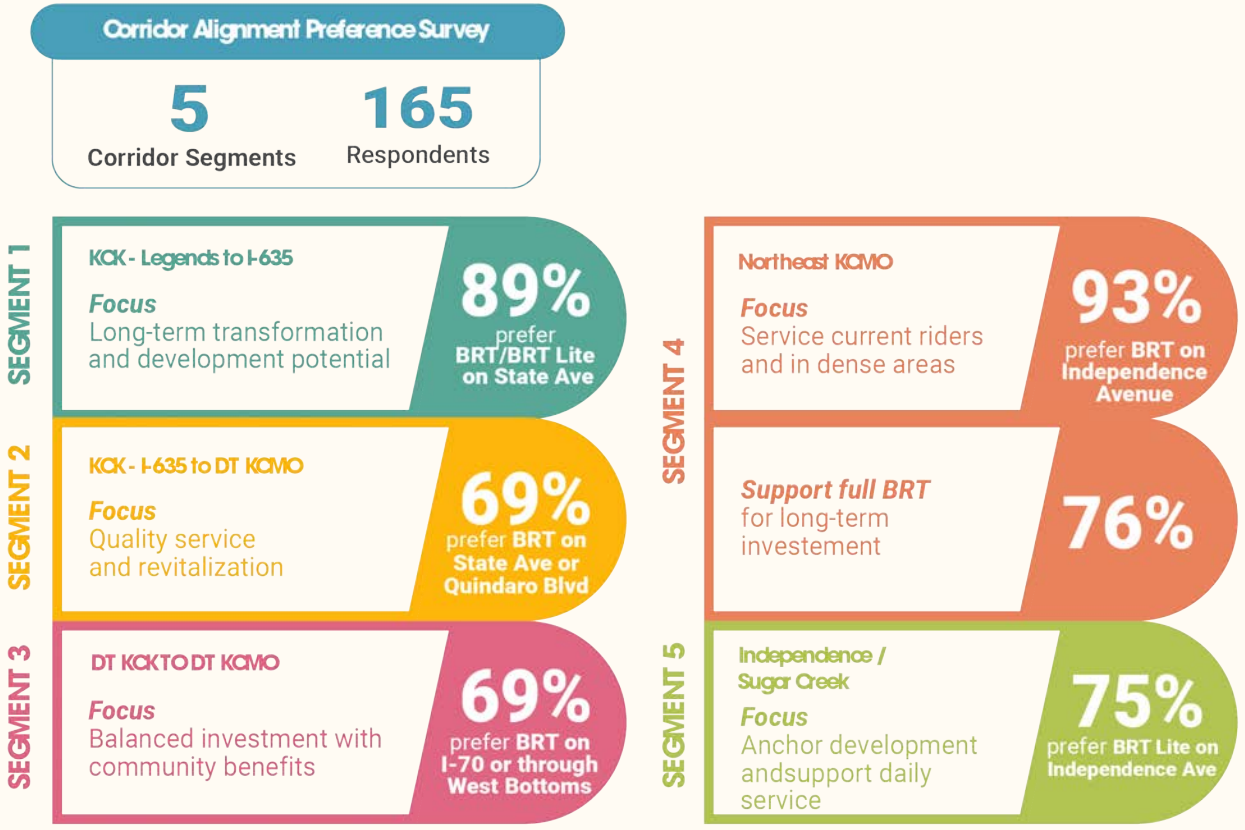
CORRIDOR ALIGNMENT PREFERENCE ONLINE SURVEY

ONLINE SURVEY

As part of the final round of engagement for the Assessment and Strategy Phase, the public had an opportunity to see how the corridor's transit options had been ranked based on cost, potential for growth, and how well they connect people. An online survey asked 'Big Choice' questions for each of the corridor's five segments based on many factors from a technical analysis.

KEY TAKEAWAYS

Across all segments, the public consistently favors BRT Lite investments on the far western and eastern segments. Higher-quality BRT investments are preferred along other key corridors, especially State Avenue and Independence Avenue, even when those options require less frequent service and greater investments.



2.3 OVERALL INPUT ON ALIGNMENT CHOICES AND COMMON THEMES

ACROSS ALL SEGMENTS, RESIDENTS EMPHASIZED

- Safety must be the first priority, regardless of route.
- A preferred alignment must reflect ease of access, not just efficiency.
- Investments must include the entire corridor.
- Corridor design should support walkability, small businesses, and safe crossings.
- The need for traffic calming measures, streetscape plantings, and visual cohesion.

ALIGNMENTS AND TRANSIT MODES EVALUATED

From the community meetings, popups, workshops, and surveys, **residents consistently emphasized priorities that go beyond transit – safety, access, and equitable investment**.

A strong preference emerged for alignment on Independence Avenue/U.S. 24. It is valued for its direct access to many neighborhoods, local businesses, and the potential for visible, high-impact improvements. Residents noted that investment along this corridor could build on current infrastructure and meet immediate community needs.

Neighborhood meeting Indian Mound

Concerns about high traffic volumes and pedestrian safety were common for Independence Avenue and Truman Road. As one resident said, **"The biggest impact will be slowing down the speed of the traffic, regardless of which alignment is chosen."** Residents in the eastern portion of the Study Area stressed the importance of continuing investment along Independence Avenue/U.S. 24 to Downtown Independence, MO ensuring the inclusion of Sugar Creek, MO, in the benefits of this investment. This feedback, combined with the technical analysis and survey results, helps to determine the alignment and transit mode that best reflects community priorities while meeting broader transportation goals.

COMMUNITY PRIORITIES FOR INFRASTRUCTURE AND GROWTH

- The most urgent public improvement requested across the corridor was safety, particularly for pedestrians
- Sidewalk repairs and connections
- ADA-accessible routes
- Lighting, mid-block crossings, and bus stop shelters
- Calming traffic and reducing speeding, especially near schools and key intersections

When discussing development opportunities, residents value:

- Local jobs, small businesses, and grocery stores within walking distance.
- Revitalized storefronts and reuse of underutilized buildings.
- Coordinated safety initiatives and lighting with all new developments.
- Streetscaping including trees and other plantings to provide shade and slow stormwater, and pedestrian amenities as economic development attractions.

Residents expressed support for a variety of development priorities—including housing, jobs, retail, civic spaces, and green areas—viewing them as interconnected elements of a thriving community. Many emphasized the importance of walkability, particularly to reach workplaces and stores. There was also interest in repurposing vacant retail or industrial spaces for local businesses and attracting jobs that help retain local talent. To enhance quality of life, residents envisioned beautiful, safe environments where daily needs, services, and gathering spaces are easily accessible close to home. A recurring theme was connection: linking neighborhoods through trails and bridges, and encouraging commuters to stop and engage with local businesses.

2.4 SUMMARY OF INPUT AND PATH FORWARD

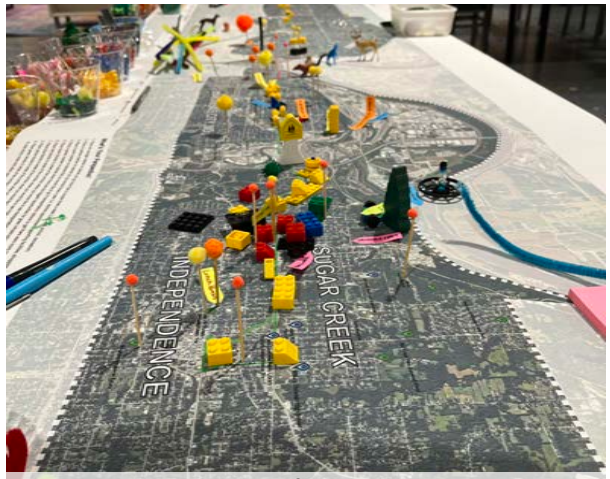
The vision shared by residents is one of **equitable, safe, and community-driven mobility**. Throughout the engagement process, residents emphasized how mobility and safety, community identity, streetscaping, and future developments are deeply connected– and that a successful corridor should reflect this by delivering a cohesive, people-centered design from end to end.

This input sets the foundation for the Implementation Phase, where the team will refine the transit route and begin detailed planning for how improvements take shape along the corridor. This phase will seek guidance from the **Advisory Committee** (a representative group of community leaders from public, private, and non-profit sectors across the full corridor that acts as a sounding board for the Municipal and Transportation Agency Partners) on mobility hubs, TOD, and neighborhood-scale improvements that support safety, connection, and economic opportunity in their communities.

The Implementation Phase will deepen planning through:

- Advisory Committee guidance
- NEPA environmental review
- Station area planning and design
- Walking audits and visual illustrations to bring the vision to life

The NEPA environmental review will occur simultaneously to evaluate a broad range of impacts on the environment, ensuring that federal agencies evaluate and consider the potential impacts of the proposed improvements while including the public in the decision-making process. The NEPA environmental review will be integrated with station area planning and street design to further define characteristics that promote safety and accessibility in each part of the corridor. The team will continue to engage the public through walking audits and visual illustrations to experience the existing environment together and co-create a vision for the future.



Open house BlendWell Cafe

03
PLANNING FRAMEWORK

CONTENTS

3 PLANNING FRAMEWORK

Designing a successful BRT corridor demands an understanding of the region's economic and physical landscape, as well as the needs of its diverse neighborhoods. This chapter provides that essential foundation, reviewing existing conditions, land use patterns, environmental conditions and market forces that influence transit planning and land use decision-making.

To strategically support distinct areas along the corridor, planners identified "Character Areas," geographic zones with shared economic, physical, and social traits. Recognizing these common characteristics enables tailored transit investments that respect and reinforce local community identity. This targeted approach ensures development opportunities and transit services are well-matched to local conditions and aspirations.

Physical barriers, such as challenging topography and disconnected infrastructure, were carefully analyzed to inform practical transit design solutions that improve accessibility for pedestrians, cyclists, and transit riders alike. Additionally, the chapter evaluates economic conditions to determine realistic development opportunities at key station areas.

By aligning transit planning decisions with locally specific data, market conditions, and community characteristics, the planning framework ensures transit investments are context-sensitive and contribute effectively to balanced and equitable regional growth.

A view of the study corridor west from U.S. 24 to downtown KCMO

3.1 PHYSICAL CONTEXT

The Study Area covers a large cross-section of communities, and therefore physical characteristics vary. Thus, the most appropriate transit solutions will also vary.

Population density, a key factor in planning for transit, varies from over 22,500 people per square mile in downtown Kansas City, Missouri to less than 1,000 people per square mile in the westernmost and easternmost parts of the Study Area.

View looking towards downtown KCMO

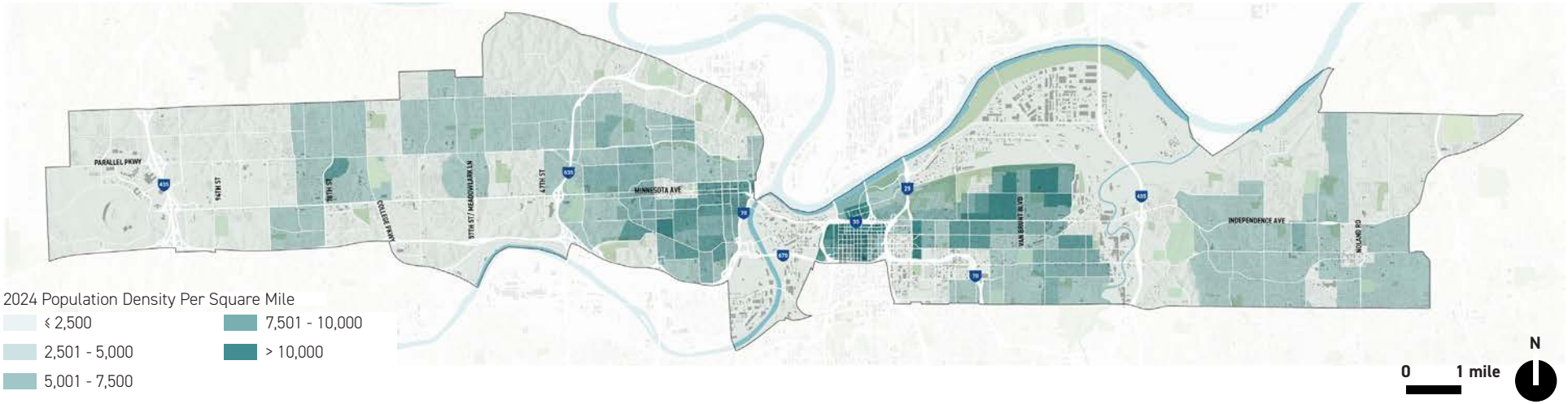


FIGURE 7: POPULATION DENSITY

Similarly, existing land use patterns show multi-family and mixed-use developments concentrated in the center cities, with some exceptions along State Avenue in Kansas City, Kansas and Wyandotte County. Commercial destinations like retail and office feature predominantly along major east-west corridors like State Avenue, Minnesota Avenue, Independence Avenue, and Truman Road. Industrial uses and job centers are concentrated in both Kansas City downtowns, the Legends area, and the East Bottoms area.

Central Industrial District, KCMO

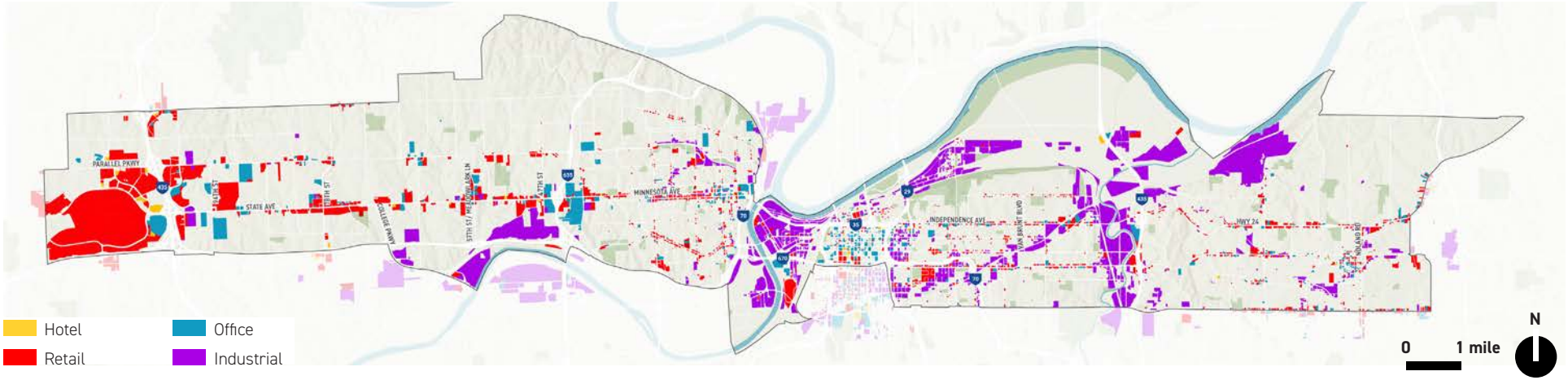


FIGURE 8: COMMERCIAL AND INDUSTRIAL LAND USE

All of these places are activity centers that could benefit from regular transit service. Other community amenities that should be accessible by transit include grocery stores (generally correlated with population density), civic and community uses, healthcare, and child care facilities.

Significant barriers present challenges to those without cars to move throughout the Study Area. These barriers complicate active transportation to key employment and service destinations. Physical barriers for transit riders to access the corridor mapped below include:

- **Steep slopes:** Some areas adjacent to the corridor have slopes greater than 8 percent, deterring access on foot or bike. Steep slopes are barriers along State Avenue between I-635 and North 69th Street, and on Independence Avenue in Sugar Creek between South Sterling Avenue and South Sugar Creek Boulevard.
- **Major transportation barriers:** Above/below-grade structures, such as Interstates 435, 635, 29, 35, and 70 and Highways 9, 169, and 69 (7th Street), are significant barriers for pedestrians and bicyclists. Railroad tracks near Wilson Avenue and Independence Avenue and the interstates also make crossings challenging.

Sidewalk coverage and condition also varies greatly through the Study Area, and steep slopes often create complicated terrain for travelers on foot or bicycle.

FIGURE 9: PHYSICAL LAND USE AND TRANSPORTATION BARRIERS

NATURAL HAZARDS

In the study region, **flooding, extreme heat, extreme cold and winter storms, and extreme winds** are among the most frequent occurrences that can disrupt transportation operations and affect transit reliability.[1] These events pose risks not only to physical infrastructure, but also to the safety, mobility, and well-being of the communities that rely on the corridor for daily access and long term connectivity. Impacts may hinder community members' ability to access essential places such as their homes, workplaces, schools, healthcare, and local businesses. The following sections provide a hazard-wise overview of risks and associated impacts to transit operations and users. A list of potential impacts and design considerations are provided in **Appendix F**.

FLOODING

EXTREME HEAT

EXTREME COLD AND WINTER STORMS

EXTREME WINDS

BSRC HAZARD MITIGATION GOALS

- Reduce the physical, environmental, and social impacts of disruptions.
- Support rapid recovery and continuity of services.
- Preserve and enhance essential community functions.
- Minimize long-term costs associated with maintenance, as well as emergency response and repairs.
- Promote a livable, walkable and connected community.

1 MARC. (2025) Regional Multi-Hazard Mitigation Plan, Risk Assessment. Retrieved from https://www.marc.org/document/2025-hmp-chapter-4-risk-assessment-combined Kansas Adjutant Generals' Department (2024)Kansas Region L Hazard Mitigation Plan. Retrieved from https://www.kansastag.gov/DocumentCenter/View/3894/Region-L-HMP-2024

FLOODING

Flooding is the most frequent, dangerous, and costly natural hazard in the United States. Flooding includes both **riverine and stormwater** flooding hazards.[2]

Riverine flooding occurs when streamflow exceeds the capacity of rivers and streams, causing water to overflow onto adjacent land. This type of flooding is typically influenced by upstream rainfall and watershed conditions. Riverine flooding is well documented in the project area, and most areas at risk of riverine flooding are protected by levee systems.

Flash flooding, also known as stormwater flooding, occurs when high amounts of rainfall in short durations of time overwhelm the capacity of local drainage systems and the ground to absorb it. Urbanization and the conversion of land to impervious surfaces increases runoff two to six times over what would occur on natural terrain.[3] This means that the risk of flash flooding is higher in urbanized areas.

Within the study region, **annual rainfall has increased by 5–15%** since 1992, and the highest intensity storm events are now **45% heavier than in the 1950s**.[4] While total annual rainfall is expected to stay about the same, future patterns are predicted to bring wetter winters, drier summers, sharper swings between wet and dry periods, more intense downpours, and more chronic flooding events.[5]

Flooding can significantly disrupt transit by inundating roads and routes, causing delays, detours, and reduced reliability. Damage to infrastructure such as washed-out roads, weakened bridges, and overwhelmed storm sewers can raise maintenance needs and hinders emergency response. For riders, these disruptions limit access to essential services and increase safety risks during evacuations. To reduce these impacts, flood mitigation strategies such as enhanced stormwater systems, elevated infrastructure, permeable pavement, and real-time monitoring can help protect assets, ensure service continuity, and improve rider safety.

Street flooding

2 FBIIC.gov. (2010). Flooding – Our Nation's most frequent and costly natural disaster. Retrieved from https://www.fbiic.gov/public/2010/mar/FloodingHistoryandCausesFS.PDF

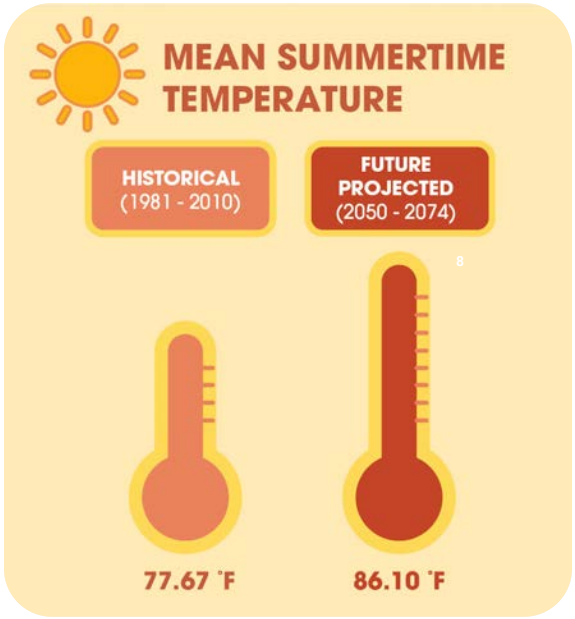
3 National Weather Service. (n.d). Floods. Retrieved from https://www.weather.gov/pbz/floods#:%7E:text=Urbanization%20increases%20runoff%202%20to,as%20they%20fill%20with%20water.&text=An%20arroyo%20is%20a%20water,normally%20dry%20creek%20bed.

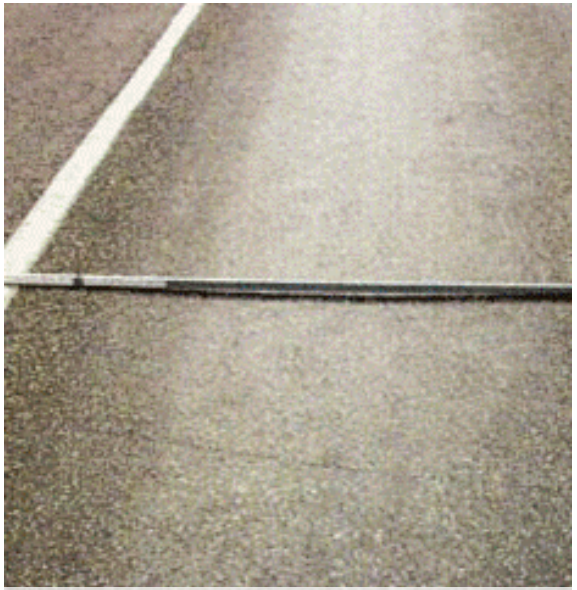
4 NCA5 (2023). Chapter 24 – Midwest, Chapter 26, Southern Great Plains. Retrieved from https://repository.library.noaa.gov/view/noaa/61592

5 NCA5 (2023). Chapter 24 – Midwest, Chapter 26, Southern Great Plains. Retrieved from https://repository.library.noaa.gov/view/noaa/61592

EXTREME HEAT

Extreme heat refers to prolonged periods of unusually high temperatures, often accompanied by high humidity. These conditions can occur over several days and are typically more intense in urban areas due to heat retention by buildings and pavement. Additionally, in recent years, the region has been experiencing longer and hotter summers, reflecting a clear shift toward more extreme heat that will be more pronounced in urbanized areas.[6]





Road rutting due to extreme heat

6 MARC. (2025) Regional Multi-Hazard Mitigation Plan, Risk Assessment. Retrieved from https://www.marc.org/document/2025-hmp-chapter-4-risk-assessment-combined
7 USGS (n.d.) National Climate Change Viewer. Retrieved from https://apps.usgs.gov/nccv/loca2/nccv2_loca2_counties.html

Urban areas can be up to 10°F hotter than nearby rural regions.[8] **Figure 10,** highlights which parts of the corridor are hotter or cooler than the citywide average from the *Urban Heat Anomalies Map*.[9] Notably, areas along the Kansas and Missouri Rivers emerge as some of the hottest zones in the corridor.

Transit riders are uniquely exposed to heat due to time spent walking to stops, waiting outdoors, and transferring between modes often in areas with limited shade or cooling amenities. As the project transitions into site selection and design for transit and supporting infrastructure, it is critical to incorporate heat abatement strategies that protect transit users from extreme temperatures.

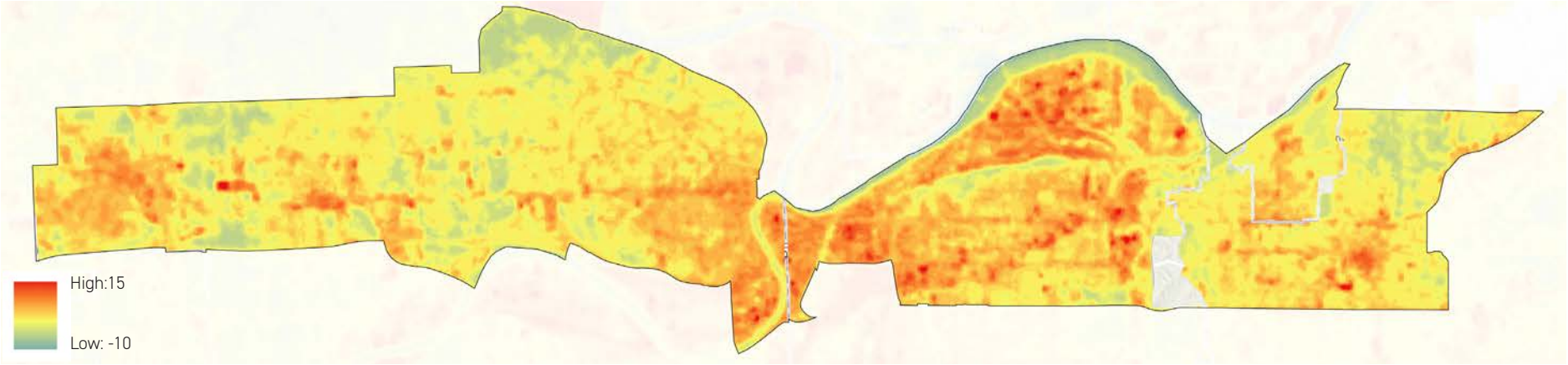


FIGURE 10: URBAN HEAT ANOMALIES MAP

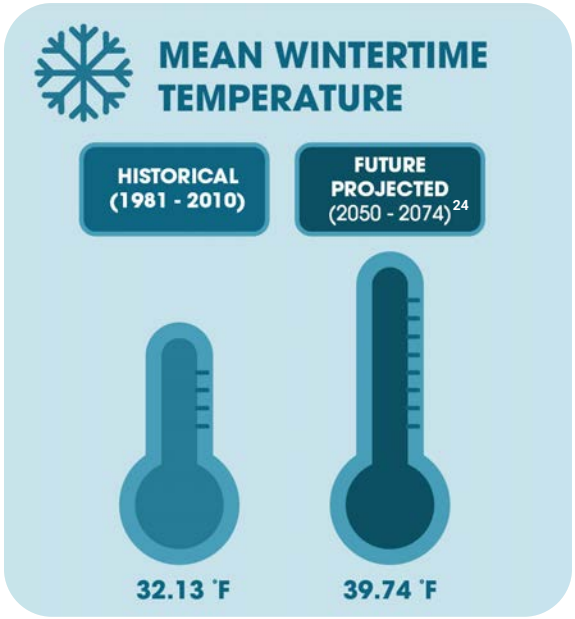
8 myNASA Data. (n.d.) Urban Heat Islands. Retrieved from. https://mynasadata.larc.nasa.gov/basic-page/urban-heat-islands#:~:text=Urban%20areas%20often%20see%20temperatures%20rise%206%C2%B0C%20(10%C2%B0F)%20hotter%20than%20the%20surrounding%20suburbs%20and%20rural%20areas.

9 Heat.gov. (2021). Full Range Heat Anomalies – USA 2021. Retrieved from. https://www.heat.gov/datasets/TPL::full-range-heat-anomalies-usa-2021/about

EXTREME COLD AND WINTER STORMS

Winters are becoming warmer, wetter, and shorter. Between 1950 and 2020, the average wintertime temperature has increased by 2-3°F.[10] Looking ahead, the average winters are expected to become warmer, with more overall wintertime precipitation, **though more of it may fall as freezing rain rather than snow**.[11]

Winter weather conditions such as snow, ice, and freezing rain can lead to increased delays and service disruptions across transit systems. These events strain heating infrastructure, potentially causing power outages during peak demand periods. Additionally, transit shelters may require heating and cooling systems to ensure the safety and comfort of waiting passengers.



Snow can reduce functionality of ADA accessibility

10 National Weather Service. (n.d.) NOW Data. Retrieved from https://www.weather.gov/wrh/climate?wfo=eax
11 NCA5 (2023). Chapter 24 – Midwest. Retrieved from https://repository.library.noaa.gov/view/noaa/61592
12 USGS (n.d.) National Climate Change Viewer. Retrieved from https://apps.usgs.gov/nccv/loca2/nccv2_loca2_counties.html

EXTREME WINDS

Kansas City is situated within the **"tornado alley"** of the USA. Within the study region, there is uncertainty regarding future trends in tornado activity and wind events. While the average wind speeds are expected to remain the same, **there may be a greater occurrence of large outbreaks such as clusters of tornadoes in a single day, or derechos which are long-lasting, fast-moving windstorms** associated with severe thunderstorms, capable of causing widespread damage.[13]

Extreme winds can cause severe disruptions to transit systems by damaging infrastructure such as roofs, siding, and overhead utility lines. These conditions **can lead to transit shutdowns**, emergency rerouting, and delays due to unsafe travel environments and blocked routes from debris. Power and communication outages can further complicate operations.

Tree fallen due to extreme wind blocks road

13 NCA5 (2023). Chapter 24 – Midwest. Retrieved from https://repository.library.noaa.gov/view/noaa/61592

CONCLUSION

As the project advances into site selection and design, it is essential to evaluate how specific hazards may impact individual project elements and their intended users. By identifying these risks early, the Implementation Strategy Phase can incorporate targeted mitigation strategies to ensure long-term functionality and protect transit users and infrastructure from future disruptions.

3.2 MARKET ANALYSIS

Planners conducted a real estate market analysis for the corridor to understand the opportunities and challenges of future development in relation to transportation investments. Because the corridor is so geographically and economically diverse, the market analysis segmented the corridor into **nine market areas to understand localized demographics, economic attributes, housing types, and other indicators/drivers of market demand**. The team also compared each market to the corridor as a whole and the broader Kansas City metro area to provide a baseline understanding of how each market area differs.

An analysis of commercial real estate data determined how specific real estate classes are performing within each market area as well as the broader metropolitan area. These classes included multi-family housing, retail, office, and industrial space.

A variety of market conditions exist throughout the corridor, ranging from stagnant to vibrant areas.

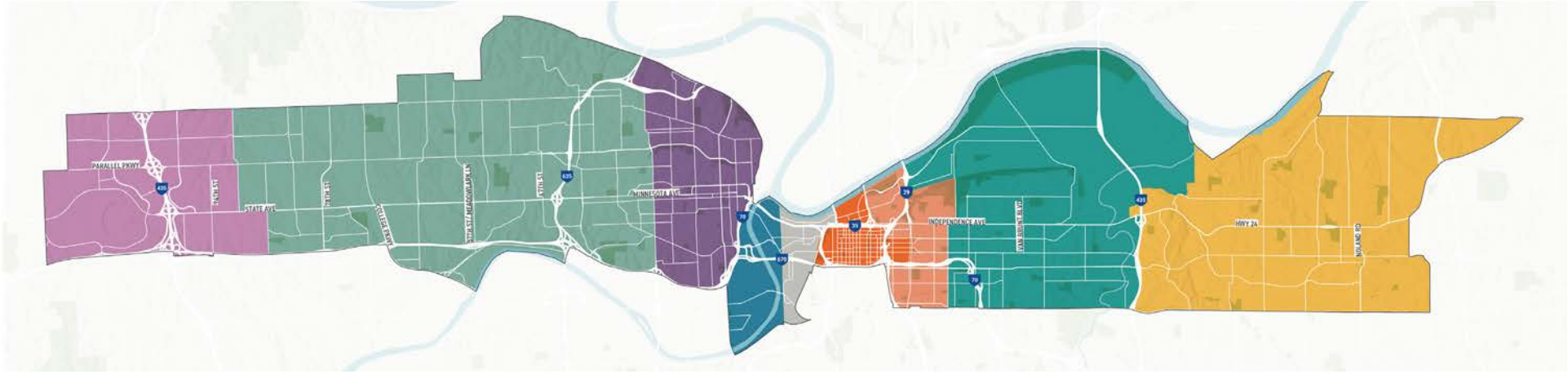


FIGURE 11: MARKET AREAS

CORRIDOR MARKET STRENGTHS

LIVE WORK PLAY

Multi-family housing development continues to shape downtown and downtown adjacent districts into vibrant work-live-play centers. These areas contain more space for expansion, with an attractive mix of pre-War industrial buildings ripe for conversion and developable land that can accommodate future growth. Additional residential density and development is stabilizing downtown in a period of readjustment in the office market.

ENTERTAINMENT DISTRICT

The retail and entertainment district in Village West is catalyzing a broader vibrant suburban center, slowly integrating a greater diversity of housing types into a typically low-density suburban area. New multi-family housing in the region is attracting empty-nesters and retirees - many of whom prioritize proximity to walkable retail districts as they downsize.

Adding more housing density is helping offset some of the major vacancies in the Village West office market - one of the softest in the region.

RETAIL GROWTH

Continued growth in e-commerce, wholesaling, and manufacturing are driving robust demand for industrial districts surrounding the perimeter of the corridor, generating strong middle-income jobs and sustaining property values. Expansion of industrial space in the southern portion of Kansas City, Kansas continues to perform well.

Even in less bullish areas of the corridor, such as the downtowns of Independence and Kansas City, Kansas, strong public sector employment and continued economic growth have stabilized residential markets, filled existing retail inventory, and maintained office space - enough so that new development appears imminent.

In the historic neighborhoods of the corridor, real estate markets have largely stabilized. In the neighborhoods further east of Kansas City, Kansas and into Sheffield, Missouri, historical disinvestment has limited new investment. Despite lower levels of investment, continued economic growth and wage growth on the bottom half of the labor market has led to low vacancy rates across commercial and multi-family real estate classes, and helped reverse disinvestment. Strategic policies can likely unlock new investment. A range of mixed-density housing development in areas with strategically located vacant land (priority on major streets or collectors) could help add buildings and more economic diversity, further catalyzing growth.

Below is a summary table of key demographic and market data gathered for the analysis. A more complete analysis can be found in the **Existing Conditions Report (Appendix A)** prepared for the study.

MARKET AREA	POPULATION	MEDIAN AGE	MEDIAN HOUSEHOLD INCOME	% OF HOME OWNERSHIP	MULTI-FAMILY		
					UNITS BUILT (2015-2025)	MEDIAN RENT PER MONTH	VACANCY RATE
West Wyandotte	6,376	36.4	$89k	64%	1,482	$2,077	1%
Central Wyandotte	61,476	35.8	$56k	61%	179	$1,113	4.5%
KCK	25,288	33.9	$43k	47%	50	$862	5.5%
Central Industrial	N/A	N/A	N/A	N/A	N/A	N/A	N/A
West Bottoms	135	26.7	$84k	0%	650	$1,178	18%
Downtown	11,633	32.3	$69k	15%	3,665	$1,448	10%
Downtown East	9,942	32.4	$37k	23%	1,358	$1,035	7%
Sheffield	34,462	34.5	$48k	53%	0	$850	14%
Independence	40,161	41.5	N/A	48%	95	$973	6%
Corridor	189,473	36.2	$54k	48%	7,479	$1,081	10%
Metro	2.2m	38.2	$74k	65%	45k	$1,148	8%

TABLE 1: SUMMARY OF MARKET DATA BY MARKET AREA

Source: ACS 5-Year survey, 2019-2023

MARKET AREA	OFFICE			RETAIL			INDUSTRIAL		
	SQ.FT BUILT (2015-2025)	AVERAGE RENT/ SF	VACANCY RATE	SQ. FT BUILT (2015-2025)	AVERAGE RENT/ SF	VACANCY RATE	SQ. FT BUILT (2015-2025)	AVERAGE RENT/ SF	VACANCY RATE
West Wyandotte	497k	$27	58%	359k	$20	1%	895k	N/A	N/A
Central Wyandotte	3k	$20	7%	359k	$8	13%	1.9m	$9	1%
KCK	256k	$15	7%	22k	$15	1.5%	25k	$8	4%
Central Industrial	N/A	N/A	N/A	N/A	N/A	N/A	275k	$5	0%
West Bottoms	53k	$28	10%	0	$16	2%	45k	$6	8%
Downtown	2m	$23	17%	288k	$25	1%	0	$23	4%
Downtown East	42k	$16	2%	38k	$7	5%	172k	$9	3%
Sheffield	89k	$20	2%	59k	$12	2%	788k	$6	3%
Independence	5k	$16	10%	36k	$13	7%	155k	$8	1%
Corridor	2.9m	$21	13%	1.2m	$10	4%	4.2m	$5	3%
Metro	5.4m	$21	12%	3.8m	$15	3%	68.2m	$5	5%

TABLE 1: SUMMARY OF MARKET DATA BY MARKET AREA (CONTINUED)

Source: ACS 5-Year survey, 2019-2023

3.3 CHARACTER AREAS

UNDERSTANDING CHARACTER AREAS IN THE METRO REGION

Developing **'Character Areas'** helped project partners and the public better understand the variety of neighborhoods and development patterns across the metro area that may influence the market. These areas help us see where places share similar features such as types of housing, jobs, shopping, or population makeup, even if they are not right next to each other on the map.

A total of **16 unique Character Areas were identified across the region, 13 of which appear in the Study Area**. While some areas are grouped together geographically, others are spread out but still share common traits, like clusters of new apartment buildings and shopping centers that have popped up in different suburbs.

A wide range of data at the neighborhood scale helped to define these Character Areas. Census block groups were the unit of analysis. The data included things like:

- Population numbers including total count and diversity
- Housing types and affordability
- Household income and family types
- How people get to work and how far they travel
- What kinds of jobs are nearby
- Access to grocery stores and other services
- Types and prices of nearby office, retail, and industrial buildings

A computer algorithm grouped areas with similar demographic characteristics and proximity to employment, services, and amenities. These groupings formed the Character Areas, with each representing a unique mix of people, places, and patterns across the metro area.

Below is a selection of the largest Character Areas:

Central Downtown, at the heart of the Study Area, features dense office employment, retail geared toward office workers, and a growing population of young professionals in multi-family housing. Redevelopment emphasizes market-rate apartments that support a vibrant work-live-play environment.

The neighborhoods surrounding downtown, including West Bottoms and Northeast of Downtown, are identified as **Gentrifying Urban Core**. Historic industrial buildings are being redeveloped into mixed-use housing, attracting young, college-educated workers. This adaptive reuse has led to rising home values, early signs of displacement, and increased transit and bike use. Affordable housing initiatives sparked development, now followed by market-rate projects. Tax Increment Financing (TIF) districts may support further affordability and industrial reuse.

The historical **Urban Mixed-Use Centers**, stretching east of Downtown KC, MO, and west into Kansas City, KS, combines industrial, retail, and office uses, mainly serving public and institutional tenants. Despite high occupancy, new investment is limited. Nearby neighborhoods face high poverty, low homeownership, and a concentration of public and affordable housing, with many vacant lots and multi-family units.

Disinvested Urban Neighborhoods, extending east and west of the core, have historically faced disinvestment tied to redlining (historical discrimination in mortgage lending) and racial discrimination. These majority-minority areas are home to large and single-parent families, with many residents commuting to industrial or service jobs, often by public transit. Housing is mostly single-family near industrial zones, with aging

retail along main roads. Stabilization and rehab efforts could attract investment, especially along transit corridors with varied housing densities.

Post-War working-class neighborhoods in the Study Area's edges transition into low-density suburban and exurban areas, with median-value homes and car-dependent older households.

Downtown Independence and eastern Wyandotte feature mixed-use suburban centers with aging multi-family housing and institutional offices. Western Wyandotte is a **Suburban Retail Center**, offering destination retail, new offices, and market-rate multi-family housing for suburban workers and empty-nesters.

More details about the Character Areas are in the **Existing Conditions Report (Appendix A).**

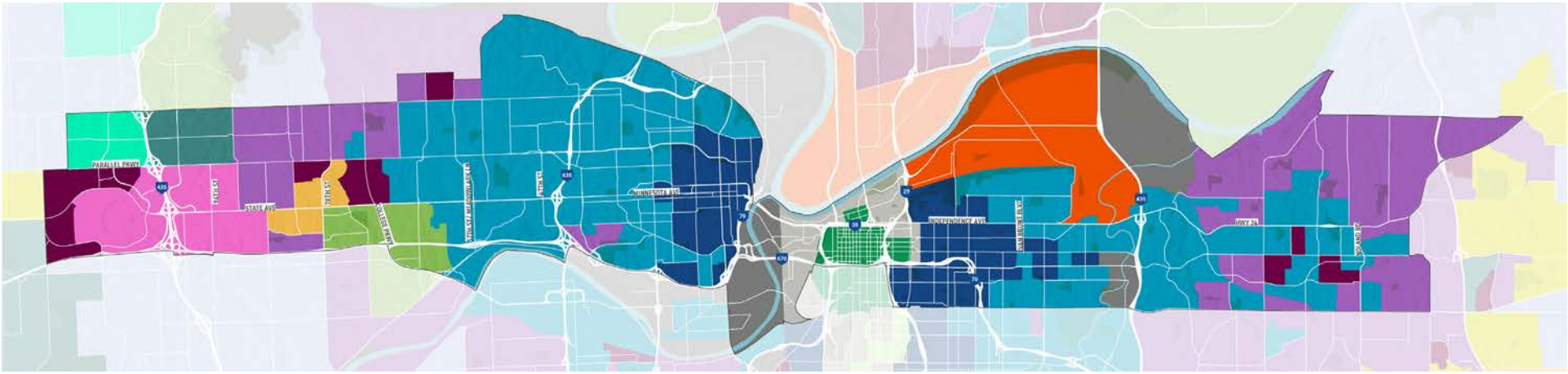


FIGURE 12: CHARACTER AREAS

3.4 LAND USE FRAMEWORK

Successful and sustainable transit development is often necessitates land use changes. To evaluate the capacity for change to support transit, the team assessed future land use planning and redevelopment potential in the Study Area.

Each of the five communities in the Study Area provides its own future land use guidance. Generally, the planned land uses follow existing land use patterns, with some intensification of use planned in and around downtown areas. Areas guided for mixed use, high intensity commercial and/or higher intensity industrial represent potential transit destinations. Specifically, East Truman Road and the downtown area in Independence, major employment hubs and mixed-use areas in Kansas City, Missouri, and infill and redevelopment areas within Kansas City, Kansas suggest key areas ripe for transformation.

Figure 14 shows that over 27% of the land area within the Study Area has the highest redevelopment potential (an improvement value to land value ratio of less than 0.4).

The team analyzed redevelopment potential based on the ratio of improvement value to land value of each parcel. This ratio provides insight into the relative worth of the development or enhancements made on a property compared to the value of the land itself, and can indicate:

Investment in Property: A higher ratio indicates that a significant portion of the property's value comes from the buildings and other improvements, suggesting substantial investment in development. Conversely, a lower ratio implies that the land itself holds more value relative to the improvements.

Depreciation and Tax Implications: For tax purposes, buildings and improvements can be depreciated over time, but land cannot. A higher improvement value means more potential for depreciation deductions, which can reduce taxable income.

Development Potential: A low ratio might indicate that the land has high intrinsic value, possibly due to location or potential for future development. This can be attractive for investors looking to redevelop or enhance the property further.

Market Insights: Understanding this ratio helps in comparing properties. For example, two properties with similar total values but different ratios might appeal to different types of buyers or investors based on their development and investment strategies.

This high-level assessment can help guide planning and investment decisions, aide in targeting revitalization to specific areas, improve infrastructure, and ultimately meet the community's evolving needs.

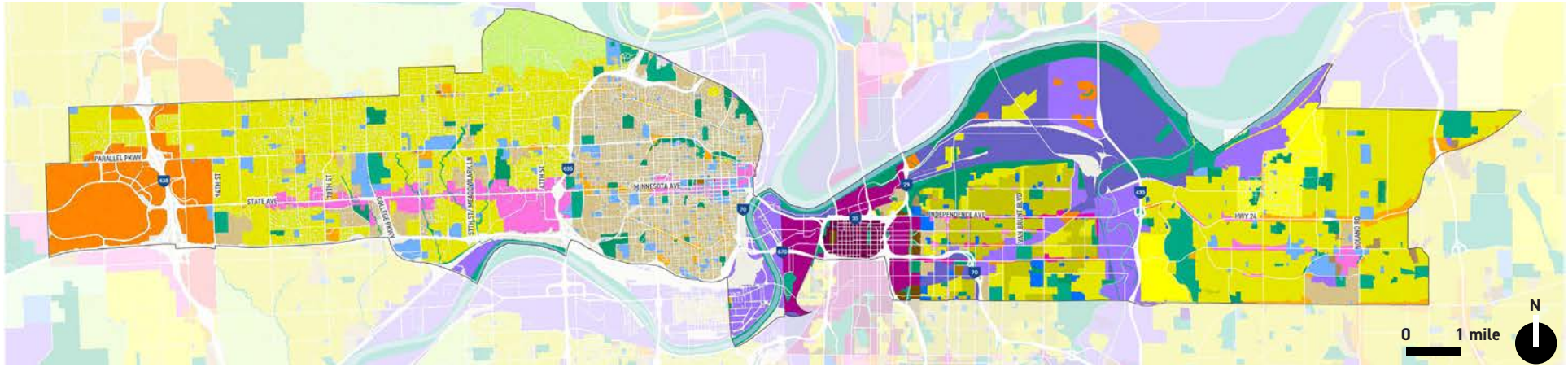


FIGURE 13: FUTURE LAND USE

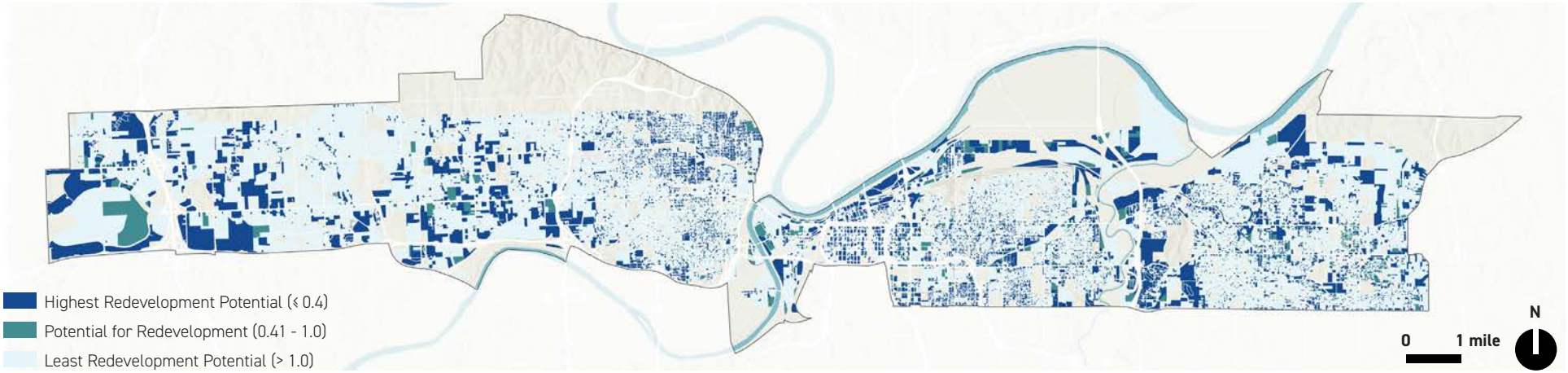


FIGURE 14: IMPROVEMENT VALUE TO LAND VALUE RATIO

3.5 RIVER CROSSINGS ANALYSIS

As part of this project, MARC requested a structural assessment of the bridges crossing the Kansas River between I-70 and 7th Street. Considering the Kansas River serves as a significant barrier to existing and future sidewalk/trail connections, identifying practical opportunities to connect or improve connections between neighboring jurisdictions is fundamental. The analysis provided high-level planning insights for decision-makers to understand the challenges, opportunities, and approximate investment needed for pedestrian/multimodal accommodations for future transit service accessibility and station area investments.

This study evaluated five automobile bridges using the National Bridge Inspection Standards (NBIS) Rating System, a system used by inspectors to assess the condition of a bridge and determine the need for maintenance repair or replacement. The scale starts with a rating of 0 which is a failed condition and should result in the bridge being out of service and beyond corrective action. The highest rating of 9 represents a bridge with at least some new components and no deficiencies. **Three railroad bridges were evaluated using a high-level visual analysis**.

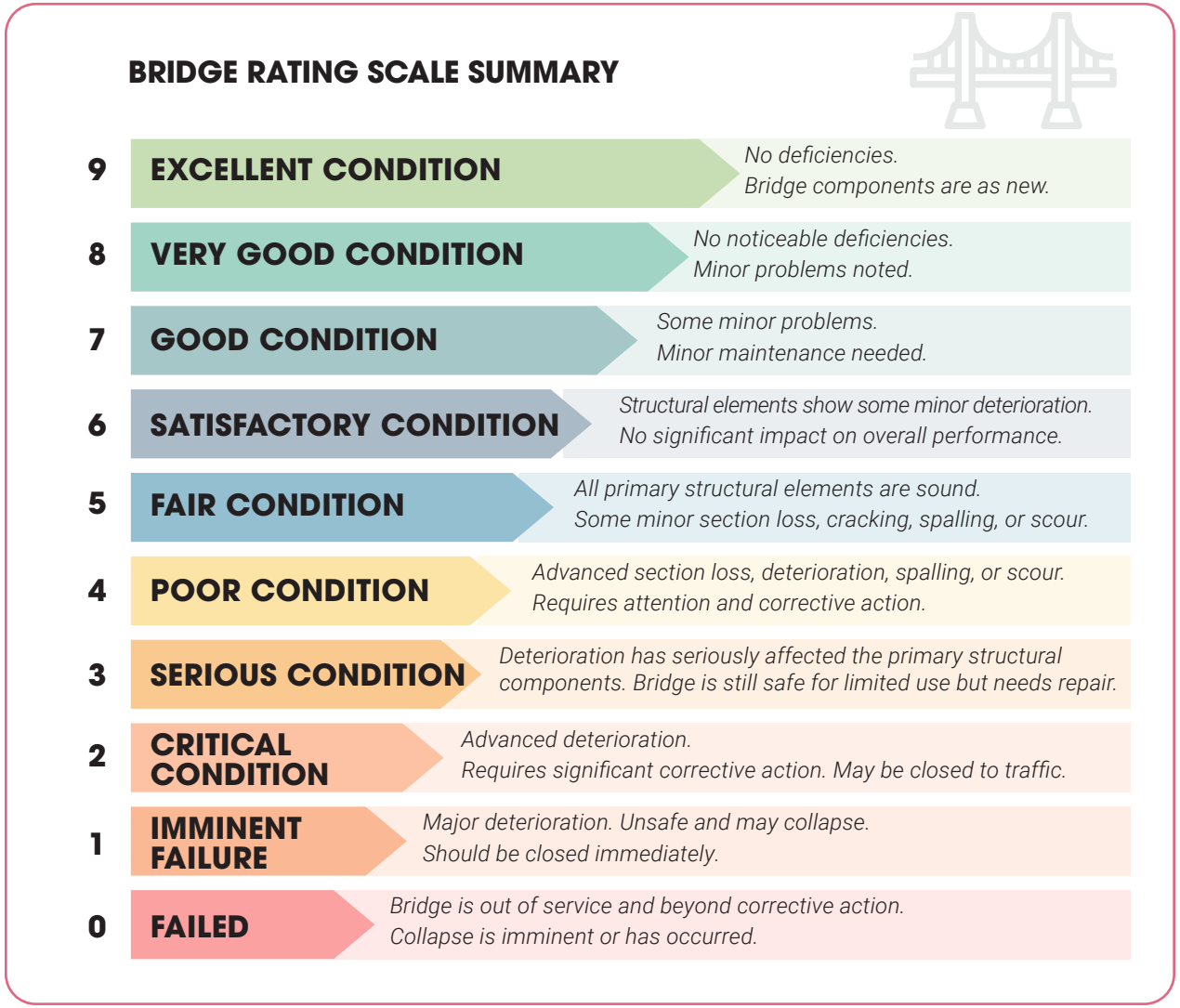


FIGURE 15: BRIDGE RATING SCALE SUMMARY

AUTOMOBILE BRIDGES

BRIDGE	YEAR BUILT	DECK RATING	SUPERSTRUCTURE RATING	SUBSTRUCTURE RATING	MAINTENANCE
James Street Bridge	**1987**	**6**	**8**	**5**	**Deferred maintenance estimated at $1 million.**
I-70 Eastbound Bridge	**Built in 1907, new superstructure in 1972**	**7**	**4**	**5**	• Identified as a candidate for replacement. • Recent work included steel girder strengthening and beam replacement (2023). • Replacement cost estimated at $65 million based on cost to replace I-70 Westbound Structure.
I-70 Westbound Bridge	**2018**	**8**	**8**	**8**	**No deferred maintenance identified.**
I-670 Eastbound Bridge	**1984**	**7**	**7**	**6**	**Not likely to be used for BRT.**
I-670 Westbound Bridge	**1984**	**7**	**7**	**7**	**Not likely to be used for BRT.**
Central Avenue Bridge	**1930 (Closed in 2022)**	**2–3** (Closed condition)	**2–3** (Fracture critical truss)	**3–4**	• Closed due to deterioration of lower structure. • Replacement estimated at $60 million. • Alternatives considered include re-purposing for pedestrian/multi-modal use ($6–$12 million).
Kansas Avenue/ Cesar E. Chavez Bridge	**1921 (Rehab in 1961)**	**3**	**3**	**4**	• 102-year-old steel deck truss. • Closed in 2022 due to poor structural condition. • Short-term rehab underway to reopen with lane restrictions and load posting (Spring 2024). • Full replacement planned under BSRC project ($69.9 million grant request)

TABLE 2: AUTOMOBILE BRIDGES INVESTIGATED

AUTOMOBILE BRIDGES

The bridges currently in service remain capable of handling standard truck traffic. Except for the I-70 Eastbound bridge, which is programmed for replacement, the remaining structures appear to have sufficient capacity to accommodate new transit loads, such as BRT or streetcar systems, without the need for full replacement or significant retrofits. Currently, widening is not being considered. It should be noted that both the Central Avenue and Kansas Avenue bridges are currently closed due to structural deterioration and are not recommended for remaining in place to accommodate new transit loads.

RAILROAD BRIDGES

BRIDGE	OWNERSHIP	ACTIVE/ABANDONED
North Bridge	**Union Pacific (UP)**	**Active**
South Bridge	**Union Pacific (UP)**	**EastBound Active, WestBound unclear**
CPKC Abandoned Railroad Bridge	**Owned by CPKC (formerly KCS)**	**Abandoned**

TABLE 3: RAILROAD BRIDGES INVESTIGATED

While all three bridges are physically located within the Study Area, only the CPKC Abandoned Railroad Bridge has been actively considered for repurposing. Because it is abandoned and no longer serves active rail, the structure may offer potential for multimodal conversion, though significant steps would be required. These include:

- Confirming ownership and negotiating with Canadian Pacific Kansas City (CPKC).
- Coordination with the U.S. Army Corps of Engineers (USACE) and U.S. Coast Guard regarding vertical clearance and navigability requirements.
- Addressing ROW access constraints and adjacent land use on both banks.
- Potential relocation or accommodation of existing utilities.

Acquiring rights to the structure would likely require a lengthy and costly negotiation process. Recent precedent from the nearby Rock Island Bridge redevelopment estimated costs around $14M to install a closed-deck system with utilities and connections (for construction only, not including negotiation and acquiring costs).

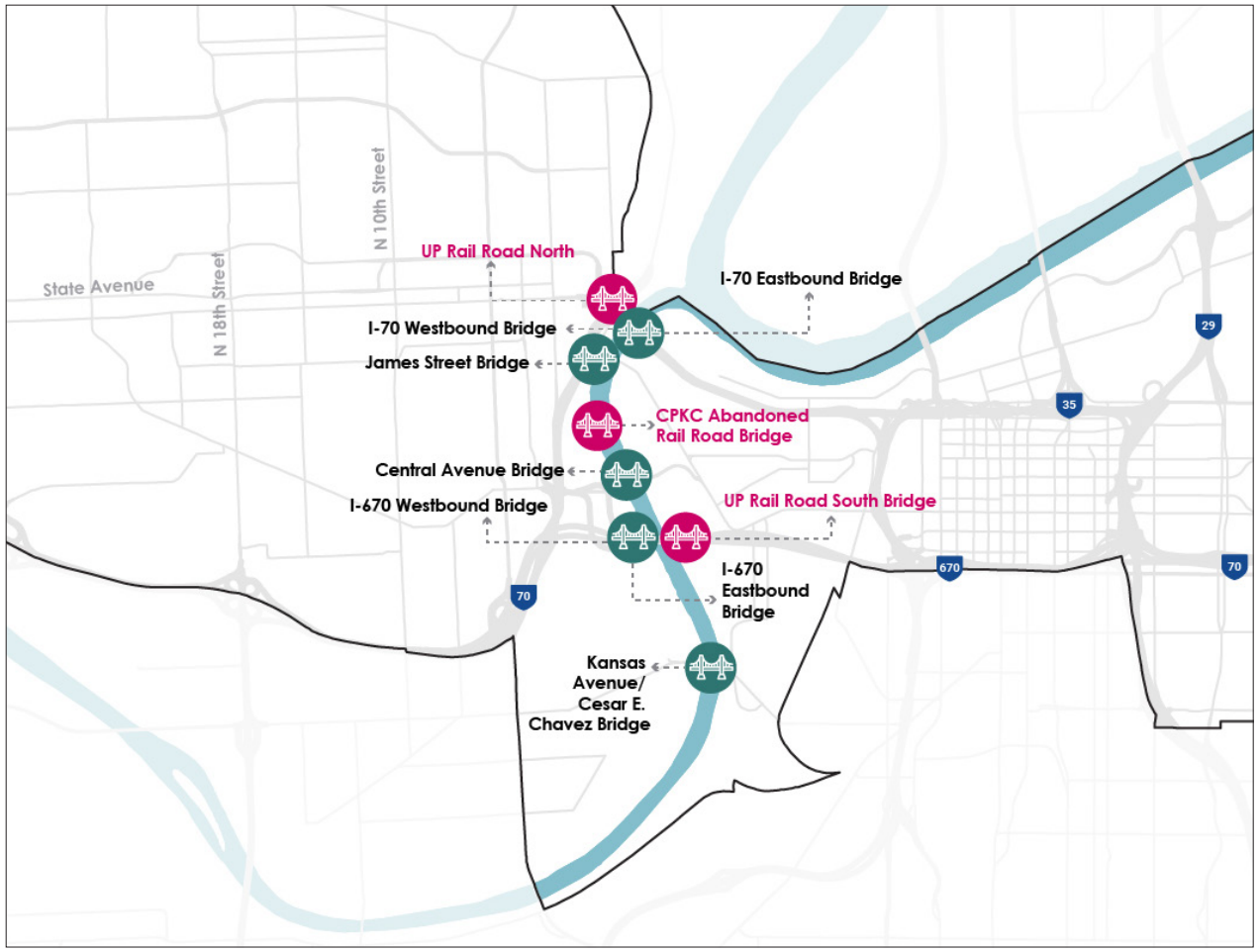


FIGURE 16: MAP OF INVESTIGATED BRIDGES

PLANNING-LEVEL COSTS

Alternatives analyzed as part of this study assumed the reuse of existing alignments and substructures. As such, the cost estimates reflect repurposing scenarios without major structural replacement or expansion (with the exception of I-70 EB that is scheduled for replacement). The following known costs are noted:

- **James Street:** $1M for deferred maintenance.
- **I-70 Eastbound:** $65M for full replacement based on cost to replace I-70 Westbound.
- **I-70 Westbound:** No immediate costs identified.

While other long-term bridge improvements may be necessary in the broader corridor, those items are outside the scope of this specific analysis and would require further study.

3.6 EXISTING PLAN PRIORITIES

This section provides an overview of relevant key takeaways of prior plans studied, developed, or implemented within the Study Area, while recognizing that these documents were created for broader purposes beyond the scope of this analysis **(KCK REGION)**.

PLANS

(2023) PLAN KCK CITYWIDE COMPREHENSIVE PLAN

- Citywide vision for sustainable and equitable growth in various sectors including land use, mobility, housing and economic development.

1 **State Avenue** is identified as a major mixed-use and transit-oriented growth corridor.

2 Prioritizes reinvestment in established neighborhoods, including areas near **Quindaro Boulevard**.

(2022) GODOTTE STRATEGIC MOBILITY PLAN

- Regional trails, bike paths and pedestrian friendly infrastructure are utilized to enhance first and last mile connectivity.

1 **State Avenue** identified as a primary transit spine, with complete streets, multimodal enhancements, mobility nodes and future BRT service.

(2020) CENTRAL AREA MASTER PLAN

1 Proposes revitalization of central KCK with focus around **State & Minnesota Avenues**.

(2018) NORTHEAST AREA MASTER PLAN

- Identifies key historic sites such as the **Quindaro Townsite** as cultural and economic assets.

2 Identifies **Quindaro Boulevard** as a major development node with neighborhood reinvestment, corridor and township development.

Community Projects as shown on the map include mobile food markets, Jersey Creek restoration, building revitalization, parks and recreation development, Fairfax job training program.

(2017) SMART MOVES 3.0 PLAN

1 **State Avenue** and **Independence Avenue** are identified as fast and frequent transit "spines" with service every 15 minutes or less.

- Major Mobility Hubs are identified at Village West, KCKCC, the Indian Springs Mall site, Downtown KCK, 12th & Grand, East Village Transit Center, KCU, and Independence Metro Transit Center.

(2013) STATE AVENUE CORRIDOR REDEVELOPMENT PLAN

1 Envisions **State Avenue** as a high-capacity transit and redevelopment corridor. Calls for TOD and public infrastructure enhancements.

1 Establishes potential multimodal hubs along **State Avenue** including hubs at Downtown KC, Midtown Station/ Indian Springs, KCKCC, Village West.

DEVELOPMENT PROJECTS

The development projects in Quindaro, along State Avenue, and Parallel Parkway areas include the Quindaro Townsite, Midtown Station, Midtown Reserve, and a Data Center.

INFRASTRUCTURE PROJECTS

The infrastructure projects on State/Minnesota Avenue and near the Quindaro area include various improvements such as traffic signal projects, sewer separation initiatives, SCADA network expansion, intersection enhancements at 98th/State Ave, green infrastructure projects, water main replacements, and gas projects.

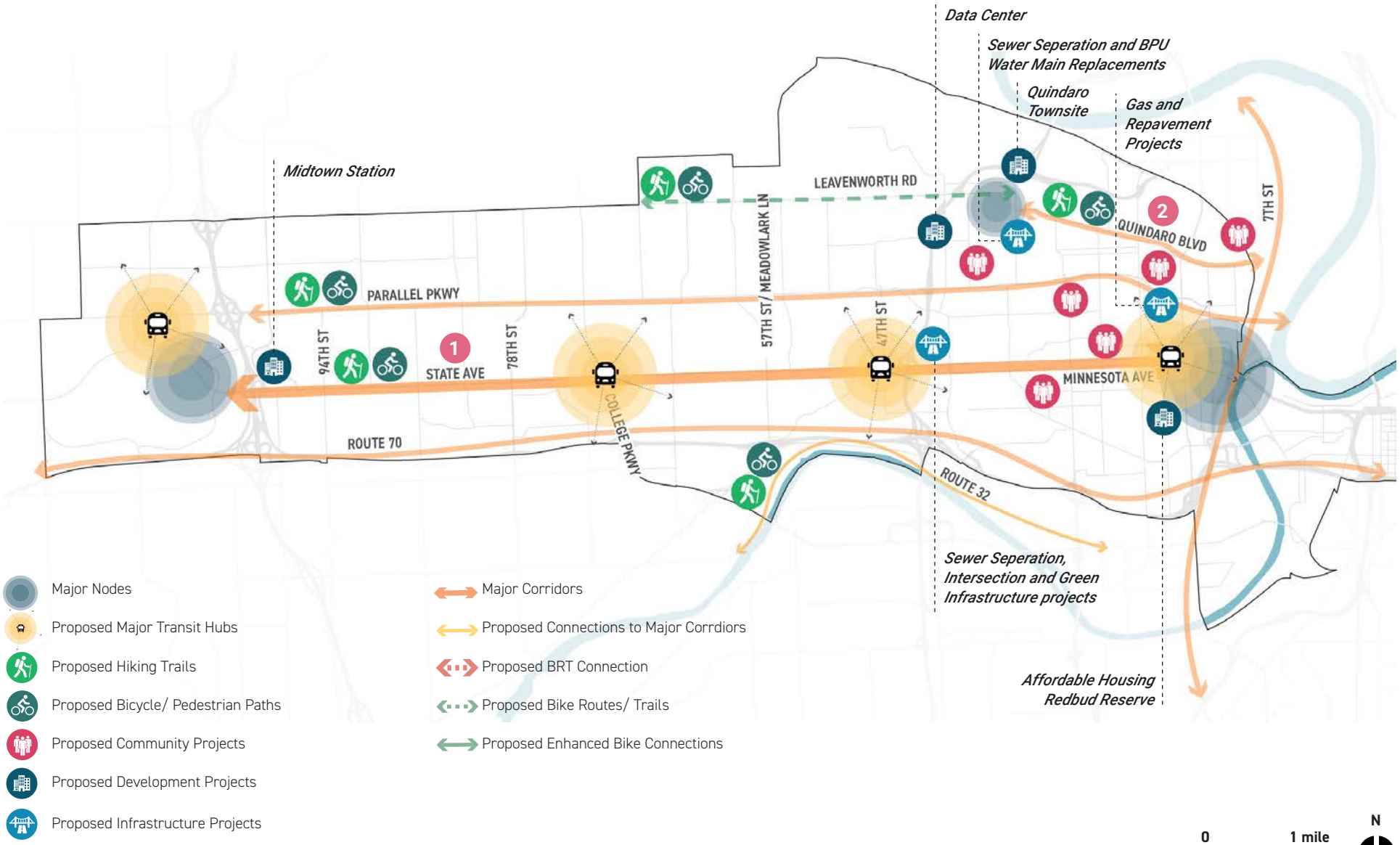


FIGURE 17: EXISTING PLANS (KANSAS REGION)

This section provides an overview of relevant key takeaways of prior plans studied, developed, or implemented within the Study Area, while recognizing that these documents were created for broader purposes beyond the scope of this analysis **(KCMO REGION).**

PLANS

TRUMAN PLAZA AREA PLAN (IN PROCESS)

- This plan focuses on revitalizing **Truman Road and Independence Avenue**, supporting mixed-use development and multimodal enhancements.

HEART OF THE CITY AREA PLAN (IN PROCESS)

- Promotes equitable growth and connectivity that complements BRT investments in neighborhoods near **Prospect Avenue and 18th Street**.

(2025) PROSPECTUS EQUITABLE TOD STRATEGIC PLAN

- The plan proposes TOD along the **Prospect MAX corridor** and offers strategies for equitable reinvestment in corridor planning.

(2023) KC SPIRIT PLAYBOOK COMPREHENSIVE PLAN

- A citywide guide for future growth; supports transit access, affordable housing, and neighborhood reinvestment.

(2022) IMAGINE DOWNTOWN 2030 STRATEGIC PLAN (DTC)

- Advances mobility, housing, and public realm improvements in Downtown KCMO. The plan emphasizes strengthening east-west connections at the core and includes a vision for re-imagining the Downtown Loop.

(2021) WENDELL PHILLIPS DOWNTOWN EAST NEIGHBORHOOD PLAN & DEVELOPMENT STRATEGY

- The plan enhances development near **18th & Vine Street** and east of Downtown, promoting mixed-use growth and infrastructure.

(2019) WOODLAND PLAZA EQUITABLE MOBILITY STUDY

- Identifies mobility and access barriers south of **Independence Avenue.**

***(2019)* GREATER DOWNTOWN AREA PLAN**

- Recommends high-density development, improved transit, and active street life in the downtown core.

(2019) INDEPENDENCE BRT PLANNING & FEASIBILITY STUDY

- Evaluates BRT along **Independence Avenue**, and explores connectivity with downtown KCMO, promoting overall connectivity in the region.

(2019) BIKEKC MASTER PLAN

- Proposes protected bike lanes and shared-use paths citywide, to help improve first and last mile connectivity.

(2018) BEYOND THE LOOP

- Examines highways, infrastructure removal, and new connections around the North Loop KCMO.

(2018) INDEPENDENCE AVENUE PEDESTRIAN SAFETY IMPROVEMENTS STUDY

- Targets safety, walkability improvements and supports BRT and TOD.

(2018) TRUMAN ROAD COMPLETE STREETS PLAN

- Proposes wider sidewalks, bike facilities, and transit-friendly intersections.

(2017) TRANSIT-ORIENTED DEVELOPMENT POLICY (2017)

- Establishes guidance for land use around high-capacity transit and encourages TOD around station nodes in KCMO and Independence.

(2016) WEST BOTTOMS STREETSCAPE & WAYFINDING PLAN

- Improves pedestrian environment and signage in West Bottoms.

INFRASTRUCTURE PROJECTS

- West Bottoms Street Improvements – Somera Road Phase 1 and 2.
- Independence Avenue Bike Lanes – Paseo to 3rd Street.
- Paseo Boulevard Shared Use Path.
- MoDOT I-70 Improvements.
- Independence Avenue & Garfield Avenue Traffic Calming.
- East Truman Road Tree Replacement.
- Poplar Avenue Sidewalks – 16th Street to Truman Road.

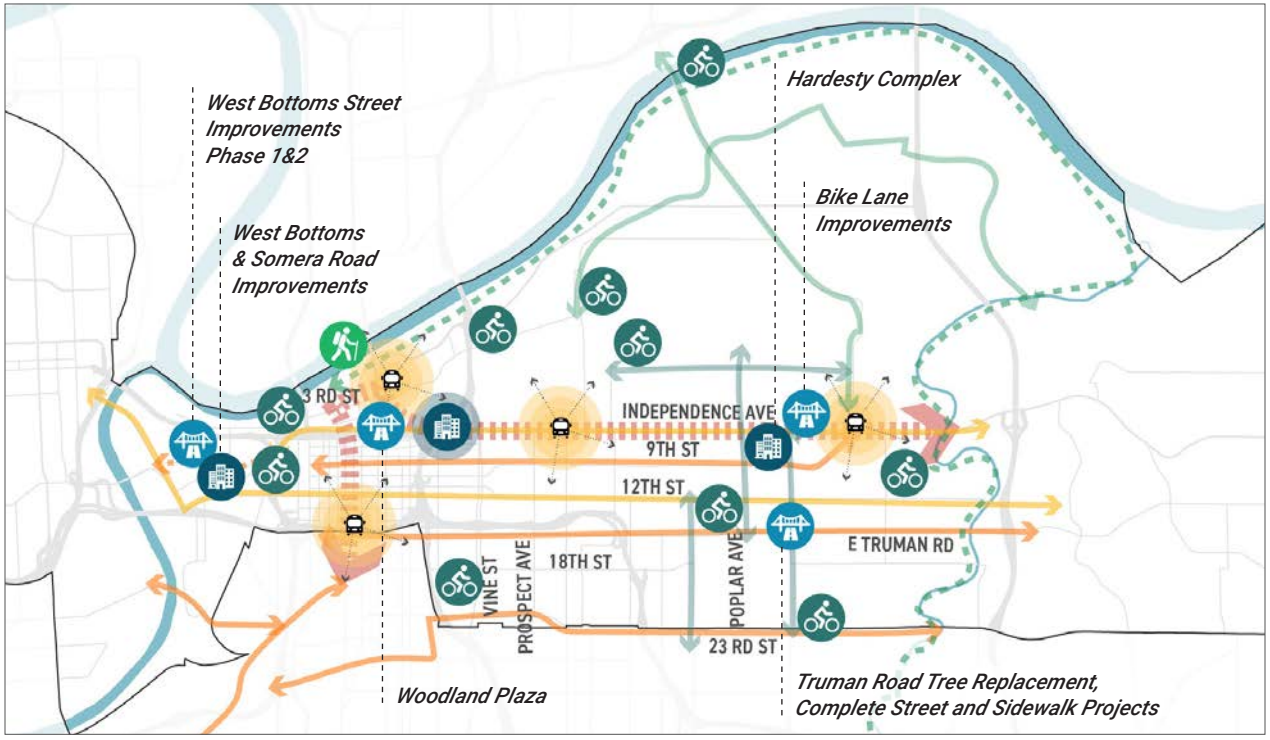


FIGURE 18: EXISTING PLANS (MISSOURI)

This section provides an overview of relevant key takeaways of prior plans studied, developed, or implemented within the Study Area, while recognizing that these documents were created for broader purposes beyond the scope of this analysis **(INDEPENDENCE REGION).**

PLANS

(2024) TRANSPORTATION FOR ALL PLAN

- Proposed multimodal developments along **Truman Road and US 24 Highway.**
- Focuses on improved pedestrian, bicycle, and transit connections which would support higher density and mixed-use development.
- Proposed major and minor separated bike routes in the Independence region.

(2024) RESHAPING THE SQUARE MASTER PLAN

- Envisions dense, mixed-use development in Independence Square.
- Supports infill housing and small business growth with focus on redevelopment zones between **Walnut Street and Truman Road.**

(2022) INDEPENDENCE HOUSING STUDY

- Promotes diverse housing options including Accessory Dwelling Units (ADUs), cottage clusters, and mixed-income housing especially near corridors like **Truman Road and US 24 Highway.**
- Strategy for Housing development: Reinvest, Expand, Improve Stability, Streamline Processes, Change and Engage.

(2020) TRUMAN CONNECTED PLAN

- Advocates for a multimodal connection through Downtown Independence linking both **US 24 Highway and Truman Road**, with transit enhancements, mixed use redevelopment zones, and prioritizing green infrastructure and stormwater management along the corridor.

(2019) INDEPENDENCE BRT PLANNING AND FEASIBILITY STUDY

- Identifies BRT potential along **Truman Road** that connects with downtown KCMO.

(2018) IMAGINE INDEPENDENCE COMPREHENSIVE PLAN 2040

- Promotes mixed-use centers at major corridors (**Truman, US 24 Highway, Noland**) to support transit and sustainability.
- Calls for infill and redevelopment in priority corridors, and encourages green infrastructure along major corridors.

(2017) FAIRMOUNT DISTRICT PLAN

- Neighborhood-level plan focused on revitalization- major development potential along the **US 24 Highway**.

(2016) TRUMAN / WINNER ROAD PLAN

- Proposes mixed-use redevelopment of nodes along **Winner and Truman Roads**.
- Encourages Complete Streets, streetscape enhancements, and green gateway treatments.

(2014) TRUMAN ROAD GREEN GATEWAY PLAN

- Envisions Truman Road as a green corridor with bicycle paths, trails, landscaping and multimodal development.

INFRASTRUCTURE PROJECTS

- Sugar Creek Flood Remediation
- Fairmount Loop Trail
- Independence Historic Trails Phase 1
- Independence Uptown Market
- Lower Rock Creek Sewer Improvements
- Noland Multimodal Corridor
- US 24 Hwy Phase 1
- Winner Road Complete Streets

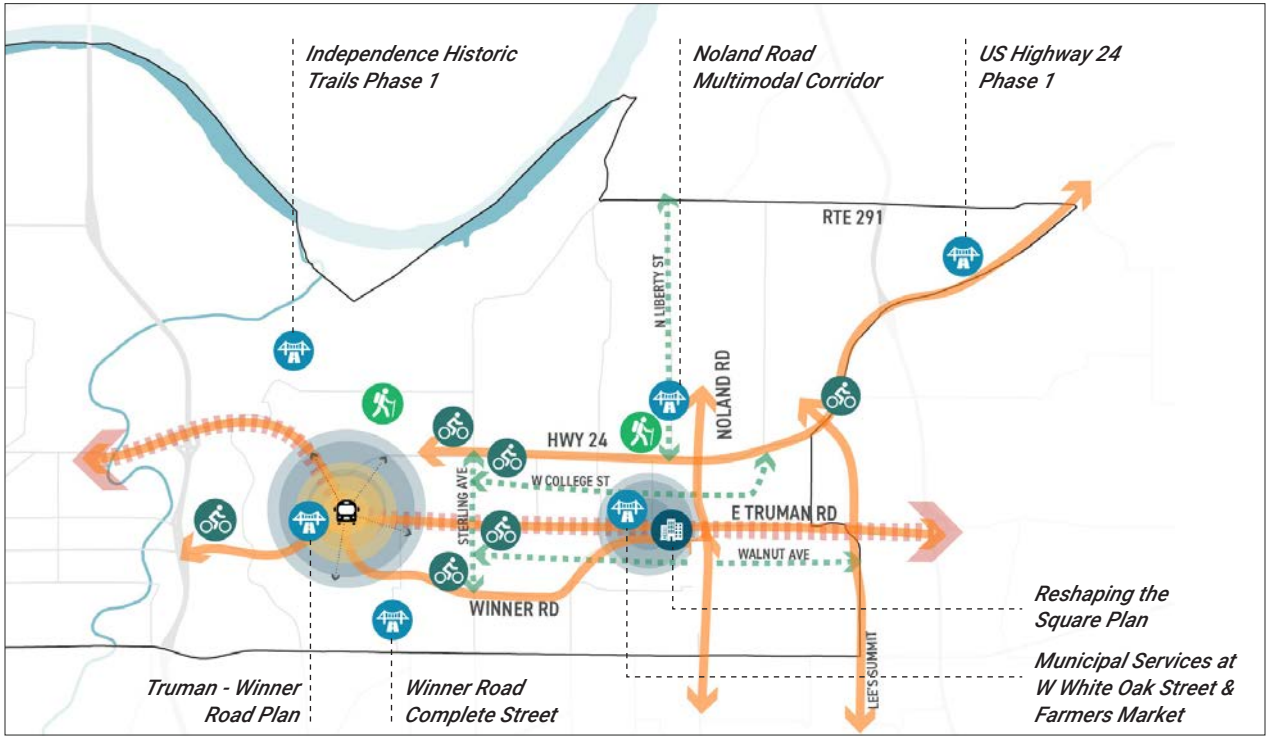
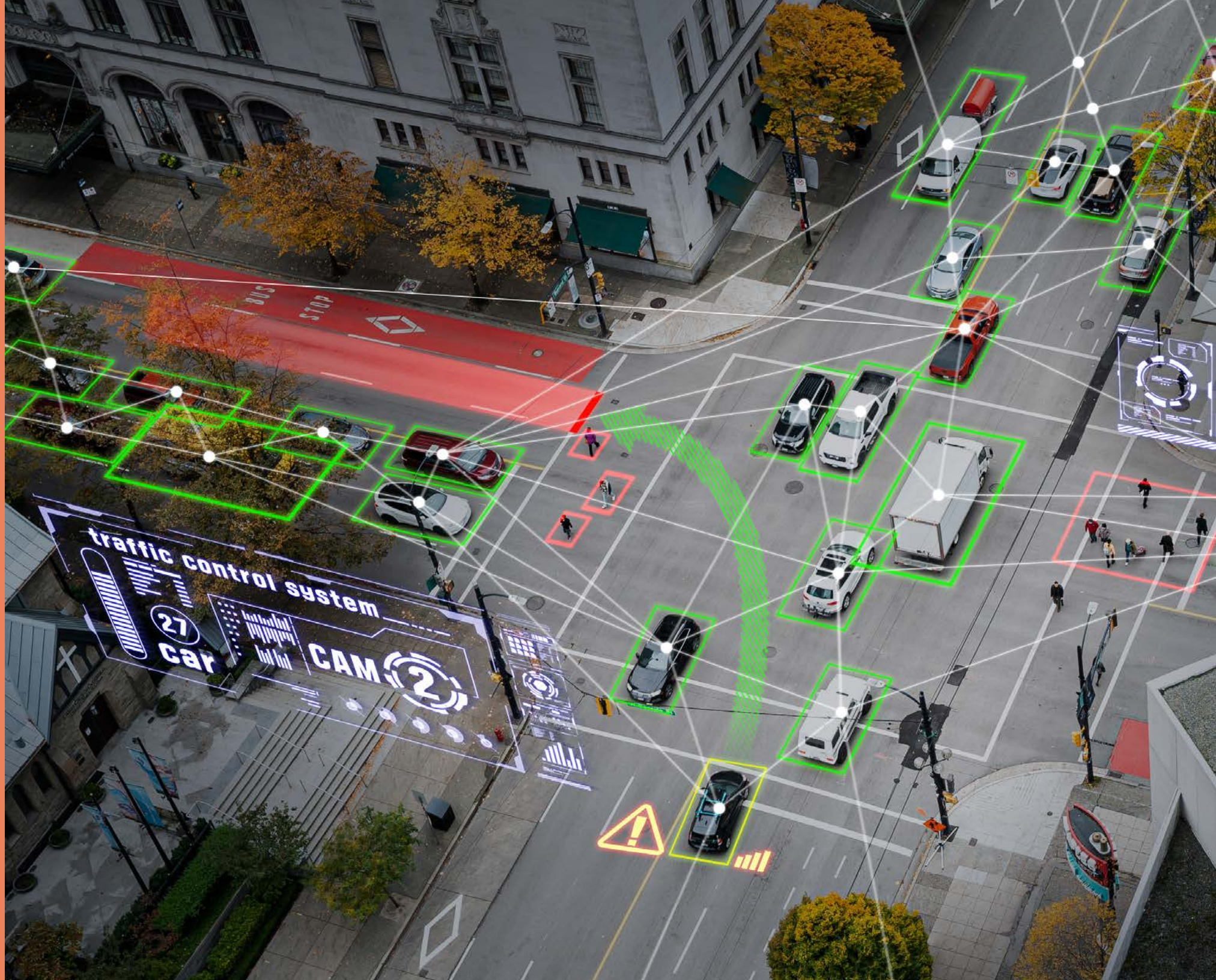
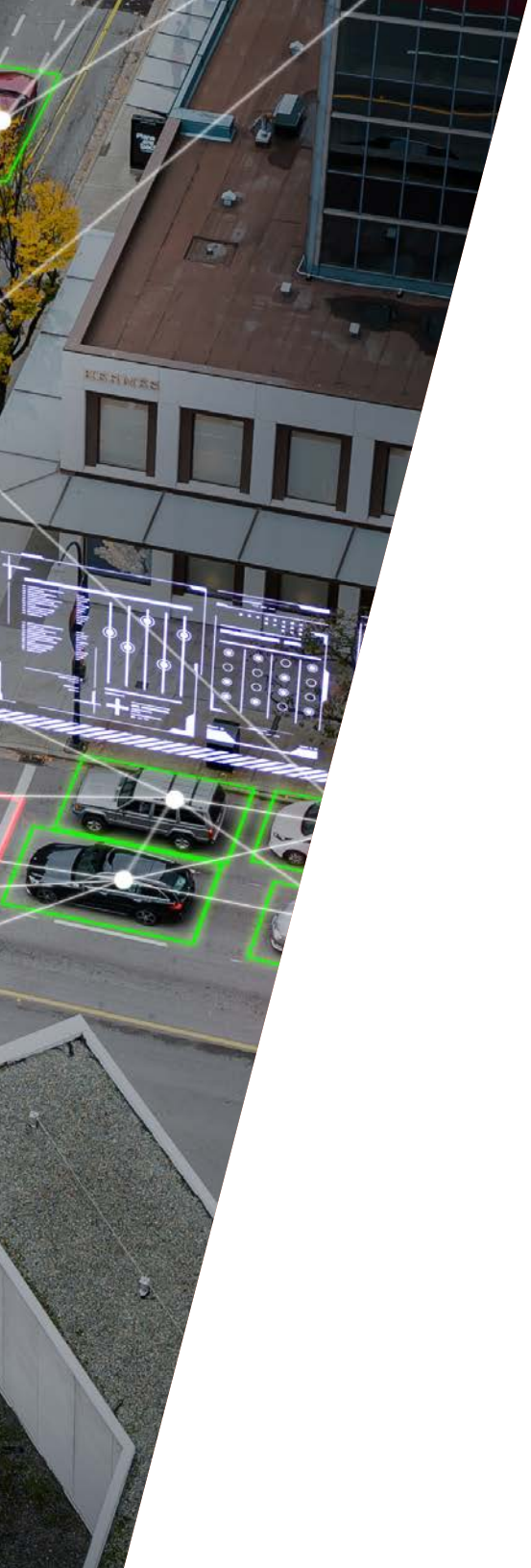


FIGURE 19: EXISTING PLANS (INDEPENDENCE)


BUS
STOP
traffic control system
27
car
CAM
2



04
PLANNING ANALYSIS

CONTENTS

4 PLANNING ANALYSIS

The effectiveness of the BSRC depends on thoughtful and rigorous analysis of potential transit alignments, transit modes, and their impacts on communities. This chapter details the systematic process used to assess alternative routes and transit options, carefully weighing each against established criteria, community priorities, and overarching project objectives.

Multiple transit modes were considered in the analysis, including BRT, BRT-Lite, streetcar, and an aerial lift system (gondola). A structured multi-factor analysis evaluated each alignment and mode based on accessibility, ridership potential, transit readiness, socioeconomic factors, multimodal connectivity, and development capacity. This thorough examination clearly identified which routes and modes would most effectively fulfill the project's goals and equitably serve local communities.

Community insights gathered from extensive engagement efforts were directly integrated into this analytical framework, ensuring alignment choices and transit recommendations reflect public priorities. Selected alignments and transit modes maximized regional balance, operational efficiency, long-term sustainability, and the feasibility of implementation.

This methodical approach clarified the essential trade-offs and benefits of each transit alternative, directly informing the project's recommended alignment and transit modes. The detailed and transparent analysis provides planners, stakeholders, and regional leaders with the information needed to confidently advance equitable and efficient regional transit solutions.

4.1 TRANSIT MODES, LAND USE, AND INFRASTRUCTURE

The transportation analysis considered transit service along the Bi-State Corridor, with advancing levels of transit service and investment over time. The planning analysis described in **Section 4.2** evaluates corridor treatments, generally described by the transit service type, but it is also important to recognize that the land use density and supporting infrastructure are inherent with the transit service. For example, BRT assumes the transit service will be in a high-density land use corridor and will reflect BRT expectations such as dedicated ROW, high-frequency service, stations with travel time information and off-board fare collection, etc. There is no scenario where a higher level of transit is associated with a future low-density corridor.

This chapter defines the levels of investment for transit, infrastructure, and land use of BRT, BRT-Lite, and streetcar transit scenarios.

BRT-LITE

BRT-Lite is akin to the KCATA MAX bus service in Greater Kansas City, which includes transit signal priority, frequent service, and branded service (vehicles, stops, and wayfinding). The level of service is greater than that of standard bus service, but does not receive the same dedicated ROW and travel time benefits as BRT.

BRT-Lite (MAX) is proposed for evaluation in all segments of the corridor, as the minimum level of high capacity transit alternative (when compared to BRT or Streetcar). It is branded service providing buses at 10-30 minute frequencies, some priority in the form of queue jumps (bus priority at intersections), dedicated bus lanes, and transit signal priority. Bus stops are planned approximately every quarter-to-half-mile and will be equipped with shelters and improved pedestrian access to area developments.

Transit Signal Priority (TSP) is a method of giving transit priority at traffic signals within intersections. TSP can help to reduce travel times and improve reliability of transit options.

KCATA MAX Bus Stop

5 TO 15 RESIDENTIAL DWELLING UNITS PER ACRE

20 JOBS PER ACRE

BRT-Lite will have a moderate level of development at station areas, with an average number of 5 to 15 residential dwelling units per acre or 20 jobs per acre. This development is the minimum, although there will be station areas with higher levels of density (such as in Downtown Kansas City, Missouri).

BRT

BRT assumes a higher level of bus priority, providing more consistent bus service and a more predictable experience for bus riders. BRT transit service provides bus service at 10-minute or better frequency, with buses operating almost exclusively in a dedicated ROW, often physically separated by curb, pavement texture, or movable physical barriers. In constructing the dedicated ROW for the entire corridor, the pedestrian and bicycle networks can be expanded and all intersections can be updated with transit-signal priority.

Bus stops are planned approximately every quarter-to-half-mile and will be equipped with shelters, fare vending, real time travel information, and other rider amenities.

For the BSRC, dedicated bus lanes are proposed. This approach to transit may require a new bus fleet to allow passenger boarding on both sides of the bus.

IndyGo BRT Station, Indianapolis, Indiana

20 TO 30 RESIDENTIAL DWELLING UNITS PER ACRE

40 TO 60 JOBS PER ACRE

BRT has a higher level of development at station areas, every quarter-to-half-mile, with an average number of 20 to 30 residential dwelling units per acre or 40 to 60 jobs per acre. This development is the minimum, although there will be station areas with higher levels of density (such as in Downtown Kansas City, Missouri).

STREETCAR

The KC Streetcar system offers fixed-route transit service on tracks embedded into the street, providing a predictable, high-quality mode for riders. In practice, the KC Streetcar operates at 10-minute peak frequencies for more than 60 hours per week, with service from 6:00 a.m. to midnight on weekdays and until 1:00 a.m. on weekends, exceeding the operating span of the current MAX BRT service in Downtown. Compared to buses, the KC Streetcar can offer smoother rides due to its dedicated track network and higher passenger capacity, carrying up to approximately 150 riders (200 at crush load) per vehicle.

KC Streetcar vehicles feature level boarding for all passengers, with platforms located either at the curb (side platforms) or in the center of the roadway (median platforms), depending on the stop location. The fleet is climate-controlled, designed with a mix of seating and standing space, and equipped with onboard security cameras and automated next-stop announcements. The service is fare-free, lowering barriers to mobility and increasing ease of use. Nearly all KC Streetcar stops include shelters, seating, lighting, real-time arrival information, posted route maps, and "Smart City" kiosks that support wayfinding and trip planning.

The KC Streetcar benefits from transit-signal priority and coordinated traffic enforcement to reduce delays from congestion or blocked tracks, contributing to on-time performance in the mid-90% range and shorter round-trip travel times compared to initial operations. Planned extensions will increase the proportion of exclusive or semi-exclusive lanes to more than 60% of the route, further protecting service from traffic interference. Like BRT, KC Streetcar stops are spaced roughly every quarter-to-half-mile.

Baseline development around KC Streetcar station areas averages 20 to 30 residential dwelling units per acre or 40 to 60 jobs per acre, with several Downtown locations exceeding these thresholds.

20 TO 30 RESIDENTIAL DWELLING UNITS PER ACRE

40 TO 60 JOBS PER ACRE

Compared to a BRT network, the KC Streetcar has higher initial capital costs due to track construction and vehicle acquisition, but has demonstrated superior frequency, capacity, operating span, and reliability within Downtown. While BRT can detour around incidents, the KC Streetcar mitigates this through signal coordination, targeted lane enforcement, and infrastructure investments that reduce interference.

In addition to its development impacts, the KC Streetcar delivers strong transit benefits: predictable "show up and go" service, high rider satisfaction, integration with the broader network, and infrastructure investments that enhance both mobility and reliability.

KC Street Car

AERIAL LIFT (GONDOLA)

Ground transit (BRT-Lite, BRT, or Streetcar) is the preferred primary transit connection for the majority of the corridor, as it allows for a similar experience and the ability to connect the entire corridor from the Kansas City Speedway to Independence, Missouri. An aerial lift can be considered as a supplemental transit opportunity to connect Kansas City, Kansas to Kansas City, Missouri, via the West Bottoms neighborhood. **The intent of this alternative transit option is to create a unique experience for riders, while also reducing the impact of vehicular traffic on the efficiency and reliability of the desired connection. An aerial lift is not being considered in place of bus transit.**

Although most aerial lifts in the United States serve as tourist attractions transporting visitors to mountain viewpoints, there are examples of their integration into the public transit system, with more cities considering adding them to their transit system. The Portland Aerial Tram in Portland, OR and the Roosevelt Island Tramway in Manhattan are the best-known examples of commuter and residential uses.

Aerial lifts present a dependable, high-capacity transit solution, with cabins that are significantly larger than the typical ski gondola which may come to mind. The Portland Aerial Tramway can accommodate up to 79 riders per cabin, and the Roosevelt Island system able to carry up to 109 riders per cabin. Cabins are suspended on cables, and stations can be at street level or elevated. The technology is particularly well-suited for Kansas City's topographical variations, which range from 100 to nearly 300 feet, enabling compliance with clearance requirements and flexible station configurations over water and public rights-of-way.

Aerial lifts are designed to function effectively in diverse climates, from hot to cold and lightning-prone areas. Recommendations include the installation of heating and cooling systems powered by batteries or super capacitors to maintain cabin comfort during stoppages.

Route planning and demand alignment are supported by origin-destination data, which endorses proposed routes that follow existing public rights-of-way. These routes align with mixed-use zoning in East and West Bottoms and integrate with other transportation modes, while also considering impacts such as noise and privacy.

Given the unique service characteristics of an aerial lift, the impact of an aerial lift transit system cannot be adequately measured with the chosen MOE. The feasibility of an aerial lift

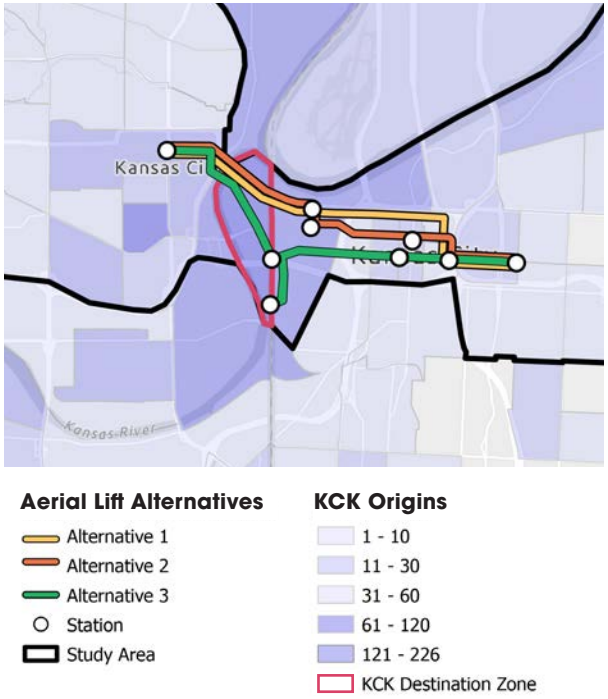


FIGURE 20: ORIGIN-DESTINATION WEST BOTTOMS

transit system to supplement the BSRC can be found in the **Appendix D** of this document. This study details the requirements for an aerial lift in Kansas City, including capacity, operating speeds, weather considerations, ADA accessibility, fare considerations, capital expenditure and operating expense.

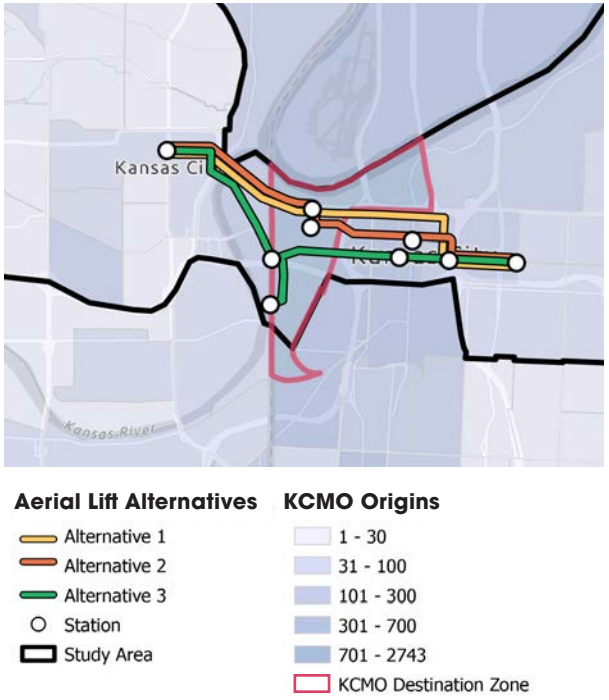


FIGURE 21: ORIGIN-DESTINATION EAST BOTTOMS

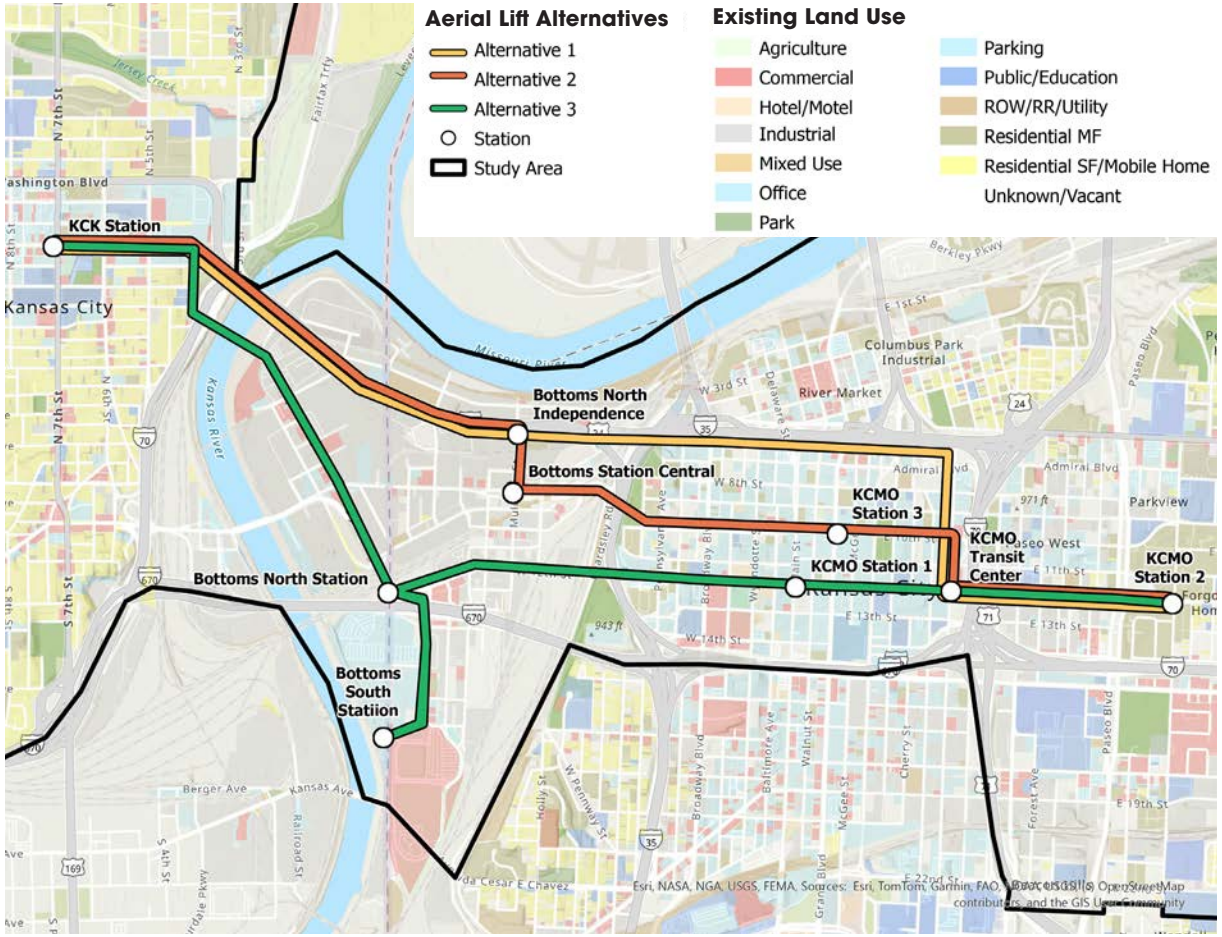


FIGURE 22: ALTERNATIVES WITH LAND USE

BRT-LITE

KCATA MAX Bus Stop, Kansas City, KS

Ground Transit (Service Type)

<1/4 MILE
Station Spacing

$9.1 MIILLION
Capital Cost Per Mile

Non-Dedicated General Purpose Travel Right-of-Way

10 - 30 MINUTES
Service Frequency

$189
Operating Cost Per Vehicle Revenue Hour

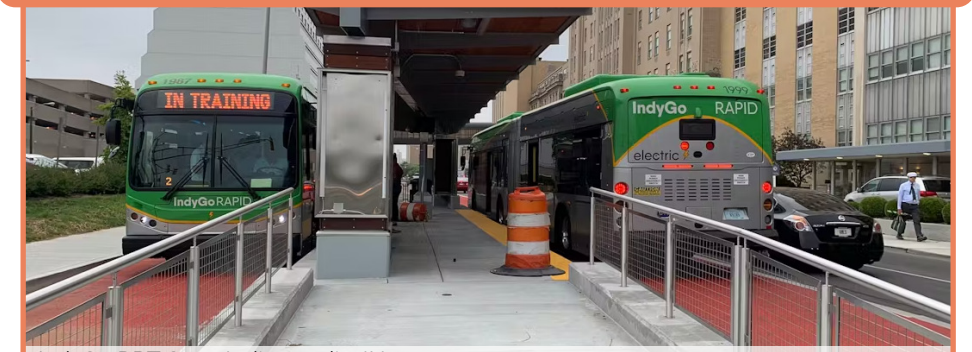
240 - 280
Person Capacity Per Hour

Roadway Reconstruction Only at Key Intersections

5 -15 UNITS
Housing Density Per Acre

20 JOBS
Job Density Per Acre

BRT



IndyGo BRT Stop, Indianapolis, IN

Ground Transit (Service Type)

1/4 - 1/2
MILE

$22.5 MIILLION
Capital Cost Per Mile

Dedicated Lanes Right of Way

<=10
MINUTES

$172
Operating Cost Per Vehicle Revenue Hour

360 - 1,440
Person Capacity Per Hour

Roadway Reconstruction Required

20 - 30
UNITS
Housing Density

40 - 60 JOBS
Job Density Per Acre

STREETCAR

Street Car Stop, Kansas City, KS

Ground Transit (Service Type)

1/4-1/2 MILE

$122.2 MIILLION Capital Cost

Dedicated Lanes Right-of-Way

<=10 MINUTES

$365 Operating Cost Per Vehicle Revenue Hour

600 - 1,800 Person Capacity Per Hour

Roadway Reconstruction Required

20 - 30 UNITS Housing Density Per Acre

40 - 60 JOBS Job Density Per Acre

AERIAL LIFT (GONDOLA)

Portland Aerial Tram, Portland, OR

Aerial Lift (Service Type)

1/2-1 MILE Station

$48 MIILLION Capital Cost Per Mile

Dedicated Cable System Right-of-Way

15 - 20 MINUTES

$107 Operating Cost Per Vehicle Revenue Hour

Up to 3,600 Person Capacity Per Hour

N/A- Paired with BRT/BRT Lite

N/A- Paired with BRT/BRT Lite

N/A- Paired with BRT/BRT Lite

Note: This type of project is not eligible for competitive discretionary funding at this time.

4.2 CORRIDOR SEGMENT EVALUATION

IDENTIFICATION, SCREENING, AND EVALUATION OF SEGMENTS

A recommended alternative for the BSRC needs to support the Purpose and Need Statement, and be evaluated against the MOE. This section describes how alternative alignments were initially identified, defined with enough detail to evaluate based on the MOE, and the results of the evaluation process itself.

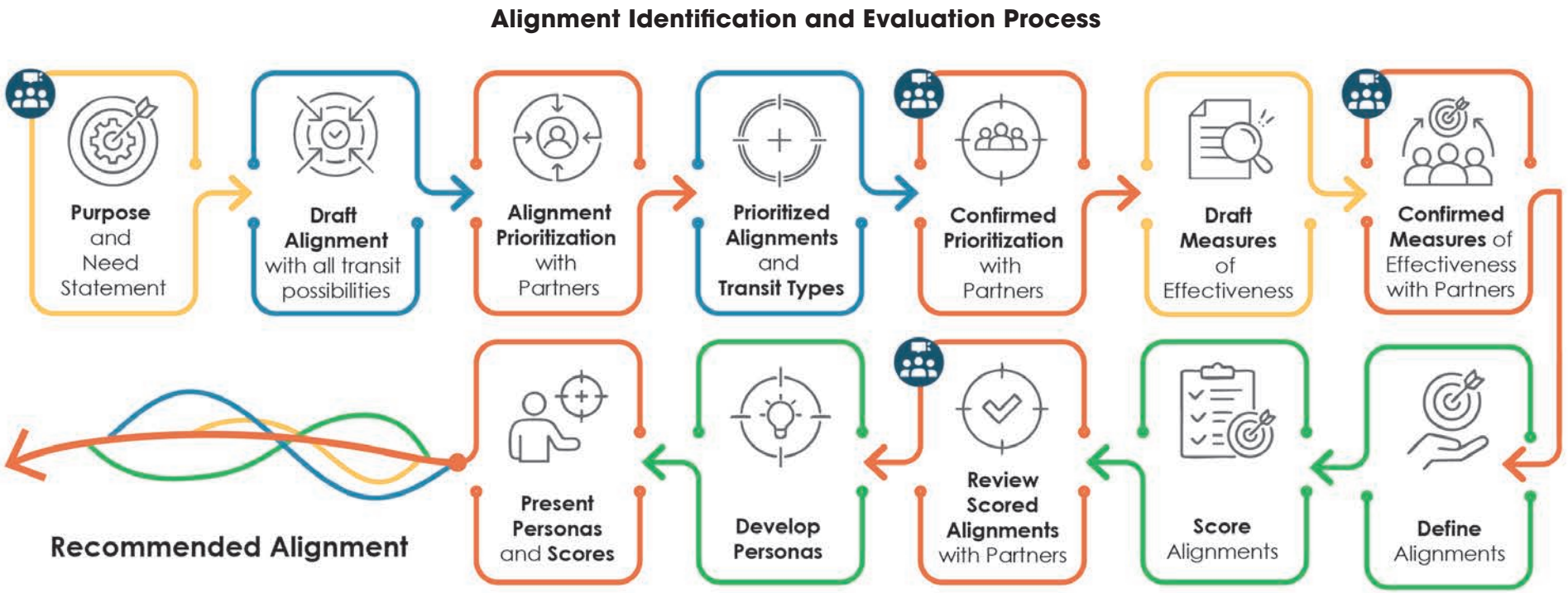


FIGURE 23: ALIGNMENT IDENTIFICATION, SCREENING, AND EVALUATION PROCESS

UNIVERSE OF ALTERNATIVE ALIGNMENTS

The Purpose and Need Statement, existing conditions, and community partner priorities were used to identify the alignments to be considered in a multi-factor analysis. The corridor reaches over 24 miles, runs through two states and four municipalities, with varying levels of current density and neighborhood character. The needs of Independence, Missouri are not the same as Kansas City, Kansas or Kansas City, Missouri. To account for the different needs of the communities the corridor was divided into five major segments.

The first step in identifying the alignments within a segment took the Purpose and Need Statement and applied it to real places in each corridor. Streets were assessed for their potential and need for development and ability to support transit (often relying on existing transit routes). Ultimately, three alignments were selected in each segment, all with the same origin and destination transit center. The result is the physical expression of the Purpose and Need, a map of corridors that should receive some level of investment to advance the goals of the project, partners, and community.

Before evaluating the alignments, the Project Team reviewed the alignments and transit type by segment with the community partners to confirm the alignments selected were comprehensive and did not overlook a corridor or the transit alternative to evaluate along an identified alignment.

The segments and alternative alignments are shown in **Figure 24**, the Universe of Alternative Alignments.

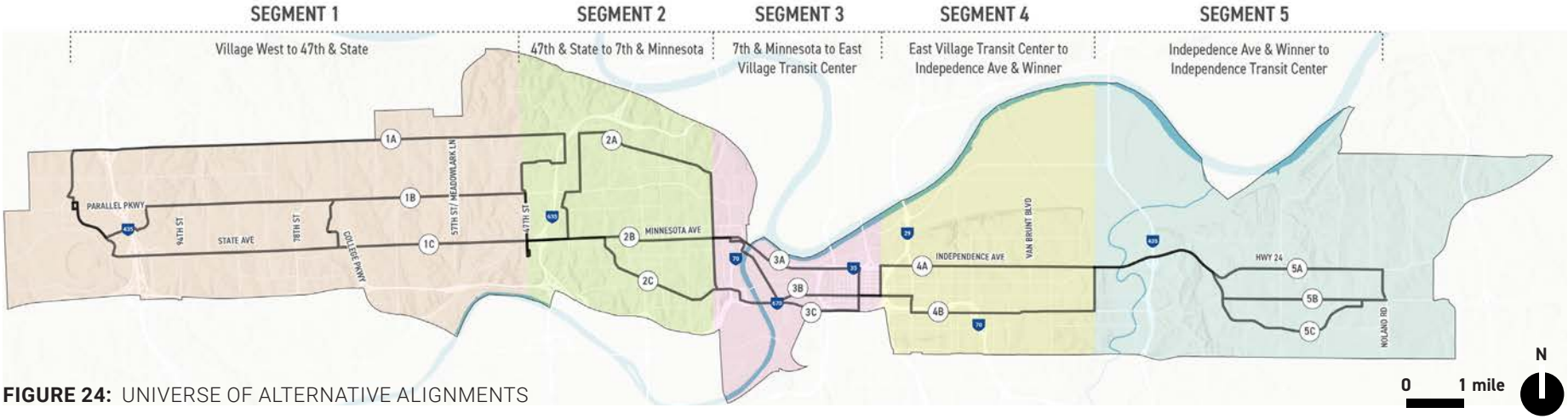


FIGURE 24: UNIVERSE OF ALTERNATIVE ALIGNMENTS

PRIORITIZING ALTERNATIVE ALIGNMENTS

At the initial stage, after suggested alignments were identified, everything was on the table. Alignments could be altered to best suit the communities, and each alternative alignment could be evaluated for BRT, BRT-Lite, and other transit interventions including aerial lift and streetcar (transit types are defined in **Section 4.1**).

Working with the partners, the intention was to identify the segments and transit treatment that were of the most interest to be studied further, and by doing so, eliminate the alternatives and transit treatments that were a lower priority for the community partners.

The following alternative alignments/transit types were removed from the evaluation process at this stage, before the multi-factor analysis proceeded:

SEGMENT	ADVANCED FOR MULTI-FACTOR EVALUATION	REMOVED FROM EVALUATION
Segment 1	1A BRT-Lite 1B BRT-Lite 1C BRT 1C BRT-Lite	1A BRT 1B BRT
Segment 2	2A BRT-Lite 2B BRT 2B BRT-Lite	2A BRT 2C BRT 2C BRT-Lite
Segment 3	3A BRT 3B BRT 3B BRT-Lite	3A BRT-Lite 3C BRT 3C BRT-Lite
Segment 4	4A BRT 4A BRT-Lite 4B BRT-Lite	Segment 4 was reworked entirely
Segment 5	5A BRT-Lite 5B BRT 5B BRT-Lite	5B BRT 5C BRT 5C BRT-Lite

TABLE 4: ALTERNATIVE ALIGNMENTS REMOVED

SEGMENT 1

1A, 1B, and 1C were evaluated for BRT-Lite service and development. 1C was also evaluated for BRT. BRT service and the associated development was deprioritized for evaluation from Segments 1A and 1B, as these corridors are not expected to see the necessary growth needed to support a high-frequency transit service such as BRT.

SEGMENT 2

2A and 2B were evaluated for BRT-Lite service and development. 2B was also evaluated for BRT. A BRT-Lite service is evaluated on Segment 2A to assess the likelihood of development along the Quindaro Boulevard corridor, an interest of elected officials in Kansas City, Kansas. Segment 2C was deprioritized entirely from the evaluation, as the existing UGT 102 service on Central Avenue has low frequency and low ridership.

SEGMENT 3

3A and 3B were evaluated for BRT service and development. 3B was also evaluated for BRT-Lite and Streetcar. In Segment 3, existing KCATA transit service on the Lewis and Clark Viaduct Bridge and along James Street/West

12th Street in the bottoms will benefit from bus priority and associated development. There is no plan to eliminate all service along these corridors. Alternatively, engagement with community partners showed little interest for transit service or development along the 3C corridor, Kansas Avenue and Avenida Cesar E. Chavez Avenue. 3A was not advanced for BRT-Lite service evaluation, as the Clark Viaduct Bridge does not allow for the differentiation between the two transit alternatives.

SEGMENT 4

4A and 4B were evaluated for BRT-Lite service and development. 4A was also evaluated for BRT. The alignments for review in Segment 4 were shifted to Independence Avenue (4A) and Truman Road (4B) at the request of Kansas City, Missouri. Given likelihood of growth in development, Truman Road is only evaluated for BRT-Lite service.

SEGMENT 5

5A and 5B were evaluated for BRT-Lite service and development, and 5B was also evaluated for BRT. Alignments in Segment 5 in Independence, Missouri were considered in relation to the Sugar Creek development. Consistent with Segment 4, the corridors are considered along Independence Avenue (5A) and Truman Road (5B). 5C was deprioritized entirely, as the existing transit service (KCATA Route 24) has low ridership.

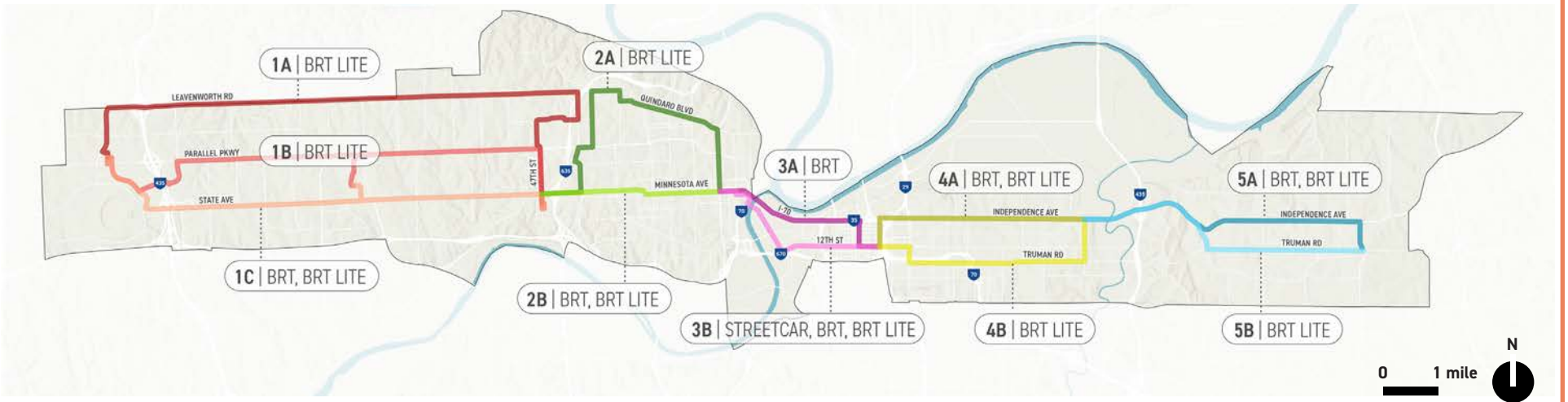


FIGURE 25: ALTERNATIVE ALIGNMENTS CONSIDERED FOR MULTI-FACTOR ANALYSIS

MULTI-FACTOR ANALYSIS

The multi-factor analysis is the first time the alignments are directly evaluated against the MOE and Purpose and Need Statement. The evaluation did not identify a preferred alignment but showed how each option aligned with the Purpose and Need Statement. This understanding allowed the partners to continue prioritizing the corridors.

Before advancing with the multi-factor analysis, individual meetings were held with community partners to confirm the prioritized alignments, as supported by the individual community partners. Any modifications requested were incorporated before advancing to the evaluation stage.

METHODOLOGY

The transit segments and investment levels were evaluated through a multi-factor analysis to understand how the alignment and transit-type supports the project goals. Each discipline has two to four goals, which each have a series of MOE.

The methodology assigns a score of high, medium, and low to indicate how the alignment and transit-type will support the MOE and goal. A "high" score is assigned when the alignment and transit-type score positively. This can mean more frequent service, more than 75% of dedicated ROW, less than 25% growth in development needed to meet the required density, or a low capital or operating cost. Subsequently, "medium" is assigned for moderate impacts in the MOE and "low" is assigned for negative impacts, features, or high costs.

Within the categories **Transit Service, Land Use and Community Development, and Multimodal Connectivity**, a "high", "medium", or "low" score was assigned, based on how a segment alignment and transit-type scored for the sub-MOE. This results in a segment alignment and transit-type with three scores, one for each category. There is no "total" score, as the methodology is designed to show when an alignment scores well for transit service and poorly for land use, or vise versa.

Score sheets were developed for each alignment and transit type to define the alternative and show how each scored against the metrics. A full package of the score sheets can be found in **Appendix E.**

TRANSIT SERVICE EVALUATION

The transit service evaluation assessed costs and access associated with BRT, BRT-Lite, or streetcar options. For the cost/state of good repair metric, expenses associated with capital costs and operating costs were measured for each of the three transit types. Capital costs include long-term or one-time expenses needed to complete a project, such as the cost of acquiring dual side door buses, which would enable BRT buses to complete stops on either side of the vehicle. Operating costs include the expenses of supporting this transit infrastructure, like the price of maintaining stations and roadways associated with any of the three transit typologies.

Possible scores of "high," "medium," or "low," were established with a range of parameters. Once each metric was evaluated, it was scored using the parameters found in the table below.

COST/ STATE OF GOOD REPAIR	LOW	MEDIUM	HIGH
Capital Cost	>$84 M	$53 M - $84 M	<$53 M
Operating Cost	>$1,500	$750 - $1,500	<$750

TABLE 5: REPAIR SCORING PARAMETERS

Access was evaluated in terms of the frequency of both stop locations and frequency of service, as well as length of travel time to hubs like downtown or popular activity centers.

Possible scores of "high," "medium," or "low," were established with a range of parameters. Once each metric was evaluated, it was scored using the parameters found in the table below.

ACCESS	LOW	MEDIUM	HIGH
Spacing between Stops		> ¼ mile	<¼ mile
Expected Frequency of Service	10-30 minutes		<10 minutes
Travel Time to Downtowns/ Activity Centers	Avg. > 30 minutes	Avg. 20-30 minutes	Avg. < 20 minutes

TABLE 6: ACCESS SCORING PARAMETERS

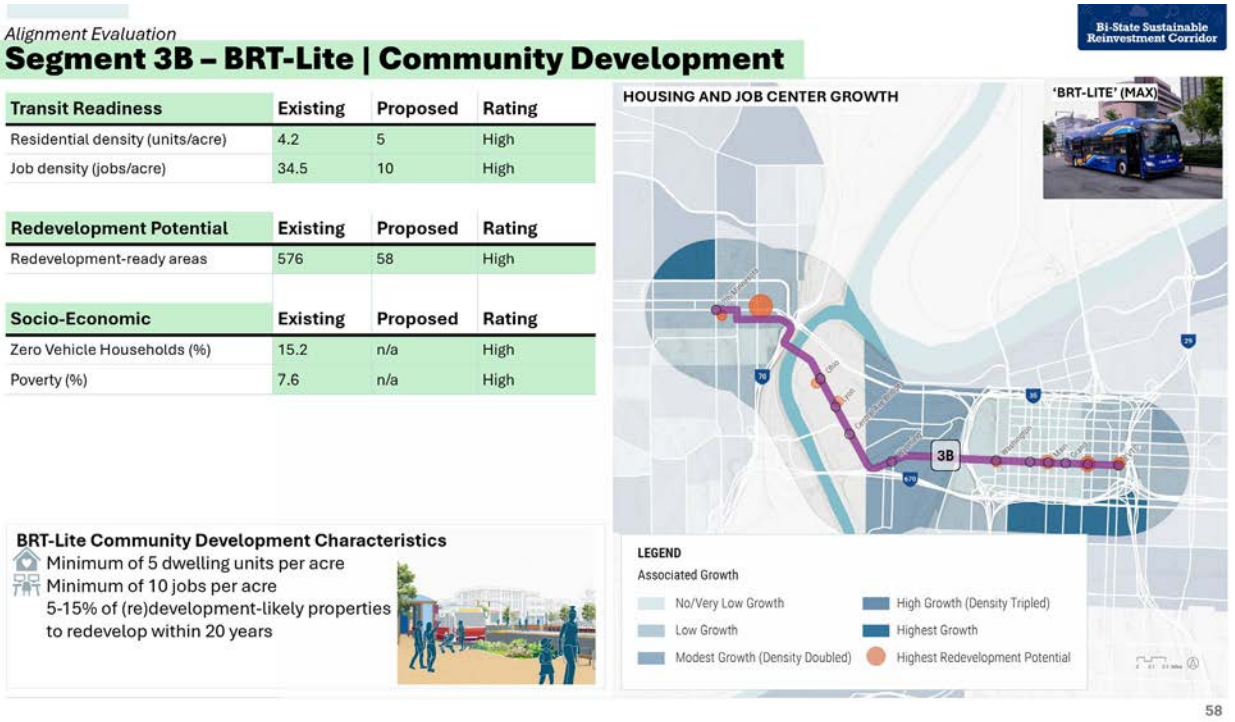


FIGURE 26: EXAMPLE SCORE SHEET FOR BRT-LITE IN SEGMENT 3B

LAND USE AND COMMUNITY DEVELOPMENT EVALUATION

For the Land Use and Community Development Evaluation, factors such as Transit Readiness, Redevelopment Potential, and Socio-Economic factors were measured. Each of these categories assumes a quarter mile buffer around proposed BRT-Lite Stops for the BRT-Lite Corridors, and a half mile buffer around proposed BRT Stations for the BRT Corridors.

Transit Readiness involves evaluating metrics of both residential and job density. Residential density measures the average number of housing units per acre within each census block group that covers stop buffers. Job density measures the average jobs per acre of the census block groups that cover stop buffers. Both metrics, when scored on the scale of "high," "medium," or "low," imply the density needed for potential BRT options, which would be developed at the same time as the transportation infrastructure.

Possible scores of "high," "medium," or "low," were established with a range of parameters. Once each metric was evaluated, it was scored using the parameters found in the **Table 7.**

With Redevelopment Potential, the amount of land needed for Redevelopment-ready areas was assessed by evaluating the total acreage of publicly owned/land banked, underutilized, vacant, and large (>1 acre) retail properties within stop buffers.

Possible scores of "high," "medium," or "low," were established with a range of parameters. Once each metric was evaluated, it was scored using the parameters found in **Table 8.**

TRANSIT READINESS	LOW	MEDIUM	HIGH
Residential Density	>75% increase in density needed	25-75% increase in density needed	<25% increase in density needed
Job Density	>75% increase in density needed	25-75% increase in density needed	<25% increase in density needed

TABLE 7: TRANSIT READINESS

REDEVELOPMENT POTENTIAL	LOW	MEDIUM	HIGH
Redevelopment-Ready Areas	>50% redevelopment-ready areas needed to meet density minimums	25-50% land needed	<25% land needed

TABLE 8: REDEVELOPMENT POTENTIAL

The Socio-Economic category involves assessing public-transit dependency and poverty. Public-transit dependency relied upon measuring the average number of zero-vehicle households around each potential stop. This number was then converted to a percentage to communicate the number of zero-vehicle households out of all households that cover stop buffers. Similarly, poverty was evaluated by measuring the average number of low-income populations of census tracks around each potential stop. This number was then converted to a percentage to communicate the low-income population out of the entire population around each potential stop.

Possible scores of "high," "medium," or "low," were established with a range of parameters. Once each metric was evaluated, it was scored using the parameters found in the table below.

SOCIO-ECONOMIC	LOW	MEDIUM	HIGH
Zero Vehicle Households	<5%	5-15%	>15%
Poverty	<4%	4-7%	>7%

TABLE 9: SOCIO-ECONOMIC CONDITIONS

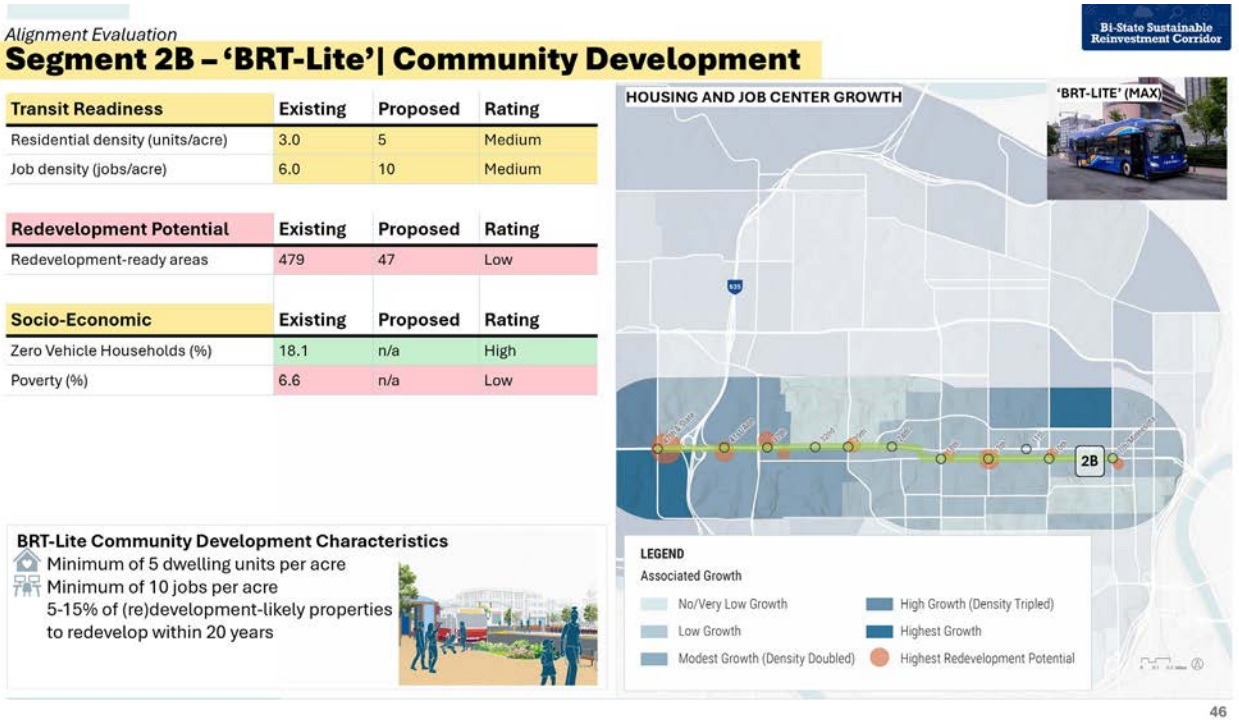


FIGURE 27: EXAMPLE SCORE SHEET FOR BRT-LITE IN SEGMENT 2B

MULTIMODAL CONNECTIVITY EVALUATION

The multimodal connectivity evaluation considered four MOE: transit connectivity, roadway impacts, local opportunity, and safety. Each measure includes a series of metrics to assess effectiveness.

To evaluate transit connectivity, existing conditions metrics, including ridership levels and transit routes, were summed. BRT service received a credit of +30% ridership before scoring to take into account the expected increase in ridership for a high-frequency and reliable transit alternative. Jobs and other community resources within a 5-minute walk of BRT-Lite stop locations, and a 10-minute walk for BRT stations, were quantified.

The evaluation also took into account other existing conditions data as metrics feeding into the evaluation. These were calculated within a quarter-mile (5-minute walk) of BRT-Lite stop locations or half-mile (10-minute walk) of BRT stop locations.

Possible scores of "high," "medium," or "low," were established with a range of parameters. Once each metric was evaluted based on the high/medium/low range, it was scored using the parameters found in the table below.

TRANSIT READINESS	LOW	MEDIUM	HIGH
# of Transit Routes that Connect to Corridor Segment	<10	10-20	>20
Ridership	<1,000	1,000-2,000	>2,000
Percent of Segment Serving Transit Opportunity	<30%	30-60%	>60%
Access to Jobs/Community Resources via Segment	<5,000	5,000-10,000	>10,000

TABLE 10: TRANSIT READINESS SCORING METRICS

For roadway impacts, potential travel time impacts were evaluated for each alignment and transit treatment type. Dedicated ROW is an assessment of the percentage of the corridor where the transit would operate in its own lane, reducing the risk of delay from vehicle queuing or stopped vehicles. **BRT always scored "high,"** while BRT-Lite received a lower score given the only dedicated ROW assumed is in select locations where there is space for a queue jump.

When roadways are constrained by limited ROW space, adding BRT may reduce the number of general traffic lanes which may then increase travel delays for vehicles. This was evaluated in the Impact on Delay for Vehicles metric.

Other instances of Transit Priority were measured, such as transit signal priority (TSP) at traffic signals or dedicated corridors with BRT access only. TSP was assumed at all intersections along BRT segments, and at stops or major intersections for BRT-Lite segments. Dedicated ROW corridors for BRT segments occur when traffic lanes are permitted to BRT or emergency vehicles only. General traffic is not allowed. For BRT-Lite segments, only part of the corridor is permitted to BRT or emergency vehicles only. This typically occurs at queue jumps.

Possible scores of "high," "medium," or "low," were established with a range of parameters. Once each metric was evaluated, it was scored using the parameters found in **Table 11.**

Local Opportunity considers the possibility to impact multimodal networks, aside from transit. When considering pedestrian crossings or bicycle network strength and the opportunity to expand the bicycle network, the evaluation considers if the road will be reconstructed, as is the assumption for BRT corridors. When this is the case, all pedestrian crossings are counted and the bicycle metrics are scored as "high". If the road is not reconstructed, the evaluation considers the number of pedestrian crossings located at stop locations and considers the bicycle network not impacted.

The roadway network strength is one of the metrics where BRT scores poorly. A true BRT corridor includes a dedicated ROW, with either painted or physical separation from general purpose travel lanes. This dedicated ROW may impact the overall vehicle network, either restricting through traffic from perpendicular roadways or eliminating left-turn lanes. This impact results in a "low" score. In BRT-Lite conditions, there is no impact and the metric is scored "high". Possible scores of "high," "medium," or "low," were established with a range of parameters. Once each metric was evaluated, it was scored using the parameters found in the **Table 12.**

ROADWAY IMPACTS	LOW	MEDIUM	HIGH
Impact on Delay for Vehicles	Significant alterations in roadway design (loss of lanes/turns or widening required)	Changes in roadway needing mitigation	No or very limited reduction in travel lane
Percent of Intersections with Transit Signal Priority	<50%	50-75%	>75%
Percent of Corridor with Dedicated ROW	<50%	50-75%	>75%

TABLE 11: ROADWAY IMPACT SCORING METRICS

LOCAL OPPORTUNITY	LOW	MEDIUM	HIGH
Network Strength	Impacted		Not Impacted
Bicycle Network Strength	Not Impacted		Impacted
Opportunity to Expand Bicycle Network	No		Low
Pedestrian Crossings Impacted by Design	<5	5-10	>10

TABLE 12: LOCAL OPPORTUNITY SCORING METRICS

Safety metrics were calculated to project possible crash locations that would be modified as a result of the design, as well as the total number of crashes that occur at these locations. Along a BRT alignment, all locations and crashes are accounted for, as the roadway will be completely reconstructed. For BRT-Lite alignments, only crash locations near new stops are counted, as there is no assumption for full road reconstruction.

Metrics differentiate between crashes with pedestrian or bicycle collisions as well as crashes that resulted in a fatality. Possible scores of "high," "medium," or "low," were established with a range of parameters. Once each metric was evaluated, it was scored using the parameters found in the table below.

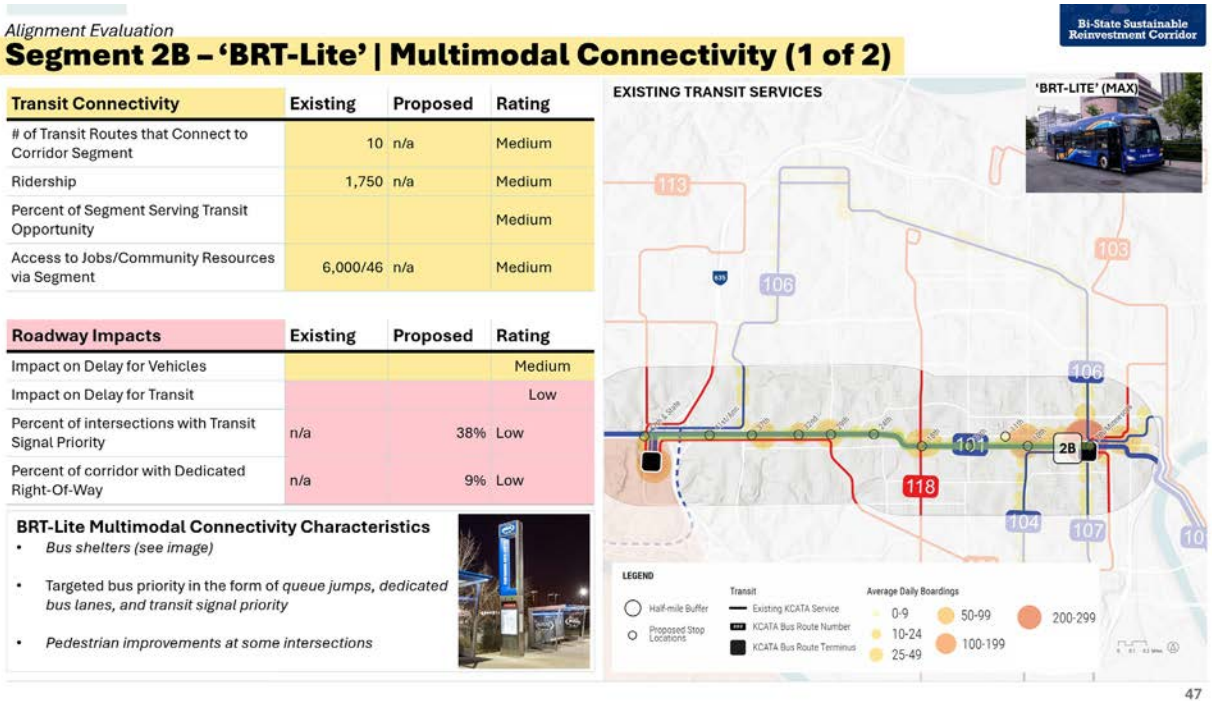


FIGURE 28: EXAMPLE SCORE SHEET FOR BRT-LITE IN SEGMENT 2B

SAFETY	LOW	MEDIUM	HIGH
# of crashes, w/ locations modified by design	<400	400-800	>800
# of crashes w/ pedestrian/bicycle collision, w/ locations modified by design	<15	15-30	>30
# of crashes w/ fatalities, w/ locations modified by design	<20	20-40	>40
# of crash locations modified by design	<15	15-20	>20
# of pedestrian/bicycle collision locations w/ modified by design	<3	3-8	>8
# of fatalities locations w/ modified by design	<5	5-10	>10

TABLE 13: SAFETY METRICS

EVALUATION SUMMARY

As mentioned before, there is no "total" score for each alignment and transit type. Instead, the Project Team considered how each alignment and transit type scored against the metrics in transit service, land use and community development, and multimodal connectivity, as a means to compare segments and transit modes to each other. These scores are show in **Table 14** and were used to develop the personas (described in **Section 5.4**) to explain what these scores mean for each corridor and surrounding community.

SEGMENT	TRANSIT MODE	TRANSIT SERVICE	COMMUNITY DEVELOPMENT	MULTIMODAL CONNECTIVITY
1A	**BRT-Lite**	Low	Low	Low
1B	**BRT-Lite**	Low	Low	Low
1C	**BRT-Lite**	Medium	Low	Low
1C	**BRT**	Low	Low	Medium
2A	**BRT-Lite**	Medium	Medium	Medium
2B	**BRT-Lite**	High	Medium	Low
2B	**BRT**	High	Medium	Medium
3A	**BRT**	High	Medium	Medium
3B	**BRT-Lite**	High	High	Medium
3B	**BRT**	High	Medium	Medium
4A	**BRT-Lite**	Medium	High	High
4A	**BRT**	High	Medium	High
4B	**BRT-Lite**	Medium	Medium	Medium
5A	**BRT-Lite**	Medium	Low	Medium
5A	**BRT**	Medium	Low	Medium
5B	**BRT-Lite**	Medium	Medium	Low

TABLE 14: EVALUATION SUMMARY

4.3 STORYTELLING TO COMMUNITY

Since the Corridor Segment Evaluation is inherently systematic and data-rich in its analysis, the engagement team developed tools to translate this information to the broader public. **The goal of the exercise was to synthesize the various segments and multi-factor analysis to a point that it would be an easily understood input translatable to both an online survey and short conversations in neighborhood meetings.**

One such tool was the creation of a series of **"personas"** for each segment of the corridor. The personas represent characteristics and behaviors for a fictional, yet realistic person along each segment of the corridor. **To better translate technical data from the multi-factor analysis, these personas were paired with key takeaways from each segment that present the big choices on both the alignment and transit mode.**

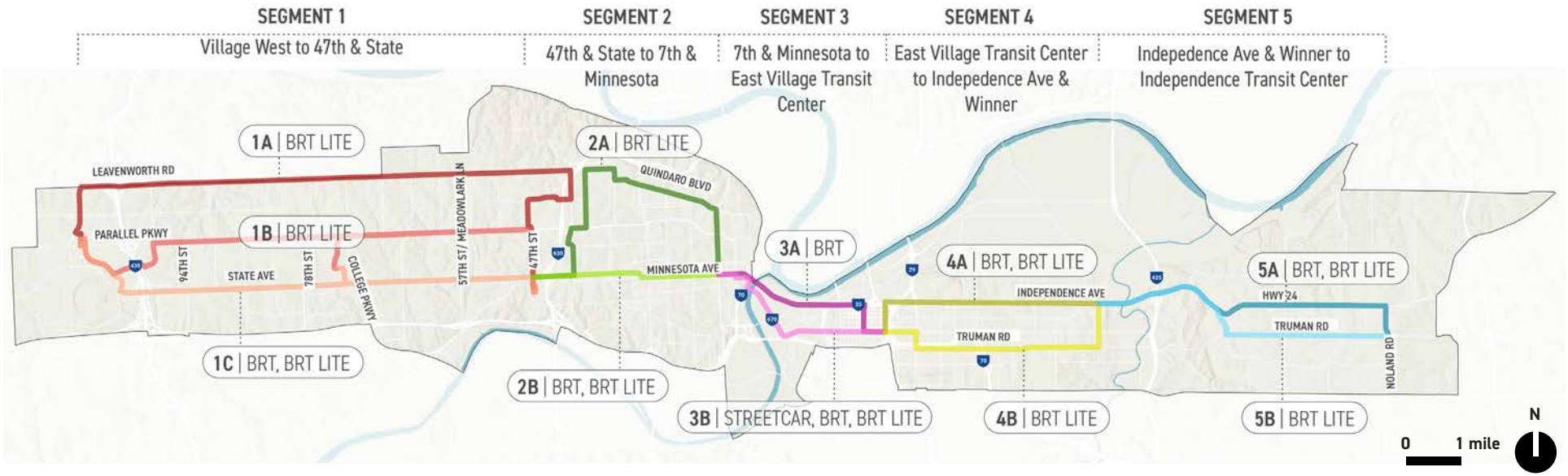


FIGURE 29: CORRIDOR SEGMENTS

SEGMENT 1: VILLAGE WEST TO 47TH AND STATE AVENUE

State Avenue is the most direct, most developable, and most transit-ready corridor in Segment 1. Transit service would connect more jobs and more destinations than other Segment 1 options, which is reflected by the significantly higher transit ridership today in this corridor compared to other alignments. These characteristics are why State Avenue is identified as a high frequency transit corridor in numerous local and regional plans. Alignment options on Leavenworth Road or Parallel Parkway would be driven primarily by their ability to serve specific destinations on these corridors, such as the Amazon Fulfilment Center or Providence Medical Center.

The major tradeoff for segment one is between a higher quality, higher frequency service that is more expensive, or something that is less impactful, but is easier to fund and implement now.

Leavenworth Road BRT-Lite

My name is Leo. I live just off Leavenworth Road and work evenings at a music venue near Downtown KCK. I've always tried to make environmentally conscious choices, and cutting back on car use has been one of them. With limited transit options in my neighborhood, it's been tough. A service like BRT-Lite would be a game changer. It would give me a reliable, faster connection to both work and weekend plans, and I wouldn't have to depend on my car.

State Avenue BRT-Lite

My name is Angela. I live just off State Avenue and work part-time while taking care of my mom during the day. I don't travel far—mostly quick trips to the grocery store, the pharmacy, or to see friends nearby. For me, BRT-Lite makes the most sense. It's an affordable way to improve the service I already use. I don't need the fastest route into downtown—I just need reliable service that shows up on time and makes getting around easier.

Parallel Parkway BRT-Lite

My name is Denise. I live near Parallel Parkway and attend classes at Kansas City Kansas Community College. Between school and my part-time job at a nearby bakery, I'm always on the move. Right now, getting around isn't always simple—I rely on friends for rides or spend too much time walking between stops and transfers. A route along Parallel Parkway that gives me direct access to campus and local shops would make my daily life so much easier. For me, it's not just about convenience, it's about being able to live my life more independently.

State Avenue BRT

My name is Marcus. I live in the Turner neighborhood and work at the Turner Logistics Center. I'm always looking for ways to cut down on my commute time so I can spend more of my day with my kids. Right now, getting to work by bus takes longer than it should, with too many stops and slowdowns. That's why I'd choose full BRT over BRT-Lite. I'd be willing to wait for a more direct, faster route that gets me where I need to go.

SEGMENT 2 – 47TH AND STATE AVENUE TO 7TH AND MINNESOTA AVENUE

Both Quindaro Boulevard and State Avenue have sizable populations for whom transit is a necessity, reflected in part by the solid ridership of the transit routes that serve these corridors today. The State Avenue corridor is denser and more direct, meaning transit investments on State Avenue can serve more people more cost effectively. If transit on State Avenue is about what is possible today, investments on Quindaro are about both the past and the future. Quality transit on Quindaro Boulevard would support the renewed vitality of this historic corridor, while leveraging the large amount of land available to attract new jobs, services, and residents over time.

As with other areas of the project, Segment 2 also presents a choice between higher quality, higher frequency service that is more expensive (BRT on State Ave), or something that is less impactful, but is easier to fund and implement now (BRT-Lite on State Avenue or Quindaro Blvd).

BRT-Lite on Quindaro

My name is Sam. I've lived along Quindaro Boulevard for most of my life, and I don't own a car. Getting to different parts of the city can be a real challenge, especially when I'm trying to get to work, visit family, or make it to the store outside in evenings or on weekends. A better transit option along Quindaro would make a huge difference for me. It would mean I could move up and down the corridor more easily, when I want, without having to rely on multiple transfers or long waits.

BRT-Lite on Minnesota Avenue

My name is Sofia. I live just south of Minnesota Avenue. I don't have a car right now, so getting to work or into Downtown KCMO can be a challenge. I don't necessarily need the fastest route, I'm just looking for reliable service, as soon as possible, so I think BRT-Lite is the better option. It's a more affordable upgrade to the service I already rely on, and it would give me a direct, reliable connection—without the higher costs or major changes that come with full BRT.

BRT on Minnesota Avenue

My name is Jordan, and I live in an apartment near 38th and State Ave. Without a car, trying to get into Downtown Kansas City, Missouri can feel like a marathon. That's why I'm pushing for full BRT, not a watered-down version like BRT-Lite. I need something that's truly efficient and dependable to make it to job interviews, doctor's appointments, or just to enjoy the city without wasting hours in transit.

SEGMENT 3 – 7TH AND MINNESOTA AVENUE TO EAST VILLAGE TRANSIT CENTER

The core tradeoff is between a fast, direct service between Downtown KCMO and Downtown KCK, or a longer route with more stops that directly serves the West Loop and West Bottoms. The I-70 option prioritizes speed and efficiency for the rider experience, while the West Bottoms options make the most of opportunities to improve infrastructure and spur development between the densest and highest value areas of this project area.

BRT on I-70

I'm Rita. My parents live in Independence and I live in the Strawberry Hill neighborhood of KCK and work in Downtown KCMO, so between work and visiting my folks, I'm back and forth a lot. I'd love to have an option that offers a faster route, so even though it would require major improvements, I don't mind waiting a little longer for this higher-performing service. For me, being able to hop on the bus from home or work and arrive at my destination in a few minutes gives me peace of mind that I can be as flexible and responsive to my family and employer as I need to be.

BRT-Lite on 12th Street / James Street

My name is Toni. I live Downtown and I don't have a car. Getting to my classes at KCU via transit takes longer than walking there, and I don't always feel safe walking at different times of the day. I would love to see better transit as soon as possible. I am looking for something that provides fast and reliable service as well as service to locations in the West Bottoms that I enjoy and the Historic Northeast for great food.

BRT on 12th Street / James Street

I'm James and I have lived in this area for decades. I feel like I have to have a car to get around, so I am looking for drastic improvements to the types of transportation I could take–I don't mind waiting a little longer for this higher-performing service. I have lived and invested in the West Bottoms and I have seen it transform. This area deserves better infrastructure, and easier ways for more people to connect to it. For me, being able to hop on the bus from near my front door and get to my office, or meet up with friends at our favorite pub provides that quality of life I'm looking for in my neighborhood.

Streetcar on 12th Street / James Street

My name is Cherice and I am a small business owner with a storefront in the West Bottoms. I can imagine seeing a streetcar come through with the thousands of people pouring out the doors every weekend, and it's the kind of foot traffic that would help my business grow exponentially. For that reason, I don't mind waiting a bit longer for that type of long-term benefit for my business and other businesses in the West Bottoms.

SEGMENT 4 - EAST VILLAGE TRANSIT CENTER TO INDEPENDENCE AVENUE AND WINNER ROAD

A core trade-off in this segment is between serving communities with existing transit demand on Independence Avenue, where the need and ridership are already high, or investing in Truman Road's long-term potential to shape future development and downtown connectivity.

There is also an important choice between the robust and longer-term infrastructure of full BRT on Independence Avenue, or a more flexible, lower-cost BRT-Lite option that could work on either corridor, with either future incremental development improvements on Independence Avenue or significant opportunities to increase housing and commercial development on Truman Road.

BRT-Lite Independence Avenue

I'm Tamrin, and I live in Pendleton Heights. I use a wheelchair to get around, so I would like to see greater focus on accessibility of the sidewalks and crosswalks as well as more places to live and shop within my neighborhood. This would make getting the everyday essentials a lot easier. But, making it easier and safer getting around is most important to me so I prefer BRT, and I would love to see more development opportunities that can come along with better transportation.

BRT Independence Avenue

My name is Jenny. My family has lived in Indian Mound for 10 years and have seen the transformations in this area in the recent years. I don't mind waiting a bit longer for a higher-performing type of bus service and the other investments that can come with it, like more places for people to live, more jobs, and places for recreation that would boost the perks of living here even more, and increase the quality of life for my growing family and our neighbors. I'm often on the go, so having bus service that gets me where I need to go quickly is most important to me.

BRT-Lite Truman Road

My name is Eric and I live near 18th and Vine with my family. We love walking down Vine Street for a bite to eat or walking our son to school at Wendell Phillips, but often have to go outside of where we live to access other services and amenities– especially for getting to work. We share a car, and sometimes I try to take the bus, but it can be difficult to plan a day around the bus schedule. I want a faster, more reliable bus service to get to work in Downtown KCK so that driving isn't always so cumbersome. Most importantly, I would like to see this type of improvement happen as soon as possible.

SEGMENT 5 – INDEPENDENCE AVENUE AND WINNER ROAD TO INDEPENDENCE TRANSIT CENTER

The big decision in Segment 5 centers on whether to pursue a high-impact, long-range investment in full BRT on Independence Avenue (US-24) to drive regional growth and connectivity, or to opt for BRT-Lite on either corridor to provide more modest, near-term improvements aligned with existing conditions and access to key destinations and communities.

BRT-Lite on Independence Avenue (US-24)

My name is Tom and I was born and raised in Sugar Creek and have lived here for 75 years. I am often traveling to Downtown Independence and Kansas City, Missouri whether it's checking out what's happening on the square, getting a bite to eat, or getting to my doctor's appointment. It is becoming more important to me that I don't have to drive to get there. I would like to have this service in my community as soon as possible.

BRT-Lite Truman Road

My name is Claire and my daughter and I live near Independence, Missouri. I value all of the historic places and schools along Truman Road. It is hard for my daughter to get around, being a low-vision individual. I would like to have a better bus service now that helps her gain more independence. For me, this type of immediate improvement of a more reliable bus service would better serve this area.

BRT Independence Avenue (US-24)

My name is Amy, and I live near Independence, Missouri. I am a high school teacher here, and my husband works near Downtown Kansas City, Missouri. We currently share a vehicle. Having a more convenient way for both of us to get to where we need to go could be a lot easier with a better transit system. I would also like to see more places to live and work along this corridor, and I don't mind waiting a bit longer for this type of service.

4.4 ZONING COMPARISON ANALYSIS

Each community within the Study Area has land use and zoning authority, but to effectively support higher-frequency transit, coordinated changes to these policies will be required. The following table provides a comparison of existing local zoning districts, and the implications of each on transit readiness. The rightmost columns show the district's comparison to the residential density required to support the mode of transit. Red numbers indicate that the district has a lower density than required.

NOTE: Only residential and mixed use districts are included at this time. Generally, commercial, industrial, and other employment-focused districts do not have minimum lot sizes or floor-area-ratio standards that would make for easy comparison.

West Bottoms, Kansas City, MO

RESIDENTIAL DISTRICTS							
JURISDICTION	DISTRICT	MAXIMUM DENSITY (UNITS/ ACRE)	MINIMUM LOT SIZE (SQ. FT.)	MINIMUM LOT SIZE PER DWELLING UNIT (SQ. FT.)	PERMITTED USES/ BUILDING TYPES	COMPARISON TO REQUIRED DENSITY FOR BRT-LITE	COMPARISON TO REQUIRED DENSITY FOR BRT
Kansas City, MO	**R-80**	1	80,000	80,000	Detached, zero lot-line	(4)	(19)
	R-10	4	10,000	10,000	Detached, zero lot-line	(1)	(16)
	R-7.5	6	7,500	7,500	Detached, zero lot-line, cottage house	1	(14)
	R-6	7	6,000	6,000	Detached, zero lot-line, cottage house	2	(13)
	R-5	9	5,000	5,000	Detached, zero lot-line, cottage house, townhouse, duplex	4	(11)
	R-2.5	17	4,000	2,500	Detached, zero lot-line, cottage house, semi-attached, duplex	12	(3)
	R-1.5	29	3,000	1,500	Detached, zero lot-line, cottage house, semi-attached, duplex, multi-unit buildings	24	9
	R-0.75	58	3,000	750	Detached, zero lot-line, cottage house, semi-attached, duplex, multi-unit buildings	53	38
	R-0.5	87	3,000	500	Detached, zero lot-line, cottage house, semi-attached, duplex, multi-unit buildings	82	67
	R-0.3	145	2,500	300	Detached, zero lot-line, cottage house, semi-attached, duplex, multi-unit buildings	140	125

TABLE 15: ZONING COMPARISON ANALYSIS

RESIDENTIAL DISTRICTS							
JURISDICTION	DISTRICT	MAXIMUM DENSITY (UNITS/ ACRE)	MINIMUM LOT SIZE (SQ. FT.)	MINIMUM LOT SIZE PER DWELLING UNIT (SQ. FT.)	PERMITTED USES/ BUILDING TYPES	COMPARISON TO REQUIRED DENSITY FOR BRT-LITE	COMPARISON TO REQUIRED DENSITY FOR BRT
Kansas City, KS	**R**	1	43,560	43,560	Single-family dwellings	(4)	(19)
	R-1	6		7,150	Single-family dwellings	1	(14)
	R-1(B)	9		5,000	Single-family dwellings	4	(11)
	R-2	12		3,575	Single-family and two-family dwellings	7	(8)
	R-2(B)	17		2,500	Single-family and two-family dwellings	12	(3)
	R-3	11	43,560	4,000	Single-family and two-family dwellings, townhouses	6	(9)
	R-4	15		3,000	Single-family and two-family dwellings, garden apartments	10	(5)
	R-5	29		1,500	Single-family and two-family dwellings, apartments	24	9
	R-6	none			Single-family and two-family dwellings, apartments	n/a	n/a
Independence, MO	**R-A**	0.3	130,680	130,680	Detached house	(5)	(20)
	R-1	1	40,000	40,000	Detached house	(4)	(19)
	R-2	2	20,000	20,000	Detached house	(3)	(18)
	R-4	4	10,000	10,000	Detached house	(1)	(16)
	R-6	6	7,000	7,000	Detached house, zero lot line	1	(14)
	R-12	12	7,000	3,500	Detached house, zero lot line, attached house, two-unit house	7	(8)
	R-18 PUD	18	3,500	2,400	Detached house, zero lot line, attached house, two-unit house, multi-unit house, apartment	13	(2)
	R-30 PUD	30	3,500	1,450	Detached house, zero lot line, attached house, two-unit house, multi-unit house, apartment	25	10

MIXED USE DISTRICTS							
JURISDICTION	**DISTRICT**	**MAXIMUM DENSITY (UNITS/ ACRE)**	**MINIMUM LOT SIZE (SQ. FT.)**	**MINIMUM LOT SIZE PER DWELLING UNIT (SQ. FT.)**	**PERMITTED USES/ BUILDING TYPES**	**COMPARISON TO REQUIRED DENSITY FOR BRT-LITE**	**COMPARISON TO REQUIRED DENSITY FOR BRT**
KCMO	**DC**	35-435	none	100-1250	High-intensity mixed use center, office, employment, government, retail, entertainment	30-430	15-415
	DMU	35-435	none	100-1250	Residential and neighborhood serving uses, office, commercial, custom manufacturing, institutional	30-430	15-415
	DR	35-435	none	100-1250	Residential and small-scale commercial on lower floors	30-430	15-415
Kansas City, KS	**C-D**	none	none	none	Retail, wholesale, services, residential, governmental, educational, religious, recreational	n/a	n/a
	TND	none	none	80 acres	Range of housing choices, retail, office	n/a	n/a
Independence, MO	**O-1**	44		1,000	Office, mixed-use buildings (office and residential)	39	24
	C-1	44		1000	Neighborhood-serving commercial, vertical mixed-use buildings	39	24

4.5 ENVIRONMENTAL SCREENING

Environmental considerations fundamentally guide the design and feasibility of the BSRC, helping decision-makers balance community benefits, sustainability goals, and transit effectiveness. **This chapter describes the environmental evaluation and planning processes undertaken to identify potential impacts and necessary mitigation strategies, ensuring the project aligns with environmental regulations and community values.**

Detailed environmental mapping was performed to understand constraints across the corridor, such as sensitive natural areas, infrastructure challenges, and vulnerable populations. Such analysis not only informs responsible route alignment choices but supports future planning stages.

Section 6.2 details the decision to pursue a Programmatic Environmental Assessment (PEA) as part of the federal funding process, highlighting its advantages for phased implementation and regulatory streamlining. The PEA sets the framework for efficient environmental compliance, allowing the BSRC to move forward responsibly as funding and community priorities evolve.

INTEGRATION

Proactively framing environmental analysis as an integral part of transit planning reinforces the project's commitment to equitable community outcomes, environmental resilience, and long-term sustainability of regional transit investments.

State Park, Sugar Creek, MO

ENVIRONMENTAL CONSTRAINTS MAPPING AND OVERVIEW

To support subsequent decision making during the NEPA environmental review process, an analysis of available Geographic Information System (GIS) data was conducted for the Study Area. This data is presented in the **BSRC Existing Conditions Report (Appendix A)** which describes key natural and social environmental constraints that would warrant further assessment during the during subsequent NEPA environmental reviews.

The Existing Conditions Report provides a range of baseline data that is highly relevant to future NEPA environmental review. It includes demographic and socioeconomic characteristics of corridor communities, including poverty rates, zero-vehicle households, and racial and ethnic composition. The report also presents data on land use, zoning, and redevelopment potential, which are important for evaluating indirect and cumulative effects associated with the BSRC project. Transportation-related safety data, including crash hotspots and pedestrian and bicycle fatalities, inform the need for specific improvements to multimodal infrastructure and helps frame the project's Purpose and Need Statement.

Additionally, the report includes corridor alignment maps and segment profiles that identify existing transportation facilities, infrastructure conditions, and known constraints that guided alternatives screening. While focused primarily on planning-level transit evaluation, this existing conditions data serves as a foundational input for identifying potential impacts and determining the appropriate NEPA Class of Action for future project phases.

These features are summarized in the following paragraphs and illustrated in **Figures 30 through 32**. Additional data on environmental constraints can be found in the **BSRC Existing Conditions Report (Appendix A)**.

NATURAL ENVIRONMENT FEATURES

SOCIAL ENVIRONMENT FEATURES

MULTIMODAL INFRASTRUCTURE FEATURES

Bridge across Kansas River

NATURAL ENVIRONMENT FEATURES

The Study Area encompasses a number of streams, rivers, and associated flood zones as shown in **Figure 30**. Waterbodies include Marshall Creek, Mill Creek, Muncie Creek, Brenner Heights Creek, and Kansas River within the Kansas portion of the Study Area and Blue River, Rock Creek, Sugar Creek, Mill Creek, and Missouri River within the Missouri portion of the Study Area. As indicated by National Wetland Inventory (NWI) mapping, most wetlands within the Study Area are classified as emergent wetlands along perennial streams. The largest number of wetlands in the Study Area occurs along the south side of Missouri River in the eastern portion of the Study Area and around the confluence of the Blue and Missouri Rivers. There are no natural heritage areas or other designated conservation areas within the Study Area.

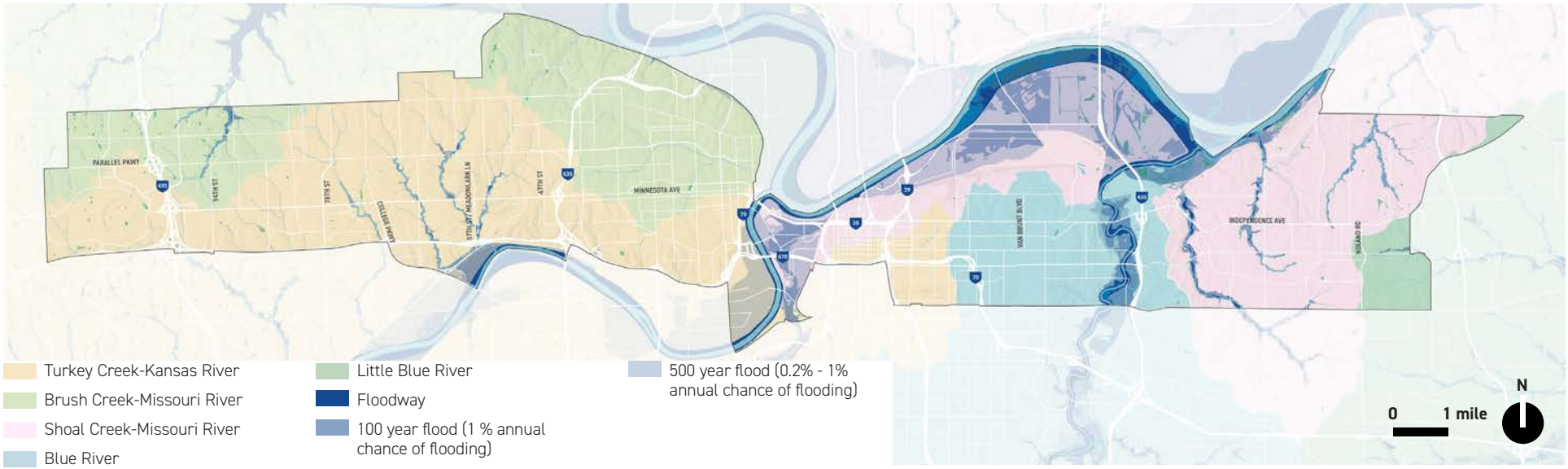


FIGURE 30: NATURAL ENVIRONMENT FEATURES

SOCIAL ENVIRONMENT FEATURES

The Study Area is home to about 200,000 residents and exhibits significant racial and ethnic diversity, with sizable Black/African American and Hispanic/Latino populations present across the corridor, most notably in downtown Kansas City, KS, downtown Kansas City, MO, and along Independence Avenue and Truman Road. The Study Area includes census tracts with high percentages of low-income and zero-vehicle households. These percentages underscore existing transit dependency, especially among low-income populations.

Figure 31 illustrates the distribution of key community services and facilities throughout the Study Area. The map highlights a wide range of public-serving amenities including hospitals, urgent care centers, schools, community centers, parks, grocery and convenience stores, libraries, and public safety facilities such as fire and police stations.

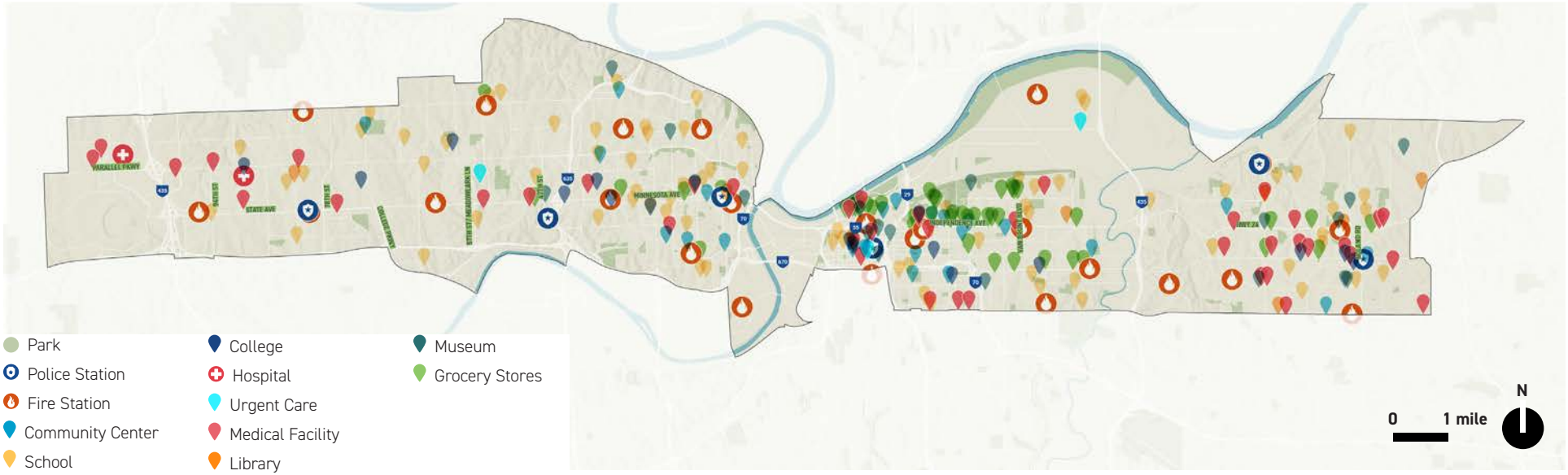


FIGURE 31: SOCIAL ENVIRONMENT FEATURES

Community-serving assets are most densely clustered in the central portions of the corridor, particularly near Downtown Kansas City, along Independence Avenue and Prospect Avenue in Kansas City, Missouri, and in downtown Independence. These areas exhibit a concentration of medical facilities, educational institutions, parks, and essential retail services, reinforcing their roles as community anchors. Notably, public safety facilities and medical services are well distributed but appear more heavily concentrated in high-density population centers. This spatial distribution underscores the opportunity to enhance multimodal access to essential services through transportation and infrastructure investments in the BSRC.

Riverfront Park along Missouri River

MULTIMODAL INFRASTRUCTURE FEATURES

Figure 32 presents existing and planned bicycle and shared-use infrastructure throughout the Study Area as a snapshot of current connectivity and future multimodal opportunities. Existing multimodal infrastructure is most prevalent in the central portion of the corridor, especially in and around Downtown Kansas City, Missouri and near the Missouri River crossings, where greenways and bike lanes converge. Shared-use paths and marked routes extend outward into the surrounding neighborhoods. Gaps in connectivity remain, however, particularly in western and eastern portions of the corridor. The BSRC project presents an opportunity for strategic investment in multimodal infrastructure to improve safety, close mobility gaps, and promote fair access to destinations across the BSRC corridor.

The environmental screening overview illustrates where key natural systems, vulnerable communities, and infrastructure conflicts exist along the BSRC corridor. This information will guide subsequent NEPA environmental review and inform early coordination with regulatory and resource agencies.

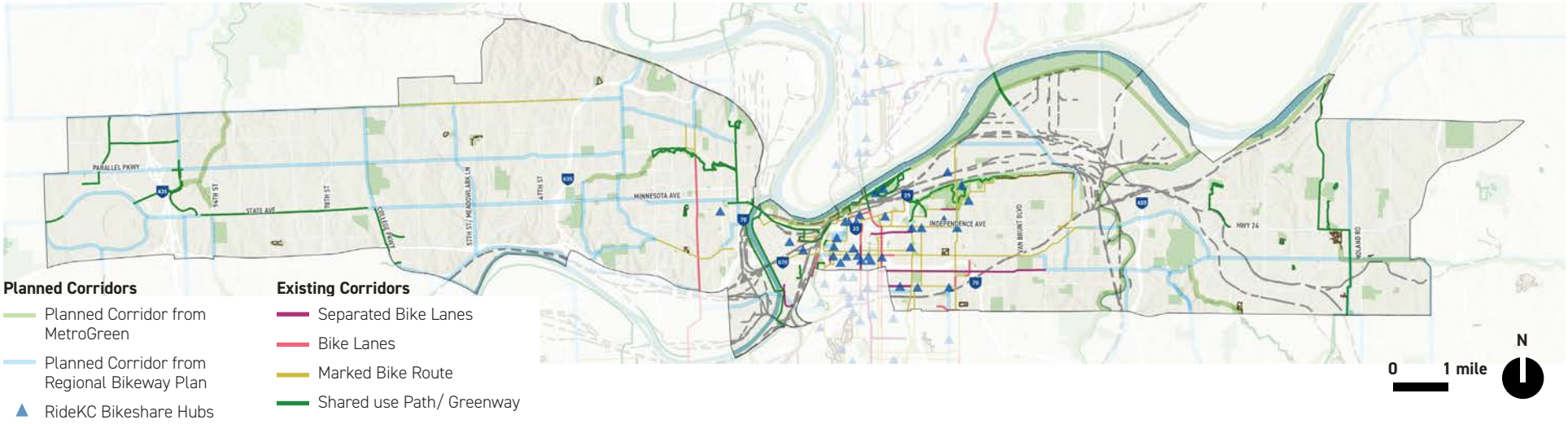
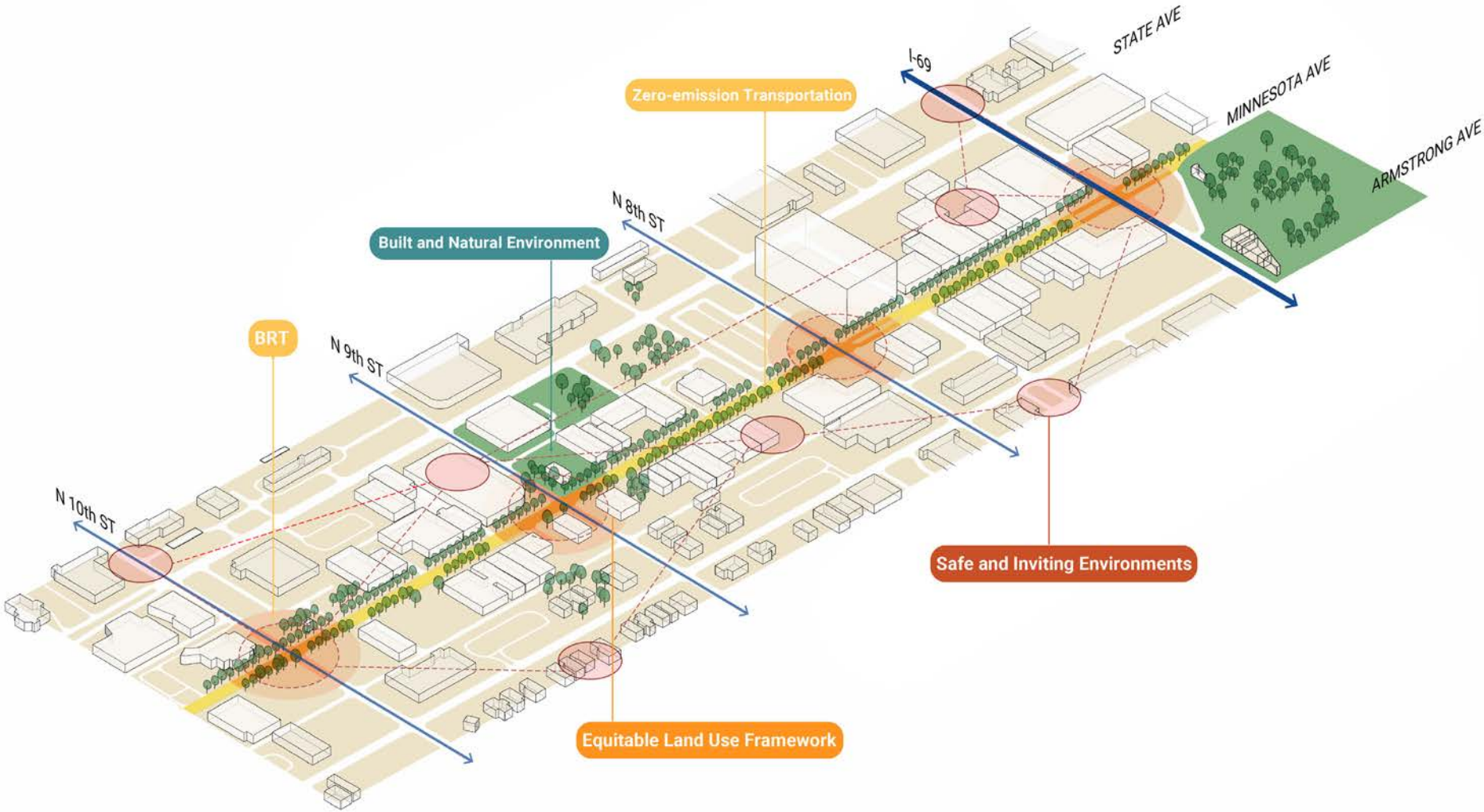


FIGURE 32: INFRASTRUCTURE FEATURES

Note: This figure shows only major bike and shared-use facilities and is not inclusive of all facilities in the Study Area

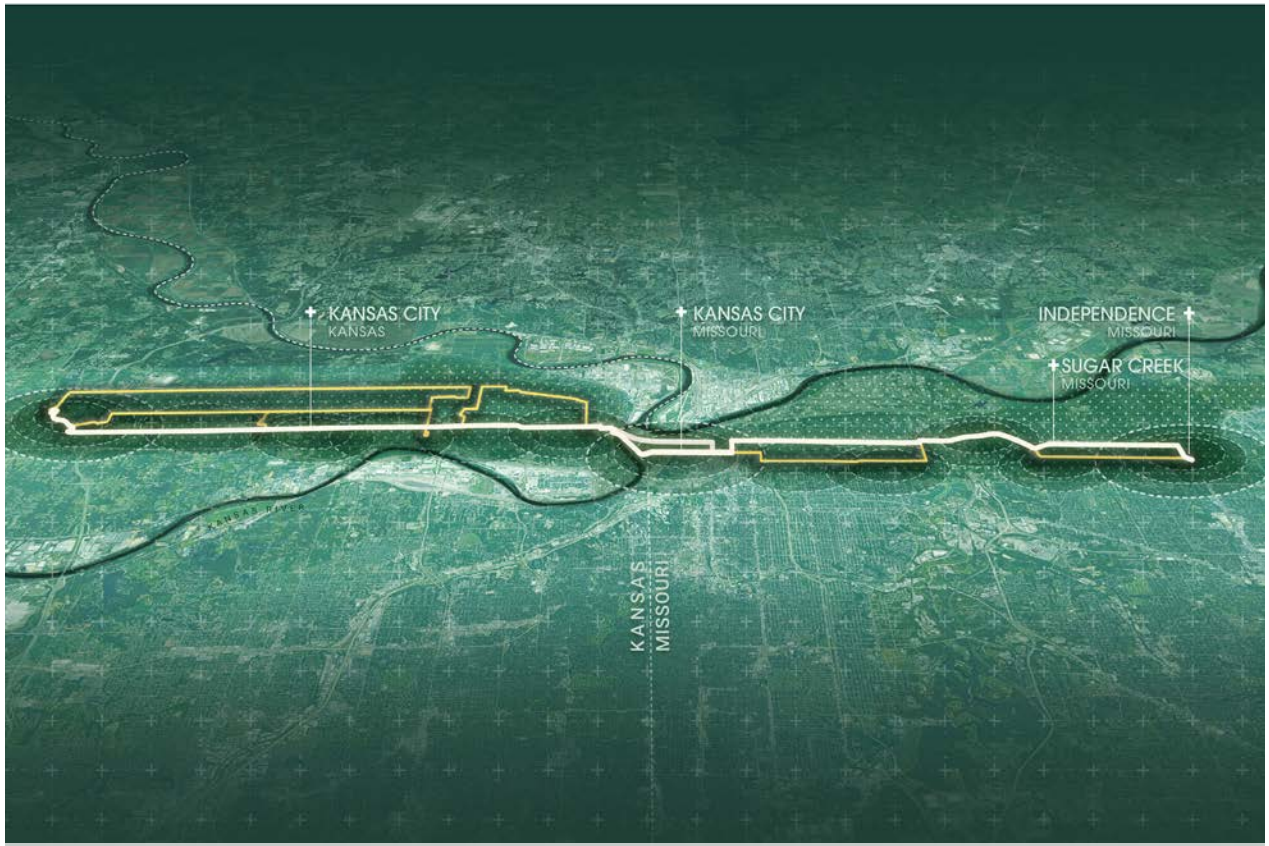

STATE AVE
I-69
MINNESOTA AVE
ARMSTRONG AVE
Zero-emission Transportation
N 8th ST
Built and Natural Environment
BRT
N 9th ST
N 10th ST
Safe and Inviting Environments
Equitable Land Use Framework

05
RECOMMENDATIONS

CONTENTS

5 RECOMMENDATIONS

This section outlines a comprehensive set of recommendations designed to support the successful implementation of transit and supporting infrastructure in the Study Area. The recommended alignment was influenced by local plans, a statistically valid survey of corridor residents, additional online and virtual community engagement, and guidance from the project partners. This section includes guidance on high capacity transit operations, corridor design, land use scale and intensity around transit stops, supporting infrastructure and last-mile connectivity, as well as community development and policy strategies. These recommendations are intended to align transit investments with broader community goals, enhance accessibility, and promote equitable development. While this section provides a strategic framework, a more robust and detailed corridor design, land use analysis, including parcel-level considerations and zoning implications, will be conducted in the Implementation Phase of the project to further refine and support these recommendations.



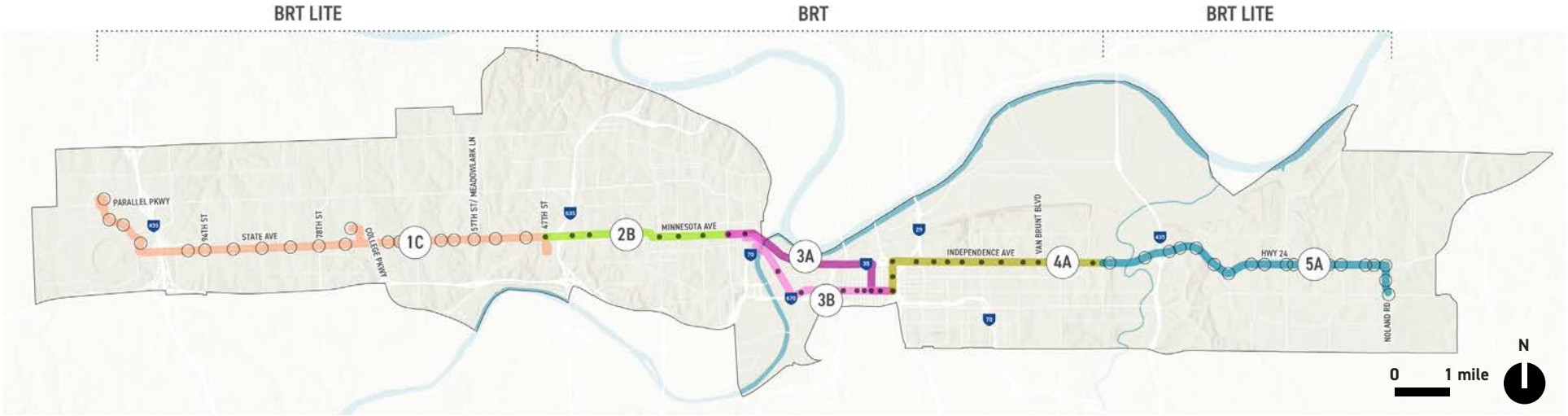
Recommended Alignment of the BRSC

5.1 RECOMMENDED ALIGNMENT, MODE, AND STOPS

The recommended alignment for the BSRC is a combined 24 mile BRT-Lite (segment 1C and 5A) and BRT transit corridor (segments 2B, 3A/3B, and 4A), connecting the Village West Transit Center in Kansas City, Kansas to the Independence Transit Center in Independence, Missouri. It uses the James Street Bridge over the Missouri River as a main crossing point.

The transit service will provide effective access to existing destinations and neighborhoods, and incorporates significant new development at appropriate levels. In addition to the corridor transit investment and land-use changes, the recommended alignment includes further evaluation and potential design of area transit system improvements on adjacent roadways. These may include targeting high-crash locations (adjacent or near the transit corridor) for intersection safety improvements, studying the trade-offs of transit priority in locations of high-vehicle delay for buses off the corridor, and identifying parallel and intersecting multimodal roadways when space for micromobility lanes is unavailable along the transit corridor.

The details of the recommended corridor alignment and transit services are described here. The following subsection will detail the station types, including level of density.



● BRT Stop ○ BRT-Lite Stop

FIGURE 33: CORRIDOR ALIGNMENT, MODE AND STOPS

Bus stops are placed between a quarter- and half-mile apart and strategically located at intersections that can provide connections to existing transit services.

BI-STATE BRT CORRIDOR

Between the 47th, and State Avenue Transit Center in Kansas City, Kansas and Winner Road in Kansas City, Missouri, the Bi-State Corridor is recommended to establish a BRT corridor, with the associated infrastructure improvements, and land use.

BRT service will provide high-frequency bus transit, with buses arriving every 10 minutes, within a dedicated ROW to reduce delay and provide a predictable and reliable transit service. The BRT system may use bus-only lanes ; these special transit lanes will be designated with red paint. Bus-only lanes require either a restriping plan or full road reconstruction, allowing the opportunity for multimodal improvements, such as:

- Curbside bus stops with off-board fare collection, real time transit arrival information, and weather protected waiting areas.
- Bicycle facilities or tree boulevards where ROW exists.
- Intersection reconstruction to narrow pedestrian crossings and create refuge space.

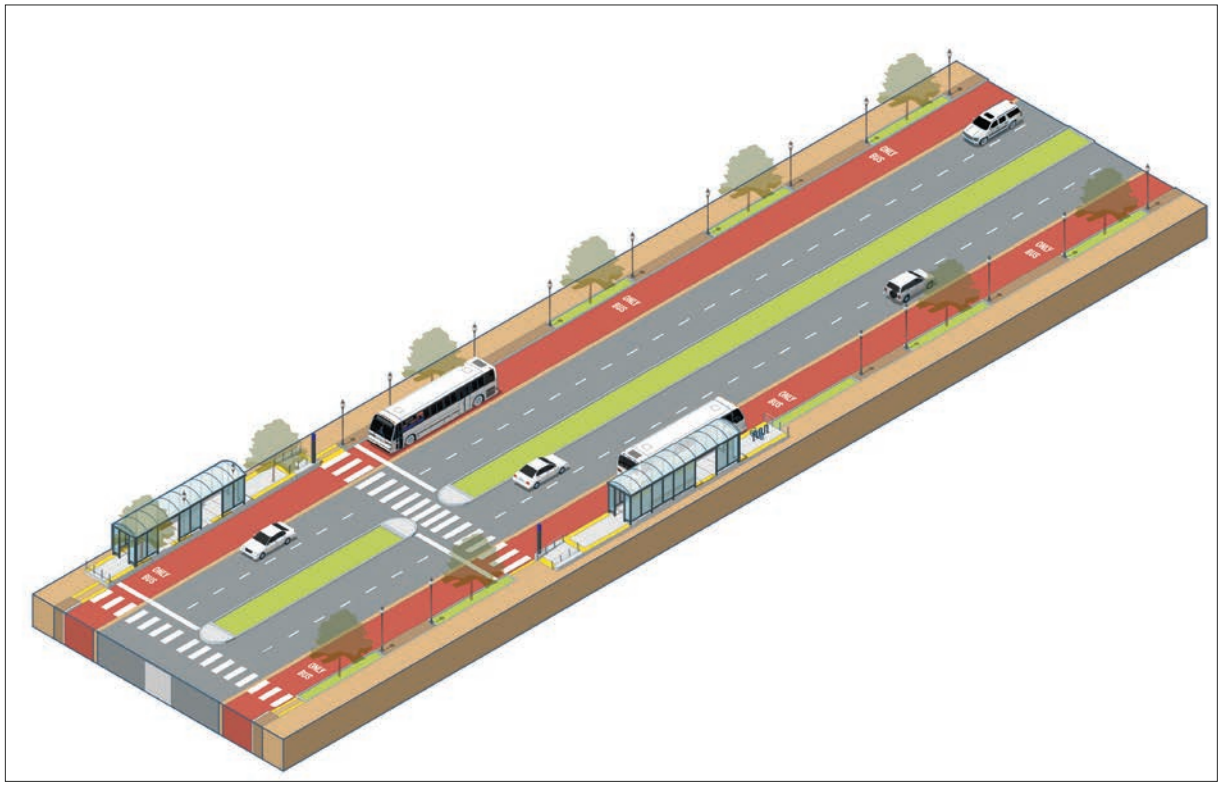


FIGURE 34: CROSS SECTION OF BRT AT STATION LOCATION

***Note:** *There is one exception to the dedicated ROW for BRT service. Segment 3A is the Lewis and Clark Viaduct Bridge and part of Interstate 70. Without further study, stakeholder coordination, and design development, it is uncertain whether the interstate can provide a dedicated transit lane.*

Note: *This page was updated in April 2026 to align with the BSRC Implementation Strategy Phase.*

BRT-LITE IN KANSAS CITY, KANSAS AND INDEPENDENCE, MISSOURI

West of 47th Street and east of Winner Road, the transit corridor is recommended to operate as BRT-Lite service, similar to the KCATA Max transit service. As with the existing KCATA Max transit service, BRT-Lite will provide a branded extension of the transit corridor with service every 10 to 30 minutes and enhanced bus stops every quarter mile.

The associated density will be moderately lower than that in Downtown Kansas City, Kansas and Missouri, and along Independence Avenue, while still bringing activity and high-quality bus service to the communities.

BRT-Lite will preserve the existing network strength and connectivity, especially important in the less dense communities of Independence and western Kansas City, Kansas.

Details on land use associated with station area types is in **Section 5.2.**

FIGURE 35: CROSS SECTION OF BRT-LITE AT STATION LOCATION

SERVICE CONSIDERATIONS

In addition to the primary alignment for the Bi-State Sustainable Transit Corridor, the plan also identifies secondary transit improvements that strengthen and support the overall network.

Multiple routes on the BSRC corridor exhibit the demand for additional service frequency. Both of the primary routes on the corridor—24 Independence and 101 State Avenue—consistently exhibit higher utilization on a per service hour basis than the systemwide average. Using this metric, 24 Independence is the highest-performing route in the entire RideKC system, with more than 50 boardings per vehicle revenue hour.

Beyond the corridor, service improvements are needed for other routes currently operating in the Study Area. Additionally, service reductions following the COVID-19 pandemic have left some routes operating below their typical service standards, either in frequency, span of service, or both. As such, selected routes in the BSRC Study Area should be upgraded in coordination with BRT service and capital improvements on the recommended State Avenue-Independence Avenue BRT and BRT-Lite corridor.

A table is included in **Appendix E** with detailed system recommendations, as well as bus stop enhancement strategies and suggestions for incorporating mobility hubs along the Transit Corridor.

Additionally, more investigation and analysis will be completed on the condition of the James Street bridge crossing. The existing James Street bridge supports one lane of traffic in each direction and was constructed in 1987. According to the last inspection report, there were no critical findings.

RideKC Bus Stop

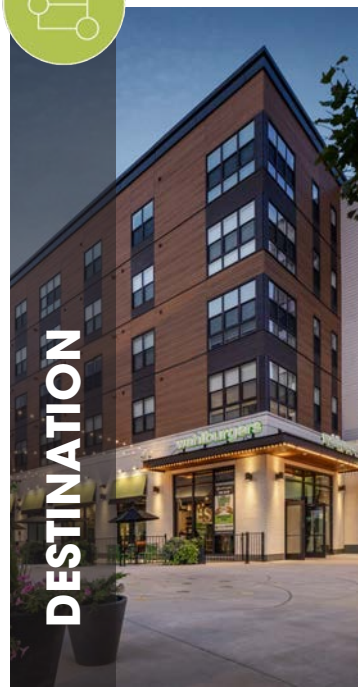
Kansas City Street Car

RideKC Bus Stop

Bike Lanes near Kansas City Street Car

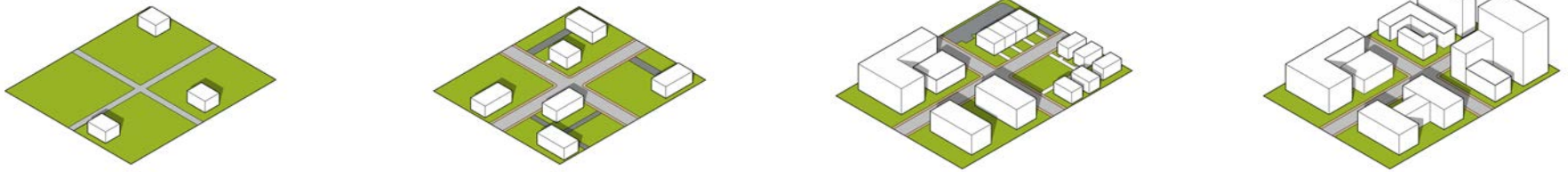
5.2 STATION AREA TYPES

As the region plans for the long-term evolution of land use and development along the corridor, five distinct station area types have been identified to guide future growth and investment over the next 10 to 20 years. These types—Downtown Center, Hub, Destination, Neighborhood Center, and Neighborhood Residential—reflect the anticipated role each station will play in shaping the surrounding community. Each type applies to areas within a half-mile (about a 10-minute walk) of a BRT station and a quarter-mile (about a 5-minute walk) of a BRT-Lite stop.



STOP SPECIFIC TRANSIT READINESS

In many areas along the corridor, existing development patterns and densities are not yet sufficient to support a high-frequency transit system. These locations may be considered to be in early phases of growth and need further planning and investment to fully realize their potential as transit-supportive environments. **'Transit-supportive'** looks different in different contexts, from suburban to city center, but certain elements are common: a fine-grained network of streets and sidewalks that makes it easy (and direct) to reach the transit station, an amount of development that places a significant number of people near the transit corridor, and a diversity of land uses so that people have a variety of reasons to be close to the transit corridor. The graphic below describes the four stages of transit readiness:



1

STAGE 1: LONG-TERM

These areas currently lack the density and infrastructure to support high-frequency transit but have long-range potential with significant planning, investment, and growth.

2

STAGE 2: EMERGING

These areas are beginning to show signs of transit-supportive development, with early investments and moderate increases in housing and job density.

3

STAGE 3: READY

These areas have sufficient density and transit-supportive development patterns that are poised for successful transit implementation with some additional changes.

4

STAGE 4: ARRIVED

These areas already exhibit strong transit-supportive characteristics and require little to no change to effectively support high-frequency transit.

IMPLEMENTATION PHASE

In the Implementation Phase, each proposed station or stop will be evaluated for its transit readiness and categorized as Long-Term, Emerging, Ready or Arrived. These categories reflect the station's current and anticipated ability to support high-frequency transit and TOD. Each category will inform the type and intensity of interventions needed—ranging from infrastructure investments to land use policy changes—to support the station's evolution over time.

STATION AREA TYPES

As shown on the map, several proposed stops along the recommended alignment have not yet been assigned a station area type. A high-level analysis was conducted to assign types based on existing land uses; however, for some stops, it was difficult to determine how they might evolve over time. In many cases, current land uses already reflect a long-term buildout pattern that supports higher-frequency transit, making future change less apparent without further study. These gaps will be addressed in the next phase of the project, which includes more detailed policy and zoning analysis. More broadly, all station area types shown on the map are considered preliminary and may be refined as the planning process continues.

This analysis included a high-level review of local comprehensive plans and transportation plans. Further analysis of local plans and priorities around each station will be completed in the Implementation Phase. **The following exhibits are illustrative and may show transit operating in either inside or outside lanes; more specific design decisions will be addressed in the Implementation Strategy Phase of the planning process.**

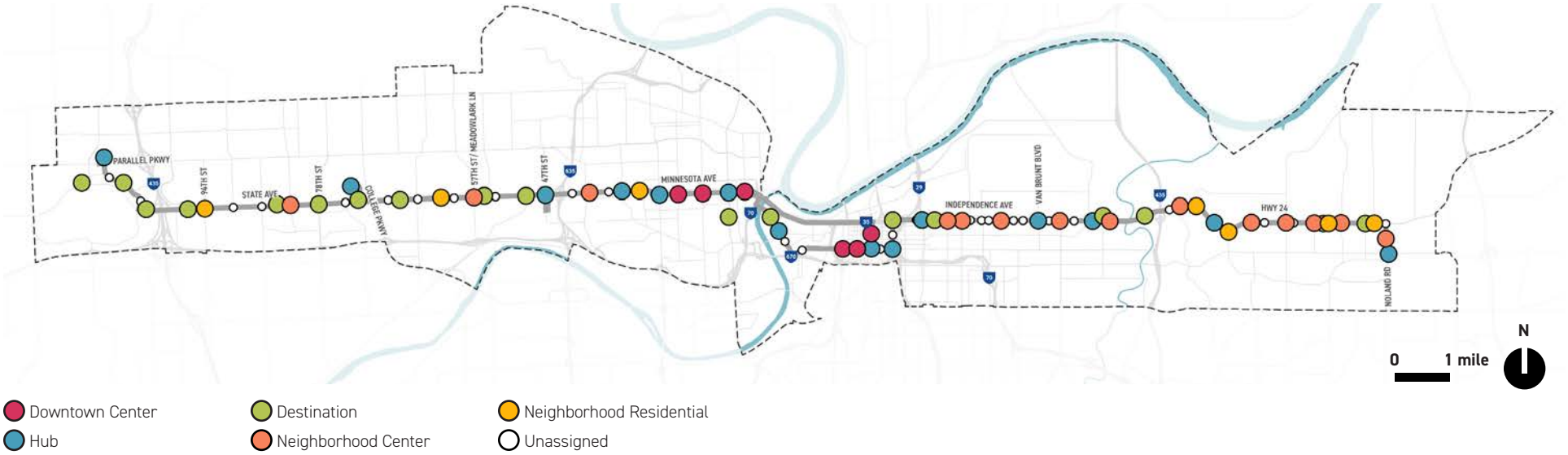


FIGURE 36: STATION AREA TYPES MAP

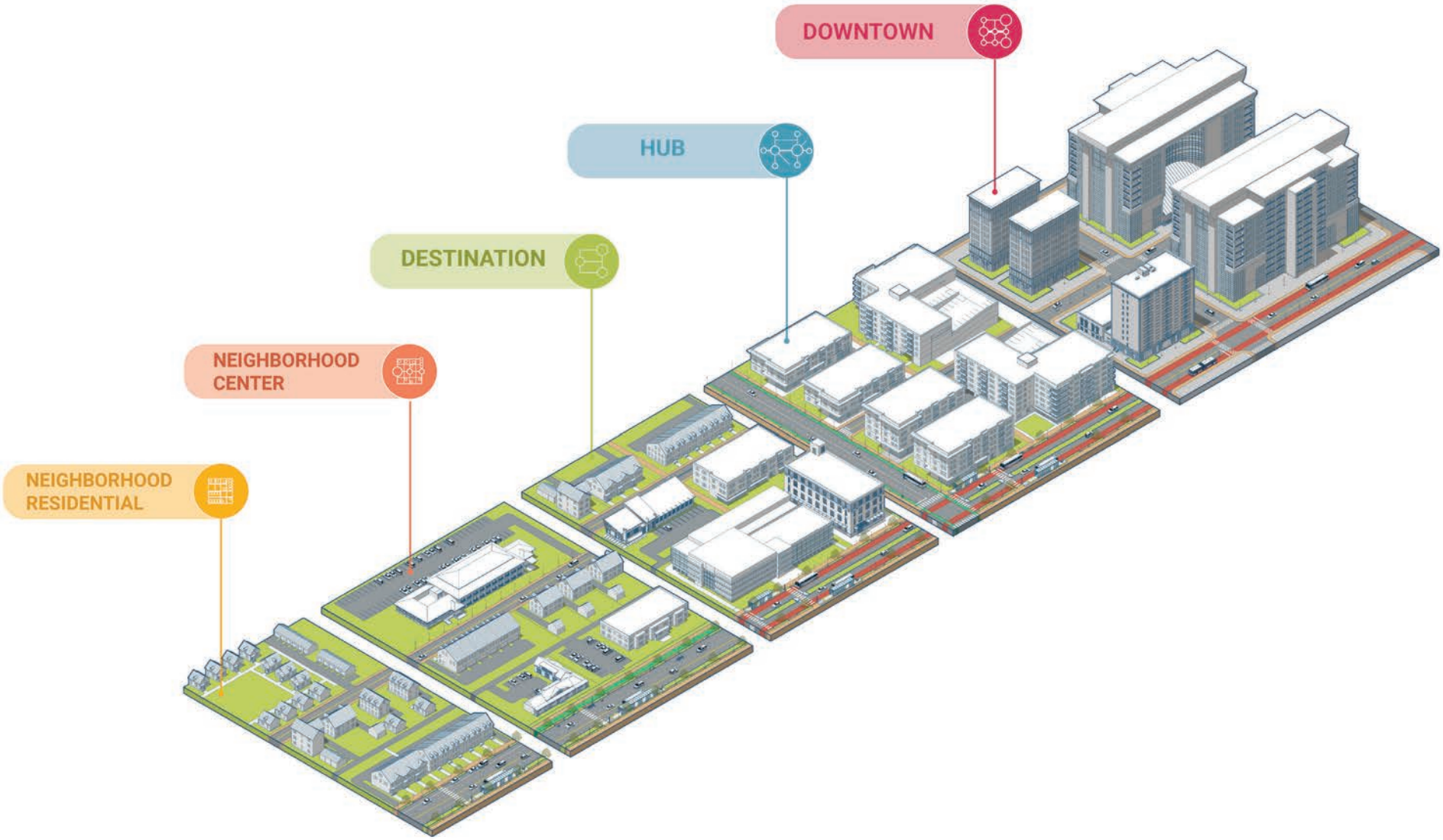


FIGURE 37: STATION AREA TYPES TRANSECT

Note: *This page was updated in April 2026 to align with the BSRC Implementation Strategy Phase.*

DOWNTOWN

DESCRIPTION

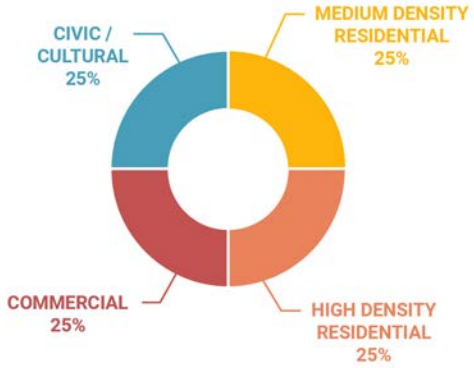
The Downtown station area is the most urban and intensely developed of all station types. It is characterized by a dense, mixed-use environment that serves as a local or regional hub for employment, housing, commerce, and culture. This area supports a high concentration of residents, workers, and visitors, and functions as a central gathering place for civic life, cultural events, and regional transit connections. It is most likely to represent current conditions but can be applied to stations aspirationally for future intensification.

STATION AREA CHARACTERISTICS

STREET PATTERN

Regular

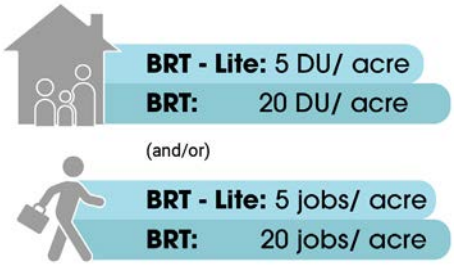
LAND USE MIX



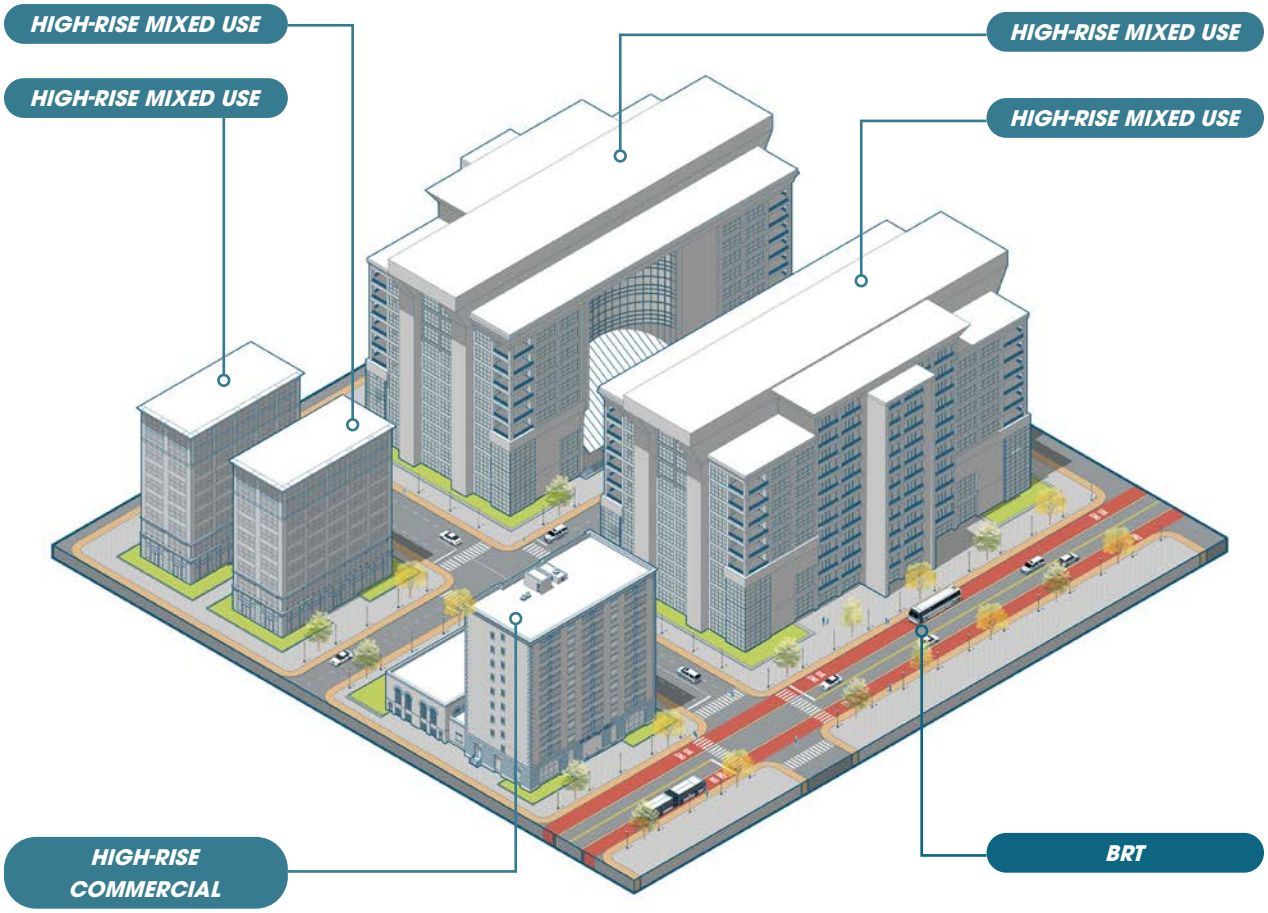
BUILDING HEIGHTS

KC, KS: 4 - 8 stories
KC, MO: 5 -12 stories

DENSITY TARGETS



STATION AREA FORM



Note: The exhibits are illustrative and may show transit operating in either inside or outside lanes; more specific design decisions will be addressed in the Implementation Strategy Phase of the planning process.

Note: *This page was updated in April 2026 to align with the BSRC Implementation Strategy Phase.*

ILLUSTRATIVE IMAGES

Streetcar, Portland, OR

18th Street, Denver, CO

HUB

DESCRIPTION

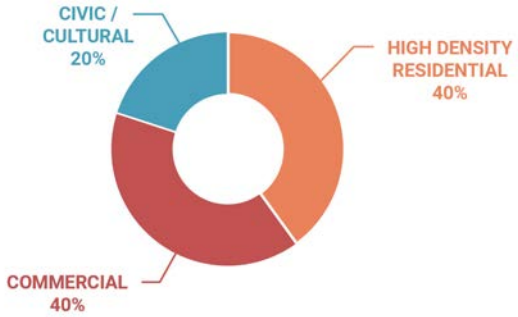
A hub station area has high-capacity transfer facilities that serve as a key connector in the regional transit system. Hubs provide access to multiple transportation modes, including rail, bus, active mobility networks, and auto-oriented options like park-and-rides. The area around hubs support mixed-use development, promote multimodal access, and foster vibrant, transit-oriented communities. Hubs typically feature frequent service, multiple route connections, and strong potential for urban investment. Transit infrastructure should be designed for both interim and long-term integration with the urban environment to ensure a seamless user experience while preserving community character.

STATION AREA CHARACTERISTICS

STREET PATTERN

Regular

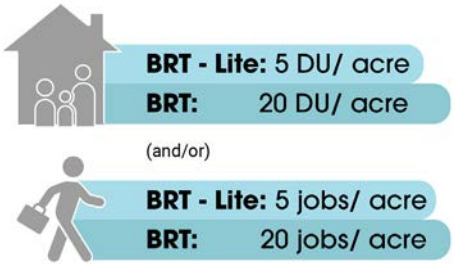
LAND USE MIX



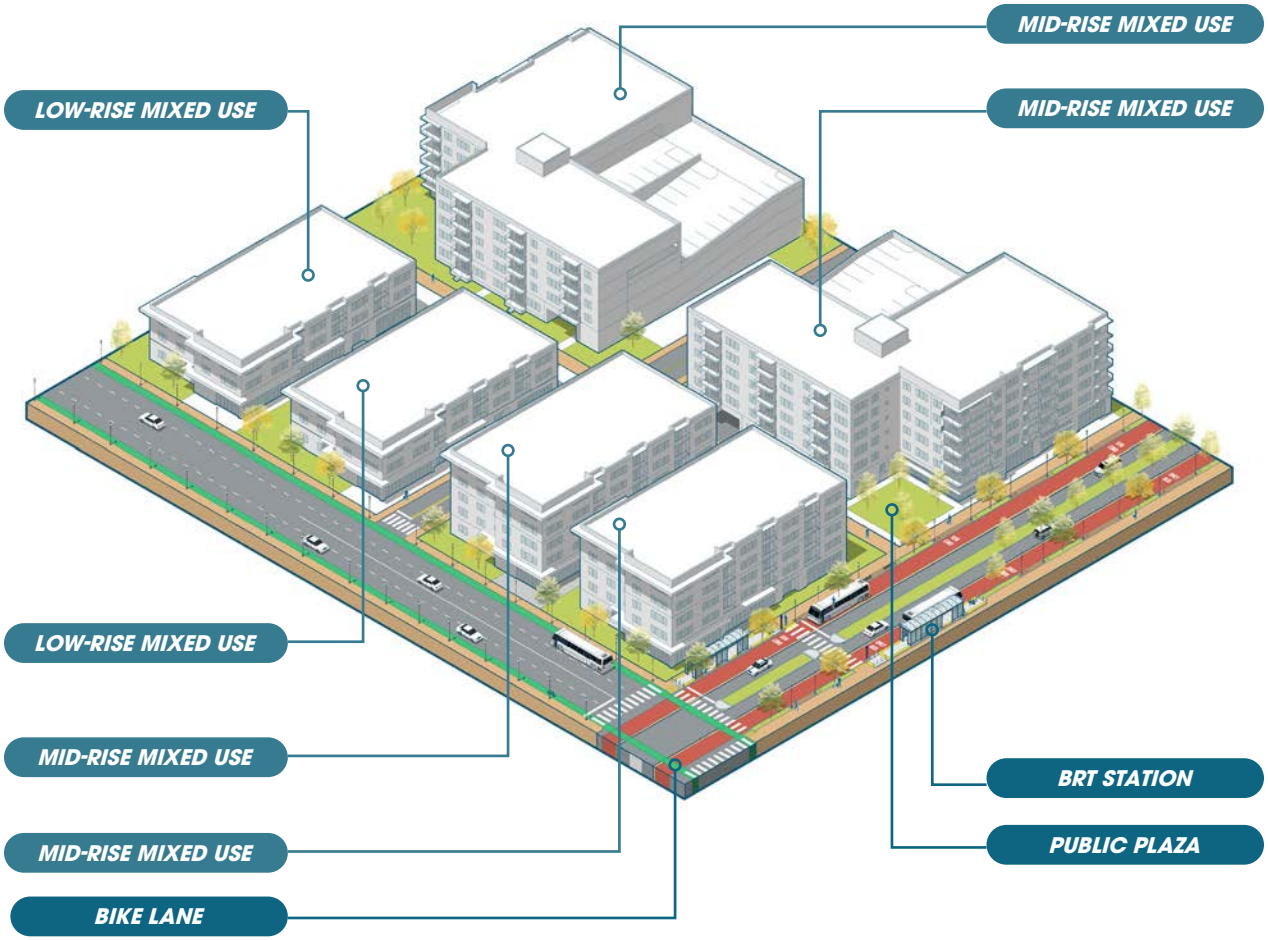
BUILDING HEIGHTS

4 - 8 stories

DENSITY TARGETS



STATION AREA FORM

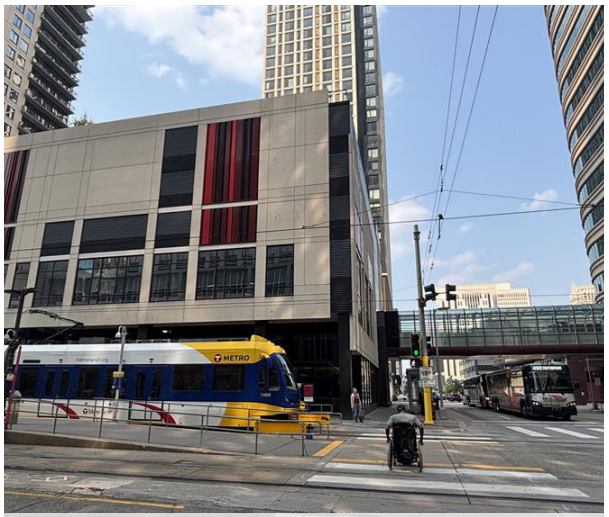


Note: The exhibits are illustrative and may show transit operating in either inside or outside lanes; more specific design decisions will be addressed in the Implementation Strategy Phase of the planning process.

Note: *This page was updated in April 2026 to align with the BSRC Implementation Strategy Phase.*

ILLUSTRATIVE IMAGES

Nicollet Mall, Minneapolis, MN



5th Streetand Marquette Avenue, Minneapolis, MN

DESTINATION

DESCRIPTION

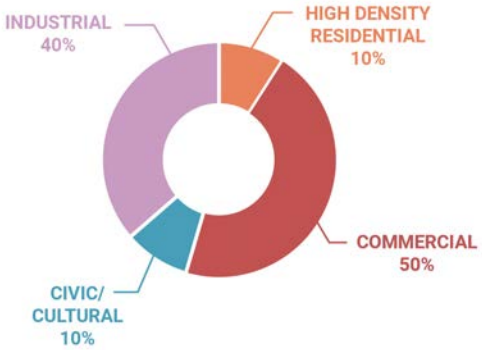
Destination station areas are anchored by commercial, industrial, cultural, or institutional uses that generate a high concentration of jobs along the transit corridor. To support car-free commuting, these areas should offer enhanced mobility options such as shared bikes and scooters, accessible walking and biking routes, and local transit connections. Since Destinations often experience peak-hour traffic surges, infrastructure planning should account for these fluctuations by incorporating strategies such as dynamic signal timing, curbside management for drop-offs and pickups, designated transit-only lanes during peak hours, and enhanced multimodal access. For example, several cities have successfully used adaptive traffic signal control near major employment centers and transit stations to improve flow and reduce delays during peak periods.

STATION AREA CHARACTERISTICS

STREET PATTERN

Regular

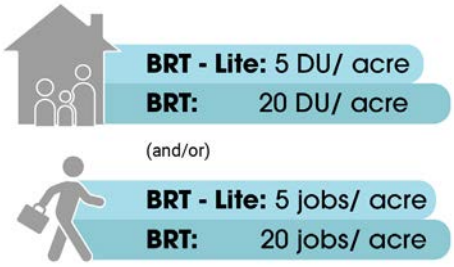
LAND USE MIX



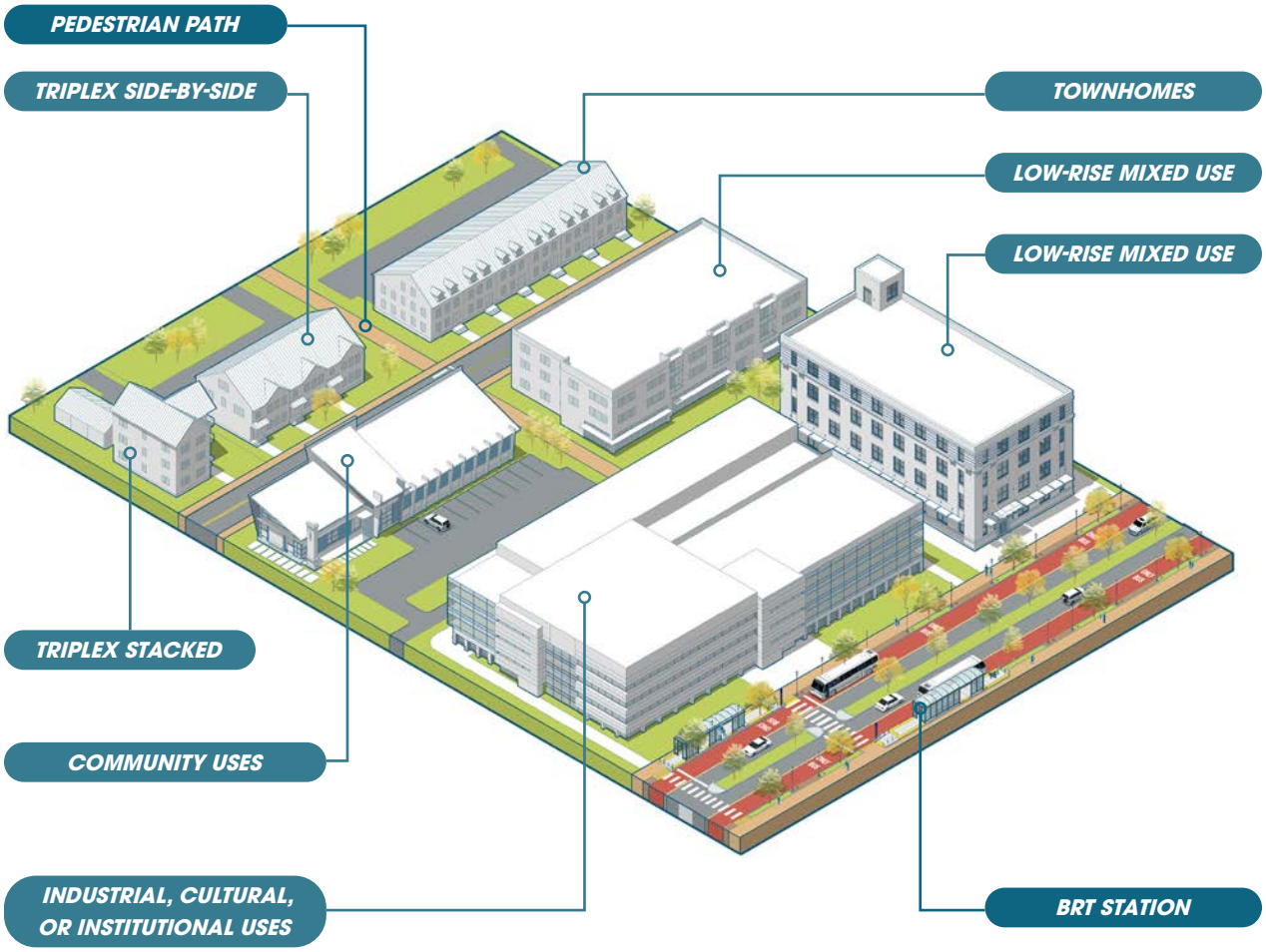
BUILDING HEIGHTS

3 - 6 stories

DENSITY TARGETS



STATION AREA FORM



Note: The exhibits are illustrative and may show transit operating in either inside or outside lanes; more specific design decisions will be addressed in the Implementation Strategy Phase of the planning process.

Note: *This page was updated in April 2026 to align with the BSRC Implementation Strategy Phase.*

ILLUSTRATIVE IMAGES

Streetcar, Kansas City, MO

South Bay Shopping Center, Boston, MA

NEIGHBORHOOD CENTER

DESCRIPTION

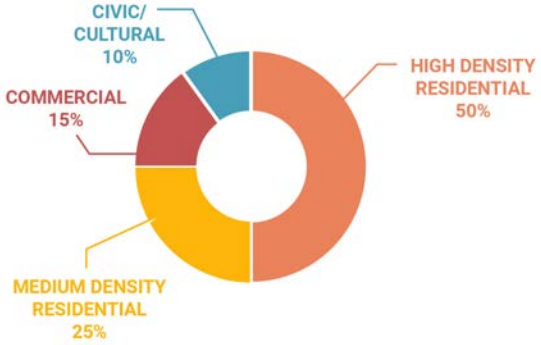
Neighborhood Center station areas are smaller-scale, transit-accessible nodes that anchor surrounding medium-density residential neighborhoods. These areas typically feature neighborhood-serving retail, services, and civic uses that cater to local residents and transit riders accessing daily essentials. While modest in scale compared to regional hubs, they play a vital role in enhancing livability, reducing car dependency, and supporting first- and last-mile connections. Design should prioritize pedestrian comfort, safe crossings, and integration with active transportation networks to reinforce the station's role as a local destination.

STATION AREA CHARACTERISTICS

STREET PATTERN

Semi - Regular

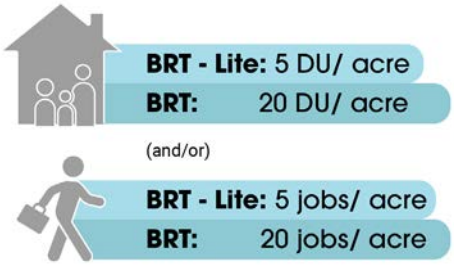
LAND USE MIX



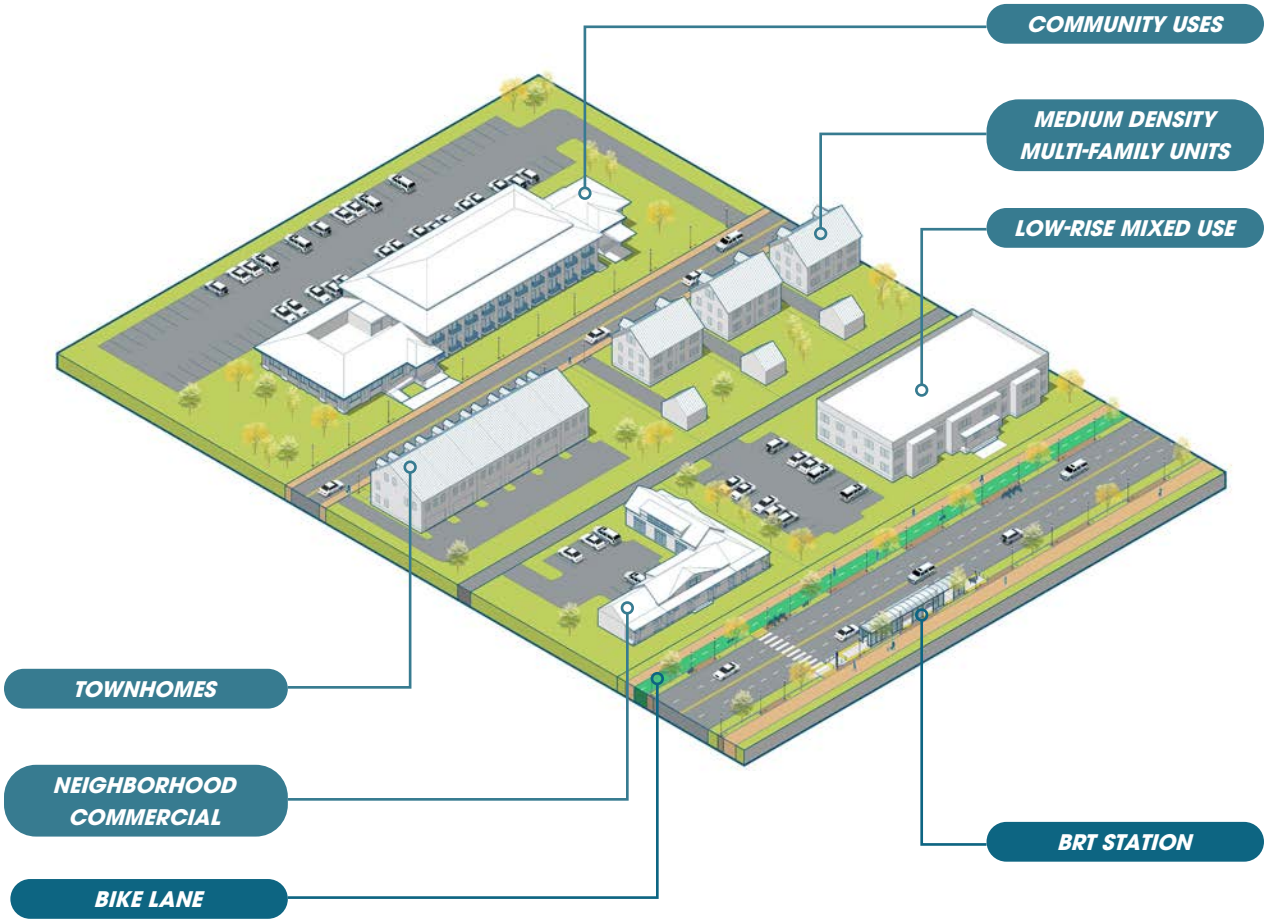
BUILDING HEIGHTS

2 - 6 stories

DENSITY TARGETS



STATION AREA FORM



Note: The exhibits are illustrative and may show transit operating in either inside or outside lanes; more specific design decisions will be addressed in the Implementation Strategy Phase of the planning process.

ILLUSTRATIVE IMAGES

Main St, Kansas City, KS

Washington Town Center, Mercer County, NJ

NEIGHBORHOOD RESIDENTIAL

DESCRIPTION

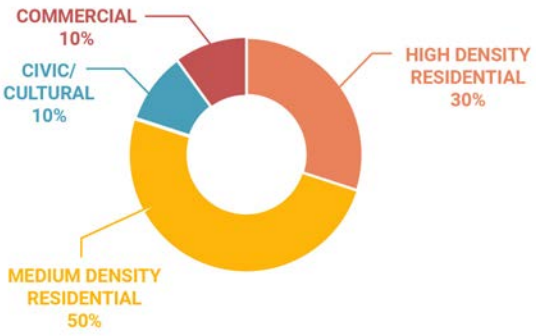
Neighborhood Residential station areas are primarily focused on infill housing opportunities that align with the scale and character of surrounding neighborhoods. These areas are typically composed of medium-density residential developments—such as townhomes, small apartment buildings, or courtyard housing—that complement existing fabric while increasing housing options near transit. The goal is to foster walkable, livable communities where residents can easily access transit for daily needs, reducing reliance on personal vehicles and supporting sustainable growth.

STATION AREA CHARACTERISTICS

STREET PATTERN

Semi - Regular

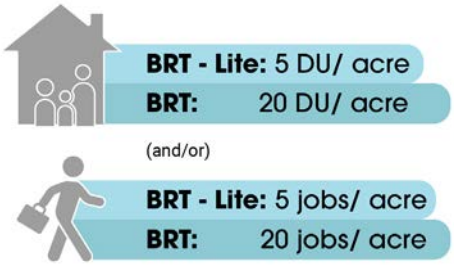
LAND USE MIX



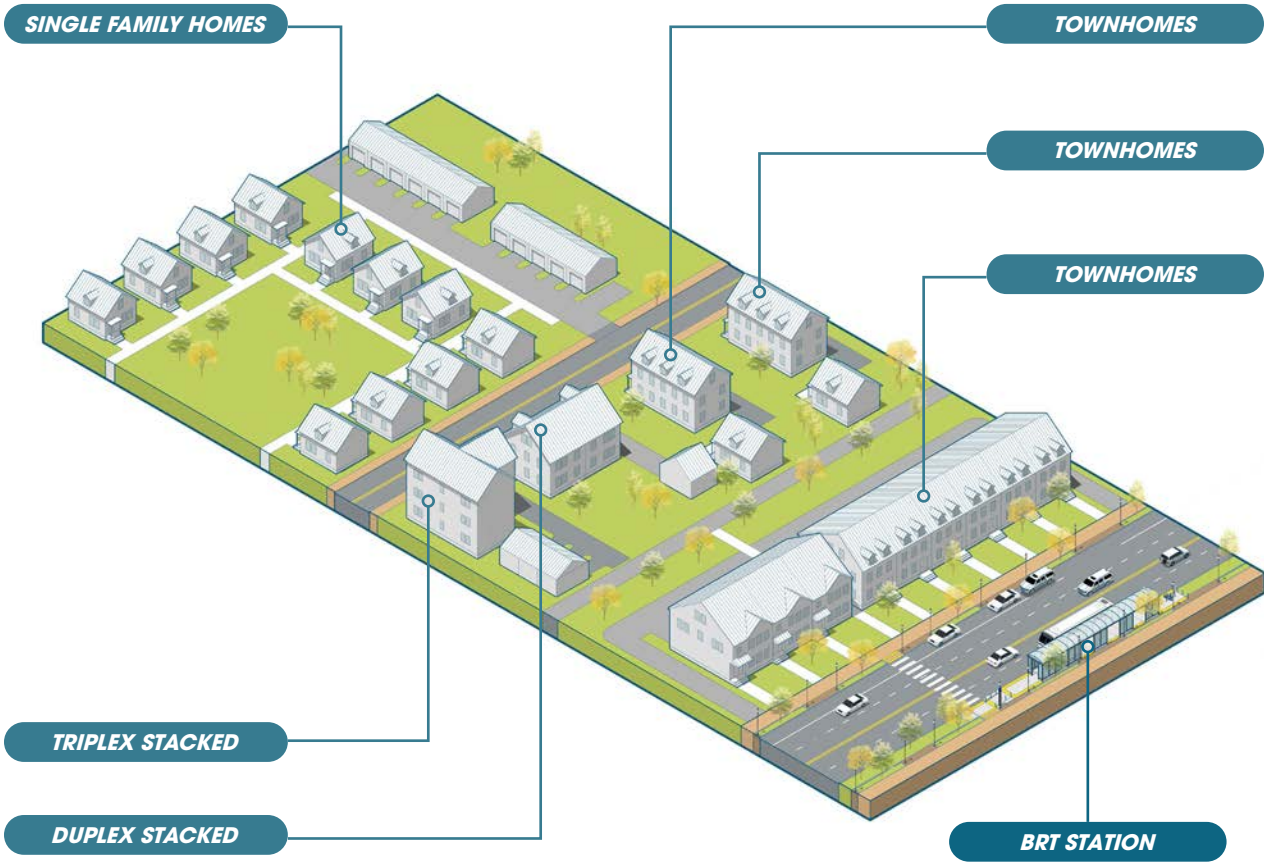
BUILDING HEIGHTS

2 - 4 stories

DENSITY TARGETS



STATION AREA FORM



Note: The exhibits are illustrative and may show transit operating in either inside or outside lanes; more specific design decisions will be addressed in the Implementation Strategy Phase of the planning process.

ILLUSTRATIVE IMAGES

IndyGo Bus Stop, Indianapolis, IN

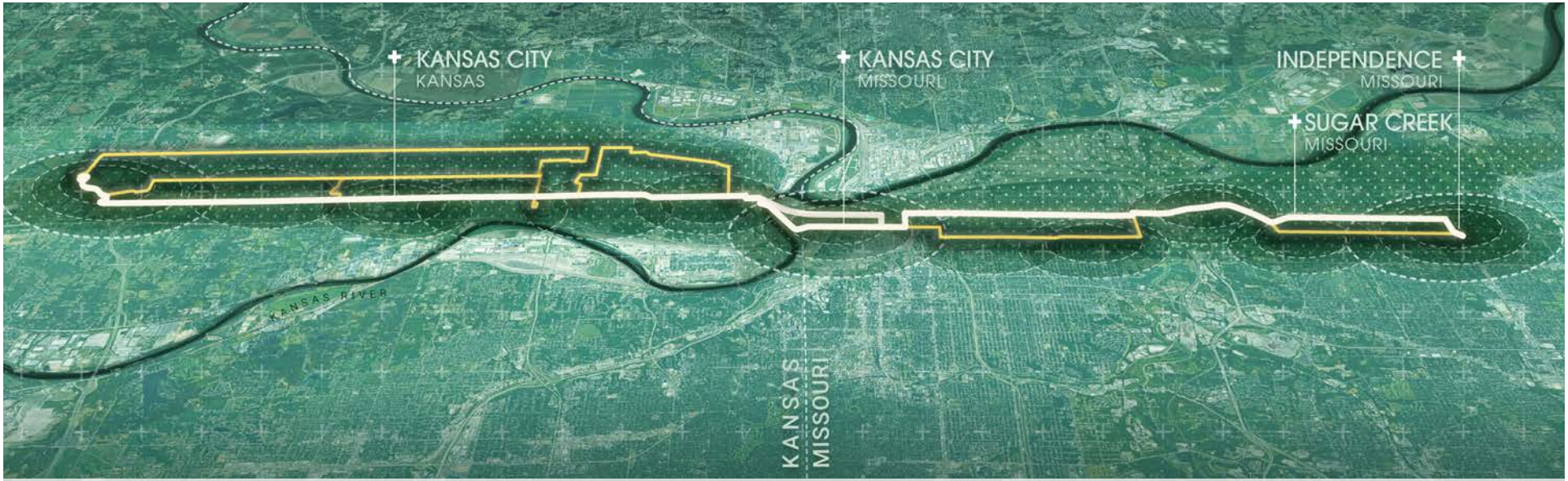
Townhomes, Winston-Salem, NC

5.3 SUPPORTIVE INFRASTRUCTURE DEVELOPMENT

To capitalize on the primary transit investment, the plan identifies potential locations for of a series of mobility hubs. These hubs are nodes where multiple travel options (BRT, local buses, biking, walking, and shared mobility) converge, making transfers seamless and providing convenient access for nearby neighborhoods. Establishing mobility hub aligns transit investments with land use, fostering compact, walkable districts that support mixed-income housing, jobs, and services. This approach concentrates development and mobility options in key nodes in order to amplify transit use, catalyze reinvestment, and reduce car dependence. Just as importantly, these hubs serve as gateways for last-mile connections, extending access deeper into the Study Area—including communities not directly adjacent to the preferred alignment—to ensure broader geographic fairness and mobility.

Candidate hub locations were identified through a data-driven evaluation and scoring process (see **Section 4.2**) that considered factors such as transit demand, population and job density, development potential, and community priorities.

The proposed mobility hubs are located at the highest-scoring sites. Each selected hub is guided by a typology reflecting its context and role—ranging from a dense Downtown Center or regional Destination to a Community Hub or Neighborhood Center. These typologies establish principles for design at each site, ensuring improvements fit local needs while advancing corridor-wide goals.



Illustrative graphic of transit hubs along the Corridor

SUPPORTING ELECTRIC VEHICLE (EV) ADOPTION ON THE CORRIDOR

Improved transit service on the BSRC presents the opportunity to expand access to EV charging. **The Kansas City Regional EV Readiness Plan** projects that EV adoption will grow from around 13,000 in 2025 to nearly 100,000 by 2035. There are currently only 12 public fast charging stations with approximately 100 ports serving a region of more than 2 million people. While there have been regional investments in charging infrastructure through the Evergy Clean Charge Network, significant work remains to meet future charging needs.

EV CHARGING STRATEGIES

The BiSRC proposes three strategies to support EV adoption:

Provide EV charging at mobility hubs, park-and-ride locations, and transit stops.

Support decentralized EV charging in neighborhoods without nearby transit service.

Consider electric car-, bike-, and scooter-sharing options to expand access to zero-emission technologies and support first- and last-mile connectivity.

EV CHARGING PRIORITIES

In developing detailed siting recommendations for charging infrastructure in the Study Area, the following priorities were considered:

Demand: Charging stations should be located where they will be regularly used. Considerations include land use, density, travel patterns, and existing charging stations.

Suitability: Site development costs can be minimized by avoiding sensitive natural resources, using publicly owned land, and leveraging existing transportation and utility infrastructure.

Balance: Some neighborhoods may not see the same level of private sector investment in charging infrastructure. Public agencies should prioritize communities with disproportionate transportation, economic, and environmental burdens.

STRATEGY 1 *PROVIDE EV CHARGING AT MOBILITY HUBS, PARK-AND-RIDE LOCATIONS, AND TRANSIT STOPS*

The Regional EV Readiness Plan prioritizes transit hubs for implementation of charging infrastructure. Building on this approach, the following factors will guide EV charging recommendations:

- Locations of transit assets to encourage multimodal activity.
- High-activity land uses including dense multi-family residential neighborhoods where people may lack dedicated, off-street parking.
- Underserved communities, represented by numerous transportation and health burdens such as zero car households and poor air quality.
- Land owned by public agencies.
- Proximity to high voltage power lines, existing parking, and corridors with high traffic volumes.

The resulting map is shown in **Figure 38**. Since publicly owned land presents the most convenient opportunity to install charging, a second analysis was performed limited to these parcels. This is shown in **Figure 39**. The weighting used for each of these criteria is further detailed in **Appendix G**.

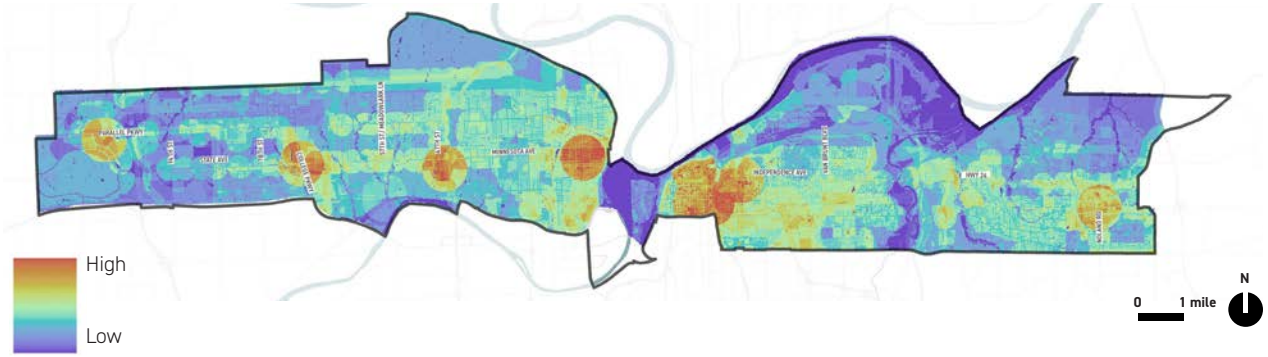


FIGURE 38: LAND SUITABILITY FOR TRANSIT SUPPORTIVE SCENARIO

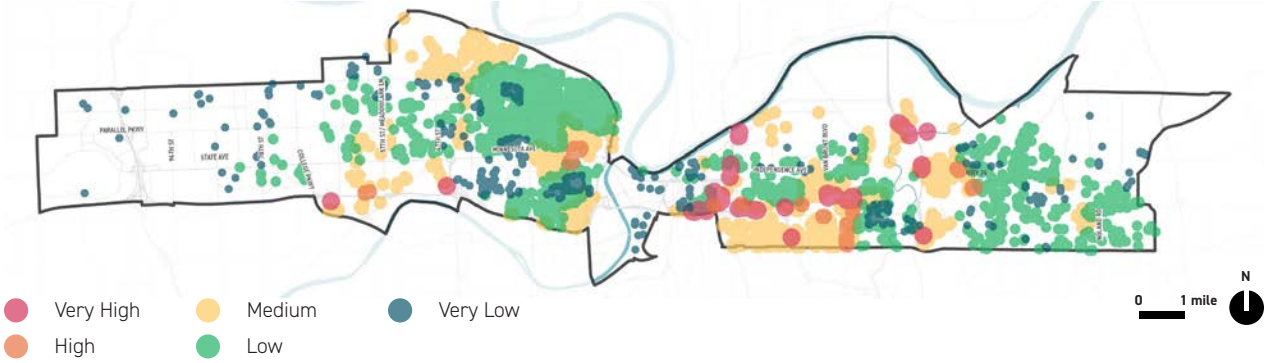


FIGURE 39: PUBLIC LAND SUITABILITY FOR TRANSIT SUPPORTIVE SCENARIO

STRATEGY 2 *SUPPORT DECENTRALIZED EV CHARGING IN NEIGHBORHOODS WITHOUT NEARBY TRANSIT SERVICE*

This strategy encourages the installation of charging stations at decentralized locations, in order to reach communities that may not otherwise see investment. This decentralized charging strategy considers similar data, but further prioritizes communities with environmental, economic, and health burdens. Neighborhoods with fewer transportation options, including zero car households and the absence of nearby transit stops, are also prioritized.

The resulting map is **Figure 40**, followed by **Figure 41**, that isolates public land.

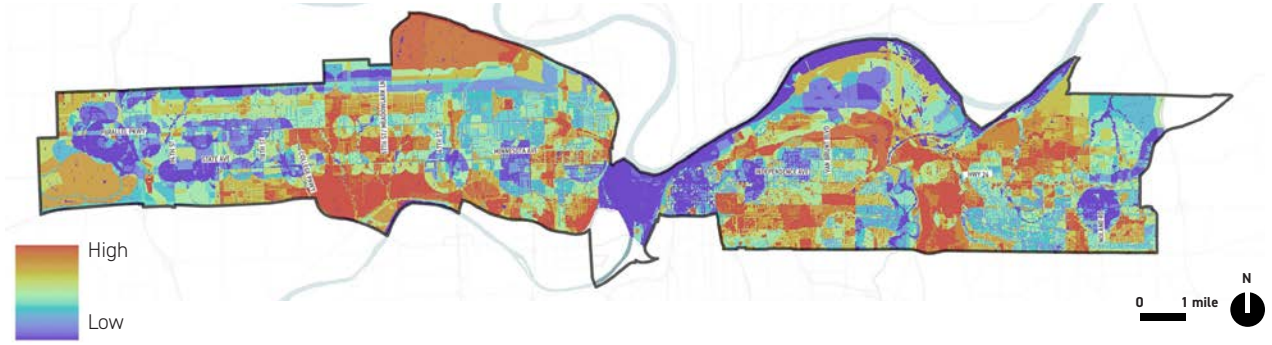


FIGURE 40: LAND SUITABILITY FOR DISTRIBUTED SCENARIO

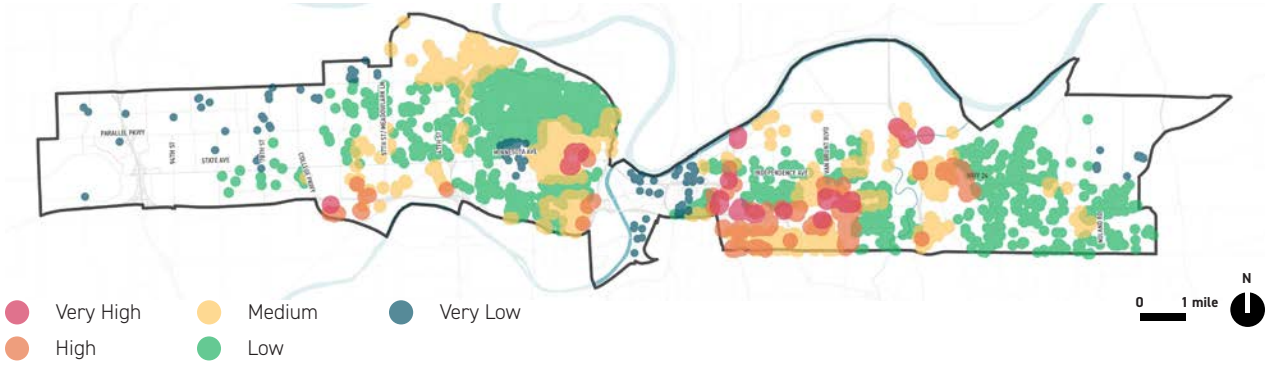


FIGURE 41: PUBLIC LAND SUITABILITY FOR DISTRIBUTED SCENARIO

STRATEGY 3

CONSIDER ELECTRIC CAR, BIKE, AND SCOOTER SHARING OPTIONS TO EXPAND ACCESS TO ZERO-EMISSION TECHNOLOGIES AND SUPPORT FIRST- AND LAST-MILE CONNECTIVITY

The BRSC region does not currently offer car-sharing services. Widespread access to EVs is limited by the initial purchase cost and access to charging (especially for residents of multi-family dwellings). These factors have led to imbalances in EV ownership, with high income individuals and owners of single-family homes overrepresented in the market. Consequently, both the lifecycle cost savings and the air quality health benefits are primarily enjoyed by these same communities. This strategy promotes shared mobility options to improve access to EVs while enhancing first- and last-mile connectivity.

EV CAR-SHARING

Car-sharing can support transit ridership, as these services can reduce the need for households to own multiple vehicles and provide a safety net for occasional trip-making that cannot be made on transit. A single shared vehicle can serve multiple uses in a day, tremendously more efficient than most individually-owned vehicles which sit idle and parked most of the day. Car-sharing company Zipcar reports that 82% of its members do not own a car, and that each car in its fleet serves over 50 members. 52% of its members ride transit at least five times a week and car-share members are also more likely to ride bikes. Additionally, each vehicle in Zipcar's fleet replaces 13 privately owned vehicles in the markets it serves.

Car-sharing business models vary across the United States, ranging from private companies to non-profit or community-based models. Some cities have incorporated car-share adjustments to their zoning codes to allow lower parking requirements if some spaces are dedicated to car share. Others provide access to parking (either on street or in municipal lots) at highly visible and accessible parking spots. Some agencies also subsidize the services either through vehicle purchases or marketing support.

Car-sharing services are increasingly incorporating EVs into their fleets. However, integrating EVs into car-sharing programs involves significant upfront costs and careful planning for charging infrastructure. Ensuring that vehicles are consistently charged and ready for use requires substantial streetside operational support.

As many public and private parking facilities have begun to install charging infrastructure, car-sharing services can strategically partner and cost-share on these infrastructure investments. Curbside charging, which can pose issues in establishing dedicated spaces and may have complicated relationships between the local roadway owner and electrical utilities, can also be challenging.

MICROMOBILITY

First and last mile refers to the distance between public transit and a user's starting point or destination. Micromobility solution like e-bikes and e-scooters can provide this connectivity to fixed route transit while avoiding the congestion of single occupant vehicles.

Compared to a non-electric shared bikes, e-bikes have a higher initial purchase cost and require frequent charging. One solution is to install charging infrastructure at docked e-bike sharing locations. This allows an e-bike to receive a charge while not in use, decreasing or eliminating the need for the operator to collect and charge devices for undocked devices. Most bike and scooter share operators have begun designing stations and e-bikes that have this capability.

As investments are made in public spaces such as BRT stations and mobility hubs, consideration can be made to leverage those investments to offer additional electrical service for bike-share charging. These investments can lower bike-sharing costs, enhance accessibility, and extend the reach of the transit network.

People riding scooters

Bike share in KCMO

5.4 COMMUNITY DEVELOPMENT PRIORITIES

OPPORTUNITY AND NEEDS

A major consideration in this study is to identify how new transit service can act as a wealth-building tool for communities through deliberate policy and funding interventions from the public sector.

As part of the existing conditions report (**Appendix A**), a Housing Opportunity Index assessed the Study Area's affordability, diversity, and quality of housing. Areas with high housing opportunity are where the costs of housing, housing types, and the incomes of residents align well. Areas with low opportunity highlighted neighborhoods along the corridor where housing costs are high and/or housing types are not affordable compared to the incomes of the people living there. The analysis showed .showed that areas performing well have a diversity of housing types, very high household incomes, and high home-ownership rates. Areas that perform poorly have a mismatch between the availability and price of housing and the income of neighborhood residents.

An overall Access to Opportunity Index, which also incorporates opportunity with regard to transit, the economy, and environmental conditions, shows much the same pattern. Higher opportunity scores show up in neighborhoods with fewer people of color and higher incomes. Within the Study Area, scores lean towards more inequitable distribution of access to resources that support a community's health and wealth. Not surprisingly, neighborhoods with a high concentration of vulnerable populations have lower scores on economic, housing, and environmental indices.

FOOD ACCESS

Data for the Study Area shows a consistent distribution of at least small grocery stores east to west. The one-mile service areas for these grocers, a maximum feasible walking distance to a store, overlaps well with locations of population density. However, walking a mile to get groceries and then carrying them back home can make food shopping a challenging task.

CHILDCARE

There is a significant disparity between the capacity of the existing childcare facilities within the Study Area and the number of children under the age of 6. The location of childcare facilities, including centers with the largest capacities, are concentrated in and near downtown Kansas City, MO.

Childcare is a crucial factor in land use planning and community-building for several reasons:

Accessibility: Ensuring that childcare facilities are conveniently located helps caregivers balance work and family responsibilities more effectively. This can reduce commute times and improve overall quality of life.

Economic Impact: Accessible childcare supports workforce participation, particularly for parents of young children. This can boost local economies by enabling more parents to work or pursue education.

Community Development: Childcare centers can serve as community hubs, fostering social connections among families and contributing to a sense of community.

Fairness: Planning for childcare facilities in diverse neighborhoods ensures that all families, regardless of income or background, have access to quality childcare. This promotes social fairness and supports the well-being of all children.

Sustainability: Integrating and locating childcare facilities near transit hubs can reduce the need for long commutes, contributing to more sustainable urban environments by lowering traffic congestion and emissions.

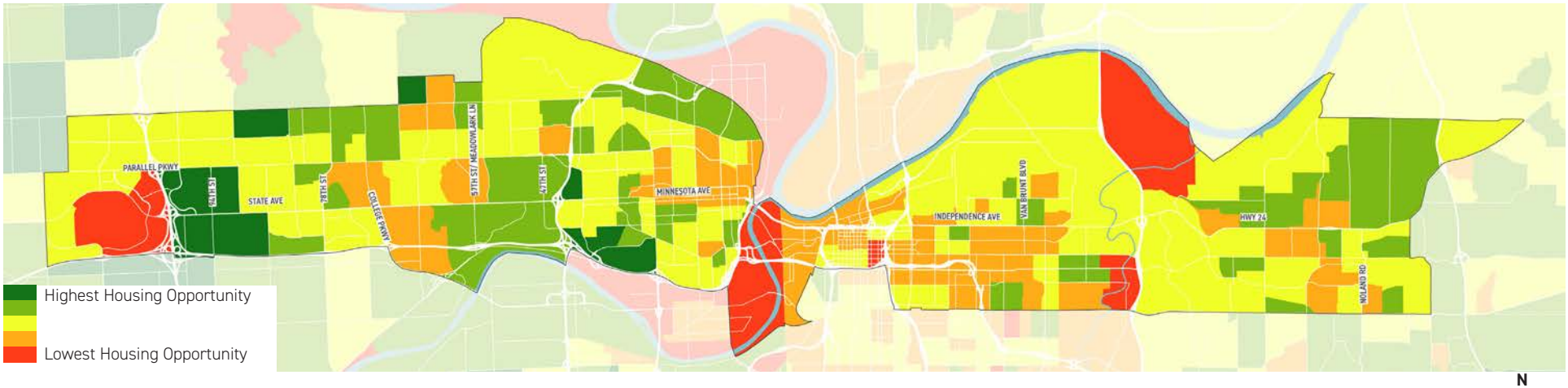


FIGURE 42: HOUSING OPPORTUNITY INDEX

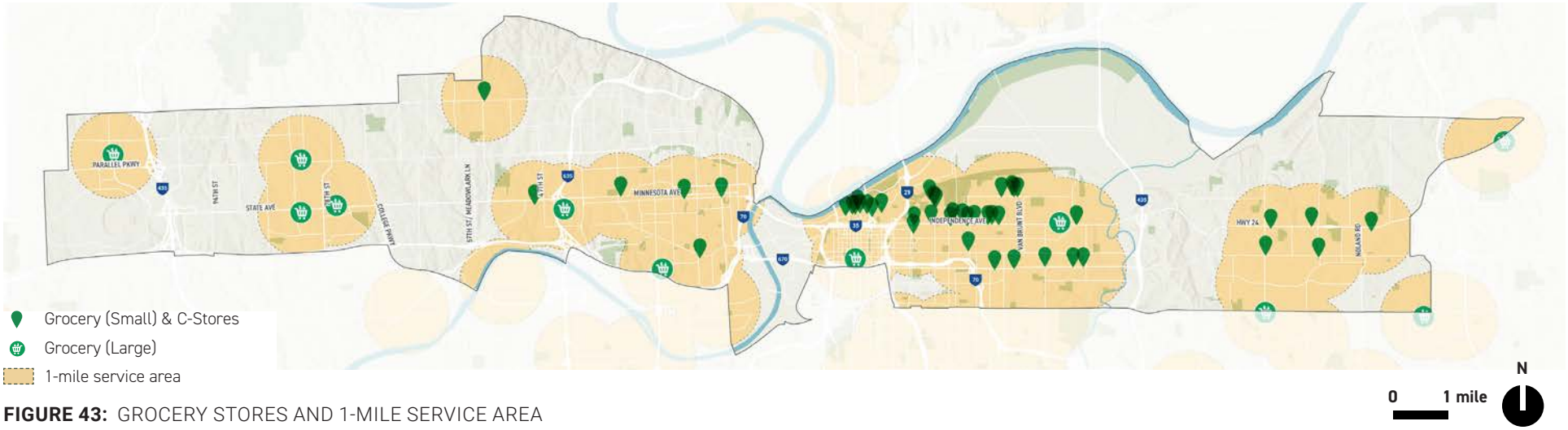


FIGURE 43: GROCERY STORES AND 1-MILE SERVICE AREA

POLICY IMPLICATIONS

MARC and the local municipalities will all play a strong role in implementing this plan. While much of the transformation of neighborhoods near new transit will come from private investments, public entities can create a supportive framework and toolbox of resources that connect underserved areas with opportunity.

Local tools are likely to fall into general categories of policy, zoning and other regulations, capital improvement programs, and grant resources. While each city has its own framework for decision-making, this plan identifies common interests for the success of the corridor.

Data from the existing conditions analysis point to some areas where policies should be focused:

HOUSING

ACCESSIBILITY

JOBS

CHILDCARE

HOUSING

- Create detailed station area plans that include transit-supportive density and affordable housing via policies like inclusionary zoning requirements and public financial support.
  - » Eliminate minimum parking requirements for development within ¼-mile of transit stops.
  - » Support Location Efficient Mortgages (LEM) for first-time homebuyers who live within ½-mile of transit stops.
- Update future land use plans and local zoning to allow more housing density near the Village West suburban center.
- Create the regulatory framework and incentives for more expansion of housing in and adjacent to downtown districts, including conversion of pre-war industrial buildings.
- Focus public and private investment in historically disinvested communities east of Kansas City, KS and into Sheffield. Mixed-density housing development in these areas will help support/catalyze commercial growth.

ACCESSIBILITY

- Intentionally locate community amenities so that they are accessible by lower income households without a car. This can be carried out via local land use and zoning policy, and decisions involving location of public services, parks, and trails.
- Develop transit links between where people live and where they work.
- Reduce walking distances to grocery stores by providing better transit links/hours and frequency of service.

JOBS

- Any improvement in opportunity for the Study Area's most disadvantaged residents must be accompanied by accessibility to good jobs.
- Accessibility means location, mode of transportation, AND matching skills to available jobs. Workforce development and future training programs are a piece.
- Growth in e-commerce, wholesaling, and manufacturing are creating strong middle-income jobs around the perimeter of the corridor. Access to these areas should be a priority for transit development.
- Create programs to link / train community members with public sector job opportunities, particularly Kansas City, KS and Independence.
- Tailor workforce development programs to the needs of growth sectors, like those mentioned above, in and near the Study Area. This includes skills and training needed for the transportation workforce that will build the transportation services and facilities recommended in this plan.
- Maximize frequency of transit to help corridor residents access jobs at all hours of the day.

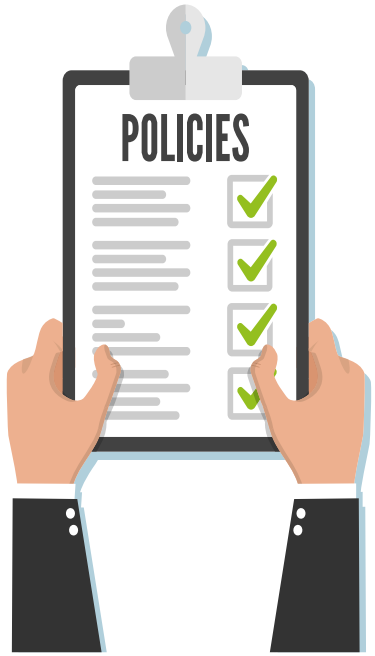
CHILDCARE

- Integrate childcare into TOD.
- Ensure that local zoning is supportive of both commercial child care centers and home-based childcare businesses within walking distance of transit stations.
- Consider public financial support and/or streamlined local approval processes for childcare facilities starting up. Local governments may leverage available State funding (Examples: Missouri's Quality Prekindergarten Grants and the Kansas Non-Profit Child Care and Educational Facilities Grants.

5.5 RECOMMENDED FRAMEWORK

WHY POLICY MATTERS

Policy plays a critical role in turning corridor plans into real, implementable projects. For BSRC to succeed, MARC and its regional partners must commit time, coordination, and capacity to advancing policy readiness across all participating jurisdictions. This includes aligning land use policies, zoning regulations, design standards, and local commitments that enable successful implementation and long-term operations of a high-frequency transit corridor. A unified and proactive policy environment not only supports project delivery, it strengthens the region's competitiveness for federal funding, including key programs like the Federal Transit Administration's Capital Investment Grant program. Achieving this level of alignment will require shared leadership, mutual accountability, and a clear roadmap for local action.



ARE WE READY?

Policy readiness varies across the BSRC corridor, reflecting the differing levels of preparation, investment, and institutional capacity among participating jurisdictions. On the Missouri side, Kansas City has advanced experience implementing BRT through its existing MAX lines and has completed preliminary work on potential east-west corridors. The Unified Government of Wyandotte County, while policy-ready for BRT expansion, does not yet have committed financial resources for transit supportive infrastructure investments and incentives. Smaller jurisdictions such as Independence and Sugar Creek may require additional technical assistance to align zoning, infrastructure, and community engagement with BRT implementation goals. These variations underscore the need for a phased, tailored approach to corridor development that supports jurisdictions based on their specific level of readiness.

POLICY READINESS SCALE

READY TO LAUNCH

Fully prepared; implementation can begin

ADVANCING

Strong progress; resources and support in place

DEVELOPING

Key elements underway; moderate momentum

EMERGING

Initial steps taken; planning in early stages

NOT READY

Major barriers exist; no groundwork laid

JURISDICTION	READINESS LEVEL	FOCUS AREAS FOR READINESS
Unified Government of Wyandotte County, KS	**ADVANCING**	• Funding Commitment
Kansas City, MO	**READY TO LAUNCH**	
Independence, MO	**DEVELOPING**	• Transit Supportive Policies/Zoning • Tax Abatement and Incentives • Tools to Maintain or Increase Access to Affordable Housing in Station Areas • Funding Commitment
Sugar Creek, MO	**EMERGING**	• Growth Management • Tax Abatement and Incentives • Transit Supportive Policies/Zoning • Tools to Maintain or Increase Access to Affordable Housing in Station Areas • Funding Commitment
Jackson County, MO	**DEVELOPING**	• Growth Management • Transit Supportive Policies/Zoning • Tools to Maintain or Increase Access to Affordable Housing in Station Areas • Funding Commitment

TABLE 16: JURISDICTION POLICY READINESS

See **Appendix H** for a more detailed evaluation of these agencies and their policy readiness.

WHERE DO WE GO FROM HERE?

To advance the BSRC from planning to implementation, the next recommended step is to establish a corridor policy working group composed of representatives from participating jurisdictions, transit agencies, MARC, and community stakeholders.

This group will serve as a platform for ongoing coordination, decision-making, and shared accountability. Its first priority will be to review existing policies, plans, and regulations across jurisdictions to identify areas of alignment as well as critical gaps that may hinder project delivery, funding eligibility, or equitable outcomes. With that baseline established, the working group should identify and prioritize near-term policy actions, such as zoning updates, station area planning, funding commitments, or community benefit agreements, tailored to each jurisdiction's role and readiness. This proactive policy alignment will also lay the groundwork for developing a longer-term governance structure, informed by the shared policy framework, that can guide future intergovernmental agreements, investments, implementation, and oversight across the corridor.

In addition to the Bi-State Corridor, multiple BRT corridors are in various stages of development across the Kansas City region, each competing for planning attention, funding, and implementation resources.

Community Engagement - Neighborhood Meeting

To ensure these efforts are complementary, not duplicative or competeing with BSRC, a regional working group may be necessary to facilitate strategic coordination.

This group could help prioritize limited resources, align corridor timelines, and develop a shared investment framework that balances local needs with regional mobility, fairness, and climate goals. By establishing a cohesive approach to BRT deployment, the region can better position itself to secure federal grants, coordinate state-level support, and deliver a more integrated, high-impact transit network.

Community Engagement - Neighborhood Meeting


RideKC STREETCAR
KC BABY
KANSAS C
CURRE

06
IMPLEMENTATION ACTION PLAN

CONTENTS

6 IMPLEMENTATION ACTION PLAN

Successfully implementing the BSRC will require more than a compelling vision. It demands strategic funding, strong partnerships, and clear policy alignment. This chapter lays out a practical roadmap for identifying and securing the financial and institutional support needed to bring corridor recommendations to reality.

A range of funding tools, including federal grants, low-interest loans, dedicated local revenue, and public-private partnerships were explored to offer guidance on how to structure a funding approach that is both resilient and feasible. Case studies from peer regions underscore the value of blended strategies and the importance of coordinated regional leadership.

With the right pieces in place, the BSRC has the potential to deliver long-term, measurable improvements in mobility, access, and balance, connecting communities across the region with the high-quality transit they deserve.

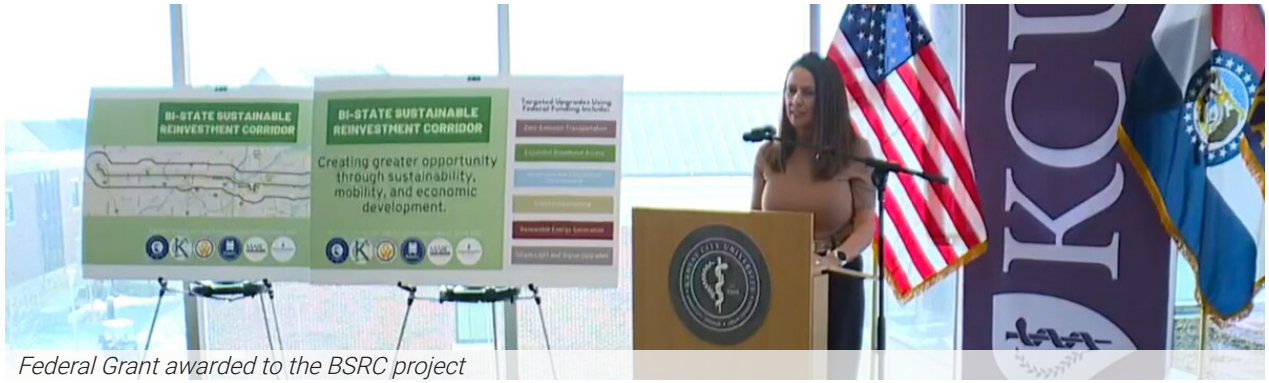
6.1 FUNDING STRATEGIES

UNDERSTANDING THE FUNDING LANDSCAPE

Funding is a critical component of BSRC design because it directly influences what can be built, when it can be delivered, and how the system will operate over time. Planning without a clear understanding of funding opportunities and constraints can result in projects that are difficult to implement, lack essential components, or that fail to meet eligibility for key federal programs.

At the same time, the funding landscape is dynamic. Federal programs evolve based on shifting policy priorities. New programs may emerge from infrastructure legislation or emergency spending bills, while existing grants can see changes in eligibility, scoring criteria, or match requirements. Staying informed and adaptable allows project sponsors to align with current priorities and remain competitive in a landscape where funding is limited and demand is high.

Integrating funding considerations early in the planning process ensures the corridor design aligns with the requirements of competitive grant programs, supports phasing strategies that match available resources, and builds confidence among partners and stakeholders. A realistic funding strategy not only increases the chances of securing investment but also lays the groundwork for long-term sustainability and success.



Federal Grant awarded to the BSRC project

EXPLORING FUNDING OPTIONS

There are a variety of ways to fund transit operations and transit supportive infrastructure investments that range from local revenue, to formula-driven distributions of federal and state funding, to competitive grants and programs. Because BSRC has the unique challenge of linking multiple jurisdictions across two states, the project must navigate a fragmented funding landscape where each partner has different revenue tools, budget cycles, and eligibility for state and federal programs. This makes coordination and alignment essential to secure and deploy funding effectively.

Further complicating this process, the reliability and predictability of available funding sources vary widely. Local mechanisms such as dedicated ad valorum taxes, sales taxes, transportation utility fees, or special assessments can offer a stable foundation for both capital and operational needs, especially when paired with long-term commitments from partner jurisdictions. However, the availability and structure of these local tools vary significantly between Missouri and Kansas. This contributes to disparities in local match potential and will require tailored strategies that reflect each jurisdiction's legal and fiscal context.

Major competitive grants like Capital Investment Grant (CIG), earmarks, and low-interest federal loans like TIFIA can catalyze major investments but often require matching funds, coordination across agencies, and advanced project readiness.

A successful funding strategy for the BSRC will require not only diversification across these sources, but also alignment of local policies, budgeting processes, and implementation capacity to leverage them effectively. The following section explores the availability of options for BSRC.

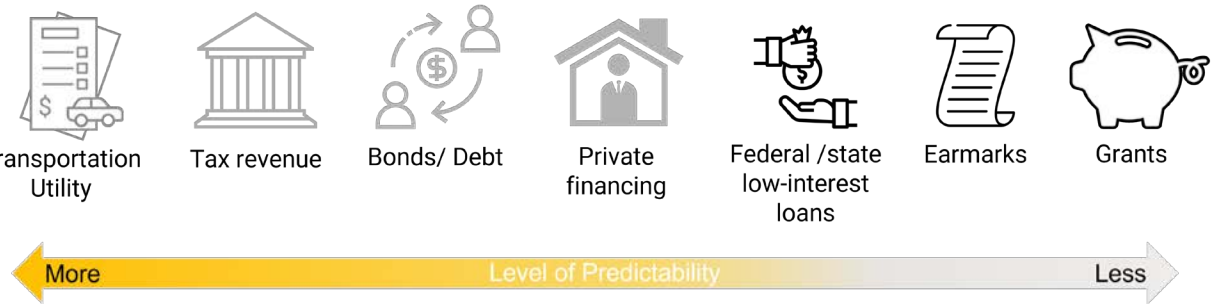


FIGURE 44: FUNDING OPTIONS

DEDICATED REVENUE

The BSRC presents a unique opportunity to identify and/or establish dedicated revenue streams that can provide stable, long-term funding for both capital improvements and ongoing transit operations.

REVENUE TYPE	DESCRIPTION	OPPORTUNITY	CHALLENGE
Mileage-Based User Fee	A mileage fee, also called a road usage charge, vehicle miles traveled fee, or mileage-based user fee, is a system where drivers pay based on how many miles they drive.	A more sustainable and fair approach to long-term transportation funding compared to motor-fuel tax which is declining as vehicle fuel efficiencies improve.	Low income and rural residents may be disproportionately burdened by the fee, especially in areas underserved by public transit. As an emerging long-term solution, there remains significant concerns about privacy, administrative complexity, political support, and implementation costs of a wholly new revenue model.
Transportation Utility Fee (TUF)/ Street Maintenance Fee	Fees assessed on properties based on the annual number of trips generated/used. These are levied monthly or annually to property owners similar to utility bills.	Considered a novel user fee, this tool has been used in Austin, Texas since the 1990s to pay for street maintenance as well as transit supportive infrastructure like bus stops, sidewalks, and multimodal access.	TUFs are legally ambiguous, not explicitly enabled or prohibited in either Kansas or Missouri; however, due to the narrow interpretation of fees and taxes in both states they are likely to face legal scrutiny if imposed.
Local Sales Tax*	A sales tax is a percentage-based tax on the retail sale of goods and certain services, collected at the point of sale and paid by the consumer. In both Missouri and Kansas, it includes a state base rate with the option for local governments to add voter-approved local sales taxes to fund transportation, infrastructure, and other public services.	Sales tax is one of the most flexible and scalable funding tools available. Cities and counties across the corridor already have statutory authority to impose various forms of local option sales taxes, including general, transportation, capital improvement, and economic development sales taxes. These can fund transit capital investments, support debt repayment, and serve as local match for federal programs. The **Regional Investment District** Compact provides a legal framework to coordinate a multi-county regional sales tax of up to 0.5%, specifically for initiatives like high-frequency transit.	Sales taxes are considered regressive, placing a disproportionate burden on low-income households who spend a greater share of their income on taxable goods. In addition, sales tax revenue can be volatile and highly sensitive to economic cycles, creating uncertainty during downturns. Coordinating a multi-state sales tax across the corridor also presents structural challenges, as Kansas has not adopted the Regional Investment District Compact, limiting the framework's applicability to Missouri jurisdictions only.

TABLE 17: DEDICATED REVENUE

*A study titled Taxation Research Report was conducted by EverStrive Solutions and MARC in November 2024.

REVENUE TYPE	DESCRIPTION	OPPORTUNITY	CHALLENGE
Property Tax (Ad Valorem Tax)	Property tax is a dedicated revenue tool that uses taxes on real estate that can be used fund public transit services and infrastructure. It is typically imposed by a city, county, or regional authority and is calculated based on the assessed value of land and buildings.	Property taxes offer a stable and predictable funding source that is less vulnerable to economic swings than sales taxes. As public investments along the corridor increase property values, rising assessments can generate additional revenue without raising rates, allowing communities to capture and reinvest the value created by transit and infrastructure improvements.	Potential for property tax revenue varies widely across the corridor due to differences in real estate values, assessment practices, and local tax rates. Jurisdictions with lower tax bases may struggle to generate sufficient revenue for reinvestment. Additionally, a significant amount of property tax revenue is already committed to essential services like schools and public safety, leaving limited flexibility to allocate funds toward corridor-related improvements without broader fiscal coordination or new revenue tools.
Income Tax	Income tax is a tax imposed by local governments on the income earned by individuals and businesses. It is typically calculated as a percentage of earnings and can apply to wages, salaries, investments, business profits, and other sources of income.	Income taxes are less volatile than property or sales tax and can be designed to be progressive to reduce their burden on low-income communities. In addition, they capture revenue from both residents and non-residents to allow for broader cost-sharing for public services.	Kansas does not authorize local governments to levy income tax. Kansas City, Missouri already levies a local option income tax. Other cities in Missouri cannot impose income tax unless authorized by state legislation.
Toll Revenue via Managed Lanes	Managed lanes are highway or arterial lanes where access and pricing are actively controlled to optimize traffic flow and maximize person throughput. They use strategies like dynamic tolling, vehicle eligibility restrictions (e.g., High-occupancy Vehicle (HOV) or transit-only), and access control to manage demand in real time.	Toll revenue offers a valuable opportunity to support debt financing and project acceleration by creating a predictable funding stream that can back bonds or loans, allowing capital-intensive improvements to move forward sooner than would be possible through pay-as-you-go funding alone.	Toll roads are not enabled in Missouri and would require legislative approval in both Kansas and Missouri.

LAND VALUE CAPTURE

Transportation networks and urban land values are closely intertwined. As transit investments improve accessibility and mobility, they often increase the value of surrounding land, creating financial gains for property owners and developers. Land value capture techniques aim to redirect a portion of that increased value to help fund the transportation improvements that generated it. Unlike dedicated revenue streams such as sales taxes or utility fees, land value capture is not a stable or recurring source of funding. Its availability depends on market conditions, development activity, and enabling policies, making it best suited as a supplemental tool to support capital investments rather than ongoing operations.

VALUE CAPTURE TOOL	DESCRIPTION	OPPORTUNITIES	CHALLENGES
Transportation Development District (TDD)	Transportation Development Districts (TDD) is a type of special assessment district aimed at improving transportation system within designated zone. This district adopts areawide approach that considers programmatic benefits rather than "targeted" or special benefits on a specific project basis.	TDDs can be layered with other value capture techniques like Tax Increment Financing to both capture additional assessment and increased property value.	While enabled in both Kansas and Missouri, TDDs are authorized and operate completely differently, with each state defining distinct processes for formation, governance, financing mechanisms, and eligible uses. A single, corridor-wide TDD would be difficult to manage and would likely produce uneven revenue burdens between the Kansas and Missouri jurisdictions —large, district or corridor-wide entities in Missouri versus development-level formations in Kansas.
Tax Increment Financing (TIF)	Diverting future property tax revenue increases from a defined area or district toward an economic development project or public improvement project in the community.	TIF is a highly flexible financing tool that allows local governments to support redevelopment without raising tax rates. This revenue can be leveraged by both public and private partners to unlock catalytic investments, support mixed-use or TOD, and enhance the long-term economic vitality of targeted areas.	TIF funds are not drawn directly from a city's budget, but they do represent a loss of potential revenue, as the increased property taxes that would normally support general services are redirected to the TIF district. To justify the use of TIF, a significant level of blight or other qualifying conditions must be documented, demonstrating that redevelopment is unlikely to occur without public intervention.

TABLE 18: LAND VALUE CAPTURE

VALUE CAPTURE TOOL	DESCRIPTION	OPPORTUNITIES	CHALLENGES
Special Assessment Districts	Local jurisdictions can create special assessment districts around public improvement projects and can impose new fees or tax increases on owners within those areas. The taxes within the District can be based on property value, sales, special business fees, or other measures of value.	Special assessment districts offer a flexible tool for generating revenue from those who directly benefit from corridor improvements. They can be tailored to local needs with defined boundaries and rates, and they work well alongside other funding mechanisms like tax increment financing or federal grants to create a more sustainable and diversified funding strategy.	Establishing special assessment districts can be time-consuming and legally complex, often requiring formal approvals and public engagement. In areas with lower property values, revenue potential may be limited, and uniform assessment rates can raise fairness concerns by placing a disproportionate burden on small businesses or lower-income property owners.
Multimodal Impact Fees	Charges imposed by local governments on new or proposed development projects based on their impact to the transportation system, inclusive of walking, biking, and transit. These fees help cover the costs of providing public services and infrastructure needed due to the new development.	Multimodal impact fees ensure that new development contributes to the cost of transportation improvements, aligning land use with mobility goals and reducing reliance on general funds. These fees can help fund first- and last-mile connections, improve safety, and serve as a local match for competitive grants, particularly in transit-oriented or rapidly growing areas.	Legal requirements demand a clear nexus between the fee and the development's impact, and calculating multimodal trip generation can be complex. Fees are one-time and can't support ongoing operations, and they may face political pushback or resistance from developers concerned about added project costs.

GRANTS

Infrastructure grants are typically awarded to local, metropolitan, or state government agencies that oversee and implement capital projects. Grant awards traditionally do not need to be repaid, but they often require a local cost-share and come with certain conditions or requirements regarding how the money can be used. The following are the primary grant programs leveraged for rapid transit projects like BSRC.

CAPITAL INVESTMENT GRANTS

Historically, most major transit projects in the U.S. include some level of federal funding, most often through the FTA's Capital Investment Grant (CIG) program. Depending on the scale of the project, agencies can pursue either New Starts for projects over $300 million or Small Starts for those under that threshold. While both follow a similar process, Small Starts offers a more streamlined path through project development. The CIG pipeline, shown below, is the formal, multi-step process a project like the BSRC enters after FTA approval into Project Development. It is how the FTA evaluates, advances, and ultimately funds major transit capital projects.

Even if after a project enters the CIG pipeline, regardless of Small Starts or New Starts, it must continue to meet eligibility requirements, advance through defined phases (project development, engineering, etc.), and demonstrate local financial commitment, justification, and readiness to be eligible for funding. Final funding is only secured once the project receives a signed grant agreement.

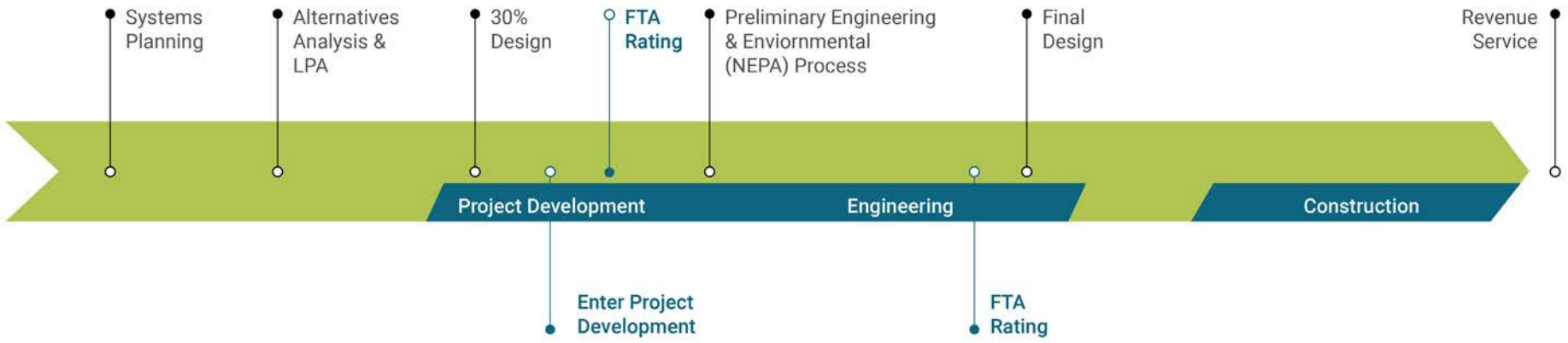


FIGURE 45: CAPITAL INVESTMENT GRANTS PIPELINE

CIG evaluations are structured to ensure that federal funds go to transit projects that are well-planned, financially sound, and deliver measurable benefits especially to riders, disadvantaged communities, and the broader transportation system. The evaluation is based on a combination of two key factors: the strength of the project's justification and the reliability of its local financial commitment.

50% PROJECT JUSTIFICATION	50% LOCAL FINANCIAL COMMITMENT
Mobility. How much the project improves access to jobs and services, especially for transit-dependent populations.	**Funding Sources.** Whether local, state, and federal funding is committed or speculative.
Environmental. Projected reductions in vehicle emissions, energy use, and other environmental impacts.	**Operations.** Whether the project sponsor has a viable plan to fund ongoing operations and maintenance.
Congestion Relief. How much the project reduces traffic congestion.	**Stability and Reliability.** Track record of the funding partners and risks to the financial plan.
Economic Development. The potential to encourage new development and community investment.	
Land use. How well existing and planned development supports transit, including density and walkability.	
Cost Effectiveness. The value of benefits provided relative to the project's cost.	

TABLE 19: CIG EVALUATION CRITERIA

CAPITAL INVESTMENT GRANT RATING

Each project gets a rating from **"Low"** to **"High"** in each category and subcategory. These are combined into an overall rating:

- **Low**
- **Medium-Low**
- **Medium**
- **Medium-High**
- **High**

A project must receive at least a **"Medium"** overall rating to be eligible for a grant agreement. BSRC has been developed with these criteria in mind. As the project advances, it will be important to identify the benefits associated with each evaluation category and target performance to meet the minimum thresholds to remain competitive for CIG funding. Not all segments of the corridor currently meet the standards for CIG eligibility. If the BSRC corridor is advanced in phases, some segments may not qualify as stand-alone projects with independent utility. A thoughtful phasing strategy and clear articulation of project benefits will be critical to advancing the corridor through the CIG pipeline.

BETTER UTILIZING INVESTMENTS TO LEVERAGE DEVELOPMENT (BUILD)

The flagship program of the USDOT, **BUILD** is a competitive grant program from the U.S. Department of Transportation that funds surface transportation projects with significant local or regional impact. While the name and priorities have evolved—TIGER (2009–2017), and RAISE (2021–2024) and BUILD (2018–2020, 2025-present) — the programs support investments in roads, transit, rail, and multimodal infrastructure.

The BUILD program has supported BRT projects across the country by funding key components such as dedicated bus lanes, transit signal priority, and high-amenity stations. It has also helped advance multimodal connections like bike lanes and park-and-rides, as well as planning and design for future BRT expansions. BUILD was especially valuable for regions not ready for CIG or needing flexible funding to complete BRT corridors with multimodal elements.

BUS AND BUS FACILITIES PROGRAM

The Bus and Bus Facilities Program is a formula and competitive grant program administered by the FTA to support the purchase, replacement, and rehabilitation of buses and bus-related infrastructure. The program is often used in BRT projects to fund key capital components that support high-quality bus service. Eligible uses include purchasing vehicles, building or upgrading maintenance and storage facilities, and constructing or improving bus stations, stops, and terminals. While it doesn't typically fund full corridor infrastructure (like dedicated lanes), it complements other funding sources to help complete rapid transit systems.

PILOT PROGRAM FOR TOD

The Pilot Program for TOD is a competitive planning grant administered by the FTA to help local communities integrate land use and transportation planning around new or expanded transit investments. The program supports comprehensive planning efforts that encourage economic development, increase transit ridership, enhance multimodal connectivity, and promote mixed-use, mixed-income development near transit stations. Eligible activities include zoning updates, station area plans, infrastructure assessments, market analyses, and community engagement. While the program does not fund construction, it plays a critical role in preparing corridor communities for successful implementation of BRT and other transit projects.

LOANS

TRANSPORTATION INFRASTRUCTURE FINANCE AND INNOVATION ACT (TIFIA)

TIFIA offers low-interest, long-term loans that can be a powerful tool for funding projects like Bi-State. By providing flexible financing for up to 49% of eligible project costs, TIFIA allows project sponsors to leverage other federal, state, and local funding sources and accelerate implementation. This can be especially useful for large or multi-phase BRT corridors that require substantial up-front investment but generate long-term benefits in ridership, balance, and economic development. TIFIA's deferred repayment options and favorable terms make it well-suited for transit agencies or local governments with constrained budgets seeking to expand high-capacity transit without overburdening their fiscal capacity.

Although TIFIA credit assistance has primarily been used for rail and intermodal projects, there are notable examples of BRT projects that have leveraged the program, including the US-36 BRT in Colorado.

There are several key considerations for BSRC if TIFIA is chosen:

- As a loan, the agency applying must provide a dedicated revenue stream to repay the debt.
- TIFIA can serve as a non-federal cost-share for other federal funds including CIG.
- The U.S. Department of Transportation generally discourages using TIFIA for rolling stock whose lifespan is often shorter than the loan period.
- The program offers deferred payment up to 5 years after project completion and lone terms up to 35 years after substantial completion.

PUBLIC PRIVATE PARTNERSHIPS

Public-Private Partnerships (P3s) are long-term agreements between a public agency (like a city, transit authority, or state department of transportation) and a private entity to deliver public infrastructure or services. Under a P3, the private partner may design, build, finance, operate, and/or maintain an asset, depending on the structure of the deal. P3s can offer value through innovation, risk transfer, and delivery efficiencies, but they are not a one-size-fits-all solution.

For BSRC, the core concern is whether involving a private partner could deliver benefits that outweigh the added complexity and cost. A careful evaluation would be required of what risks could be transferred to a private partner, how efficiencies might be gained, and whether those gains justify the additional financing and transaction costs typically associated with P3 delivery models. P3s are rarely used for BRT project delivery, particularly in the United States. Typically, they appear as solutions for TOD near stations. From global examples, private partnerships have been leveraged for fleet provision, station construction, or operations.

WHAT CAN WE LEARN FROM OTHERS?

Securing funding for a project like BSRC requires strategic planning, interagency coordination, and alignment with federal priorities. The following case studies illustrate how other regions have navigated these challenges to build successful rapid transit corridors. These case studies provide relevant lessons on assembling funding from a variety of sources, engaging stakeholders and establishing governance structures, and positioning projects for success.

BIRMINGHAM, AL
BIRMINGHAM XPRESS: DELIVERING BRT WITHOUT STATE SUPPORT

BRT IN ACTION

The Birmingham Xpress is a 10-mile BRT line providing high-frequency service across Birmingham, connecting neighborhoods to employment centers, healthcare, and educational institutions. It includes dedicated lanes, enhanced stations, real-time arrival technology, and frequent headways, offering a faster and more reliable alternative to traditional bus service.

DEDICATED REVENUE

In a state with no dedicated funding for public transit, Birmingham stepped up to fund operations and match federal capital dollars. The City of Birmingham provided $24 million for the project, including $3 million in local funds and $1 million in fare revenue. In 2024, the city approved an ongoing $3 million funding agreement with BJCTA to support BRT operations, which is expected to continue through at least FY26, providing a local commitment for sustained service delivery.

FEDERAL LEVERAGE

The project was made possible through a strong federal funding partnership:

- $20 million from the TIGER (now BUILD) program
- $18 million in American Rescue Plan Act (ARPA) funds, applied toward capital and implementation

LESSON FOR BRSC

Birmingham Xpress proves that strong local leadership and strategic use of federal programs can overcome the absence of state funding. Even in underfunded environments, leveraging local political will and federal investment can deliver high-impact, equitable transit solutions that transform regional mobility.

COLUMBUS, OH
LINKUS: AN $8B REGIONAL INVESTMENT IN TRANSIT

BRT IN ACTION

LinkUS will deliver at least five BRT lines, three in design or construction now and two additional lines planned later. The first three corridors (West Broad Street, East Main Street, and the Northwest route through OSU to Dublin) are slated to open by 2030. Each BRT corridor will offer dedicated lanes, near-level boarding, off-board fare collection, transit signal priority, and enhanced stations, aiming to deliver faster, more reliable, train-like service at bus cost.

DEDICATED REVENUE

A voter-approved sales tax increase from 0.5% to 1% is expected to generate $6 billion through 2050, covering 75% of the plan's projected $8 billion cost. This predictable, long-term funding base strengthens regional credibility and supports phased implementation.

FEDERAL LEVERAGE

LinkUS anticipates $760M in federal grants provided through CIG. In addition, The West Broad Street BRT project secured $42 million through the Reconnecting Communities Pilot (RCP) program, which helped offset local financing needs.

LESSON FOR BRSC

Establish local funding early, design for multimodal access and fairness, and seek creative uses of federal programs while they're available knowing they may not be guaranteed in future cycles.

DALLAS, TX
DALLAS AREA RAPID TRANSIT: PLANNING FOR LONG TERM FUNDING

BRT IN ACTION

DART's budget-neutral bus network redesign (2019) and the ongoing Corridor Optimization + Rider Experience (CORE) Program are improving regional service and setting the stage for future BRT investments. Phase 2 of CORE includes competitive grant development aligned with city and DART priorities.

DEDICATED REVENUE

DART's 13 member cities contribute 1 cent of local sales tax revenues, providing a dedicated, long-term funding stream for bus, rail, and mobility services. This financial foundation has enabled DART to implement system redesigns and pursue strategic corridor improvements.

FEDERAL LEVERAGE

DART and the City of Dallas secured $9.24 million from the Safe Streets for All (SS4A) program to deliver pedestrian upgrades along five High Injury Network corridors. These corridors were strategically selected to align with the CORE Program, the Vision Zero Action Plan, and the Sidewalk Master Plan—amplifying the impact of local funds.

LESSON FOR BRSC

A stable local funding base can support ongoing transit operations and innovation. Aligning corridor improvements with federal safety and mobility programs—like SS4A—can enhance service delivery while reducing imbalanced impacts and budget strain.

INDIANAPOLIS, IN
INDYGO BLUE LINE: STACKING PUBLIC AND PRIVATE INVESTMENT FOR TRANSIT EXPANSION

BRT IN ACTION

The IndyGo Blue Line is a planned 24-mile BRT corridor that will run east–west across Marion County. As the third and largest BRT line in IndyGo's network, the Blue Line is designed to deliver frequent, all-day service with features such as dedicated lanes, off-board fare collection, transit signal priority, and enhanced stations. The project also includes significant sidewalk, drainage, and street improvements along the Washington Street corridor, making it both a transit and infrastructure investment.

DEDICATED REVENUE

The Indianapolis City-County Council approved a 0.25% income tax increase dedicated to transit funding. The Blue Line's financial plan also includes significant local commitments: $125 million in IndyGo bond proceeds, $29 million in capital tax revenues, $16 million from Indianapolis Department of Public Works, and a $15 million cash contribution from Citizens Energy, a local utility provider.

FEDERAL LEVERAGE

Federal support is a cornerstone of the Blue Line's $372 million capital cost:

- $150 million from FTA's Section 5309 Small Starts Grant
- $22 million from the USDOT RAISE Grant
- Additional federal support from Section 5307 (Urbanized Area Formula), Section 5339 (Bus & Bus Facilities), and IMPO Flex Fund Transfers

This blended federal portfolio is coordinated through the Indianapolis MPO and aligned with state and local priorities to reduce reliance on debt and mitigate the risk of funding shortfalls.

LESSON FOR BRSC

The IndyGo Blue Line illustrates how a diversified funding strategy, anchored in progressive local taxation and layered with multiple federal sources, can support the delivery of a major regional BRT project. The inclusion of utility contributions and general fund support demonstrates the value of cross-sector partnerships.

ST. PETERSBURG, FL
PINELLAS SUNCOAST TRANSIT AUTHORITY (PSTA) SUNRUNNER

BRT IN ACTION

The corridor features dedicated bus lanes, modern stations, off-board fare collection, and signal priority, offering a rail-like experience at a lower cost. The project included electric and hybrid buses, modern stations, and multimodal enhancements. Delivered $5 million under budget, the remaining funds are being used to support system expansion.

DEDICATED REVENUE

While PSTA did not rely on a new tax measure, it leveraged local funding from both PSTA and the City of Street Petersburg, who together contributed $11.6 million toward construction. Ongoing operations will be supported by PSTA and the Florida Department of Transportation (FDOT), demonstrating a shared commitment to system sustainability.

FEDERAL LEVERAGE

PSTA maximized investment through multiple grant sources:

- $21.8 million from FTA's Capital Investment Grant (CIG) Program, covering approximately 50% of the capital cost.
- $10.5 million from FDOT's New Starts and Design Grant programs.
- $27 million from the U.S. DOT for electric and hybrid bus purchases, charging infrastructure, and workforce training.

This layered approach made the project financially viable and future-ready.

LESSON FOR BRSC

The SunRunner demonstrates how strong intergovernmental coordination and efficient delivery can extend the impact of limited resources. The key takeaway is to pursue a blended funding model that combines local commitments, state contributions, and federal capital support. Delivering projects under budget can create capacity for expansion, while proactive grant-seeking and agency alignment—especially with state DOTs—can ensure long-term operating sustainability.

WEIGHING THE OPTIONS

Weighing the funding options for BSRC involves balancing opportunity, eligibility, and risk, while also recognizing the importance of governance and interagency coordination. Federal programs like CIG, BUILD, and Bus and Bus Facilities can provide significant capital support, but they are highly competitive and require more than just a compelling project concept. Projects must demonstrate strong local match, readiness to proceed, and clear alignment with evolving federal priorities.

Equally important is the role of local agencies and regional partners in bringing the corridor to life. While federal grants may fund a substantial portion of capital costs, it is local jurisdictions, transit operators, and MPOs like MARC that carry the responsibility for planning, implementing, operating, and maintaining the system. Their leadership is critical in advancing design, securing local commitments, coordinating public engagement, and ensuring the project integrates with existing plans and networks.

These agencies must also determine how the corridor will be phased, governed, and sustained over time. Some funding sources are well suited to early planning and vehicle acquisition, while others are better leveraged for corridor construction or station infrastructure. Making the most of each funding source requires clear roles, consistent communication, and a shared understanding of what is needed to demonstrate independent utility and deliver value at each stage.

Ultimately, a well-structured funding strategy, anchored by strong local leadership and cross-jurisdictional collaboration, will not only increase the competitiveness of BSRC for federal investment but also lay the groundwork for successful implementation and long-term service delivery.

A ROADMAP FOR FUNDING

This section details priority funding pathways across short, mid, and long term horizons; recommended grant opportunities and application timelines; strategies for coordinating and securing local match; and long-term considerations for operations and maintenance. Together, these elements form the foundation for a resilient, sustainable, and fundable corridor strategy that can adapt to changing conditions while staying focused on shared regional goals.

Streetcar in front of Union Station

PRIORITY FUNDING PATHWAYS (SHORT-, MID-, AND LONG-TERM)

The highest priority for BSRC is to establish a dedicated source of local revenue. While federal programs such as FTA's CIG require a minimum 20% local match, most competitive applications demonstrate local commitments of 30 to 50 percent. Identifying a reliable revenue stream such as a regional sales tax, property-based transit levies, or value capture mechanisms like TIF or TDDs is critical not only for CIG competitiveness, but also for leveraging flexible tools like TIFIA and for ensuring financial sustainability.

Short-term actions (1-2 years) should focus on preparing competitive discretionary grant applications for strategic project components and standardizing transit supportive policies across the corridor. BUILD, Safe Streets and Roads for All (SS4A), Congestion Mitigation and Air Quality (CMAQ) and should be pursued to address strategic project components at high ridership segments of the corridor, address choke points at intersections and bridges, and secure ROW where constrained. Establishing intergovernmental agreements that define shared responsibilities, funding commitments, and governance protocols across jurisdictions will be critical at this stage to ensure CIG eligibility.

Mid-term priorities (3-5 years) involve positioning the corridor to enter and advance through the Federal Transit Administration's CIG pipeline. At this stage, formalizing a local funding pool is critical. This pool could be supported through a variety of dedicated local revenue or value capture techniques tailored to each jurisdiction. Once the project has advanced to at least 60% design, discretionary funding for vehicle procurement, facility construction (including stations, maintenance, and storage needs) through the Bus and Bus Facilities Program (5339b) or Low-No Emissions Grant Program (5339c) is possible. If the program is not awarded a grant agreement through CIG, consideration should be made for strategic phasing of the corridor and flexible financing mechanisms like TIFIA should be explored to address potential funding gaps and accelerate project implementation.

Note: A Zero-Emissions Fleet Transition Plan ***must*** *be in place to be eligible for 5339c.*

Ongoing: Throughout the process, local jurisdictions should leverage available local, regional, and state resources to fund first-last mile infrastructure, including sidewalks, ADA improvements, lighting, stormwater management, streetscaping, and utility coordination. These investments are essential for supporting TOD, expanding access to rapid transit, and maximizing the return on capital investment throughout the life of the system.

Long-term actions (5+ years) should prepare for system upgrades and lifecycle investments. As capital improvements advance and segments of the corridor come online, less competitive segments may become more viable for discretionary funding by leveraging the momentum, demonstrated ridership, and development activity generated by completed portions of the corridor. At this stage, the focus should shift to institutionalizing a sustainable revenue framework to support transit operations, facility maintenance, and ongoing corridor enhancements. This includes securing dedicated funding for operations and maintenance (O&M) which is a key component of system resilience and long-term viability.

RECOMMENDED GRANT APPLICATIONS AND TIMELINES

A matrix of priority grant opportunities that align with the BSRC's phased implementation strategy, funding needs, and project readiness can be found below. Historically, the programs have similar cycles from year to year, but timelines and requirements can shift based on federal appropriations, administrative priorities, or updates to program guidance, making it important to monitor each program closely and remain flexible in grant planning.

By aligning applications with federal funding cycles and project development milestones, the corridor can position itself for competitive awards while maintaining momentum toward full buildout.

Typically, it takes a minimum of two to three months to author a competitive application.

Further details regarding eligible applicants, funding cycle, points of contact, and submission deadlines and are available in **Appendix H.**

This list does not include the National Electric Vehicle Infrastructure (NEVI) Program, Carbon Reduction Program (CRP), or the Charging and Fueling Infrastructure (CFI) Grant Program as these programs have either expired, been fully obligated, or were discontinued at the federal level. Future funding opportunities for similar infrastructure may re-emerge under new authorizations or restructured programs.

FEDERAL				
AGENCY	PROGRAM	PURPOSE	ELIGIBLE PROJECT	TIMELINE
Federal Transit Administration	*Capital Investment Grants*	Provides funding for new or expanded fixed guideway transit systems, including heavy rail, commuter rail, light rail, streetcars, and BRT.	Construction of new transit corridors or substantial expansion of existing systems.	Mid-term/ Long-term
	Bus and Bus Facilities	Supports capital projects to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities.	Bus replacements, fleet expansions, and maintenance/storage facility upgrades.	Mid-term
	Low-No Emissions Program	Supports the purchase or lease of zero-emission and low-emission transit buses and related infrastructure.	Acquisition of electric or hydrogen buses and charging/refueling equipment.	Mid-term
	Pilot Program for Transit Oriented Development	To help local communities integrate land use and transportation planning around new fixed guideway or core capacity transit projects.	Comprehensive planning that promotes economic development, increased transit ridership, multimodal connectivity, and mixed-use, mixed-income development near transit stations.	Short-term
US Department of Transportation	*Better Utilizing Investments to Leverage Development*	Provides capital funding for surface transportation projects that will have a significant local or regional impact.	Multimodal projects including roads, transit, rail, bicycle/pedestrian infrastructure, and planning efforts.	Short-term/ Mid-term
	Safe Streets and Roads for All	Supports local initiatives to prevent roadway deaths and serious injuries through comprehensive safety action plans and implementation.	Planning and implementation of strategies to reduce transportation-related fatalities and injuries, especially for vulnerable road users.	Short-term
US Economic Development Administration	*Public Works*	To help distressed communities revitalize, expand, and upgrade their physical infrastructure.	Acquisition or development of land and infrastructure improvements needed for the successful establishment or expansion of industrial or commercial enterprises.	As opportunities arise
National Endowment for the Arts	*Grants for Arts Programs*	To integrate arts, culture, and design into local efforts to strengthen communities over the long-term.	Creative placemaking that demonstrates a specific role for arts.	Short-term

TABLE 20: FUNDING PROGRAMS

STATE (MISSOURI)				
AGENCY	**PROGRAM**	**PURPOSE**	**ELIGIBLE PROJECT**	**TIMELINE**
Missouri Department of Transportation	*Statewide Transportation Assistance Revolving (STAR) Fund*	Provides low-interest loans to public entities for transportation projects that improve the state's transportation system.	Road, bridge, transit, and multimodal projects eligible for federal funds.	Mid-term
	Governor's Transportation Cost Share Program	To build partnerships with local communities to pool efforts and resources to deliver road and bridge projects.	Road and bridge improvements that promote safety, economic development, or address local transportation needs.	Short-term/ Mid-term
	Local Public Agency (LPA) Program	Allows local governments to receive and administer federal-aid transportation funds for eligible local projects.	Sidewalks, bike/ped projects, road improvements, transit-supportive infrastructure.	Short-term/ Mid-term
STATE (KANSAS)				
AGENCY	**PROGRAM**	**PURPOSE**	**ELIGIBLE PROJECT**	**TIMELINE**
Kansas Department of Transportation	*Innovative Technology Program*	Encourages pilot projects and new technologies to improve transportation safety, efficiency, and sustainability.	Smart infrastructure, connected vehicle technology, traffic management systems, and emerging mobility solutions.	Short-term/ Mid-term
	Eisenhower Legacy Transportation Program (IKE)	KDOT's 10-year transportation plan that funds highway modernization, preservation, and expansion projects across Kansas.	Roadway improvements, multimodal enhancements, transit, and freight infrastructure.	Short-term/ Mid-term
	Economic Development Program	Supports highway and bridge projects that directly support job creation or economic growth.	Infrastructure that enables business expansion, industrial park access, or freight movement.	As opportunities arise
	Cost Share Program	Matches local funding for projects that improve safety, support economic development, or address transportation needs.	Local roadway improvements, safety enhancements, and multimodal access projects.	As opportunities arise

REGIONAL				
AGENCY	**PROGRAM**	**PURPOSE**	**ELIGIBLE PROJECT**	**TIMELINE**
Mid-America Regional Council	*Surface Transportation Block Grants*	Provides flexible funding for a wide range of surface transportation needs.	Highway, transit, bicycle/pedestrian, and freight projects.	Mid-term
	Congestion Mitigation and Air Quality	Funds transportation projects that improve air quality and reduce traffic congestion.	Transit improvements, signal timing, bike/ped projects, rideshare programs, and alternative fuel vehicles.	Short-term/ Mid-term
	Transportation Alternatives	Supports smaller-scale active transportation and safety projects.	Sidewalks, trails, bike lanes, safe routes to school, and ADA upgrades.	Short-term/ Mid-term
	Section 5310 Program	Enhances mobility for seniors and individuals with disabilities.	Capital and operating assistance for transportation providers serving the elderly and people with disabilities.	Short-term/ Mid-term

FOUNDATION				
AGENCY	**PROGRAM**	**PURPOSE**	**ELIGIBLE PROJECT**	**TIMELINE**
Evergy	*EV Charing Rebates -- Fleets*	Provides rebates for the installation of EV charging stations for commercial or public fleet vehicles.	EV fleet charging infrastructure, including hardware and installation.	Mid-term
Bloomberg Philanthropies	*Asphalt Art Initiative*	Supports projects that use visual art to improve street safety, revitalize public spaces, and engage local communities.	Visual art on roadways, pedestrian spaces, and public infrastructure in cities.	Short-term/ Mid-term
America Association of Retired Persons (AARP)	*Community Challenge Grants*	To help make communities more livable for people of all ages.	Quick-action projects across the country, helping communities make immediate improvements and jumpstart long-term progress to support residents of all ages.	Short-term/ Mid-term
America Walks	*Community Change Grant*	To improve community walkability.	Eligible for program, policy, or environmental projects.	Short-term/ Mid-term

LOCAL MATCH STRATEGIES AND COORDINATION ACROSS JURISDICTIONS

Given the corridor's multi-state, multi-jurisdictional nature, successful funding depends on coordinated local match strategies. While individual jurisdictions may contribute match from their general funds, the greatest leverage will come from pooled resources and jointly established funding mechanisms structured through intergovernmental agreements.

The tool selected can vary based on the jurisdiction, but the commitment should be transparent, proportional to project benefit, and structured to support long-term investment and service delivery. Early agreement on cost allocation principles such as contributions based on service miles, project elements, or tax base will help build trust and avoid delays. Joint match commitments also strengthen competitiveness for federal grants, signaling shared ownership and long-term support.

Where match contributions may be constrained, in-kind resources like donated ROW, station area land, or previously funded design can help fulfill match requirements. The project team should also assess potential for philanthropic partnerships or TOD-based value capture to supplement local public sources, particularly in key reinvestment areas. In some cases, federal programs may offer partial or full match waivers for projects that advance strategic administration goals which should be evaluated on a case-by-case basis.

ONGOING FUNDING FOR OPERATIONS AND MAINTENANCE

Long-term success of the BSRC depends not only on delivering capital improvements but also on sustaining reliable high frequency service throughout the day, including evenings and weekends, and ensuring ongoing system reliability and maintenance. Traditional operating revenue sources such as farebox recovery, federal formula transit funds, and local sales taxes may be insufficient without a coordinated approach, especially if the Kansas City area chooses to maintain fare free service.

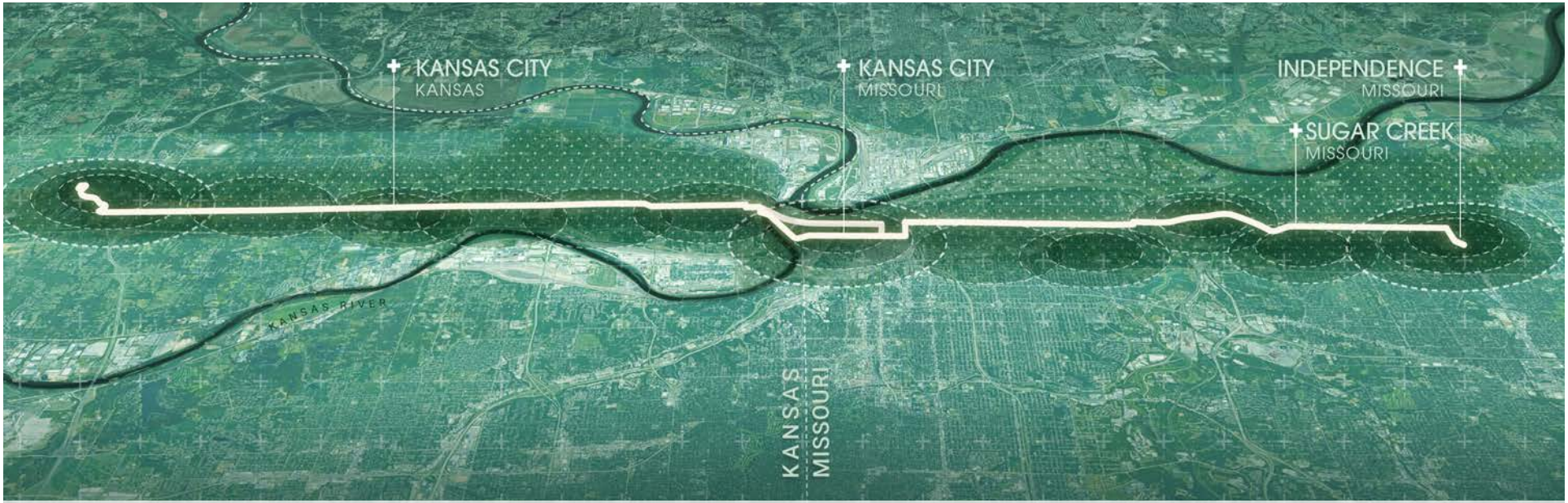
In Missouri and Kansas, options such as transportation sales taxes, general revenue appropriations, or intergovernmental transfers can be explored to support operations. While managed lanes or tolling are unlikely in this corridor context, development-based revenue from station areas (e.g., special assessments, business improvement districts, or land leases) can create ongoing funding streams.

To ensure service quality and fairness, the region should consider setting minimum service commitments tied to population density, social vulnerability, and employment access. Including O&M plans in federal applications will also demonstrate long-term viability and strengthen funding competitiveness.

6.2 IMPLEMENTATION PHASE PRIORITIES

As BSRC advances into the next stage of development, further refinement and detailed analysis will translate high-level planning concepts into specific design and engineering solutions. The following subsections detail the critical tasks and collaborative processes that will shape the critical next steps of planning, environmental review, and project readiness.

- ***COMMUNITY ENGAGEMENT***
- ***RECOMMENDED ALIGNMENT AND PLANNING***
- ***PERFORMANCE METRICS***
- ***PROGRAMMATIC NEPA***
- ***PROGRAMMATIC ENVIRONMENTAL ASSESSMENT***



Aerial View of the Corridor

COMMUNITY ENGAGEMENT

Continued community engagement in this planning process will build on what we have learned as successful engagement methods and adjust to interact with a wider variety of audiences along the entire corridor. Upcoming work will be focused on furthering station area planning and engineering with details that will support the NEPA environmental review process of a preferred alignment. Community engagement priorities will include input on:

- Project branding, including capturing community stories and user journeys
- Transit service (including mode) planning
- Station area planning, including land use strategies, station platform locations, and multimodal infrastructure
- Preliminary engineering for conceptual stations and street designs
- Environmental Review

RECOMMENDED ALIGNMENT DESIGN AND PLANNING

With the preferred alignment identified, the Implementation Phase will begin the design for the transit corridor's neighborhoods, transit infrastructure, and transportation systems.

A framework of land use and urban realm considerations will be prepared for ten neighborhoods, centered around station areas, exemplifying the feel of the transit corridor. These frameworks will expand on the station typologies.

Within the neighborhoods, transportation network recommendations, including how the BSRC intersects with the transit system, bicycle and pedestrian networks to improve first mile / last mile connections, and parking facilities will support multimodal access and circulation within the station areas.

The Implementation Phase will also include a concept design for the entire transit corridor.

RideKC Bus Stop

Kansas City Streetcar

PERFORMANCE METRICS

The process for developing performance measures will build upon the MOE described in **Section 1.6** that were used during the Assessment and Strategy Phase to evaluate corridor alternatives. In the Implementation Phase, the project team will revisit and expand those MOEs in consultation with federal and state transportation and environmental agencies, regional planning partners, and community stakeholders. This effort will help make sure that selected performance measures reflect the full scope of the project, including transportation system performance, NEPA considerations, environmental quality, land use compatibility, and community outcomes. Where applicable, performance measures will align with Connected KC 2050 regional planning goals and federal performance-based planning requirements, allowing future infrastructure investments to be tracked over time for performance.

The development of performance measures will include both quantitative and qualitative indicators, with attention to measurable outcomes in environmental review, safety, multimodal access, air quality, efficiency, natural hazards and redundancy, ITS/Transportation Systems Management and Operations (TSMO), and economic development. Candidate metrics will be reviewed for feasibility, relevance to the scope of the BSRC project, and their utility in informing decisions across a range of future transportation improvements. Public and stakeholder input gathered during scoping and community engagement will also shape which measures are prioritized for evaluation. The following are initial recommendations for each category when developing performance metrics.

- ***ENVIRONMENTAL REVIEW***
- ***SAFETY***
- ***MULTIMODAL ACCESS***
- ***AIR QUALITY***
- ***EFFICIENCY***
- ***NATURAL HAZARDS AND REDUNDANCY***
- ***INTELLIGENT TRANSPORTATION SYSTEMS/TSMO***
- ***ECONOMIC DEVELOPMENT***

CATEGORY	EXAMPLE PERFORMANCE METRICS
Environmental Review	• Quantitative and quantitative impacts on the social and natural environments • Community input
Safety	• Number, location, and severity of vehicle crashes and pedestrian and bicycle collisions
Multimodal Access	• Changes in transit travel time, • Presence of active transportation modal options • First-and-last-mile connectivity improvements for cyclists and pedestrians • Presence of between-mode connections. • Transit ridership, • Shift to alternative modes • Participation in bikeshare and scooter share programs
Air Quality	• Carbon and nitrogen oxides, • Particulate matter • Volatile organic carbons
Efficiency	• Acquisition rates of electric vehicles by individual households and electric vehicle registrations • Public electric vehicle charging station usage • Acquisition and deployment of electric buses by transit providers • Vehicle miles traveled per user
Natural Hazard and Redundancy	• Exposure to extreme weather conditions • Capacity of corridor infrastructure to withstand extreme weather conditions • Average temperatures at public transit stops and shared-use paths, • Emergency management response times • Detour route lengths for key bridges
Intelligent Transportation Systems/TSMO	• Deployment rates of newer technology • Congestion, travel time, delays, idling, and rear-end collisions • Run-off road, secondary, work zone, and intersection crashes
Economic Development	• Rates of workforce training program completion and employment acquisition • Quantity of households with broadband access • Employment and poverty rates • Childcare capacity in proximity to transit • Housing affordability relative to incomes in the corridor

Note: Performance Measures listed above may or may not apply to NEPA.

TABLE 21: PERFORMANCE METRICS

ENVIRONMENTAL REVIEW

As the project advances into implementation, the identification of performance measures is a key element of the PEA. Performance measures will evaluate the extent to which the proposed corridor-wide investments meet the goals established in the Purpose and Need Statement and provide a consistent analytical basis for both programmatic and future project-level decision-making.

Performance metrics will serve two primary functions within the PEA:

- The first is to assess how each alternative addresses the project's needs and priorities, providing a transparent, data-driven comparison of corridor-wide benefits and impacts
- The second is to create a structure to be carried forward into subsequent tiered NEPA reviews to make sure there is consistency in how future projects are evaluated, prioritized, and advanced throughout implementation.

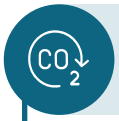
Environmental review performance measures will include both quantitative and qualitative indicators and will be selected based on relevance, measurability, and usefulness for informing both planning and implementation decisions. Input from the public, stakeholders, and resource agencies during the NEPA scoping and engagement processes will further shape which measures are emphasized in the PEA. Through this structured and collaborative process, the NEPA review will carry forward the priorities of the BSRC while creating a flexible but rigorous framework to guide future project delivery.

SAFETY

For a project like the BSRC, safety and security come in many forms - multimodal roadway crashes, real and perceived community crime, and the design of transit facilities for comfort during the day and evening. As noted in the Purpose and Need Statement, the BSRC aims to prioritize safety and security for all elements of project design and station area land use improvements. One safety goal will be to reduce and ultimately eliminate severe and fatal crashes on the corridor. Focused design strategies can complement traditional approaches to enhance user perception of safety by considering how it feels to arrive at, pass through, and use a transit facility. While statistics exist for measuring this goal based on real crime data, safety and security relies on future transit user's experience. Continuing to engage the public on **"user experience"** improvements compared to current conditions can enhance the story told through crime data and other resources.

MULTIMODAL ACCESS

As noted in the Purpose and Need Statement, the BSRC aims to enhance mobility and safety for multimodal users, including public transit riders, cyclists, and pedestrians. The overall multimodal goal is to reduce reliance on single-occupancy vehicles and provide alternative modes of travel that are as convenient and easy to access as driving a car. Multimodal access performance metrics may include items such as changes in transit travel time, the addition of active transportation modal options, first-and-last-mile connectivity improvements for cyclists and pedestrians, and the presence of between-mode connections. As these interventions ultimately seek to reduce barriers to multimodal travel, metrics to this effect may include measurements of transit ridership, shift to alternative modes, or participation in bikeshare and scootershare programs.



AIR QUALITY

As noted in the BSRC's Purpose and Need Statement, this project aims to improve environmental quality by reducing emissions that contribute to poor air quality and reduced public health. Air quality monitoring stations capture changing air emissions, which are expected to decline with the reduced use of personal vehicles. Air quality performance metrics may measure changing concentrations of carbon and nitrogen oxides, particulate matter, and volatile organic carbons.

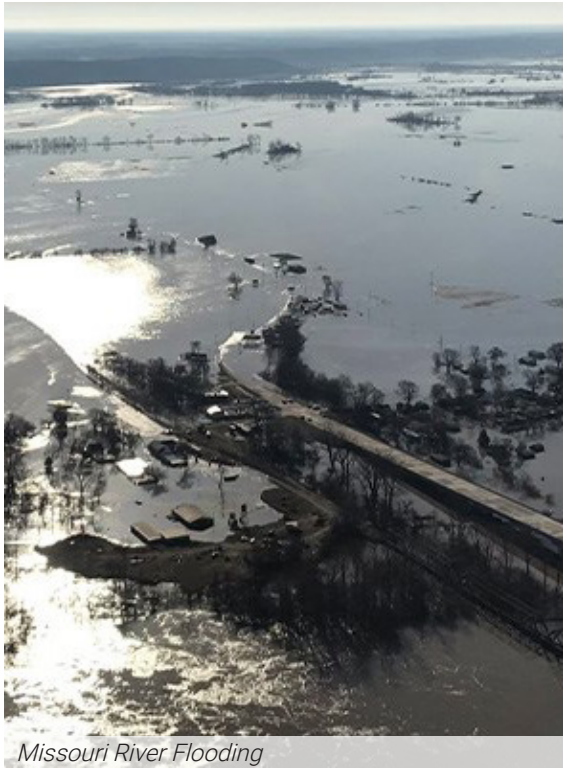
EFFICIENCY

As noted in the BSRC's Purpose and Need Statement, this project aims to reduce carbon output and other transit emissions by promoting energy-efficient transportation, at both the public transit and individual transportation scale. Performance metrics associated with efficiency improvements may include acquisition rates of electric vehicles by individual households and electric vehicle registrations, public electric vehicle charging station usage, and the acquisition and deployment of electric buses by transit providers along the corridor. An unintended consequence of energy efficiency advancements is that the cost of individual vehicle ownership and usage may decrease, potentially contributing to an increased reliance on personal vehicles. As such, measuring vehicle miles traveled per user throughout the corridor may also be valuable when studying the transition to public transit.

NATURAL HAZARDS AND REDUNDANCY

In alignment with the Purpose and Need goals around enhancing mobility and safety, performance measures related to hazard exposure capture improvements to mobility and safety under adverse weather conditions. Reducing hazard impacts that operators and users may encounter along the corridor or as they seek to reach the corridor, such as unsafe temperatures or flood-obstructed routes, will enhance safety and encourage usage. For the system to function, designed redundancy is necessary so if one part of the system is negatively impacted, the entire system does not fail. The system's capacity to resist natural hazard will be evaluated by metrics that assess capacity of designed alternatives to reduce BSRC users' exposure to extreme weather conditions, enhance the capacity of corridor infrastructure to withstand extreme weather conditions, support emergency management and response operations, and provide redundancy in the event of outages. Example metrics may include average temperatures at public transit stops and shared-use paths, emergency management response times, and detour route lengths for key bridges.

Designing the corridor and the mobility hub area to reduce hazard exposure will be further explored during implementation. As transit, alternative modes, and electric vehicles are widely adopted, these mobility options need comfortable and safe facilities for users. Design features may include efforts to combat extreme temperatures. Techniques related to extreme heat may include heat reflective materials and shade structures, while options related to extreme cold and snow may include snow storage zones and smart de-icing systems. Other design features may include mitigating effects from flooding with permeable pavements or bioswales, introducing green infrastructure with various options for plantings and trees along the corridor, or using low-cost, high-performance materials such as recycled plastics or reclaimed asphalt. Redundant design features may include on-site power generation and power back-ups to support electric transit fleets and dynamic communication signs to relay real-time hazard information.



Missouri River Flooding

INTELLIGENT TRANSPORTATION SYSTEMS/TSMO

Intelligent Transportation Systems (ITS) can support and improve management and operations along the corridor. While deployment of ITS technology is not a specific goal within the Purpose and Need Statement, ITS can support existing goals around enhancing connectivity and efficiency across the corridor. ITS/TSMO performance metrics may include assessing deployment rates of newer technology, such as variable speed limits, dynamic truck parking systems, and queue warning systems. Metrics will also capture the benefits associated with these tools, such as reductions in congestion, travel time, delays, idling, as well as safety improvements such as reductions in rear-end collisions, as well as run-off road, secondary, work zone, and intersection crashes.

ECONOMIC DEVELOPMENT

As noted in the BSRC's Purpose and Need Statement, economic challenges persist across the corridor, with high rates of poverty and impeded access to employment. Economic development considerations will be included within the station area planning task during the Implementation Phase. Land use strategies for developing areas near stations will include a high-level market analysis, built upon the existing conditions assessment, to ensure that implementation guidance is realistic and economically sustainable. Economic development analysis in this phase will also highlight the impacts of transit improvements on local and regional economies.

Through this structured, collaborative process, a robust set of performance measures will be established that reinforce project priorities and enable informed, accountable decisions throughout implementation. In alignment with the corridor's focus on workforce training and expanding broadband access, performance metrics may include rates of workforce training program completion and subsequent employment acquisition, as well as the quantity of households with broadband access. Additional metrics may include: employment and poverty rates; childcare capacity in proximity to transit; and housing affordability relative to incomes in the corridor.

Kansas City, Kansas

PLANING AND ENVIRONMENT LINKAGES (PEL) STUDY

Following the evaluation of multiple NEPA environmental review pathways, MARC in coordination with the **Federal Transit Administration (FTA) has elected to prepare a Planning and Environment Linkages (PEL) Study** for the project. This approach was selected based on its ability to support phased implementation, accommodate evolving project priorities, and streamline future NEPA reviews for individual projects within the corridor.

The purpose of the PEL study is to document the coordinated, corridor-wide planning effort conducted for this project and the environmental review framework that can be carried forward into future project-level environmental review and implementation. The PEL study documents planning-level decisions, assumptions, and supporting analyses related to corridor needs, goals, alternatives development, and impact considerations in a manner that supports subsequent NEPA reviews as individual corridor segments advance.

The PEL approach provides the flexibility needed to advance elements independently while maintaining a unified environmental review framework.

This approach supports "logical termini and independent utility," meaning each segment is framed to function as a stand-alone improvement if it advances ahead of other segments. This methodology also allowed the project team to identify the strongest alignment for each segment while keeping options open as the project evolves. Using a PEL approach also helps avoid unforeseen issues and avoid rework as individual segments advance.

View looking toward Downtown KCMO

Note: *This page was updated in April 2026 to align with the BSRC Implementation Strategy Phase.*

The PEL study aligns transportation planning with broader community, land use, housing, economic development, and environmental objectives along the corridor. It documents the evaluation of a range of transit service concepts and supporting multimodal improvements, identifies logical corridor segments with independent utility, and documents the rationale for alternatives carried forward. The study also establishes a shared understanding of existing conditions, corridor challenges, and community priorities, informed by extensive public and agency engagement.

At a planning level, the PEL study identifies potential environmental considerations associated with the recommended corridor vision, including cultural resources, parks and recreational resources, natural resources, noise, and contaminated sites. These considerations are documented to inform future NEPA scoping, agency coordination, and technical studies, while recognizing that detailed impact analyses and formal determinations will occur during subsequent project-level environmental reviews as designs are refined and project funding is identified.

Ultimately, the purpose of the PEL study is to provide a defensible, well-documented planning foundation that supports future NEPA compliance, facilitates coordination among federal, state, regional, and local partners, and allows individual corridor segments to advance independently as funding and implementation opportunities become available, while maintaining a unified corridor-wide vision.

Under 23 CFR Part 450, PEL is implemented through statewide and metropolitan transportation planning regulations, which require early and ongoing coordination with resource agencies, Tribal governments, and the public; use of reliable and reasonably current data; and documentation of planning analyses and decisions that may inform subsequent project development. Sections 450.212 and 450.318, along with Appendix A, specifically encourage transportation planning studies to be conducted in a manner that supports linkage to the NEPA process, while clarifying that transportation planning does not itself constitute NEPA compliance.

The statutory provisions for PEL (e.g., 23 USC 168 and 23 USC 139) establish the legal authority to adopt or incorporate certain planning products and decisions into the NEPA process, whereas the regulatory provisions in 23 CFR 450 define how planning must be conducted in order for planning products to be eligible for use in future environmental reviews. In summary, the statutes provide the authority, regulations, and the procedural framework for implementing PEL.

Note: *This page was updated in April 2026 to align with the BSRC Implementation Strategy Phase.*

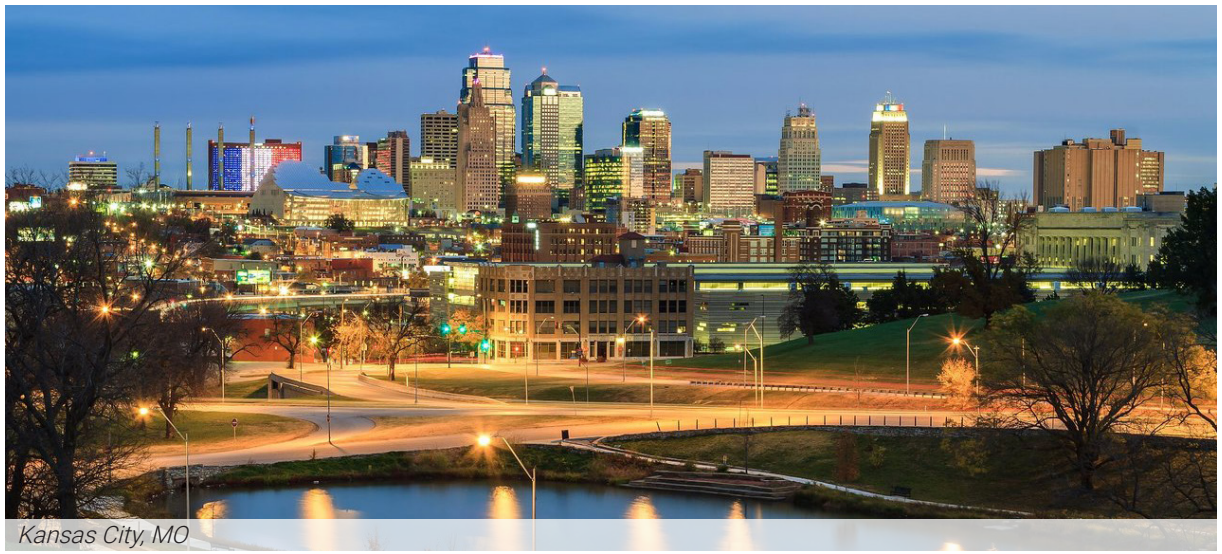
NEPA ENVIRONMENTAL REVIEW

The BSRC PEL Study, contained in **Appendix I**, documents a comprehensive, corridor-wide planning effort intended to support future project-level implementation and NEPA environmental reviews. Through coordinated technical analysis, extensive public and agency engagement, and a structured alternatives evaluation process, the study establishes a defensible planning foundation for advancing regional transit and multimodal improvements.

The PEL Study confirms a clear need for improved east-west mobility, safety, and access to opportunity within the corridor. Existing conditions analyses and public input consistently identified long travel times, safety challenges for pedestrians and bicyclists, limited multimodal connectivity, and disparities in access to employment, healthcare, and essential services. These needs informed development of a preliminary Purpose and Need Statement and guided the evaluation of transit modes, alignments, and supporting multimodal improvements.

Through a two-tier alternatives screening process, a Recommended Vision was identified that consists of a combination of BRT and Kansas City, MO BRT-Lite service, supported by pedestrian, bicycle, and streetscape improvements. The Recommended Vision reflects corridor-specific conditions, balances investment levels with transit readiness and community context, and supports phased implementation with logical termini and independent utility. Importantly, the PEL Study documents the rationale for alternatives advanced and dismissed, providing transparency and traceability for future decision-making.

Planning-level (i.e., desktop) environmental screening conducted as part of this study indicates that the Recommended Vision can largely be implemented within existing right-of-way, with limited potential for significant environmental impacts.



Kansas City, MO

Note: *This page was updated in April 2026 to align with the BSRC Implementation Strategy Phase.*

The planning-level impact screening conducted as part of the PEL Study identified environmental resource considerations that may warrant further evaluation during project-level NEPA reviews. As individual projects advance, additional technical studies and screenings are anticipated, as appropriate, based on project scope, design refinement, and regulatory requirements. These may include, but are not limited to:

- Cultural resource investigations, including architectural history surveys and archaeological surveys, as needed to support Section 106 consultation;
- Noise screenings and, if warranted, general noise assessments;
- Phase I Environmental Site Assessments (and Phase II investigations, if necessary); and,
- Evaluation of potential impacts to Section 4(f) and Section 6(f) resources.

The scope of technical studies will be confirmed during future NEPA scoping and agency coordination and will reflect site-specific conditions and design details not available at the current planning stage.

The majority of BSRC elements are anticipated to qualify for Categorical Exclusions (CEs) under 23 CFR 771.117, reflecting the planning-level finding that improvements would largely occur within existing right-of-way and involve very limited environmental impacts.

Transit amenities such as bus stops, shelters, and mobility hubs; sidewalk and bikeway improvements; and traffic signal and operational upgrades are anticipated to qualify as likely CEs under the (c)-list categories for transit amenities, roadway resurfacing, and traffic operations improvements. Stormwater and drainage enhancements may qualify as case-by-case CEs under the (d)-list, depending on final design and resource impacts. BRT-Lite segments that do not add travel lanes or require notable right-of-way expansion are also anticipated to be eligible for documented CEs, while full BRT segments involving more substantial roadway reconstruction could still qualify as a (d)-list CE but could require preparation of an Environmental Assessment, depending on how the project footprint develops in subsequent design efforts. CE documentation and approval timelines are expected to range from approximately four to nine months per project, depending on scope, coordination needs, and resource considerations.

The PEL process also reinforces the importance of sustained coordination across jurisdictions, agencies, and communities. Given the corridor's bi-state context and phased implementation strategy, the study establishes a shared understanding among partners regarding corridor goals, assumptions, and constraints. This coordinated planning approach is intended to reduce duplication of effort, support efficient environmental review, and provide flexibility for individual corridor segments to advance as funding and implementation opportunities arise.

In conclusion, the BSRC PEL Study provides a planning framework that supports future project development while maintaining a unified corridor vision. By capturing planning-level decisions, documenting the basis for the Recommended Vision, and identifying key environmental considerations early, the study positions the BSRC to advance into subsequent NEPA processes in a coordinated, transparent, and efficient manner while allowing future studies the flexibility to accommodate evolving community needs, regulatory requirements, and implementation conditions.

Note: *This page was updated in April 2026 to align with the BSRC Implementation Strategy Phase.*