



KC STREETCAR RIVERFRONT EXTENSION

Kansas City, Missouri / BUILD Grant Application

May 18, 2020

RideKC



KC STREETCAR RIVERFRONT EXTENSION

Project Name

KC Streetcar Riverfront Extension

Lead Applicant

Kansas City Area Transportation Authority
(KCATA also known as RideKC)

Co-Applicants

Port KC
Kansas City Streetcar Authority (KCSA)

Project Supporters

The City of Kansas City, Missouri (KCMO), as well as a broad list of supporters from throughout the metropolitan area located in [Supporters of the Project](#) (page 28).

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Figure 1:
The #AlwaysRoyal
branded streetcar
stops at River Market
West



The Honorable Elaine Chao
Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

RideKC

May 18, 2020

Dear Secretary Chao,

The KC Streetcar Riverfront Extension will physically reconnect Berkley Riverfront with a resident-, pedestrian-, and bicycle-friendly 0.55-mile extension of the City's successful Downtown streetcar system – extending from its current terminus near 3rd Street and Grand Boulevard across the existing Grand Avenue Bridge and onto the Riverfront. This extension will be adjacent to the construction of a new multi-use trail that will enhance paths and choices to the Riverfront. This is the most direct access point onto the Riverfront area, yet today it remains unsafe for use by pedestrians and cyclists as there are no accommodations in place to support this connectivity.

Due simply to the planning of the extension of the streetcar, the momentum continues to build along Kansas City's Riverfront. Currently, two developments are complete and another development agreement has just been inked. The addition of residential units, retail spaces and recreational amenities are breathing new life into this once dormant area, and **Kansas City's Riverfront is emerging as a destination**. After decades of being known only as a long-forgotten site, developers are seeing the value of this regional resource.

Port KC has full ownership of this 77-acre area and for years has been leading the site preparation and revitalization efforts to attract new development investment. Due to these continuing efforts, this former brownfield site has been cleared, cleaned and made ready for new opportunities. **While the Riverfront area has massive potential for new development, in order for this area to realize its full economic development potential, one critical challenge must still be addressed.** Currently, the Riverfront is isolated and cut off from the greater Downtown Kansas City area by a combination of existing topography challenges, class I freight railroads, an interstate highway, and two bridges. For residents seeking access to connect with and enjoy the recreational amenities found at Berkley Riverfront, the existing access is dangerous and dissuades many from visiting the area.

And now, through an innovative public-private partnership, there is an opportunity to leverage private dollars to create connectivity and accelerate the success of the Riverfront – creating jobs and tax revenue for the city and region.

Hailed as one of the most successful modern streetcar's in the nation, KC Streetcar's impact on growth and development is supported by ridership figures and economic development dollars. **The KC Streetcar Riverfront Extension will continue the momentum from this successful transit investment.** Already, since the announcement of the proposed streetcar extension, four new developers have made commitments to invest and develop on the Riverfront.

The Kansas City Area Transportation Authority (KCATA / RideKC) and its co-sponsors, Port KC and the Kansas City Streetcar Authority (KCSA) with the support of the City of Kansas City, Missouri (KCMO) are pleased to submit the following application for BUILD funding that will reconnect the Riverfront to serve all Kansas Citians and its guests while improving safety, providing enhanced access to employment opportunities and igniting and accelerating economic development activity on Berkley Riverfront. This project is fully supported by elected officials and a broad coalition of community organizations and local stakeholders. The KC Streetcar Riverfront Extension emanates from years of community-based planning efforts and support that established the vision and need for a reconnected and revitalized Riverfront that serves as a vibrant place for all.

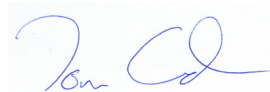
Respectfully,



Robbie Makinen
President/Chief Executive Officer
Kansas City Area Transportation Authority



Jon Stephens
CEO & President
Port KC



Tom Gerend
Executive Director
Kansas City Streetcar Authority

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1. PROJECT DESCRIPTION

1.1. Introduction

Now is the time to capitalize on the catalytic momentum of the **Kansas City Streetcar**. Kansas Citians are [demonstratively invested](#) in the success and expansion of the streetcar—it [embodies KC pride](#)—and represents a bold reinvestment in our Downtown and neighboring communities. The [KC Streetcar](#) represents a revival of our midwestern city and is credited as the primary catalyst for the construction boom occurring near the alignment—[even earning the attention of the nation](#). But the 2.2 mile modern starter line was never the final stop and residents and civic leaders are working together to extend its benefits to other parts of the city.



Figure 2:
Photo of the sleek &
modern KC Streetcar
featured in the NY Times
Sunday, July 8, 2018.
Photo credit: Anna Petrow

1.2. Overall Description of the Project

KC Streetcar Riverfront Extension is a 0.55-mile extension of the City's successful streetcar system over busy Class I Railroad tracks by improving and enhancing existing infrastructure. Specifically, KC Streetcar Riverfront Extension is a proposal to:

- Connect the [KC Streetcar](#) to the City's riverfront ([Berkley Riverfront](#))
- Extend the momentum, mobility and economic development benefits of the existing KC Streetcar
- Coordinate the pedestrian and micro-mobility vehicle (bikes and scooters) connection with a new multi-use trail alongside this extended streetcar alignment and the Riverfront
- Increase the safety and enhance the livability of residents and visitors downtown and along the Riverfront
- Introduce a **regional park-and-ride** opportunity to the Riverfront—providing convenient access for those commuting from the northland metro to Downtown for work and play.

The KC Streetcar Riverfront Extension builds upon the success and enhances previous USDOT Capital investments in the region and **showcases a superb example of local government teamwork operating at a peak level**. Project partners include:

- Kansas City Streetcar Authority (KCSA),
- Port Authority of Kansas City, MO (Port KC),
- City of Kansas City, Missouri (KCMO)
- Grant Applicant Kansas City Area Transportation Authority (KCATA, branded as RideKC)



KC Streetcar
starter line
successfully
leveraged



TIGER V

funding with
more than

65%
local financing

KCSA, Port KC, KCMO and KCATA are combining forces to advance the KC Streetcar and are each providing direct administrative, operational, and financial support to deliver this highly anticipated extension of the modern KC Streetcar by 2023.

1.3. Challenges and Approach

The KC Streetcar Riverfront Extension will directly and indirectly:

- improve individual's mobility and safety
- improve connectivity between the riverfront and the downtown activity centers
- enhance economic development
- create and stimulate car-to-transit commuting
- improve overall transit connections
- provide longer term developable areas

The KC Streetcar Riverfront Extension scope includes a 0.55-mile bi-directional track extension of the modern KC Streetcar system on an existing roadway viaduct (Grand Avenue Bridge) over to the Berkley Riverfront; two new streetcar stations; a 750 volt DC substation, overhead catenary and electrification systems; and the installation of new coordinated signalized traffic signals.

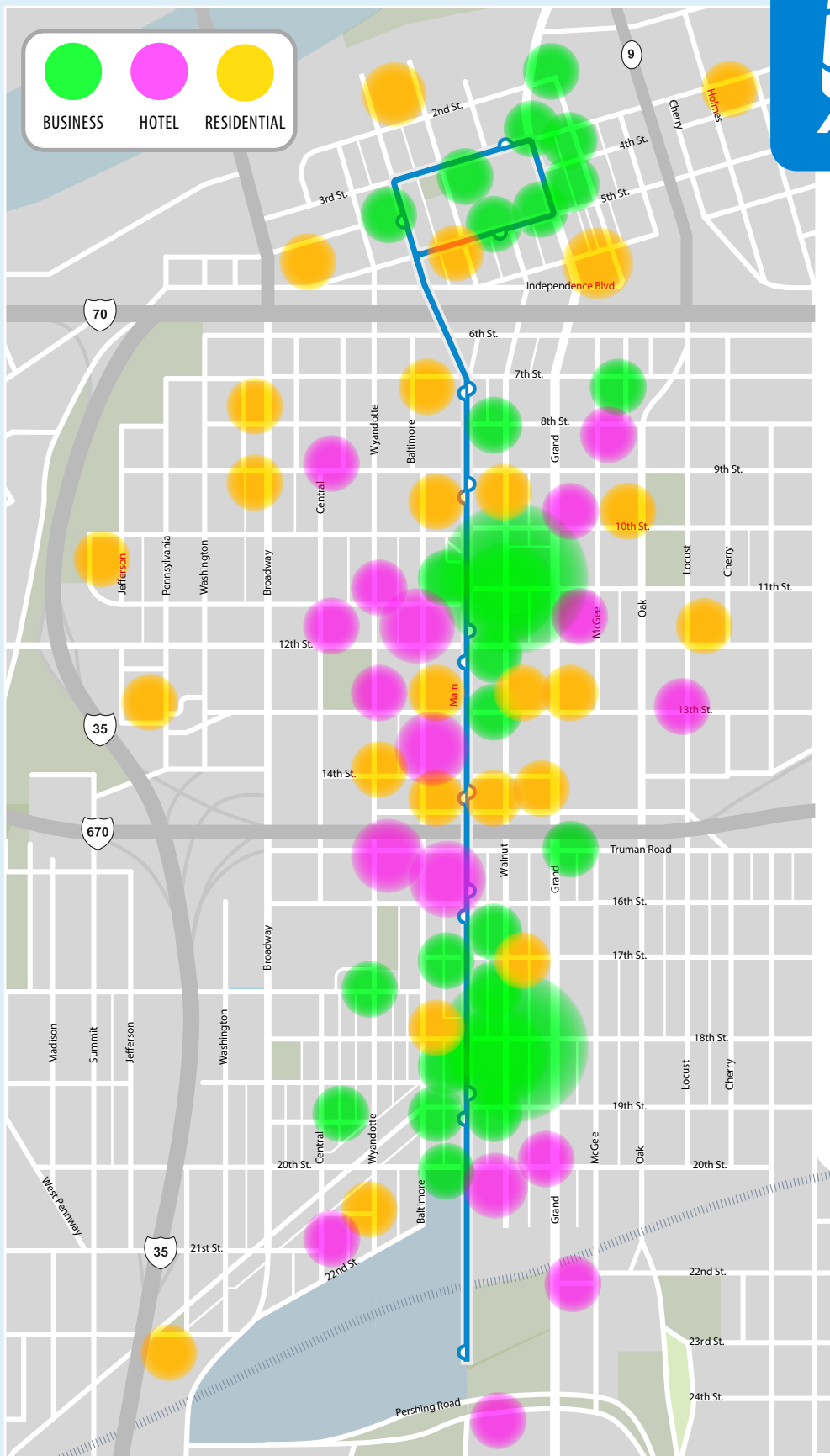
The modern KC Streetcar currently serves as a primary connector between downtown Kansas City's major attractions, employment centers, and entertainment areas and includes Union Station, Crown Center, Crossroads Arts District, Central Business District, Power and Light Entertainment District and the historic River Market. The streetcar has been successful in providing greatly improved multi-modal connectivity to residents, visitors and employees Downtown, and it has also been a powerful catalyst for numerous economic development projects near the alignment. **In the seven years since the initial KC Streetcar project was announced, over \$4 billion in new economic development activity has been announced or taken place on or near the streetcar alignment and includes new hotels, residential units, office space and retail shopping.**



Figure 3:
KC Streetcar ridership has averaged over 2 million riders per year.



Figure 4:
On Friday, July 6, 2018 the KC Streetcar hit an astounding record of 19,181 rides; the week ended with 78,990 total rides.



\$4.0 Billion
in new investments
since KC Streetcar
was approved in
December 2012.

Economic Development and KC Streetcar by the Numbers:

Residential

📍 **\$1.79 Billion**

Hotels

📍 **\$804 Million**

Office

📍 **\$796 Million**

Parking Lot Conversions

📍 **10** vacant surface
parking lots undergoing
transformation and
redevelopment

Other Infrastructure

📍 **\$672 Million**

*Figure 5:
The KC Streetcar starter line
has been a catalyst for economic
development near the alignment.
Dollar figures represent
complete, under construction
& planned for 2013-present.
Provided by the [Downtown
Council's State of Downtown
Dashboard](#).*



Figure 6:
Berkley Riverfront
Streetcar Extension
Preferred Alignment

Because of its popularity, outstanding ridership, and effectiveness in attracting economic development, the initial planning for future expansion of the starter line began shortly after opening day. One of the first areas targeted for expansion was Kansas City's Berkley Riverfront, located northeast of the starter line's existing terminus in the River Market. [Berkley Riverfront](#) is home to the [Riverfront Heritage Trail](#) and 50 remaining acres of shovel-ready, remediated land that has development commitments under the ownership and control of [Port KC](#) (Port Authority of Kansas City). To further explore this streetcar expansion opportunity, Port KC joined with KCMO, KCSA, and KCATA to fund and evaluate the feasibility of extending the KC Streetcar alignment to serve the Berkley Riverfront area.

This BUILD project is a continuation of the lasting and successful partnership of KCSA, KCATA, KCMO and Port KC. It builds on the planning, public outreach and early conceptual engineering conducted in the feasibility study.

1.4. Project History



On May 6, 2016, [streetcars began operating again](#) in Kansas City for the first time in almost 60 years. This rebirth of urban rail transit was supported by the successful implementation of a [\\$20 million TIGER V](#) award in 2013 and was led by a strong and

well-established partnership between KCMO, KCATA and KCSA. Total project costs were \$102 million for the initial 2.2-mile KC Streetcar starter line and were funded—in addition to TIGER—by over \$67 million in local resources from a voter-supported [Transportation Development District \(TDD\)](#) surrounding the corridor. **Since opening day, the KC Streetcar, operating on Main Street in the heart of Downtown, has been a resounding success and remains one of the most well-utilized streetcar systems in the United States with an average daily ridership of 5,800 trips and surpassing 8 million trips over four years of operation (projected ridership was approximately 2,600 per day). During each summer of 2017, 2018, and 2019, KC Streetcar ridership has consistently exceeded 10,000 rides at least one day each week.**

The [Streetcar Riverfront Extension and Multi-Modal Feasibility Study](#) was initiated in early 2017. The primary goal of this feasibility study was to generate alternatives that would improve overall multi-modal connectivity to the Riverfront while simultaneously supporting economic development opportunities for the surrounding area.

The Streetcar Riverfront Extension and Multi-Modal Feasibility Study determined that extending the Downtown Streetcar 0.55 miles from the intersection of 3rd Street and Grand Boulevard to the northeast utilizing the Grand Avenue Bridge to access the Riverfront (Figure 6) was financially, structurally, and operationally feasible and would greatly improve and enhance multi-modal connections in the area for transit riders, pedestrians, and cyclists. **The feasibility study received strong support from the public for the extension of the streetcar to serve the Berkley Riverfront, and for the multi-modal features that will improve existing pedestrian and cyclist safety and access.**

In June 2017, the KCSA Board of Directors [unanimously endorsed](#) the findings and recommendations of the *Streetcar Riverfront Extension and Multi-Modal Feasibility Study*. The Board of Commissioners for Port KC also voted to unanimously support the recommendations made in the feasibility study. In addition, the two proposed streetcar extensions (Riverfront Extension and the Main Street Extension to UMKC) were accepted into the [Mid-America Regional Council's Transportation Outlook 2050 long-range plan](#).

In May 2019, [KC Streetcar received Streetcar #805 as the fifth vehicle to its expanding fleet](#). The receipt of this vehicle was in part as preparation of the extension of service to the Riverfront and indicates KCSA's \$6 million commitment to extend the streetcar service to the Riverfront. KCSA's acquisition of this vehicle has also reduced the project's budget and mitigated risk associated with the timing and ability to acquire a single streetcar.

The study specifically examined:

- ✓ Streetcar route alignments
- ✓ Bus transit connectivity
- ✓ Park-and-Ride regional connectivity
- ✓ Multi-modal connections for bicyclist and pedestrians
- ✓ Streetcar and bus operations planning
- ✓ Capital and operating cost estimation
- ✓ Engineering feasibility assessment
- ✓ Economic development opportunity
- ✓ Public engagement and input



The **multi-modal** components included in the

KC Streetcar Riverfront Extension

will expand a **comprehensive transportation system**

providing new access to:

JOB MARKETS

RESIDENTIAL COMMUNITIES

ACTIVITY CENTERS



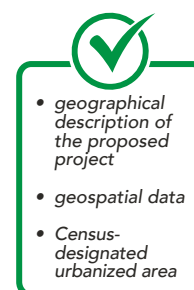
Figure 7:
KC Streetcar
Riverfront Extension
Project Area

2. PROJECT LOCATION

2.1. Project Location Details

The KC Streetcar Riverfront Extension project is located on the northern edge of the Central Business District of Kansas City, just north of the River Market and Columbus Park neighborhoods along the banks of the Missouri River (Berkley Riverfront). The general project area is shaded in dark gray in the above Figure 7. The project area is located within the Missouri 5th Congressional District, represented by Congressman Emanuel Cleaver II. The project is also located in the Kansas City, MO-KS Urbanized Area ([43912](#)) according to the United States Census Bureau.

Berkley Riverfront is generally bounded by the Missouri River on the north, Interstate 29/35 to the east, Burlington Northern Santa Fe (BNSF) /



Today this area is primed for new residential and commercial development, but is highly **isolated from the activity of the adjacent River Market and Columbus Park neighborhoods by multiple freight railroads, interstate highways and difficult topography.**

Currently, the principal attraction in the area is the recreational space of Berkley Riverfront, a 17-acre park that parallels the Missouri River. Berkley Riverfront functions as a regional destination—hosting numerous family-friendly festivals, community events and music performances throughout the year that draw crowds from throughout the metro area. The park currently includes a beach volleyball center, areas for group and individual fitness activities, a dog park, weekly fitness classes, the Riverfront Heritage Trail and other recreational amenities for residents of Downtown and the Kansas City region.



Figure 9:
Berkley Riverfront's
Annual Fourth of July
celebration brings crowds
from around the
Kansas City metro.

Due in large part to the lack of connectivity and isolation from Downtown, the available land on Berkley Riverfront has been slow to attract private sector development interest and investment. Through sustained, continual efforts by Port KC to market these properties, the [Union](#)—the first residential mixed-use project is open and operational. **The addition of new streetcar service and enhanced multi-modal connectivity for Berkley Riverfront is expected to significantly accelerate and intensify the level of interest and development density in the Riverfront area.** As new residences and employment centers are constructed on Berkley Riverfront it is estimated that ridership on the streetcar and bus transit systems will both experience growth—including an increased population that will use the expanded transit service to access the programming and amenities available at Berkley Riverfront.

2.2. Transportation Infrastructure

With this proposed extension of KC Streetcar service to Berkley Riverfront, there is an opportunity to explore modifying existing bus routes—taking full advantage of this new service by leveraging existing transit assets and infrastructure in the nearby areas. Figure 10 on the following page illustrates transit and multi-modal connections in the River Market and Berkley Riverfront areas alongside proposed KC Streetcar Riverfront Extension improvements.



• connections
to existing
transportation
infrastructure

**With Streetcar,
Riverfront
development values
increase by **40%**
2 and occur
years earlier.**

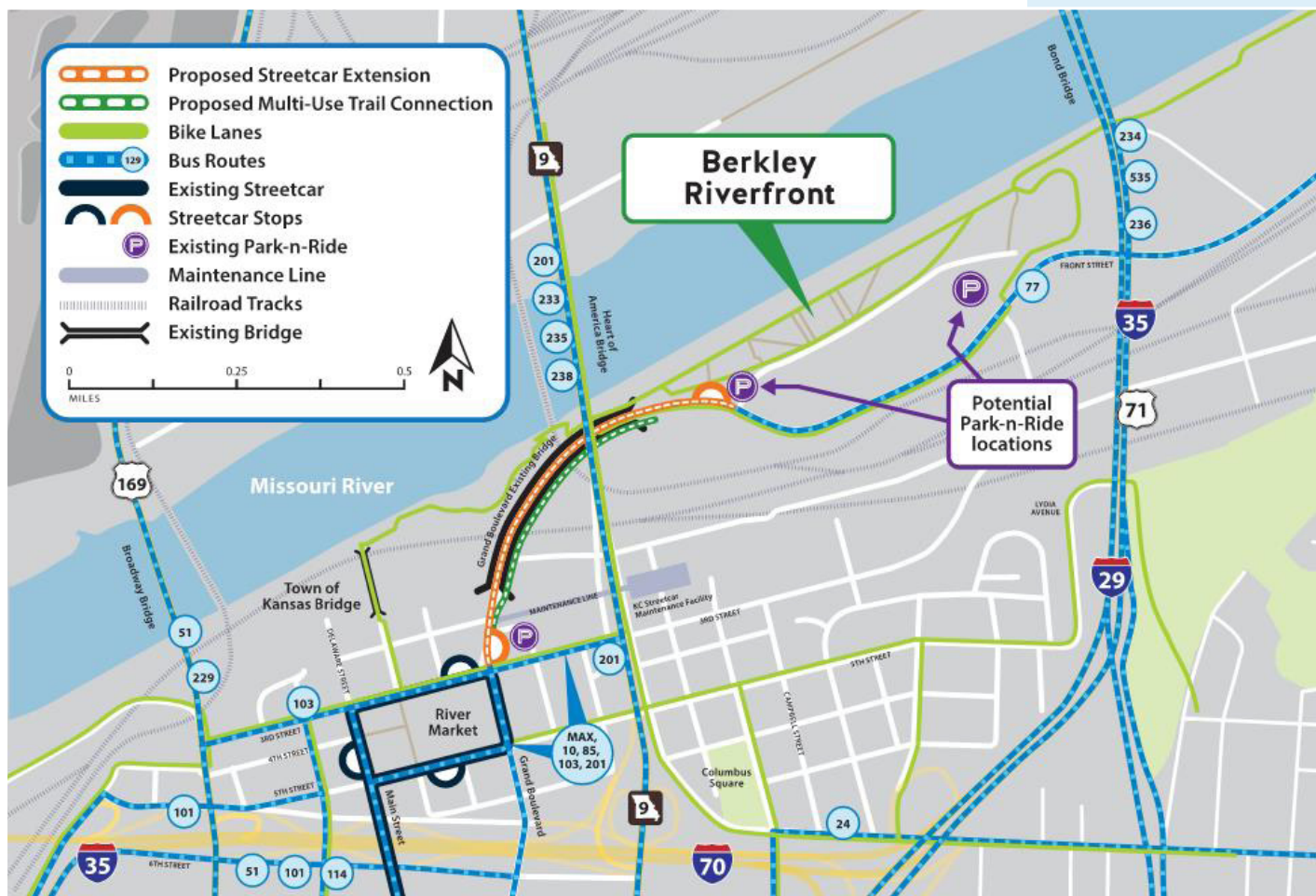


Figure 10:
Transit Routes &
Multi-Modal Facilities

The current terminus of the Downtown Streetcar starter line is near the park-and-ride lot located in the River Market at 3rd Street and Grand Boulevard. This area is well-served by transit service today and is a developing hub where several transit service types—streetcar, local bus, and bus rapid transit—interact.

This park-and-ride facility is owned and operated by the KCATA and accommodates parking spaces for transit riders. This location also serves as a layover point for several KCATA bus routes, with an operator restroom facility that provides operators short breaks and schedule recovery opportunities.

There are six (6) existing bus routes that come together at 3rd and Grand and operate through the River Market and/or the Riverfront areas to provide access throughout the greater KC metro region.

The KC Streetcar Riverfront Extension is also coordinating with construction of an additional bicycle and pedestrian multi-use trail adjacent to the Grand Avenue Bridge to address the lack of safe space for pedestrians and cyclists walking and biking to the riverfront, including the advance of a separate Kansas City, Missouri project to build a dedicated bicycle and pedestrian

budget alongside the current Grand Avenue viaduct. With the improved connectivity to Berkley Riverfront, [Kansas City's bicycle sharing program](#) (B-Cycle) will be expanded to serve the area.

Over the last several years, Port KC annually has more than 20 events [attracting up to 80,000 people](#) to the Riverfront ([KC RiverFest](#)). To date, shuttles and temporary bus service have been initiated to support these events. **The KC Streetcar Riverfront Extension and its frequent service along with event coordination and streetcar staging will assist these temporary services to “surge-service” the movement of people to and from Riverfront events.**

KC Streetcar Riverfront Extension is multi-modal and regional in nature. As the KC Streetcar alignment expands, it will continue to serve as the spine of a coordinated regional public transportation system of rail and bus services—providing residents of the region critical access to employment, education, entertainment, and services. This transit system has been developed in the region’s long-range transit plan, [Smart Moves 3.0](#). **KC Streetcar Riverfront Extension will integrate into the regional system by connecting Berkley Riverfront to the Downtown with a multimodal hub at 3rd Street and Grand Boulevard—**providing direct seven-day-a-week connections to the following RideKC bus routes:

- Main Street MAX BRT
- Route 10 – Woodland / Brooklyn to Historic 18th & Vine Jazz District
- Route 77 – Casino Cruiser serving Downtown, City of North Kansas City and the Northland area of Kansas City
- Route 85 – Paseo serving south Kansas City
- Route 103 – 3rd St. Fairfax to Kansas City, KS
- Route 201 – North Oak, the primary transit line north of the Missouri River



*Figure 11
Station stop near
3rd Street and
Grand Avenue*

The KC Streetcar operates seven days a week and maintains ten-minute headways during morning and afternoon peak periods and 12- to 18-minute headways in the midday and at night. Hours of operation are:

- Monday – Thursday: 6:00a – 12:00a
- Friday: 6:00a – 1:00a
- Saturday: 7:00a – 1:00a
- Sunday: 7:00a – 11:00p

These same frequencies and hours of operation will be extended to Berkley Riverfront—greatly improving accessibility and mobility options for new residents and connecting to new jobs in the area. **As part of this project, the existing KCATA-owned multi-modal transportation hub at the intersection of 3rd Street and Grand Boulevard will be further enhanced to facilitate rider transfers between the KC Streetcar and bus routes emanating from points throughout the bi-state region.** The 3rd and Grand location provides access and connections to nearby bike and car sharing opportunities, while also continuing to serve as a park-and-ride facility.

2.3. Opportunity Zone

This project is not included in an Opportunity Zone.

- identify whether the project is located in an Opportunity Zone

3. GRANT FUNDS & SOURCES / USES OF PROJECT FUNDS

The KC Streetcar Riverfront Extension project is supported by a solid financial plan of capital, and operation and maintenance (O&M) funding.

- costs for the BUILD 2020 project

These two funding sources are in turn supported by a solid project estimate for the capital costs and the four-year history of operational costs for future operational funding needs. The following summarizes the two funding needs with additional information presented in Section 5 (Project Readiness) and Section 7 (Cost Share) of this application.

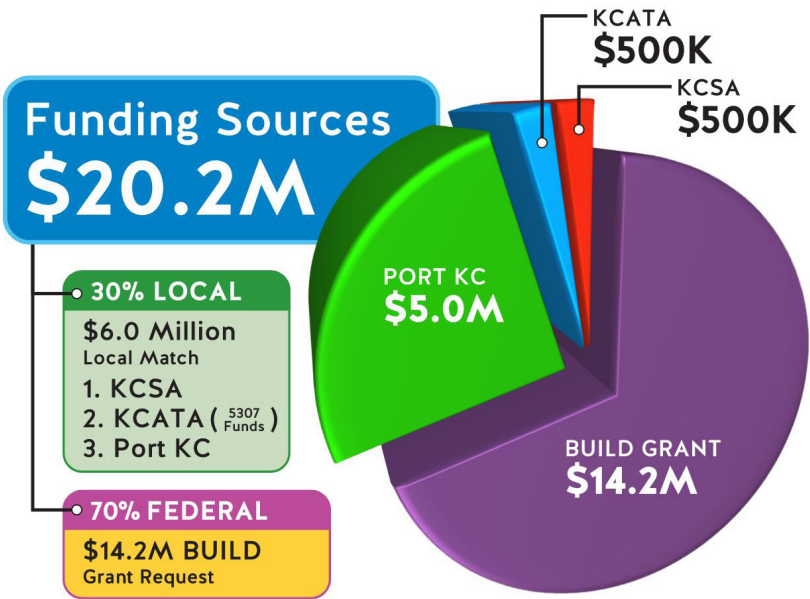


Figure 12:
KC Streetcar
Riverfront Extension
Funding Sources

3.1. Capital Sources of Funds

The local match highlights the teamwork and cohesiveness of the KCATA, KCSA, Port KC, and KCMO. A total of \$6 million in local funding is committed to the project - \$5.5 million as match and another \$500,000 from Section 5307 funds.

Port KC in working with KCATA and KCSA will secure and provide \$5 million of the local funds . It is expected that this \$5 million will be secured initially through bonding. As a part securing these funds, Port KC has created a Letter of Intent to annually provide funds to the grant applicant, KCATA, for payments on the local match. Port KC's [Letter of Intent](#) has confirmed that it will service the capital and interest on this debt for up to 20 years. KCSA will commit an additional \$500,000 in local funds as part of the local match.

In addition to this funding mechanism, KCATA has also committed an addition \$500,000 from local 5307 funds to support the effort.

Indirectly, but importantly, on the east side of the Grand Avenue Bridge, KCMO will be constructing, as a separate project at an estimated cost of \$6 million, a coordinated bike/pedestrian pathway from the River Market to the Riverfront that will complement the streetcar project.

3.2. O&M Costs and Revenues

The Streetcar Riverfront Extension has an estimated annual operation and maintenance (O&M) costs of approximately \$500,000 in 2020 costs. Port KC will fund and support the costs associated with maintenance and operations via agreement with the Kansas City Streetcar Authority and an annual operations and maintenance (O&M) contribution to the Downtown Transportation Development District (TDD). This annual Port KC O&M contribution will be generated in a form and manner consistent with the funding streams (sales tax, special assessment, parking) currently being applied within the Downtown Transportation Development District. Existing Downtown TDD rates will be applied equitably to riverfront property, not currently within the Downtown TDD, generating revenue for long-term operations and maintenance of the riverfront extension.

The Berkley Park Condominium Association (CAA), a Missouri Nonprofit Corporation, that was created by Port KC in November 2016 and covers the entirety of the Berkley Riverfront Park Master Planned Development (MPD). All developers are subject to regular and special assessments of the Association. **Revenues generated from the CAA are dedicated to upkeep and maintenance of amenities in public spaces—including the KC Streetcar. CAA revenues are conservatively anticipated to total \$1.4 million per year by 2030.**



- the source and amount of those funds
- documentation of funding commitments.
- the amount, nature, and source of any required non-Federal match for those funds



KC Streetcar Riverfront Extension

- ✂ Planning
- ✂ Conceptual
- ✂ ACE Engineering
- ✂ NEPA

have been funded by
local sources.

Table 1: KC Streetcar Riverfront Extension Capital Cost Estimate

	FTA Standard Cost Categories	Total Column
10	Guideway & Track Elements	\$5,412,473
20	Stations, Stops, Terminals, Intermodal	\$336,000
30	Support Facilities: Yards, Shop, Admin. Bldgs.	-
40	Site Work and Special Conditions	\$4,527,185
50	Communications	\$3,755,422
60	ROW	-
70	Vehicles	-
80	Professional Services	\$3,507,770
90	Unallocated Contingency	\$2,630,827
100	Finance Charges	-
	Totals	\$20,169,677



4. MERIT CRITERIA

4.1. Safety

Safety for all modes of transportation is one of the key elements for the KC Streetcar Riverfront Extension. **Currently, accessibility to Berkley Riverfront is inconvenient and dangerous for pedestrians and cyclists.** The most direct route for active transportation users is the Grand Avenue Bridge; however, the structure has no sidewalks or amenities (Figure 13). This forces pedestrians and cyclists to choose whether to (a) travel in vehicular traffic lanes, (b) find other circuitous routes, or (c) cross at-grade railroad tracks.



As a part of the KC Streetcar Riverfront Extension, our project is coordinating construction of a new adjacent multi-use bike and pedestrian trail that will be constructed along the southern, inside edge of the existing Grand Avenue Bridge. This multi-use path will provide direct and safe access to Berkley riverfront and will enhance the streetcar's reach and impact to our residents.

Figure 13:
Grand Avenue Bridge
currently lacks bike
and pedestrian
amenities

Public transportation investments and supportive policies increase traffic safety in several ways, including reduced crash risks (for travelers who shift from automobiles to public transit), community-wide crash reductions (due to fewer total vehicle use), and safer traffic speeds. As public transit travel increases, per capita traffic fatality rates decline. Cities where residents average more than 50 annual transit trips experience about half the average traffic fatality rates as cities averaging fewer than 20 annual trips.¹ This holds true for the Kansas City region as well. **In the last many years KCATA has been recognized by the American Public Transportation Association for being one of the safest public transit agencies in the United States. In the KC Streetcar's first four years of operation, there has been a single reported passenger injury and a single employee injury in its over 8,000,000 rides—an outstanding safety record.**

The KC Streetcar Riverfront Extension will extend reliable, fast and frequent streetcar and bus service to a new residential area that will provide mobility alternatives—other than the personal automobile—reducing vehicle miles traveled and, therefore, reduced crash rates.

4.2. State of Good Repair

Each of the project partners for the project will continue their commitment to managing and operating their transit systems in a state of good repair. This commitment requires reinvestment in capital assets, continual maintenance of vehicle fleets and facilities, and employing best practice asset management strategies—all of which KCATA and KCSA excel.

KCATA, KCMO and KCSA are following FTA requirements relating to Transit Asset Management. Each agency has developed, adopted and implemented their own Transit Asset Management Plan that guide their respective agencies in maintaining fleet, facilities, and other capital assets needed to efficiently, effectively, and safely operate transit services for citizens in the Kansas City metro.

On October 31, 2019, KCATA updated its existing Regional Transit Asset Management Plan (RTAM). The RTAM for KCATA and its regional partners ties together the ongoing maintenance of capital assets and the replacement and repair of the same assets. It presents plans to bring assets up to a State of Good Repair. It explains how each asset class is maintained throughout its life and how an asset's condition is continually evaluated and maintained throughout its

The **KC Streetcar** starter line with **2.2 miles** = **2M** riders/year.

The **Riverfront Extension** expects **1/2 mile** will = **500,000** riders/year.



*Figure 14:
KC Streetcars
undergoing routine
maintenance*

life. **These policies and practices will continue to be employed for the KC Streetcar Riverfront Extension to ensure all capital elements are maintained in a State of Good Repair.**

As the owner of the federally funded KC Streetcar system assets, KCMO is responsible for implementing a Transit Asset Management Plan to ensure the system's continued state of good repair. The City's Transit Asset Management (TAM) Plan (adopted September 2018) fulfills applicable requirements of 49 CFR 625.25 to report on the annual condition of assets. **To execute the TAM Plan, the City maintains an asset inventory and assesses state of good repair using the FTA-prescribed condition index and decision-support tools.** The TAM Plan will be updated in the future, as necessary, to incorporate additional assets associated with system expansion and amend investment prioritizations to reflect changing system demands.

Additionally, the KC Streetcar Riverfront Extension will improve the Grand Avenue Bridge— expanding its overall useful life as the primary connection to and from Berkley Riverfront for all modes of transportation, including auto, truck, transit, bike and pedestrian.

4.3. Economic Competitiveness

The KC Streetcar Riverfront Extension will greatly improve the economic competitiveness of Kansas City for attracting new residents and employment opportunities by expanding a regional, fast, frequent, and reliable transit system.

Within the existing KC Streetcar Transportation Development District (TDD) there has been more than \$4 billion in new investments. Extending the alignment to Berkley Riverfront will expand and increase these benefits and opportunities (as great as \$0.9 billion) to a unique area poised for an economic surge. Introducing the streetcar to Berkley Riverfront is expected to dramatically improve the economic competitiveness of the area—accelerating the speed and intensity of redevelopment. Figure 16 on the following page presents the projection of valuation for the total development value of Berkeley Riverfront with and without streetcar service.² **Construction of the project with a streetcar and multi-modal connections will accelerate development by two years and increase the total development value by an estimated \$320 million—**

 **KCSA & KCMO**
continue to keep
the streetcar assets
in a state of
good repair



*Figure 15:
The Union
was recently
completed and is the
initial development
on Berkley Riverfront.*

more than an order of magnitude return on the \$21 million investment. Developers are interested in the Riverfront and the Streetcar. To wit, Port KC has signed a confidential letter of intent in April 2020 for four additional payments of \$150,000 per year if the streetcar extension construction is commenced within the first few years after the proposed hotel is occupied.

Berkley Riverfront has already experienced some development with the opening of a [400-unit residential building, the Union](#) (Figure 15). Port KC has recently inked another development agreement for a \$60 million apartment complex with 355 additional riverfront units. The initial MPD anticipated buildings with an average height of ten stories. In March 2020 the City Plan Commission voted unanimously to increase the proposed allowable density on the Berkley Riverfront MPD district; specifically the action increased the allowable square footage from 4.7 million to 5.3 million based on the added transportation capacity and lower amount of parking that will be needed after the construction of streetcar extension.

In 2017, Port KC estimated the value of Berkley Riverfront parcels at approximately \$1,000,000 per acre (about \$23 per square foot) or about 77 percent of Downtown property values. This estimate is based on the actual present value of the first long-term land lease for [the Union](#) project that recently opened, the negotiated signed terms sheet for a second project, and the [recently completed property appraisal](#).

The *Streetcar Riverfront Extension and Multi-Modal Feasibility Study* assessed land valuations on Berkley Riverfront [in two scenarios, with and without KC Streetcar service](#). This economic development assessment found that with streetcar service, land valuations would approximately double from \$1,000,000 to \$2,000,000 beginning 2018—increasing the total valuation of the available development sites from \$43 million without streetcar to over \$83 million with streetcar service.

The impact on development potential of Berkley Riverfront for new residential units, average floor heights, commercial square footage, and office space square footage with and without streetcar was also examined. The

3-5x MORE

economic
growth in
the existing



(vs other areas of the city)

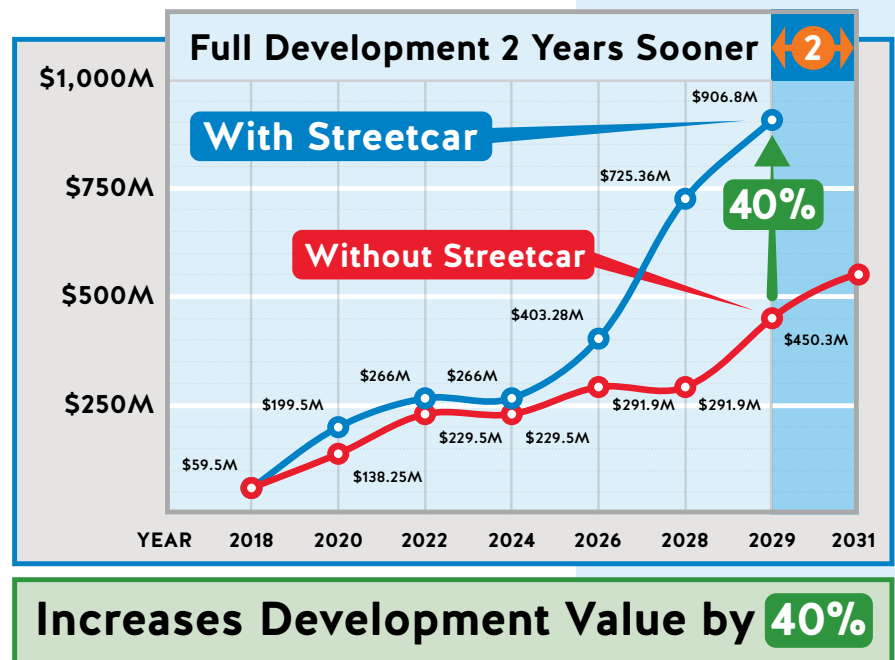


Figure 16:
KC Streetcar Impact
on Development of
Berkley Riverfront

below Table 2 demonstrates the **significant positive impact streetcar and multi-modal connectivity improvements would have on future development trends.**³

4.4. Environmental Protection

The KC Streetcar is a 100% emission-free transportation mode and will improve the overall air quality in the region. Extending the KC Streetcar and multi-modal bike and pedestrian facilities to the Riverfront, will reduce the need for new residents to rely on personal automobiles. Additionally, the KC Streetcar Riverfront Extension will facilitate easier and more convenient access to the

Table 2: Impact on Future Developments by Development Use

Without Streetcar

Total Residential Units	Total Commercial Square Footage	Total Office Space Square Footage	Total Gross Square Footage	Average Number of Floors
2,992	314,268	195,306	4,071,000	6.5

With Streetcar

Total Residential Units	Total Commercial Square Footage	Total Office Space Square Footage	Total Gross Square Footage	Average Number of Floors
4,557	314,268	377,760	6,133,000	9.9

regional RideKC bus and BRT system—further reducing auto dependence.

The KC Streetcar Riverfront Extension will benefit the environment and will be constructed within the existing right-of-way of previously developed urban environments. As such, there will be no adverse impacts from construction of the KC Streetcar extension and multi-use trail improvements. The project partners initiated the NEPA assessment process for the KC Streetcar Riverfront Extension project in September 2017. **The project has been designated a Categorical Exclusion (CE2) and is anticipating the Record of Decision (ROD) letter from the Federal Transit Administration’s Region VII office.** The project partners anticipate a Record of Decision on the NEPA assessment in summer 2020 confirming that KC Streetcar Riverfront Extension will have no adverse impacts to the natural or built environment.

Berkley Riverfront is a remediated former brownfield site. In 2001, Port KC with the assistance of a \$1.75 million grant from the EPA and \$360,000 loan from the Brownfield Revolving Loan Fund cleared and remediated 240,000 cubic yards of debris to make the site safe and available for redevelopment. **KC Streetcar Riverfront Extension will bring this former blighted area up to its highest and best use of residential, commercial, retail and recreation uses for all**



Providing mobility options & reducing congestion improves quality of life and strengthens cohesion within a community.

KC Streetcar

has incorporated additional sustainability features in its strategy for

Sustainable Growth



Economic Development

Long-term Management of Stakeholder Processes



Community Relationship Building.



William Berta
President/CEO Institute for Sustainable Infrastructure

citizens of the Kansas City metro. In addition to remediation, Port KC has also made numerous sustainable improvements on the Riverfront including an American Recovery and Reinvestment Act-funded LED Street Lighting project, construction of a solar-powered bus transit station, and pervious pavement park-and-ride lot.

The project will continue—and extend—the sustainability benefits that are at the center of the KC Streetcar’s operations and mission. In 2016, the KCSA was [awarded the highest rating for sustainable infrastructure, Envision Platinum](#), by the Institute for Sustainable Infrastructure (ISI). The KC Streetcar was the first transit, and more specifically the first streetcar project, to be awarded this high designation for environmental sustainability. **KCSA’s Vehicle Maintenance Facility was awarded a Platinum rating for its sustainable infrastructure.**

4.5. Quality of Life

For decades, Berkley Riverfront has been an untapped and largely forgotten public green-space asset for the Kansas City region. As noted earlier, in the 1990s and early 2000s Berkley Riverfront was remediated to allow for the creation of park land as well as residential and commercial redevelopments. Since that time, Port KC, KCMO and other entities have devoted significant efforts to rebuild, revitalize, and re-imagine the Berkley Riverfront as a vibrant place for Kansas Citians to live, work, and play.

A primary effort to achieve this vision was laid out in the [Greater Downtown Area Plan \(GDAP\)](#) for Kansas City in 2010. This plan, which includes the project area, established five overarching goals for the improvement of Downtown:

1. *Double the Population*
2. *Increase Employment*
3. *Create a Walkable Downtown*
4. *Retain and Promote Safe, Authentic Neighborhoods*
5. *Promote Sustainability*

KC Streetcar Riverfront Extension supports each of the goals of the GDAP by increasing density for Riverfront developments, connecting safe bicycle and pedestrian facilities, improving connections to unique, burgeoning neighborhoods and by catalyzing development of employment opportunities along the Riverfront.



Figure 17: Berkley Riverfront Park offers green space and recreational activities yet remains a largely underutilized asset for the region due to its isolated and difficult to access location.

Photo credit: Mark Hennick

One of the focal points in the project area is the 17-acre Berkley Riverfront Park located along the Missouri River—offering the largest green space near Downtown. The park maintains space for both active and passive recreation with the Riverfront Heritage Trail and newly constructed sand volleyball complex. It also hosts numerous [family-friendly festivals](#), community events, and music performances throughout the year.

Over the past decade, the population of the greater Kansas City Downtown area has more than doubled—from less than 10,000 in the 1990s to approximately 24,000 in 2016. With the number of new residents living in a denser urban environment, access to green space and recreational amenities—such as those available within Berkley Riverfront—are a key component to maintaining a healthy, high-quality of life. New connectivity brought by the KC Streetcar Riverfront Extension will make this recreational space more accessible for residents living Downtown as well as for residents of the entire Kansas City region. As noted earlier, the KC Streetcar starter line was awarded the Envision Platinum Award from ISI. The KC Streetcar rated especially high in the Quality of Life category based on its creation of an alternative mode of transportation that improves mobility and accessibility for a heavily developed urban area, within walking distance to a mix of commercial, office and residential uses. The system was touted for its proximity to regional transit services, integration with bicycle and pedestrian facilities, and as an alternative to automobiles in the downtown area. **The project will extend these award-winning quality of life benefits to the Berkley Riverfront.**

4.6. Innovation

The KC Streetcar Riverfront Extension is both the result—and creation—of innovation generated from a strong local partnership committed to the execution of a successful public-private investment. Three specific innovations are outlined below.

Smart City Innovations

The modern Downtown KC Streetcar has many ‘Smart City’ innovations built into its operations. The 2.2-mile starter line initiated an enterprising collaboration with Sprint to [provide free Wi-Fi](#) accessibility along the length of the alignment. Cisco Systems was another partner in this corridor that deployed an array of cameras and sensors along the streetcar route to provide real-time information for street lighting levels, traffic signal operation, condition and function of water pipes, and pavement condition. Cisco’s sensors working with Sprint’s Wi-Fi worked together to improve traffic flow and to provide information



Figure 18:
Existing Smart
City Kiosk at a KC
Streetcar Station

on obstructions along the alignment so they may be cleared quickly allowing for minimal interruption to streetcar operations.

[Smart Informational Kiosks](#) (Figure 18) were incorporated as innovative technologies into the streetcar system. These kiosks are located at all KC Streetcar station platforms and provide riders with detailed information about the streetcar and bus system. These kiosks also provide information about retail, restaurants and other areas of interest near their location. **These innovative Smart City elements will also be included in the project as the streetcar is extended from the River Market to the Berkley Riverfront.**

Funding and Finance Innovation

Port KC has full ownership of all property available for development in the Berkley Riverfront and is using the project as a financing lever. A conservative economic assessment performed for the *Streetcar Riverfront Extension and Multi-Modal Feasibility Study* estimated that **the land value of Port KC's properties within Berkley Riverfront would almost double—from approximately \$43 million to \$83 million—with the construction of a streetcar extension to the area.** The proposed project will require no increase to existing sales or property taxes to finance its capital costs.

On the operations side, the proposed source of funding for on-going operations and maintenance of the streetcar and multi-use trail elements will come from new Condominium Association Assessments and through agreements with private developers. **This innovative public-private partnership will apply to new residential units built on Berkley Riverfront whose tenants would receive many of the benefits of fast, frequent, reliable transit service.**

Streetcar Station Design Innovation

The innovative and unique design of the existing KC Streetcar stations will be included in the new station that will be constructed for the KC Streetcar Riverfront Extension. **The KC Streetcar stations were designed to provide shared use with both buses and streetcars.**

The center of the platform is a 14-inch height that allows for level boarding of the streetcar to speed-up boarding and alighting times, the station platforms then reduce in height from the 14-inch height to a 10-inch height at the outer ends. This lower boarding area provides inter-operability with RideKC buses that share stops or provide temporary bus bridge service in the rare event of a temporary stoppage of streetcar service. **This innovative approach to station platform design facilitates system redundancy as well and multi-modal integration between RideKC buses and the KC Streetcar.**

The KC Streetcar starter line has received more than a dozen awards for excellence in design, engineering and sustainability including:

-  Envision Platinum **Sustainable Infrastructure** Award
-  ASCE 2017 Innovation in **Sustainable Engineering**
-  Best **Regional Project in Transit** by Engineering News-Record
-  Singleton Yard Designated with **LEED Gold Certification**

With Streetcar, Riverfront

development values
increase by **40%**

2 and occur
years earlier.

KC Streetcar Riverfront Extension

leverages an
innovative
public-private
partnership 

4.7. Partnership

KC Streetcar Riverfront Extension brings together a multi-jurisdictional partnership of regional transportation and development agencies that have a long and successful history of collaborating in the planning and implementation of similar projects in the Kansas City region that include the Kansas City Area Transportation Authority (KCATA) as the lead project applicant, co-sponsors Port KC and the Kansas City Streetcar Authority (KCSA), and supporter the City of Kansas City, Missouri (KCMO). Most recently, this partnership collaborated on the development of the *Streetcar Riverfront Extension and Multi-Modal Feasibility Study* that determined a streetcar extension to Berkley Riverfront was structurally, operationally, and financially feasible. This planning effort examined the feasibility and need for a KC Streetcar extension and included extensive public engagement. The project partners heard resounding support for an extension of the streetcar to Berkley Riverfront throughout this public outreach effort.

Kansas City Area Transportation Authority (Lead Applicant)

[The Kansas City Area Transportation Authority](#) (KCATA)—also known as RideKC—is a bi-state agency created by a compact between the States of Missouri and Kansas, and approved by the United States Congress. The compact was authorized by legislation passed in both states in 1965. The compact gives the KCATA responsibility for planning, construction, owning, and operating passenger transportation systems and facilities within the seven-county Kansas City metropolitan area. The compact defines the KCATA district as the counties of Cass, Clay, Jackson, and Platte in Missouri; and Johnson, Leavenworth, and Wyandotte in Kansas.

KCATA is governed by a ten-member Board of Commissioners, five from Missouri and five from Kansas. Responsibility for the management, control, and operation of the Authority and its properties is vested in the Board. The Board exercises its responsibility by adopting all general policies of the Authority, including the adoption of annual capital and operating budgets, the establishment of the goals of the Authority, and the selection of a President/CEO.

The KCATA operates the RideKC bus service, the MAX Bus Rapid Transit service, Flex demand-response routes, RideKC Freedom paratransit service for the elderly and persons with disabilities, and RideKC Van vanpool service. The proposed [operating budget for KCATA](#) to provide its diverse mobility services in FY 19 was \$105,796,455. In 2019, the KCATA provided more than 13 million trips on its integrated system of public transit services with an average weekday ridership of approximately 40,000.

KC Streetcar Riverfront Extension

is a continuation of a **successful partnership** between

- **KC Streetcar Authority**
- **KC Area Transportation Authority**
- **Port KC**
- **City of KCMO**

RideKC

The **Kansas City Area Transportation Authority**

is the **lead agency** and the **grant recipient** for the

KC Streetcar Riverfront Extension

Project.

Port KC

[Port KC](#), a political subdivision of the State of Missouri, was established in 1977 by the City of Kansas City, Missouri. It operates as a nine-member appointed board and is entrusted with the power to [condemn property, enter contracts, and issue bonds](#). These are unique capabilities and opportunities available to Port KC, which is significantly different than other similar public agencies. **Port KC will continue its role of responsibility and leadership in the areas of environmental stewardship and sustainable development for the Riverfront.**

Port KC's strategic vision for the Riverfront is strong and dynamic, with a mission focused on sustainable design and a conscientious use of resources. **Port KC is crafting Berkley Riverfront into one of the most unique urban settings in the region by combining commerce, nature and an environment that promotes healthy lifestyles with a goal of improving the quality of life for those living, working, and visiting the area.**

Kansas City Streetcar Authority

[The Kansas City Streetcar Authority](#) (KCSA) is a not-for-profit organization formed for the purpose of managing, operating, and maintaining the KC Streetcar system. The KCSA was incorporated in August 2012 following the creation of the Kansas City Downtown Transportation Development District (TDD) that funded the construction and on-going operation of the streetcar. In addition, the KCSA supports system branding, marketing, public communication and engagement. KCSA is governed by a 13-member Board of Directors composed of residents of the TDD, transit activists, property owners in the TDD, and public officials. While the KCSA is a separate entity, it **works closely with KCATA, the City of KCMO, and the TDD to coordinate service development and long-term management of the streetcar.**

KCSA operates with an [annual budget of approximately \\$5 million](#). In the KC Streetcar's first year of operation the system recorded a total ridership of over 2,000,000 on its 2.2-mile alignment with an average daily ridership of 5,830.

City of Kansas City, Missouri

Another important partner for the KC Streetcar Riverfront Extension project is the [City of Kansas City, Missouri](#) (KCMO) who owns the KC Streetcar and its assets. KCMO has been, and will continue to be, an engaged partner as this project progresses into detailed design and construction. KCMO will provide the project with extensive technical expertise in streetcar design and construction experience to guide this project to its successful implementation in 2023.



Project Parties Role in Project

The Kansas City Area Transportation Authority (KCATA) is the lead agency and the grant recipient for the KC Streetcar Riverfront Extension proposal. KCATA is a designated recipient of federal transportation funding provided by the Federal Transit Administration and has the experience and technical capacity to effectively manage BUILD funds once they have been awarded. Both KCSA and Port KC are co-sponsors to this application and will provide financial and technical support to the project as it advances through planning, design, construction and implementation.

The four agencies have been working cooperatively for many years to improve and extend the reach and reliability of public transit and multi-modal mobility options across the Kansas City metro region. They have planned the future for transit and development with their close involvement on the creation of the [Greater Downtown Area Plan](#) and have collaborated to establish a shared vision for the future of an expanded and enhanced regional public transit system in the [Smart Moves 3.0 Regional Long Range Transit Plan](#), as well as multiple other efforts to improve mobility and development opportunities.

Port KC has invested millions in the construction of numerous trails including the [Town of Kansas Pedestrian Bridge](#) and the [Riverfront Heritage Trail](#). KCATA and KCSA collaborate daily in operation of the streetcar and bus transit systems, ensuring that each system interfaces seamlessly with the other.

4.8. Non-Federal Revenue for Transportation Infrastructure

Investment

New, non-federal revenues have been identified to support the KC Streetcar Riverfront Extension BUILD infrastructure investment. Based on the conservative forecast developed in the *Streetcar Riverfront Extension and Multi-Modal Feasibility Study*, construction of the streetcar extension would nearly double the land valuation in the Berkley Riverfront from \$43 million to \$83 million. Port KC is the sole land owner of all the land available to develop in this area and will commit its cash reserves to construct the project.

A secondary source of non-federal revenue to support the **KC Streetcar Riverfront Extension** is future Condominium Association Assessments (CAA) and existing [Port Improvement District \(PID\)](#) assessments of new, mixed-use private developments receiving direct mobility benefits from the project. These revenues would be dedicated to the on-going operations of the



We must focus on connecting our **NEIGHBORHOODS** to create a strong urban **COMMUNITY**, flourishing with diversity, fostering **BUSINESS**, maintaining historic neighborhood **IDENTITIES**, and sustaining a safe, vibrant & healthy Greater Downtown Area for current and future **GENERATIONS**.



★ **Vision of Greater Downtown Area Plan, City of Kansas City, 2010**

streetcar expansion and maintenance of stations, track, vehicles and the associated multi-modal infrastructure. CAAs are conservatively anticipated to total \$1.4 million per year by 2030.

KCMO recognizes the advantage of the streetcar and the installation of the parallel bike/pedestrian path. As such, KCMO has agreed to continue to design and construct the \$6 million coordinated project. KCSA is also directly, financially supporting the KC Streetcar Riverfront Extension efforts.

Supporters of the Project

Supporting the project partners is a wide cross section of agencies and stakeholders from across the Kansas City Metro region. Their individual letters of support for the KC Streetcar Riverfront Extension can be viewed via the below hyperlinks.

Elected Officials:

- [Roy Blunt, United States Senate](#)
- [Emanuel Cleaver II, United States House of Representatives](#)
- [Sam Graves, United States House of Representatives](#)
- [Quinton Lucas, Mayor-Kansas City, Missouri](#)
- [Eric Bunch, 4th District Councilman - Kansas City, Missouri](#)
- [Katheryn Shields, 4th District At-Large Councilwoman-Kansas City, Missouri](#)

Businesses:

- [BarK](#)
- [Copaken Brooks](#)
- [Cushman & Wakefield](#)
- [Flaherty & Collins](#)
- [UMB Bank](#)

Local Governments / Organizations:

- [AFL-CIO](#)
- [BikeWalkKC](#)
- [City of Kansas City, Missouri- Board of Parks and Recreation Commissioners](#)
- [Crossroads Community Association](#)
- [Downtown Community Improvement District](#)
- [Downtown Council](#)
- [Downtown Neighborhood Association](#)
- [Jackson County, Missouri](#)
- [Kansas City Regional Transit Alliance](#)
- [Kansas City Area Development Council](#)
- [Labor-Management Council of Greater Kansas City](#)
- [Main Street Community Improvement District](#)
- [Mid-America Regional Council](#)
- [Missouri Department of Transportation](#)
- [Missouri Public Transit Association](#)
- [River Market Community Improvement District](#)
- [River Market Community Association](#)
- [Visit KC](#)

“ This would be the **perfect way to connect KCMO to the riverfront** which is currently **a great resource that is underutilized**”

✦ KC Streetcar Riverfront Extension & Multi-modal Feasibility Study Open House Participant

5. ENVIRONMENTAL RISK REVIEW

KCATA, Port KC, and KCSA completed the *Streetcar Riverfront Extension and Multi-Modal Feasibility Study* on August 9, 2017, which resulted in the scope of the project as outlined in this BUILD Grant Application. The partnership has been rapidly advancing the project. **Currently, the FTA is in the final process of formalizing the ROD and a Documented Categorical Exclusion (DCE) is expected. The project partners are prepared to obligate the BUILD grant funding shortly after receipt of the DCE, which is expected immanently.**

5.1. Technical Feasibility

Planning, conceptual engineering, capital, operations and maintenance cost estimation were all based on standards established from recent Downtown Streetcar construction (escalated to current year costs). Capital costs and quantities used in the estimates are current and an unallocated contingency has been incorporated into the project budget to mitigate against unforeseen occurrences in construction.

KC Streetcar Riverfront Extension project partners and the Kansas City region have a successful track record managing and implementing USDOT funded investments, delivering them on time and within budget. The following is a summary of significant federally funded projects that are in progress or successfully implemented in the Kansas City region:

TIGER I – 2009: \$50,000,000 (KCATA)

- 2 Transit Centers Constructed
- New bus stations along the State Avenue and Metcalf Corridors
- Transit stop improvements in Independence, MO and North Oak Corridor
- Green Impact Zone improvements to Troost Bridge, sidewalks & roadways
- Berkley Parkway construction

TIGER V – 2013: \$20,500,000 (City of Kansas City, Missouri)

- Kansas City Downtown Streetcar

Small Starts Grant – 2016: \$29,890,000 (KCATA)

- Prospect MAX Bus Rapid Transit Development (On-going)

1998 TEA 21 - \$1,300,000

- Town of Kansas Pedestrian Bridge

1999 Transportation Enhancement Grant - \$2,300,000

- Town of Kansas Pedestrian Bridge



KC Streetcar Riverfront Extension

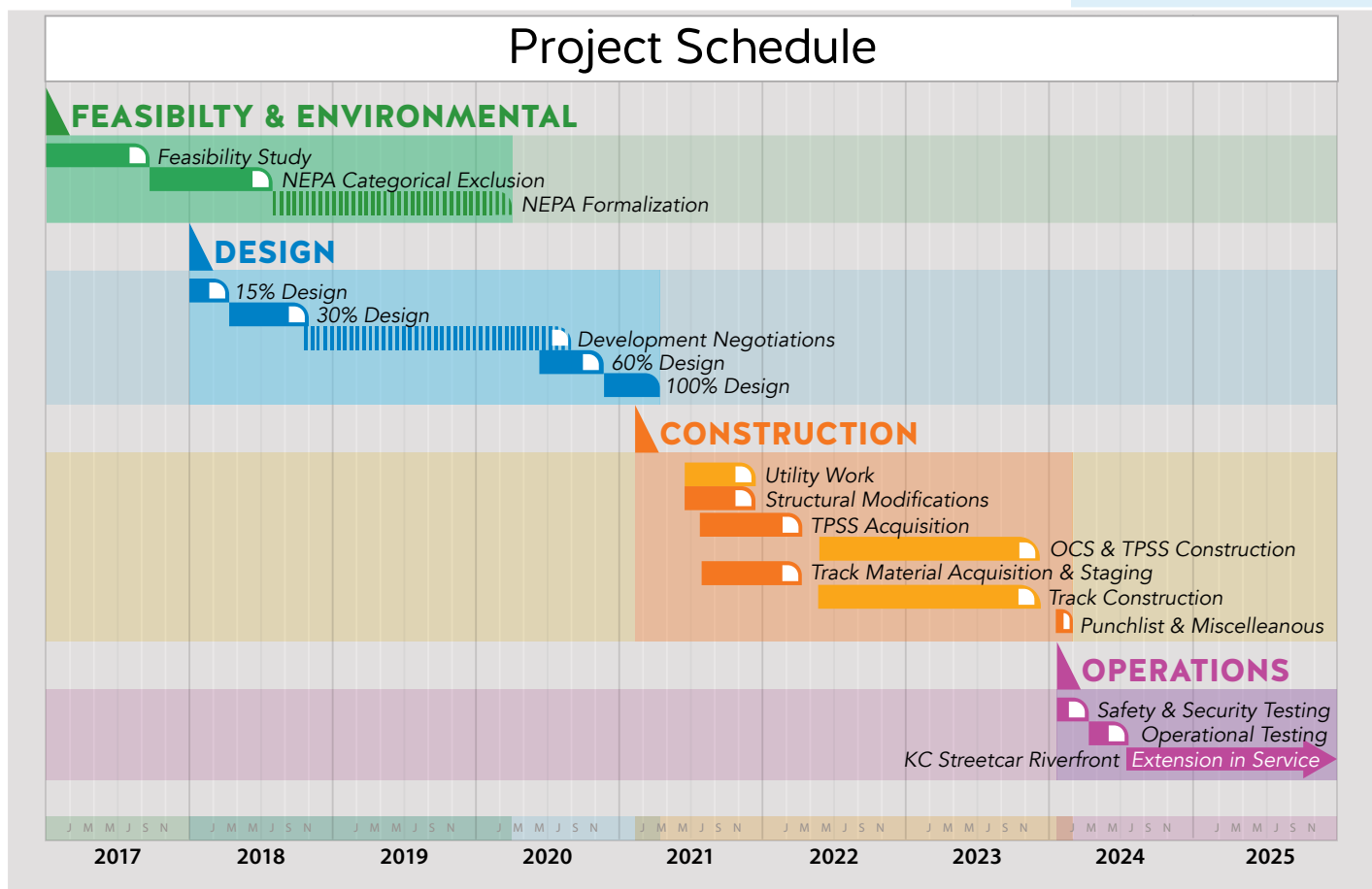
emanates from years of community-based planning efforts that established the vision

and need for a reconnected and revitalized

Riverfront

which serves as a

VIBRANT
place for all.



This four-way partnership between KCATA, Port KC, KCMO, and KCSA has committed not only its technical capacity to effectively oversee, manage and implement the KC Streetcar Riverfront Extension, but each has a commitment invested to the success of the project.

5.2. Project Schedule

Figure 19 above presents the project's implementation schedule. This schedule anticipates the NEPA Record of Decision (ROD) being received in June 2020 with the BUILD grant obligation following in later 2021. Based on experience with the construction of the Downtown KC Streetcar starter line, the project schedule anticipates a 20-month construction period beginning 2021. the opening of the project's extension for revenue services is anticipated by winter 2023.

Figure 19:
KC Streetcar
Riverfront Extension
Project Schedule

5.3. Assessment of Risks and Mitigation Strategies

Each of the project partners is experienced in planning, designing, constructing, and operating large infrastructure projects. This experience is reflected in the KC Streetcar Riverfront Extension project budget and schedule, both of which were developed to be conservative to mitigate against cost risk. The project team is experienced with the federal environmental review process, and has worked previously with FTA Region VII to prepare and document environmental impacts and mitigation.

The streetcar extension's operating revenue plan mitigates against a downturn in the economy by Port KC providing a draw-down funding source and by assuming a very conservative schedule for new development, assessments against which are targeted to transit operations.

5.4. Financial Feasibility

In addition to a reliable cost estimate, the operating and capital funding commitments to the project are solid. KCATA, Port KC, and KCSA are all in strong financial condition. KCATA is a long-time federal transit grantee and experienced manager of USDOT funding.

5.5. Required Approvals

The following approvals are required to execute the KC Streetcar Riverfront Extension:

- NEPA – A Documented Categorical Exclusion to comply with the National Environmental Policy Act of 1969 (NEPA) is anticipated for completion in summer 2020.
- Planning – As the regional Council of Governments and Metropolitan Planning Organization for Greater Kansas City, the Mid-America Regional Council (MARC) will promptly program any BUILD funds provided to this project in the region's Transportation Improvement Program.

6. BCA RESULTS

A [benefit-cost analysis \(BCA\)](#) was conducted for KC Streetcar Riverfront Extension for submission to the U.S. Department of Transportation (U.S. DOT) as a requirement of a discretionary grant application for the BUILD 2020 program. The analysis was conducted in accordance with the benefit-cost methodology as outlined by U.S. DOT in the 2020 BUILD Benefit-Cost Analysis Guidance. The period of analysis corresponds to 30 years and includes four years of construction and 26 years of benefits after operations begin in 2023.

Table 3: Benefit-Cost Analysis Results, Millions of 2018 Dollars

BCA METRIC	PROJECT LIFECYCLE	
	Undiscounted	Discounted (7%)
Total Benefits	\$88.44	\$24.55
Total Costs	\$18.82	\$15.48
Net Present Value (NPV)	\$69.62	\$9.07
Benefit-Cost Ratio (BCR)	4.70	1.59
Payback Period	25.5 years	
Internal Rate of Return (IRR)	11%	

Table 3 above presents the evaluation results for the KC Streetcar Riverfront Extension. Results are presented in undiscounted, discounted at seven (7) percent as prescribed by the U.S. DOT. All benefits and costs were estimated in constant 2018 dollars over an evaluation period extending 26 years beyond system completion in 2023. At the seven (7) percent discount rate, the **KC Streetcar Riverfront Extension has a positive Benefit Cost Ratio of 1.59.**

7. COST SHARE

7.1. Capital Cost Share

As described in Section 3 and shown in Figure 12, the project partnership is committing \$6 million—or 30 percent—towards KC Streetcar Riverfront Extension’s total capital costs. BUILD funding will match the following committed capital revenue sources:

The Local match will be composed of:

- \$5 million in Port KC cash reserve and guarantees
- \$500,000 from KCSA cash

Additional partner projects and 5307 funding that will positively impact the project include:

- \$6 million in KCMO anticipated funding of adjacent, partner bike/pedestrian path
- \$500,000 in KCATA 5307 funding

See Section 3 for additional information regarding the local matches noted above.

REFERENCES

1. [American Public Transit Association. The Hidden Traffic Safety Solution: Public Transportation.](#) p. ii. September, 2016.
2. Streetcar Riverfront Extension and Multi-Modal Feasibility Study. pp. 59. <http://kcstreetcar.org/wp-content/uploads/2017/05/RvrExt-Feasibility-Report-2017-2.pdf>. August 9, 2017.
3. Streetcar Riverfront Extension and Multi-Modal Feasibility Study. pp. 58-59. <http://kcstreetcar.org/wp-content/uploads/2017/05/RvrExt-Feasibility-Report-2017-2.pdf>. August 9, 2017.

APPENDICES

FINANCIAL STATEMENTS

[Kansas City Area Transportation Authority \(KCATA\) Financial Report \(December 31, 2018\)](#)

[Kansas City Streetcar Authority \(KCSA\) Financial Statements \(As of April 30, 2019 and 2018\)](#)

[Port Authority of Kansas City, Missouri \(Port KC\) Financial Statements \(April 30, 2019\)](#)

KANSAS CITY, MISSOURI 2013 TIGER GRANT

[Application \(June 3, 2013\)](#)

[Economic Analysis Supplementary Documentation \(June 3, 2013\)](#)

OTHER SUPPORTING DOCUMENTS

[Kansas City Master Plan which includes Berkley Riverfront Master Development Plan \(p. 79\)](#)

[Berkley Riverfront Master Plan Development Brochure](#)

[Streetcar Riverfront Extension & Multi-Modal Feasibility Study \(WITH APPENDICES\)](#)