KANSAS CITY AREA TRANSPORTATION AUTHORITY

REQUEST FOR PROPOSALS (RFP) #19-7001-39C

KANSAS CITY AREA TRANSPORTATION AUTHORITY (KCATA)
REGIONAL TRANSIT AND MOBILITY NETWORK DESIGN

ADDENDUM #1

Issue Date: December 5, 2018

This Addendum is hereby made a part of the Request for Proposals and Project Documents to the same extent as if it was originally included therein and is intended to modify and/or interpret the RFP documents by additions, deletions, clarifications or corrections. The Contractor shall acknowledge receipt of this Addendum in their Proposal on the "Receipt of Addenda" form attached.

ADDITIONS/CLARIFICATIONS TO RFP

Please notate the following corrections/additions to the RFP issued on November 26, 2018:

1. The correct number of this project is RFP #19-7001-39C.

2. Section 2.2 indicates additional reference documents available for review. Three of these documents have been included with this Addendum.

3. Section 4.5, "Proposal Evaluation Criteria," is corrected to read:

   Proposals will be evaluated by a Selection Committee based on the following criteria which are listed in descending order of importance:

   A. **Experience of Project Manager and Key Team Members.** Proposers should assume that these items may be considered:

      - Experience and qualifications of the lead person/project manager of the team and other key personnel who will be committed to the project for its duration.

      - Depth of knowledge and project related experience in dealing with transit service design, integration of mobility services and using public and private input to structure mobility plans.

      - Ability and experience in implementing government funded and regulated projects, with multiple stakeholders, (e.g. KCATA, The City of Kansas City, Missouri, Unified Government/Wyandotte County, City of Independence, Missouri), neighborhood interest groups and individuals, and the ability to communicate effectively with all.

   B. **Project Approach Organization and Management of the Proposed Work.** This section includes:

      - Team's approach to developing a plan that integrates traditional transportation services

operated by public transit agencies and mobility services operated by others, including the private sector, to provide wide-area, coverage in an effective and cost-efficient manner.

- Team's approach on involving the public, key stakeholders and private/non-transit providers including TNC's, microtransit providers, bike and pedestrian groups, etc., in this effort.

- Proposed plan for managing project activities and producing required results.

- Proposer's plan to communicate and engage/obtain relevant information and feedback from concerned community groups and interested parties on desired/likely use of the mobility services and understanding of the benefits of various concepts for an improved network.

C. **Ability to Provide Deliverables and Recommendations per Desired Schedule.** KCATA evaluation committee will consider, among other things, these items:

- The proposed team possesses successful, demonstrated experience in providing recommendations for an integrated system with that includes multiple modes of transportation. The Proposal includes specific items that are easily interpreted and understood as aligning with a required well organized, best scheduled, and managed approach to the deliverables.

- Schedule for key tasks and for providing recommendations and an implementation plan.

E. **Past Performance and Client References.** Demonstrated performance of the team (prime contractor and subcontractors) on similar system redesign efforts and experience working with non-traditional mobility provides.

F. **Proposed Project Cost.**

Attachments

- "Receipt of Addenda" form to be included with proposal submittals
- Scope of Services issued in RFP #18-7039-29C for North Oak Corridor Transit Planning Study
- Adopted KCATA Service Guidelines
- Kansas City Streetcar Main Street Extension – Project Narrative

END OF ADDENDUM 1

KANSAS CITY AREA TRANSPORTATION AUTHORITY

REQUEST FOR PROPOSALS (RFP) #19-7001-39C

KANSAS CITY AREA TRANSPORTATION AUTHORITY (KCATA)
REGIONAL TRANSIT AND MOBILITY NETWORK DESIGN

RECEIPT OF ADDENDA

Proposers shall return this form when submitting their proposal. The form shall be signed and dated by an authorized representative of the firm. Failure to submit this form may deem the Proposer non-responsive.

We hereby acknowledge that the Addenda noted below have been received and all information has been incorporated into the Invitation for Bid as required.

Addendum #1 Dated December 5, 2018 Date Received _____

Addendum #2 Dated _____ Date Received _____

Addendum #3 Dated _____ Date Received _____

Company Name _____ Date _____

Address/City/State/Zip _____

Authorized Signature _____ Printed Name _____

Telephone _____ Fax _____ Email _____

KCATA RFP #17-7039-29C
NORTH OAK CORRIDOR TRANSIT IMPROVEMENT STUDY

SCOPE OF SERVICES

2.1 Introduction and Purpose

A. The Kansas City Area Transportation Authority (KCATA) is seeking proposals from qualified firms interested in providing transit consulting to analyze, with our community partners, options for an improved fixed-route transit network in the Northland area of the region. Options to be considered may prioritize service frequency, reduce travel times and minimize route deviations while being supported by community mobility solutions that may use alternative service strategies and new technologies to effectively provide a complete mobility network. A network of tiered services is envisioned, in keeping with the Smart Moves 3.0, that may include fast and frequent services (such as BRT or similar services), local bus services, express services, and new service strategies, technologies and innovations.

B. This study will provide planning assistance and support to KCATA and partners including Kansas City, Missouri (KCMO), North Kansas City (NKC), Gladstone, and the Mid-American Regional Council (MARC) in conducting transit planning and concept development for transit improvements in the Northland area with a focus around the North Oak Corridor (the Corridor) from downtown Kansas City, Missouri through the Cities of Gladstone and North Kansas City extending north beyond Missouri Highway 152 in KCMO, and including the existing 201 North Oak route west on Barry Road.

C. The goal of the study is to identify and provide recommendations as to how to best meet the needs for improved transit service and regional access within and connecting to the North Oak Corridor that best support current and expected longer term Northland development. This study will examine service options that focus on arterial solutions including bus rapid transit (BRT), local and express bus, flexible service and on how to integrate these more traditional transit options with new innovations, technology and on demand service options. New concepts and concept level recommendations such as mobility hubs will also be reviewed. Consultant will identify needed services, stops and infrastructure for the Corridor provided, develop concept level operating and service plans, provide an order of magnitude estimates for capital and operating costs, and recommend a funding plan and next steps.

D. KCATA views the North Oak Corridor as one of the key North/South transit arteries for the Northland. The Corridor is generally defined as either side of the North Oak Trafficway and in North Kansas City around Burlington and Swift extending north from Downtown Kansas City. The North Oak Corridor is a North/South transit artery, impacting not only transit service along the Corridor but also connecting services within the Northland, and regional connections to downtown KCMO.

2.2 Project Study Area

Although the North Oak Corridor is focused along North Oak Trafficway (Burlington and Swift in North Kansas City), the reach and impacts of transit and transit connections in and around the Corridor are so critical that the study area should NOT be strictly limited to the Corridor. The consultant will help to define the boundaries of this study.

2.3 Scope of Work

A. This study should begin by reviewing previous Northland and North Oak Corridor studies, land use and development plans, transit studies and existing plans from the four partners in the study and the Mid-America Regional Council. This study will also review the 2013 North Oak Study and the Smart Moves 3.0. Products of this study will be a transit improvement plan for the area which includes the purpose and need, recommended solutions to issues and problems, technical analyses, project concept plan, implementation and funding plans. The consultant will prepare specific tasks but will be expected to assist the KCATA in the following areas:

1. **Task One: Create a study management plan** to manage work order activities, schedule and budget, and to coordinate with the study management team, key partners, and the general public.

2. **Task Two: Review previous and existing plans** including existing corridor land use, transportation studies, city studies and other regional, local and area plans. Review the Smart Moves 3.0 plan for transit in the corridor, regional trails and bike plans. Attachment A provides a partial list of these studies and plans.

3. **Task Three: Evaluate current transit services** including transit options, service, ridership, connections, stop locations, park and rides, sidewalk and existing access issues, passenger amenities issues, and other related issues in and around the North Oak Corridor and the Northland in general.

4. **Task Four: Engage the partnering cities, the public, stakeholders, MoDOT and others** to obtain input on transit and access needs in the Northland and around the North Oak Corridor. This includes hosting public meetings, developing a Purpose and Need statement, and identifying transit and transit related improvements that might be feasible.

5. **Task Five: Identify and define transit alternatives** to improve transit service in the Northland including the North Oak Corridor and possible BRT options. Develop alternatives that address area and corridor transportation needs. Work with the public and the Cities of Kansas City, North Kansas City, and Gladstone, Missouri and others to identify possible routes, alignments and stop locations for fast and frequent/high capacity, local, express and innovative transit improvements including location of terminus points, transit center, mobility hubs, major transfer points, and stations. Assess various options for station amenities, route branding, TOD opportunities, and vehicular options.

6. **Task Six: Evaluate the benefits and options for improving service, safety, and security by incorporating new innovations and technology** including traffic signal priority, exclusive transit lanes, bus pull outs, mobility hubs, first and last mile opportunities, on-demand services, etc.

7. **Task Seven: Develop concept level preferred alternative** to improve transit service and infrastructure in the Northland. This includes improving accessibility and connectivity within the Northland and to the North Oak Corridor, as well as to downtown Kansas City.

8. **Task Eight: Develop an order of magnitude estimates for capital and operating costs** for various transit service scenarios, along with strategies to fund the implementation of the preferred project alternative.

9. **Task Nine: Propose and develop a final list of deliverables** and recommended next steps/implementation plan including the following:

   - Conceptual plan and report of current transit issues
   - Order of magnitude cost estimates
   - Funding and implementation plan
   - Ridership projections
   - Recommendation for next steps

2.4 Additional Information

The following documents supplemental to this project are available to Proposers. If interested, Proposers may contact Procurement for information on obtaining them.

- 2013 North Oak Corridor Study
- KCATA Comprehensive Service Analysis
- KCATA North/South Corridor Alternatives Analysis
- Smart Moves 3.0 Transit Plan and MARC Long-Range Transportation Plan
- MARC Complete Street Handbook
- The Trails KC Plan
- BikeKC Plan
- Kansas City Walkability Plan
- Boulevard and Parkway Standards
- Kansas City Metropolitan Greenway System (MetroGreen)
- Briarcliff-Winnwood Area Plan
- North Kansas City Master Plan
- Burlington Corridor Street Plan
- FOCUS Northland Plan
- Gladstone on the Move (Comprehensive Plan)
- Gladstone: Shaping Our Future (Strategic Plan)





KCATA COMPREHENSIVE SERVICE ANALYSIS

Service Guidelines

July 2011

Prepared for:

The Metro

Prepared by:

Nelson | Nygaard
consulting associates

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1. INTRODUCTION

The Kansas City Area Transportation Authority (KCATA) strives to provide quality transit service in a cost-effective manner that is consistent and equitable. KCATA must make a number of competing decisions on where demand is greatest, on which types of service would be most appropriate, and where limited resources can and should be used.
To do this, KCATA has developed this set of service guidelines that will be used to:

- Design service.
- Determine appropriate service levels.
- Establish minimum levels of service performance.
- Measure service performance.

These service guidelines have been developed as part of the KCATA Comprehensive Service Analysis (CSA) and apply to public transit service provided by KCATA. They have been used to develop the CSA service change recommendations and will be used on an ongoing basis to evaluate, adjust and improve service as demand and conditions change.
In most cases, the service guidelines define minimum thresholds that must be met, and most services would exceed the minimum thresholds. However, the guidelines are also designed to—within limits—provide flexibility to respond to varied customer needs throughout the KCATA service area.

Finally, it should be noted that adherence to these service guidelines is dependent upon resource availability, and in particular, the amount of funding provided by KCATA's local partners. In the event of constrained resources, KCATA will meet these guidelines as closely as possible, and will work to achieve consistency as resources permit.

2. KCATA SERVICES

The Kansas City Area Transportation Authority provides a family of services that are designed to meet a wide array of travel needs. These services include MAX bus rapid transit, urban and suburban local service, express routes, and Metro*Flex* demand-response service.
These service guidelines are based on a hierarchy of service types that includes:

- Key corridor routes
- Urban local routes
- Suburban local routes
- Commuter routes
- Lifeline services

The specific routes included in each category are shown in Appendix A.

KEY CORRIDOR SERVICES

The key corridor network consists of bus routes that serve high volume corridors with at least 50 trips per weekday and seven day-a-week service. Key corridor routes include MAX routes and other high volume ridership routes that form the "backbone" of the KCATA system.

MAX Bus Rapid Transit (BRT) Services: Metro Area Express (MAX) routes provide high-capacity, high-frequency BRT service. There are currently two MAX routes: Main Street MAX and Troost MAX.

High Volume Local Routes: Local routes that carry over 1,000 passengers per weekday that serve major activity centers and/or provide key connections with other routes, operate from early morning until late night, and operate seven days per week.

URBAN LOCAL SERVICES

Urban local routes are those that operate either entirely or primarily in densely developed areas, which is where the demand for transit is highest. These areas include:

- Kansas City, Mo.'s, core area (generally bounded by the Missouri River to the north, Swope Parkway and Van Brunt Boulevard/Hardesty Avenue to the east, 75th Street to the south, and the Missouri/Kansas state line to the west)
- Downtown Kansas City, Ks.
- Denser areas of the Northland, including North Kansas City, Mo.

SUBURBAN LOCAL SERVICES

Suburban local routes are local routes that operate either entirely or primarily outside of the densely developed urban areas, where the demand for transit is lower. Most of these routes operate in the Northland, east of Swope Parkway and Van Brunt Boulevard, in South Kansas City, Mo., as well as in suburban communities such as Independence, Mo., and western Kansas City, Ks.

COMMUTER ROUTES

Express routes are designed primarily to provide fast commuter service to and from downtown Kansas City, Mo. These routes generally operate on weekdays only, and many operate only during peak-periods. However, depending upon demand, some express routes operate for longer hours. Commuter routes typically serve at least one park-and-ride.

LIFELINE SERVICES

Lifeline services are provided in limited areas were there are demonstrably high levels of special need. For example, lifeline routes could be deployed to areas with high proportions of elderly residents, low-income residents, or households without automobiles. These routes may not meet the standards set for the local service network, but are maintained to provide a limited amount of service to meet critical needs. Lifeline services include KCATA's Metro*Flex* circulator routes that serve lower density areas where overall demand is too low to support fixed-route bus service. Some low-frequency, fixed-route services could also qualify as lifeline services.

3. SERVICE DESIGN GUIDELINES

KCATA strives to serve as many Kansas City metropolitan area residents, workers and visitors as it can with its available resources. KCATA seeks to balance its types of transit services to best match the varied travel demands, trip purposes and transportation patterns of riders and these sometimes competing demands. Service elements that will attract one type of rider to transit can deter other riders, and KCATA must balance these competing demands.

KCATA provides different service types to appeal to both transit-dependent and choice riders. KCATA services are intended to meet the basic transportation needs of residents in developed areas who cannot drive, and to provide compelling transportation options to those who can drive. For both types of riders—and those in between—there are specific service design principles that will improve service for nearly all riders.

SERVICE SHOULD BE SIMPLE

For people to use transit, service should be designed so that current and potential riders can understand and use the transportation options available to them. Most of the guidelines in this chapter are aimed at making service intuitive, logical and easy to understand.

ROUTES SHOULD OPERATE ALONG A DIRECT PATH

Routes should not deviate from the most direct alignment unless there is a compelling reason to do so. The fewer directional changes a route makes, the easier it is to understand. Conversely, circuitous alignments are disorienting and difficult to remember.

ROUTE DEVIATIONS SHOULD BE MINIMIZED

As described above, service should be relatively direct. The use of route deviations off of the most direct route should be minimized.

However, there are instances when the deviation of service off of the most direct route is appropriate; for example to provide service to major shopping centers, employment sites, schools, etc. In these cases, the benefits of operating the route off of the main route must be weighed against the inconvenience caused to passengers already on board.

Route deviations should be implemented only if:

1. Overall route productivity (in terms of passengers per revenue vehicle hour) would be equal to or better than without the deviation.
2. The number of new passengers that would be served is equal to or greater than 25% of the number of passengers who would be inconvenienced.
3. The deviation would not interfere with the provision of regular service frequencies and/or the provision of coordinated service with other routes operating in the same corridor.

In most cases, where route deviations are provided, they should be provided on an all day basis. Exceptions are during times when the sites that the route deviations serve have no activity. For example route deviations to shopping centers do not need to serve those locations early in the morning before employees start commuting to work.

MAJOR TRANSIT ROUTES SHOULD OPERATE ALONG ARTERIALS

Key Corridor routes should operate on major roadways and should avoid deviations off of these routes to provide local circulation. Riders and potential transit users typically have a general knowledge of an area's arterial road system and use that knowledge for geographic points of reference. The operation of bus service along arterials makes transit service faster and easier for riders to understand and use.

ROUTES SHOULD BE SYMMETRICAL

Routes should operate along the same alignment in both directions to make it easy for riders to know how to return to their location of trip origin. All routes should operate along the same alignment in both directions, except in cases where such operation is not possible due to one-way streets or turn restrictions. In those cases, routes should be designed so that the opposite directions parallel each other as closely as possible.

ROUTES SHOULD SERVE WELL-DEFINED MARKETS

To make service easy to understand and to eliminate service duplication, service should be developed to serve clearly defined markets. Ideally, major corridors should be served by only one route of each route type. For example, one key corridor route and one commuter route should serve a market—not multiple key corridor routes and multiple commuter routes. However, exceptions can and should be made when multiple routes should logically operate through the same corridor to unique destinations.

SERVICES SHOULD BE WELL COORDINATED

When multiple routes operate through the same corridor but to different destinations, service should be coordinated to maximize its utility and minimize redundancy. To avoid bunching of buses and to balance loads, major routes of the same route type that serve the same corridor should be scheduled to operate at the same service frequencies and should alternate trips at even intervals.

SERVICE SHOULD BE CONSISTENT

Routes should operate along consistent alignments and at regular intervals (headways). People can easily remember repeating patterns, but have difficulty remembering irregular sequences.

For example, routes that provide four trips an hour should depart from their terminals every 15 minutes. Limited exceptions can be made in cases where demand spikes during a short period in order to eliminate or reduce crowding on individual trips.

Most routes intersect with other routes at transfer centers, stations and street intersections. At major transfer locations, schedules should be coordinated to the greatest extent possible to minimize connection times for the predominant transfer flows. Connections with other transit services in the region should also be coordinated as appropriate and feasible.

STOPS SHOULD BE SPACED APPROPRIATELY

Transit stops are the customers' access and egress points for transit services and should be conveniently located. However, transit stops are also the major reason that transit service is slower than automobile trips. Since most riders want service that balances convenience and speed, the number and location of stops is a key component of determining that balance.

KCATA provides different types of transit services that are tailored toward serving different types of trips and needs. Services that emphasize speed should have fewer stops, while service that emphasizes accessibility should have more frequent stops. Stop spacing guidelines, in terms of minimum stop spacing and the maximum number of stops per mile, are shown in Table 1. Exceptions to these guidelines should only be made in locations where walking conditions are particularly dangerous, significant topographical challenges impede pedestrian access, and factors compromise safe bus operations and dwelling.

Table 1: Recommended Stop Spacing

	Key Corridor		Urban	Suburban		
	MAX	Other	Local	Local	Commuter	Lifeline
Minimum Stop Spacing (feet)						
Moderate to High Density Areas	1,100	900	660	660	900	900
Low Density Areas	1,300	1,300	900	1,100	1,100	1,100
Maximum Stops per Mile						
Moderate to High Density Areas	5	6	8	8	6	6
Low Density Areas	4	4	6	5	5	5

Notes: (1) moderate to high density = greater than or equal to 4,000 persons per square mile; low density = less than 4,000 persons per square mile; (2) in areas where MAX operates in local service mode, Urban Local standards apply.

Bus stops with higher boarding activity levels should be equipped with appropriate passenger amenities as financially feasible. Bus stops located at locations that generate significant boarding activity and at intersections where routes make transfer connections should be prioritized to have passenger amenities.

SERVICE DESIGN SHOULD MAXIMIZE SERVICE

Service design can significantly impact schedule efficiency. Service should be designed to maximize in-service time and minimize out-of-service time.

4. SERVICE LEVEL GUIDELINES

Service level guidelines define when service should be provided and how often it should be provided. Three guidelines are used:

1. Minimum Span of Service
2. Minimum Service Frequencies
3. Maximum Passenger Loadings

These guidelines, in combination with the productivity guidelines (presented in Chapter 5), are used to determine appropriate service levels for each route. At a minimum, service should be provided based on the minimum span of service and minimum service frequency guidelines. Beyond that, additional service should be added to meet passenger loading guidelines, and to extend the span of service earlier in the morning and later at night if minimum productivity guidelines can be met.

On an ongoing basis, service should be added when ridership increases to levels that exceed maximum loading guidelines. Conversely, service should also be reduced when ridership falls significantly below the passenger loading guidelines.

MINIMUM SPAN OF SERVICE

The minimum span of service guidelines define the minimum period of time that different types of service should operate, in terms of the latest that service should begin and the earliest that it should end. Higher ridership services will have long spans of service, while lower ridership services will have shorter spans of service. Minimum span of service guidelines are presented in Table 3.

Based on demand, service can start earlier and end later, but subject to the minimum performance guidelines presented in Chapter 5. Note also that for some services and/or days, the span of service guidelines does not apply. In these cases, service will still often be provided, but based on other guidelines. For example, for commuter routes, the minimum service frequency guidelines (presented in the next section) specify that a minimum of three trips should be provided during both the AM and PM peak periods. In cases where urban local service is provided on weekends, that service would be provided based on the productivity standard presented in Chapter 5. In other words, service should be provided from as early and until as late as minimum productivity levels can be achieved.

Table 3: Span of Service Guidelines

	Key Corridor		Urban	Suburban	Commuter		
	MAX	Other	Local	Local	AM Peak	PM Peak	Lifeline
Weekdays							
Begin	5:00 am	5:00 am	6:00 am	6:00 am	--	--	9:00 am
End	12:00 am	12:00 am	7:00 pm	6:00 pm	--	--	3:00 pm
Saturdays							
Begin	5:30 am	5:30 am	--	--	--	--	--
End	11:30 pm	11:30 pm	--	--	--	--	--
Sundays							
Begin	5:30 am	5:30 am	--	--	--	--	--
End	11:30 pm	11:30 pm	--	--	--	--	--

Notes: The beginning span of service refers to the departure of the first inbound trip, and the ending span of service refers to the departure time of the last peak direction trip. "—" indicates that the guideline does not apply.

MINIMUM SERVICE FREQUENCIES

The minimum service frequency guidelines define the minimum service frequencies at which each type of service should operate. Based on demand, many services would operate more frequently, and in these cases, the service frequencies would be based on ridership and loading levels (as described in the next section). Minimum service frequency guidelines are presented in Table 4. Note also that when a corridor is served by multiple routes, effective service frequencies in the corridor would be more frequent than the frequencies for individual routes.

Table 4: Minimum Service Frequency Guidelines (Minutes)

	Key Corridor		Urban	Suburban		
	MAX	Other	Local	Local	Commuter	Lifeline
Weekdays						
Early Morning	30	30	60	60	--	120
AM Peak	10	15	30	60	3 Trips	120
Midday	20	30	60	60	--	120
PM Peak	10	15	30	60	3 Trips	120
Evening/Night	30	60	60	--	--	120
Saturdays						
All Day	30	30	60	60	--	120
Sundays						
All Day	30	60	60	60	--	120

Note: "—" indicates that the guideline does not apply. Also, the guidelines apply to services that are provided, and do not imply that all services will be provided at all times.

VEHICLE LOADING

KCATA strives to provide a seat to most passengers. During peak periods, it is expected that some passengers may have to stand, but the number of standing passengers will be kept to reasonable levels. Also, services will be designed so that when passengers do have to stand, they will not have to stand for long periods of time. On routes that operate for long distances on highways, and on all off-peak services, service will be scheduled to provide nearly all passengers with a seat.

Two different techniques are used to keep passenger loads within acceptable levels. The first is to match vehicle types with ridership levels, and to use larger vehicles on higher ridership routes. The second method is to provide more frequent service, with service frequencies set to keep passenger loads within the limits presented in Table 5.

These guidelines are presented in terms of maximum passenger loads as a percentage of seated capacity of the vehicle used to provide service (see Table 6), and average loads over any one hour period should be less than these levels. Where passenger loads exceed these levels, KCATA will deploy larger vehicles and/or increase service frequencies as financially feasible.

Table 5: Maximum Passenger Loading (as a Percentage of Seating Capacity)

Key Corridor		Urban	Suburban		
MAX	Other	Local	Local	Commuter	Lifeline
135%	125%	125%	125%	100%	125%

Note: Maximums are averages over one-hour periods; individual trips may exceed averages.

Table 6: Maximum Passenger Loads by Vehicle Type

	Seats (Typical)	Maximum Load
MAX	36-37	50
40' Transit Bus ("Large Bus")	40	50
30' Transit Bus ("Small Bus")	23	29
MetroFlex Vehicle	12	15

5. PRODUCTIVITY

KCATA must use its resources effectively and all routes should achieve a minimum level of productivity. These productivity guidelines use "Passengers per Vehicle Hour," a measure of the average number of passengers on each bus per hour of operation.

PRODUCTIVITY

With limited exceptions, all routes should attract a minimum number of passengers for each hour that buses are in operation (vehicle hours). These minimum productivity levels are presented in Table 7.

Table 7: Minimum Productivity Levels (Passengers per Vehicle Hour)

	Key Corridor		Urban	Suburban		
	MAX	Other	Local	Local	Commuter	Lifeline
Weekdays						
Early Morning	12	8	8	6	--	4
Late Night	12	8	8	6	--	4
All Day	30	24	15	12	12	4
Saturdays						
Early Morning	12	8	8	6	--	--
Late Night	12	8	8	6	--	--
All Day	27	20	15	12	--	--
Sundays						
Early Morning	12	8	8	6	--	--
Late Night	12	8	8	6	--	--
All Day	24	15	12	8	--	--

Note: "Early morning" and "Late Night" refers to service before and after the minimum span of service. All day refers to the complete span of service, including early morning and late night service. "—" indicates that the standard does not apply.

In cases where routes do not meet minimum productivity guidelines, changes should be made to improve route productivity. These changes can include a variety of measures, including reconfiguring the route alignment to attract more passengers, eliminating particularly unproductive segments, and reducing service levels, as well as other changes. If no changes can be identified that improve productivity, steps may be taken to discontinue the route unless it serves a demonstrable critical need that is not served by other routes or services (including paratransit service).

In cases where service expansion is considered, ridership and productivity estimates should be developed that indicate that there is a reasonable certainty that the new service will meet the productivity guideline within 12 months of implementation.

APPENDIX A. ROUTES BY SERVICE CATEGORY – JUNE 2011

KEY CORRIDOR
#12-12th Street
#24-Independence Avenue
#25-Troost
#26-Troost MAX
#31-31st Street
#39-39th Street
#51-Broadway
#58-Main Street MAX
#71-Prospect
#101-Minnesota/State Avenue
#142-North Oak

URBAN LOCAL
#27-27th Street
#30-Northeast
#35-35th Street
#47-Roanoke
#53-Armour/Swope Park
#54-Armour/Paseo
#57-South Oak
#104-Argentine
#106-Quindaro
#107-7th Street/Parallel
#109-9th Street
#110-Woodland/Brooklyn
#121-Cleveland/Antioch
#123-23rd Street
#126-East 5th Street
#155-55th Street
#163-63rd Street
#175-75th Street

SUBURBAN LOCAL
#28-Blue Ridge
#129-I-29 Express
#133-Vivion/Antioch
#156-Red Bridge
#173-Casino Cruiser
#183-Green Independence
#229-Tiffany Springs MetroFlex
#284-Purple Independence
#285-Blue Independence
#291-Yellow Independence
#292-Orange Independence
#293-Red Independence

COMMUTER
#24X-Independence Express
#28X-Blue Ridge Express
#37-Gladstone
#37XX-N. Broadway Express
#38X-Meadowbrook Express
#38-Meadowbrook
#51X-Ward Parkway Express
#56X-Red Bridge Express
#55-Rockhill
#69X-Liberty Express
#102-Central
#132-Gracemor
#133X-Vivion/Antioch Express
#135-Winnwood
#152-Lee's Summit Express
#170-Blue Springs Express
#471- 71 Highway Express

LIFELINE
#136-Boardwalk/Antioch Connector
#137-Metro North/Antioch Connector
#237-Gladstone MetroFlex
#243-Antioch/Barry Road Connector
#244-NKC MetroFlex
#251-TMC Connector
#247-Westside MetroFlex
#252-Lee's Summit MetroFlex
#253-Raytown MetroFlex
#286-Silver Independence
#296-Bannister/Hillcrest MetroFlex
#298-South Kansas City MetroFlex

KANSAS CITY STREETCAR
MAIN STREET EXTENSION

Project Narrative

RideKC STREETCAR

Submitted by

Kansas City Streetcar

Applicant: City of Kansas City, Missouri

Partner: Kansas City Streetcar Authority

Partner: Kansas City Area Transportation Authority

September 7, 2018

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Appendices

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1.0 Project Background

The Kansas City Downtown Streetcar starter line went into service on May 6, 2016. The 2.2 mile line has provided more than 4.9 million trips in the 2+ years since opening day (over twice the projections). Due to overwhelming support and enthusiastic public interest in extending the streetcar route, the City of Kansas City, Missouri, the Kansas City Area Transportation Authority (KCATA), and the Kansas City Streetcar Authority (KCSA) have formed a Project Team to develop Federal Transit Administration (FTA) Section 5309 Capital Investment Grant Program – New Starts project justification materials and data in support of extending the streetcar approximately 3.5 miles south from its current terminus. The proposed alignment would continue south along Main Street, ending at the Country Club Plaza / University of Missouri – Kansas City (Plaza/UMKC) area. The Main Street extension project would connect the City's two largest activity centers and would extend the community benefits already being seen from the Downtown Streetcar starter line. The expansion of streetcar in the Main Street corridor was identified and extensively studied in the NextRail KC study completed in 2013 (described below), and is included in the region's adopted long-range transportation plan, Transportation Outlook 2040. A request to enter Project development on the project was submitted by the project Team and approved in December 2017. The Main Street extension was included in the RideKC Smart Moves 3.0 Transit and Mobility Plan for the Kansas City Region; and MARC adopted the Locally Preferred Alternative into the regional Long-Range Transportation Plan on March 20, 2018.

In 2012 and 2013, the City of Kansas City, Missouri (KCMO), in coordination with KCATA, Mid-America Regional Council (MARC), and Jackson County, initiated a $1.9 million planning study called NextRail KC to evaluate the potential impacts, feasibility, and cost of streetcar expansions in eight designated corridors. Through a phased process that included public/stakeholder engagement, systems overview, route screening, and detailed route analysis, the Main Street corridor streetcar extension, along with two others, was selected by the City Council for endorsement.

Currently, the Project Team is conducting the following activities as part of Project Development:

- National Environmental Policy Act (NEPA) documentation
- Preliminary design and alignment planning
- Best Lane Analysis (examining which lane the streetcar should run in)
- Operational planning
- Ridership analysis
- Capital and annual operating cost estimates
- Regional transit coordination planning
- Public Engagement
- FTA 5309 Capital Investment Grant Program New Starts Project Justification documentation
- Other Project Development activities

2.0 Project Partners

Kansas City, Missouri (KCMO) is the project sponsor and is partnering with the KCATA and KCSA. The three entities have been jointly conducting Project Development efforts, and cooperated closely and successfully on the Downtown Streetcar line. The roles and responsibilities of the sponsor and project partners during Project Development are as follows:

1) **City of Kansas City, Missouri:** KCMO will serve as the Project Sponsor and grantee, and will oversee design and construction for the streetcar expansion project. KCMO was project sponsor and led design and construction efforts for the new Downtown Streetcar starter line. The City is also the Owner of the existing streetcar system and will be the owner of the extension. KCMO's staff has significant experience addressing the FTA project management and financial oversight requirements through successful completion of the Downtown Streetcar starter line.

2) **Kansas City Area Transportation Authority:** As the regional transit authority, and an FTA grantee, KCATA will provide valuable financial, technical and operations support. KCATA will provide extensive operational knowledge of existing and historic transit services in the proposed corridor, and will continue to guide the development of regional service integration and coordination activities. KCATA also has experience dealing with FTA CIG requirements on two successful Bus Rapid Transit (BRT) projects, and on the current Prospect MAX BRT project.

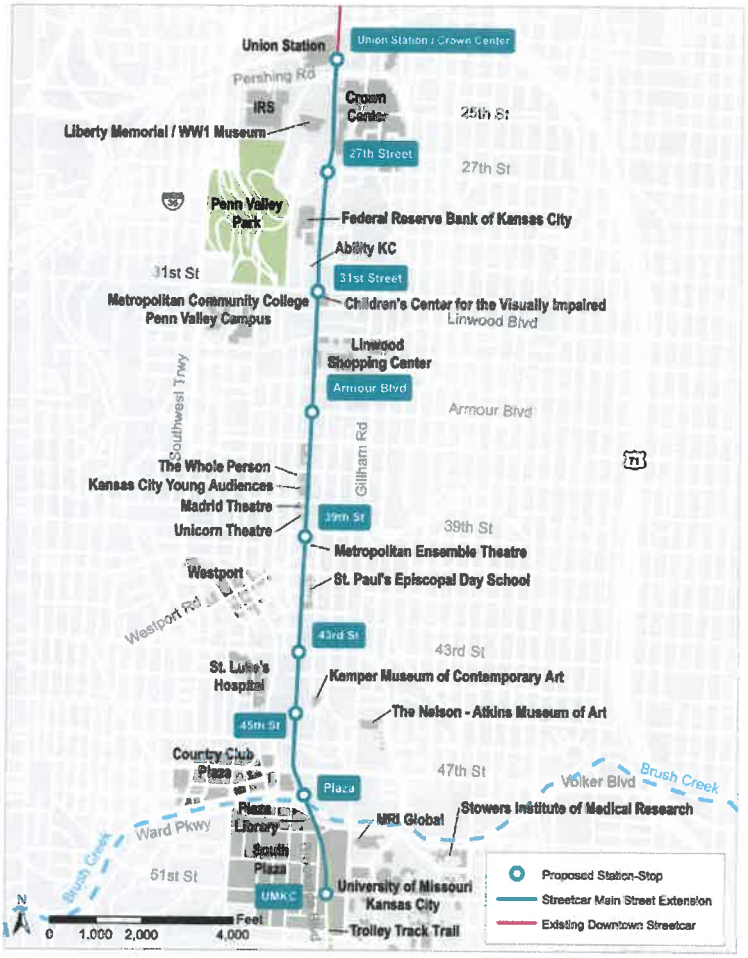
3) **Kansas City Streetcar Authority:** The KCSA is a not-for-profit organization that was formed for the purpose of managing, operating, and maintaining the Downtown Streetcar line. The KSCA is led by an Executive Director along with staff that manages communications, marketing, media relations, and streetcar budgetary issues; with oversight from a Board of Directors. As primary stakeholder and partner in the expansion project, KCSA will provide valuable financial, technical and operations support in the Project Development process. KCSA will assume the same operational role when the project is complete and revenue operations are set to begin.

3.0 Project Setting

The location of the proposed Main Street streetcar expansion alignment is in midtown, an urban, energetic area located directly south of downtown that boasts historic neighborhoods, a diverse population, the presence of significant institutions, a number of vibrant commercial areas, and over 30,000 jobs. Mostly operating in mixed traffic similar to the current operations of the Downtown Streetcar starter line, portions of the Main Street corridor south of the existing terminus at Union Station offer opportunities for semi-exclusive guideway operations. **Figure 1** illustrates the alignment, potential station locations, and key activity centers, including:

- Federal government offices
- Historic neighborhoods
- Museums
- Medical office buildings and hospitals
- Commercial/retail districts
- An emerging theatre district
- A university and community college
- A variety of organizations and social services that cater to the community's needs

Figure 1. Proposed Kansas City Streetcar Extension



3.1 Existing Transit Service

3.1.1 Streetcar Service

The existing 2.2-mile Downtown Streetcar line operates in a north-south direction and extends from River Market to historic Union Station and provides service to Central Business District/Convention District, Power & Light District and Crown Center offering access to businesses, restaurants, galleries and residential areas. There are 16 stops located every two blocks. The stop locations, along with destinations served, are listed below.

- Union Station (Pershing & Main)
- Crossroads (19th & Main)
- Kauffman Center (16th & Main)
- Power & Light (14th & Main)
- Metro Center (12th & Main)
- Library (9th & Main)
- North Loop (7th & Main)
- City Market (5th & Walnut)
- River Market North (3rd & Grand)
- River Market West (4th & Delaware)

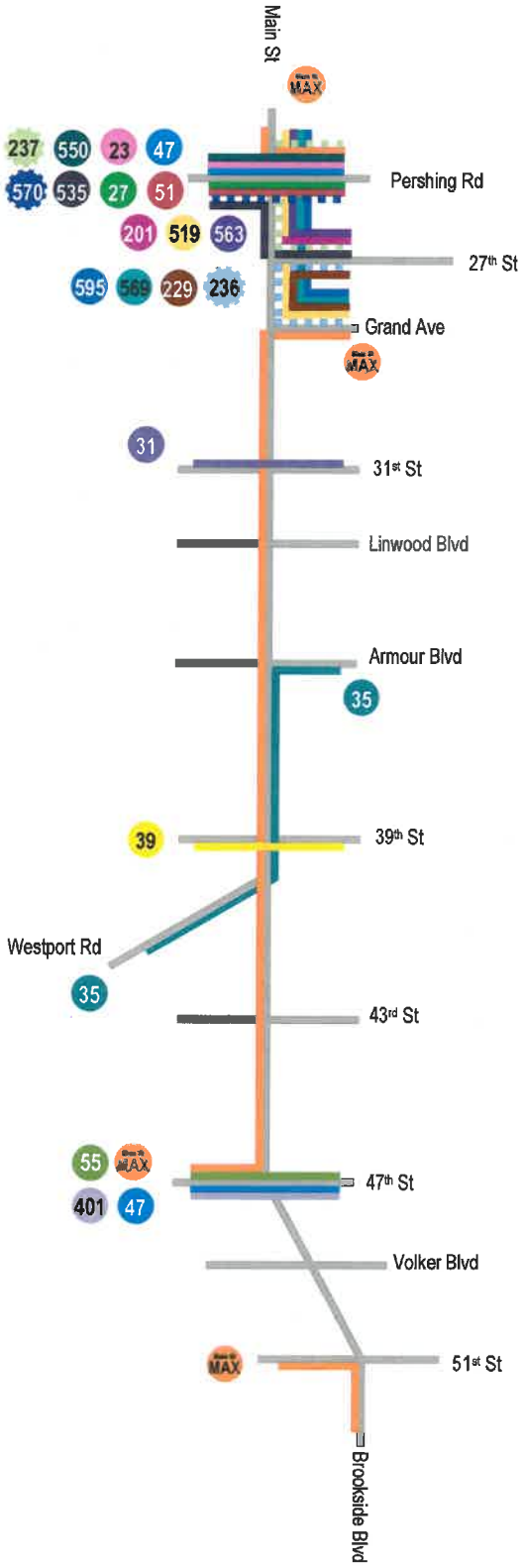
The KC Downtown Streetcar line operates with ten- to twelve-minute headways, seven days a week. Hours of operation are listed below.

- Monday-Thursday: 6AM - Midnight
- Friday: 6AM - 2AM
- Saturday: 7AM - 2AM
- Sunday: 7AM - 11PM

The KC Streetcar line was designed to complement local bus service and provide a more robust transit system. The Main Street extension of the existing streetcar service represents a unique public transportation response to several emerging challenges associated with the City's recent and anticipated future growth. As a major capital investment, the project creates a signature public investment the city may leverage to foster future economic growth and dense urban form. Additionally, the project's alignment helps to create a north-south transit spine that will connect with local and regional bus service. With its 10 minute service frequency and station spacing, the streetcar affords an expedited trip between major regional activity centers that will also entice usage along those bus routes that connect with streetcar stations. For Kansas City, rail is the way to provide an integrated high quality, high-ridership public transportation network.

3.1.2 Bus Service

Figure 2. Local Bus Routes



KCATA currently provides local, regional, and Bus Rapid Transit (BRT) bus service in the corridor.

The primary transit service along the corridor is provided by Main MAX (Metro Area Express), a BRT service that carries approximately 4,000 weekday passenger trips within the corridor. Main MAX started operations in 2005 and was expected to be a precursor to future rail in the same corridor. Main MAX runs seven days a week from 4:00am-1:00am (later on Friday and Saturday evenings), with 10-minute headways all day during weekdays, and 15- to 30-minute headways most other times. In addition, major crosstown and regional bus routes intersect with Main MAX as shown on the exhibit in **Figure 2** and summarized in Table 1. Local bus routes provide east-west connections throughout the Main Street corridor. Regional bus connections to Kansas suburbs, eastern Jackson County communities, and the Northland occur at Union Station and at 27th Street / Main Street. Additional Kansas and local bus connections occur at 47th Street / Main Street. A streetcar extension would serve as the regional transit spine and interface with all these bus routes.

The KC Streetcar service will be completely integrated with existing and planned bus services. The Main Street Extension will be accompanied by modifications and realignment of the existing bus network, including the transitioning of Main MAX to streetcar service, as the Streetcar would provide adequate capacity, operate at similar service levels, and deliver faster running times. The Streetcar would provide more than adequate capacity in the Main Street corridor (even if ridership in the corridor doubles) and would operate at equivalent service levels to Main MAX, which is nearing the end of its useful life.

South of 51st Street, Main MAX currently provides service to Brookside and Waldo, terminating approximately 3 miles south of 51st Street, with further regional (Kansas) and local connectors at the 75th Street terminus. A new Waldo/Brookside connector route will be created to cover these areas. This portion of the route accounts for a significant portion of existing Main MAX ridership. Travel time can remain similar, if not improved, with a timed transfer between this new connector and the Streetcar extension.

3.1.3 Intercity Passenger Rail Service

Amtrak

In addition to serving as a streetcar stop and a bus destination, Union Station is an Amtrak stop, serving two lines:

- The state-sponsored Missouri River Runner inter-city passenger service between St. Louis and Kansas City – 2 trains per day per direction.
- The Southwest Chief, which runs from Chicago to Los Angeles – 1 train per day per direction.

Figure 3 illustrates how these Kansas City connections feed into the national Amtrak network.

Figure 3. Regional Amtrak Connections from Union Station

Table 1. Transit Routes Along and Connecting with Proposed Corridor

Route	Name	Corridor Interface	Connects	Frequency (minutes)		
				Peak	Mid day	Eve
Routes traveling along the proposed corridor						
Main Street MAX		Main Street along entirety of proposed corridor	Downtown, Crown Center, Midtown, the Plaza, UMKC, and points much further to the south	10	10	15
35	35th Street	Main Street from Armour to Westport Road	Plaza, Westport, 35th & Troost, 35th & Prospect, Veteran's Medical Center, I-70	30	30	60
Routes serving major transfer points within the study corridor						
237	West Gladstone	27th / Main	Metro North Mall, 68th & Broadway, 9th & Grand, Crown Center	30	--	--
236	East Gladstone		Metro North Park and Ride, 72nd Street, Antioch Crossing, Downtown, Crown Center	30	--	--
550	Lee's Summit Express	Union Station	350 Hwy & Chipman, Unity Village, Downtown, Crown Center	30	--	--
23	23rd Street		Hospital Hill, Crown Center, 23rd & Wheeling Ave.	60	60	--
47	Broadway	Union Station and 47th / Main	KU Med Center, Truman Sports Complex, Blue Ridge Crossing, Downtown, Blue Parkway Sunfresh, Metropolitan Community College, Penn Valley Community College, Plaza, St. Luke's Hospital, Blue Ridge Cutoff	30	45	60
570	Blue Springs Express	Union Station	Blue Springs Park-and-Ride, I-70 Commuter lots, Downtown, Crown Center	30	--	--
535	Shoal Creek-Liberty Express	27th / Main	12th and Grand, 152 Hwy Park and Ride, Liberty Junior High School, Conistor Park and Ride	30	--	--
27	27th Street	Union Station	31st/Van Brunt to Downtown via 27th Street, 22nd Street, West Pennway, Summit Street, and Broadway	30	30	60

Route	Name	Corridor Interface	Connects	Frequency (minutes)		
				Peak	Mid day	Eve
51/ 62	Ward Parkway		Downtown Airport, Downtown, Crown Center, Metropolitan Community College, KU Medical Center, Plaza, 88th & State Line, Rosana Square	60	--	--
31	31st Street	31ST/Main	Blue Ridge Crossing, Blue Ridge Cutoff, 31st & Van Brunt, 31st & Troost, Metropolitan Community College	15	15	30
35	35th Street	Armour Blvd/Main; 39th/Main	Plaza, Westport, 35th & Troost, 35th & Prospect, Veteran's Medical Center, I-70	30	30	60
39	39th Street	39th/Main	Seven Oaks, 35th & Troost Metro Center, Gilham Park, 39th & Main, KU Medical Center, Johnson County Transit transfer	15	20	30
55	Universities Crossroads	47th/Main	3rd & Grand, Downtown, Metropolitan Community College, Plaza, UMKC, Rockhurst University	60	60	60
401	Metcalf Plaza	47th/Main	Plaza, Mission Transit Center/Park and Ride, Rosanna Square Park and Ride, Oak Park Mall Transit Center/Park and Ride, Metcalf Mall Park and Ride	30	60	120
201	North Oak	Crown Center	Crown Center, Downtown, 3rd & Grand, 10th & Burlington, Vivion & North Oak, Metro North, Barry Road & N. Broadway, Boardwalk Square	30	60	60
229	Boardwalk-KCI	Crown Center	Downtown, Crown Center, Boardwalk Square, KCI Airport	30	60	60
519	Olathe Express	Union Station / Crown Center	Union Station, Crown Center, Downtown, Mission Transit Center, Strang Line, Olathe Medical Center, Old 56 & Robinson	15	--	--
563	Shawnee Express	Union Station / Crown Center	Union Station, Crown Center, Downtown, Shawnee Station, K-10 & Santa Fe	60	--	--

Route	Name	Corridor Interface	Connects	Frequency (minutes)		
				Peak	Mid day	Eve
569	South OP Express	Union Station / Crown Center	Union Station, Crown Center, Downtown, 151st & Antioch, 151st & Mur-len	30	--	--
595	Gardner-OP Express	Union Station / Crown Center	Union Station, Crown Center, Downtown, Oak Park Mall, TradeNet, Gardner Logistics Park and Intermodal Facility	30	--	--

4.0 Current Conditions

The Main Street Extension would serve a number of important functions including access to employment, neighborhoods, commerce, and activity centers along the corridor. The Main Street corridor includes some of the densest residential neighborhoods and employment centers in the region, as well as an academic center (see Figure 4). With 20,991 residents (5,100 per square mile) and 58,177 employees (14,000 per square mile), the corridor supports high transit ridership today, and is reinforced by strong existing commuting patterns. A continuation of the downtown starter line south on Main Street would create stronger connections for midtown residents, employees, and visitors; connect many of the city's key cultural attractions located in downtown and midtown with the rest of the city; link major educational institutions, including the area's largest university, to midtown, downtown and the rest of the city; and connect two of the city's primary activity centers – downtown and the Country Club Plaza.

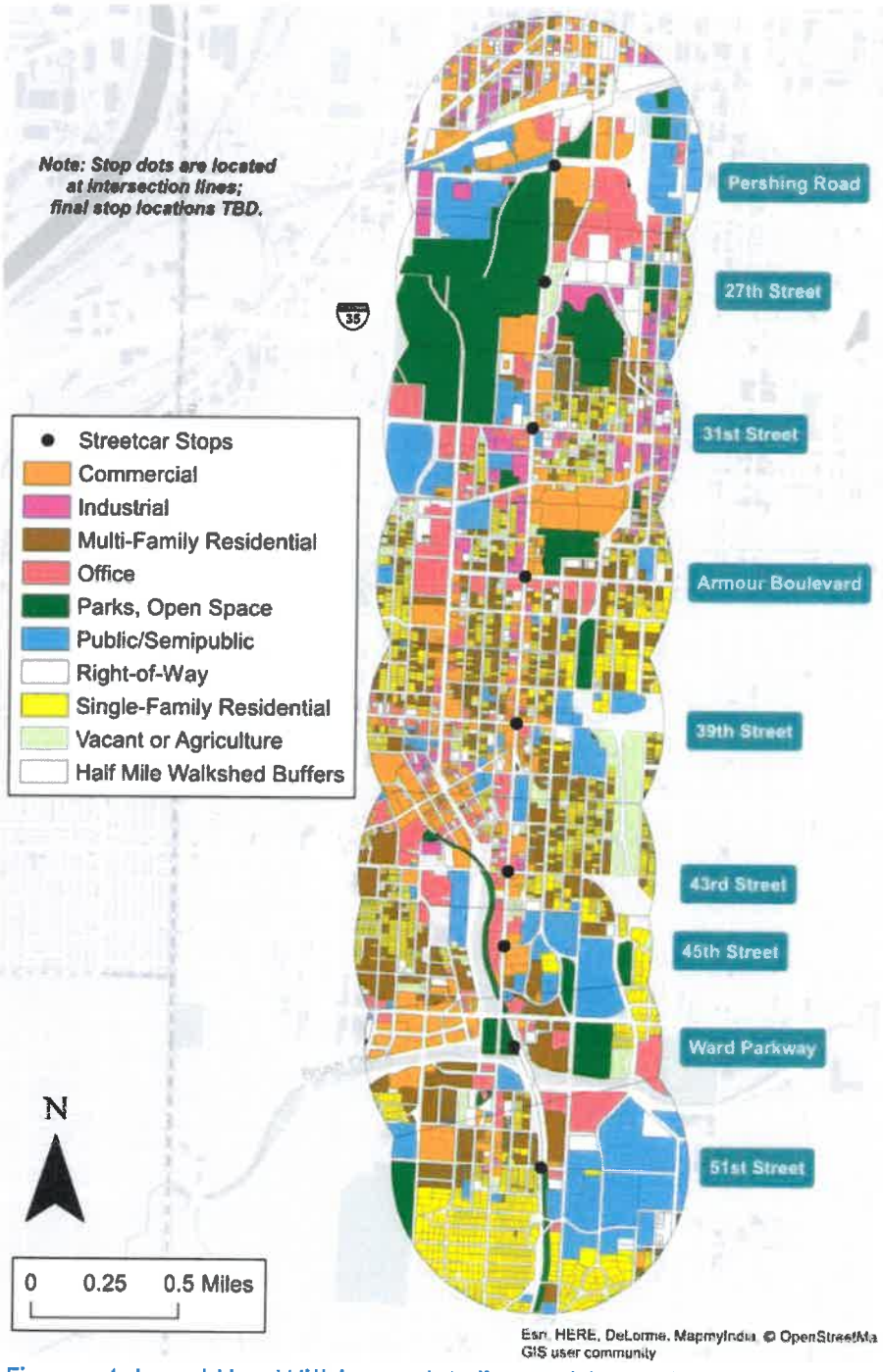


Figure 4. Land Use Within and Adjacent to Project Corridor

5.0 Project Purpose and Need

Upon completion of the downtown starter line, the corridor quickly cemented its status as a major hub for downtown residents, visitors, commuters, and development activity. The downtown starter line serves a number of important functions including access to employment, neighborhoods, commerce, and downtown activity centers. With midtown's synergetic energy, the midtown Main Street corridor is primed for expansion, and expanding the streetcar system is an infrastructure investment that would continue to positively enhance the mobility and economics of the Main Street corridor.

Building on the downtown starter line, the Purpose of the Main Street Extension is to:

- Expand mobility choices for the metropolitan area and provide greater options for future
- connections to regional transit
- Provide improved accessibility for all users
- Provide efficient, reliable and safe transit service
- Enhance the region's transit system by creating a significant central spine around which to
- organize and integrate regional service
- Provide better transit service to UMKC's urban campus and to the Plaza – the two largest
- employment and activity centers in the region – with strong connections throughout the region
- Develop underutilized and vacant property, while supporting existing residential and
- commercial activity
- Enhance the desirability of the corridor for employment and residential growth.

This project is needed to continue Kansas City's initial four Streetcar themes: connect, develop, thrive, and sustain. The need for the Main Street Extension is to continue efforts to provide mobility and connectivity, economic development and growth, community amenities and improved livability, and sustainability. In short, the Main Street Extension seeks to build upon downtown's success, connecting neighborhoods in the urban core.

The Main Street corridor's future as an energetic, people-oriented set of regional activity centers is dependent on its overall economic health and growth potential. To attain the energy and vibrancy, investments in public transportation is a priority of the city. The dramatic changes in land development and local economic growth experienced by Kansas City following implementation of the first streetcar project are not the result of a singular City policy or action; they are the results of the city's adopted vision for a sustainable future and commitment to capital investments that achieve this vision. An important investment made by the city toward achieving this vision was a commitment to the arts and cultural institutions, civic open spaces, and close coordination with regional partners.

Communities with high-performing, globally competitive economies are those who have made targeted investments in public infrastructure, and Kansas City is no different. Investments including the existing

streetcar system have clearly resulted in attracting new development that furthers regional growth and environmental stewardship goals. The subsequent investments made as a result of the current streetcar system has been successfully leveraged to create an urban experience and aesthetic that continues to make Kansas City an in-demand and frequently visited location. With strong forecasts for growth in population, employment, and land development around the streetcar corridor, the Kansas City Streetcar Extension project represents an important, cost-effective capital investment to move an increasing number of people in an increasingly dense urban environment.

Alternatives Considered: For more than three decades, transit planning studies have identified the River Market to Country Club Plaza corridor as the highest priority for fixed-guideway transit improvements. In 2012 and 2013 – while final design and construction was progressing on the Downtown starter line – KCMO, in coordination with KCATA, MARC, and Jackson County, initiated a $1.9 million planning study called *NextRail KC* to evaluate the potential impacts, feasibility, and cost of streetcar expansions in eight designated corridors. Through a phased process that included public/stakeholder engagement, systems overview, route screening, and detailed route analysis, the Main Street corridor streetcar extension, along with two others, was selected by the City Council for endorsement. Since that time, the project has been included in the region's adopted long-range transportation plan, Transportation Outlook 2040; the RideKC Smart Moves 3.0 Transit and Mobility Plan for the Kansas City Region; and MARC (the local MPO) adopted the Locally Preferred Alternative into the regional Long-Range Transportation Plan on March 20, 2018.

Main MAX was the appropriate transit solution for this corridor when it was planned more than fifteen year ago. Main MAX was built with the intent to serve as a precursor to rail transit as the corridor grew and changed. As noted in the NextRail study, the Main Street corridor between the current terminus and the Plaza / UMKC area includes some of the densest residential neighborhoods and employment centers in the region, as well as an academic center. This density supports high transit ridership today (Main MAX), and is reinforced by strong existing commuting patterns. STOPS ridership forecasting model indicates that an extension of the streetcar could significantly increase transit ridership on Main Street. Streetcar expansion can help to create a more effective transit system by providing higher levels of service, increased accessibility, elevated transit visibility, and improved connectivity in the corridor. Beyond the improved level of transit service, strategic integration of streetcar service with other transit resources can help to maximize the benefit of the streetcar investment, and enhance the overall transit system by creating a significant central spine around which to organize service. Given the Main Street corridor as it is today – and the success of the Downtown Streetcar in providing a better mobility option, attracting new riders, and spurring positive economic and community development – the streetcar is the right solution for the Main Street corridor. This is reflected in the fact that today the streetcar is the locally preferred alternative and the community has overwhelmingly supported a TDD tax to help fund it.