

KANSAS CITY REGIONAL TIGER APPLICATION

APPENDIX C:

Kansas City Downtown Streetcar



PROJECT TYPE:

Transit

LOCATION:

Kansas City, Missouri
Jackson County, Missouri
Congressional District 5
River Market to Crown Center
(approximately two miles)

AREA:

Urban

REQUESTED AMOUNT:

\$6 million

DUNS NUMBER:

07-304-6773

CENTRAL CONTRACTOR

REGISTRATION:

CAGE Code 3J8N4

CONTACT:

Dick Jarrold, Senior Director
Kansas City Area Transportation
Authority
1200 E. 18th Street
Kansas City, MO 64108
816-346-0356
djarrold@kcata.org

I. PROJECT DESCRIPTION

A. Introduction

A modern streetcar is a form of light rail specifically tailored to operate in urban activity centers like the Kansas City Downtown – Crown Center area. The streetcar is a shorter version of the light-rail vehicle, but streetcars use the same tracks and electrical power systems as light rail. Many cities around the country are planning and designing streetcar systems to improve mobility in their urban centers, focus economic development and serve as feeder services to other transit systems. Today modern streetcars operate in Portland, Ore., and Seattle, Wash.

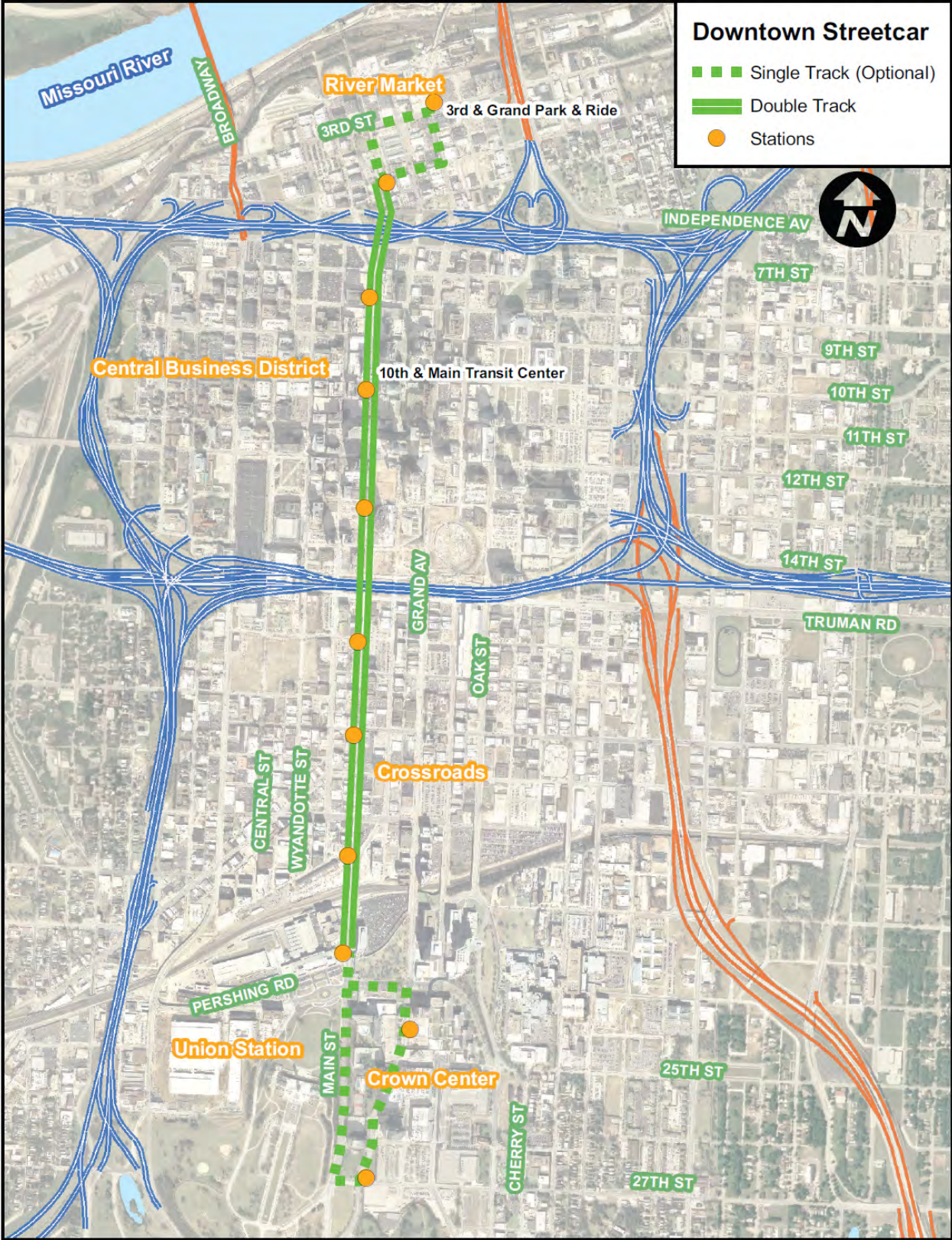
The recently completed alternatives analysis that studied light rail in Kansas City's central north/south corridor concluded that today the River Market to Country Club Plaza segment has activity centers, population and employment density most likely to support an investment in rail transit, and has the best chance of receiving federal funds.

Initiating rail transit in Kansas City, Mo., is proposed through developing a modern streetcar line approximately two miles long between the River Market and Crown Center that would link major activity centers, enhance mobility and support development. A streetcar in this corridor would link local transit, Metro Area Express (MAX) bus rapid transit (BRT) lines and future commuter rail, and help distribute transit passengers throughout downtown while serving as the first step towards regional rail in Kansas City, Mo.

The route would use one of the preferred downtown light-rail alignments studied during the Alternatives Analysis. The streetcars would operate in mixed traffic, either in the curb lane or second lane. Streetcars mix very easily with vehicular and pedestrian traffic and would have stops spaced every two or three blocks with simple shelters and passenger amenities.

The request for \$6 million from the TIGER program is for continued development of the Kansas City Downtown Streetcar project. Design work that began in the North/South Corridor Alternatives Analysis (2009) can be continued into preliminary engineering and used for preliminary engineering and final design for the bridge modifications necessary to accommodate the installation of rails and streetcar vehicle loading. The TIGER funding will also be used for construction activities for the bridge modifications. In addition to TIGER funding, private funding will also be pursued for the project.

FIGURE 1. Kansas City Downtown Streetcar Map



B. Project Purpose & Need

Downtown is the heart of the Kansas City region, and its health and vibrancy are in many ways linked to the health of the larger community. This is why the recent downtown resurgence is so significant and remarkable.

With an economic development boom in excess of \$5.2 billion since 2000, few cities can match the progress Kansas City has been able to achieve in such a short period. A resurgence in residential growth combined with the construction of major community anchors and commercial developments have positively transformed the downtown core as a place to live, work and play. Accompanying public sector planning and investment have complemented this infusion of private development.¹

The Kansas City Downtown Streetcar project will address several important mobility needs in the greater downtown area and contribute to downtown's resurgence.

- **A lack of transportation options.** Most downtown residents, employees and visitors rely on private automobiles for travel within the downtown area. For example, a recent survey conducted by the Downtown Council of Kansas City found that 54 percent of downtown residents who also work downtown use their automobile for their commute. Only 3 percent use transit².
- **Inadequate connectivity among transit services in the downtown area.** Because the downtown activity center stretches more than two miles north to south, a central spine is needed to link the subareas within the greater downtown area, and provide effective connections between other transit services. The Kansas City Area Transportation Authority's (KCATA) downtown transit center is at 10th and Main streets and not well-connected with all the transit services operated in the expansive downtown area.
- **Low-density development.** Although the greater downtown area has seen significant new development in recent years, large areas remain undeveloped. The downtown area lacks a catalytic anchor to focus development.
- **High parking space requirements.** Today, downtown development requires an inordinate number of parking spaces. Parking ratios of three to five parking spaces per thousand square feet of commercial area are common. These ratios are characteristic of suburban developments. This much space and cost associated with parking inhibits development and precludes the type of high-density continuous urban development desired in the downtown area.

¹ *Greater Downtown Area Plan*, Kansas City Department of Planning and Development, June 12, 2009.

² *2005 Downtown Kansas City Housing Study*, Downtown Council of Kansas City, 2004.

C. Goals and Objectives

The *North/South Corridor Alternatives Analysis (2009)* established goals and objectives for transit in the corridor; which apply to the downtown streetcar.

TABLE 1. North/South Corridor Alternatives Analysis Goals and Objectives	
Goals	Objectives
GOAL 1 <i>Improve transit service and increase transit ridership</i>	Expand transit's role in circulation within the Central Business Corridor (CBC)
	Improve reliability of transit for travel from Northland to CBC
	Provide better service for transit dependents to jobs within the CBC
	Support better transit service for convention/visitors travel
GOAL 2 <i>Enhance transit access to and from transit-dependent neighborhoods</i>	Provide direct transit access to transit-dependent neighborhoods
	Reduce transit travel times to the CBC for transit-dependent neighborhoods
GOAL 3 <i>Support for economic development and redevelopment in the North/South Corridor</i>	Improve transit accessibility from targeted residential areas
	Improve transit accessibility to targeted employment/commercial areas
	Establish transit nodes to help focus development at targeted locations
	Enhance the urban environment adjacent to transit facilities

Source: *North/South Corridor Alternatives Analysis, KCATA, 2009*

The downtown streetcar is an important initial step in the development of a rail transit system in the Central Business Corridor from the River Market to the Country Club Plaza.

D. Project Parties

The grant recipient will be the Kansas City Area Transportation Authority (KCATA). The KCATA operates Metro bus service, the Metro Area Express (MAX), Share-A-Fare paratransit service for the elderly and disabled, and AdVANtage vanpool service.

The KCATA was formed with the signing of a bistate compact created by the Missouri and Kansas legislatures on December 28, 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. These include the counties of Cass, Clay, Jackson and Platte in Missouri, and Johnson, Leavenworth and Wyandotte in Kansas. A 10-member Board of Commissioners — five from Missouri and five from Kansas — governs the KCATA.

The Metro logs more than 54,000 trips every weekday. Share-A-Fare provides 250,000 trips per year, and there are 29 vanpools helping to meet the commuting needs of people living outside the boundaries of bus service.

While KCATA is the agency seeking TIGER grant funding for transit, several local planning partners and project stakeholders have expressed support for the project.

The city of Kansas City, Mo., is a partner with KCATA on the downtown streetcar project. Kansas City has the responsibility for the streets in which the streetcar would operate. Kansas City historically has worked closely with KCATA in the funding of both transit-related capital improvements and transit operations in Kansas City.

D. Grant Funds & Sources & Uses of Project Funds

i. Capital Cost Estimates

The capital costs for the development of the downtown streetcar have been estimated at \$68.4 million for the preferred alignment from Union Station to the River Market. The table below shows detail on this capital cost estimate.

TABLE 2. Downtown Streetcar Capital Cost Estimates (million of 2009 dollars)		
	TOTAL	TIGER
Guideway and Track	\$ 22.3	\$ 2.1
Stations	\$ 1.0	
Support Facilities	\$ 4.3	
Sitework	\$ 7.8	
Systems	\$ 7.7	
Right-of-Way	\$ 2.4	
Vehicles	\$ 14.8	
SUBTOTAL	\$ 60.3	\$ 2.1
Engineering	\$ 3.6	\$ 3.0
Project Management	\$ 1.8	\$ 0.9
Construction Services	\$ 2.6	
Total Professional Services	\$ 8.0	\$ 3.9
TOTAL CAPITAL COST	\$ 68.3	\$ 6.0

StandardCostCategoryEstimates.xls

The project's total \$68.4 million capital cost would be funded through two types of federal funding, the TIGER grant revenue, and future Federal Transit Administration (FTA) capital funding through the Small Starts program and local funding. The financial plan assumes that 75 percent of the net capital cost after the TIGER funding will be funded through the Small Starts program.

The local share would be financed through the sale of bonds to generate the required \$15.6 million. The debt service on the bonds would be financed through proceeds from a Transportation Development District (TDD).

The required operating funding will be from private sources, including the TDD revenue and sponsorships solicited from businesses along the alignment. KCATA is also exploring the feasibility of establishing an endowment to provide partial funding for operations.

The \$6 million requested from the TIGER program is for continued development of the streetcar project. Initial design work that began in the *North/South Corridor Alternatives Analysis* will be continued into preliminary engineering. The funding also will be used for preliminary engineering and final design for the bridge modifications necessary to accommodate the installation of rails and streetcar vehicle loading. TIGER funding will also be used for construction

activities for bridge modifications. The modifications to the bridges along the alignment are long lead-time items, and early initiation of this work is necessary to ensure timely start-up of revenue operations.

ii. Operating Cost Estimates

Operating costs for the downtown streetcar have been estimated at \$2.1 million per year in 2009 dollars. This estimate is based on the assumption that the streetcar will operate seven days per week, approximately 20 hours per day. The streetcar will operate every 10 minutes during the daytime and evening service hours.

iii. Financing

The Kansas City downtown streetcar may be funded through a mix of user fees (fares), and public and private financing. The table below summarizes the funding for the streetcar project.

TABLE 3. Downtown Streetcar Capital Financing (millions of 2009 dollars)	
COSTS	
Capital Cost	\$ 68.3
Operating Cost	\$ 2.1
Operating Revenue	\$ 0.5
Net Operating Cost	\$ 1.6
REVENUES	
CAPITAL	
TIGER Grant	\$ 6.0
FTA Small Starts	\$ 46.7
Local Capital	\$ 15.6
TOTAL	\$ 68.3
OPERATING	
Sponsorships	\$ 0.5
Endowment	TBD
TDD Revenue	\$ 1.1
TOTAL	\$ 1.6

StreetcarOpsCost.xls

II. SELECTION CRITERIA | PRIMARY

A. Long-Term Outcomes

i. State of Good Repair

State of good repair includes recapitalization and maintenance issues, asset management practices, and innovative financing strategies. It also includes issues related to measuring the condition of transit capital assets, prioritizing local transit reinvestment decisions and preventive maintenance practices.

A strong transit system is viewed by Kansas City civic leaders as critical to providing a competitive labor environment and competing economically. Kansas City's central commercial corridor is the most important travel corridor in the city; transit improvements in this corridor are a community priority. A transit investment in the corridor will produce benefits including transportation and economic development as detailed in this document.

From an asset management perspective, KCATA and the Kansas City Downtown Streetcar project are compliant with state of good repair guidelines:

- KCATA has asset management practices in place to maintain the agency's bus fleet, facilities and passenger amenities. The agency maintains current assets in accordance with industry norms. For example, the bus fleet has an average age of approximately six years and a bus replacement schedule is in place to maintain the bus fleet.
- KCATA conducts a biennial asset inventory and reconciles to the agency's fixed-asset accounting system. All acquisitions of assets are handled by the Authority's procurement department based on the FTA 4220.1F and the Authority's procurement policy. On an annual basis a capital budget is established for a five-year period based on identified funding for year one and projected funding for years two through five. A long-range plan is projected beyond the five-year capital budget to identify potential funding requirements and replacement of key assets. All assets are insured.
- A recent FTA Triennial Review had no significant findings relative to the KCATA's management of assets or procurement policies.
- The streetcar system will be developed in a manner that will not threaten or interrupt the KCATA's current asset management systems. The capital and operating budgets for the streetcar are being developed independent of the financing for the current transit system. No funding or revenue presently used for the operation and maintenance of the bus system will be used for the streetcar project.
- The financial plan for the streetcar will include long-term funding for the streetcar system so the new asset can be properly maintained, and revenue from the bus system will not be required.

The streetcar project will help to upgrade transit service in this important transit corridor as well as provide opportunities for street infrastructure improvements.

- The streetcar will operate adjacent to KCATA's existing transit center at 10th and Main streets downtown, thereby enhancing the effectiveness of this transit asset.
- The streetcar will improve connectivity among the dozens of KCATA routes that operate through the downtown area, thereby enhancing the effectiveness of the existing transit service.
- The streetcar project includes physical improvements to three bridges along the alignment. One of these structures, the Main Street viaduct over I-670, is nearing the end of its useful life and will be replaced as part of the streetcar project.

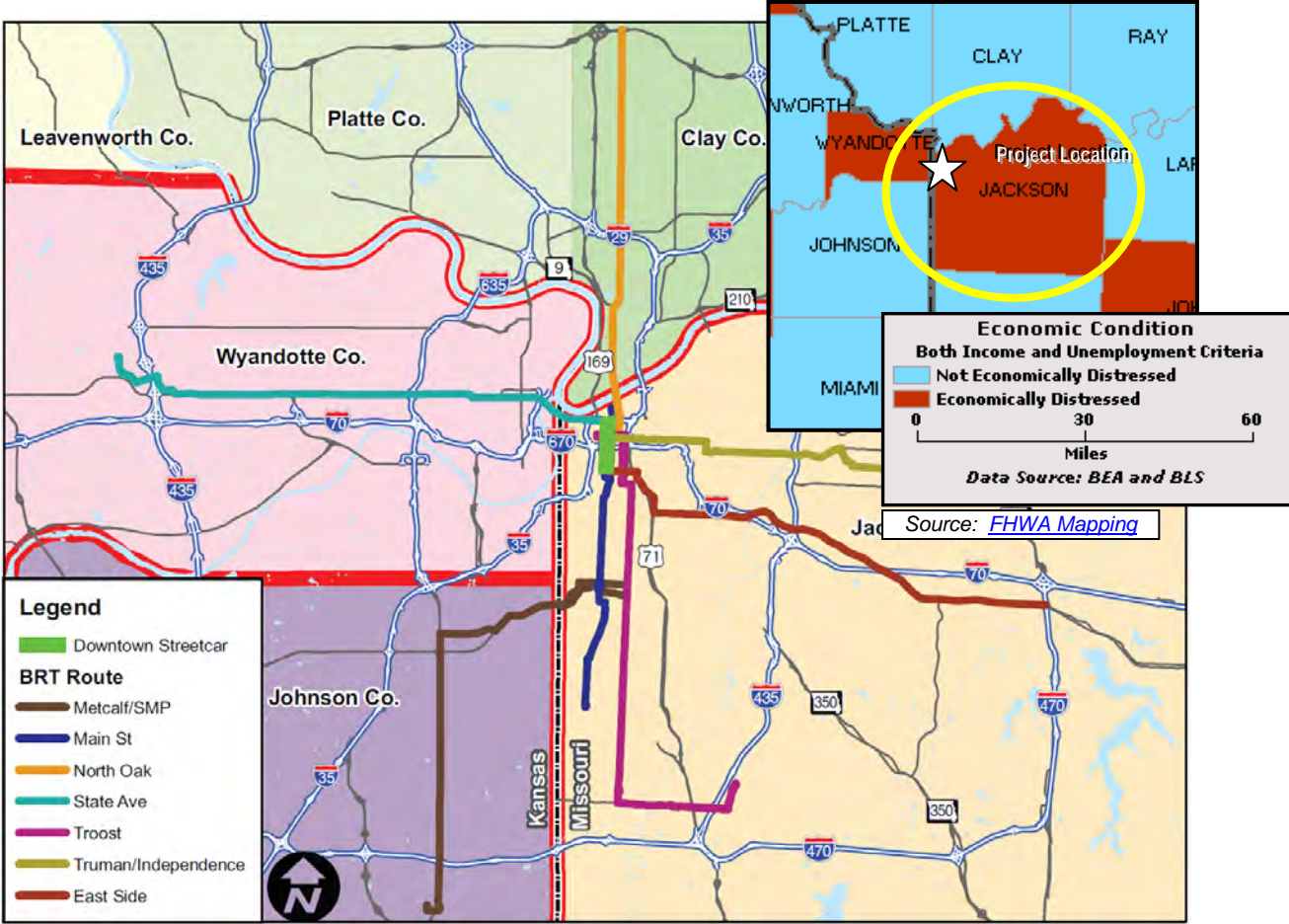
- The streetcar project includes streetscape improvements that will help make the areas adjacent to the alignment more pedestrian friendly and more attractive to development.
- The streetcar project, along with favorable zoning that allows mixed-use development, zoning and development codes for higher density and development incentives, is expected to promote reinvestment in the areas along the streetcar alignment, resulting in more effective use of the city's infrastructure.

ii. Economic Competitiveness

The county in which the streetcar is being proposed is an Economically Distressed Area, as shown in Figure 2. The Kansas City Downtown Streetcar project would greatly benefit this distressed area by providing an economic boost of employment, development and increased mobility. One major benefit of the streetcar is that would serve as a spine for the regional bus system plan. By connecting these bus routes, the streetcar connects the distressed areas with employment centers. Streetcars often have a feeling of more permanent transportation with the overhead power lines and tracks, thus residents and visitors are more comfortable relying on this type of transit over buses. There are many economic benefits of a streetcar, including:

- Affordable mobility
- Property value increase
- Economic development
- Reduction in congestion
- Decrease in greenhouse gas emissions

FIGURE 2. Enhanced Regional Mobility



Source: HNTB

Affordable Mobility

Increases in transit service provide more options for low-income people. Instead of spending their money on taxi fares and other higher-priced modes, transit allows budgets to be freed up to be used on other uses like housing, food and health care.

According to the Mid-America Regional Council (MARC) — the Kansas City region's metropolitan planning organization —, if one family member who commutes to work switches to transit they can eliminate the need to buy a second or third car, and can save the family \$3,000 to \$8,000 per year.

MARC also reports that 12 percent of adults in the metro area do not own a car. In addition, people ages 65 and over will increase by 72 percent in the next decade and must maintain access to community services.

Property Value Increase / Economic Development

Rail transit systems, including streetcars, have been shown to increase the value of property located near rail stations and stops. The improved transportation access, enhanced mobility and permanence of rail transit has a positive impact on surrounding property value.

The experience in other cities with streetcars is that such projects also have a positive influence on development. The introduction of a streetcar with fixed infrastructure into an area creates the right decision-making environment for policy investments that may support compact, walkable, high-density, sustainable development³.

A stated objective of the city of Kansas City, Mo., and the *North/South Alternatives Analysis* is to encourage growth and economic development in the city's central core and leverage investments that have already been made downtown. It is also an objective to link together the River Market, downtown Kansas City, the Crossroads district and Crown Center into a seamless integrated greater downtown. The downtown streetcar project will provide this link while helping to promote new development in the urban core. The streetcar's location in the region's central core with strong connecting transit services means access to such development will be possible from throughout the metropolitan region.

Reduction in Congestion and Greenhouse Gases

Ridership estimates have been prepared for the streetcar alignment between River Market and Union Station as shown in Table 4.

TABLE 4. Kansas City Downtown Streetcar Ridership Estimates		
	2012	2030
Average Day	4,200	5,200
Annual (millions)	1.4	1.7

Market&Ridership.xls

These estimates are for a "typical day." Ridership levels would be 2,000 to 3,000 passengers per day higher when there is a major convention in the downtown area, or when there are events at the Sprint Center arena downtown.

³ Rick Gustafson, CEO of the Portland Streetcar. Four years after it opened the Portland Streetcar had engendered about 100 development projects worth \$2.3 billion.

An increased use of transit over automobiles leads to a reduction in vehicle operating costs, faster travel times, a decrease in accidents and a reduction in greenhouse gas emissions.

MARC reports that the region's labor force loses \$570 million in productivity each year while sitting in traffic. In addition, in 2003 each driver in the metropolitan area lost about 17 hours to congestion, at an overall cost of \$235 million in time and excess fuel consumption.

iii. Livability

Among all of the economic benefits that streetcars introduce, they also have a positive impact on the community. According to *Street Smart: Streetcars and Cities in the Twenty-First Century* there are many reasons why so many cities are turning to streetcars. Following is a list of five ways streetcars can positively affect the Kansas City region.

1) Streetcar systems shape a city — positively. Well-conceived streetcars do much more for a city besides move people from point A to point B. As fixed-rail transit, they uniquely shape urban land-use, development, and growth patterns. The "streetcar effect" serves to stimulate desirable development along the line. In fact, streetcar lines shaped how most American cities developed in the early 1900s.

A streetcar system's power to affect land-use patterns will never be shared by buses; the public investment in streetcar rails along a fixed route is an assurance of permanence. Developers and investors need to mitigate risk; they get no help from a bus route, which could move or disappear overnight. Emerging data from numerous U.S. cities show that developers will vigorously invest in compact, high-density development along a streetcar line, almost from the moment that it's confirmed.

2) Streetcars are place-making tools that promote compact, walkable, people-friendly development. Streetcars help create the kinds of streetscapes where people want to walk, bike, shop, and hang out in a neighborhood. With their frequent stops and supportive effect on storefront shops and cafes, they excel at shaping lively and appealing "people places."

Streetcars also are proving themselves as popular image makers for rising neighborhoods: As an amenity, a streetcar makes a neighborhood more desirable to live, shop, and get around in. Known as a "pedestrian accelerator," the streetcar encourages outings that are part walking, part streetcar ride. Streetcars shaped the older neighborhoods that we now celebrate for being handsome, walkable, mixed-use and human-scaled. These central-city neighborhoods remain popular because people are drawn to diverse, interesting areas where they can walk to destinations.

New transit-oriented development can be required to include livable-city amenities such as affordable housing, public open space, desired redevelopment, high-quality urban design, and public art. When backed by intelligent planning and policy, a positive place-making effect becomes a positive tool for shaping the kind of city we all want.

3) People like to ride streetcars. Mass transit will only work if people choose to use it. Getting people out of their cars requires enticing "choice riders" — people who own a car but choose to use transit instead. The downtown streetcar's image of comfort, convenience and charm coupled with a smooth and quiet ride, makes it an attractive option. In addition, like developers, we're all reassured by the permanence of rails in the ground. People don't mind standing at a trackside stop for 10 minutes, because they feel confident that the streetcar will come — even without seeing a schedule or route map. Other American cities recently have replaced bus lines with streetcar lines on the same route, and then documented their power to attract many more riders.

4) Streetcars are green transportation. All the environmental reasons that mass transit is preferable to cars — for clean air quality, for environmental sustainability, for climate protection — apply equally to streetcars. Because streetcars promote 1) high-density, compact development instead of sprawl and 2) regional transit use,

they pack a far stronger sustainability punch than their short routes suggest. As an incentive for patterns of sustainable growth, a streetcar fits neatly within Kansas City's goals being increasingly embraced by the regional government and organizations.

Every transit user is one less car on the road, which helps reduce traffic congestion and emissions. Streetcars run on electricity, not gasoline and emit no exhaust. In fact, some cities have tapped federal programs for reducing traffic congestion and emissions to help fund new streetcar systems.

5) Streetcars attract tourists and conventioners. A city's visitors, tourists, and convention attendees can be counted upon to deliver a steady base of riders — if the streetcar conveniently takes them where they want and need to go. Neighborhoods with streetcars — and cool places to see or visit — typically become tourist destinations. Cities with streetcars linked to their convention centers and major tourist destinations have become more successful at attracting major convention business.

The proposed downtown streetcar project in Kansas City, Mo., is ideally suited to reap these five benefits. With the continued increase in downtown residents, the streetcar project will greatly enhance their mobility and quality of life. In addition, this project will help to promote the Power and Light District, a new, large-scale downtown development, and related developments.

iv. Sustainability

According to Public Transportation's contribution to U.S. Greenhouse Gas Reduction, transportation represents 33 percent of U.S. greenhouse gas emissions. The Kansas City Downtown Streetcar project can help decrease carbon dioxide (CO₂) emissions in Kansas City by converting vehicle trips to passenger trips. Table 5 shows that CO₂ can be reduced by approximately 55,171 metric tonnes per year, which equals a cost savings of \$1.8 million per year. For the calculations, only passengers commuting to and from work were used, so the emissions reduction would be more than shown. In addition, CO₂ can also be reduced, because some congestion can be alleviated on the roadways when people convert to using the streetcar instead of their vehicles

TABLE 5. Greenhouse Gas Emissions Reduction Estimates	
Streetcar Ridership Estimates – 2012	
Daily Ridership	4,200
Yearly Ridership	1,400,000
Daily Riders Previously Auto Commuters	568
Annual Riders Previously Auto Commuters	135,320
Greenhouse Gas Reduction	
1 commuter switching to transit	4 lbs/day*
1 commuter switching to transit	960 lbs/year
Daily CO ₂ reduction from streetcar	2,272 lbs/day
Yearly CO ₂ reduction from streetcar	130,867,200 lbs/day
Yearly CO ₂ reduction from streetcar	59,350 metric tonnes/year
Yearly CO ₂ reduction cost savings	\$1,958,557**
*An average private vehicle emission rate is about 1.0 lb of CO ₂ per mile. **\$33 per metric tonnes of CO ₂ , pg. VIII-45, NHTSA's Corporate Average Fuel Economy for MY 2011 Passenger Cars and Light Trucks	

Source: *Public Transportation's Contribution to U.S. Greenhouse Gas Reduction, Sept. 2007*
Jobs_Economics_CO2_Calc.xls

v. Safety

Streetcar operations have been found to be safe operations in terms of crashes and personal injuries. The Kansas City Downtown Streetcar will be operated by trained professionals, in mixed traffic and will operate under the same traffic regulations and traffic control devices as buses and general traffic. Inherently, there is little difference between streetcars and buses, and the streetcar project will not have a negative effect on safety.

The streetcar project can help reduce the number of accidents by converting auto trips into passenger trips. Typically, the effect on crash rates is estimated by applying the reduction in vehicles miles traveled (VMT) to a known crash rate. The streetcar is estimated to reduce VMT by about 340,000 annually, which converts to a reduction in crashes of 10 to 15 per year, using the crash rate for urban arterial roadways.

vi. Evaluation of Expected Project Costs and Benefits

Based on the previous five criteria, the Kansas City Downtown Streetcar project costs far outweigh the benefits of the project. Under the economic competitiveness criterion, this project will help provide affordable mobility in an economically distressed county. The project will help increase property value and promote economic development, and decrease congestion and greenhouse gas emissions. The downtown streetcar project has many livability benefits. The project will help make the area more people- and pedestrian- friendly and promote better development in downtown and the urban core. For sustainability, the project is projected to reduce CO₂ emissions by 59,000 metric tonnes per year, which equals \$1.9 million per year.

In addition to these benefits, the project is forecast to have a significant economic impact. As shown in Table 6, the project potentially could generate \$211.2 million during the initial years of the project, and \$119.3 million 20 years out from construction. Based on this information, the total cost of the project — \$68.3 million — would clearly be outweighed by the quantitative and qualitative benefits.

TABLE 6. Downtown Streetcar Economic Impact Estimates	
Capital Cost Business Output	
Short-Term Business Output	\$ 204.9*
Long-Term Business Output	\$ 116.1**
* Return is 3 times greater than investment ** Return is 1.7 times greater than investment	
Operating Cost Business Output	
Short-Term Business Output	\$ 6.3*
Long-Term Business Output	\$ 3.2**
* Return is 3 times greater than investment ** Return is 1.5 times greater than investment	
Total Business Output from Streetcar Investment	
Short-Term Business Output	\$ 211.2
Long-Term Business Output	\$ 119.3

*Source: Public Transportation and the Nation's Economy: A Quantitative Analysis of Public Transportation's Economic Impact, Oct. 1999
Jobs_Economics_CO2_Calc.xls*

A benefit-cost analysis was performed for the project by quantifying the anticipated benefits, including user time savings and other benefits, and adding them to the benefits quantified in the previous sections. When compared to the capital and operating costs and reduced to present value, the project has a benefit-to-cost ratio of 18.8.

vii. Evaluation of Project Performance

KCATA routinely measures and evaluates the performance of transit services. For example, ridership by route and vehicle maintenance performance is reported monthly. These data are evaluated and unfavorable trends are addressed through appropriate management actions. Costs are monitored monthly as well through the Authority's budget process.

The Streetcar route will be included in all of KCATA standard monitoring systems, with a particular focus on ridership and costs. In addition, the job creation objectives may be monitored through the contractors involved in developing the system. Finally, KCATA may work with the Kansas City Department of Planning and Development to track the development related to the streetcar, addressing the economic development objectives.

B. Job Creation & Economic Stimulus

Based on capital and operating costs, the number of jobs created by the project was calculated based on the American Public Transportation Association report *Public Transportation and the Nation's Economy: A Quantitative Analysis of Public Transportation's Economic Impact (1999)*. The factors in this report were calculated by using the Regional Economic Models, Inc. (REMI) model. Tables 7, 8 and 9 show the number of jobs to be created by the downtown streetcar project and the market sectors in which jobs will be created.

TABLE 7. Downtown Streetcar Job Creation Estimates	
Streetcar Cost Estimates (2009)	
Capital Cost	\$68.3 million
Operating Cost	\$2.1 million
Streetcar Job Creation Estimates	
CAPITAL COST JOBS	
Short-Term Jobs	2,117*
Long-Term Jobs	804**
* For every \$100 million, 3,100 jobs are created in the short term	
** For every \$100million, 1,177 jobs are created in the long term	
OPERATING COST JOBS	
Short-Term Jobs	120*
Long-Term Jobs	50**
* For every \$100 million, 5,700 jobs are created in the short term	
** For every \$100million, 2,477 jobs are created in the long term	
Total Jobs from Streetcar Investment	
Short-Term Jobs	2,237
Long-Term Jobs	854

Source: *Public Transportation and the Nation's Economy: A Quantitative Analysis of Public Transportation's Economic Impact, Oct. 1999*
Jobs_Economics_CO2_Calc.xls

TABLE 8. Downtown Streetcar Capital Cost Jobs Created by Market Sector				
Sector	Short Term		Long Term	
	PERCENT	JOBS	PERCENT	JOBS
MANUFACTURING	19%	409	14%	112
Durables	15%	317	12%	94
Non-Durables	4%	92	2%	18
NON-MANUFACTURING	81%	1,708	86%	692
Mining	0.6%	13	0.2%	2
Construction	18%	384	29%	232
Transport and Public Utility	5%	98	3%	25
Finance, Insurance and Real Estate	4%	93	1%	11
Retail Trade	15%	326	7%	56
Wholesale Trade	5%	104	3%	26
Services	32%	672	42%	336
Agriculture / Forestry / Fishing	0.9%	18	0.6%	5
TOTAL	100%	2,117	100%	804

Source: *Public Transportation and the Nation's Economy: A Quantitative Analysis of Public Transportation's Economic Impact, Oct. 1999*
Jobs_Economics_CO2_Calc.xls

TABLE 9. Downtown Streetcar Operating Cost Jobs Created by Market Sector				
Sector	Short Term		Long Term	
	PERCENT	JOBS	PERCENT	JOBS
MANUFACTURING	8%	9	1%	0
Durables	5%	6	0.4%	0
Non-Durables	3%	3	0.1%	0
NON-MANUFACTURING	92%	110	99%	50
Mining	1%	1	0.2%	0
Construction	5%	6	1%	0
Transport and Public Utility	50%	60	89%	45
Finance, Insurance and Real Estate	5%	6	2%	1
Retail Trade	12%	14	2%	1
Wholesale Trade	3%	3	0.1%	0
Services	17%	20	6%	3
Agriculture / Forestry / Fishing	1%	1	0.1%	0
TOTAL	100%	120	100%	50

Source: *Public Transportation and the Nation's Economy: A Quantitative Analysis of Public Transportation's Economic Impact, Oct. 1999*
Jobs_Economics_CO2_Calc.xls

i. Job Opportunities for Low-Income Workers

KCATA historically has recruited employees from among minority and low-income segments of the population. Currently 77 percent of KCATA's 803-person workforce is African American or Hispanic. KCATA will continue this practice as it develops the workforce for the streetcar.

KCATA regularly works with organizations involved with promoting opportunities for low-income persons, minorities and other disadvantaged population groups. This practice will be continued for the Kansas City Downtown Streetcar project.

Most of the employment opportunities created during the project's design and construction phases will be through contractors to the KCATA. KCATA can address the objective of job creation for disadvantaged persons by encouraging participation by Disadvantaged Business Enterprise (DBE) firms and other small businesses.

The permanent jobs directly created by the streetcar project likely will be within KCATA. It is the employment policy and practice of the KCATA to recruit and to hire employees without discrimination because of race, religion, color, national origin, ancestry, handicap, medical condition, disability, Vietnam Veteran status, sex, or because applicants are between 40 and 62 years of age, and to treat all employees equally with respect to compensation; opportunities for advancement, including upgrading, promotion and transfer; and all other terms and conditions of employment.

KCATA advertises for new employees through a variety of means, including advertising in publications that reach these target populations. The Kansas City Globe and The Call are minority weekly newspapers. Dos Mundos and Kansas City Hispanic News are weekly bilingual English-to-Spanish publications newspapers. KCATA has a policy of advertising in these publications.

KCATA also works with the Kansas City Full Employment Council, the NAACP – Kansas City Chapter, the Missouri Division of Workforce Development, El Centro and the Urban League of Kansas City. These organizations are valuable in helping KCATA extend its reach into communities of low income and other disadvantaged populations.

KCATA does maintain training programs to assist employees gain new skills and advance within the organization.

ii. Opportunities for Small Businesses and DBE firms

The streetcar will be a significant construction project that will provide opportunities for businesses of all sizes. Much of the work on the streetcar project will be the type of public works construction that can be completed effectively by small businesses. KCATA has a Disadvantaged Business Enterprise (DBE) Policy that is fully compliant with regulations of the US Department of Transportation (DOT), 49 CFR Part 26, and "Participation by Disadvantaged Business Enterprises in Department of Transportation Financial Assistance Programs." KCATA encourages DBE participation and will ensure that small and disadvantaged firms have an opportunity to participate in the streetcar project.

iii. Assurance that all Individuals Will Benefit from the Project

KCATA has an Affirmative Action Policy that requires that all employees, customers and other parties are free from discrimination on the basis of race, gender, age, disability and national origin. KCATA's Affirmative Action Policy extends to projects under the American Reinvestment and Recovery Act. A copy of *KCATA's Affirmative Action* policy statement can be found at http://www.kcata.org/about_kcata/entries/tiger/.

KCATA is fully compliant with all regulatory provisions of the Federal Transit Administration include in the agency's *Annual List of Certifications and Assurances* for FTA Grants and Cooperative Agreements. A copy of the signed document for FY 2009 can be found at http://www.kcata.org/about_kcata/entries/tiger/.

C. Project Schedule

The Kansas City Downtown Streetcar project may be developed as a design-build (DB), or possibly a design-build-operate-maintain (DBOM) project. As such, with capital funding through the TIGER program and funding from other sources, the system can be operational in 2012. Preliminary engineering and design would start in 2010 and construction early in 2011. The following preliminary schedule summarizes the activities and milestones leading to implementation.

TABLE. 10 Kansas City Downtown Streetcar Project Schedule

Project Phase and Activity		2009		2010				2011				2012			
		2nd Qtr	3rd Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr	1st Qtr	2nd Qtr	3rd Qtr	4th Qtr
Project Development	Environmental	█													
	Planning & Financing	█		█											
	Bridge preliminary design			█											
	Permitting/utilities			█				█							
	Preliminary engineering			█				█							
	Final design - bridges			█				█							
Design Build Phase	Final design			█				█							
	Bridge construction			█				█				█			
	Construction			█				█				█			
	Vehicle procurement			█				█				█			
	Milestones			★				★				★			
				TIGER Grant Award				Financing Complete				Design-Build Procurement			
				Revenue Operations								★			

Table 11 shows the capital job creation by quarter with this schedule.

TABLE 11. Estimated Jobs Created by Quarter	
1 st Quarter 2010	17
2 nd Quarter 2010	23
3 rd Quarter 2010	23
4 th Quarter 2010	65
1 st Quarter 2011	209
2 nd Quarter 2011	89
3 rd Quarter 2011	89
4 th Quarter 2011	203
1 st Quarter 2012	315
2 nd Quarter 2012	479
3 rd Quarter 2012	603
4 th Quarter 2012	123

Schedule.xls

The job creation figures are based on the figures developed in the Job Creation and Economic Stimulus section.

i. Environmental Approvals

The intent for this project is to secure a Categorical Exclusion (CE) for the environmental process. The strategy in planning and designing the project is to avoid or minimize potential impacts on the community, adjacent properties and the environment. The project will be constructed within existing street right-of-way, so the project should have very minimal impacts. A red-flag analysis was conducted as part of the *North/South Corridor Alternatives Analysis (2009)* and a substantial amount of environmental data has been collected in the corridor. In addition, the *Southtown Corridor Transit Study: Major Investment Study and Environmental Assessment (1995)*, which proposed a light rail alignment running from the River Market through downtown Kansas City to 51st Street, received an approval to move into design. The light-rail project was not completed due to local funding issues in the 1990s.

ii. Legislative Approvals

Legislative approvals are not necessary to implement the streetcar project. The KCATA and the city of Kansas City, Mo., are fully empowered to plan, construct and operate transportation facilities and systems. If a special district, such as a Transportation Development District (TDD), is created to contribute to the financing of the project and its operation, permissive state legislation will be required. State statutes already provide for TDDs; thus, obtaining legislative approval for the downtown streetcar may easily be secured.

iii. State and Local Planning

A fixed-guideway transit system in Kansas City's central commercial core has been included in transportation, land-use and development plans for decades. Most recently, Kansas City's *Greater Downtown Area Plan (2009)* recommends a fixed-guideway transit system in the Grand Boulevard/Main Street Corridor in the downtown area. The plan also recommends tactics to encourage transit-oriented development (TOD) along this corridor. The fixed-guideway system would provide connectivity among various regional transit systems.

In the MARC *Smart Moves Transit Vision (2008)*, the transit element of the region's long-range transportation plan, includes a fixed-guideway or other high-capacity transit system in the central commercial corridor from the River Market to Crown Center, and south to the Country Club Plaza.

iv. Technical Feasibility

As stated above, KCATA will secure environmental approvals necessary for the project to move forward into the design, procurement and construction phases. KCATA plans to initiate the design work on bridges immediately upon receipt of the TIGER funding. The required bridge modifications are likely to be the long lead time items that dictate the project schedule. KCATA plans to continue with preliminary engineering on the streetcar infrastructure, then initiate the design-build procurement process by the end of 2010. Construction on the bridges may start in late 2010 and construction on the streetcar infrastructure may start by the second quarter of 2011. Revenue operations could start by the end of 2012.

v. Financial Feasibility

KCATA is the FTA-designated recipient for the Kansas City metropolitan area, and has successfully managed hundreds of millions of dollars in FTA funding. KCATA has also successfully managed two fixed-guideway projects funded by FTA, the Main Street MAX bus rapid transit and Troost MAX. Main Street MAX has been in operation since 2005. Troost MAX, a Very Small Starts project, is currently in the construction phase.

KCATA has an operating budget of approximately \$80 million and a capital budget that ranges from \$20 million to \$50 million.

The requested TIGER funding will provide the seed money to restart the Kansas City Downtown Streetcar project and give KCATA and the city of Kansas City, Mo., the opportunity to secure funding for the project.

III. SELECTION CRITERIA | SECONDARY

A. Innovation

The streetcar project may employ innovative methods on several levels.

The streetcar vehicles and stops may be integrated with KCATA's existing Transit Management System, an ITS system that includes AVL/CAD, real-time customer information and other features. Instead of creating new communications infrastructure for the streetcar system, as is done in most cases, KCATA may leverage the investment in the existing Transit Management System for operations control and customer service information.

The streetcar project may be developed as a public-private partnership. KCATA may develop the streetcar infrastructure through a design-build project delivery technique, and possibly include operations to make the project a DBOM (design-build-operate-maintain). This decision will be made as part of preliminary engineering phase in 2010.

Private financing is a requirement of the project. KCATA and the city of Kansas City, Mo., have committed that the financing for the streetcar project will not draw revenues used to support the Metro bus and bus rapid transit system. The location and nature of the streetcar alignment is such that private businesses along the route will gain tangible benefit from the streetcar in the form of increased property values, new development and increased commercial activity. This situation is ideal for public-private financing partnerships.

B. Partnership

i. Jurisdictional and Stakeholder Collaboration / ii. Disciplinary Integration

KCATA has been working with multiple organizations and agencies in the development of the streetcar project. The city of Kansas City, Missouri is an equal partner in the project; the city has jurisdiction over the roadways the streetcar would operate on. KCATA is coordinating with the Kansas City Downtown Council, Kansas City Union Station, Inc., Crown Center Redevelopment, the River Market Business Association, the Mid-America Regional Council, and other organizations with an interest in downtown. This collaboration will continue through the operational phase of the project.

C. Program-Specific Criteria

As the streetcar project advances it is expected to be administered as a Small Starts project under FTA's New Starts fixed guideway program. The project will therefore be subject to the guidelines and regulations in place for Small Starts projects.

IV. FEDERAL WAGE RATE REQUIREMENT

Contractors on KCATA construction projects are required to pay either the state or federal prevailing hourly wage rate (whichever is higher) for the craft or type of worker required to perform the work.

Refer to the KCATA certification that it will comply with the requirements of subchapter IV of chapter 31 of title 40, United States Code (Federal wage rate requirements), as required by the Recovery Act at the following location

http://www.kcata.org/about_kcata/entries/tiger/.

Refer to the FTA Certifications and Assurances document at the following location http://www.kcata.org/about_kcata/entries/tiger/ to see Job Special Provision that appears in every KCATA contract that has federal aid.

V. NEPA REQUIREMENT

A Draft Environmental Impact Statement (DEIS) for a 14-mile light rail alignment, including the two-mile streetcar segment, was initiated for the *North/South Corridor Alternatives Analysis* but was not completed. Data collection for the corridor was completed with the exception of finalizing the cultural resource review. An initial literature review of resources and districts was completed. Coordination with the State Historic Preservation Office was initiated in the fall of 2008 and the area of potential effect (APE) was established at that time, which consisted of building facades around the alignment and an expanded APE around proposed station areas.

A concern identified during the work on the Alternatives Analysis was light-rail station area and park and ride area impacts. Because the streetcar will have stop areas with small footprints and minimal constructed amenities compared to light rail stations, this concern is mitigated.

Construction for the streetcar line will be entirely within the public street right-of-way, with the exception of the vehicle storage and servicing facility. The storage facility will be developed as a service and light maintenance facility, thus reducing the facility size and potential impacts on surrounding properties. The facility may be developed as part of a larger development to avoid adverse impacts on existing properties.

The streetcars will operate in mixed traffic in accordance with traffic control in place for general traffic. Thus the streetcars will not have traffic-related impacts different than bus transit operations already in place in the corridor. Due to the project being constructed in existing right-of-way and the minimal impacts, the project should be a Categorical Exclusion.

VI. ENVIRONMENTALLY RELATED FEDERAL, STATE & LOCAL ACTIONS

Because of the limited impacts of the streetcar line, it is anticipated that environmental clearances may be readily obtained as an extension of the environmental work already started for the *North South Corridor Alternatives Analysis*.

VII. WEB LINKS TO PROJECT RESOURCES

Project's Primary Resource Web site:

http://www.kcata.org/about_kcata/entries/tiger/

Secondary Resources:

<http://www.kcsmartmoves.org/>

<http://www.kctransit.org/benefits.htm>

<http://www.plandowntownkc.com/>