

MULTI-MODAL Transportation Connections for Wichita State Innovation Campus



April 29, 2016
DUNS: 043063460
City of Wichita, Kansas



WICHITA STATE
UNIVERSITY



Primary Project Type: Transit-Bus

Secondary Project Type: Bike/Ped-Complete Streets

Location: City of Wichita, Sedgwick County, Kansas
Congressional District 4, an urban area

Primary Project Location Zip Code: 67214

Total Project Cost: \$22,550,000

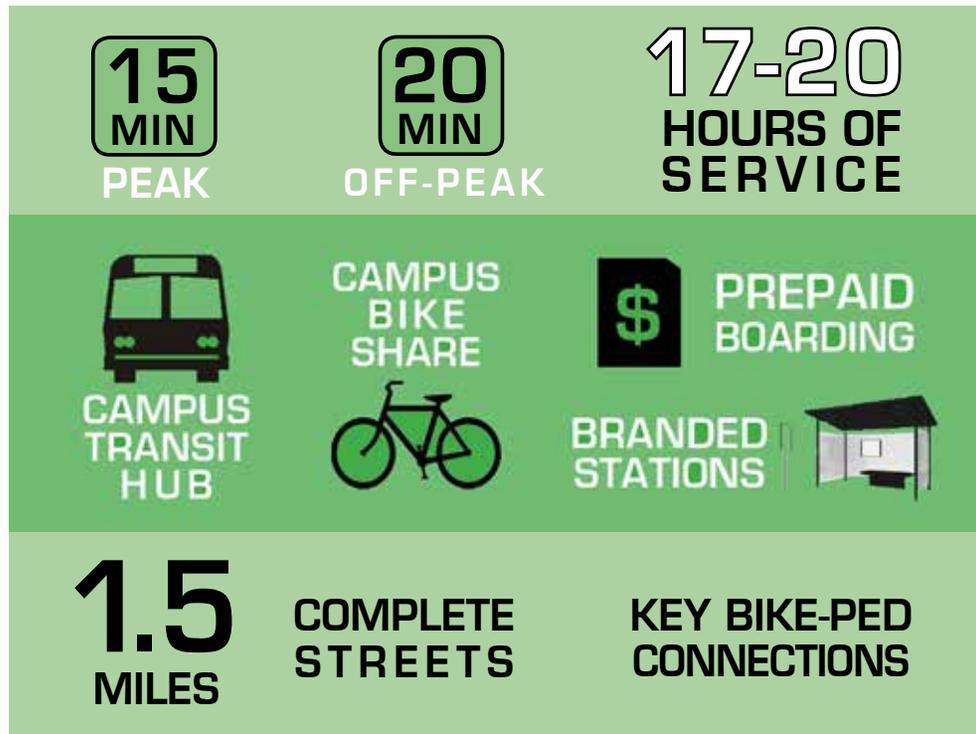
TIGER Grant Funds Requested: \$15,110,000

Local Cash Match: \$7,440,000

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<http://www.wichita.gov/Government/Departments/Planning/Pages/Tiger.aspx>



2,506



5,700



\$486
MILLION



Executive Summary

The Great Recession that the Transportation Investment Generating Economic Recovery (TIGER) Program was created to address hit the greater Wichita area hard. Known as the “Air Capital of the World” for its global prominence in aircraft manufacturing, Wichita lost nearly 30,000 aircraft manufacturing jobs following 2008. Job recovery since has been slow, with only half of the jobs lost regained so far. More critically, job recovery has been uneven. The jobs lost were high-paying manufacturing jobs, but most of the regained jobs are low-paying service jobs, often without benefits.

As an Investing in Manufacturing Communities Partnership (IMCP) designee by the U.S. Department of Commerce Economic Development Administration, the greater Wichita area is mustering all available tools to generate economic recovery. Prominent in these efforts is establishing an Innovation Campus at Wichita State University. Supported by the Blueprint for Regional Economic Growth for South Central Kansas and the Wichita-South Central Kansas Regional Export Plan, the Innovation Campus will transform Wichita’s economy through innovation, applied learning, and entrepreneurship by creating new avenues for financial growth while infusing existing industries with the resources needed for future success.

The Innovation Campus attracts and hosts leading-edge anchor institutions on a 120-acre former golf course adjacent to Wichita State University to strategically connect with students and faculty involved in applied research and development that fosters inventions, patents, product development, business start-ups, entrepreneurship, and overall economic growth of the region and country. The Innovation Campus will be physically compact, connected to the greater community by all modes of transportation, and offer mixed-use office, retail, and housing.

The TIGER program is needed to leverage the multi-modal transportation connections of the Innovation Campus in a way that creates Ladders of Opportunity for the residents of the neighborhoods surrounding the campus. More than one in five households in these neighborhoods are living below the poverty level and almost 60% are low- to moderate-income households. Not only will the TIGER program connect these residents to the 5,700 jobs at the Innovation Campus, but significantly enhanced bus service, complete streets, and bicycle and pedestrian connections will connect these residents with downtown, an employment center with over 26,000 existing jobs; educational opportunities at Wichita State University and the Wichita Area Technical College; a regional medical center; three grocery stores; and several major commercial areas with employment, shopping, medical offices, and other services.



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2016 TIGER Grant Application

Multi-Modal Transportation Connections for Wichita State Innovation Campus

a. Project Description

i. Use of TIGER Funds

The project will provide multi-modal transportation connections for the new Wichita State University Innovation Campus. TIGER funds will be used to construct complete street projects along Oliver Avenue and 17th Street North adjacent to the Innovation Campus. A bus route that was recently added to connect the Innovation Campus to Wichita State's new Old Town Campus in downtown Wichita as well as to major employment, shopping centers, and park and ride locations will have significantly expanded service frequency and hours of operation. A transit hub will be constructed on campus that includes a bike share program. Bicycle and pedestrian improvements will be constructed to connect the Innovation Campus to the existing city-wide pathway system.

Project Component	Cost
Oliver Avenue Complete Street	\$4,100,000
17th Street North Complete Street	\$5,900,000
40-foot Diesel Buses (9)	\$4,410,000
Level 1 Transit Stops (30)	\$1,620,000
Level 2 Transit Stops (16)	\$1,520,000
Campus Transit Hub	\$2,000,000
Campus Bike Share Program	\$600,000
Bike-Ped Connections to Pathway System	\$2,400,000
	\$22,550,000

Project Funding

TIGER Funds Requested	\$15,110,000
Local Cash Match	\$7,440,000



Wichita State Old Town Campus

ii. The TIGER Difference

While local funding can provide all modes of transportation service to the Wichita State University Innovation Campus and the surrounding neighborhoods, financial assistance from the TIGER grant program is needed to significantly enhance the level of service and transportation options available. Without TIGER funds, the bus route serving campus will operate Monday through Saturday from 6 a.m. to 7 p.m. with service every 30 minutes on weekdays and once per hour on Saturday. With TIGER funds, operating hours for the bus route will be expanded to 6 a.m. to 11 p.m., Monday through Thursday, and 6 a.m. to 2 a.m., Friday and Saturday. Additionally, service frequency will increase from service every half-hour to service every 20 minutes in the off-peak and every 15 minutes during peak hours. The increased hours and frequency of transit service will be enhanced further with TIGER funds by installing branded bus shelters with pre-paid boarding and real-time information centers. The enhanced transit service would be operated from an on-campus transit hub that would provide multi-modal connections to a bike share program, neither of which could be funded without TIGER.

TIGER funds also will significantly enhance the ability to provide complete streets adjacent to campus. Without TIGER funds, 17th Street cannot be reconstructed and instead will be restriped with on-street bicycle lanes. With TIGER funds, 17th Street will be completely reconstructed to include a center landscaped median as a pedestrian refuge with multiple mid-block pedestrian crossings and traffic calming features such as curb extensions. Wide landscaped sidewalks with lighting and street furniture also will be constructed. Bicycle and pedestrian connections to the campus cannot be expanded without TIGER funds. While the southeast corner of the campus is adjacent to a shared-use pathway, TIGER funds will be used to construct on-street bicycle and pedestrian connections to pathway system to the north, south, and west of the campus. Additionally, the shared use path east of campus will be extended one mile to connect to a major shopping and employment center.

iii. Project Beneficiaries

Wichita State University (WSU) students and employees are the most direct beneficiaries of the project, as the project is designed to connect the main WSU campus to the existing Metroplex Campus, the new Innovation Campus, and to the new Old Town Campus. To ensure the most benefit, the WSU cost-share for operations and maintenance of the transit component of the project would provide system-wide transit access, thus expanding transit choice to include access to all destinations served by the Wichita Transit system. Presently, there are approximately 18,400 WSU students and employees. Over the 20-year project life, the number of students and employees is estimated to grow to over 27,000, including the new Innovation Campus.

The new 120-acre Innovation Campus (see page 3) is a \$486 million project that will bring over 5,700 new employees to the area in over 2.9 million square feet of new development consisting of:

- ▶ An Experiential Engineering Building with engineering laboratories and a maker space;

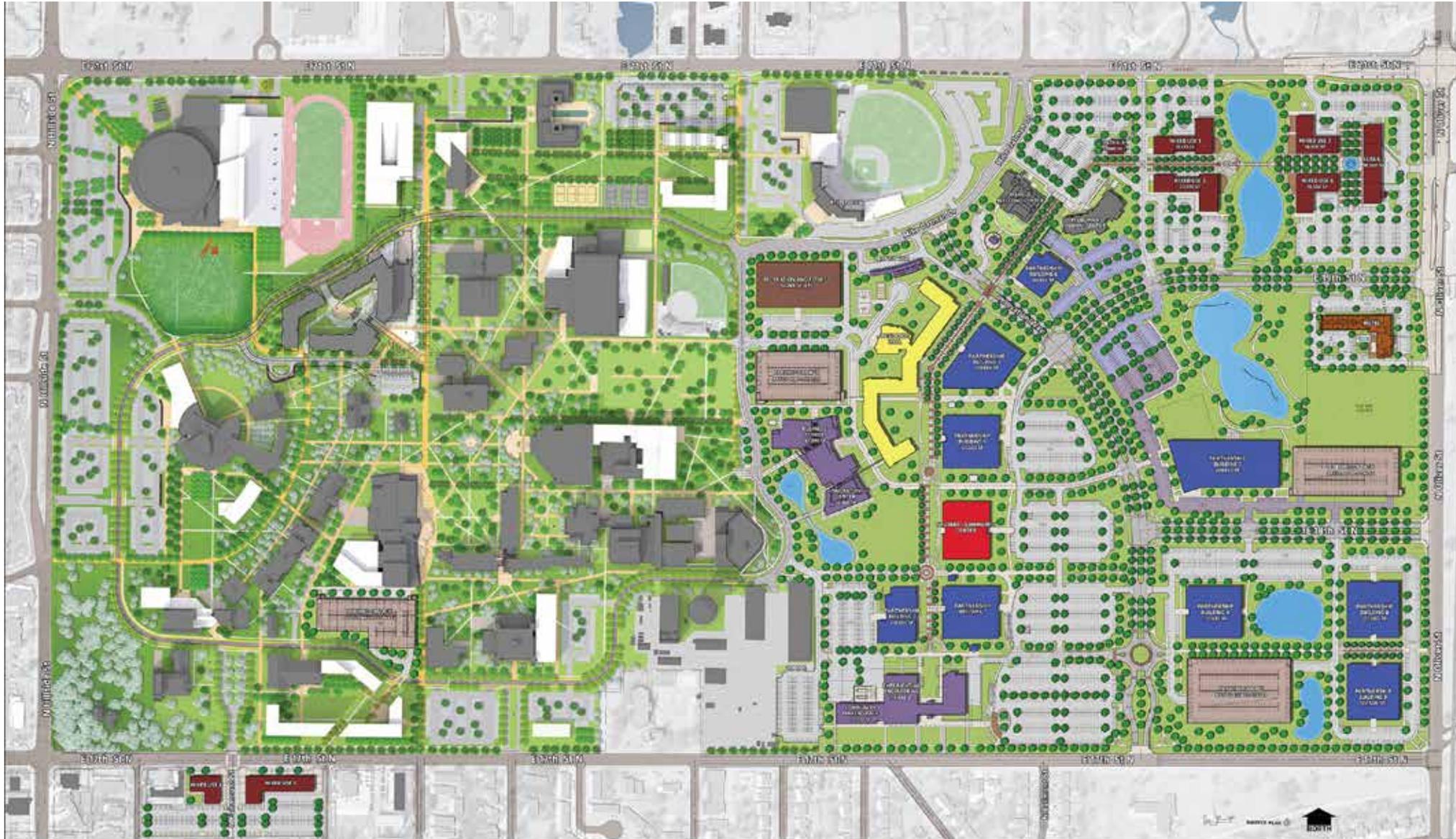


Experiential Engineering Building

“ Increased access to the Innovation Campus will make our economy more globally competitive. ”

*John W. Bardo
President,
Wichita State University*

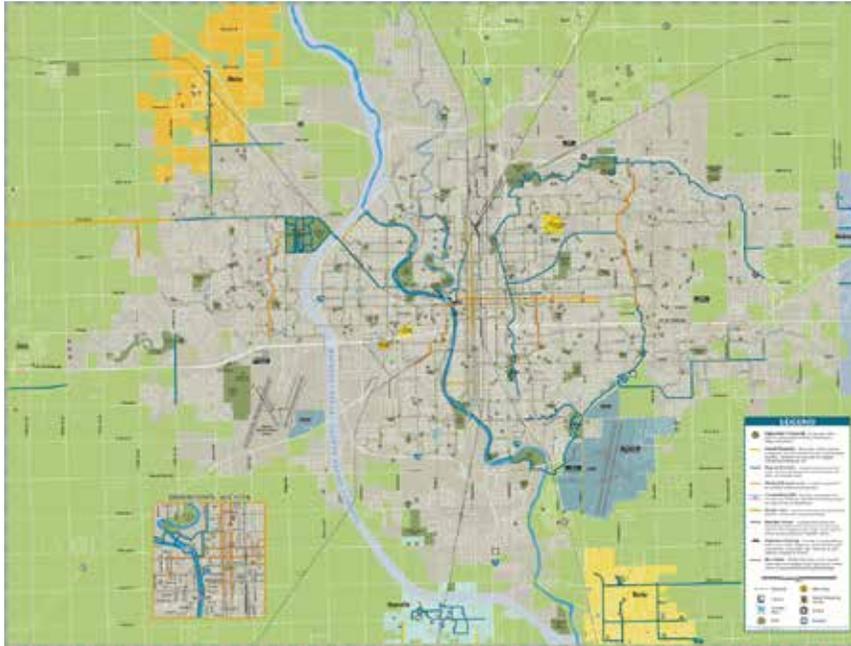
- ▶ Nine Partnership Buildings, constructed with private funds by developers who will lease space to companies that want to work with WSU students and faculty on research and development;
- ▶ A new home for the W. Frank Barton School of Business, with an adjacent Innovation Center;
- ▶ A new residence hall;
- ▶ A student community outreach center;
- ▶ A recreation and fitness center;
- ▶ Six mixed-use buildings in an urban village built by private developers at Oliver and 21st Street that include retail stores and restaurants on the first level and apartments on upper levels; and
- ▶ A hotel, built by a private developer, near the southwest corner of 21st and Oliver.



INNOVATION CAMPUS MASTER PLAN

VERSION - 19





Greater Wichita Bike Map

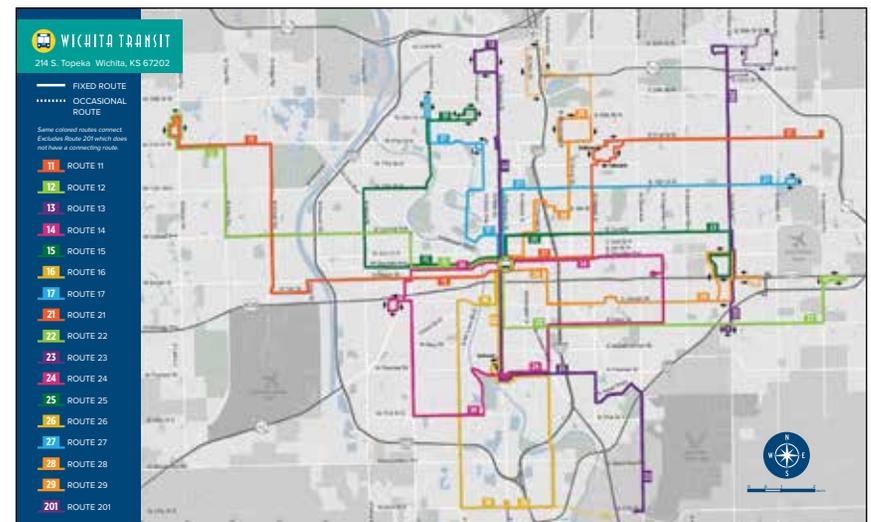
Neighborhood residents also will benefit greatly from the project. Nearly one of every eight households in the project impact area do not have access to a vehicle, and current transit, bicycle, and pedestrian connections to jobs, education, and services have significant gaps. The project will significantly enhance the bus line that connects the neighborhood with downtown, an employment center with over 26,000 existing jobs; the new Innovation Campus, with 5,700 new jobs; Wichita State University; Wichita Area Technical College; a regional medical center; three grocery stores; and several major commercial areas with employment, shopping, medical offices, and other services. Bicycle and pedestrian connections to the city-wide pathway system also will connect the neighborhood to these same destinations.

In *“The Rise of Innovation Districts: A New Geography of Innovation in America”* (see [Appendix A](#)) the Brookings Institution’s Metropol-

itan Policy Program notes that a new urban development model called “innovation districts” is a leading-edge approach to economic development. The Wichita State University Innovation Campus will use this model to locate leading-edge anchor institutions on the Innovation Campus to connect with Wichita State students and faculty involved in applied research and development that fosters inventions, patents, product development, business start-ups, entrepreneurship, and overall economic growth of the region and country. The Innovation Campus will be physically compact, connected to the greater community by all modes of transportation, and offer mixed-use office, retail, and housing.

iv. Transportation Challenges Addressed

Wichita State University has a main campus and a Metroplex campus with a park and ride facility that are located about one mile apart and connected by a university-operated bus system. The new Innovation Campus will be located adjacent to the main campus, which will nearly double the physical size of the University. Additionally, the University recently added a new Old Town campus in



Wichita Transit System Map

“The innovative, cross-modal proposals include Ladders of Opportunity projects that will increase connectivity to employment, education, and services.”

*Steve Coen
President & CEO,
Kansas Health Foundation*

downtown Wichita located about 3.5 miles from the main campus. The project will modify the university-operated bus system with a new Wichita Transit bus service that connects the main campus with the Metroplex, the Innovation Campus, and the Old Town Campus.

The City of Wichita has an existing 100-mile bicycle-pedestrian pathway system that connects many destinations through the community (including the eastern edge of the Innovation Campus) and is being expanded each year in accordance with adopted bicycle and pedestrian master plans. The project will connect Wichita State’s main campus and the Innovation Campus to the pathway system to the north, south, and west via a combination of on-street bicycle lanes, bicycle boulevards (including traffic calming), and sidewalks. This connectivity will be expanded with a bike share program to be implemented by the project on Wichita State’s main campus and the Innovation Campus. The project also will construct a critical expansion of the pathway system to connect the Innovation Campus to a major commercial area with employment, shopping, medical offices, and other services.

The majority of off-campus student housing located adjacent to Wichita State is in the Fairmount neighborhood south of campus across 17th Street North. Currently, 17th Street is a four-lane arterial street and there is a single mid-block pedestrian crossing to the neigh-

borhood, even though the neighborhood and Wichita State University share a mile-long border. The project will reconstruct 17th Street as a complete street by implementing a road diet to convert the street to three lanes with on-street bicycle lanes. A center landscaped median will be added as a pedestrian refuge and multiple mid-block crossings with traffic calming features such as curb extensions will be constructed. Wide landscaped sidewalks with lighting and street furniture also will be constructed.

The new Innovation Campus has been designed to direct vehicular traffic to Oliver Avenue on the eastern edge of the campus. The project will reconstruct Oliver as a complete street between 17th Street North and 21st Street North. 21st Street has an interchange with Interstate 135 west of campus. The Oliver complete street project will direct high volumes of vehicular traffic around existing neighborhoods to the recently improved 21st Street corridor in order to preserve the enhanced neighborhood connectivity along 17th Street. The project will incorporate features such as wide sidewalks, lighting, traffic calming, and signalized pedestrian crossings along Oliver to ensure multi-modal connections are safe and convenient.

v. Ladders of Opportunity

Wichita State University is surrounded by neighborhoods where more than one in five households are living below the poverty level and over 50% are low- to moderate-income households. Through the development of the Innovation Campus and growth of the main campus,



Custom bus shelter along Douglas Ave.

more than 5,700 new jobs will be created at Wichita State, thus providing significant new job opportunities to neighborhood residents.

The Kansas Health Institute in collaboration with the University of Kansas School of Medicine and the Hugo Wall School of Urban and Public Affairs at Wichita State University recently completed a Health Impact Assessment (see [Appendix B](#)) of changes to the Wichita Transit bus system. The assessment found that improvements to the bus system such as the significantly enhanced bus service provided by the project will improve access to jobs, education, food, recreation, and health care. This improved access is particularly beneficial to residents of the project impact area who are more than twice as likely to not have access to a vehicle as other residents in the region. Additionally, the enhancements will be extremely beneficial to existing transit riders, of which nearly half earn less than \$10,000 per year and almost two-thirds ride transit daily. Finally, the Health Impact Assessment also found that improvements to the bus system will improve air quality, physical activity, and safety for residents in the project impact area, thus helping to address environmental justice issues for the area.

The City of Wichita has recently completed the Community Investments Plan 2015-2035 (see [Appendix C](#)) that contains an infill strategy focused on policy development to encourage greater infill development and less suburban fringe development. One of the policies focuses on leveraging transportation investments like those provided by TIGER funding to foster infill development on vacant and underutilized sites. The City of Wichita recently participated in the Building Blocks for Sustainable Communities for technical assistance with Infill Development in Distressed Communities. The area of focus for the technical assistance is served by the bus route to be enhanced with TIGER fund-



ing. The technical assistance has identified strategies for developing affordable housing, retail, service, and employment opportunities for neighborhood residents on infill sites along this transportation corridor.

Much of the project impact area is a Small Business Administration Historically Underutilized Business Zone (HUB Zone). The project will improve transportation connections for this area, which will both encourage new small businesses to locate in the area as well as provide transportation options to their employees that live in the area.

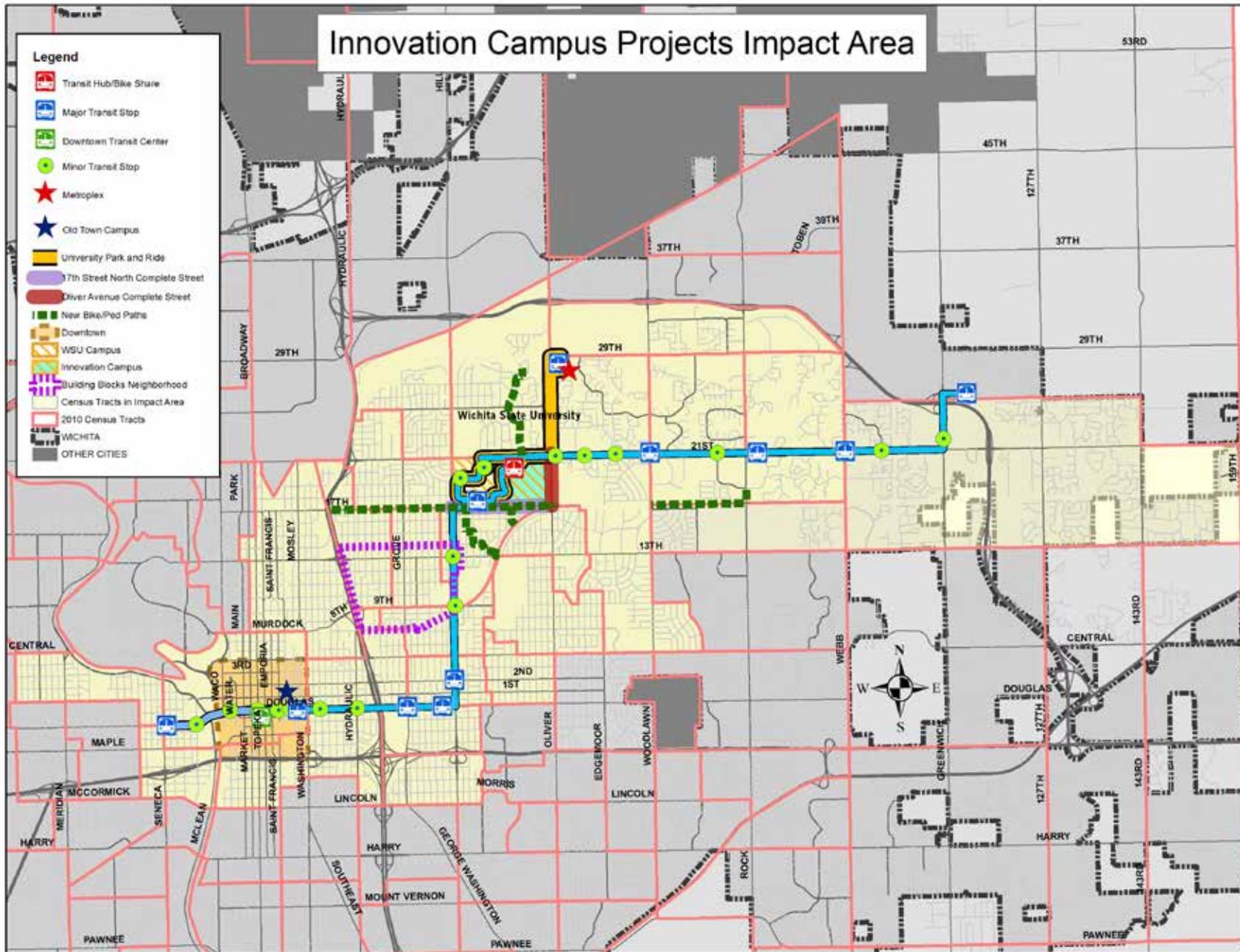
b. Project Location

i. Demographics of the Region

The project is located in the Wichita, Kansas Metropolitan Statistical Area. The Wichita MSA had a 2010 population of 630,919. The project impact area (see page 7) is the Census Tracts served by the transportation investments. Over one in eight residents of the Wichita MSA will directly benefit from the project.

	Wichita MSA	Innovation Campus Project Impact Area
2010 Total Population	630,919	80,240
% of Total Population	-	12.7%
Minority	26.3%	44.3%
Median Household Income	\$46,131	\$30,543
HUD Low to Moderate Income	36.0%	52.0%
Household Below Poverty	13.8%	20.7%
Renter Occupied Housing Units	33.0%	50.4%
Vacant Housing Units	9.7%	12.8%
Household Without a Vehicle	5.8%	11.7%

Map of Project and Transportation Connections



ii. Demographics of Project Beneficiaries

As shown in the table comparing the project impact area to the Wichita Metropolitan Statistical Area, almost half of the households in the project impact area are minority, a rate almost twice that of the Wichita MSA. More than one in five households of the project impact area is living below the poverty level, and more than half of the households have low to moderate income with a median household income that is over one-third less than the Wichita MSA. One in eight households in the project impact area do not have access to a vehicle, a rate more than twice that of the Wichita MSA.

c. Project Parties

i. Grant Recipient

The City of Wichita, Kansas is the grant applicant and will be responsible for administering the grant award and completing all project components.

ii. Project Partner

Wichita State University is partnering in the project with the City of Wichita and will develop the \$550 million Innovation Campus. Wichita State University also will provide right-of-way for the Oliver and 17th Street complete street projects and locations on campus for the transit hub and bike share program.

iii. Project Supporters

In addition to the project partners, the project has received broad community support, as evidenced by the 29 letters of support in [Appendix D](#). Senator Jerry Moran, Senator Pat Roberts, Representative Lynn Jenkins, Representative Kevin Yoder, Governor Sam Brown-back and State Senator Susan Wagle support the project. Project supporters also include regional economic development organizations such as the South Kansas Investing in Manufacturing Communities Partnership, the Greater Wichita



Transit Hub Site Plan

Partnership, the Regional Economic Area Partnership, the Blueprint for Regional Economic Growth, Kansas Global Trade Services, the Workforce Alliance of South Central Kansas, the Metropolitan Area Planning Commission, the Wichita Downtown Development Corporation, and the Wichita Metro Chamber of Commerce. Advocates for active, multi-modal approaches to transportation also support the project, including the Kansas Department of Transportation, the Wichita Area Metropolitan Planning Organization, the Wichita Transit Advisory Board, the City of Bel Aire, the Kansas Health Foundation, Bike Walk Wichita, Inc., the Wichita Parks Foundation, the Wichita Community Foundation, and Alpha Kappa Psi. The project also has been well received from private industry such as Airbus Americas Engineering, Cox Communications, Intrust Bank, Spirit Aerosystems and NetApp.



TRANSIT HUB



“ This exciting multi-modal transportation project will promote infill development and foster growth and development of our community in innovative ways. ”

Jeff Longwell

Mayor, City of Wichita

funding. The City of Wichita is providing \$7,440,000 in local cash match, which is 33% of the project costs eligible for TIGER funding.

e. Selection Criteria

i. Primary Selection Criteria

a) State of Good Repair

i) Transformational Improvements to Existing Systems

After receiving technical assistance on complete streets through Building Blocks for Sustainable Communities, the City of Wichita

d. Sources and Uses of Project Funds

The total project cost is \$23,050,000. The total project cost includes pre-expended project costs by the City of Wichita for preliminary engineering totaling \$500,000. The total amount of TIGER funds requested is \$15,110,000, which is 67% of the project costs eligible for TIGER

Sources/Uses of Project Funds (in millions)

Project Component	TIGER Funds Requested	Local Cash Match	TIGER Eligible Costs	Pre-expended Funds	Total Project Costs
Oliver Complete Street	\$2,747	\$1,353	\$4,100	\$200	\$4,300
17th St. Complete Street	\$3,953	\$1,947	\$5,900	\$300	\$6,200
40-foot Diesel Buses (9)	\$2,955	\$1,455	\$4,410	--	\$4,410
Level 1 Transit Stops (30)	\$1,085	\$535	\$1,620	--	\$1,620
Level 2 Transit Stops (16)	\$1,020	\$500	\$1,520	--	\$1,520
Campus Transit Hub	\$1,340	\$660	\$2,000	--	\$2,000
Bike Share Stations Program	\$402	\$198	\$600	--	\$600
Bike-Ped Connections	\$1,608	\$792	\$2,400	--	\$2,400
Total	\$15,110	\$7,440	\$22,550	\$500	\$23,050

“ This project will create a one-of-a-kind state-of-the-art research and innovation campus at Wichita State University that will not only meet, but exceed the goals of the TIGER Grant Program. ”

Mike King

Secretary, Kansas Department of Transportation

embarked on an ambitious effort to develop a Bicycle Master Plan (see [Appendix E](#)), a Pedestrian Master Plan (see [Appendix F](#)), and a Multi-Modal Policy and Street Design Guidelines (see [Appendix G](#)) with funding from an Energy Efficiency and Conservation Block Grant from the Department of Energy and a Community Transformation Grant from the Centers for Disease Control. As a result, the City is undertaking a 10-year effort to construct critical connecting link projects in its bicycle and pedestrian pathway system. TIGER funding would be used to construct three of these connecting links to the north, south, and west sides of the Wichita State campus, as well

as extend the existing pathway system on to the east of campus to connect to a major commercial area. These connecting links will supplement the link currently under construction using a Transportation Alternatives grant that connects to the east side of campus.

The recently adopted Multi-Modal Policy and Street Design Guidelines indicates that the City of Wichita will consider multiple modes of transportation and the context of the improvements when undertaking street projects. While most of the impact of the new Innovation Campus could be addressed with the construction of additional travel lanes and turning lanes along with traffic signal improvements, such an approach ignores the context in which Innovation Campus is being developed. Instead, complete street projects are proposed along 17th Street and Oliver that provide wide sidewalks, pedestrian crossings, bicycle lanes/paths, and traffic calming features to provide multi-modal transpor-



Mixed Use Urban Village
Wichita State Innovation Campus



W. Frank Barton School of Business

tation connections to the nearby neighborhoods.

Transit is the other transportation mode that needs to be considered with the development of the Innovation Campus. Wichita State's private bus system currently connects the main campus with the Metroplex and its park and ride facility. The Wichita Transit bus route that serves the main campus provides infrequent service during limited hours. Through TIGER funding, the hours of service and service frequency for the bus route that connects Wichita State's main campus with the Metroplex, Innovation Campus, and Old Town campus will be significantly enhanced. The route will operate on the Douglas Avenue transit-oriented development corridor, which recently has been improved through a Federal Transit Administration Bus and Bus Facilities Livability Grant. The route will provide direct connections to jobs, educational facilities, shopping, and services. Through a system-wide access arrangement with Wichita State University, the route will provide fare-free access to the entire Wichita Transit system for all students, faculty, and staff.

ii) Network Efficiency and Reliability

The streets next to the new Innovation Campus are in serviceable

“ This grant will help further connect trails and trail users to Wichita State University and career ladder opportunities ”

*Kim Neufeld
President
Bike Walk Wichita, Inc.*

condition for existing needs. However, the Vehicular Traffic Impact and Pedestrian and Bicycle Studies (see [Appendix H](#)) conducted by MKEC Engineering Consultants estimates that increased traffic from the Innovation Campus will result in significant decreases in transportation network efficiency, including peak hour congestion. Without improvements, development of the Innovation Campus will threaten efficient transportation operations.

iii) Asset Management

The City of Wichita will provide the local matching funds from its Capital Improvement Program. Once constructed, the complete street, bicycle, and pedestrian improvements will be added to the City of Wichita's pavement management system and receive scheduled on-going maintenance treatments as well as any necessary emergency repairs. The buses for the new route will be maintained at Wichita Transit's in-house, six-bay maintenance facility.

iv) Operations and Maintenance

The City of Wichita general fund provides a sustainable source of revenue to support operations and maintenance of the complete street, bicycle, and pedestrian improvements. The Congestion Mitigation

and Air Quality Improvement Program (CMAQ) and/or Surface Transportation Program (STP) proposed to fund up to 50% of the first five years of transit operations costs. Wichita State University will use student and/or parking fees to fund a major portion of the local match requirement. Wichita Transit will use fare box revenue, which typically recovers about 18% of transit operations costs, to provide the remainder of the local match requirement. The City of Wichita general fund will be used to offset any shortfalls in fare box revenue. During the first five years of operations, in-depth operational studies will be undertaken to calibrate bus service in the area and develop a long-term sustainable approach to fund operations costs of the enhanced bus service.

“The strategies are timely and critical to our global competitiveness.”

*John S. Tomblin
Vice President for Research and
Technology Transfer
Wichita State University*

v) Climate Change

The project will enhance the bus route serving campus with greater service frequencies and extended hours of service. The increased transit access is estimated to increase ridership in the area by over 200%. Additionally, the multi-use pathways, on-street bicycle lanes, bicycle boulevards, and sidewalks constructed by the project as well as the on-campus bike share program will provide enhanced bicycle and pedestrian connections. These enhanced transportation alternatives will help reduce greenhouse gas emissions by

reducing reliance on the personal automobile for travel in the area.

b) Economic Competitiveness

i) Disadvantaged Populations

Over 20% of the households served by the project are below the poverty level and almost one in eight of these households lack access to a vehicle. The project will provide an enhanced bus route with greater service frequencies and extended hours of service. Additionally, the on-street bicycle lanes, bicycle boulevards, and sidewalks constructed by the project will provide enhanced bicycle and pedestrian connections. The additional transit, bicycle, and pedestrian connections will provide disadvantaged populations significantly improved transportation access to downtown, an employment center with over 26,000 existing jobs; the new Innovation Campus, with 5,700 jobs; Wichita State University; Wichita Area Technical College; a regional medical center; three grocery



Partnership Building



Student-Community
Outreach Center
View from the West

stores; and several major commercial areas with employment, shopping, medical offices, and other services.

ii) Transportation Efficiencies

Current bus transportation service to Wichita State provides approximately 360,000 annual rides. With increased service frequency and hours and more direct connections, the enhanced bus route is estimated to increase ridership by almost 400% to over 1.3 million riders annually (see page 14). Additionally, as ridership gains are realized, a second phase Oliver/Central Connector could be added in the future.

The complete streets projects for 17th Street and Oliver will construct travel and turn lane improvements needed to support the increased levels of employment at the Innovation Campus. These improvements will provide efficient operation of the transportation system and minimize traffic congestion that would affect all modes of travel in the area.

iii) Economic Productivity

The new 120-acre Innovation Campus will bring over \$550 million in capital investment and 5,700 new employees to the area in over 2.9 million square feet of new development on a former golf course adjacent to Wichita State's main campus. The Innovation Campus will combine a research institution, innovative firms, and business incubators with the benefits of compact, amenity-rich living by creating a mixed-used urban village in the core of Wichita. The Innovation

Campus will spur productive, sustainable, and inclusive economic development by locating key facilities close to other firms, research labs, and university students and faculty so that they can share ideas and practice "open innovation."

The City of Wichita has an urban infill strategy that calls for tripling the amount of development located on infill sites over the next 20 years. Affordable housing, retail, service, and employment opportunities for neighborhood residents will be developed on infill sites along the transportation corridors using transit-oriented development

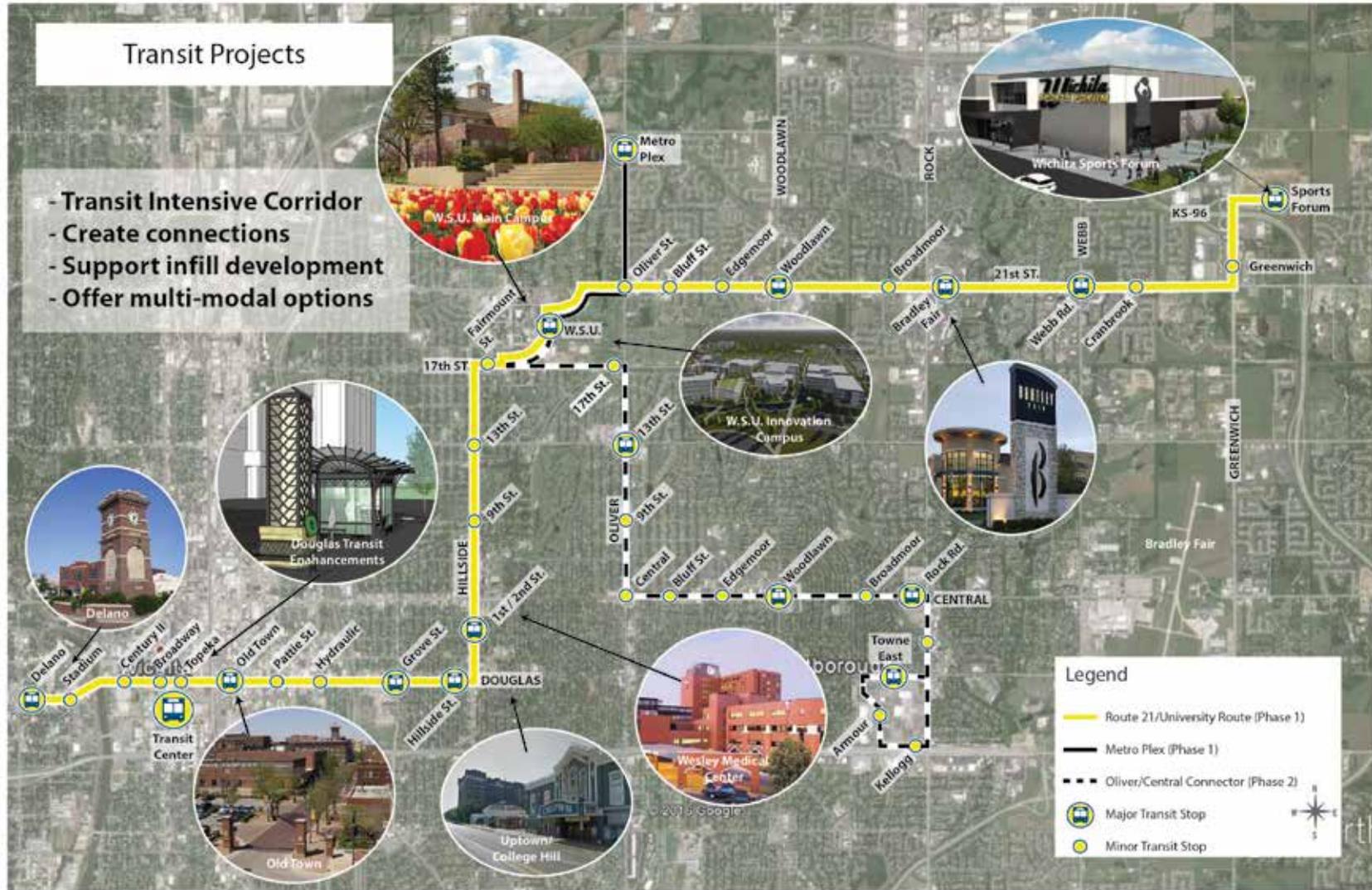
“Wichita State’s game-changing Innovation Campus sets the stage for the region by focusing on the next generation of manufacturing.”

*Karyn Page
President/CEO
Kansas Global Trade Services*

approaches. The Building Blocks for Sustainable Communities Infill Development in Distressed Communities will guide these efforts with an initial focus area located immediately southwest of Wichita State.

iv) Job Creation

The new Innovation Campus is estimated to bring over 5,700 new employment opportunities to the area. Additionally, the Innovation



15 MIN PEAK	20 MIN OFF-PEAK	OPERATING HOURS 17 MON-THURS 20 FRI-SAT	ANNUAL RIDERSHIP 661,230 2018 1,324,318 2035
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Campus will have educational opportunities and maker spaces to foster entrepreneurship. A student-community outreach center will be located on the Innovation Campus to ensure that these opportunities particularly benefit the disadvantaged populations that live in the neighborhoods around Wichita State.

v) Global Economic Competition

Wichita's regional economic and job growth rate is similar to that of other regions that have been heavily dependent on a single industry. The region's economic and job growth rate lags behind that of other regions that have diversified their economy through industry cluster initiatives. To that end, the City of Wichita, Wichita State, and other regional partners have initiated the Blueprint for Regional Economic Growth which has determined that the region's innovation capabilities are steadily growing but lag that of other regions. The Innovation Campus and its transportation connections provided through TIGER funding are critical to realizing the region's potential for economic and job growth through innovation.

“ Strategic long-term investments in the innovation and industrial ecosystem of Kansas will spur the development of twenty-first century jobs. ”

*Keith Lawing
President and CEO
Workforce Alliance of
South Central Kansas*

Because of its dependence on the volatile global aviation industry, the Wichita region has been at the mercy of significant economic and employment shifts. To address this volatility, the region developed the Wichita-South Central Kansas Regional Export Plan (see [Appendix I](#)) to address changes in the aviation industry and lead underachieving sectors into the global marketplace. Developed by the Global Cities Initiative, a partnership of the Brookings Institution and JP Morgan Chase, the Regional Export Plan calls for investing in infrastructure related to transportation and skilled workers.

The transportation investments through TIGER funding support the Innovation Campus and are directly tied to this regional economic initiative.

The Regional Export Plan was developed through the South Kansas Investing in Manufacturing Communities Partnership (IMCP) (see [Appendix J](#)). South Kansas led by Wichita State University was named by the Obama Administration as one of the nation's first 12 IMCP regions to spur investment and create jobs through integrated, long-term economic development strategies that strengthen compet-



Experiential Engineering and Maker Space

itive advantages in attracting global manufacturers. South Kansas is leveraging shared research and innovation facilities to compete on the frontier of advanced materials used in planes, cutting-edge machinery, and refineries, and the new Wichita State Innovation Campus is key to those efforts.

c) Quality of Life

i) Transportation Choices

The project will provide an enhanced bus route with greater service frequencies and extended hours of service. The increased transit access is estimated to increase ridership in the area by over 200%. Additionally, the on-street bicycle lanes, bicycle boulevards, and sidewalks constructed by the project as well as the on-campus bike share program will provide enhanced bicycle and pedestrian connections, particularly to the existing 100-mile bicycle and pedestrian pathway system that is planned for significant expansion over the next 10 years.

ii) Access to Essential Services

The additional transit, bicycle, and pedestrian connections will provide disadvantaged populations significantly improved transportation access to downtown, an employment center with over 26,000 existing jobs; the new Innovation Campus, with 5,700 new jobs; Wichita State University; Wichita Area Technical College; a regional medical center; three grocery stores; and several major commercial areas with employment, shopping, medical offices, and other services.



iii) Other Livability Principles

According to the Housing and Transportation



Affordability Index, housing costs in the project impact area are below the regional average, but transportation costs are at or above the regional average. Improving transportation access in the area should lower transportation costs to existing households, more than half of which are low- to moderate-income. Additionally, the enhanced bus service will facilitate the community revitalization through the construction of location-efficient infill housing and mixed-used development using transit-oriented development principles.

TIGER funding of City of Wichita transportation improvements to support Wichita State University’s Innovation Campus represents another collaboration among the federal, state, and local government agencies. This collaboration builds upon other collaborations such as the Community Transformation Grant, South Kansas Investing in Manufacturing Communities Partnership, the Building Blocks for Sustainable Communities, Bus Livability Initiative, and the Regional Planning Grant.

The bicycle and pedestrian improvements included in the project will significantly enhance the safety and walkability of neighborhoods around the Innovation Campus and provide healthy transportation alternatives. The health, safety, and walkability of the neighborhoods will continue to be enhanced through transit-oriented, mixed-use infill development along the enhanced bus route.

iv) Regional Planning Grant

Another example of a collaborative effort among federal, state, and local partners is the South Central Kansas Prosperity Plan (see Appendix K) that was developed by the Regional Economic Area Partnership of South Central Kansas developed through a Regional Planning Grant

from the U.S. Department of Housing and Urban Development. The plan has two strategies that directly link the TIGER funded transportation investments to support the Innovation Campus. First, the plan calls for building on the region's history of entrepreneurial spirit to spark job creation through economic diversification and the growth of local, start-up businesses. Second, the plan calls for coordinating resources to invest in infrastructure, conduct workforce training, and develop marketing and support strategies to attract, retain, and expand businesses.

v) U.S. Economic Development Administration Grants

Wichita State University has been awarded nearly \$7.1 million in grants from the U.S. Economic Development Administration for the Innovation Campus. The funding is aimed at creating valuable new manufacturing jobs to replace those lost in the defense industry. The funding will be used to purchase equipment for a state-of-the-art laboratory to allow manufacturers, entrepreneurs and designers to simulate and perform multi-robotic additive manufacturing, allowing them to test production process before committing to large-scale capital invest-

“ The proposed TIGER project demonstrates a strong, ongoing collaboration among a broad range of stakeholders and an outcome of a robust planning process. ”

*John O'Leary
Vice President
Airbus Americas Engineering*

ments. Funding also will be used to support the National Institute of Aviation Research's Environmental and Electromagnetic test labs and to support WSU Ventures and Center for Entrepreneurship efforts to commercialize projects developed on the Innovation Campus. Wichita State has also received a \$300,000 grant from the National Science Foundation to establish 30 innovation teams to accelerate their ideas and research into start-up companies.

The EDA grants also will fund street, parking, and utility improvements for the first phase of construction of the Innovation Campus. The improvements will connect the Innovation Campus to the 17th Street complete street to be funded by TIGER.

vi) Technical Assistance Programs

The City of Wichita received technical assistance regarding complete streets through the Building Blocks for Sustainable Communities. The technical assistance led to the development and adoption of a Bicycle Master Plan, a Pedestrian Master Plan, and a Multi-Modal Policy and Street Design Guidelines that will guide the projects funded through TIGER. Additionally, the City of Wichita received



Innovation Center - View from the South



Hotel and Mixed Use Urban Village
Central Plaza

technical assistance regarding infill development through the Building Blocks for Sustainable Communities. This technical assistance focuses on an area immediately southwest of Wichita State in which TIGER funded transportation improvements will be made to develop strategies for transit-oriented, mixed-use development.

d) Environmental Sustainability

i) Reduce Energy Use and Air Pollution

Current bus transportation service to Wichita State provides approximately 360,000 annual rides. With increased service frequency and hours and more direct connections, the proposed new bus route is estimated to increase ridership by almost 400% to over 1.3 million riders annually. The increased ridership will reduce energy used for transportation in the area. Additionally, the Health Impact Assessment indicates that increased service frequency and hours of service will improve overall air quality in Wichita.

The project will reduce daily vehicle hours traveled by almost 2,800 hours and daily vehicle miles traveled by almost 80,000 miles on average over the life of the project. In addition to reducing emissions, the overall reduction in vehicle use results in economic competitiveness gains valued at over \$380 million over the life of the project according to the Benefit-Cost Analysis.

ii) Avoidance of Environmental Impacts

The Benefit-Cost Analysis estimates the economic value of emissions and the social cost of carbon at over \$1.8 million and \$5.9 million, respectively, over the life of the project.

iii) Green Infrastructure

The 17th Street complete street project will be used to pilot “green” storm water management techniques such as bio-retention and permeable pavement. Lessons learned from this project and others that are currently being piloted will be used to expand “green” storm water techniques to other areas of the City of Wichita. The transit stops also will pilot the use of solar energy with the lessons learned to be applied elsewhere throughout the transit system.

e) Safety

i) Accident Reduction

The project contains numerous transportation safety features that will reduce accidents in the project area. The Benefit-Cost Analysis estimates the economic impact of accident reduction at almost \$60 million over the life of the project.

ii) Multi-modal Accessibility and Connectivity

The project will foster a safe, connected, accessible transportation

system focused on all modes of travel. Complete streets projects on Oliver and 17th Street will enhance safety by providing wide sidewalks, lighting, and pedestrian crossings. The enhanced bus route is estimated to increase ridership by almost 400% and will provide a significantly expanded transportation alternative that provides safe and accessible connections to jobs, education, health care, shopping, and services. The improved bicycle and pedestrian facilities will provide safe and accessible connections to these same destinations.

ii. Secondary Selection Criteria

a) Innovation

i) Technology

The Innovation Campus will have an experiential engineering building with a state-of-the-art laboratory to allow manufacturers, entrepreneurs and designers to simulate and perform multi-robotic additive manufacturing, allowing them to test production processes before committing to large-scale capital investments. A new home for the W. Frank Barton School of Business also will be located on the Innovation Campus that will have an adjacent Innovation Center, open to students around the clock for working with state-of-the-art technology.

The on-campus transit hub and major stops along the new bus route will have displays with real-time bus information to assist riders. These locations also will have kiosks for fare payment prior to boarding to assist with transportation system efficiency.

ii) Funding

TIGER funding of the transportation infrastructure for the Innovation Campus is an innovative partnership among federal, state, and local governments. Federal funding will be used for a major share of the

initial capital expense with local match provided by the City of Wichita. Wichita State University will develop a new Innovation Campus with an additional federal partnership through EDA grants and bring 5,700 jobs to the area and support significant regional economic growth opportunities. The CMAQ and/or STP Programs are proposed to be used for initial funding of the enhanced bus service with matching funds provided by Wichita State University and the City of Wichita, representing yet another innovation partnership in transportation finance.

iii) Safety

“The City of Wichita’s TIGER grant application is directly aligned with the vision, core community values, and guiding principles espoused by the Community Investments Plan.”

*Carol Chapman Neugent
Chair, Metropolitan Area
Planning Commission*

Vehicular traffic generated by the Innovation Campus will be directed around existing neighborhoods along Oliver to the recently improved 21st Street corridor in order to preserve the enhanced neighborhood connectivity along 17th Street provided by a center landscaped median and mid-block pedestrian crossings. The project will incorporate features such as wide sidewalks, lighting, traffic calming, and signalized pedestrian crossings along Oliver to ensure multi-modal connections are safe and convenient.

b) Partnership

i) Jurisdictional and Stakeholder Collaboration

The project to develop the Innovation Campus and the multi-modal transportation connections is a partnership among the TIGER grant program, the City of Wichita, and Wichita State University. Additionally, private companies, led by Airbus, will be locating research and development facilities on the Innovation Campus, and private developers will be developing the mixed-use urban village that are key to the success of the Innovation Campus, while providing an amenity-rich environment for the surrounding neighborhoods.

ii) Disciplinary Integration

The project includes an enhanced bus route to connect Wichita State's main campus with the Metroplex, Innovation Campus, and Old Town Campus. Wichita State will fund a portion of the transit operations costs through student fees. Correspondingly, Wichita Transit will provide fare-free system-wide access to Wichita State students, faculty, and staff.

The City of Wichita has an urban infill strategy that calls for tripling the amount of development located on infill sites over the next 20 years. Affordable housing, retail, service, and employment opportunities for neighborhood residents will be developed on infill sites along the transportation corridors using transit-oriented development approaches developed through technical assistance received through the Building Blocks for Sustainable Communities program.

The South Central Kansas Prosperity Plan was developed by the Regional Economic Area Partnership of South Central Kansas through a Regional Planning Grant from the U.S. Department of Housing and Urban Development. The plan calls for building on the region's history of entrepreneurial spirit to spark job creation through economic diversification and the growth of local, start-up businesses and coordinating

“ We write in support of the 2016 TIGER federal grant application submitted by the City of Wichita, Kansas. ”

*Senator Pat Roberts
Senator Jerry Moran
Representative Lynn Jenkins*

“ I am pleased to write a letter supporting the City of Wichita's application for a TIGER grant to fund its multi-modal transportation connectivity proposal. ”

*Sam Brownback
Governor
State of Kansas*



Residence Hall

resources to invest in infrastructure to attract, retain, and expand businesses.

Building Blocks for Sustainable Communities technical assistance for complete streets and resulting local policies will guide the design of transportation investments funded by TIGER.

TIGER investment in transportation infrastructure to support the Wichita State Innovation Campus is consistent with existing economic development plans such as the Blueprint for Regional Economic Growth, the Wichita-South Central Kansas Regional Export Plan, and the South Kansas Investing in Manufacturing Communities Partnership.

f. Benefit-Cost Analysis

The Center for Economic Development and Business Research, part of the W. Frank Barton School of Business at Wichita State University, completed the Benefit-Cost Analysis to determine the possible benefit cost ratios of proposed complete street, bicycle, pedestrian, and transit improvements providing the multi-modal transportation connections for the Innovation Campus. The baseline projections are estimated with the expansion of the Innovation Campus without the transportation improvements. The projections were then re-estimated to include the transportation improvements. The difference between these two scenarios is the basis for the estimated benefits of the improvements.

	3% Discount	7% Discount
Total Benefits	\$391,620,557	\$348,776,648
Total Costs	\$68,358,221	\$51,488,184
Benefit Cost Ratio	5.73	6.77

The analysis results in a positive return on investment using both a three percent and seven percent discount over a 20-year period. This is based on undiscounted costs of \$88.3 million over 20-years including capital improvements and operation and maintenance costs. There are undiscounted benefits of \$428.8 million over 20-years. The benefit cost ratio is 5.73 discounted at three percent and 6.77 discounted at seven percent.

“ Ladders of Opportunity projects will contribute to community revitalization, particularly for low income groups, persons with visible and hidden disabilities, elderly individuals, and minority persons. ”

Jeff Fluhr

President

Greater Wichita Partnership

Summary of Benefits

(in millions of \$)

Type of Impact	Benefit	Value @ 3% Discount	Value @ @ 7% Discount
Economic	Travel time savings	\$153.00	\$134.90
Competitiveness	Travel cost savings	\$177.60	\$159.41
Safety	Reduced miles traveled	\$55.30	\$46.93
Environment	Reduced miles traveled	\$7.23	\$7.05
State of Good Repair	Improved quality of roadways	\$0.76	\$0.49
Total Benefits		\$391.62	\$348.78

The majority of the benefits, approximately 84 percent, are accounted for by improvements in economic competitiveness, both travel time savings and mode shift savings. The remaining benefits are from safety improvements, state of good repair and environmental sustainability, at 14 percent, 0.3 percent and 1.8 percent, respectively.

The Excel spreadsheet contained in [Appendix L](#) provides the detailed cost calculations for the Benefit-Cost Analysis summarized above.

The methodology used in preparing the Benefit-Cost Analysis is described in detail in [Appendix M](#).

g. Project Readiness

i. Technical Feasibility

The City of Wichita's Multi-Modal Policy and Street Design Guidelines are being used to develop design concepts for the complete street projects on Oliver and 17th Street. Preliminary engineering design of these projects will begin in July 2016 and be completed by January 2017.

The design of on-street bicycle lanes, bicycles boulevards, and sidewalks that will connect the Innovation Campus to the existing bicycle and pedestrian pathway system will be guided by the Wichita Bicycle Master Plan and Wichita Pedestrian Master Plan. While engineering design has not begun on these projects, the City of Wichita has in-house engineering staff with capacity to design the projects within a few months of grant award.

Design concepts have been developed for the on-campus transit hub. Completion of construction documents from the design concepts should only take a few months. In-house City of Wichita staff have the capacity to design the transit shelters and associated equipment within a few months of grant award.

ii. Financial Feasibility

The City of Wichita's local cash match will be provided from the Capital Improvement Program. The Wichita City Council has approved a resolution (see [Appendix N](#)) authorizing the local match upon receipt of a grant award.

The City of Wichita general fund provides a sustainable source of revenue to support operations and maintenance of the street, bicycle,



Mixed Use Urban Village



Innovation Campus - South View

and pedestrian improvements. The Congestion Mitigation and Air Quality Improvement Program (CMAQ) and/or Surface Transportation Program (STP) is proposed to fund up to 50% of the first five years of transit operations costs. Wichita State will use student and/or parking fees to fund a major portion the local match requirement of the CMAQ Program. Wichita Transit will use fare box revenue, which typically recovers about 18% of transit operations costs, to provide the remainder of the local match requirement for CMAQ. The City of Wichita general fund will be used to offset any shortfalls in fare box revenue. During the first five years of operations, in-depth operational studies will be undertaken to calibrate bus service in area and develop a long-term sustainable approach to fund operations costs of the new bus line.

h. Project Schedule

Project planning is complete and construction of the Innovation Campus has been initiated. Design concept development for the TIGER project components has begun and will be completed by June 30, 2016. Preliminary engineering will begin in July 2016 and will be completed by March 2017. A categorical exclusion is anticipated by July 2017; however, if an environmental assessment is needed, it will be completed by September 2017. Design and construction documents will begin in July 2017 and will be completed by June 2018. TIGER funds will be obligated no later than December 31, 2018, and an earlier obligation is anticipated, as construction has already begun on the Innovation Campus. Construction of all components of the TIGER project will be completed by the end of 2019.

Project Timeline by Quarter

Project Component	2016		2017				2018				2019			
	3	4	1	2	3	4	1	2	3	4	1	2	3	4
Preliminary Engineering														
NEPA Review														
Grant Agreement														
Design & Construction Documents														
Obligation of TIGER Funds														
Project Bid & Construction														
-Oliver Complete Street														
-17th St. Complete Street														
-Diesel Buses														
-Transit Stops														
-Campus Transit Hub														
-Bike Share Stations														
-Bike-Ped Connections														

i. Required Approvals

a) Environmental Permits and Reviews

i) NEPA Status

No significant impacts on the environment are anticipated. The City of Wichita consulted with the Region VII Office of the Federal Transit Administration (FTA). Based on the project description, the FTA Region VII Office indicated that the project is most likely eligible for a categorical exclusion and will not require environmental assessment of environmental impact statement under the National Environmental Policy Act (NEPA).

ii) Reviews by Other Agencies

The project does not require reviews or approvals by non-Federal agencies.

iii) Environmental Studies

Wichita State University completed an Environmental Narrative Report (see [Appendix O](#)) for the Innovation Campus for the U.S. Economic Development Administration grants. The report found that there are no anticipated significant direct or indirect adverse effects from the WSU Innovation Campus project. The information gathered in the Environmental Narrative Report has been reviewed by the FTA Region VII Office, which indicated it substantiates the anticipated categorical exclusion.

b) Legislative Approvals

On April 26, 2016, the Wichita City Council approved the application for TIGER funding of transportation investments to support the Wichita State Innovation Campus and authorized the local match upon receipt of a grant award (see [Appendix N](#)).

c) State and Local Planning

The Wichita Area Metropolitan Planning Organization (WAMPO) has included the project in the metropolitan transportation plan

MOVE 2040. If the TIGER grant is awarded, WAMPO will include the project in the following quarter's amendment of its Transportation Improvement Program (TIP). The State of Kansas has indicated that the State Transportation Improvement Program (STIP) will be amended to include the project upon receipt of the WAMPO TIP including the project.

i. Assessment of Project Risks and Mitigation Strategies

The only identified risk is a determination that the project is not eligible for a Categorical Exclusion and an environmental assessment or environmental impact statement is required. To mitigate this risk, sufficient time has been included in the project schedule shown above to allow for these activities and still allow grant funds to be obligated by December 31, 2018.

ii. Federal Wage Certification

The required Federal Wage Certification is included in [Appendix P](#).



Downtown Transit Hub

Appendices

Appendix A- The Rise of Innovation Districts

Appendix B- Health Impact Assessment

Appendix C- Community Investments Plan 2015-2035

Appendix D- Letters of Support

Appendix E- Bicycle Master Plan

Appendix F- Pedestrian Master Plan

Appendix G- Multi-Modal Policy & Street Design Guidelines

Appendix H- Vehicular Traffic Impact and Pedestrian and Bicycle Studies

Appendix I- Wichita-South Central Kansas Regional Export Plan

Appendix J- South Kansas IMCP Designation Letter

Appendix K- South Central Kansas Prosperity Plan

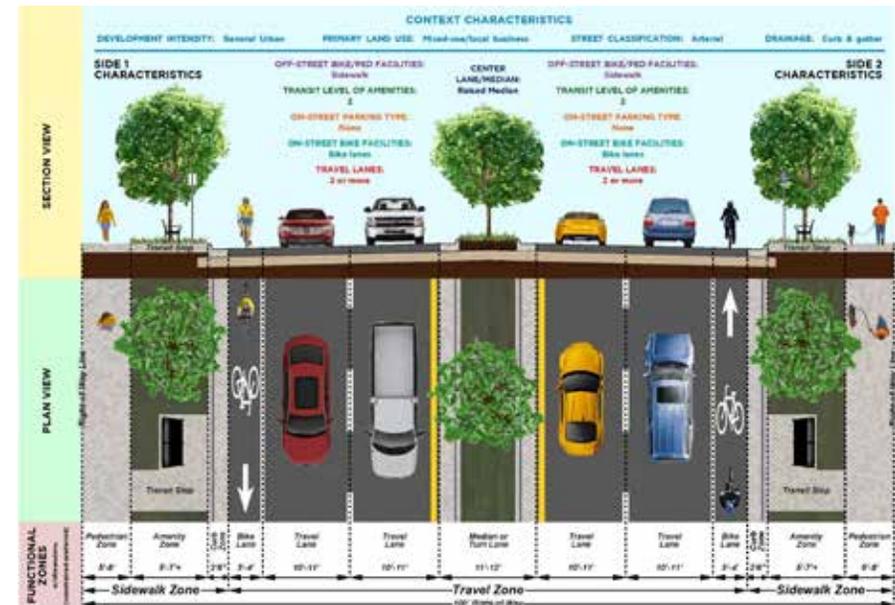
Appendix L- Benefit-Cost Analysis Calculations

Appendix M- Benefit-Cost Analysis Methodology

Appendix N- Wichita City Council Resolution

Appendix O- Environmental Narrative Report

Appendix P- Federal Wage Certification



Complete Street General Urban Example, Wichita Street Design Guidelines

