TUCSON MODERN STREETCAR PROJECT

TIGER APPLICATION

(DUNS: 07-245-0869) **September 9, 2009**

TABLE OF CONTENTS

Project Summary **1**
Project Readiness **1**
Primary Point of Contact **1**
Grant Funds and Sources/Uses of Project Funds **1**
Project Description **2**
Transportation Challenges/Opportunities in the Corridor 4
- Provide Direct Connectivity 4
- Special Populations will be Better Served 6
- Project will Support Responsible Growth and Provide Better Connectivity, Capacity 6

Project Parties **7**
TIGER Primary Selection Criteria **8**
Long-Term Benefits 8
- State of Good Repair 8
- Economic Competitiveness 8
- Livability will be Enhanced 11
- Sustainability will be Assured 13
- Safety Will be Enhanced 14

Job Creation and Economic Stimulus 14
- Short-Term Job Creation 14
- Low-Income Job Creation 15

Project is Ready for Rapid Implementation 15
- Project Schedule 15
- Environmental Approvals 15
- Legislative Approvals 15
- State and Local Planning 16
- Technical Feasibility 16

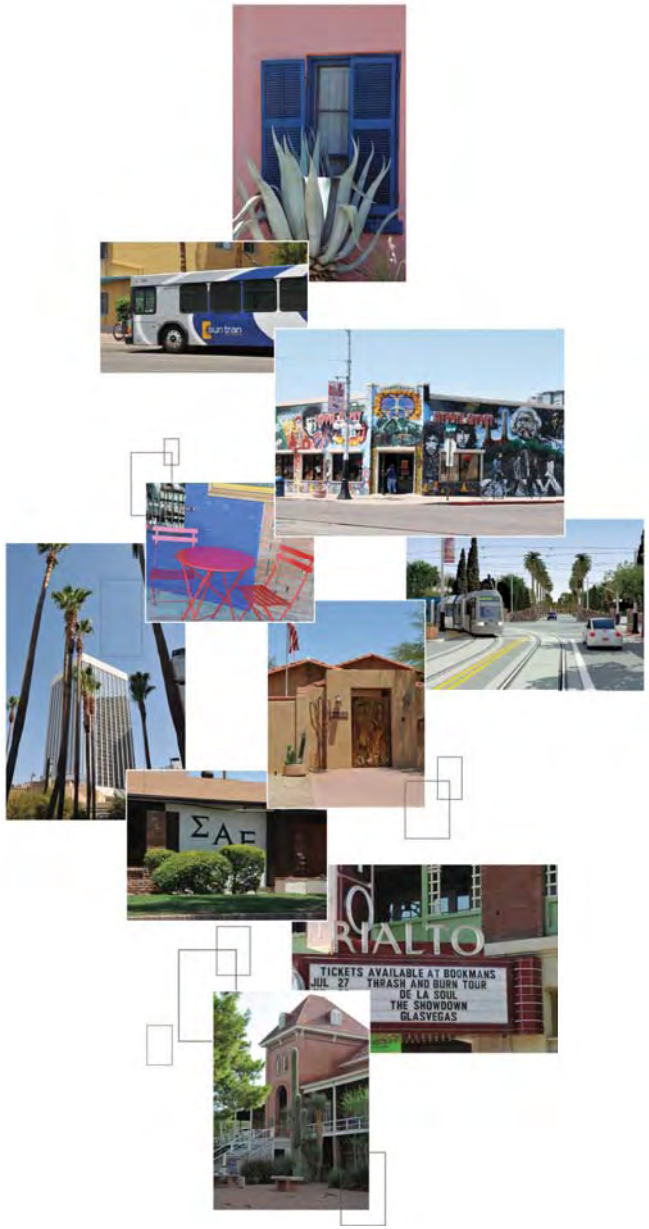


TABLE OF CONTENTS (CONTINUED)

Expected Benefits and Costs of The Project 16
Evaluation of Project's Short and Long-Term Performance 17
- Short-Term Outcomes 17
- Long-Term Outcomes 18

TIGER Secondary Selection Criteria 19
Innovative Techniques to be Employed 19
- Innovative Technologies 19
- Innovative Financing 19
- Innovative Construction Methods 20

Partnerships 20
- Jurisdictional and Stakeholder Collaboration 20
- Critical Need for TIGER Funds to Help Advance Project 21

Disciplinary Integration 21
- Smart Housing for Tucson Initiative 21
- El Rio Community Health Center 21
- Martin Luther King Apartments at Depot Plaza 21
- One North 5th 21
- The Gadsden Company 22
- The University of Arizona 22

Federal Wage Rate Requirement 23
National Environmental Policy Act Requirement 23
Environmentally-Related Federal, State, and Local Actions 23
APPENDICES 24

LIST OF TABLES

Table 1: Capital Funding Sources (Millions $) 1
Table 2: Uses of Funds (Millions $) 2
Table 3: Tucson Modern Streetcar At-a-Glance 2
Table 4: Transit Travel Times Between Popular Destinations (Minutes) 4
Table 5: Populations Within ½ Mile of Stops 6
Table 6: Redevelopment Projects in Advanced Planning 9
Table 7: Financial Benefits of Green Buildings ($ Per Square Foot) 14
Table 8: Number and wages (YOE$) of jobs created as a result of project construction 15
Table 9: Benefits and Descriptions by Evaluation Criteria 16
Table 10: Summary of Benefit-Cost Analysis Results; 20 Year Lifecycle, 7% Discount Rate 17

LIST OF FIGURES

Figure 1: Tucson Modern Streetcar Project 3
Figure 2: Current Bus Routes 5
Figure 3: Future Transit Network with Streetcar Route 5
Figure 4: Planned Projects and Tucson Empowerment Zone 10

PROJECT SUMMARY

Project Type: Transit (Modern Streetcar)

Location: City of Tucson, Pima County, Arizona
Congressional District 7, an urban area

TIGER Grant Funds Requested: $73 million

Voter Approved Local Funding: $87 million

Contains Confidential Business Information: No

The City of Tucson is aware of and will comply with all American Recovery and Reinvestment Act of 2009 (ARRA) reporting requirements (DUNS: 07-245-0869)

PROJECT READINESS

- ☑ Alternatives Analysis
- ☑ Locally Preferred Alternative Approved
- ☑ Environmental Assessment(EA)/ National Environmental Policy Act(NEPA)
- ☑ FTA Issues Finding of No Significant Impact(FONSI)on EA
- ☑ FTA Approves Request to Initiate Preliminary Engineering
- ☑ City of Tucson Requests FTA Approval to Initiate Final Design
- ☑ City Selects U.S. Company to Manufacture Modern Streetcar Vehicles
- ☑ FTA Approval to Initiate Final Design Expected September 2009. The Project will Create 4,330 Permanent and Short Term Jobs

PRIMARY POINT OF CONTACT

Shellie Ginn, Project Manager
City of Tucson Department of Transportation
201 N. Stone Avenue, 6th Floor Tucson, AZ 85701
Office - (520)837-6698 Fax - (520)791-4608
shellie.ginn@tucsonaz.gov

GRANT FUNDS AND SOURCES/USES OF PROJECT FUNDS

Table 1: Capital Funding Sources (Millions $)

Calendar Quarters	Funding Sources Year of Expenditure (YOE)			Total
	Local Funds (RTA-Sales Tax)	TIGER Funds	FTA New Starts (Exempt)	
2009				
Q3	$18.10		$2.00	$20.10
Q4	$23.93			$23.93
2010				
Q1	$3.00	$20.90		$23.90
Q2		$16.90		$16.90
Q3		$10.10		$10.10
Q4	$10.10			$10.10
2011				
Q1	$9.93	$6.40		$16.30
Q2	$10.00	$6.20		$16.20
Q3		$6.30		$6.30
Q4		$6.20		$6.20
Total	**$75.06**	**$73.00**	**$2.00**	**$150.06**
(%)	**50.0%**	**48.7%**	**1.3%**	**100%**

Table 2: Uses of Funds (Millions $)

	Capital Costs (YOE)
Uses	
Guideway and Track work	$31.78
Stations, Stops, Terminals	$2.73
Support Facilities	$14.35
Site work and Special Conditions	$20.32
Systems	$16.40
Right-of-Way (ROW), Land, Improvements	$0.82
Streetcar Vehicles	$31.23
Professional Services	$27.23
Contingency	$5.20
Operating and Maintenance (O&M)	-
Total Uses	**$150.06**

Additional information about the finance plan may be found in the Primary Selection Criteria section discussing long-term benefits.

PROJECT DESCRIPTION

The City of Tucson, working with a number of community partners, is implementing a 3.9 mile modern streetcar line that connects the City's major activity centers. **The modern streetcar line will connect:**

- **The University of Arizona**
- **The Arizona Health Sciences Center**
- **Main Gate shopping and entertainment district**
- **4th Avenue shopping and entertainment district**
- **Downtown Tucson**
- **El Rio Community Health Center**
- **Tucson Empowerment Zone**
- **West End planned development area**
  - **New convention hotel**
  - **Expansion of the Convention Center**
  - **Entertainment, residential, and commercial development**

Figure 1 displays the streetcar route, nearby attractions, and location of these areas. Additional project characteristics are summarized in **Table 3**.

Through competitive procurement the City of Tucson has selected United Streetcar / Oregon Iron Works of Clackamas, Oregon to manufacture the streetcar vehicles. United Streetcar / Oregon Iron Works is the sole U.S. manufacturer of modern streetcar vehicles. These will be the first streetcars manufactured in the U.S. in 58 years. **Appendix A** includes United Streetcar / Oregon Iron Works Best and Final Offer and the City of Tucson's acceptance.

Table 3: Tucson Modern Streetcar At-a-Glance

Construction Begins:	Late 2009 / Early 2010
Operations Begin:	Spring 2012
Project Length:	3.9 miles
Number streetcar stops:	18 stop pairs
Number streetcar vehicles:	7 streetcars
Service Frequency:	10 minutes daytime 20 minutes evening and weekends
Major destinations served:	Arizona Health Sciences Center (The University of Arizona); The University of Arizona main campus; Main Gate retail/entertainment; 4th Avenue retail/ entertainment; Downtown Tucson; West End planned development; El Rio Community Health Center; Tucson Empowerment Zone
Capital Costs	**$150.06 million (YOE $)**

Figure 1: Tucson Modern Streetcar Project

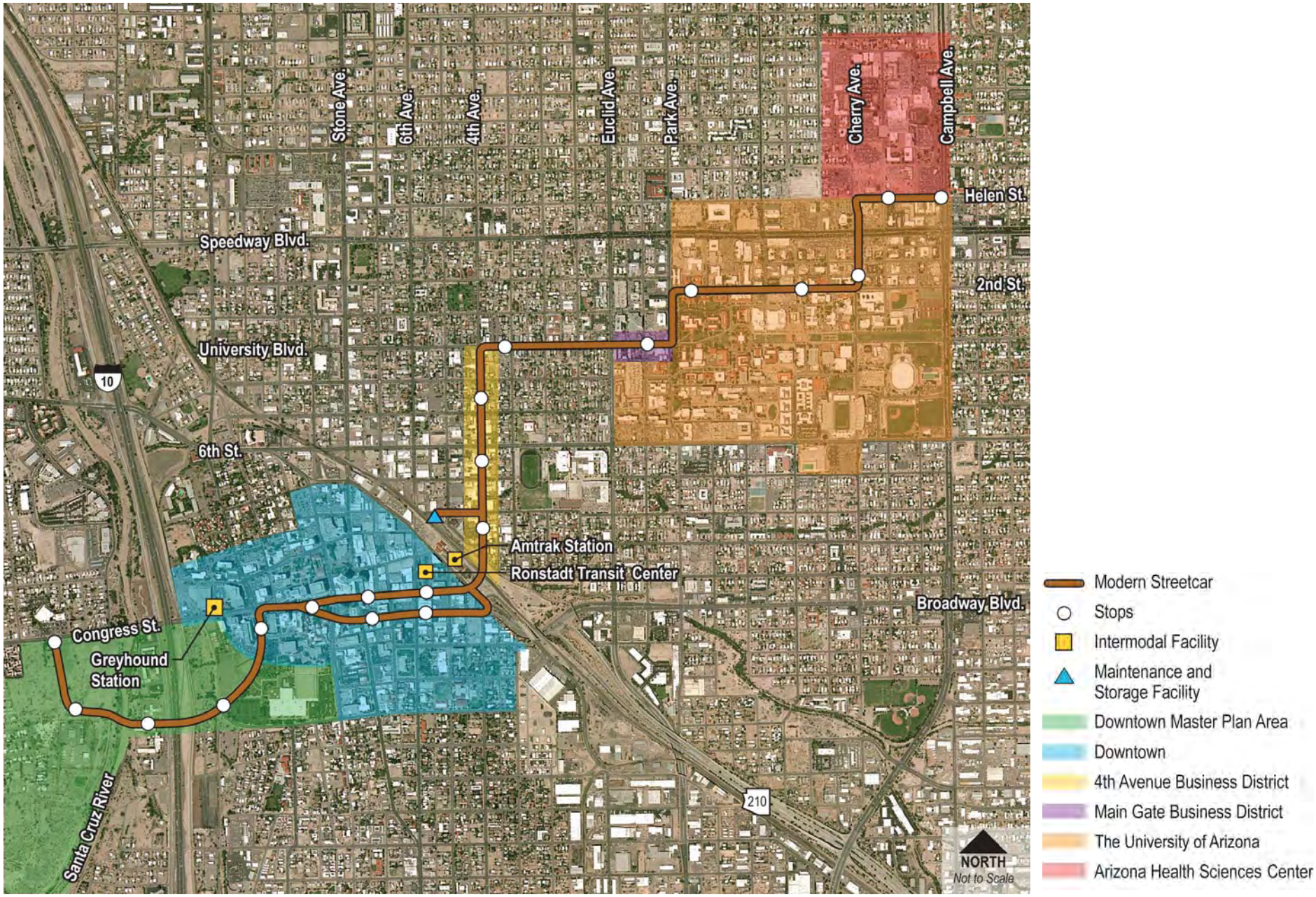


FIGURE 1 - TUCSON MODERN STREETCAR PROJECT

Transportation Challenges/Opportunities in the Corridor

With more than 85,000 residents[1] living and working within walking distance of the streetcar alignment, in addition to 50,000 students, faculty, and staff at The University of Arizona, current transit service in the corridor is well utilized. Three local bus routes (1, 4, 9) serve the corridor and provide service every 30 minutes all day **(Figure 2)**. Local bus service on these three routes averages 3,600 boardings per weekday. In addition, a number of express trips serve the corridor during peak periods. Each of these routes serves portions of the study area by generally connecting the region's largest employment centers: The University of Arizona, Arizona Health Sciences Center, and Downtown Tucson. Additionally, the Regional Transportation Authority (RTA) has recently increased the number of local and express bus services that will directly feed the streetcar route and therefore improve service in outlying areas to these major locations in the study area.

The modern streetcar project is intended to serve a mix of residents, workers, students, visitors, and transit-dependent populations. This project will focus on addressing the following challenges and expanding on these opportunities:

- **Create direct connectivity between major employment centers, regional attractions**
- **Serve low income and transit dependent populations**
- **Support responsible population growth in region**
- **Provide simple, high frequency service that serves a range of markets and populations**

Provide Direct Connectivity

Existing transit service does not provide direct high capacity transit connections that are needed between Downtown Tucson, The University of Arizona, the Arizona Health Sciences Center, and the popular areas in between. The modern streetcar project will provide much needed additional service frequency, hours, and capacity, as well as a new transit connection directly through The University of Arizona campus. **Table 4** compares estimated travel times for current bus service to modern streetcar and illustrates streetcar's time savings benefit between major employment and residential areas.

[1] *Pima Association of Governments, January 2009.*

Table 4: Transit Travel Times Between Popular Destinations (Minutes)

Origin – Destination	Current Service (2009)	Modern Streetcar (2012)	Modern Streetcar Savings
West End Development – Downtown	22	13	9
The University of Arizona – Downtown	31	18	13
West End Development – The University of Arizona	48	25	23

Source: Hexagon Consultants, Travel Forecast Output (2008)

Figure 2: Current Bus Routes

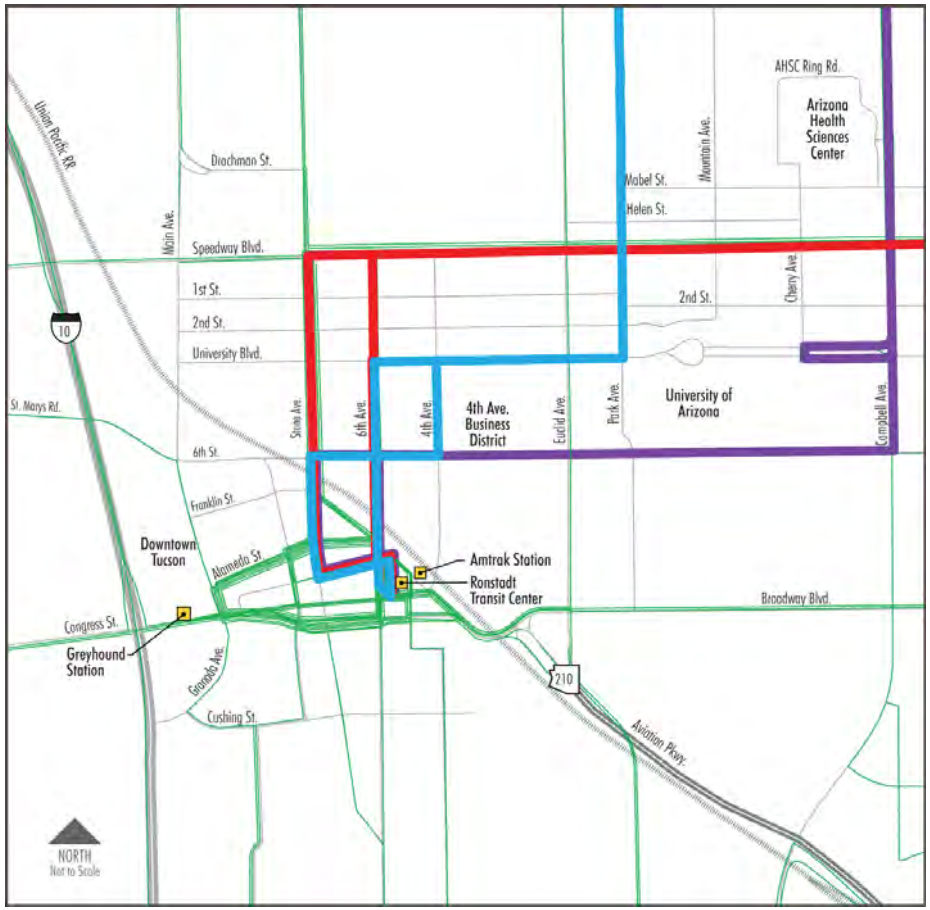
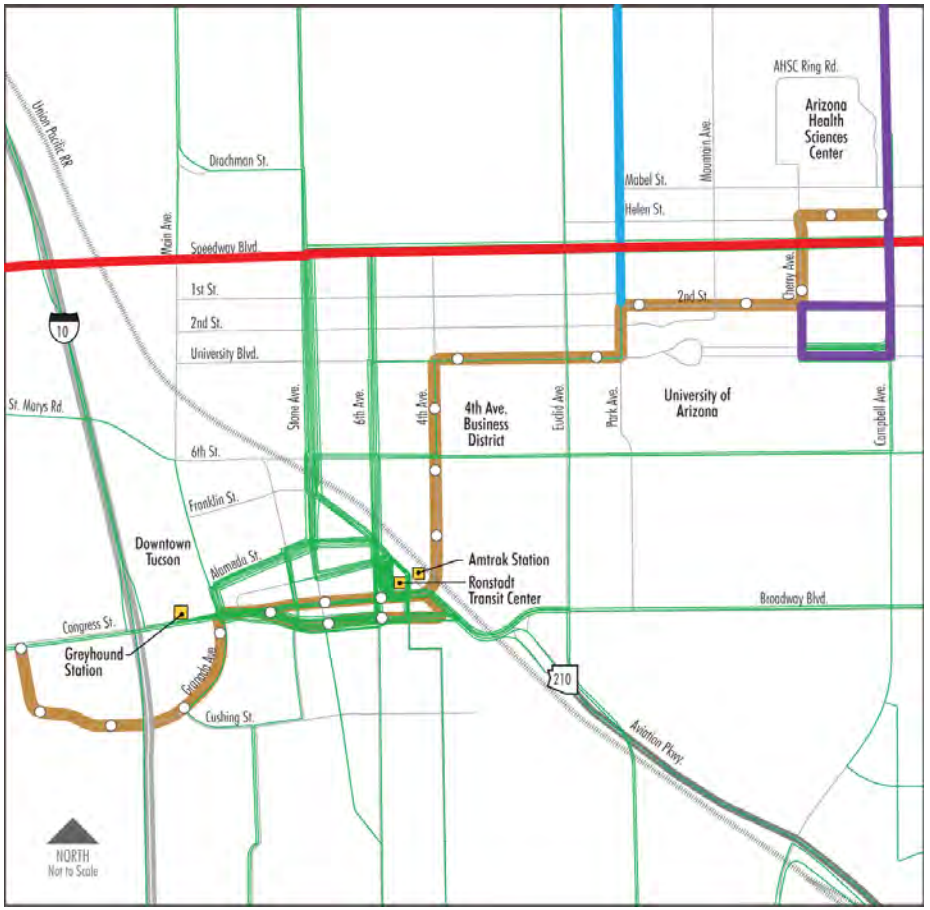


Figure 3: Future Transit Network with Streetcar Route



Special Populations will be Better Served

Approximately 10% of the region's residents currently live and/or work within walking distance of the modern streetcar route. The project area is one of the most transit-dependent areas in the region and includes some of the highest densities of low-income population, as well as a high number of residences with no access to an automobile (zero-car households), see **Table 5**. This project will provide an easily accessible and reliable transportation option and will serve as an attractive alternative to the automobile for a growing population. The streetcar will provide direct access to the region's largest low income health center: the El Rio Community Health Center. This non-profit center receives more than 280,000 medical and dental visits annually at its 15 clinics in and around Tucson, and more than 80% of their patients live at or below the federal poverty level.

- **One-third of corridor residents are below the poverty level**
- **Reduced trip costs for low income populations due to the streetcar represent approximately 40% ($2.4 million ($2009)) of the total amount of travel cost savings generated from the project over a 20-year period.**

Table 5: Populations Within ½ Mile of Stops

	2005	2012	2032 [3]	2040
Total Population	30,366	44,224	45,019	45,337
Total Employment	55,372	64,151	68,965	70,891
Population below poverty level[1,2]	9,353	N/A	N/A	N/A
Zero Car Households[1,2]	6,438	N/A	N/A	N/A

[1]Estimated based on % of total population reported as income below poverty level and zero-car households in 2000 U.S. Census as cited by Pima Association of Governments.

[2]Excludes approximately 6,000 of The University of Arizona students residing in dormitory and fraternity/sorority housing, many of whom are likely to be low-income and/or have no car.

[3]2032 population and employment estimates based on extrapolation of growth rates between 2012 and 2040.

Source: Pima Association of Governments, January 20, 2009.

Project will Support Responsible Growth and Provide Better Connectivity, Capacity

The modern streetcar alignment serves the area of Tucson with the highest population and employment density and will provide a unique opportunity to support population and employment growth in the study area, inclusive of Downtown Tucson and The University of Arizona campus vicinity. In addition to the high proportion of residents and jobs located within walking distance of the modern streetcar line, most of the region's major civic, cultural, entertainment, and educational facilities are located along the route. Congestion in the corridor is often caused by people taking multiple short trips within the area throughout the day. Many of these trips will instead be taken on the modern streetcar, which will add much needed people-carrying capacity to the corridor and reduce traffic congestion.

- **Over a 20-year period, trips that are forecasted to switch from an automobile trip to a streetcar trip create an estimated savings of $5.3 million ($2009) in reduced trip costs (HDR Decision Economics, Appendix B, 2009).**

PROJECT PARTIES

The following agencies play a major role in the development of the Tucson Modern Streetcar project.

Agency	Role
City of Tucson	The City of Tucson Department of Transportation (TDOT) will oversee design, construction, and maintenance of the project. TDOT has successfully managed and completed numerous FTA-funded projects and has within its organization the administrative, engineering and maintenance expertise to successfully administer and construct major capital transit facilities conforming to FTA rules and requirements. The City of Tucson has been approved by the Federal Highway Administration (FHWA) and Arizona Department of Transportation (ADOT) to self-administer the design, advertisement, award, and construction of federally funded projects under Title 23 U.S.C. The certification process acknowledges TDOT's capabilities to guarantee and certify compliance with applicable Federal statutes and Executive Orders. Other City departments and divisions, including Procurement, City Engineering, Real Estate, City Attorney, City Historic Preservation Office and General Services will also take an active role in completion of this project. These departments are aware of and conform to federal procurement and management rules and regulations and have had an integral role in successful implementation of numerous projects.
Sun Tran	City of Tucson contracts with Sun Tran to operate all regional transit services and is responsible for operations, scheduling, administration, and maintenance. The City intends to expand this contract to include operation and maintenance of the modern streetcar system.
The University of Arizona	A portion of the streetcar route will operate directly through The University of Arizona campus. Thus, an Intergovernmental Agreement (IGA) has been established between City of Tucson and The University of Arizona for use of right-of-way and real estate. The IGA will be the basis for The University of Arizona's contribution of property and easements needed for the track way, stops, traction power substations, and construction activities. A Memorandum of Understanding (MOU) has also been established for planning, construction, and operation of modern streetcar on campus. The MOU designates specific University of Arizona personnel to act in conjunction with TDOT for review and coordination of project elements on campus and to coordinate the project with other University of Arizona departments and offices.
Regional Transportation Authority	RTA is the source of the local matching funds for the Project. In May 2006, voters approved the regional transportation plan and a ½ cent local sales tax to fund the plan; they also approved over $87 million of these funds for both the operations and capital expenses of the streetcar project. An IGA between City of Tucson and RTA to secure designated funding for the project from the RTA Board was approved on May 3, 2007. Funding allocation for the project is also included in the approved 2009-2013 Regional Transportation Improvement Program.
Arizona Dept. of Transportation	The modern streetcar alignment crosses Interstate 10 (I-10) at Cushing Street at an underpass currently being constructed by ADOT. The streetcar's overhead conductor system will be attached to a bridge belonging to ADOT. ADOT has approved the streetcar alignment and has accommodated streetcar facilities within the current construction project on I-10. Permits will be obtained for work in ADOT right-of-way at the time track construction commences across frontage roads.

TIGER PRIMARY SELECTION CRITERIA

This section focuses on how the modern streetcar project will meet and exceed the eligibility requirements considered for the primary selection criteria which include the abilities to: 1) provide benefits over the long-term and 2) create jobs and economic stimulus.

LONG-TERM BENEFITS

Five significant sources of benefits resulting from the modern streetcar project include and will be described as follows:

- State of good repair
- Economic competitiveness
- Livability
- Sustainability
- Safety

State of Good Repair

The Tucson modern streetcar project will improve the efficiency of the regional transit system. The modern streetcar project is included in the RTA plan and is consistent with local and regional multi-modal transportation objectives of a seamless mass transit system throughout the region. The project has an approved local funding source that ensures a stable operation while continuing to improve transit service in the region. The following will detail the long-term benefits created by the project:

- Reconfiguration and improvement of existing transit system
- Stability of the project's finance plan

Reconfiguration and Improvement of Existing Sun Tran Bus System
The modern streetcar project will allow reconfiguration of Sun Tran bus routes numbers 1, 4, and 9 in the corridor (**Figure 3**). These routes will be rerouted to terminate at the east end of The University of Arizona campus. The segments of these routes that currently operate between The University of Arizona campus and Downtown Tucson will be replaced by the modern streetcar line, which will serve this corridor more effectively with increased service frequency, hours, and capacity. Efficiencies resulting from reconfiguration of these bus routes will be reallocated elsewhere, ultimately improving performance and efficiency of the Sun Tran transit system.

- **Streetcar passengers will enjoy savings of 13 minutes over current bus travel times on trips between The University of Arizona and Downtown Tucson.**
- **In addition, reconfiguration of routes 1, 4, and 9 will remove 22 buses per hour from Downtown Tucson in the opening year, thereby improving speed and reliability in this congested corridor.**
- **In addition to city-wide Sun Tran buses, the streetcar project will allow Cat Tran buses on The University of Arizona campus to be reallocated to better serve the campus without adding additional operating cost to the Cat Tran system.**

Finance Plan - The section at the beginning of this application, "Grant Funds and Sources/Uses of Project Funds", details the capital expenses and funding sources over specific time periods. Local funding for the project will be from RTA using $87.72 million in sales tax funds approved by the voters in May 2006. The balance will be federally funded with FTA New Starts Exempt funds (FTA approved "exempt" status in January, 2009) and TIGER funds. Of the $87.72 million in sales tax revenue, $75.06 million will be used to fund the capital cost of the modern streetcar and the remaining $12.66 million will be used to fund operations. Additional sources of operating funds include contributions from The University of Arizona's U-PASS program and fare revenues. The City of Tucson's Department of Transportation and The University of Arizona signed a memorandum of understanding to contribute revenues from the U-PASS program toward the operation of the modern streetcar. U-PASS funds will be used to fund remaining operational costs above the maximum sales tax limit set by RTA for the streetcar project.

Economic Competitiveness

Long-term economic competitiveness and stability in a region improves the lives and well-being of all regional residents. The modern streetcar project provides these economic benefits in both the immediate corridor as well as region-wide. The following discusses:

- Public and private investment in the corridor
- Long-term employment as a direct result of the project
- How the project's location in an Empowerment Zone will improve training, work opportunities, and businesses employing underprivileged citizens

Public and private investment in corridor - The streetcar is expected to enable and attract new investment, as well as raise the value of existing properties in the alignment. Studies have shown an increase in property value near transit lines of 2% to over 30%. Applying a conservative 4% premium, an average per property increase of about $9,200 by 2015 due to the streetcar for each of 3,800 properties within 1,500 feet of the streetcar alignment (**Appendix B**) will be realized. This appreciation equates to an aggregate increase of $35 million by 2015 along the alignment. In addition to the advantages realized from increased property values, a significant number of redevelopment projects are in the advanced planning stages and will benefit from the success of the streetcar project. Examples are shown in **Table 6** as well as **Figure 4**.

Long-term employment – The operation and maintenance of the modern streetcar project produces long-term jobs. Unlike construction, these jobs are permanent and exist throughout the 20 year planning horizon.

- **An estimated 1,480 long-term regional jobs will be created as a result of the streetcar project operating in the corridor (Appendix B)**

Jobs created in the corridor by 2020, partially as a result of development listed in **Table 6** include:

- **Hospitality - 200 jobs**
- **Retail – 720 jobs**
- **Service – 2,880 jobs**
- **Healthcare – 1,000 jobs**

Corridor within the Tucson Empowerment Zone - The project corridor is almost entirely within the City of Tucson's Empowerment Zone (**Figure 4**). An Empowerment Zone is an area established by the City of Tucson that is eligible to receive federal business tax credits through the U.S. Department of Housing and Urban Development. Businesses that locate within the zone or employ citizens who live within the zone are eligible for the following incentives:

- Employment and Work Opportunity Tax Credits
- Business Investment Incentives
- Issuance of Tax Exempt Bonds
- Welfare to Work Tax Credit

Table 6: Redevelopment Projects in Advanced Planning

4th Avenue Business District:

- 15 acres of developable land to add to current unique retail establishments serving mostly The University of Arizona students and employees, downtown workers and residents, and visitors.
- Expected to add 300 jobs per year between 2000 and 2020 (20% retail/80% service).

The University of Arizona Campus:

- Planned BIO 5 and other expansions at Arizona Health Sciences Center estimated to add 1,000 primarily health care jobs by 2020. Most expected to pay above average wages.
- The University of Arizona development near the Arizona Health Sciences Center will spur demand for additional retail, services, and hospitality facilities. About 200 hospitality jobs expected to be added through expansion and addition of hotels and convention services nearby.

Main Gate Business/Shopping District Expansion:

- 9 acres of developable land for expansion adjacent to The University of Arizona.
- The University of Arizona student housing shortage (estimated 1,760 dwelling units) can be alleviated through construction of mixed use and condominium buildings.

West End:

- Tax Increment Finance (TIF) District, approved by voters in 1999, to date has generated $64 million to leverage new investment.
- Includes mix of housing types, Transit Oriented Development (TOD) development potential, and expanded convention center and hotel.

Figure 4: Planned Projects and Tucson Empowerment Zone

*Part of the Gadsden Development.

The Empowerment Zone has enabled the following outreach and employment opportunities:

- **Conducted over 500 community and business outreach presentations.**
- **Hosted 7 in-depth tax training classes attended by over 350 businesses.**
- **Over 100 commercial building permits have been issued in the zone.**
- **The City of Tucson was awarded a $200,000 EPA Brownfields Job Training Grant to provide free environmental technician job training opportunities for up to 40 people who are residents of the Empowerment Zone.**

Livability will be Enhanced

A substantial cross-section of the region's population will benefit from the modern streetcar project. The project will connect The University of Arizona to Downtown Tucson and will traverse major retail and cultural districts. Residents, students, and employees alike will benefit from:

- Increased mobility
- Improved accessibility
- Well-coordinated plans and policies
- Community participation

Increased Mobility - A new higher capacity transit connection between the region's two largest employment centers will provide a direct and therefore convenient transit service with added operational frequency, extended service hours (to 20+ hours per day), and new transit connection through The University of Arizona campus. Due to this new direct transit connection through campus, it is estimated that:

- **The University of Arizona will generate an estimated 47% of total streetcar boardings.**
- **The project will serve as both the campus's internal Cat Tran circulator as well as provide a direct trip Downtown.**
- **Larger streetcar capacity (130-150) compared to existing buses (80-100) in the corridor provide the ability to accommodate large passenger loads during special events and at other times of heavy use.**
- **Improved transit service between key districts eliminates the need for many short inner-city auto trips.**
- **High frequency service offers a simple, reliable route structure allowing riders to use this service with ease.**

Improved Accessibility - The modern streetcar project will improve accessibility to popular destinations for a large population of low income, senior, and citizens with disabilities. The following low income, affordable housing developments, and critical medical services are within ¼ mile of the streetcar line:

- **Martin Luther King Apartments at Depot Plaza – 68 units for elderly or disabled persons; 22 workforce housing units.**
- **One North Fifth Avenue – 11 affordable units.**
- **Gadsden mixed-use development - 157 affordable / work force housing.**
- **El Rio Community Health Center serves approximately 280,000 patients a year; with more than 80% of the patients at or below the federal poverty level.**

Additionally, the project will feature:

- **Low-floor vehicles with level platform boarding at all stops; this is compliant with Americans with Disabilities Act (ADA) requirements.**

Well-coordinated plans and policies - A significant list of plans and policies have been enacted in the corridor to ensure successful project development, maximum public and private investment, as well as creating a blueprint for responsible and sustainable growth. These are as follows:

Studies and Plans - these may be found in **Appendix C**.

- Downtown Infrastructure Study (2007) - recommends infrastructure improvements for successful redevelopment, including pedestrian/ streetscape improvements and transit.
- Downtown Links (August 2009) - focuses on creating a pedestrian-friendly environment through connectivity and design improvements.

As part of streetcar effort, overlays are being developed for the 4th Avenue District.

- **Design Criteria Manual** - Update is in process and includes pedestrian amenities, connectivity upgrades, reduction of auto-oriented commercial uses, and increased transit access to commercial developments.
- **Livable Tucson Vision Program (initiated 1997, ongoing)** - calls for better alternatives to auto transportation; infill and reinvestment instead of sprawl; people-oriented neighborhoods; and a successful downtown.
- **Transit-Oriented Design Handbook (August 2009)** - outlines TOD principles and recalls similar cities' experiences to produce walkable, transit-oriented neighborhoods. To be used as a marketing tool for the streetcar corridor.
- **The University of Arizona's Comprehensive Campus Plan (2003)** Currently being updated and will reflect The University of Arizona's rigorous sustainability goals which include plans for the campus to be pedestrian-and bicycle-friendly, to eliminate buses, and encourage transit use via streetcar. In response to main campus build-out, The University of Arizona plans to develop additional facilities at or near the streetcar line, especially downtown.

Policies and Agreements - these may be found in **Appendix D**.

- **Downtown Redevelopment TIF (expires: 2025)** - can finance public improvements, infrastructure, and parking while inviting the private sector to reinvest in housing and commercial activity. Since inception the TIF zone has generated $64 million to leverage new investment for Tucson. Public investment is expected to leverage over $1 billion in private investment over the next several years.
- **Downtown Area Infill Incentive District (2006)** - supports pedestrian and TOD and addresses barriers to infill.
- **Menlo Park Mercado District Planned Area Development (2004)** supports pedestrian and TOD and addresses barriers to infill.
- **Tucson/The University of Arizona Agreement (2007)** - The agreement that allows for modern streetcar to be built and operated through The University of Arizona's campus.

Community Participation - This project has been coordinated with local land use planning decisions and has encouraged community participation. The project established a Community Liaison Group (CLG) and Technical Advisory Committee (TAC) in the planning phase, and continues to meet throughout the process (21 meetings to date). Project updates are regularly distributed via regular mail, e-mail, and the project website to the CLG, TAC, an 'interested parties' list, and website visitors.

The community actively supports the modern streetcar - The modern streetcar project was recommended as the locally preferred alternative by the CLG and reaffirmed by 60% of the voters approving the RTA plan in May 2006; dedicating $87 million in local funds. The streetcar project also evolved through the FTA's Alternatives Analysis process and received unanimous approval from the City of Tucson Mayor and Council and the Pima Association of Governments. In order to garner this level of public support, the following key public outreach efforts were conducted:

- **5 public transit-oriented development workshops -** educated and received input from stakeholders, public, media, and officials about the streetcar's potential to connect and stimulate preservation, redevelopment and new development.
- **Ongoing one-on-one meetings, feedback sessions, and small group meetings with:**
  - Bicycle Inter-Community Action and Salvage
  - Tucson-Pima County Bicycle Advisory Committee
  - City of Tucson Commission on Disability Issues
  - Pima Association of Governments
  - The University of Arizona officials
  - The Marshall Foundation
  - Main Gate Square
  - Elected officials – Mayor and Council
  - Downtown Tucson Partnership
  - Neighborhood Associations – Iron Horse, West University, Sam Hughes, Blenman Elm
  - Fourth Avenue Merchants Association
  - The Gadsden Company

- The Tucson Metropolitan Chamber of Commerce
- Special event coordinators – El Tour de Tucson, Tucson Convention Center

Sustainability will be Assured

The modern streetcar project will contribute to reducing greenhouse gas emissions across the region as well as helping community partners achieve a more compact growth strategy. The following are important sustainability goals being pursued as part of the project's implementation:

- Greenhouse gas reduction, reduced dependence on foreign oil
- Support growth strategy of community partners
- LEED certification of neighborhood development
- LEED certification of new construction

Greenhouse gas reduction, reduced dependence on foreign oil - According to the American Public Transit Association (APTA), a person who rides public transportation, instead of driving, reduces his or her carbon dioxide (CO_2) output (a major greenhouse gas) by more than 20 pounds a day and 4,800 pounds annually. That saves more than weatherizing a home, adjusting a thermostat, switching to CFL bulbs, and replacing older appliances with higher efficiency models combined. With the streetcar estimated to reduce CO_2 emissions by over 220 tons during the first year of operations alone, the project will have a major positive effect on reducing greenhouse gas. Tucson's modern streetcar will have the following positive impacts on energy and greenhouse gases:

- **Electrically-powered streetcar vehicles allow shift to a more renewable energy source.**
- **Streetcar vehicles have regenerative braking capabilities allowing some electricity to be produced by vehicle itself.**
- **Streetcars have larger capacity than buses resulting in more passengers being carried per vehicle.**
- **Transit operations will consolidate transit service in area resulting in higher passenger load factors and existing bus service hours being redeployed elsewhere in system.**
- **In its first year of operations (2012), streetcar is expected to reduce auto and truck regional vehicle miles traveled (VMT) by over 900,000 miles and save more than 46,000 gallons of gasoline and regular diesel fuel consumed by these vehicles.**
- **Streetcar is estimated to reduce carbon dioxide by more than 220 tons in opening year.**
- **Streetcar will add to the City's diversity of clean energy sources for transit which already includes a bus fleet comprised of 61% bio-diesel buses and 39% compressed natural gas (CNG) buses.**

Support growth strategy of community partners - The University of Arizona is a major focus of and contributor to Tucson's growth. Taking from The University of Arizona's comprehensive plan (2003), the University's growth strategy has primarily focused on build-out of the main campus within the campus planning area boundary – essentially increasing density. In response to build-out on the main campus, the University has plans to develop additional facilities on or near the streetcar route, with a particular focus on Downtown. The streetcar will provide a practical, safe, and efficient way to transport students, faculty, and staff back and forth between downtown and the main campus. The anticipated result is a reduced need for parking and reduction in expected traffic volumes.

LEED Certification for Neighborhood Development (LEED ND) - The Tucson Modern Streetcar is **the only transit project registered in the LEED ND Pilot Program, and if certified, will be the first LEED ND transit project in the country.** The Tucson Modern Streetcar accomplishes all of the following goals of LEED ND in promoting compact urban development:

- Traverses locations within existing town and city centers
- Connects areas and provides good access to transit
- Provides access to and promotes development of 1,216 acres of infill overlay districts
- Efficiently connects and provides access to previously developed sites

LEED Certification for New Construction (LEED NC) - The Tucson Modern Streetcar maintenance and storage facility will be a LEED for New Construction (LEED NC) Silver certified building. Designing the maintenance and storage facility to achieve LEED NC Silver certification

will result in environmental benefits, economic benefits, and health and community benefits. **Appendix E** provides additional information.

LEED Benefits and Costs – The benefits of building green include:

- Cost savings from reduced energy, emissions, water, and waste
- Lower operations and maintenance costs
- Enhanced occupant productivity and health

As **Table 7** shows, analysis of these areas indicates that total financial benefits of green buildings are over ten times the average initial investment required to design and construct a LEED NC Silver certified building[1]. Energy savings alone exceed the average increased cost associated with green building construction. Additionally, the relatively large impact of productivity and health gains reflects the fact that the direct and indirect cost of employees is far greater than the cost of construction or energy. Therefore, even minor changes in productivity and health translate into greater financial benefits. The U.S. Environmental Protection Agency echoes the energy savings benefit of green building, stating that green building can result in energy cost savings of up to 40% with a pay-back period of first costs in 2.5 years[2].

Table 7: Financial Benefits of Green Buildings ($ Per Square Foot)

Category	20-year NPV[3]
Energy Value	$5.79
Emissions Value	$1.18
Water Value	$0.51
Waste Value (construction only) – 1 year	$0.03
Commissioning O&M Value	$8.47
Productivity and Health Value (Certified and Silver)	$36.89
Less Green Cost Premium	($4.00)
Total 20-year NPV (Certified and Silver)	**$48.87**

[3]Net Present Value (NPV) represents the present value of an investment's future financial benefits minus any initial investment.

Source: USGBC-Capital E Analysis

Safety will be Enhanced

The Tucson Modern Streetcar will reduce the number of encounters a transit user will have with the surrounding roadway network compared to the existing transit system. Nearly one-third of the project's stops occur on dedicated right-of-way within The University of Arizona campus. This lack of interaction with autos and other transit vehicles will allow over 50,000 students, faculty, and staff to move within the campus as well as between the campus and Downtown Tucson avoiding two of the busiest arterials in the region with average daily traffic volumes of over 30,000. The streetcar system will also enhance pedestrian safety by connecting pedestrian friendly destinations previously bisected by railroad and freeway underpasses, and major arterial streets in the Downtown Tucson area.

JOB CREATION AND ECONOMIC STIMULUS

The construction of the Tucson Modern Streetcar project will benefit a number of industries providing employment both nationally and locally.

- **Oregon Iron Works' procurement documents indicate that construction of the modern streetcar vehicles will utilize over 160 suppliers in more than 20 states across the United States.**

Short-Term Job Creation

Beginning in 2009, construction activities for the modern streetcar project will add a number of construction jobs as well as jobs in related industries.

- **It is estimated that 1,200 jobs will be created between 2009 and 2012 as a direct result of the project's construction.**
- **An additional 1,650 related jobs will be created in over 19 industries as a result of construction activities.**

Table 8 illustrates the number of jobs generated by quarter as well as the associated labor income. Please refer to **Appendix B** for calculations and assumptions.

[1]Kats, Greg, 2003, "The Costs and Financial Benefits of Green Buildings: A Report to California's Sustainable Building Task Force," available from the USGBC website, <https://www.usgbc.org/b2c/b2c/mainFS.jsp>, accessed November 2005.

[2]Pivo, Gary, October 2005, "Promising Economics, "GreenTech Urban Land Institute Magazine, p. 34-39.

Table 8: Number and wages (YOE$) of jobs created as a result of project construction

Category	Employment	Cumulative Employment	Labor Income ($M)	Cumulative Labor Income ($M)
2009 – Q3	385	385	$19.9	$19.9
2009 – Q4	458	842	$23.7	$43.7
2010 – Q1	458	1,300	$23.7	$67.4
2010 – Q2	324	1,623	$16.8	$84.1
2010 – Q3	193	1,817	$10.0	$94.2
2010 – Q4	193	2,010	$10.0	$104.2
2011 – Q1	293	2,303	$15.2	$119.4
2011 – Q2	310	2,613	$16.1	$135.5
2011 – Q3	121	2,734	$6.3	$141.7
2011 – Q4	119	2,852	$6.2	$147.9

Source: HDR Decision Economics, Benefit-Cost Analysis (2009), Appendix B

Low-Income Job Creation

A significant number of jobs will be created in industries that typically employ low-income workers.

- **Over 1/3 of the jobs created as a result of the project's construction activity are in industries that typically employ low-income workers: 1,010 jobs.**
- **Approximately $43 million in labor income is associated with the estimated 1,010 jobs.**

PROJECT IS READY FOR RAPID IMPLEMENTATION

Project Schedule

As noted above, the Tucson Modern Streetcar project has been approved for an aggressive construction and implementation schedule. This timeline has been coordinated with FTA's Project Management Oversight Consultant and the FTA. Funds from both local and federal sources are due to be expended beginning in the third calendar quarter of 2009 and continuing through the first half of 2012. Planning, engineering, and construction funds will be spent approximately as follows:

- **30% in 2009**
- **40% in 2010**
- **25% in 2011**
- **5% in 2012**

Heavy construction activities are due to begin in late 2009/early 2010 and will create approximately 2,850 jobs throughout the life of the project.

Environmental Approvals

The environmental process pursuant to the National Environmental Policy Act (NEPA) was completed in January 2009. This is evidenced by FTA issuance of a Finding of No Significant Impact (FONSI) in January 2009 (**Appendix F**) which was based on the result of the Final Environmental Assessment dated August 2008. The project will not significantly impact the natural, social, and/or economic environment. A Memorandum of Agreement (MOA) between FTA, City of Tucson, and the Arizona State Historic Preservation Office (**Appendix G**) has been implemented which specifies handling of cultural resources that may be encountered. Compliance with Section 106 of the Historic Preservation Act continues as directed in the MOA. A bridge over the Santa Cruz River will be constructed as an associated concurrent project and will require a Section 404 per the Clean Water Act permit. The permit is in process. No other environmental approvals/permits are required.

Legislative Approvals

The project has received significant support from both state and local officials. **Appendix I** includes letters of support from the U.S. Congress, Mayors, and the City Council.

State and Local Planning

The project and local funding for the project was approved as part of the successful Regional Transportation Authority Plan (RTA) vote in Pima County in May 2006. Additionally, the project has been included in the Transportation Improvement Program (TIP) (**Appendix J**).

Technical Feasibility

The project has successfully advanced through FTA's Alternative Analysis and New Starts preliminary engineering milestone and is expected to receive approval to enter final design in September, 2009. Locally, final design efforts are now underway with construction due to begin in late 2009 or early 2010.

EXPECTED BENEFITS AND COSTS OF THE PROJECT

In support of this application costs and benefits of the investment have been estimated over a 20 year lifecycle and have been compared at present value using the required 7% discount rate. All benefits are estimated using unit values prescribed by USDOT or standard industry practice where no specific guidance was provided. A summary of methods, data and assumptions have been included as **Appendix B**.

The present value of lifecycle costs has been estimated based on the capital construction cost and an annual operations and maintenance cost estimate for the modern streetcar project. The 20 year present value cost of the improvement is estimated to be $166 million ($2009). This figure includes $150 million in capital construction over three years (YOE) and $2.7 million annually in operations and maintenance expenses.

Benefits have been estimated for each of the following evaluation criteria. Where appropriate, these are aggregated and compared to project costs. **Table 9** describes each benefit estimated by criteria. **Table 10** on the next page describes the primary outcomes of the evaluation and presents the benefit-cost analysis outcomes. The major findings include:

- **Discounted benefits exceed costs by 2.5 to 1.**
- **Discounted benefits generate net social welfare valued at $248 million in present value.**

Table 9: Benefits and Descriptions by Evaluation Criteria

Criteria	Benefit(s)	Description
State of Good Repair	Vehicle Operating Cost Savings	Reductions in monetary costs to drivers switching to public transit
Economic Competitiveness	Short-Term Employment	Value of new short-term jobs created
Livability	Travel Time Savings	Door-to-door trip time savings to both streetcar users and remaining roadway users
	Economic Development	Incremental property value appreciation due to streetcar proximity, net of travel time savings
	Low Income Mobility	Portion of trip cost and time savings accruing to low income users
Sustainability	Emissions Reductions	Reductions in pollutants and greenhouse gasses due to auto use reductions relative to the no-build condition
Safety	Accident Reduction	Reductions in property losses, injuries, and deaths due to reductions in automobile use

Table 10: Summary of Cost-Benefit Analysis Results; 20 Year Lifecycle, 7% Discount Rate

State of Good Repair	
Vehicle Operating Cost Savings ($ Millions)	$5.5
Economic Competitiveness	
Additional Short-Term Employment (No. of New Jobs)	2,852
Direct Employment	1,190
Indirect Employment	532
Induced Employment	1,130
Benefits of Short-Term Employment ($ Millions)	$108
Livability	
Economic Development ($ Millions)	$293.2
Travel Time Savings ($ Millions)	$7.6
Low-Income Mobility ($ Millions)	$2.4
Sustainability	
Gallons of Gasoline Avoided	533,893
Reduced Emissions (tons)	
Nitrous Oxide (NO_X)	3.71
Carbon Dioxide (CO_2)	4,344
Particulate Matter (PM)	0.29
Volatile Organic Compounds (VOC)	6.12
Emissions Savings ($ Millions)	$0.04
NOx	$0.007
CO_2	$0.004
PM	$0.022
VOC	$0.005
Safety	
Accident Cost Savings ($ Millions)	$0.1
Benefit-Cost Analysis Results	
Total Discounted Benefits ($ Millions)	$414.3
Total Discounted Costs ($ Millions)	$166.3
Benefit - Cost Ratio	2.5
Net Present Value ($ Millions)	$248.0

Source: HDR Decision Economics, Benefit-Cost Analysis (2009), Appendix B

EVALUATION OF PROJECT'S SHORT AND LONG-TERM PERFORMANCE

The following is a plan for the collection, evaluation, and reporting of both short and long-term performance metrics for the modern streetcar project.

Short-Term Outcomes

The following metrics will be analyzed during construction and within one year of project opening:

Metric 1 - number of jobs created during or preserved as a result of construction

- Data collection
  - Direct construction jobs preserved, created, and sustained as result of project
- Evaluation measures
  - Planned vs. actual construction jobs created
  - Planned vs. actual construction jobs preserved
  - Planned vs. actual construction jobs sustained post construction

Metric 2 - Evaluate number and types of businesses created as a result of or that will directly benefit from construction and operation of modern streetcar

- Data collection
  - Business permits issued 6-months prior or less and within ½-mile radius of project.
- Evaluation measures
  - Forecasted number of employees vs. actual
  - Type of industry

Long-Term Outcomes

The following metrics will be analyzed after project has been open for one year or more:

Metric 1 - Quantify how project will improve existing transit system by providing better accessibility to a range of jobs in corridor

- Data collection
  - Current employment by industry in corridor
  - List of major employers, number of employees, distance from project
  - Proposed employment by industry
- Evaluation measures
  - Evaluate how existing employment changed; number and types of employers in the corridor after the project opens vs. what was planned

Metric 2 - Measure improvement in accessibility for special populations in the proposed corridor

- Data collection
  - Corridor population figures on following groups before and one year after project opening:
    - Minority population
    - Population whose income is below poverty level
    - Number of zero-car households
    - Persons with disabilities
  - Statistics on use of major medical or social service facilities in corridor before and one year after project opening
    - El Rio Community Health Center – currently serves 280,000 patients a year; many low income
- Evaluation measures
  - Calculate changes to above populations between existing year and one year after project opening
  - Measure increase in patients accessing El Rio Community Health Center; controlling for increase in services, staff, etc.

Metric 3 - Capture improvements in energy efficiency and level of dependence on foreign oil between existing transit system and system with project operating.

- Data collection
  - Inventory of current bus fleet by fuel type before project opening
  - Fuel costs by type and revenue mile before project opening
  - Inventory of current bus fleet by fuel type after project opening
  - Fuel costs by type and revenue mile after project opening
- Evaluation measures
  - Calculate bus fuel costs by vehicle type both before and after project opening
  - Calculate rail fuel costs
  - Calculate total system wide fuel costs for bus and rail; compare costs before and after project opening

TIGER SECONDARY SELECTION CRITERIA

This section focuses on how the modern streetcar project both meets and exceeds the eligibility requirements considered for the secondary selection criteria that includes:

- Innovative technologies, financing, and construction methods
- Partnerships
- Disciplinary integration

INNOVATIVE TECHNIQUES TO BE EMPLOYED

In pursuing a high-quality, sustainable, and suitable mode of transportation for the Tucson area, the modern streetcar was a natural fit. The mode, financing, and method of construction all support the needs of the region and stakeholders. Greater details are provided below on these innovative methods.

Innovative Technologies

Both on and off the streetcar vehicle, passengers will experience a transit system that employs cutting edge technologies. Examples of these technologies are:

- **Regenerative braking on streetcar vehicles**
- **Intelligent Transportation Systems**
- **Wireless internet**
- **U-PASS / Smart card technology**

Regenerative braking - Similar to auto hybrid technologies, regenerative braking allows brakes to return power to the propulsion system, thus using less energy than other streetcar models.

Intelligent Transportation Systems (ITS) - Streetcar vehicles will employ ITS connected directly to the local traffic signal network, allowing streetcars to activate priority green signals at intersections. This will maximize streetcar trip times between stops without disrupting local traffic. ITS will also allow stops to display "next train" information to passengers in real time.

Wireless internet - Access to wireless internet allows direct communications between train operators, transit operations, and fire and police departments. Additionally, riders will have free access to the wireless internet.

U-PASS - Card technology allows The University of Arizona students, faculty, staff, and others easy and convenient transit access.

Innovative Financing

The following types of financing have been used to develop and construct this project:

- **Regional dedicated sales tax increase**
- **Free use of The University of Arizona right-of-way**
- **The University of Arizona cost participation for relocation of sensitive research equipment along the streetcar route**
- **Gadsden development agreement**
- **Donated land**

Regional dedicated sales tax increase - This is the source of the greatest share of local funds. This method of financing is innovative to the region as it is the first sales-tax funded transportation initiative in the region's history. The tax was approved by approximately 60% of voters illustrating high public support for this project as well as other regional multi-modal projects.

Free use of The University of Arizona right-of-way - The University of Arizona endorses modern streetcar and has offered to allow the project to be built and operated through their main campus. This will reduce total capital costs for right-of-way.

The University of Arizona cost participation for relocation of sensitive equipment - The University of Arizona relocated sensitive research equipment away from the streetcar route to avoid potential electronic field and vibration impacts and costly mitigation measures.

Gadsden development agreement - Tucson has entered into an agreement for sale and development of a 14-acre city-owned parcel on West Congress that will include retail, hotel, office, restaurant, and residential uses. Gadsden will pay the cost and be responsible for construction of city-owned infrastructure, including streetcar track improvements on and adjacent to development.

Donation of land - The Marshall Foundation will donate land, located off-campus near The University of Arizona's Main Gate, for a traction power substation needed to accommodate modern streetcar's power supply facilities.

Innovative Construction Methods

Primarily, the following will be utilized as a means to reduce overall project costs while still providing a quality transit service.

- **Using "stops" versus "stations"**
- **Modified track slab design**
- **Ballasted track work**

Stops - Streetcar stops will be designed to allow ingress/egress and fare collection, but without extra features that are already present on streetscape.

Modified track slab design - Lighter vehicle weight (as compared to light rail) will allow the track slab to have reduced depth and reinforcing requirements. Not only would this save substantial costs but it would reduce amount of construction activity and associated time for adjacent community disruption.

Ballasted track work - Track way outside of a roadway and pedestrian environment, such as the maintenance facility, will utilize ballasted track. This type of track work is less expensive and faster to construct than embedded track.

PARTNERSHIPS

Jurisdictional and Stakeholder Collaboration

Support for the modern streetcar project spans many varied community stakeholders. These include:

- **The University of Arizona**
- **The Marshall Foundation**
- **The Gadsden Company**
- **Community Liaison Group**
- **Technical Advisory Committee**
- **Pima Association of Governments**

For additional information on community outreach, see the livability discussion in the primary selection criteria section.

The University of Arizona - As noted throughout this application, The University of Arizona is the primary partner in advancing the modern streetcar project into construction. The following are a list of programs, actions, and donations made by The University of Arizona that has enabled the project to advance.

- U-PASS - A key element of the campus sustainability plan is to limit parking and encourage the use of transit both on and off the campus (**Appendix H**).
- Use of The University of Arizona right-of-way
- 2nd Street redesign and reconstruction to include water harvesting features
- Contribution to the relocation of sensitive research equipment to accommodate streetcar operation
- Preference for modern streetcar

The Marshall Foundation - The Foundation made a generous donation of land so that a power substation may be located as planned without incurring additional expense.

The Gadsden Company - Gadsden will pay the cost and be responsible for construction of streetcar track improvements on and adjacent to their mixed-use development on property the city will sell to Gadsden.

Community Liaison Group (CLG) - The CLG has provided input since project initiation on planning, design, environmental, and other issues. In addition, the City has benefited from members' wide-ranging perspectives including: 14 neighborhood associations (including low-income and minority neighborhoods); 5 local business/merchant groups; commission on disabilities; 2 bicycle groups; Tucsonans for Sensible Transportation; Tucson Unified School District, Pima Community College, and a private school.

Technical Advisory Committee - This group offers input on topics such as traffic, transit, parking, bicycles, engineering, environmental, historic preservation, university-related issues, police protection, and urban planning/design. The group includes 54 members who represent City of Tucson, Pima County, Pima Association of Governments, State of Arizona, The University of Arizona, and Sun Tran.

Pima Association of Governments - The region's Metropolitan Planning Organization, whose membership includes all the cities in Pima County, has been fully supportive and instrumental in supporting the modern streetcar project.

Critical Need for TIGER Funds to Help Advance Project

Total capital costs of the project are estimated at $150.06 million (YOE $). About 50% of the costs, or $75.00 million (YOE $), will be financed through local sources including the RTA sales tax. The City is seeking federal funds to finance the remaining 50%, or $75.06 million (YOE $). As an FTA New Starts Exempt status project, the Tucson Modern Streetcar project can receive up to $24.9 million in federal funds; however, only $2 million FTA Section 5309 funds have been appropriated to date. The City is seeking the remaining $73 million in TIGER funds. The Pima Association of Governments has listed the Tucson Modern Streetcar as a priority project in the region and has included the project on a list of projects to advance for ARRA funding. However, currently no ARRA funding has been allocated to the Tucson Modern Streetcar Project.

TIGER funds would:

- Assure project completion by 2012 and within budget.
- Provide substantial economic stimulus to the region.
- Provide economic stimulus to the vehicle manufacturer, parts suppliers, and others throughout the U.S.
- Mitigate the decline in RTA sales tax revenues due to the slowed economy.
- Provide a much needed stimulus to the local economy.

With other regional transportation needs high and limited federal funding available, there is no assured federal funding source. Without such funds, implementation of this vital transit project for the Tucson region is in serious jeopardy.

DISCIPLINARY INTEGRATION

Examples of other projects in the community which are pursuing similar objectives and where the Tucson Modern Streetcar will prove mutually beneficial are summarized below.

Smart Housing for Tucson Initiative

- 3 goals—1) develop an "active and livable downtown"; 2) offer housing choices that attract new residents; 3) support housing choices that protect existing residents.
- Focus on providing and maintaining a range of housing types and costs to accommodate buyers and renters with various incomes.
- Initiative established goal of 2,000 new housing units in Downtown by 2009. In FY 2008, 1,896 units were either underway, in planning stages, or completed. Includes 316 affordable units.
- Streetcar provides a desirable alternative transportation option to encourage residents to move downtown since an option is not offered elsewhere, and it provides high level service to many desired locations.
- Residents attracted to the downtown will provide a consistent source of streetcar ridership.

El Rio Community Health Center

- Serves over 280,000 patients a year.
- Non-profit medical and dental facility with over 80% of their patients having income at or below the federal poverty level.
- Health center located near west end of streetcar route.
- Streetcar is a convenient and comfortable transportation alternative for health care patients and employees, many of whom are transit-dependent.
- Patients and employees will provide a consistent source of streetcar ridership.
- Provides direct connection from El Rio Community Health Center to Arizona Health and Sciences Center.

Martin Luther King Apartments at Depot Plaza

- A U.S. Housing and Urban Development Hope VI project designed to redevelop some of the country's most troubled and isolated public housing.
- Major goal is to allow residents to stay in the community but provide new development not exclusively comprised of public housing.
- 68 units for elderly and/or disabled persons.
- 22 affordable apartments.
- 154 market rate units.

One North 5th

- To be redeveloped into mixed-use, mixed income, high density pedestrian-oriented development with public open space.
- Development located adjacent to streetcar alignment downtown and Ronstadt Transit Center where all bus service in Tucson intersects.

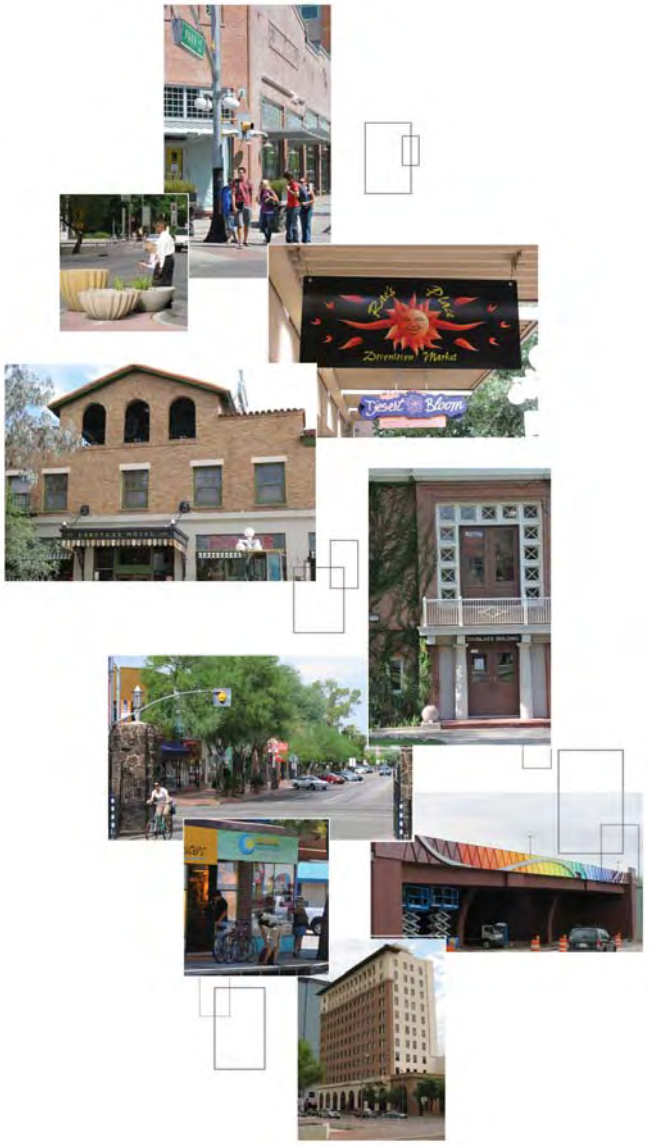
- Streetcar will provide many transit-dependent residents with new high quality transit service to conveniently access many desired destinations.
- Development's residents and employees will provide a consistent source of streetcar ridership.

The Gadsden Company

- 14-acre parcel purchased from City of Tucson.
- Mixed-use project with hotel; market-rate, work-force, and affordable residential; retail; office; market, restaurant; and other commercial uses.
- At least 35% of the 400 housing units to be offered to residents classified as low-income or working force on a 50/50 basis.
- Gadsden to pay up to $3 million at Phase 1 closing to Tucson Housing Trust Fund (HTF) for use by eligible persons seeking to buy a residence in Phase 1.
- Gadsden will pay 1% of sales price of most residential properties, including resales, to HTF.
- All buildings to be designed and constructed to LEED certification for new construction.
- Gadsden to provide for construction and pay or reimburse City of Tucson for streetcar track improvements on and adjacent to their development.
- Development is located at the west end of the streetcar route. Streetcar will provide many transit-dependent residents with a new high quality transit service to conveniently access many desired destinations.
- Development's residents and employees will provide a consistent source of streetcar ridership.

The University of Arizona

- The University of Arizona's future development includes modern streetcar as an essential component of their Comprehensive Campus Plan and a vital conduit for further connecting The University of Arizona's vision with future success of the entire community.
- Streetcar will provide The University of Arizona community with a new high quality transit service to conveniently access many desired destinations.
- The University of Arizona students, faculty, staff and others will provide consistent source of streetcar ridership.



FEDERAL WAGE RATE REQUIREMENT

A signed certification that all project activities and the project sponsor will comply with the requirements listed in subchapter IV, Chapter 31, U.S.C. title 40 has been included in the Appendix. Please refer to **Appendix K**.

NATIONAL ENVIRONMENTAL POLICY ACT REQUIREMENT

As noted in the Primary Criteria section above:

- The environmental process pursuant to the National Environmental Policy Act (NEPA) was completed in January 2009.
- FTA issued a Finding of No Significant Impact (FONSI) in January 2009 (**Appendix F**) which was based on the result of the Final Environmental Assessment dated August 2008 (**Appendix L**).
- The project will not significantly impact the natural, social, and/or economic environment.

ENVIRONMENTALLY RELATED FEDERAL, STATE, AND LOCAL ACTIONS

As noted in the Primary Criteria section above:

- A Memorandum of Agreement (MOA) between FTA, City of Tucson, and the Arizona State Historic Preservation Office (**Appendix G**) has been implemented which specifies handling of cultural resources that may be encountered.
- Compliance with Section 106 of the Historic Preservation Act continues as directed in the MOA.
- A bridge over the Santa Cruz River will be constructed as an associated concurrent project and will require a Section 404 of the Clean Water Act permit. The permit is in process.
- No other environmental approvals/permits are required.

APPENDICES

Appendix A – Acceptance of proposal; Oregon Iron Works

Appendix B – Benefit-Cost Analysis and Economic Impact Analysis

Appendix C – Plans / studies implemented in project corridor

- Downtown Infrastructure Study
- Downtown Links
- Design Criteria Manual
- Livable Tucson Vision Program
- Transit-Oriented Design Handbook
- The University of Arizona's Comprehensive Campus Plan (2003)

Appendix D – Policies / Agreements implemented in project corridor

- Downtown Redevelopment TIF
- Draft Downtown Area Infill Incentive District
- Menlo Park Mercado District Planned Area Development
- Tucson/The University of Arizona Memorandum of Understanding

Appendix E – LEED New Construction Information

Appendix F – Finding of No Significant Impact

Appendix G – Memorandum of Agreement, SHPO

Appendix H – U-PASS Discounted Bus Program

Appendix I – Letters of support from local agencies / groups to elected officials

- Congresswoman Giffords
- Congressman Grijalva
- Congressman Pastor

Appendix J – Transportation Improvement Program (TIP)

Appendix K – Signed certification complying with Federal Wage Rate Requirement

Appendix L – Final Environmental Assessment