SALT LAKE CITY CORPORATION

DEPARTMENT OF COMMUNITY & ECONOMIC DEVELOPMENT
OFFICE OF THE DIRECTOR

RALPH BECKER
MAYOR

RECEIVED
MAY 22 2015
By

CITY COUNCIL TRANSMITTAL

David Everitt, Chief of Staff

Date Received:
Date sent to Council:

SCANNED TO: MAYOR
SCANNED BY:
DATE: 5/22/2015

TO: Salt Lake City Council
Luke Garrott, Chair

DATE: May 22, 2015

5/22/2015

X

Jill Remington Love
CED Director

FROM:

SUBJECT: Transportation Investments Generating Economic Recovery (TIGER) VII Grant Application

STAFF CONTACT: Robin Hutcheson, Transportation Division, (801) 535-7146

COUNCIL SPONSOR: Erin Mendenhall, District 5

DOCUMENT TYPE: Resolution Pledging Support for Future Match Required, if TIGER funding is awarded to the Utah Transit Authority (UTA)

RECOMMENDATION: The City Council is being asked to approve a resolution to pledge to appropriate future match funding to UTA if the grant is awarded.

BUDGET IMPACT: If the TIGER Grant is awarded, the Council will pledge an additional $3,100,000 in matching funds.

BACKGROUND/DISCUSSION:

This transmittal is the second of two transmittals on the topic of the Transportation Investments Generating Economic Recovery (TIGER) VII grant application process for 2015. The first transmittal introduced the process, and explained the grant program, regional collaboration, and anticipated grant inclusions. The transmittal dated May 7th is included as an attachment.

For the past several days the Administration has been working with our partners to strengthen an application for submittal to the TIGER VII program, and to finalize the components of the request. The grant application is now developed more fully, which

gives us enough information to calculate the total value of the federal request, and the required local match. This current transmittal will more fully describe the grant submittal, and also provides the information necessary for the Council to consider a pledge of matching funds.

Established Partnerships

To strengthen the application, the City has established regional partnerships with the Utah Transit Authority (UTA) and Salt Lake County. UTA is planning to submit the application, as a component of the grant application is transit related, and this strategy was recommended based on feedback from the City's 2015 TIGER VI application. The County is planning to participate in the application by adding Parley's Trail components that add a stronger 'last mile' connection component to the application. The County's participation also strengthens the application by providing demonstrated partnerships, and also by significantly bolstering our overall local match proportion.

Components of the Application

The components of the grant application include a multi-modal approach to improving transit, walkability, last mile connections, and bicycle infrastructure. Each element has already been adopted in either the Sugar House Circulation Plan, or as the Locally Preferred Alternative for the S-Line. The following will be included in the TIGER VII application:

- The construction of a 0.4 mile extension of rail for the S-Line Phase 2, only until 2100 South
- Highland Drive lane conversion (road diet)
- Pedestrian crossing improvements
- Hidden Hollow area additional lighting
- 2 segments of Parley's Trail, in both Salt Lake City and Salt Lake County

To demonstrate additional local match, the McClelland Trail improvements have been included in the grant application, but will not receive additional funds.

Total Application Amount and Local Match Required

For all of the components listed above, the total value of the project components is $27,100,000. The total request to the TIGER VII program will be $15,000,000. The total local match offered will be $12,100,000.

To be considered competitive, a local match above 30% is required. The higher the local match, the more competitive the project will be. For this TIGER application, a 45% match is proposed because it increases the chances of funding a higher request than was submitted in the TIGER VI application. This high match is possible largely due to the partnership between Salt Lake City and Salt Lake County. The City has already allocated funding directly towards some of the components listed above, and this is considered as local match. The County has also previously allocated funding to the Parley's Trail, which can also be considered as match. However, additional resources will be needed to complete a competitive match. The table below describes the grant application and necessary match.

Summary of Grant Application

Total Value all Project Components	$27,100,000
Requested TIGER Funds	$15,000,000
Total Match (45%)	$12,100,000
Match Previously Identified and Approved by Salt Lake City	$2,500,000
Match Provided by Salt Lake County	$6,500,000
Total Remaining Match Needed from Salt Lake City	$3,100,000

Sources that could be identified between now and award/construction include existing city funds, new funding from outside sources, consideration of a Special Assessment Area (or similar), or partnerships with outside agencies and partners. Every effort possible to identify potential sources for match consideration will be made.

A Resolution for Council's consideration is provided with this transmittal. The Resolution pledges to appropriate future match funding in the amount of $3,100,000 if the grant is awarded. A copy of the full grant application will be provided for the Council once complete and submitted on June 5th, 2015.

Attachments:

Resolution

May 7, 2015 Transmittal

RESOLUTION NO. ____ of 2015

A Resolution Pledging Support to Contribute the Required Local Match If UTA Is Awarded TIGER Grant Funding to Extend Transit Service in the Sugar House Business District

WHEREAS, the City Council supports the extension of high-quality transit service further into the Sugar House Business District (SHBD), including by providing multi-modal alternatives to auto use, supporting community development, offering a safe pedestrian and active transportation environment, and contributing to the quality of life of the area; and

WHEREAS, on June 5, 2015, the Utah Transit Authority (UTA) will submit a Transportation Investments Generating Economic Recovery (TIGER) Grant application to obtain federal funding to implement these goals, specifically to construct: (i) a 0.5 mile extension of rail for the S-Line Phase 2; (ii) the Highland Drive lane conversion (road diet); (iii) McClelland Trail and street improvements; (iv) pedestrian crossing improvements; (v) two segments of Parley's Trail; and (vi) Hidden Hollow area additional lighting; and

WHEREAS, if UTA is awarded the TIGER Grant, the City will be required to provide a local match; and

WHEREAS, for UTA's TIGER Grant application to be competitive, it is necessary for the City to make a firm commitment that it will provide the local match in the event that UTA's application proves successful,

WHEREAS, based upon the estimated project cost ($27,100,000), the local match for which the City would be responsible is $5,600,000; and

WHEREAS, the City Council has already identified and approved $2,500,000 for the local match, from previously allocated funds; and

WHEREAS, the remaining amount of required matching funds for the City to contribute in the event UTA is awarded the TIGER Grant is $3,100,000.

THEREFORE, BE IT RESOLVED by the Salt Lake City Council that it pledges commitment to fund the local match in an amount not to exceed $3,100,000 in the event UTA's TIGER Grant application is successful, provided, however, that the City will make reasonable efforts to identify funding sources for the local match other than the City's General Fund, including, but not limited to, financial participation from private property owners adjacent to the S-Line.

Passed by the City Council of Salt Lake City, Utah, this _____ day of _____, 2015.

SALT LAKE CITY COUNCIL

By:_____
CHAIRPERSON

ATTEST AND COUNTERSIGN:

_____
CITY RECORDER

APPROVED AS TO FORM:

_____
SENIOR CITY ATTORNEY

HB_ATTY-#46196-v1-TIGER_Grant_Resolution_(2015)(Final)

SALT LAKE CITY CORPORATION
DEPARTMENT OF COMMUNITY & ECONOMIC DEVELOPMENT
OFFICE OF THE DIRECTOR
RALPH BECKER
MAYOR

CITY COUNCIL TRANSMITTAL

David Everitt, Chief of Staff

Date Received: 5/8/2015
Date sent to Council: 5/8/2015

TO: Salt Lake City Council
Luke Garrott, Chair

DATE: May 7, 2015

FROM: Jill Love, CED Director

SUBJECT: **2015 TIGER Process Introduction**

STAFF CONTACT: Robin Hutcheson, Transportation Director, (801) 535-6630

COUNCIL SPONSOR: Exempt

DOCUMENT TYPE: Briefing – Information Only

RECOMMENDATION: None

BUDGET IMPACT: None

BACKGROUND/DISCUSSION:

The purpose of this transmittal is to introduce the Transportation Investments Generating Economic Recovery (TIGER) 7 process in order to update the City Council on the recent Notice of Funding Availability (NOFA), and the Administration's intent to continue to pursue funding for multi-modal improvements in Sugar House. Improvements in Sugar House include, but are not limited to, improvements to the S-Line, specifically for extending the S-Line only until 2100 South.

In April, 2015 the United States Department of Transportation (USDOT) issued a NOFA for grant applications for the Transportation Investments Generating Economic Recovery (TIGER) program. Based on the City's efforts on TIGER 6, as well as positive feedback received in a debrief, the Sugar House Area Placemaking Enhancements (SHAPE) application was reconsidered for funding application.

451 SOUTH STATE STREET, ROOM 404
P.O. BOX 145486, SALT LAKE CITY, UTAH 84114-5486
WWW.SLCGOV.COM/CED
TEL 801-535-6230 FAX 801-535-6005

The grant program is highly competitive on a national scale, and in order to increase our chances as a region, Salt Lake City staff engaged in discussions with transportation partners to propose competitive projects, and make collaborative decisions. The Wasatch Front Regional Council, the Utah Transit Authority, the Mountainland Association of Governments, the Utah Department of Transportation, and Salt Lake County all participated in the discussions over the past few weeks. Projects were proposed by several agencies and were ranked on their competitiveness based on TIGER criteria. The SHAPE application was a highly ranked project for regional submission. In those discussions, Salt Lake County and South Salt Lake City expressed interest in partnering on the application, which would strengthen the application even further.

Some of the reason the SHAPE application was considered a competitive proposal include:

- It received a favorable debrief from USDOT and we were encouraged to apply again. It is not unusual for a project to be granted funding on a second or third round of application.
- It is a well developed proposal, and has technical analysis to support it
- It includes an adopted Locally Preferred Alternative by Salt Lake City
- It includes elements of an adopted Sugar House Circulation Plan
- It is in a good category of funding to be competitive, i.e. on the small side of projects
- It is supported by regional agencies
- With additions from Salt Lake County and South Salt Lake City, the competitive would be improved by showing additional partnership, and by including a stronger element of providing benefits for lower income communities.

Process for Application

This year USDOT has included a "pre-application" phase prior to applications being submitted. A pre-application includes simple information such as jurisdiction applying, the anticipated type of project and the anticipated size of the project. The pre-application is not a commitment to apply, but rather a way for USDOT to eliminate projects that are ineligible. There may also be basic feedback on projects after the pre-application review. The pre-application was due May 4th. The final application is due on June 5th. The pre-application has been submitted by the Utah Transit Authority. UTA has submitted additional pre-applications. UDOT has also submitted a pre-application. It is not anticipated that all applications will be submitted in June.

The Administration is currently assembling the components of the application, and because there are some changes to the approach from TIGER 6 (namely partnerships from other agencies), will be updating both content and costs over the next week.

Similar to last year, the Administration is preparing a transmittal and resolution for presentation to the City Council to request support for the application. A copy of the transmittal and resolution from last year is included as an attachment. The Administration recognizes that the process from last year occurred later than ideal in relationship to the grant application, and the intent is to provide the final information about the grant and any requested commitments in a timely manner.

Questions

Council staff has asked questions regarding this year's process. We have provided answers to the best of our ability below:

1. Where would matching funds come from and how much might they be? Are there any other funding partners?

We are currently developing partnerships that my contribute to matching funds. We do not yet know the final amount of matching funds that will be required in total, however we do not anticipate a significant difference from the original application, which was $4.5 M, and approximately $1.5 had been identified already. What we hope to change for TIGER 6 is to obtain partnerships that will contribute to the match responsibility. We will provide this information in the follow up transmittal and briefing.

2. Would construction be timed to minimize construction interruption on highland drive (water line on highland needs to be replaced)?

Yes, construction time would be kept to an absolute minimum and simultaneous projects would be coordinated.

3. How would the Administration plan to assist businesses on highland drive that might be impacted by the construction?

We are very committed to assisting the community through any construction period. If awarded, or at any time funding is obtained to continue multi-modal improvements in Sugar House, we will develop a robust business and resident outreach and assistance plan. It should be noted that this will be needed with our without any improvements to the S-Line, as Highland Drive is in need of maintenance, and any type of construction would be considered cause for developing a plan to support the businesses.

Attachments

A. TIGER Transmittal and Resolution Dated April 30, 2014
B. TIGER Follow Up Transmittal Dated October 1, 2014

ERIC D. SHAW
DIRECTOR

MARY DE LA MARE-SCHAEFER
DEPUTY DIRECTOR

SALT LAKE CITY CORPORATION

DEPARTMENT OF COMMUNITY & ECONOMIC DEVELOPMENT
OFFICE OF THE DIRECTOR

RALPH BECKER
MAYOR

CITY COUNCIL TRANSMITTAL

David Everitt, Chief of Staff

Date Received: _____
Date sent to Council: _____

TO: Salt Lake City Council
Charlie Luke, Chair

DATE: 4/30/2014

FROM: Eric Shaw

SUBJECT: Transportation Investments Generating Economic Recovery (TIGER) Grant Application

STAFF CONTACT: Robin Hutcheson, Transportation Division, (801) 535-7146

COUNCIL SPONSOR: Erin Mendenhall

DOCUMENT TYPE: Resolution Pledging Support for Future Match Required, if TIGER funding is awarded.

RECOMMENDATION: **The** City Council is being asked to approve a resolution to pledge to appropriate future match funding if the grant is awarded.

BUDGET IMPACT: If the TIGER Grant is awarded, the Council will be asked to appropriate matching dollars in the amount of $3,092,914 to receive a total of $10,610,530 in federal funding.

BACKGROUND/DISCUSSION:

Salt Lake City submitted an application for a TIGER grant to fund the streetcar extension and other related multi-modal improvements in Sugar House. The application deadline was Monday April 27, 2014. The purpose of submitting for this grant is to create opportunities for substantial federal assistance to fund implementation of the Sugar House Master Plan. At this point, some of the match required has been identified, however the City still needs to obtain legislative support for the remaining match if the grant is awarded. This summary has been prepared to: a) explain the grant and, b) identify the amount that the City Council would need to appropriate to meet the match requirement if the grant is awarded.

Although the grant application has already been filed, the City Council's options have been preserved. If the City Council elects not to support funding the remainder of the local match, then the application can be withdrawn prior to a federal decision. If the grant is awarded, and funding is not appropriated or identified through other sources or partnerships, then the City can return the grant.

The purpose of the grant proposal is to implement a "complete streets infrastructure" that extends high-quality transit service further into the Sugar House Business District (SHBD), provides multi-modal alternatives to auto use, supports community development, offers a safe pedestrian and active transportation environment, and contributes to the area's quality of life. The multi-modal nature of the application is a strategic approach to strengthening the grant application and leverage existing City resources. The grant application includes numerous elements that are adopted in the Sugar House Master Plan and Circulation Plan:

- The construction of a 0.5 mile extension of rail for the S-Line Phase 2
- Highland Drive lane conversion (road diet)
- McClelland Street Bikeway Improvements
- Non-motorized multi-use trail in Fairmont Park
- 2 HAWK Signals
- Hidden Hollow area additional lighting
- Additional improvements to "green infrastructure', such as run-off and erosion control, pond habitat

The application proposed a 30% match because that is considered the most competitive. To meet this match, a total of $1,454,456 has been identified in previously allocated CIP funds (streetcar extension, bikeway improvements, pedestrian improvements), and RDA funds (pedestrian safety lighting). Other sources to meet this match will need to be specifically identified and will require additional legislative process and approval if federal funds are awarded.

To reach a 30% match, a total of $4,547,370 is needed. If the grant is awarded, the City Council would be asked to appropriate an additional $3,092,914 in funding to supplement to previously allocated $1,454,456, as shown below.

Summary of 30% Match	
Total Project Cost	$15,157,900
Total Match Needed (30%)	$4,547,370
Total Match Identified and Approved	$1,454,456
Total Remaining Match Needed	$3,092,914

Sources that could be identified between now and award/construction include existing city funds, new funding through from outside sources, consideration of a Special Assessment Area (or similar), or partnerships with outside agencies and partners.

A Resolution for Council's consideration is provided with this transmittal. The Resolution pledges to appropriate future match funding if the grant is awarded. A similar Resolution was approved by the Council in 2009, in support of the City's application for the first TIGER Grant.

Attachments:

Resolution
TIGER Grant Application

RESOLUTION NO. ____ of 2014

A Resolution Pledging Support to Contribute the Required Local Match If Awarded TIGER Grant Funding to Extend Transit Service in the Sugar House Business District

WHEREAS, the City Council supports the extension of high-quality transit service further into the Sugar House Business District (SHBD), including by providing multi-modal alternatives to auto use, supporting community development, offering a safe pedestrian and active transportation environment, and contributing to the quality of life of the area; and

WHEREAS, on April 27, 2014, the City submitted a Transportation Investments Generating Economic Recovery (TIGER) Grant application to obtain federal funding to implement these goals, specifically to construct: (i) a 0.5 mile extension of rail for the S-Line Phase 2; (ii) the Highland Drive lane conversion (road diet); (iii) McClelland Street bikeway improvements; (iv) non-motorized multi-use trail in Fairmont Park; (v) two HAWK Signals; (vi) Hidden Hollow area additional lighting; and (vii) additional improvements to "green infrastructure" in the SHBD; and

WHEREAS, if the City is awarded the TIGER Grant, the City will be required to provide a local match; and

WHEREAS, for the City's TIGER Grant application to be competitive, it is necessary for the City to make a firm commitment that it will provide the local match in the event that the City's application proves successful,

WHEREAS, based upon the estimated project cost ($15,157,900), the local match for which the City would be responsible is $4,547,370; and

WHEREAS, the City Council has already identified and approved $1,454,456 for the local match, from previously allocated CIP funds and RDA funds; and

WHEREAS, the remaining amount of required matching funds to contribute in the event the City is awarded the TIGER Grant is $3,092,914.

THEREFORE, BE IT RESOLVED by the Salt Lake City Council that it pledges commitment to fund the local match in an amount not to exceed $3,092,914 in the event the City's TIGER Grant application is successful.

Passed by the City Council of Salt Lake City, Utah, this _____ day of _____, 2014.

SALT LAKE CITY COUNCIL

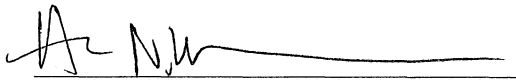
By:_____
CHAIRPERSON

ATTEST AND COUNTERSIGN:

_____

CITY RECORDER

APPROVED AS TO FORM:



SENIOR CITY ATTORNEY

HB_ATTY-#38236-v1-Resolution_Tiger_Grant_Local_Match_2014

OMB Number: 4040-0004
Expiration Date: 8/31/2016

Application for Federal Assistance SF-424

* 1. Type of Submission:
- [ ] Preapplication
- [x] Application
- [ ] Changed/Corrected Application

* 2. Type of Application:
- [x] New
- [ ] Continuation
- [ ] Revision

* If Revision, select appropriate letter(s):

* Other (Specify):

* 3. Date Received: Completed by Grants.gov upon submission.

4. Applicant Identifier:

5a. Federal Entity Identifier:

5b. Federal Award Identifier:

State Use Only:

6. Date Received by State:

7. State Application Identifier:

8. APPLICANT INFORMATION:

* a. Legal Name: Salt Lake City Corporation

* b. Employer/Taxpayer Identification Number (EIN/TIN): 876000279

* c. Organizational DUNS: 0729572880000

d. Address:

* Street1: P.O. Box 145502
Street2: 349 South 200 East, Suite 150
* City: Salt Lake City
County/Parish: Salt Lake County
* State: UT: Utah
Province:
* Country: USA: UNITED STATES
* Zip / Postal Code: 84114-5502

e. Organizational Unit:

Department Name: Community & Econ. Development

Division Name: Transportation

f. Name and contact information of person to be contacted on matters involving this application:

Prefix: Ms.
* First Name: Julianne
Middle Name:
* Last Name: Sabula
Suffix:

Title: Streetcar/Transit Program Manager

Organizational Affiliation:

* Telephone Number: 801-535-6678
Fax Number: 801-535-6019

* Email: julianne.sabula@slcgov.com

Application for Federal Assistance SF-424

*** 9. Type of Applicant 1: Select Applicant Type:**

C: City or Township Government

Type of Applicant 2: Select Applicant Type:

Type of Applicant 3: Select Applicant Type:

* Other (specify):

*** 10. Name of Federal Agency:**

U.S. Department of Transportation

11. Catalog of Federal Domestic Assistance Number:

20.933

CFDA Title:

National Infrastructure Investments

*** 12. Funding Opportunity Number:**

DTOS59-14-RA-TIGER6

* Title:

FY 2014 National Infrastructure Investments

13. Competition Identification Number:

TIGER6-FY14

Title:

14. Areas Affected by Project (Cities, Counties, States, etc.):

Add Attachment | Delete Attachment | View Attachment

*** 15. Descriptive Title of Applicant's Project:**

Sugar House Area Place-making Enhancements

Attach supporting documents as specified in agency instructions.

Add Attachments | Delete Attachments | View Attachments

Application for Federal Assistance SF-424

16. Congressional Districts Of:

* a. Applicant: UT002 * b. Program/Project: UT002

Attach an additional list of Program/Project Congressional Districts if needed.

Add Attachment | Delete Attachment | View Attachment

17. Proposed Project:

* a. Start Date: 01/01/2015 * b. End Date: 12/31/2017

18. Estimated Funding ($):

* a. Federal	10,610,530.00
* b. Applicant	4,547,370.00
* c. State	0.00
* d. Local	0.00
* e. Other	0.00
* f. Program Income	0.00
* g. TOTAL	15,157,900.00

*** 19. Is Application Subject to Review By State Under Executive Order 12372 Process?**

☐ a. This application was made available to the State under the Executive Order 12372 Process for review on .

☒ b. Program is subject to E.O. 12372 but has not been selected by the State for review.

☐ c. Program is not covered by E.O. 12372.

*** 20. Is the Applicant Delinquent On Any Federal Debt? (If "Yes," provide explanation in attachment.)**

☐ Yes ☒ No

If "Yes", provide explanation and attach

Add Attachment | Delete Attachment | View Attachment

21. *By signing this application, I certify (1) to the statements contained in the list of certifications and (2) that the statements herein are true, complete and accurate to the best of my knowledge. I also provide the required assurances** and agree to comply with any resulting terms if I accept an award. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. (U.S. Code, Title 218, Section 1001)**

☒ ** I AGREE

** The list of certifications and assurances, or an internet site where you may obtain this list, is contained in the announcement or agency specific instructions.

Authorized Representative:

Prefix: Mrs. * First Name: Mary

Middle Name:

* Last Name: De La Mare-Schaefer

Suffix:

* Title: Deputy Dir., Dept. Comm. & Econ. Development

* Telephone Number: 801-535-6108 Fax Number: 801-535-6005

* Email: mary.delamare-schaefer@slcgov.com

* Signature of Authorized Representative: Mary DeLaMare-Schaefer * Date Signed: April 25, 2014

APPROVED AS TO FORM
Salt Lake City Attorney's Office
Date 4/25/14
By

ASSURANCES - CONSTRUCTION PROGRAMS

OMB Number: 4040-0009
Expiration Date: 06/30/2014

PLEASE DO NOT RETURN YOUR COMPLETED FORM TO THE OFFICE OF MANAGEMENT AND BUDGET. SEND IT TO THE ADDRESS PROVIDED BY THE SPONSORING AGENCY.

NOTE: Certain of these assurances may not be applicable to your project or program. If you have questions, please contact the Awarding Agency. Further, certain Federal assistance awarding agencies may require applicants to certify to additional assurances. If such is the case, you will be notified.

As the duly authorized representative of the applicant:, I certify that the applicant:

1. Has the legal authority to apply for Federal assistance, and the institutional, managerial and financial capability (including funds sufficient to pay the non-Federal share of project costs) to ensure proper planning, management and completion of project described in this application.
2. Will give the awarding agency, the Comptroller General of the United States and, if appropriate, the State, the right to examine all records, books, papers, or documents related to the assistance; and will establish a proper accounting system in accordance with generally accepted accounting standards or agency directives.
3. Will not dispose of, modify the use of, or change the terms of the real property title or other interest in the site and facilities without permission and instructions from the awarding agency. Will record the Federal awarding agency directives and will include a covenant in the title of real property acquired in whole or in part with Federal assistance funds to assure non-discrimination during the useful life of the project.
4. Will comply with the requirements of the assistance awarding agency with regard to the drafting, review and approval of construction plans and specifications.
5. Will provide and maintain competent and adequate engineering supervision at the construction site to ensure that the complete work conforms with the approved plans and specifications and will furnish progressive reports and such other information as may be required by the assistance awarding agency or State.
6. Will initiate and complete the work within the applicable time frame after receipt of approval of the awarding agency.
7. Will establish safeguards to prohibit employees from using their positions for a purpose that constitutes or presents the appearance of personal or organizational conflict of interest, or personal gain.
8. Will comply with the Intergovernmental Personnel Act of 1970 (42 U.S.C. §§4728-4763) relating to prescribed standards of merit systems for programs funded under one of the 19 statutes or regulations specified in Appendix A of OPM's Standards for a Merit System of Personnel Administration (5 C.F.R. 900, Subpart F).
9. Will comply with the Lead-Based Paint Poisoning Prevention Act (42 U.S.C. §§4801 et seq.) which prohibits the use of lead-based paint in construction or rehabilitation of residence structures.
10. Will comply with all Federal statutes relating to non-discrimination. These include but are not limited to: (a) Title VI of the Civil Rights Act of 1964 (P.L. 88-352) which prohibits discrimination on the basis of race, color or national origin; (b) Title IX of the Education Amendments of 1972, as amended (20 U.S.C. §§1681 1683, and 1685-1686), which prohibits discrimination on the basis of sex; (c) Section 504 of the Rehabilitation Act of 1973, as amended (29) U.S.C. §794), which prohibits discrimination on the basis of handicaps; (d) the Age Discrimination Act of 1975, as amended (42 U.S.C. §§6101-6107), which prohibits discrimination on the basis of age; (e) the Drug Abuse Office and Treatment Act of 1972 (P.L. 92-255), as amended relating to nondiscrimination on the basis of drug abuse; (f) the Comprehensive Alcohol Abuse and Alcoholism Prevention, Treatment and Rehabilitation Act of 1970 (P.L. 91-616), as amended, relating to nondiscrimination on the basis of alcohol abuse or alcoholism; (g) §§523 and 527 of the Public Health Service Act of 1912 (42 U.S.C. §§290 dd-3 and 290 ee 3), as amended, relating to confidentiality of alcohol and drug abuse patient records; (h) Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§3601 et seq.), as amended, relating to nondiscrimination in the sale, rental or financing of housing; (i) any other nondiscrimination provisions in the specific statue(s) under which application for Federal assistance is being made; and (j) the requirements of any other nondiscrimination statue(s) which may apply to the application.

11. Will comply, or has already complied, with the requirements of Titles II and III of the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (P.L. 91-646) which provide for fair and equitable treatment of persons displaced or whose property is acquired as a result of Federal and federally-assisted programs. These requirements apply to all interests in real property acquired for project purposes regardless of Federal participation in purchases.

12. Will comply with the provisions of the Hatch Act (5 U.S.C. §§1501-1508 and 7324-7328) which limit the political activities of employees whose principal employment activities are funded in whole or in part with Federal funds.

13. Will comply, as applicable, with the provisions of the Davis-Bacon Act (40 U.S.C. §§276a to 276a-7), the Copeland Act (40 U.S.C. §276c and 18 U.S.C. §874), and the Contract Work Hours and Safety Standards Act (40 U.S.C. §§327-333) regarding labor standards for federally-assisted construction subagreements.

14. Will comply with flood insurance purchase requirements of Section 102(a) of the Flood Disaster Protection Act of 1973 (P.L. 93-234) which requires recipients in a special flood hazard area to participate in the program and to purchase flood insurance if the total cost of insurable construction and acquisition is $10,000 or more.

15. Will comply with environmental standards which may be prescribed pursuant to the following: (a) institution of environmental quality control measures under the National Environmental Policy Act of 1969 (P.L. 91-190) and Executive Order (EO) 11514; (b) notification of violating facilities pursuant to EO 11738; (c) protection of wetlands pursuant to EO 11990; (d) evaluation of flood hazards in floodplains in accordance with EO 11988; (e) assurance of project consistency with the approved State management program developed under the Coastal Zone Management Act of 1972 (16 U.S.C. §§1451 et seq.); (f) conformity of Federal actions to State (Clean Air) implementation Plans under Section 176(c) of the Clean Air Act of 1955, as amended (42 U.S.C. §§7401 et seq.); (g) protection of underground sources of drinking water under the Safe Drinking Water Act of 1974, as amended (P.L. 93-523); and, (h) protection of endangered species under the Endangered Species Act of 1973, as amended (P.L. 93-205).

16. Will comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. §§1271 et seq.) related to protecting components or potential components of the national wild and scenic rivers system.

17. Will assist the awarding agency in assuring compliance with Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. §470), EO 11593 (identification and protection of historic properties), and the Archaeological and Historic Preservation Act of 1974 (16 U.S.C. §§469a-1 et seq).

18. Will cause to be performed the required financial and compliance audits in accordance with the Single Audit Act Amendments of 1996 and OMB Circular No. A-133, "Audits of States, Local Governments, and Non-Profit Organizations."

19. Will comply with all applicable requirements of all other Federal laws, executive orders, regulations, and policies governing this program.

20. Will comply with the requirements of Section 106(g) of the Trafficking Victims Protection Act (TVPA) of 2000, as amended (22 U.S.C. 7104) which prohibits grant award recipients or a sub-recipient from (1) Engaging in severe forms of trafficking in persons during the period of time that the award is in effect (2) Procuring a commercial sex act during the period of time that the award is in effect or (3) Using forced labor in the performance of the award or subawards under the award.

SIGNATURE OF AUTHORIZED CERTIFYING OFFICIAL	TITLE
Mary DeLaMare-Schaefer	Deputy Dir., Dept. Comm. & Econ. Development
APPLICANT ORGANIZATION	DATE SUBMITTED
Salt Lake City Corporation	April 24, 2014

SF-424D (Rev. 7-97) Back

APPROVED AS TO FORM
Salt Lake City Attorney's Office
Date 4/25/14
By

Sugar House Area Place-making Enhancements

A TIGER VI Grant Application
submitted by
Salt Lake City Corporation

Project Summary >>

The Sugar House Area Place-Making Enhancements (SHAPE) project continues the progression of Sugar House toward becoming a model for the integration of high-quality multi-modal transportation and robust economic development. Salt Lake City is requesting $8,507,086 for construction of the Sugar House Streetcar Phase 2 extension and $2,103,444 for construction of multi-modal infrastructure, totaling $10,610,530 in TIGER funding. Viable alternatives to the automobile are essential to the long-term success of the Sugar House Business District and the economic growth of Salt Lake City and the greater metropolitan area of the Wasatch Front. SHAPE's multi-modal infrastructure improvements create a fully functional transportation system connecting the economic engine of the Sugar House Business District with multiple destinations throughout the Wasatch Front travel corridor, including South Salt Lake City, an Economically Distressed Area. SHAPE maximizes a federal and local investment of $12,900,000 for the construction of the Sugar House Streetcar Phase 2 extension and leverages the previous $26 million TIGER II investment that constructed the two-mile seven-stop rail for the Sugar House Streetcar Phase 1. SHAPE continues the current momentum that is generating opportunities for economic reinvestment and substantial transit-oriented and mixed-use redevelopment in the area, improvements in air and water quality for the local and regional community, and convenient and cost-effective transit choices for residents at all income levels, who live and work in Salt Lake City.

Project Location:	Salt Lake City, Salt Lake County, Utah Congressional District UT-002
Type of Application:	Capital
Applicant Organization:	Salt Lake City Corporation
Type of Eligible Applicant:	Local Government
Amount of TIGER Funding Requested:	$10,610,530
Contains Confidential Business Information:	No
Primary Point of Contact:	Ms. Julianne Sabula Streetcar/Transit Program Manager Division of Transportation Salt Lake City Corporation P.O. Box 145502 Salt Lake City, Utah 8414-5502 p: (801) 535-6678 e: juilanne.sabula@slcgov.com

TIGER VI | SHAPE webpage

Salt Lake City has established a TIGER VI | SHAPE webpage at:

http://www.slcgov.com/transportation/transportation-tiger-VI

The webpage provides supporting documentation to the grant application including Appendices, Reference Links, and the Benefit-Cost Analysis.

Table of Contents >>

Access the following **Appendices** at:
http://www.slcgov.com/transportation/transportation-tiger-VI

Reference Links
Web links to documents referenced in the Project Narrative are provided at
http://www.slcgov.com/transportation/transportation-tiger-VI

I. Project Description

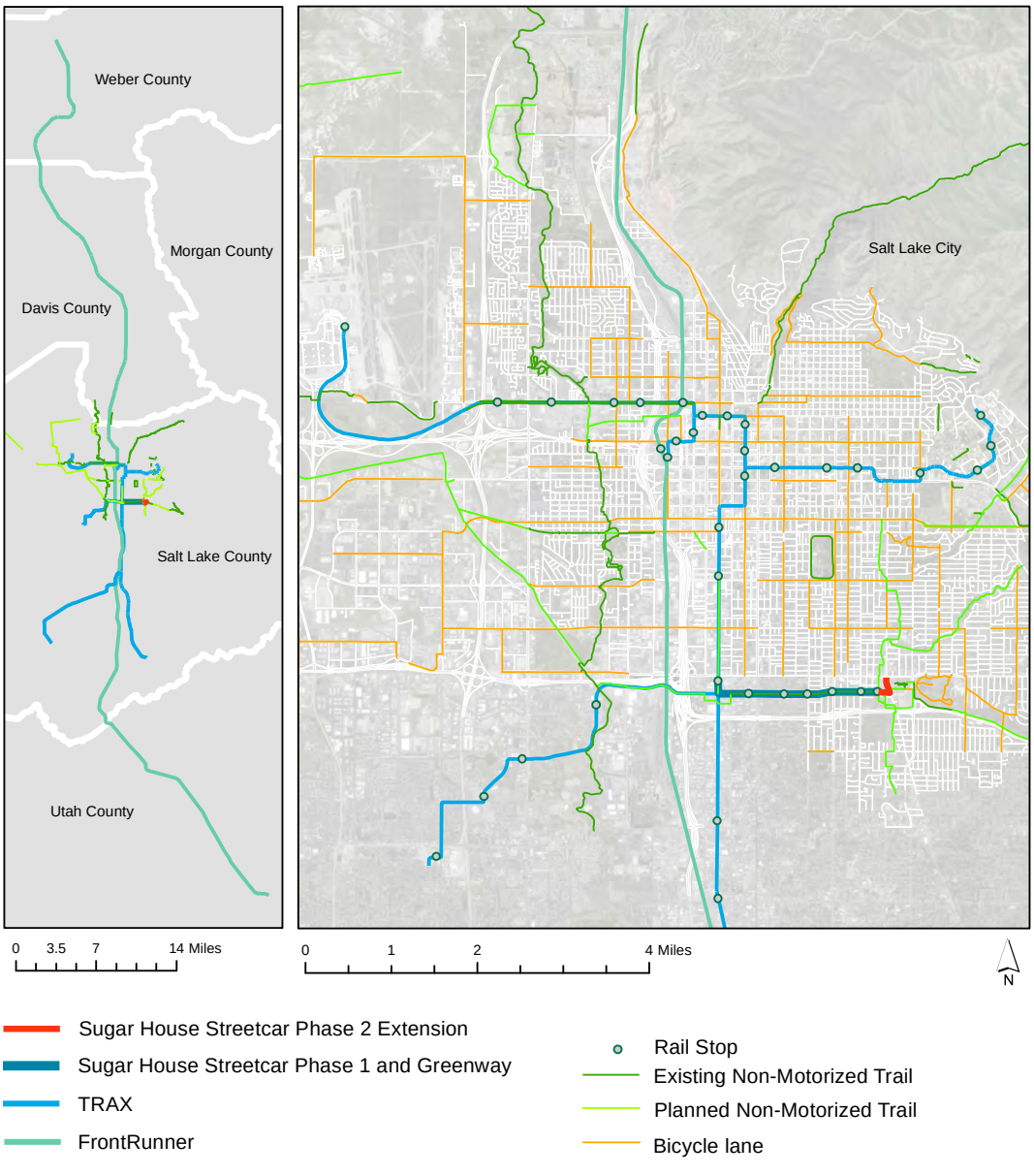
Purpose >> The Sugar House Area Place-Making Enhancements (SHAPE) project continues the progression of Sugar House toward becoming a model community for the integration of high-quality multi-modal transportation and robust economic development. Salt Lake City is requesting $8,507,086 for construction of the Sugar House Streetcar (S-Line) Phase 2 extension and $2,103,444 for construction of multi-modal infrastructure, totaling $10,610,530 in TIGER funding. Salt Lake City Mayor Becker and City Council, Utah Transit Authority, local residents and business owners, and the private development community have united around a commitment to making Sugar House a national model for a sustainable community where active transportation options, first-rate public transit, high-quality transit-oriented development, well-designed public spaces, and access to exceptional recreational opportunities combine to facilitate an active, healthy, and low-impact urban lifestyle for thousands of residents and workers. SHAPE maximizes a federal and local investment of $12,900,000 for the construction of the S-Line Phase 2 extension. It leverages the $26 million federal, $11.18 million local, approximately $18 million in-kind contributions, and approximately $10 million for city betterments from TIGER II that constructed the S-Line Phase 1 and Greenway by completing the critical "last mile" of the regional connection to the Sugar House Business District (SHBD) and to the regional transit and trail network. To continue the work that began with the S-Line Phase 1 and Greenway, SHAPE proposes a complete streets infrastructure to extend high-quality transit service further into the SHBD, provide multi-modal alternatives to auto use, support community development, offer a safe and accessible pedestrian and active transportation environment, and contribute to the quality of life in the area, Salt Lake City, and the Wasatch Front greater metropolitan area. As demonstrated by the S-Line Phase 1, which began operation in December 2013, potential is high for continued economic development, job creation, and increased access to jobs from the proposed extension and improvements.

Existing Conditions >> The Sugar House neighborhood is located in east-central Salt Lake City, Utah within the Wasatch Front metropolitan area. Sugar House, one of Salt Lake City's original streetcar communities and one of the oldest neighborhoods, includes a broad mix of land uses including commercial, office, residential, and institutional. The Sugar House area residential density enables a convenient walking distance to the thriving SHBD, a regional commercial center. The Sugar House urban transportation pattern is built on a network of arterial and collector streets generally running in a north-south and east-west grid pattern. Several of Sugar House's streets are approaching their effective motor vehicle capacity during the peak travel times, and there are few opportunities to expand capacity to accommodate more vehicles. Existing transit service includes five bus routes, two TRAX light rail lines located two miles west, and a two-mile seven-stop S-Line, which all connect to a network of more than 140 miles of regional light rail and commuter rail.

The 30-acre Fairmont Park, 110-acre Sugar House Park, five-acre signature environmental preserve Hidden Hollow Nature Area, a regional non-motorized trail system, and bicycle lanes dispersed throughout the SHBD promote active (walking/bicycle) transportation.

SHAPE's capital investments to increase transportation choices play a key role in the mobility of residents, businesses, and visitors to Sugar House and SHBD. SHAPE's investments will enhance quality of life by supporting a concentration of homes and jobs around a vital new transit investment, the S-Line streetcar, and will promote healthy, low-emissions travel options for residents and visitors. Figure 1 illustrates the project location and its connections to existing transportation infrastructure.

Figure 1. Project Location and Connections to Existing Transportation Infrastructure

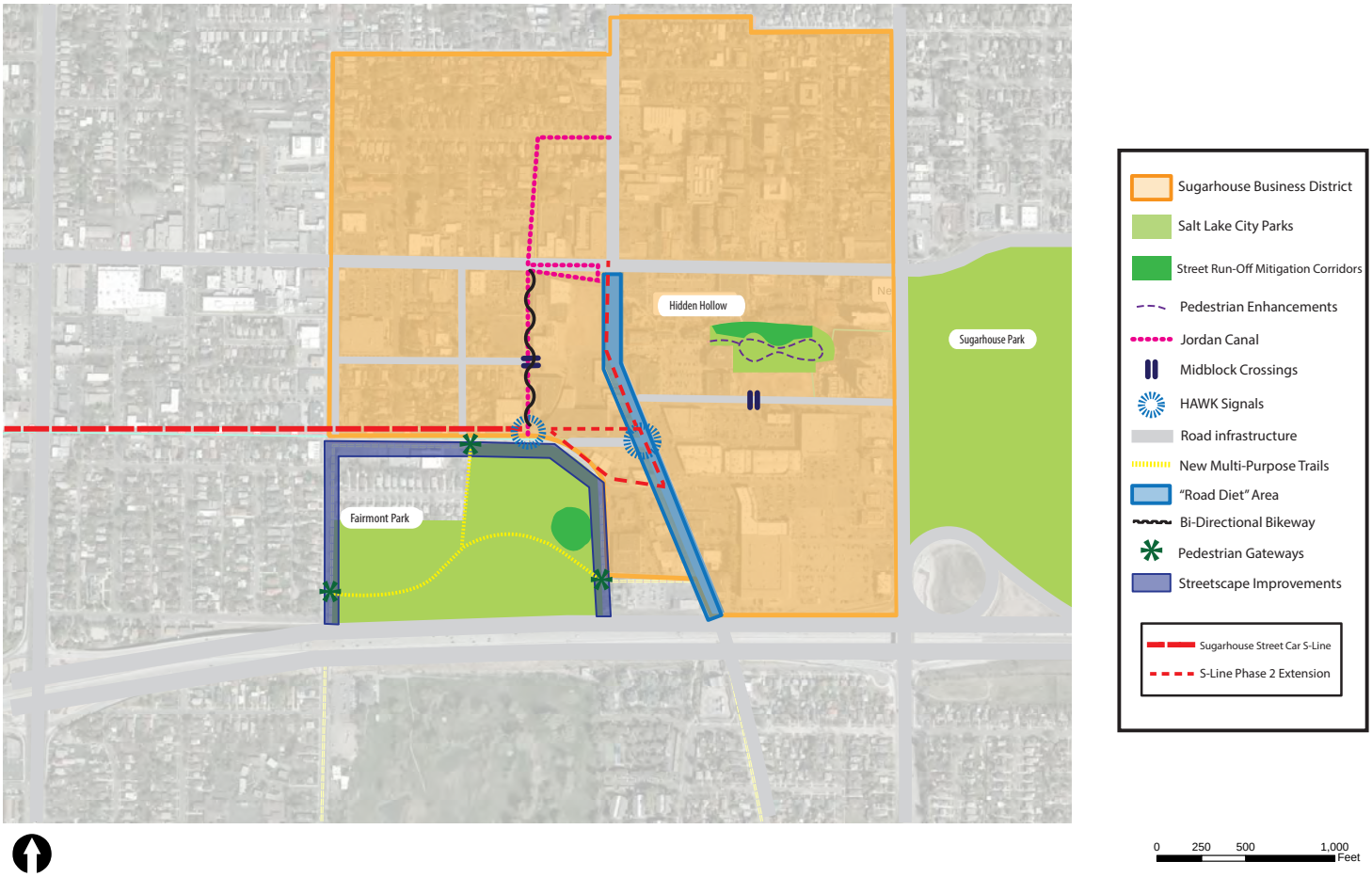


SHAPE >> Transportation Challenges Addressed

1. Extend transit service from the edge to the center of SHBD;
2. Extend transit service to reduce vehicle miles traveled and reduce growth in auto trips;
3. Construct complete streets to serve imminent development in the SHBD and to implement the Sugar House Master Plan and Circulation Plan;
4. Increase multi-modal transportation choices to maximize the capture of college and work trips and reduce reliance on automobile trips;
5. Extend transit service and maximize capital and green infrastructure investments to support regional and local goals for walkable, sustainable communities; and
6. Support economic development and job creation by completing missing links in the area's high-quality transportation infrastructure.

Proposed Solutions >> SHAPE makes capital infrastructure investments in public transit, for active transportation, and along the transportation right-of-way to impact long-term solutions that expand multi-modal transportation to, through, and from the SHBD. Figure 2 depicts the project area and identifies the locations of the proposed improvements.

Figure 2: Project Area and Elements



Public Transit Infrastructure >> Construction of the S-Line Phase 2 extension (0.5 mile of trackway and 0.3 mile additional distance) will extend transit service from the current terminus of the S-Line adjacent to Fairmont Park to the center of SHBD and improve use of public transit to reduce reliance on auto trips and vehicle miles traveled. While the extension brings riders an additional 0.3 mile, the 0.5 mile new trackway arranged as a couplet allows optimal station placement at the frontage of property where the owner is eager to redevelop. The couplet configuration expands the ¼ mile station area walkshed by approximately 1/8 mile. Addition of double track to the S-Line Phase 1 is slated for completion before the S-Line Phase 2 extension is completed.

Active Transportation Infrastructure >> The proposed active transportation infrastructure will increase multi-modal transportation choices to maximize the capture of college and work trips, reduce reliance on automobile trips, create better access to job centers, improve safety, and demonstrate the quality of life achieved through the integration of appropriate land use, transportation choices, urban form, infrastructure, the natural environment and the region's non-motorized trail system. Active transportation infrastructure investments include: a) a road diet along a 0.4-mile segment of Highland Drive; 2) construction of 1,000 linear feet of cycle track and one mile of new bicycle lane striping and improvements; 3) construction of 2,275 linear feet of 10 foot wide non-motorized multi-use trail in Fairmont Park with an associated 3,270 linear feet of streetscape and user amenities; 4) addition of two new pedestrian crossings and installation of two new High-intensity Activated CrossWalk (HAWK) beacons; and 5) installation of 62 pedestrian safety Light Emitting Diode (LED) lights through Hidden Hollow Nature Area.

Infrastructure Along Transportation Right-of-Way >> Enhanced infrastructure along the transportation right-of-way will maximize capital and green infrastructure investments to support local and regional sustainable communities and quality of life. Capital investments in infrastructure along the transportation right of way include: 1) 40,000 square feet of bio-technical run-off mitigation and erosion control along the 800 linear feet length of a riparian corridor traveling through the project area; 2) 32,000 square feet of streetscape improvements; 3) 50,000 linear square feet of pond habitat improvements in Fairmont Park.

Expected Users of the Project >> Expected public and active transportation users are residents, students, employees, and visitors in a 1-mile to 5-mile radius of the SHBD. Table 1 presents the estimated number of users of the proposed S-Line Phase 2 extension and the multi-modal infrastructure enhancements and population demographics within the project area. Estimates are based on a 15% total mode share for bike/walk/transit for work trips from the American Factfinder 2012 five-year estimates for Salt Lake City. Portions of South Salt Lake City fall within the 5-mile radius. South Salt Lake City qualifies as an Economically Distressed Area as defined in section 301 of the Public Works and Economic Development Act of 1965 with an

average per capita income of $16,541 in 2008, which is 59% of the national average per capita income of $28,051 for the United States according to the 2008-2012 American Community Survey Five-Year Estimates published by American Fact Finder. Although Salt Lake City does not officially qualify as an Economically Distressed Area, its average per capita income of $27,333 is lower than the national average per capita income.

Table 1. Sugar House Area Expected Users of Transit and Multi-Modal Enhancements

Demographic Category	1 Mile Radius		3 Mile Radius		5 Mile Radius	
	Sugar House Area	Transit/AT Users (15%)	Sugar House Area	Transit/AT User |(15%)	Sugar House Area	Transit/AT User |(15%)
2011 Population	20,166	3,025	148,413	22,262	304,500	45,675
2015 Population	20,726	3,109	154,620	23,193	319,022	47,853
Household						
2011 Estimated	8,863	1,329	61,894	9,284	122,728	18,409
2016 Projected	9,325	1,399	65,990	9,899	131,317	19,698
Income						
2011 Median Household	$46,803		$42,066		$42,266	
2011 Average Household	$58,803		$58,329		$59,122	
2011 Per Capita | (% of U.S. average per capita income)	$26,313 | (91%)*		$25,245 | (90%)*		$24,725 | (88%)*	
*Average per capita income for the United States is $28,051 according to the 2008-2012 American Community Survey Five-Year Estimates published by American Fact Finder. Though the Sugar House area does not qualify as an Economically Distressed Area (per capita income of 80 percent or less of the national average), the area's average per capita income is lower than the national average.						

Project Benefits >>

SHAPE's infrastructure improvements will advance transit choice and non-motorized connections for users of the existing transportation system and for new users generated by the project and surrounding redevelopment and will enhance the vitality and livability of Sugar House by:

Implementing a $15.1 million infrastructure project that includes a streetcar extension, streetscapes, bike lanes, non-motorized pathways, pedestrian safety elements, and street run-off mitigation. These create connectivity benefits, especially for the critical last-mile, environmental benefits, reduction in the growth of congestion, and increased support for near-term and ongoing economic development.

Linking Salt Lake City and Salt Lake County's core investments in the SHBD, The Draw and its below grade crossing, and the Sugar House Streetcar and Greenway. This increases the collective benefits of these community investments by filling in the missing links to create a complete network.

Inter-connecting major transportation routes, including auto, bus, streetcar, and TRAX, with multi-modal options to multiple destination nodes in the region. This benefits job access region-wide while decreasing negative impacts to air quality.

Enhancing non-motorized and multi-modal connections to:

- Jobs (locally-owned commercial/professional services, start-up establishments, retail, and restaurants in SHBD, Sugar House Shopping Center, and Intermountain Health Care Memorial Clinic, and the City's Central Business District), especially for economically distressed South Salt Lake City;
- Regional Transit and Non-motorized Trail Network (bus, TRAX, Front Runner, Bonneville Shoreline Trail, Jordan River Parkway, and Parley's Trail);
- Educational institutions (Granite Education Center and Utah State University Extension, Highland High School, Salt Lake Community College, St. Anne's School and Church, and Westminster College);
- Cultural Institutions (Sprague Public Library);
- Grocery and Food Retailers (Real Foods, Smith's, Sugar House Farmer's Market, and Whole Foods);
- Housing/Mixed Use with over 1,000 residential units (Granite Furniture, Liberty Village, Sugar House Apartments, Sugar House Center East & West, Sugar House Cross ing, Sugar House Wilmington Gardens, Urbana on Eleventh, Westminster Sugar House Mixed-Use, and 21st and View);
- Neighborhoods (Lower Sugar House, Upper Sugar House, Highland Park, and South Salt Lake City);
- Recreational opportunities (Sugar House Boys & Girls Club, Fairmont Park and Aquatic Center, Forest Dale Golf Course, Hidden Hollow Nature Park, Sugar House Park, and YouthCity at Fairmont Park).

Leveraging significant investments already made in the transportation infrastructure (Sugar House Street Car Phase I, TRAX, and Front Runner) to maximize their benefits by completing a critical link in the network to the center of the SHBD;

Enhancing the urban environment through street tree planting, landscaping, street run-off mitigation, LED lighting, and wayfinding while at the same time creating an attractive and inviting pedestrian atmosphere; and

Improving quality of life through increased access to a connected motorized/non-motorized transportation system, thus providing the range of options the community desires for accessing jobs, daily needs, recreation, education, and entertainment.

II. Project Parties

A strength of the project is the dedicated coordination between four public agencies serving the region: Salt Lake City Corporation (the City), Salt Lake County, Redevelopment Agency of Salt Lake City, and Utah Transit Authority (UTA). The parties have a track record of going the extra mile to find ways of adding value to projects, beyond up-front commitments. Please refer to Appendix A for partner letters of support and commitment.

Salt Lake City Corporation >> The City is the local project sponsor and lead applicant. The City is the State capital, the governmental, commercial, educational, cultural, and religious center of the state of Utah, and the largest city in the four county Wasatch Front metropolitan area. Compared to other cities in the Wasatch Front, Salt Lake City travel patterns are more aligned towards public and active transportation and accommodate a daily population increased from 182,000 to over 313,000 as workers commute to jobs located within the City's jurisdictional limits. The City's mission is to make Salt Lake City the best place to live, work, play, visit, and do business. The City was a key partner in the TIGER II $26 million grant award for the construction of the S- Line Phase 1 and Greenway. The City is a committed leader invested in its collaborative partnerships to further multi-modal transit development along the Wasatch Front travel corridor.

Salt Lake County >> Salt Lake County, the county of residence for Salt Lake City, is a project partner in the development of the regional non-motorized trail system, Parley's Trail, that runs through the project area. Salt Lake County passed a successful referendum to fund the trail expansion, which will connect the segment of Parley's Trail that runs through South Salt Lake City. The County is the lead agency in the construction of The Draw, a trail tunnel that connects the Parley's Trail between Sugar House Park and Hidden Hollow Nature Area beneath a busy arterial (1300 East), due to open June 2014. The Draw is a critical Parley's Trail connection that significantly improves safety and comfort for non-motorized trail users. In addition, the County is a key partner in the S-Line Greenway.

Redevelopment Agency of Salt Lake City (RDA) >> The RDA is a project partner through the leverage of its $2.3 million investment in the current construction and pedestrian infrastructure upgrades of the Sugar House Monument Plaza, which will serve as a destination hub for public and active transportation users in SHBD. The RDA declared the SHBD a project area eligible for RDA assistance in 1986. The RDA has invested $35 million through infrastructure, housing, loans, and redevelopment activities to re-establish the SHBD as a unique place offering pleasant and convenient commercial, retail, office, entertainment, recreation, and residential facilities. Development objectives include: 1) eliminate physical and economic blight; 2) encourage rehabilitation and adaptive reuse of structurally sound buildings; and c) provide improved public streets and road access to the SHBD.

Utah Transit Authority. Utah Transit Authority (UTA) >> UTA will serve as the grant recipient responsible for project management and coordination, fiscal oversight, and construction contracting in the event of a TIGER VI grant award. UTA was the grant recipient for

the TIGER II $26 million grant award and successfully completed the construction of the 2 mile length of the S-Line and Greenway within the grant award period and within the $37.18 million budget. UTA operates a fleet of more than 600 buses and paratransit vehicles, 400 vanpools, 146 light rails vehicles, 63 commuter rail cars and 18 locomotives in a 1,600 square mile service area that stretches over six counties. UTA has one of the most aggressive and successful transit programs in the country and recently opened five new light and commuter rail lines ahead of schedule. UTA has identified streetcar transit as a next step in connecting communities to major transit investments and in creating a more complete and sustainable multi-modal transportation system.

Stakeholder Support >> SHAPE has significant support from the following local agencies and stakeholders. Please refer to Appendix B for 18 letters of stakeholder support. Their support is based on the firm belief that the project will generate opportunities for economic reinvestment, support the local and regional economy, and provide convenient and cost-effective transportation options to residents who live and work in the city and the region. Stakeholders represented in Appendix B include:

Bike Utah
Boulder Venture Development
Cowboy Partners
Dee's Inc.
Friends of the S-Line
Kimball Distributing
Meacham Management
Parley's Rails Trails and Tunnels
Pat's Barbeque
South Salt Lake City Mayor Cherie Wood
Sugar House Barbeque
Sugar House Chamber of Commerce
Sugar House Community Council
Sugar House Farmer's Market
Sugar House Park Board
Wasatch Front Regional Council
Westminster College
Woodbury Corporation

III. Grant Funds and Sources/Uses of Project Funds

Grant Funding Requested >> Salt Lake City and its partners request $10,610,530 in TIGER funds, representing 70% of the project's total cost of $15,157,900. The TIGER funds are matched with $4,547,370 from local public investment, representing 30% of the project's total cost. Please refer to Table 2 for a summary of the sources of capital funding and percentage shares of all parties providing funds for the project. There are no other pending or past federal funding requests for SHAPE, and no other federal funds are being already provided under other programs for SHAPE.

Table 2. Capital Funding Sources for SHAPE

Sources	Capital Costs	Program Total %	Funding Type	Funding Status
Salt Lake City Corporation	$4,547,370	30%	Public - Local	Committed
TIGER VI Funds	$10,610,530	70%	Public - Federal	Applied For
Total Project Funds	$15,157,900	100%		

Availability/Commitment of Funding Sources >> As detailed in the Table 2, the local financial match commitment is $4,547,370 from Salt Lake City. The City has the financial resources, and match funds will be available for obligation by June 2016.

Project Cost Uses >> The TIGER Discretionary Grant funds will be used solely for construction of the proposed infrastructure improvements. Planning, analysis, and concept-level cost estimates have been prepared for all project components. It is anticipated that federal funds will be obligated by June 2016, well in advance of the September 2016 deadline. Please refer to Table 3 for a breakdown of capital costs by major cost category.

Table 3. Capital Costs Distribution

Item	Cost Category	Cost
1.0	Guideway and Trackwork	$2,259,696
2.0	Stations, Stops, Terminals	$617,026
3.0	Support Facilities	$0
4.0	Site Work and Special Conditions	$5,846,608
5.0	Systems	$1,906,834
6.0	Land and Improvements	$0
7.0	Vehicles	$0
8.0	Professional Services	$3,191,988
9.0	Unallocated Contingency	$1,335,748
10.0	Finance Charges	$0
	Total Project Cost	$15,157,900

IV. Selection Criteria

A. Primary Selection Criteria (Long-Term Benefits)

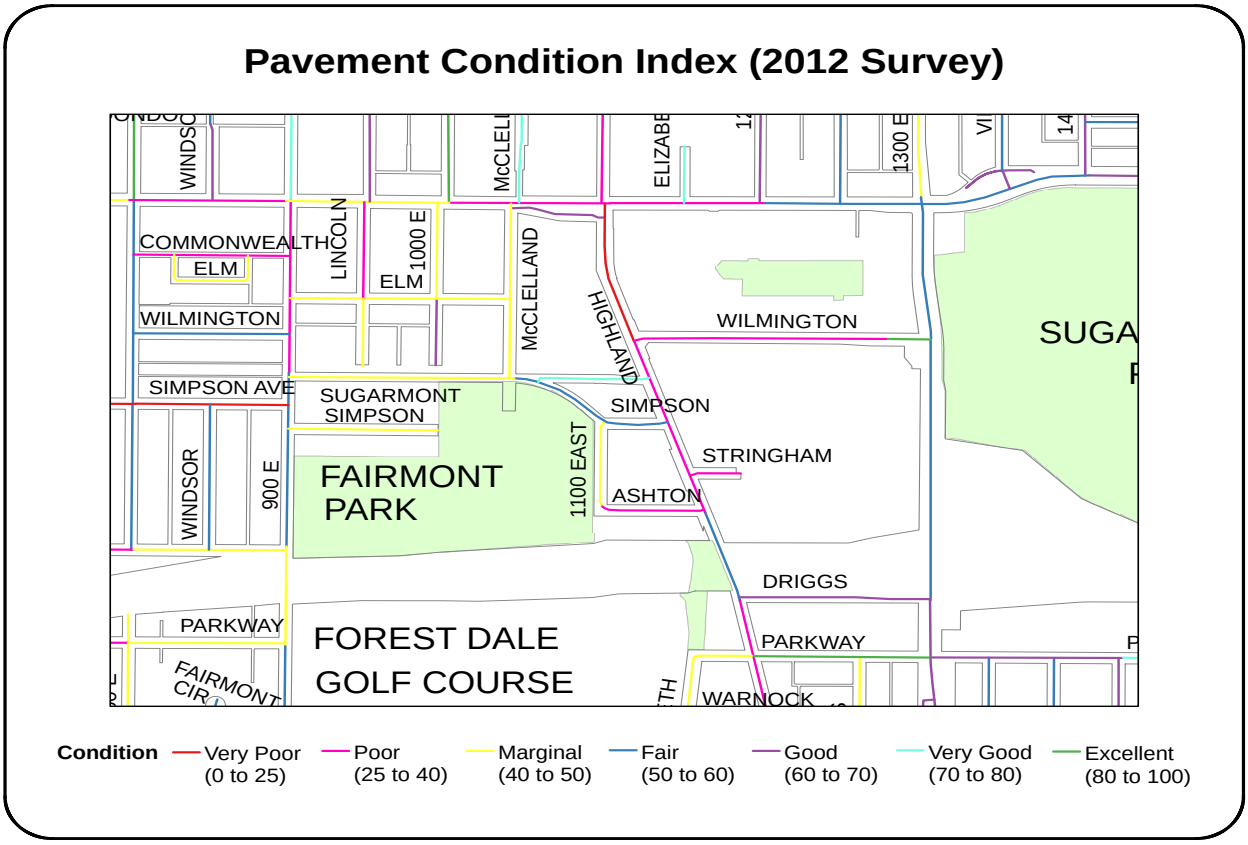
i. State of Good Repair

Alignment with Plans to Maintain a State of Good Repair & Address Vulnerabilities >>
Several of the SHBD's streets are approaching their effective motor vehicle capacity during the peak hours of the day, and there are few opportunities or desire to expand capacity to accommodate more cars. For the SHBD to continue to thrive, it must make more efficient use of its existing transportation infrastructure. This means making better use of transit and increasing the walkability and bikability of SHBD streets so that intra-CBD trips will be served primarily by walking, biking, and transit rather than driving.

The City's capital improvement plans called for road reconstruction in Sugar House in 2013. However, the activities were delayed in part to realize the savings that come with conducting reconstruction in tandem with other transportation projects planned for the area in the near term. Utilities that run under the planned streetcar extension alignment range in age from 38 – 102 years. Utility upgrades and relocations conducted as part of the project will reduce risk of breakage, improve maintenance access, and decrease risk of damage in the event of a major (7.0 magnitude) earthquake in the Salt Lake valley, for which the Utah Geological Survey estimates a 16.5% risk within the next 100 years.

Because Sugar House is one of Salt Lake City's oldest neighborhoods, its transportation infrastructure and the utility infrastructure beneath the transportation right-of-way is in need of the repairs and upgrades that would occur as part of the project. Deterioration rates increase as pavements move towards the negative portion of the pavement condition scale; the deterioration rate for a pavement presently in the "Good" category is much slower than a pavement in the "poor" category. Figure 3 shows the pavement condition for the SHBD and shows that pavement condition along the proposed streetcar alignment ranges from "fair" to "very poor", with the most urgent need existing where Highland Drive approaches the intersection at 2100 South, where travel demand is highest and new development is densest. The project upgrades these facilities, expands their utility by accommodating multiple travel modes, and preserves their ability to serve the rapidly increasing demands in and adjacent to the SHBD.

Figure 3. Sugar House Business District Pavement Condition Index 2012



Impacts If Transportation Infrastructure Left Unimproved >> The number of cars, cyclists and pedestrians in the area is increasing. If the proposed infrastructure improvemetns are not made in the near term, safety and access for all users will decrease while congestion and air pollution will increase. The dramatic growth in the SHBD during the last two years has brought significant increases in population and jobs that generate new transportation demands. The urgency to make the necessary transportation improvements increases as developers prepare to redevelop additional sites in the SHBD with medium- and high-density mixed use infill projects. While some improvements are borne by developers, the infrastructure elements of SHAPE must be implemented by the City in order to keep pace with growth. Traffic conditions measured using 2010 data show that most key intersections in the study area were stable at that time, but will quickly approach unacceptable levels of service as trips generated by new development come to the SHBD.

Appropriate Up-Front Capitalization and Assets Management Approaches >> The City and UTA are partnering in the up-front capitalization and use of best-practices in transit asset management for the project. As the operator of the transit systems in Salt Lake, Weber, Davis, Tooele, Utah, and Box Elder counties, UTA maintains a 30-year financial plan that outlines the development of future transit projects and provides a long-term cost structure to optimize UTA's financial responsibilities for the operations and maintenance of its on-going transit system and for new additions to its regional transit network.

Sustainable Revenue Source for Operations/Maintenance >> The S-Line Phase 2 extension is estimated to cost $722,550 annually to operate and maintain by UTA, and, if constructed in conjunction with double-tracking of the S-Line Phase I alignment as planned, will increase overall operational efficiencies. The $722,550 represents less than 1% of UTA's overall operating budget. Approximately $350,000–$450,000 of operations and maintenance costs will be supplied by fares. UTA and the City are committed to working together to fund the remaining operating costs of the S-Line Phase 2 extension. Like the S-Line Phase 1, the Phase 2 extension will use the UTA Jordan River maintenance facility to reduce the cost of system maintenance. UTA financial principals have always required a plan for long-term use of vehicle and maintenance facilities before new capital projects are undertaken. Other operating and maintenance costs associated with the project will be absorbed by the City.

Improvements to Withstand A Major Disaster >> Utility upgrades and relocations under the S-Line Phase 2 extension that are conducted as part of the project will decrease risk of damage in the event of a major 7.0 magnitude earthquake, for which the Utah Geological Survey estimates a 16.5% risk within the next 100 years. A network that includes robust alternatives to auto travel are important for disaster mitigation and evacuation options.

Potential Climate Change Vulnerabilities >> Climate change is projected to increase the frequency and intensity of extreme weather events and severe heat waves, which is a threat of particular concern for the desert climate of Utah. Potential vulnerabilities to the S-Line Phase 2 extension related to climate change include:

- Brownouts related to increased stress on the energy grid due to rising tempera tures and increased severe wind and storm events;
- Expansion and buckling of rail due to rising high temperatures; and
- Increased incidence of track repairs or speed restrictions to avoid derailments due to more frequent and severe heat waves.

SHAPE's multi-modal infrastructure enhancements will provide S-Line users with access to bicycle, pedestrian, and/or bus transit in the instance of a climate change initiated event.

Improvements In Multimodal Transportation System Reliability >> SHAPE's use of safe, comfortable, and convenient pedestrian and bicycle connections to encourage walking, biking, and transit use afford a measure of reliability to the multimodal transportation system. SHAPE implements the pedestrian first zoning of SHBD to make a more "walkable" Sugar House through active transit infrastructure that complements the focus of mixed use land patterns around the streetcar rail.

The mixed-use land patterns in the SHBD are reducing travel distances to encourage safer and increased levels of bicycling and walking and shortening travel distances by placing higher density development and employment near places of residence. The active infrastructure improvements solve the last-linkages necessary to provide pedestrian -friendly access from Sugar House Park through Hidden Hollow and SHBD to Fairmont Park and non-motorized trail linkages to the Bonneville Shore Line Trail, Parley's Train, and the Jordan River Parkway. SHAPE's improvements to the network of separate bicycle arterials enhance the safety and viability of bicycle use to and from major nodes in SHBD and add another element of multimodal transportation system reliability.

ii. Economic Competitiveness

Impact On Long-Term Efficiency To Move Workers and Spur Economic Growth >> The combination of rapid implementation, low capital cost, and high short-term and long-term economic leverage qualifies SHAPE as truly "transformational infrastructure." Creating fundamental transit and active transportation infrastructure will further transform the SHBD as one of the region's most walkable, livable, and sustainable communities. The S-Line corridor is strategically located on the east side of Salt Lake County, just three miles south of downtown Salt Lake City, and connects directly to the valley's established light rail system and commuter rail lines, affording users of the streetcar line access to numerous job, living, and shopping opportunities. The S-Line Phase 1 terminates one-half mile from the SHBD, where three large developments are newly opened or nearing completion. Developers, in response to an improving market, are initiating a second phase of redevelopment that would be substantially supported by the S-Line Phase 2 extension. Table 4 shows new and planned transit-oriented development (TOD) along the S-Line. The concentration of new and emerging development will require improved access to jobs, housing, and retail not only by auto traffic, but also by the transit, bicycle and pedestrian improvements that make up SHAPE. Constructing transportation improvements simultaneously and in conjunction with new development will maximize public investments while minimizing the duration of construction disruption to the area, thus preserving its economic vitality.

Table 4. TOD Planned or Under Construction Within 0.5 Miles of the S-Line

TOD Planned or Under Construction within 0.5 Miles of the S-Line								
Project	Address	Res. Units	Square Footage				Private Investment	
			Res.	Retail	Office	TOTAL		
Liberty Village	2150 S. McClelland	171	134,000	1,200	-	135,200	$23 million	Complete in 2014
SHCrossing	2130 S. 1100 East	211	207,000	56,000	-	263,000	$53 million	Complete in 2014
Sugar House Apts.	1985 S. 1200 East	70	70,000	-	-	70,000	$11 million	Complete
Westminster	2162 S. 1300 East	44	67,000	8,500	15,000	90,500	$28 million	Complete
Granite Furniture	1050 E. 2100 South	-	-	20,000	30,000	50,000	$50 million	Complete
Wilmington I North	1201 E. Wilmington	112	100,000	50,000	30,000	180,000	$35 million	Complete in 2015
Wilmington I South	1201 E. Wilmington	100	100,000	10,000	-	110,000	$35 million	Planned
SH Center West	Simpson & Highland	250	200,000	95,000	80,000	375,000	$85 million	Planned
SH Center East	Simpson & Highland	100	300,000	150,000	150,000	600,000	$85 million	Planned
TOTAL		**1,014**	**1,178,000**	**390,700**	**305,000**	**1,873,700**	**$405 million**	

Utah is consistently among America's ten fastest growing states, with a population increase of 5% between 2010 and 2013 and the nation's highest rate of natural growth due to high birth and low death rates. How Utah grows in the next generation will determine the effectiveness with which it can compete for local and global business. To maintain the quality of life with its associated mobility expected by Utahns and others Americans who choose to relocate to Utah, the regional vision, known as the Wasatch Choice for 2040 (WC2040), is to develop a regional transportation network grounded in quality of life and economic growth.

The vision focuses growth in a variety of activity centers across the region in coordination with the existing and near-term transportation system. The SHBD has been identified as one of these centers. The City is making a concerted effort to plan and develop the SHBD using the WC2040 growth strategies that will allow for continued economic development and efficient movement of people and goods in the Salt Lake region. SHAPE's growth strategies include providing transportation choices and encouraging mixed-use development concentrated near transit and active transportation facilities.

Economic Productivity of Land, Capital, Labor >> SHAPE will continue to spur mixed-use redevelopment in SHBD and creates affordable transportation options for those who live outside the SHBD and commute for work, especially those in South Salt Lake City, an Economically Distressed Area. The western terminus of the S-Line Phase 1 is located in South Salt Lake City, which is a community of 22,000 people adjacent to and directly south of Salt Lake City. SHAPE extends public and active transportation that connects South Salt Lake City neighborhoods to employment and education opportunities in the SHBD. Increased productivity of labor is of critical importance to South Salt Lake City.

Long Term Job Creation/Economic Opportunities >> SHAPE will create design and construction jobs in the short term, and long-term it will add operations and maintenance jobs. Long-term job opportunities in the SHBD will include local and national chain retail, restaurant, professional services, and employment with small and/or veteran-owned businesses.

Improved Economic Mobility Through Enhanced Multimodal Connections >> Salt Lake City's daytime population increases by 80% according to the American Community Survey. This is the highest of any city with a population of 100,000 or greater, and it means that transportation access to its job centers is critical to the regional population. The SHBD is one of the city's primary job centers with a high level of recent, ongoing, and planned growth. SHAPE completes the critical "last mile" of the regional connection to this job center by creating safe, convenient commuter connections to the regional transit and trail network. Particularly for Sugar House's closest neighbor and the region's most economically distressed city, South Salt Lake City, SHAPE as the potential to improve social equality by providing lower income and economically disadvantaged residents of South Salt Lake City with better access to jobs, education/training, and professional services through multi-model connectivity to SHBD, downtown Salt Lake City, and other economic nodes along the Wasatch Front serviced by UTA.

iii. Quality of Life

SHAPE meets the goals of the six quality of life principle identified by the U.S. Department of Transportation (DOT), HUD, and U.S. Environmental Protection Agency (EPA) in the joint Interagency Partnership for Sustainable Communities. Below is a summary of how SHAPE improves the quality of life for SHBD, the city, and the region.

1. **Provide more transportation choices.** As a public transit system, the S-Line represents a new mode of choice for SHBD residents, employees, and visitors designed to better serve economically disadvantaged populations, non-drivers, senior citizens, and persons with disabilities The S-Line Phase 2 extension will integrate well with local bus and TRAX transit and regional transit FrontRunner. With increased access to the SHBD and its employment opportunities and to educational opportunities at Westminster College and Salt Lake Community College, significant quality of life barriers to low-income individuals will be reduced. SHAPE will provide increased walk and bicycle access to a rail corridor along an increasingly congested corridor. When combined with the planned TOD, SHAPE increases the opportunity and likelihood that households will reduce reliance on automobile travel. Within the project area, approximately 10% of workers living between 700 East and 1300 East walk to work. The Salt Lake valley is surrounded by two mountain ranges and experiences winter and summer inversions that trap emissions and yield some of the nation's poorest air quality. By developing safe, reliable and economical alternatives to driving, SHAPE can reduce mobile source emissions and provide users with opportunities for increased physical activity that can be incorporated into the daily journey to work or school and other trips to meet everyday needs.

2. **Promote equitable, affordable housing.** Construction of the S-Line Phase 1 accelerated or is partially responsible for the creation of 1,014 residential units and nearly 2 million square feet of redevelopment in seven sites resulting in $400 million in private investment in the SHBD. The S-Line Phase 2 extension will add to the momentum of SHBD as a neighborhood of choice for location-efficient housing for a wide range of incomes, which will contribute to significant reductions in household spending for transportation costs. The Sugar House Streetcar Phase 2 Housing Alternatives Analysis identifies that 9% of household income is spent by working families living in location-efficient housing compared to 25% spent by working families living in auto-dependent suburbs. A fairly large portion of demand for housing near transit is expected to come from low income households in South Salt Lake City.

3. **Enhance economic competitiveness.** The S-Line Phase 2 extension will provide reliable and timely access to employment with local and national businesses in the SHBD and to educational opportunities at Westminster College, located less than one-half mile from the SHBD. SHAPE increases access and makes the choice to utilize transit and active modes more viable for more people. Developers recognize that the project increases the SHBD's appeal as a regional destination, making land utilization for higher-density development and structuring parking more feasible and increasing the overall productivity of its limited available land. Salt Lake City's median age is 30.9, as compared with the national median age of 37.2. Especially for the emerging

generation who, according to Pew Research, saw a drop in household car ownership from 77 to 66% between 2007 and 2011, the project makes Sugar House economically competitive by making not to drive a viable choice.

4. **Support Existing Communities.** SHAPE targets TIGER Discretionary Grant funds to directly support the existing Sugar House community and the adjacent low-income neighborhoods in South Salt Lake City by promoting TOD, mixed-use redevelopment, and land recycling to increase community vitalization and economic engine opportunities in the SHBD. Sugar House is a unique and wonderful part of the urban fabric of Salt Lake City poised to be a regenerating, vibrant and vital expression of its community vision grounded in a history rich in sense of place.

5. **Coordinate Policies and Leverage Investment.** SHAPE aligns federal policies and funding of DOT, HUD, and U.S. Department of Energy (DOE) supporting local and regional government collaborations to plan for future sustainable growth. SHAPE demonstrates long-term benefits aligned with the DOT Strategic Plan for FY 2012-FY 2016 as demonstrated by increased transportation choice and multiple quality of life benefits. SHAPE implements the regional growth principals to promote sustainable transportation and land use decisions for the Wasatch Front corridor based on the inter-jurisdictional planning process for WC2040 funded through a $5 million awarded to Salt Lake County from the HUD Sustainable Communities Planning Grant. Salt Lake City Mayor Ralph Becker's Livability in Salt Lake City Agenda 2012-2016 charges the City to direct its permitting and plan review agencies to develop strategies to further incentivize innovations in energy efficiency, materials re-use and recycling, and whole-building adaptive re-use to maximize the ability of private developers to build sustainably and to go "beyond LEED'. To meet Mayor's Becker's 2015 goal of 42 LEED certified buildings, 38 EnergyStar facilities, and 12,980 EnergyStar homes, developers in the Sugar House area have access to www.solarsimplified.org, a one-stop-shop that provides comprehensive solar information and tools to help expand Utah's solar market and streamline the solar process. The website and its solar mapping analysis tools are the result of $712,440 awarded to the City through the DOE Solar Market Transformation Initiative and SunShot Initiative for the Rooftop Solar Challenge and Wasatch Solar Challenge, a partnership of the City, Midvale, Park City, Salt Lake County, Summit County, Utah Clean Energy, and West Valley City.

6. **Value Communities and Neighborhoods.** SHAPE enhances the unique characteristics of Sugar House through investment in healthy, safe, and active transportation infrastructure, place-making streetscape and gateway improvements, and bringing streetcar rail back to the neighborhood, which was served by a streetcar line in the 1900's. The Salt Lake City Council Vision for Transportation and Mobility states that Salt Lake City residents should have choices in modes of transportation which are safe, reliable, affordable, sustainable, well-designed, and that connect residents to neighborhoods and the rest of the region. The Sugar House Community Council Town Center Vision Statement emphasizes several elements related to transportation, including: a) a pedestrian oriented environment, especially connections to transit and Sugar House Park, with a walkable network of public paths, alleys, and sidewalks through the area and b) the orientation of business, retail and residential to the street and accessible on foot and by bicycle. SHAPE embodies these community values.

iv. Environmental Sustainability

Reduction in Air Pollution >> The project addresses the pressing need to improve air quality in the Salt Lake valley by reducing vehicle miles traveled and reducing 1,742,357 pounds per year of criteria pollutants from mobile sources using fossil fuels. The Salt Lake Valley region is designated by the EPA as a non-attainment area for particulate matter (PM) 2.5. Nitrogen oxides (41%) and volatile organic compounds (19%) emissions can be responsible for over half of the PM pollution during winter inversions experienced in Salt Lake valley. More than 50% of the valley's air pollution is due to vehicle emissions. The Utah Division of Air Quality calculates that the Salt Lake County non-attainment area needs a total PM2.5 reduction of 123.05 tons by 2019 to bring PM2.5 levels to within EPA standards and to protect public health. Increasing multi-modal transportation choices that reduce vehicle miles traveled is critical to further reducing air quality impacts in the region. Please see Table 5 for a quantified long-term air quality benefit to the local airshed.

Table 5. Project Emissions Reductions

Emissions	Rider Savings S-Line Phase 2 Extension and Improved Bike/Pedestrian Access (pounds per year)
Nitrogen Oxides	4,491
Hydrocarbons	6,430
Carbon Monoxide	58,625
Particulate Matters	48
Sulfur Oxides	33
Greenhouse Gas	1,744,567
Fuel-GGE*	93,348

Environmental Benefits >> In addition to improved air quality, SHAPE will increase the mitigation of street run-off from 1300 East as it flows through Hidden Hollow Nature Area, enters lower-sections of Parley's Creek, and enters the Jordan River. Hidden Hollow Nature Area is located in the center of SHBD. The Hollow is bisected by an 800-foot reach of lower Parley's Creek, which receives significant salt and sediment run-off from poorly stabilized highway fill slopes from Interstate 80, unprotected/broken storm drain outlets, and dust tracked out from the Parley's Canyon gravel pit. Parley's Creek delivers these pollutants into the Jordan River, which is listed as 'water quality impaired' on the State of Utah 2008 303(d) list for low dissolved oxygen, high sediment, high levels of total suspended solids, high temperature, and high bacteria levels. The City constructed a sediment grate on Parley's Creek in Hidden Hollow Nature Area in 2010. The sediment grate captures a majority of larger-diameter particulate and debris. The proposed biotechnical slope stabilization of Parley's Creek in the Hollow will enhance nutrient filtration and sediment trapping to improve water quality, create a healthier urban environment for humans and wildlife, and improve habitat connectivity between the upper reaches of Parley's Creek through Hidden Hollow Nature Area to the lower reaches of Parley's Creek.

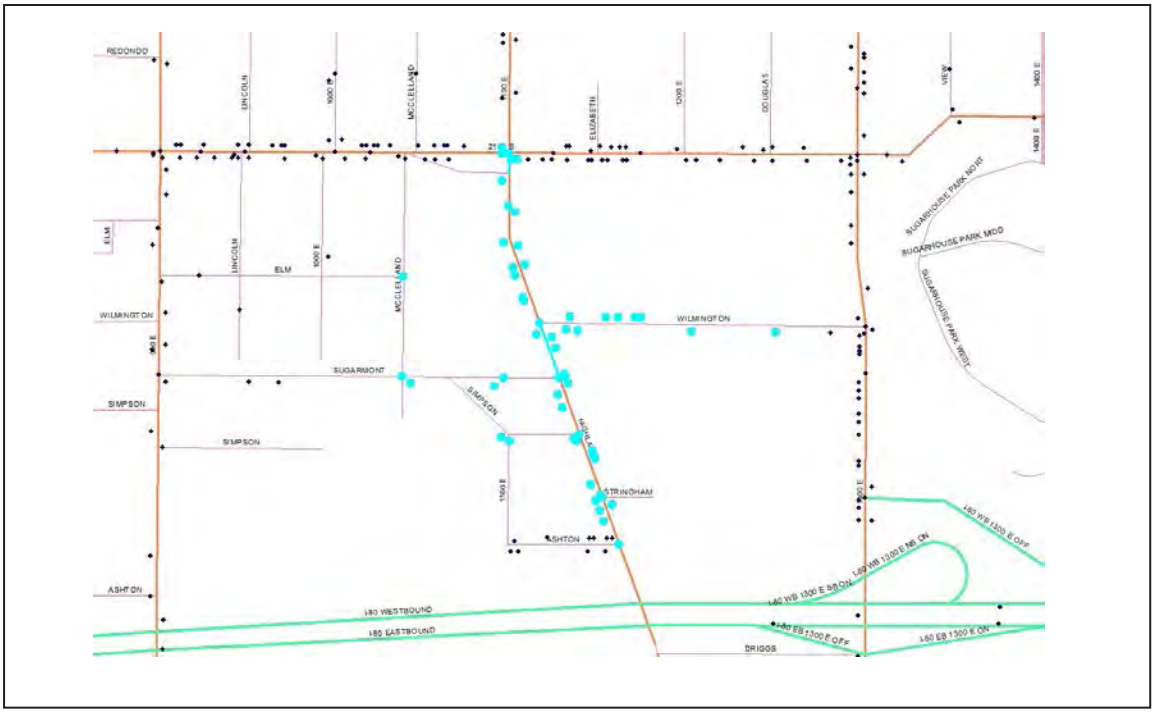
Decrease Adverse Environmental Impacts on Water Quality/Endangered Species >> The flowing-water and riparian habitats within the project site and Hidden Hollow Nature Area are of critical importance. The Utah Division of Wildlife Resources (UDWR) characterizes flowing-water habitat, which covers less than 0.1% of Utah's land area, as very rare, less abundant, less healthy, and threatened by habitat degradation. Flowing-water habitats, such as Parley's Creek, are listed as a priority for preservation and conservation by the UDWR. The UDWR reports that lowland riparian habitat represents 0.2% of Utah's land and that an estimated 90% of lowland riparian habitat in Utah has been lost or negatively altered. Loss of flowing-water and riparian habitat is especially dangerous for Bonneville Cutthroat trout, a native species and listed as a Tier One-Very High Concern species in the Utah Comprehensive Wildlife Conservation Strategy. The habitat importance of Parley's Creek and Hidden Hollow Nature Area are enhanced because of their close proximity to the Great Salt Lake, which is an ecosystem of hemispheric importance for providing resting, staging, and nesting habitat for migratory bird populations.

Improved Resilience To Multi-Modal Transportation Assets >> The project improves resilience to the multi-modal transportation assets by: a) upgrading aging infrastructure in segments where its condition is poorest and preserving its ability to serve the rapidly increasing demands in and adjacent to the SHBD; b) closing gaps in the local and regional bicycle and pedestrian networks; and c) extending the S-Line to more directly serve the primary end-of-line destination at Monument Plaza, which is recognized locally as "The Heart of Sugar House".

v. Safety

Reduction In Surface Transportation Related Accidents >> Between February 2010 and February 2013 there were 179 crashes along the 0.4 mile segment of Highland Drive within the project area, 28 of which had injuries or potential injuries (see Figure 4). Four accidents involved cyclists and six involved pedestrians at the intersection of Highland Drive and 2100 South. This intersection has one of the City's top four most active bicycle counts. But, it has one of the highest percentages of cyclists riding on sidewalks and a below average rate of female cyclists (16% compared to 24% national average), which is considered the 'indicator species' for hospitable bike conditions. The existing conditions suggest that the proposed bike facility improvements will improve real and perceived safety and encourage new cyclists in the area. The proposed road diet on Highland Drive converts a four-lane road to a three-lane road with two general travel lanes, a center turn lane, and bike lanes and will yield an estimated 29% reduction in total crashes, which equates to 52 fewer crashes over a three-year period.

Figure 4. Crashes in the SHBD 2010 – 2013



Safe, Connected, and Accessible Multi-Modal Transportation System >> The proposed improved bicycle facilities, including a protected bike lane and dedicated on-street bike lanes, will provide designated bicycle accommodations and raise awareness for drivers of bicyclists' right to the road. The proposed new crosswalks, pedestrian signals, and safety lighting through Hidden Hollow provide a connected ADA accessible sidewalk system that can decrease pedestrian injuries and fatalities. The proposed non-motorized multi-purpose trials through Fairmont Park will link the SHBD with regional non-motorized trail network including Bonneville Shore Line Trail, Jordan River Parkway, and Parley's Trail.

B. Secondary Selection Criteria

i. Innovation

Innovative Technology >>Innovative technology that will be integrated into the project include: a) UTA's recently launched electronic fare card, which riders will use on the streetcar extension, b) solar integration similar to the UTA's TRAX Airport Line, and 3) use of mobile apps for a variety of transportation purposes. The spreadsheet-based open-source Envision Tomorrow Plus (ET+) will be used by the City and UTA as needed to evaluate and encourage transit-oriented development proposals that maximize community benefits. ET+ was developed through WC2040 to evaluate development and transportation concepts against over 20 metrics, such as return on investment, walkability, and environmental benefits.

Leveraging of Existing and New Funding Sources >> The City and UTA have successfully executed cost sharing and shared right-of-way maintenance agreements for the S-Line Phase 1. Building on lessons learned in previous and existing partnerships of this kind, the City and UTA will work together to leverage existing funding sources and resources to the optimal benefit of SHAPE. RDA Special Improvement District agreements are being developed to create a new funding source from the private sector.

Innovative Contracting Approach >> SHAPE uses an innovative contracting approach, which creates an alliance of designer, construction manager (CM), general contractor (GC), owner and major stakeholders through the use of contracts and formal agreements. Using this award-winning approach requires that all members of the alliance share in cost savings and overruns. At a very early stage of the project, the alliance team agrees on project objectives, key elements of cost, risk, and schedule. As the project progresses, all parties work toward meeting the common objectives and at collectively solving issues that may get in the way. This approach has been used on two joint UTA/Salt Lake City projects with very good success. Several million dollars have been saved through joint issue solutions, efficient construction practices, construction geared to needs without excess, and delivering projects on schedule. An ongoing decision matrix ensures that all parties meet regularly to participate in thoughtful and efficient decision making. In short, the application of the innovative contracting approach to SHAPE will provide a cost estimate with a high degree of certainty early in the project process, diminish risk of cost overruns, and create an opportunity to complete work ahead of schedule with a small owner staff.

Innovative Strategies To Improve Project Delivery >> The City is leveraging two innovative strategies, the HIVE Pass Program and Sugar House S-Line SmartTrips, to improve overall project delivery and impact in the area. Table 6 summarizes the innovative contracting approaches, strategies, and outcomes.

HIVE Pass Program: Through a City/UTA partnership, the HIVE Pass Program offers annual UTA transit passes at a reduced cost to residents of Salt Lake City - $360 per year ($30 per month) compared to $2,376 per year ($198 per month) for a standard pass. The HIVE Pass is valid for use on the S-Line, bus, TRAX, and Front Runner. 1,300 passes have been sold since the program's March 1 launch, and the City is on track to meet the goal of 6,000 HIVE passes sold by August 31, 2014.

Sugar House S-Line SmartTrips: The City expanded its SmartTrips program to Sugar House in 2014 with a matching grant of $29,424 from the Utah Clean Air Partnership to ensure that area residents are educated about the multi-modal travel options that will result from SHAPE. SmartTrips uses outreach and education tools, such as free bike/walk/transit kits, coupons to local businesses, educational newsletters and collaborative community events, to encourage use of public and active transportation.

Table 6. Innovative Contracting, Strategies and Outcomes

Innovative Contracting and Strategies	Outcomes
Community initiated and locally financed	Community buy-in from local business and home owners by starting from agreed upon service characteristics. Commitment of support for S-Line with incentive to use it via SmartTrips
Early risk assessment	Ability to mitigate risk before procuring contractor, improving alliance contracting success.
CM/GC alliance project delivery	Reduced costs by incentives to all parties. Mutual understanding of required project details to obtain agreed upon goals.
Resident Transit Pass	HIVE Pass puts a 'pass in every pocket' and may increase ridership for short trips typically taken on streetcars.

ii. Partnership

Jurisdictional and Stakeholder Collaboration >> Project partners – the City, Salt Lake County, RDA, and UTA - have a long-standing tradition of working together and strong inter-jurisdictional relationships. The project partners have participated in the development of regional consensus plans that reflect the strong interplay between land use, transportation, environmental sustainability, and a high regional growth rate. Among the most recent are the Utah Unified Transportation Plan 2011-2040, WC2040, and the Regional Transportation Plan. The S-Line Phase 2 extension is identified in all three plans, and the SHBD is identified as a Town Center in which to focus growth around transit in WC2040. The UTA Sugar House Streetcar Project Team won the 2014 Partnered Project of the Year Award- Diamond Level from the International Partnering Institute for its exemplary application of best practices of partnering, project results achieved, inclusion of all stakeholders and project participants in the process, problems overcome, lessons learned, and evidence of a culture change. SHAPE builds on the achievement with continued collaboration of the City, Salt Lake County, RDA, and UTA to deliver an integrated multi-modal transit project in the heart of Sugar House. While the project is within Salt Lake City boundaries, SHAPE shares mutual benefit with South Salt Lake City's ongoing work to implement redevelopment along the S-Line while completing the crucial "last mile" segment of trips originating in South Salt Lake and points throughout the Wasatch Front travel corridor.

Disciplinary Integration:
Transportation/Non-Transportation Agency Involvement >> SHAPE is a direct result of the working partnerships between the City's Division of Transportation and UTA and non-transportation agencies [Boulder Venture Development, Cowboy Partners, RDA, Salt Lake County, Sugar House Chamber of Commerce, Woodbury Corporation] to implement sustainable transportation and land use decisions. The multi-modal project scope of SHAPE supports the region's consensus-driven vision WC2040 and is a result of the City's efforts to collaborate internally across disciplines, such as Planning, Parks, Public Utilities, Engineering, Facilities, Housing and Neighborhood Development, Transportation, Sustainability, Streets, and liaising with private business and development communities. Instead of pursuing projects in isolation, the City is coordinating zoning changes, development, and construction projects to achieve holistic changes with cost savings and reduced disruption to the community. SHAPE is a culmination of the inter- and intra-agency efforts, wherein road reconstruction and other improvements have been delayed in part so that they could be conducted in conjunction with construction of transit improvements and private development.

Relevance to Public Agencies With Environmental Missions >> SHAPE supports the achievement of critical greenhouse gas emission reductions and improvements to air quality identified in the Utah Division of Air Quality's State Implementation Plan (SIP). The Utah Division of Air Quality has calculated that the Salt Lake County non-attainment area needs a total PM2.5 reduction of 123.05 tons by 2019 to bring PM2.5 levels to within EPA standards and to protect public health. The SIP projects that the current significant efforts to curb emissions will be unsuccessful at bringing particulate contamination below regulatory limits. SHAPE's multi-modal infrastructure investments are critical to further reducing air quality impacts below what can be achieved by regulations and the SIP.

Alignment with Local/Regional Planning Processes >> SHAPE is an outgrowth of robust local and regional planning processes, represented by the following adopted regional and local land-use and transportation plans:

Wasatch Front Regional Council (WFRC) Regional Transportation Plan – WFRC, the designated metropolitan planning organization, works in partnership with UTA, UDOT, city and county governments, and other stakeholders to develop the Regional Transporta tion Plan (RTP). The RTP adopted in March 2011 recommends transportation improve ments for the Sugar House area to include the construction of a community level-streetcar line from the 2100 South TRAX station (S-Line Phase 1) to Highland Drive/Sugarmont (S-Line Phase 2 extension).

Wasatch Choice for 2040 – Building on the 3% Strategy developed by the non-profit planning organization Envision Utah, which models a growth pattern whereby 33% of future development is concentrated on 3% of developable land near key transit stops and road corridors, WC2040 identifies SHBD as a concentrated growth center with the intent for strong transit infrastructure to reduce congestion and demands on infrastructure,

improve air quality, and create more walkable centers. WC2040 is a regional planning document for sustainable transit and land-use decisions, funded through a $5 million HUD Sustainable Communities Planning Grant awarded to Salt Lake County in 2010.

Sugar House Master Plan – The Sugar House Master Plan, adopted by the City in 2001 and amended it in 2005, identifies viable alternatives to the automobile as essential to the long-term success of the SHBD, states a policy to "identify the location for a TRAX station as well as a preferred route through the business district for a future rail transit alignment", and identifies economic goals that emphasize a mixed land use pattern, neighborhood amenities, facilities to support future transit stations, and pedestrian-oriented infrastructure as critical components to strengthen the sustainability of the area.

Sugar House Circulation and Streetscape Amenities Plan – The Circulation Plan was developed to establish implementation strategies for the Sugar House Master Plan (2001, 2005), Salt Lake City Transportation Plan (2004), and Salt Lake City Bicycle and Pedestrian Master Plan (2004, 2014). Many of SHAPE's elements are drawn from the Plan to create connectivity through and between the City's characteristically large blocks, balance transportation modes, increase safety, and support redevelopment while maintaining the area's historic character.

Salt Lake City Riparian Corridor Study: Parley's Creek – The City published the Salt Lake City Riparian Corridor Study in 2010 as a compliment to the Riparian Corridor Overlay District Ordinance passed by the Salt Lake City Council on July 22, 2008. SHAPE implements the soft infrastructure upgrades recommended in the Study for the run of Parley's Creek through Hidden Hollow Nature to improve water quality and the ecosystem services of the riparian corridor.

Salt Lake City Open Space Master Plan – The City's Open Space Master Plan, adopted in 1994, recommends the development of trails through Fairmont Park to establish connectivity to Parley's Trail and the regional trail network.

C. Results of Benefit Cost Analysis (BCA)

The tables below summarize the benefits and costs associated with the proposed streetcar extension and related additional pedestrian and bicyclist-focused improvements.
This BCA is consistent with USDOT TIGER VI guidance, and annual costs and benefits are computed and summarized over the life-cycle of the project. For the purpose of the BCA, the project's capital costs will be initiated in 2014 and primarily spent in 2015 and 2016, with use of the new trails occurring immediately after completion and revenue generation for the street car extension beginning in 2017 and continuing for 20 years. This simplifies the schedule of substantial completion in December 2016, revenue operations in April 2017, and closeout in December 2017 all subject to negotiations of a detailed schedule with UTA during project development. Benefits will accrue during the full operation of the Project.

The estimated rate of return for the Project is 7.8 percent. The non-discounted total costs of the project, both capital and operating, are $29.6 million. At a seven percent discount rate, this investment is $19.1 million in costs and expected to result in $21.3 million in benefits, generating a benefit to cost ratio of 1.12. At a three percent discount rate, the same investment is $23.9 million in costs and generates $33.6 million in benefits and a benefit to cost ratio of 1.41.

Table 7. Project Costs

Segments	Length (miles)	Capital Costs (2014 $M)	Total O&M costs (2014 $M)
Streetcar Extension	0.9	$15.2	$14.5
Road Improvements	0.5		
Bike/Pedestrian Improvements	1.6		
Total		**$15.2**	**$14.5**

Table 8: Project Benefits 7% Discount Rate

Criteria	Category of Benefits	Total Benefits ($ millions)
Quality of Life	Improvements in Active Transportation Network	$0.14
	Health	
	Mobility	
	Recreation	
	Reduced Auto Use	
Economic Competitiveness	Better access to employers	
	Auto Generalized Travel Cost Savings	$0.08
	Streetcar Generalized Travel Cost Savings	-$1.99
	Expanded affordable housing access	
	Further development in Sugar House	
Safety	Reduced Accidents	$27.67
	Pedestrian and Bicyclists Improvements	
Sustainability	Reductions in Air Emissions	$0.65
	Improved Runoff Filtration	
State of Good Repair	Reduced stress on existing roadways	$0.0002
Agency Benefits	Fare Revenue	$4.43
Total Benefits		**$31.0**

The tables above show the benefits estimates by benefit category, and also list qualitative benefits. A summary explanation of the results is presented below, with full detail available in the Benefit-Cost Analysis Technical Memorandum (Appendix C).

- The quantified economic competitiveness benefits total -$1.91 million and reflect the changes in travel time for the users. Better access to employers, enhanced local economic mobility, and new local development projected to result from the project are all benefits related to the project but are not easily quantified independently from the existing work already being done to the corridor.

- The benefits associated with improvements in non-motorized transportation that are attributable to the placemaking improvements, such as the cycle-track, bike-lane markings, and non-motorized multi-use trails in Fairmont Park, account for approximately $0.14 million over the project life-cycle. This is a conservative estimate that does not include health or mobility benefits, or benefits to new users.

- Reduced Auto Use represents the benefits to society that are generated by the number of new cyclist commuters that replace auto travel. The benefits include reduced congestion for motorists, user cost savings, and reduced air pollution to all of society, and particularly in the Salt Lake Valley. For this project, there is not sufficient data to measure the diversion from auto to bicycles.

- Safety benefits account for the highest category of benefits, $27.7 million discounted over 20 years due to a 29% reduction in vehicle accidents due to the road diet on Simpson Avenue, enhanced cyclist safety as a result of the new protected bikeway and dedicated bike lane, and a 69% reduction in pedestrian accidents due to the installation of the HAWK signals.

The project is expected to cost $15,157,900 with construction occurring in 2015-16 and operations beginning in 2017. Annual operating and maintenance costs are approximately $722,500 for the streetcar extension; other operating and maintenance costs associated with the project will be absorbed by existing City resources.

V. Project Readiness

Technical Feasibility

Engineering and Design Studies >> Conceptual engineering was conducted to develop cost estimates for the SHAPE project. Additional engineering will be conducted during the NEPA process, particularly at the intersection of Highland Drive and 2100 South, where transportation needs are most complex.

Design Criteria >> The S-Line Phase 2 extension will use the UTA's streetcar design criteria. The complete streets project elements will incorporate state-of-the-practice design guidelines. Proposed project elements have been reviewed for technical feasibility and further review will occur in stages as the design advances.

Statement of Work >> A summary scope of work appears in the section entitled Proposed Solutions on page 4 of the application. Additional project component details are shown in the detailed cost estimate in Appendix D. The City and UTA will work together to develop a detailed scope for design and construction as the project development process proceeds.

Financial Feasibility

Capital/Operating Funds Commitment >> A total of $4,547,370 in local funding has been identified for implementation of the SHAPE capital investments. The City and UTA have committed existing funding sources for sharing the cost of operating the S-Line Phase 1. The City is committed to working with UTA to develop a long term source of operating funds for the S-Line Phase 2 extension. A portion of funds for operation and maintenance may be generated upon successful execution of RDA's Special Improvement District agreements with developers in the project area. Other operating and maintenance costs associated with the project will be absorbed by the City. Table 9 illustrates that the federal TIGER investment of $10,610,530 represents 36% of total capital costs and 20 years of operations, while the City and local sector investments account for 64% of total capital costs and 20 years of operations.

Table 9. Funding Sources Over 20-Year Project Horizon

Funding Sources	Capital Funding (Millions, $2014)	O&M Funding [20 Years] (Millions, $2014)	Total Capital + O&M (Millions, $2014) | (%)	
Local Funding Commitment				
Salt Lake City	$4,547,370	$0	$4,547,370	15%
Salt Lake City/UTA	$0	$14,450,000	$14,450,000	49%
Federal Funding Commitment				
TIGER	$10,610,530	$0	$10,610,530	36%
TOTAL	$15,157,900	$14,450,000	$29,607,900	

Contingency Reserves >> Contingencies are included in each section of the project cost estimate with an unallocated contingency of 10%. Please see Appendix D, which identifies contingency levels appropriate to each budget item.

Financial Condition of Project Sponsor >> State of Utah law requires the City to adopt a balanced budget on a fiscal year basis and to maintain a General Fund balance above 5% of revenues. The City's General Fund balance was 13% of revenues as of January 2014. The City maintains an AAA general obligation bond rating from Moody's and Fitch by maintaining modest debt levels. Its financial systems meet Governmental Accounting Standards Board requirements.

Grant Recipient's Ability To Manage Grants >> UTA, which will serve as the grant recipient, has a long-standing successful track record in the management of DOT grants and contracts. UTA has well-established contract and grant management procedures. UTA will hold the contracts for all consultant and construction services for the project. The City and UTA have received awards for partnership and successful, timely construction of the North Temple TRAX project and the S-Line Phase 1, both of which are multi-modal corridor projects coordinated with redevelopment.

Project Budget Summary >> A project budget summary is provided in Table 10, and a schedule of project expenditures by funding sources is provided in Table 11. Detailed cost estimates for project elements are provided in Appendix D.

Table 10. Project Budget Summary

Project Cost Elements	Local Match	TIGER Request	Total Cost
Transit Infrastructure (85% of Total Project Cost)			
Streetcar Phase 2b Couplet	$4,392,914	$8,507,086	$12,900,000
Subtotal Transit Infrastructure	$4,392,914	$8,507,086	$12,900,000
Active Transportation Infrastructure (14% of Total Project Cost)			
Road Diet (Highland fr Simpson-I-80)	$0	$38,665	$38,665
Bicycle Improvements	$67,000	$0	$67,000
Non-Motorized Trail, Streetscape, Gateway Improvements	$0	$1,438,220	$1,438,220
Pedestrian Streetscape Improvements	$53,000	$220,000	$273,000
Non-Motorized Trail Pedestrian Safety Lighting	$34,456	$189,554	$224,000
Subtotal Active Transportation Infrastructure	$154,456	$1,886,429	$2,040,885
Infrastructure Along Right of Way (1% of Total Project Cost)			
Street Run-Off Mitigation Soft Infrastructure	$0	$92,960	$92,960
Subtotal Infrastructure Along Right of Way	$0	$92,960	$92,960
Total Project Cost	$4,547,373	$10,486,475	$15,033,845
UTA Grant Administration	$0	$124,055	$124,055
Grand Total	$$4,547,370	$10,610,530	$15,157,900

Table 11. Timing of Project Expenditures by Funding Sources

Year | Quarter		Funding Sources		
		Local	TIGER VI	Total
2015	Q1	$468,516	$168,947	$637,463
	Q2	$202,737	$473,053	$675,790
	Q3	$886,949	$1,789,547	$2,676,495
	Q4	$595,515	$1,630,384	$2,225,898
2016	Q1	$595,515	$1,630,384	$2,225,897
	Q2	$601,313	$1,643,916	$2,245,230
	Q3	$601,313	$1,643,916	$2,245,230
	Q4	$595,514	$1,630,384	$2,225,897
Total		$4,547,371	$10,610,530	$15,157,900

Project Schedule >>

The City and its project partners have developed an aggressive, but realistic project schedule. The project schedule is summarized below and assumes an October 2014 award date. Note that the project schedule assumes that an alternative delivery method, such as CM/GC, will be used to expedite construction. All key project decisions and procurements will be completed in advance of the June 2016 target for obligation of funds.

December 2014	Award Transfer to UTA
January 2015	Documented Categorical Exclusion (DCE) and Conceptual Engineering Completion
Spring 2015	Preliminary Engineering Completion and Release of CMGC RFP
Summer 2015	Final Design Completion
Fall 2015	Execution of Interlocal Agreements and Award of Guaranteed Maximum Price
Fall 2015	Construction Begins
December 2016	Construction Substantial Completion
April 2017	Systems Testing Complete and Revenue Operations Begin

NEPA/Other Environmental Reviews >> NEPA is underway with a schedule of nine months to completion (January 2015). Since the project falls within existing transportation right-of-way, the assumed level of documentation is a DCE, including conceptual engineering ranging from 10%-30% depending on the complexity of various project segments. The City is prepared to produce an Environmental Assessment (EA) if analysis suggests that a higher level of evaluation is needed. The proposed DCE schedule is nine months and completion is anticipated in early 2015, with preparation of a bid package occurring concurrently so that a Request for Proposals can be released upon completion of the NEPA work.

Permitting >> Permitting will be preceded by an interdisciplinary review led by the UTA Design Review Team to ensure all interests are represented when permitting is sought.

Legislative Approvals >> The Salt Lake City Council adopted the: a) locally Preferred Alternative recommended in the Sugar House Transit Phase 2 Alternatives Analysis in May 2013 [Resolution 19 of 2013]; b) Sugar House Circulation and Streetscape Amenities Plan in November 2013; c) and a complete streets ordinance in January 2010.

State and Local Plans >> The S-Line Phase 2 extension is identified in Utah Unified Transportation Plan 2011-2040, WC2040, and the WFRC RTP. The SHBD is identified as a town center in which to focus growth around transit in WC2040.

Project Partnership and Implementation Agreements >> Project partnership and implementation agreements are developed concurrently with the bid package so that roles, goals and commitments are well understood by all parties.

Assessment of Project Risks and Mitigation Strategies >> A detailed risk analysis is conducted by the project partners as part of every transit project to mitigate material and assumed risks to the greatest extent possible. The greatest material and assumed risks are addressed in the Contingency Description (see Attachment D).

VI. Federal Wage Rate Certification

The City and UTA will comply with all federal requirements. Each agency has well-established procurement processes that include federal wage rate certification. Appendix E provides signed certifications from Salt Lake City Mayor Ralph Becker and Mike Allegra, General Manger, UTA, that state compliance with the federal wage rate requirements.

SHAPE

Sugar House Area Place-making Enhancements

Appendix A. Partner Support and Commitment Letters

Salt Lake City Mayor Ralph Becker
Salt Lake County Mayor Ben McAdams
Redevelopment Agency of Salt Lake City Director DJ Baxter
Utah Transit Authority General Manager Michael A. Allegra

Salt Lake City Corporation

RALPH BECKER
Mayor

April 25, 2014

Secretary Anthony Foxx
Office of the Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Ave SE
Washington, DC 20590

RE: DT0559-14-RA-TIGER6

Secretary Foxx:

Salt Lake City Corporation (the City) is pleased to submit this grant application requesting $10,610,530 for the Sugar House Place-making Enhancements through the U.S. Department of Transportation Investment Generating Economic Recovery (TIGER) Discretionary Grant Program.

The Sugar House Place-making Enhancements is a "complete communities" approach to increasing transportation options for people at all income levels. Viable multi-modal alternatives to the automobile are essential to the long-term success of the economic health of the Sugar House Business District, Salt Lake City and the greater metropolitan area of the Wasatch Front.

A key project component of this application is the construction of the Sugar House Streetcar Phase 2 extension. The previous $26 million TIGER II investment was crucial in the construction of the two-mile length of the initial Phase 1 of Sugar House Streetcar. A TIGER VI investment in the Sugar House Place-making Enhancements will complete the critical "last mile" of the regional connection to the Sugar House Business District to create safe convenient commuter connections to the regional transit and trail network and improve air quality through the reduction of 1,744,567 pounds of greenhouse gas emissions per year.

The City is committing a financial match of $4,547,370 representing 30% of the total project cost of $15,157,900 toward the capital infrastructure investments of the Sugar House Place-making Enhancements. The City has the financial resources, and the funds will be available for obligation by June 2016 in preparation for a TIGER VI Discretionary Grant award.

The City and Utah Transit Authority are established partners committed to expanding transit options along the Wasatch Front. Our goal is to enhance the quality of life of our residents. I look forward to continuing our mutual success with the U.S. Department of Transportation to increase mass transit, improve air quality along the Wasatch Front, and enhance the livability of our community.

Sincerely,

Ralph Becker
Mayor

OFFICE OF THE MAYOR
P.O. Box 145474
451 South State Street, Room 306
Salt Lake City, UT 84114-5474

www.SLCGOV.com
Tel 801-535-7704 Fax 801-535-6331

SALT LAKE COUNTY

Ben McAdams
Salt Lake County Mayor

Nichole Dunn
Deputy Mayor &
Chief Administrative Officer

April 25, 2014

Mr. Anthony Foxx
Office of the Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Ave SE
Washington, DC 20590

Dear Mr. Foxx:

I am writing in support of Salt Lake City's request for a TIGER VI Discretionary Grant for the Sugar House Area Placemaking Enhancements (SHAPE) project. The proposed multi-modal infrastructure project enhances and maximizes local investments in connections between Sugar House Park, the Sugar House Business District, and the regional trail system.

In November of 2012, Salt Lake County voters had the opportunity to approve the Park and Trails Bond, which authorized the County to issue $47 million in bonds to construct segments of the Parley's Trail, including The Draw, scheduled to celebrate its grand opening this summer. The Draw at Sugar House represents an important segment of the Parleys Rails, Trails & Tunnels effort to connect the Bonneville Shoreline to the Jordan River through an 8 mile Parley's Creek Trail. The Draw at Sugar House will be located directly east of the Hidden Hollow Natural Area located in the heart of the Sugar House business district and provide a connection under 1300 East to Sugar House Park. This project will benefit Salt Lake County residents by providing a safe pedestrian and bicycle crossing of a major arterial road to promote a connected trail system that is connected throughout Salt Lake County. The SHAPE project will maximize these investments by enhancing connections to our regional trail system.

Salt Lake County is proud to be an engaged partner in improving access between our vibrant urban neighborhoods and our region's great parks and trails. SHAPE's improvements in transit and active transportation infrastructure support our vision for a connected, sustainable community with first-class quality of life. We look forward to this next phase of Sugar House transportation enhancements.

Sincerely,

Ben McAdams
Mayor, Salt Lake County

Salt Lake County Government Center
2001 South State Street, Suite N-2100 | PO Box 144575 | Salt Lake City, UT 84114-4575
Tel: 385.468.7000 | Fax: 385.468.7001 | www.slco.org

UTA

669 West 200 South

Salt Lake City, UT 84101

April 25, 2014

Mr. Anthony Foxx
Office of the Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Ave SE
Washington, DC 20590

RE: DT0559-14-RA-TIGER6

Dear Secretary Foxx:

I am writing to request your favorable consideration of Salt Lake City's Sugar House Area Place-making Enhancements (SHAPE) project for a TIGER VI discretionary grant. Salt Lake City and the Utah Transit Authority (UTA) are working diligently to improve the quality of life for our residents. The streetcar extension and active transportation improvements will help us to meet our goals.

As you may know, the Phase 1 streetcar and greenway – the S-Line – has generated tremendous revitalization, creating new jobs and housing that would benefit greatly from the increased connectivity that SHAPE will provide. UTA just saw its biggest ridership over a three-day period in its history, showing that a combination of compact mixed land uses, robust community events and programming, along with increased transit service, work together to make a meaningful impact on travel behavior. And the benefits are remarkable – to the economy, to our air quality, and to our quality of life.

Having worked hard to create a world-class regional rail network, UTA wants to maximize that investment by supporting those critical local circulator and first- and last-mile connections. This project gives our riders a variety of transportation options for traveling to and within the Sugar House Business District. UTA and Salt Lake City have a track record of working in strong partnership and going the extra mile to find ways to add value to projects even beyond what is committed.

The initial S-Line has spurred $400 million in development within Salt Lake City, as well as development in neighboring South Salt Lake. Improvements and extension of the line included in this federal TIGER investment of $10,610,530 would support at least $200 million in additional planned near-term redevelopment.

I look forward to continuing our collaborative partnership with Salt Lake City and the U.S. Department of Transportation to increase mass transit, improve air quality along the Wasatch Front, and enhance the quality of life in our community.

Sincerely,

Michael Allegra for
General Manager

SHAPE

Sugar House Area Place-making Enhancements

Appendix B. Stakeholder Support Letters

Salt Lake City Corporation

BIKE UTAH

801.440.3729
PO Box 4523
Salt Lake City, Utah 84110

April 25, 2014

Secretary Anthony Foxx
U.S. Department of Transportation
1200 New Jersey Ave SE
Washington, DC 20590

Dear Secretary Foxx:

I am writing in support of Salt Lake City's request for a TIGER VI Discretionary Grant for the Sugar House Area Placemaking Enhancements (SHAPE) project. The proposed multi-modal infrastructure project makes key connections and safety improvements for cyclists and supports the community's vision for the Sugar House Business District.

Bike Utah is a non-profit, 501(c)3 charitable organization made up of recreational and commuter cyclists, bicycle manufacturers, retail shops, and transit advocates working to improve bicycling conditions throughout the State of Utah. Bike Utah advocates for bicycle use as an everyday means of transportation and recreation. Cycling is a great way to enjoy the outdoors, maintain good health, and travel around town. Bike Utah works with government agencies to encourage implementation of the "Complete Streets" programs. These programs have been developed at a national level and adopted by many cities and municipalities across the country. SHAPE is a great example of Salt Lake City implementing a project true to its own Complete Streets policy to ensure that road construction accommodates all roadway users including motorists, cyclists, and pedestrians.

The project proposed for a TIGER VI Discretionary Grant will support one of Salt Lake City's great neighborhoods, increase transportation choices for lower- and middle-class households, and enhance connections between surrounding neighborhoods and the new jobs generated by the TIGER II grant award for the Sugar House Streetcar. Bike Utah is pleased to commit its support toward the next phase of Sugar House revitalization. SHAPE is a great example of how a community policy can support the quality of life our organization strives to promote.

Sincerely,

Phil Sarnoff
Executive Director, Bike Utah

BOULDER VENTURES DEVELOPMENT, INC.

April 23, 2014

Ms. Julianne Sabula
Transportation Division
Community and Economic Development
Salt Lake City Corporation
PO Box 145502
Salt Lake City, Utah 84114-5502

Dear Julianne:

On behalf of Boulder Ventures Development, my company and I would like to thank you, and the Salt Lake City Corporation, for your tireless efforts in furthering the rail and vehicular transportation connectivity in the Sugar House Central Business District. The opportunity for smart sustainable development based in part on the sound transportation principles that your department is spearheading is unique in Utah. We believe these efforts will continue to encourage continued large scale private investment in Sugar House. Your leadership during the planning stages has certainly been well received by the business community. The continued expansion of the Salt Lake City and UTA rail service planning efforts has been a major factor for increased private investment in our community. The quality of the private development projects, enhanced community lifestyle, community economic gain in property tax, sales tax, and job creation are all directly related to the capacity of the transportation infrastructure.

As you are aware, we are actively planning the next phases of our development on the south end of the Granite Furniture block, which will front the S-Line. This rail service and vehicle/pedestrian thoroughfare connectivity in Sugarhouse are integral parts of our planning efforts. Our plans include approximately 350 residential units as well as retail and limited commercial office. We anticipate that this next phase will be in excess of a $100 Million investment.

We are eager to submit a formal application for project approval to Salt Lake City for these next phases of our Granite Furniture block development. Early decisions by your department on alignment for both streetcar and vehicular connectivity have been instrumental in spurring our continued investment in Sugar House. Any assistance we can provide to help expedite decisions with transportation planning in our area will be welcomed and aggressively addressed by our firm.

Thank you again for efforts to date on this collaboration of public/private sector alliance. We would be happy to assist in the process for decisions any way possible.

Regards,

Boulder Ventures Development, Inc.

Jeffrey M. Vitek
President and CEO

2121 S. McClelland Street, Suite 303 | Salt Lake City, UT 84106 | P: (801) 483-1000 | www.bvdincorp.com

COWBOY
PARTNERS

6440 So. Wasatch Blvd.
Suite 100
Salt Lake City, UT 84121
Tel: (801) 424-4400
Fax: (801) 424-4460

April 24, 2014

Mr. Anthony Foxx
Office of the Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Ave SE
Washington, DC 20590

Dear Mr. Foxx:

On behalf of Cowboy Partners, I write today to express my enthusiastic support for the Sugar House Area Place-making enhancements proposed for consideration for TIGER Discretionary Funding by Salt Lake City and its partners. The proposed project will complete the half-mile of rail necessary to bring the streetcar to the Sugar House Business District and will develop a multi-modal transportation infrastructure that supports the transit-oriented development that is transforming the Sugar House Business District, already the City's 2nd largest shopping destination, into an exciting and energized urban neighborhood.

Cowboy Partners is in the final stages of completing a $24,000,000 investment in the Sugar House neighborhood in the form of 171 residential units in the mixed-income Liberty Village development. These 171 units, going up on a 1.5 acre site that was previously a retail parking lot, include 35 units that are affordable to households at 50% or area median income and the balance of the units will, at lease-up, be affordable to households at 80% of AMI.

The expanded active and public transit that will be achieved with the construction of the proposed project will allow infrastructure to keep pace with recent and anticipated rapid growth and connect low-income and middle-income households to education opportunities at Westminster College and to job opportunities and the economic engine of the Sugar House Business District.

Cowboy Partners has been building apartments, condominiums and mixed-use developments for more than 30 years. Based on that experience we are confident that our investment in Liberty Village Apartments is in the right spot, and our confidence extends to the proposed investment of public dollars in the Sugar House Area Place-making Enhancements via TIGER Discretionary Grant award. Please consider our endorsement of the proposed project in your review of the grant application submitted by Salt Lake City.

Sincerely,

Cowboy Partners

Dan Lofgren
President

DEE'S INCORPORATED

777 EAST 2100 SOUTH
SALT LAKE CITY, UTAH 84106
801 487-4201

April 24, 2014

Mr. Anthony Foxx
Office of the Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Ave SE
Washington, DC 20590

Dear Mr. Foxx:

On behalf of the Wilmington Gardens Group, I am pleased to commit our support for the Sugar House Area Place-making Enhancements proposed by Salt Lake City and its partners for funding through the TIGER Discretionary Grant. My family's Salt Lake City-based real estate development company is part of a Sugar House development consortium with the local developers Bullen Family and Woodbury Corporation. In addition, the private liberal arts college Westminster College, multiple environmental groups and community advocates are committed to making Sugar House a signature example of economic growth, education, and livability for the community and the Wasatch Front region.

The Sugar House Area Place-making Enhancements will leverage our soon to be completed mixed-use housing, office and retail developments along Wilmington Avenue in the heart of the Sugar House Business District. The new developments offer one six-story building and one nine-story building with ground-level shops and offices and 100 units of residential housing for Westminster College students and many who chose to work and live in the Sugar House area as well as 270 units of senior living, assisted living and memory care. The multi-modal infrastructure that will result from the proposed transit project will complement our efforts to incorporate public open space, pedestrian safety, and walkability.

We and our partners believe strongly in the future of the Sugar House area and have invested real capital and committed additional resources towards the redevelopment of Sugar House. The current developments are designed in anticipation of the streetcar extension into the heart of the Sugar House Business District, which will decrease transit times to the Utah Transit Authority's TRAX and Front Runner connections located two miles away. The project's significant improvements to the active transportation infrastructure throughout the Sugar House Business District will contribute to the community becoming more environmentally and logistically efficient and serve as a conduit for the nearby Westminster College students, staff as well as residents, customers, and area visitors.

Our consortium enthusiastically supports the proposed project and the City's request for a TIGER Discretionary Grant. We respectfully request financial support from the U.S. Department of Transportation to help us make Sugar House a better place for the entire community.

Sincerely,

Wade Olsen
Vice President of Real Estate
Dee's, Inc.

MECHAM MANAGEMENT, INC.

April 24, 2014

Mr. Anthony Foxx
Office of the Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Ave SE
Washington, DC 20590

Dear Mr. Foxx:

Mecham Management is pleased to provide a letter of endorsement and support for Salt Lake City's request for a Tiger Discretionary Grant for the Sugar House Area Place-making Enhancements. The proposed project will enhance our $53 million development project, Sugar House Crossing, and result in a state-of-the art multi-modal infrastructure that supports the community's vision and the economic momentum of the Sugar House Business District.

Mecham Management is partnering with the Redevelopment Agency of Salt Lake City, Wells Fargo, and the Sugar House Business District Merchants Association to complete Sugar House Crossing. The project is a mixed use development with 46,000 square feet of ground-level retail and 211 apartments above with three levels of underground parking to accommodate approximately 450 vehicles. The commercial space will be composed of local and national businesses. The apartments will feature spectacular view of the Wasatch Mountains, Leed Certification, Hot Tub, Fire Pitt, and spacious living conditions and immediate access to the recreation opportunities of Fairmont Park and Sugar House Park. Construction began in August 2012 and is anticipated to be complete in September 2014.

The Sugar House Area Place-making Enhancements will cost effectively support A TIGER Discretionary Grant with our private development dollars to construct a multi-modal transit system that demonstrates the livability achieved through the integration of appropriate land use, transportation choices, urban form, infrastructure, the natural environment and the region's non-motorized trail system. The project will extend the Sugar House Streetcar by 0.5 miles and bring its terminus to the doorstep of Sugar House Crossing. Our tenants will benefit from increased transportation choices linking them to UTA TRAX and Front Runner connections. The project's significant improvements to active transportation infrastructure throughout Sugar House Business District will improve the quality of life, pedestrian safety, and livability of Sugar House area and our tenants.

Sugar House Crossing is a core transit destination for the Sugar House area. As a private developer, I am pleased to commit my support toward the City's efforts to secure funding through a TIGER Discretionary Grant.

Sincerely,

Craig W. Mecham,
Owner

Post Office Box 521448
Salt Lake City, Utah 84152-1448
Phone: (801) 466-4800 Fax: (801) 466-3622

795 North Jimmy Doolittle Rd
Salt Lake City, UT 84116

Salt Lake (801) 363-4250
Ogden (801) 773-5559
www.wfrc.org

WASATCH FRONT REGIONAL COUNCIL

April 24, 2014

The Honorable Anthony Foxx
Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Ave SE
Washington, DC 20590

Dear Mr. Foxx:

Wasatch Front Regional Council (WFRC) is writing in support of Salt Lake City's request for funding through the TIGER Discretionary Grant for the Sugar House Area Place-Making Enhancements project. The proposed multi-modal infrastructure project enhances and maximizes local investments in connections between Sugar House Park, the Sugar House Business District, and the regional transit system.

The WFRC is responsible for coordinating the regional transportation planning process in the Salt Lake City-West Valley City and Ogden-Layton urbanized areas as the designated Metropolitan Planning Organization (MPO). The process is comprehensive in nature, addressing all modes of transportation, including highways, transit, trucking, rail, bicycle and pedestrian.

A key strength of the Sugar House Area Place-Making Enhancements project is its implementation of the sustainable transit and land-use identified in the regional vision, Wasatch Choice for 2040. In addition, the project makes progress toward the transportation improvements specific to the Sugar House area, which were adopted in the Regional Transportation Plan in 2011 and which include the construction of a community-level streetcar line from the 2100 South TRAX station to Highland Drive/Sugarmont (S-Line Phase 2 extension), with expected inclusion of the full Salt Lake City-adopted alignment in the plan update that is underway.

The Sugar House Area Place-Making Enhancements project continues the progression of Sugar House toward becoming a model for the integration of high-quality multi-modal transportation and robust economic development. We applaud the efforts of Salt Lake City and its partners to expand transportation choices to and from the Sugar House Business District. The re-branding of Sugar House as a model of economic opportunity combined with sustainable transportation investments and mixed-use redevelopment is thrilling to witness first hand.

Wasatch Front Regional Council is pleased to enthusiastically support the Sugar House Area Place-Making Enhancements project to the U.S. Department of Transportation. Please consider our support in a favorable decision to award TIGER Discretionary Grant funds to Salt Lake City and its partners.

Sincerely,

Andrew S. Gruber
Executive Director

WOODBURY CORPORATION

Realtors / Brokers / Managers
Developers / Consultants / Architects

2733 East Parleys Way, Suite 300 / Salt Lake City, Utah 84109-1662

(801) 485-7770
Fax (801) 485-0209

April 25, 2014

Mr. Anthony Foxx
Office of the Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Ave SE
Washington, DC 20590

Dear Mr. Foxx:

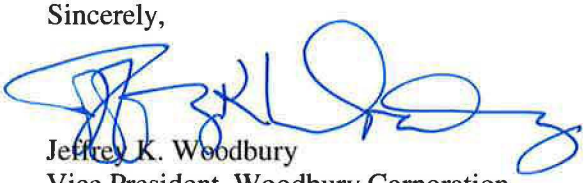
On behalf of Woodbury Corporation, I fully support Salt Lake City's request for the TIGER VI Discretionary Grant. The Woodbury Corporation is a Salt Lake City-based real estate development company. We have formed a Sugar House development consortium with local developers Colmena Group and Dee's Inc., the private liberal arts college Westminster College, environmental groups, and community advocates. The consortium is committed to making Sugar House a signature economic, educational, and livability node for the community and the Wasatch Front region.

Our redevelopment plans for the Sugar House neighborhood of Salt Lake City contemplate the conversion of a 20-acre surfaced parked retail center into a vibrant, mixed-use neighborhood. Our first phase of development was a 164-bed student housing project for Westminster College that combined student housing with retail and an academic conference center. Our second phase of redevelopment is the Wilmington Gardens project, which is comprised of 105 apartments, 35,000 SF of office space, 50,000 SF of retail space, 7 for-sale town homes, and a large community plaza. This project is located on Wilmington Avenue in the heart of the Sugar House Business District. Wilmington Gardens is currently under construction and will open in January 2015. The proposed multi-mode infrastructure will complement our efforts to incorporate public open space, pedestrian safety, and walkability into our overall redevelopment. The inclusion of the Hidden Hollow Nature Area in our project's scope is particularly exciting as we view the Hollow as an anchor for the Sugar House Business District and a significant quality of life asset that makes the area more alive and vibrant through its ecosystem services.

We and our partners believe strongly in the future of the Sugar House area and have invested real capital towards the redevelopment of Sugar House. Wilmington Gardens was designed in anticipation of the streetcar extension into the heart of the Sugar House Business District, which will decrease transit times to the Utah Transit Authority's TRAX and Front Runner connections located two miles away. The project's significant improvements to the active transportation infrastructure throughout the Sugar House Business District will contribute to the community becoming more environmentally and logistically efficient and serve as a conduit for the nearby Westminster College.

Our consortium enthusiastically supports the proposed project and the City's request for a TIGER VI Discretionary Grant. Financial support from the U.S. Department of Transportation will help us make Sugar House a better place for the entire community.

Sincerely,



Jeffrey K. Woodbury
Vice President, Woodbury Corporation

SHAPE

Sugar House Area Place-making Enhancements

Appendix C. Benefit Cost Analysis

Salt Lake City Corporation

SALT LAKE CITY

SUGAR HOUSE AREA PLACEMAKING ENHANCEMENTS

TIGER DISCRETIONARY GRANTS PROGRAM

ECONOMIC ANALYSIS SUPPLEMENTARY DOCUMENTATION

APRIL 28, 2014

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LIST OF TABLES

1. Executive Summary

In 2010, Salt Lake City secured TIGER funding for a transformative project to add streetcar service between downtown Salt Lake City and the historic Sugar House neighborhood. Opened for service in December 2013, this new streetcar line connects to the existing TRAX light rail system which serves the Salt Lake City metropolitan region, and has been very well-received. Salt Lake City is now seeking TIGER funding to extend the streetcar line by 0.9 miles along 0.5 miles of road in order to further penetrate the Sugar House neighborhood, along with additional improvements to rights-of-way for pedestrians and bicyclists.

Sugar House is a historic and commercially significant neighborhood of Salt Lake City, with mixed-use zoning and high residential density. The construction of the first phase contributed to the creation of over 1,000 new residential units and nearly 2 million square feet of redevelopment, resulting in $400 million in private investment. However, Phase I of the streetcar project only reached the neighborhood's outer limits. The proposed extension in Phase II will expand service into the Sugar House Central Business District, offering increased access to employers and retailers in the neighborhood, and more transportation choices for residents all along the S-Line, including the low-income neighboring city of South Salt Lake. Phase II is projected to spur further local redevelopment, strengthen the economic viability of the Sugar House Central Business District, and further the neighborhood's momentum as an area of choice for location-efficient housing for a wide range of incomes.

Additional aspects of the project will make improvements to bikeways and pedestrian walkways. In total, the project is anticipated to have substantial safety, environmental, and quality-of-life benefits. Walkability and transportation options in Sugar House will be greatly improved. Lower-income residents will gain better access to a wider range of Salt Lake metro neighborhoods and employers. Pedestrians will be provided with safer walkways and an accelerated means to access the whole of the neighborhood, while improvements to local roadways will encourage bicycling and connect Sugar House to regional bicycle trails which are currently in development. In total, the combination of the streetcar extension and pedestrian/bicyclist improvements will help to significantly close gaps in the transportation network throughout the Sugar House Central Business District. Additionally, the extension of the S-Line is projected to decrease vehicular traffic and, in turn, greenhouse gas emissions, in the region.

Table ES-1 summarizes the changes expected from the project (and the associated benefits).

Table ES-1: Summary of Infrastructure Improvements and Associated Benefits

Current Status or Baseline & Problems to be Addressed	Changes to Baseline / Alternatives	Type of Impacts	Summary of Benefits Results (millions of $2014)	Page #
Phase 2 Streetcar Extension	Extend the existing streetcar line less than 1 mile into the SHBD and implement a road diet	Improved Safety Benefits, reduced vehicle emissions, additional fare revenue generated	$21.15	18
Enhanced Pedestrian/ Bicycle connectivity	Additional dedicated bike lanes and pedestrian safety features	Improved Safety Benefits, enhanced pedestrian mobility, greater connectivity	$9.82	24

The period of analysis used in the estimation of benefits and costs corresponds to 22 years, including 2 years of construction and 20 years of operation. The total project costs are $29.61 million dollars and are expected to be financed by a combination of Federal, and local funds according to the distribution shown in Table ES-2.

Table ES-2: Summary of Project Costs and Anticipated Funding Sources, in Millions of Dollars of 2014

Funding Source	Capital Costs	Operation & Maintenance Costs	Total Project Cost	Percent of Total Cost Financed by Source
Federal TIGER	$10.61		$10.61	36%
Salt Lake City	$4.55		$4.55	15%
Utah Transit Authority		$14.45	$14.45	49%
TOTAL	**$15.16**	**$14.45**	**$29.61**	**100%**

A summary of the relevant data and calculations used to derive the benefits and costs of the project are shown in Table ES-3 (in dollars of 2014). Based on the analysis presented in the rest of this document, the project is expected to generate $31.0 million in discounted benefits and $19.0 million in discounted costs, using a 7 percent real discount rate. Therefore, the project is expected to generate a Net Present Value of $12.0 million and a Benefit/Cost Ratio of 1.6.

Table ES-3: Summary of Pertinent Data, Quantifiable Benefits and Costs

Calendar Year	Project Year	Total Benefits (millions of $)	State of Good Repair	Economic Competitiveness	Quality of Life	Environmental Sustainability	Safety Benefits	Agency Fare Revenue	Total Costs (millions of $) Net of Agency Fare Revenue
2015	1	$0.0	$0.00000	$0.0	$0.0	$0.0	$0.0	$0.0	$5.4
2016	2	$0.0	$0.00000	$0.0	$0.0	$0.0	$0.0	$0.0	$7.3
2017 (opening)	3	$2.7	$0.00002	-$0.2	$0.0	$0.1	$2.4	$0.4	$0.6
2018	4	$2.5	$0.00002	-$0.1	$0.0	$0.0	$2.3	$0.4	$0.5
2019	5	$2.4	$0.00002	-$0.1	$0.0	$0.0	$2.1	$0.3	$0.5
2020	6	$2.2	$0.00002	-$0.1	$0.0	$0.0	$2.0	$0.3	$0.4
2021	7	$2.1	$0.00002	-$0.1	$0.0	$0.0	$1.9	$0.3	$0.4
2022	8	$1.9	$0.00002	-$0.1	$0.0	$0.0	$1.7	$0.3	$0.4
2023	9	$1.8	$0.00001	-$0.1	$0.0	$0.0	$1.6	$0.3	$0.4
2024	10	$1.7	$0.00001	-$0.1	$0.0	$0.0	$1.5	$0.2	$0.3
2025	11	$1.6	$0.00001	-$0.1	$0.0	$0.0	$1.4	$0.2	$0.3
2026	12	$1.5	$0.00001	-$0.1	$0.0	$0.0	$1.3	$0.2	$0.3
2027	13	$1.4	$0.00001	-$0.1	$0.0	$0.0	$1.2	$0.2	$0.3
2028	14	$1.3	$0.00001	-$0.1	$0.0	$0.0	$1.2	$0.2	$0.3
2029	15	$1.2	$0.00001	-$0.1	$0.0	$0.0	$1.1	$0.2	$0.2
2030	16	$1.1	$0.00001	-$0.1	$0.0	$0.0	$1.0	$0.2	$0.2
2031	17	$1.1	$0.00001	-$0.1	$0.0	$0.0	$0.9	$0.2	$0.2
2032	18	$1.0	$0.00001	-$0.1	$0.0	$0.0	$0.9	$0.1	$0.2
2033	19	$0.9	$0.00001	-$0.1	$0.0	$0.0	$0.8	$0.1	$0.2
2034	20	$0.9	$0.00001	-$0.1	$0.0	$0.0	$0.8	$0.1	$0.2
2035	21	$0.8	$0.00001	-$0.1	$0.0	$0.0	$0.7	$0.1	$0.2
2036	22	$0.7	$0.00001	-$0.1	$0.0	$0.0	$0.7	$0.1	$0.2
Total		**$31.0**	**$0.00024**	**-$1.9**	**$0.1**	**$0.6**	**$27.7**	**$4.4**	**$19.0**

In addition to the monetized benefits presented in Table ES-3, the project would generate benefits that are difficult to quantify. A brief description of those benefits is provided below.

State of Good Repair

- Extending streetcar service will decrease vehicular traffic in and around the Sugar House neighborhood, decreasing stress and long-term maintenance costs on congested existing roadways
- Few opportunities to expand auto capacity in the area – considering current and projected traffic demand, maintaining status quo will cripple roadways in this area of the SLC metropolitan region, particularly to the detriment of commuters

Economic Competitiveness

- More direct transportation access provided to employers in the Sugar House Central Business District
- Offers better employment access to economically disadvantaged South Salt Lake residents
- Efforts to further Sugar House as a dynamic mixed-use economy neighborhood are promoted
- Increased transit access to Westminster College has potential to increase local educational opportunities

Quality of Life

- The streetcar extension will enhance transportation choices and connectivity – riders will be able to access Sugar House CBD from downtown Salt Lake City, and can use this to connect to regional light- and commuter rail systems
- Cutting travel time increases the attractiveness of Sugar House as a shopping destination and residential area
- Bicycle/pedestrian path improvements will enhance neighborhood recreational areas and offer even more transportation choices to local residents
- All streetcar stops will be fully ADA compliant

Environmental Sustainability

- Car-free travel by residents, commuting employees, and visitors is facilitated, which is particularly important in this region, where local travel demand is far outpacing roadway capacity
- Reducing vehicle trips contributes to reduction of local greenhouse gas emissions – growth of VMT as a result of regional growth has been identified as a major contributor to air pollution in the Salt Lake Valley
- Planting of riparian corridor will help with filtration of local water supply and traffic runoff mitigation

Safety

- Decreased traffic near Sugar House Central Business District will decrease the number of auto accidents on nearby roadways
- The road diet along Highland Drive will increase pedestrian safety in addition to motor vehicle and bicycle safety. The reduction in the number of vehicle lanes reduces the "multiple-threat crash" associated with roadways of four or more lanes. The addition of the bicycle lane and reduction of one travel lane on the 40' right-of-way sections also increase the buffer between moving traffic and pedestrians, creating an improved sense of safety and increasing overall pedestrian mobility[1].
- New pedestrian crossings and HAWK signal locations will significantly increase pedestrian safety in the neighborhood
- Pedestrian walkway re-surfacing will help prevent injury and encourage sidewalk use
- New separated bikeway (cycle track) along McClelland Street promotes bicyclist safety, and decreases hazards created by bicyclists riding on pedestrian sidewalks

[1] Federal Highway Administration. *Proven Safety Countermeasures: "Road Diet" (Roadway Reconfiguration)*, Publication FHWA-SA-12-013, FHWA, U.S. Department of Transportation.

2. Introduction

This document provides detailed technical information on the economic analyses conducted in support of the Grant Application for the Sugar House Area Placemaking Enhancements project.

Section 3, Methodological Framework, introduces the conceptual framework used in the Benefit-Cost Analysis (BCA). Section 4, Project Overview, provides an overview of the project, including a brief description of existing conditions and proposed alternatives; a summary of cost estimates and schedule; and a description of the types of effects that the streetcar extension is expected to generate. Section 5, The key benefits to this project that are not quantified are the improved connectivity that will occur through the closing of gaps in the streetcar system, and along bike and pedestrian routes. Closing these gaps will provide better access to the key employment center within the Sugar House business district.

General Assumptions, discusses the general assumptions used in the estimation of project costs and benefits, while estimates of travel demand and traffic growth can be found in Section 6, Demand Projections. Specific data elements and assumptions pertaining to the long-term outcome selection criteria are presented in Section 7, Benefits Measurement, Data and Assumptions, along with associated benefit estimates. Estimates of the project's Net Present Value (NPV), its Benefit/Cost ratio (BCR) and other project evaluation metrics are introduced in Section 8, Summary of Findings and BCA Outcomes. Next, Section **Error! Reference source not found.**, **Error! Reference source not found.**, provides the outcomes of the sensitivity analysis. Additional data tables are provided in Section 10, Supplementary Data Tables, including annual estimates of benefits and costs, as well as intermediate values to assist DOT in its review of the application.[2]

3. Methodological Framework

Benefit-Cost Analysis (BCA) is a conceptual framework that quantifies in monetary terms as many of the costs and benefits of a project as possible. Benefits are broadly defined. They represent the extent to which people impacted by the project are made better-off, as measured by their own willingness-to-pay. In other words, central to BCA is the idea that people are best able to judge what is "good" for them, what improves their well-being or welfare.

BCA also adopts the view that a net increase in welfare (as measured by the summation of individual welfare changes) is a good thing, even if some groups within society are made worse-off. A project or proposal would be rated positively if the benefits to some are large enough to compensate the losses of others.

Finally, BCA is typically a forward-looking exercise, seeking to anticipate the welfare impacts of a project or proposal over its entire life-cycle. Future welfare changes are weighted against today's changes through discounting, which is meant to reflect society's general preference for the present, as well as broader inter-generational concerns.

The specific methodology developed for this application was developed using the above BCA principles and is consistent with the TIGER guidelines. In particular, the methodology involves:

- Establishing existing and future conditions under the build and no-build scenarios, and considering an alternative to the Full Build;
- Assessing benefits with respect to each of the five long-term outcomes identified in the Notice of Funding Availability (NOFA);
- Measuring benefits in dollar terms, whenever possible, and expressing benefits and costs in a common unit of measurement;
- Using DOT guidance for the valuation of travel time savings, safety benefits and reductions in air emissions, while relying on industry best practice for the valuation of other effects;

[2] While the models and software themselves do not accompany this appendix, greater detail can be provided, including spreadsheets presenting additional interim calculations and discussions on model mechanics and coding, if requested.

- Discounting future benefits and costs with the real discount rates recommended by the DOT (7 percent, and 3 percent for sensitivity analysis); and
- Conducting a sensitivity analysis to assess the impacts of changes in key estimating assumptions.

4. Project Overview

Salt Lake City is proposing as an extension of its new modern streetcar line, as well as improvements to local roadways and bicycle paths, in order to better serve the growing Sugar House neighborhood, contribute to the City's land-use goals, and optimize existing track infrastructure.

Completion of this project will expand transit options in the Salt Lake region and more conveniently connect people and places within the Sugar House area, South Salt Lake, and downtown Salt Lake City. It will also support goals to increase local economic mobility and contribute to the further revitalization of Sugar House as an attractive, affordable mixed-use neighborhood. The Utah Transit Authority is currently working to expand local commuter rail options as well, and the proposed streetcar extension, which connects to the commuter system in downtown Salt Lake City, will result in greatly enhanced connectivity in the Salt Lake region as a whole.

4.1 Base Case and Alternatives

The base case as defined in this project is the status quo, or the existing streetcar lines and bike and pedestrian facilities within the Sugarhouse Business District. This scenario leaves gaps in the overall connectivity of the region though. The build scenario being considered includes an extension to the existing streetcar system, bikeways, signaling and crossing improvements, and pedestrian pathway improvements. Specifically, these improvements are:

- Streetcar Extension Phases 2A & 2B to 2100 South;
- A 0.4 mile road diet along Highland Drive, reducing from 4-to-3 motor vehicle lanes
- 1,000 linear feet of protected bi-directional bikeway along west side of McClelland between Sugarmont and 2100 South (funded, $67,000 local match);
- 1 mile of bike-lane striping and improvements
- HAWK signals at 2 locations: one new on Highland at Sugarmont, and one upgrade from pedestrian flasher on 2100 South at McClelland with regional trail connections currently under construction;
- Two mid-block crossings: one on Wilmington, one on McClelland at Elm (funded, $53,000 local match);
- Improvements in Fairmont Park new/improved pedestrian pathways and 'gateway' features into the Sugarhouse Business District; and

- Riparian corridor plantings (traffic runoff mitigation for Jordan River Watershed), improvements along pedestrian paths through Hidden Hollow including the installation of safety lighting (partially funded, $34,456 local match).

Alternative routes for the streetcar extension were considered. While all of the alternatives extended the S-Line towards the center of Sugar House, through surveying and analysis, the locally preferred alternative (LPA) route was determined through the following factors:

- It has the lowest cost-per-rider of all the alternatives considered.
- It has the second-highest boarding per mile.
- It provides access to a greater number of redevelopment sites.
- It has lesser potential impacts to circulation.
- It provides flexibility for construction phasing relative to local redevelopment designs.
- It begins the process of taking the streetcar northward, where it can most effectively initiate connections to a broader city-wide streetcar network, and where planned future extensions will provide access to important neighborhood and regional destinations.
- It serves an already highly pedestrian-friendly area, with residents and businesses that have a demonstrated predisposition toward using and supporting transit.

4.2 Project Cost and Schedule[3]

For the purpose of the BCA, the projects capital costs will be initiated in 2014 and primarily spent in 2015 and 2016, with use of the new trails occurring immediately after completion and revenue generation for the streetcar extension beginning in 2017 and continuing for 20 years until 2036. This simplifies the schedule of substantial completion in December 2016, revenue operations in April 2017, and closeout in December 2017 all subject to negotiations of a detailed schedule with UTA during project development.

Table 1 shows the scheduled project capital costs by quarter and distributed between local funding and TIGER Grant funding.

Table 1: Capital Cost Schedule

Year | Quarter		Funding Sources		Total
		Local	TIGER VI	
2015	Q1	$468,516	$168,947	$637,463
	Q2	$202,737	$473,053	$675,790
	Q3	$886,949	$1,789,547	$2,676,495
	Q4	$595,515	$1,630,384	$2,225,898
2016	Q1	$595,515	$1,630,384	$2,225,897
	Q2	$601,313	$1,643,916	$2,245,230
	Q3	$601,313	$1,643,916	$2,245,230
	Q4	$595,514	$1,630,384	$2,225,897
Total		$4,547,371	$10,610,530	$15,157,900

[3] All cost estimates in this section are in millions of dollars of 2013, discounted to 2014 using a 7 percent real discount rate.

4.3 Disruptions Due to Construction

The Project may have short-term construction impacts on traffic. Detours for access are expected to create minimal traffic delays. No disruptions to traffic and parking are included in the BCA.

4.4 Effects on Long-Term Outcomes

The Project is expected to have significant impacts on the long-term outcomes of interest detailed in the TIGER VI Notice of Funding Availability. The following describes the anticipated effects.

State of Good Repair: The streetcar provides a transportation option which some existing automobile drivers may choose to utilize over their personal vehicles. This reduces the total vehicle miles traveled, providing savings in lifecycle pavement maintenance costs. Additionally, the extension will reduce roadway travel demand in an area where there is little room or capacity to expand roadways.

Economic Competitiveness: While Sugar House has seen a recent revitalization – spurred at least in part by Phase I of the streetcar project – significant opportunities remain to fully reach the area's economic potential. Increasing access to the neighborhood will further commercial and residential development, in line with the Sugar House Community Master Plan, which identifies making the area more transit-oriented as an essential factor to long-term success of the Sugar House Central Business District. It will also provide better access to potential employers for economically disadvantaged residents in neighboring South Salt Lake, increasing their economic mobility.

Quality of Life: The streetcar extension, in combination with planned pedestrian and bicyclist enhancements, will help to provide a more complete transportation network for Sugar House, and the Salt Lake City region as a whole. This will make it easier, faster, and more enjoyable to travel throughout the area. Bicycle and pedestrian improvements will also enhance the recreational value of the Sugar House neighborhood.

Environmental Sustainability: Car-free travel by residents, employees, and visitors is facilitated is facilitated by the streetcar extension. Replacing auto trips with streetcar trips reduces greenhouse gas emissions and air pollutants, contributing to overall environmental sustainability. The planting of a riparian corridor will also control erosion and help to filter runoff water from roadways.

Safety: Reducing traffic by offering a transit alternative will decrease the number of auto accidents on nearby roadways. The addition of a road diet on Simpson Avenue is also projected to decrease accidents in the area by 29%. New pedestrian crossings and HAWK signal locations make the area safer for pedestrians, while a new bike lane along Simpson Avenue and the construction of a dedicated two-way bikeway will promote bicyclist safety and decrease

hazards from pedestrian/bicyclist interaction on sidewalks. The HAWK signals have been shown to decrease pedestrian related accidents by 69%.

The main benefit categories associated with the project are mapped into the five long-term outcome criteria set forth by the DOT in the Table 2.

Table 2: Expected Effects on Long-Term Outcomes and Benefit Categories

Long-Term Outcomes	Benefit or Impact Categories	Description	Monetized	Quantified	Qualitative
State of Good Repair	Reduced stress on existing roadways	Reductions in pavement maintenance costs due to changes in roadway usage	Yes	Yes	
Economic Competitiveness	Better access to employers	The Sugar House Business District is one of the city's primary job centers			Yes
	User Cost Savings (Travel Time Savings and Vehicle Operating Cost Savings)	Door-to-door travel time savings to transit users and remaining roadway users and Reductions in monetary costs to drivers switching to public transit	Yes	Yes	No
	Further development in Sugar House	Additional large development investments are planned for the Sugar House Business District	Yes		Yes
Quality of Life	Improvements in Active Transportation Network	Improved health benefits from additional use of non-motorized transportation methods	Yes	Yes	
	Mobility	Additional access to Sugar House Business District.			Yes
	Recreation	Additional recreation opportunities from the pedestrian and bike trails			Yes
	Reduced Auto Use	Better connectivity for non-auto transportation options.			Yes
Environmental Sustainability	Reductions in Air Emissions	Reductions in pollutants and green house gasses due to changes in private vehicle use relative to base case	Yes	Yes	
	Improved Runoff Filtration	New vegetation planting to help control runoff.			Yes

Long-Term Outcomes	Benefit or Impact Categories	Description	Monetized	Quantified	Qualitative
Safety	Reduced Accidents	Reductions in property losses, injuries and deaths due to modal shifts	Yes	Yes	
	Pedestrian and Bicyclists Improvements	Improvements to pedestrian and bicycle corridors that provide additional safety measures such as dedicated lanes and enhanced signaling.			Yes

The key benefits to this project that are not quantified are the improved connectivity that will occur through the closing of gaps in the streetcar system, and along bike and pedestrian routes. Closing these gaps will provide better access to the key employment center within the Sugar House business district.

5. General Assumptions

The BCA measures benefits against costs throughout a period of analysis beginning at the start of construction and including 20 years of operations.

The monetized benefits and costs are estimated in 2014 dollars with future dollars discounted in compliance with TIGER requirements using a 7 percent real rate, and sensitivity testing at 3 percent.

The methodology makes several important assumptions and seeks to avoid overestimation of benefits and underestimation of costs. Specifically:

- Input prices are expressed in 2014 dollars;
- The period of analysis begins in 2014 and ends in 2036 It includes project development and construction years (2014 – 2016) and 20 years of operations (2017 – 2036);
- A constant 7 percent real discount rate is assumed throughout the period of analysis. A 3 percent real discount rate is used for sensitivity analysis;
- Opening year demand is an input to the BCA and is assumed to be fully realized in 2017 ; and
- Unless specified otherwise, the results shown in this document correspond to the effects of the build scenario defined in section 4.1.

6. Demand Projections

The success of a transit system hinges on its ability to readily provide local and regional connectivity and generate welfare improvements in the long run. In quantifying the system's lifecycle utilization, as well as its economic worthiness, the initial level of and growth in ridership must be analyzed to understand the current network, given other existing transportation alternatives.

Demand projections for transit ridership on the project are based on the regional travel demand model used by UTA and the Wasatch Front Regional Council. They have recently vetted the transit ridership numbers verifying there are as many as 650 new riders to the UTA system with the extension and the additional connections to bike and pedestrian facilities.

Because the state of Utah, and particularly the Salt Lake Valley region, has seen tremendous growth over the last few decades, demand for local travel has increased and is projected to continue doing so. As new areas gain residents, more people need to commute to work. As such, demand for alternative modes of transportation will grow as travel demand outpaces roadway capacity.

Another component of overall demand related to the improvements is bicycle and pedestrian traffic, or active transportation. To measure the benefits associated with the active transportation improvement components of this project, information on bicycle use in the area was necessary. Salt Lake City has been keeping bike counts since 2010 to analyze trends in

active transportation. These counts include information on the corridor of 2100 South & Highland Drive. This area is set to be the site of improved bike facilities under the build condition. The bicycle counts indicate approximately 1% annual growth in ridership from 2011 to 2012.

6.1 Methodology

To determine the number of bike users, the daily bike counts were converted to annual bike users. The bike counts typically measured peak periods. It was assumed that the daily peak period is 25 percent of the daily weekday ridership and that the two-hour counts on weekend days account for ¼ of weekend ridership. Thus, each of these values – 65 for weekday and 51 for weekend peak – were multiplied by 4 and then the number of work-week (5) and weekend (2) days respectively. This number was then multiplied by half of the number of days in the year to account for the portion of the year that is bikeable in Salt Lake City. The number of cyclists was increased annually based on the information provided by the bike counts. While the bike improvements associated with the place making enhancements of this project will assuredly generate additional bike users, there was not sufficient information available to project this growth. Thus, for purposes of this analysis, no induced cyclists were considered.

Pedestrians are another crucial component of the active transportation network. Unfortunately, there is currently insufficient information on the number of pedestrians in the area to quantify the benefits that they receive due to the improvements in the active transportation network. These improvements include the 3,270 feet of streetscaping and user amenities in Fairmont Park, the mid-block pedestrian crossings, and the safety lighting and other improvements at Hidden Hollow Nature Area.

Given the inability to accurately project user growth associated with the bicycle and pedestrian networks, the demand projections and associated benefits are very conservatively estimated in this analysis.

6.2 Assumptions

The ridership diversion assumptions are assumed to be consistent with the ridership diversion projections for the earlier streetcar segments. It is assumed that the share of the streetcar ridership that is diverted from auto, bus, taxi and walking will remain constant during the analysis horizon and that the new trips in the study area would likely be more 'transit-oriented', which reflects the propensity of developments around transit to induce a higher amount of internal capture, walking, biking and transit use – as opposed to auto use.

Table 3: Assumptions used in the Estimation of Demand

Variable Name	Unit	Value	Source
Share of Streetcar ridership diverted from auto	%	27%	Travel Demand Model
Share of Streetcar ridership diverted from bus	%	16%	Travel Demand Model
Share of Streetcar ridership diverted from taxi	%	0%	Travel Demand Model
Share of Streetcar ridership diverted from walking	%	12%	Travel Demand Model
Share of Streetcar ridership diverted from new	%	45%	Travel Demand Model

Variable Name	Unit	Value	Source
riders			
Streetcar fare	Dollars	2.50	Projected UTA Fare
Bus fare	Dollars	2.50	Current UTA Bus Fare
Streetcar headway & walking to the stop	Minutes	15	Projected Streetcar Schedule

6.3 Demand Projections

The resulting annual growth rate of streetcar ridership is 0.75 percent through 2025 and then it slows to 0.50 from 2025 onwards. This is consistent with the assumptions being used for the overall traffic growth as well. As presented in Table 3, 27 percent of the total ridership is diverted from autos, 16 percent is diverted from buses, 12 percent is diverted from walking and 45 percent is induced (or new) demand. Table 4 indicates the estimated daily ridership in selected years by mode and in total.

Table 4: Demand Projections

	In Project Opening Year 2017	2027	2036
Total Daily Trips	650	697	729
Diverted from Auto	177	190	199
Diverted from Bus	104	112	117
Diverted from Walking	78	84	87
Induced Demand	291	312	326

7. Benefits Measurement, Data and Assumptions

This section describes the measurement approach used for each benefit or impact category identified in Table 2 (Expected Effects on Long Term Outcomes and Benefit Categories) and provides an overview of the associated methodology, assumptions, and estimates.

7.1 State of Good Repair

To quantify the benefits associated with maintaining the existing transportation network in a state of good repair, the impacts on the life-cycle pavement maintenance costs at the end of the analysis horizon are quantified. The reduction in pavement maintenance costs only includes the reduced vehicle miles traveled by cars due to the diversion of drivers to the streetcar. The benefits do not take into account any reduction in pavement maintenance associated with the road diet. There is also only limited information regarding any shifts from auto to bike or pedestrian, so these impacts are not included in the state of good repair.

7.1.1 Methodology

The benefits categories that were quantified to measure the Project's impacts on the state of good repair outcome include changes in the annual pavement maintenance cost, which is calculated as the difference between total costs in the base case and total costs in the build scenario.

7.1.2 Assumptions

To quantify the life-cycle benefits in pavement maintenance cost savings, the analysis used a per-unit savings of pavement maintenance costs of $0.0014 per vehicle-mile avoided[4] and the estimated reduction in VMT.

The assumptions used in the estimation of State-of-Good-Repair benefits are summarized in Table 5.

Table 5: Assumptions used in the Estimation of State-of-Good-Repair Benefits

Variable Name	Unit	Value	Source
Per-unit savings of pavement maintenance costs	Dollars per VMT	0.0014	1997 Federal Highway Cost Allocation Study Final Report

[4] See Addendum to the 1997 Federal Highway Cost Allocation Study Final Report (http://www.fhwa.dot.gov/policy/hcas/addendum.htm).

7.1.3 Benefit Estimates

The opening year savings in pavement maintenance is calculated at approximately $28.8, and total discounted savings in pavement maintenance for the study period is estimated to be $261.5. Results by calendar year of operation are shown in Section 10.3.

Table 6: Estimates of State-of-Good-Repair Benefits, Millions of 2014 Dollars

	In Project Opening Year 2017	Over the Project Lifecycle	
		In Constant Dollars	Discounted at 7 Percent
Pavement Maintenance Cost Savings	$28.8	$612.7	$261.5

7.2 Economic Competitiveness

The proposed project would contribute to enhancing the economic competitiveness of the Nation through improvements in the mobility of people and goods within and across the study area. In this analysis, two measures of mobility are presented: travel-time savings and out-of-pocket transportation cost savings.

Travel time savings and out-of-pocket savings are not a driver of benefits for this project. The diversion to streetcar from existing transportation options does not produce many time saving benefits.

With the existing streetcar project it is nearly impossible to separate out transit oriented development related only to the extension of the streetcar. However, the ongoing commitment in in the region to the streetcar line into the Sugar House Business District has seen a continued commitment for development near the terminus of the streetcar line.

Table 7 shows the private investment that is planned for construction within a 0.5 mile radius of the streetcar terminus.

Table 7: Planned Private Investment

Private Investment Planned Within 0.5 Miles of Streetcar Terminus							
Project	Address	Res. Units	Square Footage				Private Investment
			Res.	Retail	Office	TOTAL	
Liberty Village	2150 S. McClelland	171	134,000	1,200	-	135,200	$23 million
SH Crossing	2130 S. 1100 East	211	207,000	56,000	-	263,000	$53 million
Sugar House Apts.	1985 S. 1200 East	70	70,000	-	-	70,000	$11 million
Westminster	2162 S. 1300 East	44*	67,000	8,500	15,000	90,500	$28 million
Granit Furniture	1050 E. 2100 South	-	-	20,000	30,000	50,000	$50 million
Wilmington I North	1201 E. Wilmington	112	100,000	50,000	30,000	180,000	$35 million
Wilmington I South	1202 E. Wilmington	100	100,000	10,000	-	110,000	$35 million
SH Center West	Simpson & Highland	250	200,000	95,000	80,000	375,000	$85 million
SH Center East	Simpson & Highland	100	300,000	150,000	150,000	600,000	$85 million
Total		1,014	1,178,000	390,700	305,000	1,873,700	$405 million

7.2.1 Methodology

The proposed streetcar project is expected to reduce the general cost of travel and result in benefits to both existing and new trip-makers.

Benefits are estimated as the difference between the generalized cost of travel in the base case, and the generalized cost of travel in the build scenario, multiplied by the number of existing trips.

In addition, as the generalized cost of travel is being reduced, additional trips (beyond those diverted from other modes) are expected. These induced trip-makers represent a portion of all potential trip-makers who did not make a trip (or as many trips) in the no-build scenario, but are now "attracted" to the lower generalized cost allowed by the investment.

User benefits resulting from new trips are estimated using the "rule-of-a-half". Please note that the change in generalized cost from no-build to build conditions only represents the change in user costs (travel time plus out-of-pocket costs). Social costs, including air emissions, accident occurrences, and congestion externalities are assumed not to affect trip making or modal decisions in this analysis. The elasticity of demand (the slope of the demand curve) is estimated based on existing knowledge about travel costs in the corridor and ridership forecasts developed by the Project Team.

Generalized travel cost has two components: travel-time costs and out-of-pocket costs. Travel-time savings for travelers are dependent on their value of time (VOT) and the reduction of time spent on traveling (travel-time). For those who remain traveling as auto users after the start of streetcar operation, they experience a reduction in travel-time as a result of less congestion, due to the fact that some others divert to streetcar use.

Travelers who divert from autos, buses, walking, or biking to the streetcar may experience a reduction in travel-time depending on their origin and destination. Value of time is then applied to each reduction in travel-time to estimate the reduction in travel-time costs.

Out of pocket costs are composed of five vehicle operating costs: fuel, oil, tires, maintenance, and depreciation. A unit cost estimate is used to derive total out-of-pocket costs per mile and per trip. The out-of-pocket costs are combined with parking to estimate the total out-of-pocket cost per trip for auto users. The decrease in out-of-pocket cost in the Build scenario represents out-of-pocket cost savings for remaining auto users. For travelers who divert from other modes to streetcar, the out-of-pocket savings are estimated by changes in fare payments (if applicable) and out of vehicle time costs.

In addition to user cost savings, the BCA accounts for benefits from compact development and productivity gains for commercial businesses in the area. The estimation of compact development benefits and commercial productivity gains hinges on the additional commercial development generated by the Project. Given the increase, compact development is expected to induce a further reduction in vehicle miles traveled in the area as there will be new destinations that can be reached without automobiles. The resulting reduction in VMT will generate additional travel cost, emission cost, as well as accident cost savings. As for benefits due to the agglomeration of businesses, new commercial development is expected to promote intellectual exchanges, generate more innovations, and enhance workplace efficiency. The expected productivity gains will be captured by the increase in income in the area and the residual effects (multiple) on income earned by others indirectly.

7.2.2 Assumptions

Travel-time savings are estimated using estimates for VOT that are provided in the USDOT Guidance and the estimated reduction in travel-time that results from the streetcar. USDOT provides estimates for the VOT for personal and business trips. The VOT used in this analysis is a weighted average of personal and business VOT, taking into account the share of each type of travel as reported in BTS National Household Travel Survey. The assumptions used in the estimation of travel time savings are summarized in

Table 8.

Table 8: Assumptions used in the Estimation of Travel Time Savings

Variable Name	Unit	Value	Source
Passenger vehicle occupancy rate	Persons per vehicle	1.25	2011 Urban Mobility Report
Travel Time Cost – Personal Travel	Dollars per hour	12.42	U.S. DOT Revised Departmental Guide on Valuation of Travel Time in Economic Analysis (Inflated through December of 2013)
Travel Time Cost – Business Travel	Dollars per hour	25.23	U.S. DOT Revised Departmental Guide on Valuation of Travel Time in Economic Analysis (Inflated through December of 2013)
Share of Personal Travel	Percentage	95.40	U.S. DOT Revised Departmental Guide on Valuation of Travel Time in Economic Analysis
Share of Business Travel	Percentage	4.60	U.S. DOT Revised Departmental Guide on Valuation of Travel Time in Economic Analysis
Weighted Average Travel Time Cost	Dollars per hour	12.98	HDR Calculation
Real Annual Growth Rate of Value of Time	Percentage	1.60	U.S. DOT Revised Departmental Guide on Valuation of Travel Time in Economic Analysis
Congestion cost per mile	Dollars per mile	0.06	U.S. DOT Revised Departmental Guide on Valuation of Travel Time in Economic Analysis (Inflated through December of 2013)

VOC is estimated using consumption rates for fuel, oil, tires, maintenance, and depreciation and is a function of average vehicle speed. Estimates of vehicle miles traveled and unit costs are applied to these consumption rates to calculate total vehicle operating costs.

Table 9 provides the unit cost estimates used in the analysis, along with other out-of-pocket costs, such as parking fees and transit fares.

Table 9: Assumptions used in the Estimation of Out-of-Pocket Travel Cost Savings

Variable Name	Unit	Value	Source
Fuel	$ per gallon	$3.4	AAA Fuel Prices Salt Lake City April 2014
Oil	$ per quart	$9.8	USDOT, FHWA HERS-ST
Tire	$ per 4 tires	$59.1	USDOT, FHWA HERS-ST
Repair & Maintenance	Average cost per vehicle per 1,000 miles	$135.2	USDOT, FHWA HERS-ST
Depreciation	Average depreciation cost per vehicle	$18,529.1	USDOT, FHWA HERS-ST
Parking	($ per day)	$6	TIGER II Application
Streetcar Fare	($ per trip)	$2.50	UTA

7.2.3 Benefit Estimates

Travel-time cost combined with out-of-pocket cost make up the general trip cost for each traveler. Table 10 lists the estimated general travel cost per mile for autos, and streetcar for the opening year and lifecycle of analysis. There are no time savings for the streetcar users over the lifecycle of the project.

Table 10: Estimates of Travel Time and Out-of-Pocket Cost Savings, Millions of 2014 Dollars

Variable Name	In Project Opening Year 2017	Over the Project Lifecycle	
		In Constant Dollars	Discounted at 7 Percent
Auto	$0.01	$0.03	$0.08
Streetcar	-$0.17	-$4.67	-$1.99
TOTAL	-$0.16	-$4.64	-$1.91

7.3 Quality of Life

The active transportation infrastructure investments will lead to improvements in quality of life for those residents in the area and all active transportation users. The direct improvements associated with this project include: 1,000 linear feet of cycle track, one-mile of bicycle lane striping, 2,275 foot linear feet of non-motorized trail in Fairmont Park and associated streetscape and user amenities, two mid-block pedestrian crossings, two new High-intensity Activated Cross Walk (HAWK) beacons, and 62 pedestrian safety lights in Hidden Hollow Nature Area.

Improving active transportation directly impacts both existing and new users of these facilities. Safer and improved conditions benefit the users of these modes. Increasing connectivity and improving conditions for non-motorized transport, as will be done with these improvements, shifts dependence away from motorized transport and increases basic mobility. This is particularly important in low-income neighborhoods where individuals may not have automobiles. Improvements to these networks improve their mobility and access to critical goods and activities, increasing their sense of independence. Improving the pedestrian and bicycle environments can improve utility and enjoyment of these facilities for all users.[5]

7.3.1 Methodology

As noted above, the improvements in the active transportation network generate benefits to both existing and new users. While these benefits can include components such as health benefits and reduced dependence on others as "chauffeurs", the primary benefit quantified in this section is the general benefit associated with improved walking and cycling conditions. As noted previously, there is little information on growth projections in bicycle demand. The benefit is applied to existing users of the bicycle network. As noted with the demand projections, the overall benefit is understated as there is no information on pedestrians and no information on new users associated with the improvements.

7.3.2 Assumptions

The assumptions used in the estimation of quality of life benefits are summarized in the table below.

Table 11: Assumptions used in the Estimation of Quality of Life Benefits

Variable Name	Unit	Value	Source
Miles of Improved Active transportation	miles	1.62	Improved non-motorized transport includes 1000 LF cycle track, 5,280 linear feet of bike striping, 2,275 linear feet of non-motorized trail in Fairmont Park. Converted to miles using a factor of 5,280 LF per mile
Value per Passenger Mile of Active Transport	$ per mile	$0.25	"Evaluating Active Transport Benefits and Costs" VTPI, 2014

[5] "Evaluating Active Transport Benefits and Costs" VTPI, 2014.

7.3.3 Benefit Estimates

While the total quantifiable benefits associated with the improvements in active transportation are relatively small compared to other benefits, discounted to approximately $140,000 over the life of the project, the actual non-quantified benefits of these improvements will be even greater. This value does not include any pedestrian information or any growth in the use of the facilities over time. It also does not consider the connectivity benefits available to low-income residents and the health benefits associated with active transportation.

Table 12: Estimates of Quality of Life Benefits, Millions of 2014 Dollars

Variable Name	In Project Opening Year	Over the Project Lifecycle	
		In Constant Dollars	Discounted at 7 Percent
Improvements in Active Transportation Network	$0.012	$0.340	$0.144

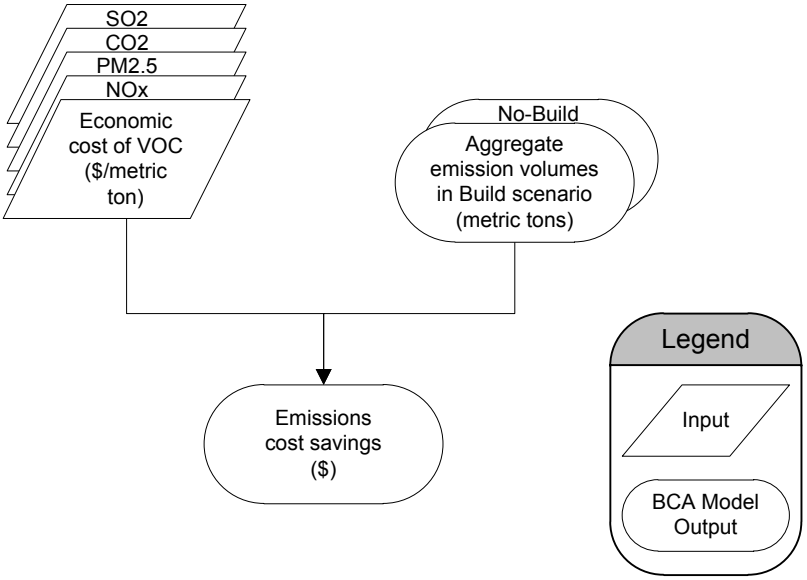
7.4 Environmental Sustainability

The proposed project would contribute to environmental sustainability through the reduction in vehicle emissions through diversion to streetcar use and improved bike and pedestrian access.

7.4.1 Methodology

Reduction in emission volumes are dependent upon the reduction in vehicle-miles resulting from diversion to the Streetcar and the improved bike and pedestrian access. Salt Lake City provided reduction in emissions for use in the analysis. The reductions in emissions provided were the difference between the Base and Build scenarios in emissions volumes. Figure 1 below describes the structure and logic of the estimation of emissions cost savings.

Figure 1: Structure and Logic Diagram for Estimating Emissions Cost Savings



7.4.2 Assumptions

There are five types of emissions measured in this analysis: carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxide (NOx), fine particulate matter (PM 2.5), sulfur dioxide (SO2), and carbon dioxide (CO2). Per unit cost of each of these emissions is shown in the table below.

The assumptions used in the estimation of sustainability benefits are summarized in Table 13.

Table 13: Assumptions used in the Estimation of Environmental Sustainability Benefits

Variable Name	Unit	Value	Source
Volatile Organic Compounds (VOC)	$ per METRIC ton	$1,999	US DOT TIGER VI Guidance on Emission Costs (2014)
Nitrogen Oxides (NOx)	$ per METRIC ton	$7,877	
Fine Particulate Matter (PM2.5)	$ per METRIC ton	$360,383	
Sulfur Dioxide (SO2)	$ per METRIC ton	$46,561	
Carbon (CO2)	$ per METRIC ton	$44	

7.4.3 Benefit Estimates

Table 14 indicates the monetized values for 2017 and the expected reduction in tons emitted over the lifecycle of the project. Overall, lifecycle emissions reductions savings total to $0.65 million. Details of annual emissions reductions and savings are shown in Section 10.6.

Table 14: Estimates of Environmental Sustainability Benefits, Millions of 2014 Dollars

	In Project Opening Year	Over the Project Lifecycle	
		In Constant Dollars	Discounted at 7

	2017		Percent
Volatile Organic Compounds (VOC)	$0.004	$0.117	$0.050
Nitrogen Oxides (NOx)	$0.012	$0.321	$0.139
Fine Particulate Matter (PM2.5)	$0.006	$0.157	$0.068
Sulfur Dioxide (SO2)	$0.001	$0.014	$0.006
Carbon (CO2)	$0.028	$0.930	$0.385
TOTAL	$0.052	$1.538	$0.648

7.5 Safety

The proposed project would contribute to promoting DOT's safety long-term outcome through a reduction in the overall number of accidents. The reduction in accidents comes from two components of the improvement – safety benefits associated with the "road diet" along Highland Drive, and reduced accidents associated with the HAWK signal installations on Highland Drive at Sugarmont and at 2100 S at McClelland.

7.5.1 Methodology

The number of accidents in the study area and their associated severity were provided for 3 years from 2010 through 2013. This data included automobile accidents and accidents involving pedestrians or bicyclists. To determine the average number of accidents per year, the total number of auto accidents by severity was divided by the number of years. The same calculation was done for accidents involving pedestrians.

The "road diet" will reduce the number of auto lanes on a section of Highland Drive from 4 to 3 while also introducing dedicated bike lanes. The AASHTO 2010 Highway Demand Manual has shown that road diets lead to a 29% reduction in annual accidents in the areas where they are implemented. This reduction was applied to the number of accidents in the study area to generate the overall benefits associated with the road diet.

The project calls for the installation of two HAWK signals within the study area. The accident data show that there were 6 incidents involving pedestrians from 2010-2013 directly adjacent to the locations where the signals will be installed. A 2010 study by Fitzpatrick & Park[6] has shown a statistically significant 69% reduction in pedestrian related accidents at the sites of installation of these signals. Thus, this savings has been applied to the pedestrian accident rates for the build scenario to generate the improvement in safety.

7.5.2 Assumptions

The assumptions used in the estimation of safety benefits are summarized in

[6] Fitzpatrick & Park; "Safety Effectiveness of the HAWK Pedestrian Crossing Treatment"; 2010

Table 15.

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Table 15: Assumptions used in the Estimation of Safety Benefits

Variable Name	Unit	Value	Source
AIS 1-Minor	$ per injury	$27,600	US DOT TIGER VI Guidance on Accident Costs (2014)
AIS 2-Moderate	$ per injury	$432,400	
AIS 3-Serious	$ per injury	$966,000	
AIS 4-Severe	$ per injury	$2,447,200	
AIS 5-Critical	$ per injury	$5,455,600	
Fatality	$ per fatality	$9,200,000	
Property Damage Only	$ per damaged vehicle	$3,927	

7.5.3 Benefit Estimates

Table 16 indicates the monetized safety benefits in 2017 and for the duration of the period of study. The combination of safety benefits derived from the road diet and the Hawk signals are the largest driver of the total project benefits.

Table 16: Estimates of Safety Benefits, Millions of 2014 Dollars

Variable Name	In Project Opening Year	Over the Project Lifecycle	
		In Constant Dollars	Discounted at 7 Percent
Accident Cost Savings	$1.6	$41.6	$18.0
Accident Cost Savings Associated with HAWK Improvements	$0.9	$22.4	$9.7
Total	**$2.4**	**$64.0**	**$27.7**

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8. Summary of Findings and BCA Outcomes

The tables below summarize the BCA findings. Annual costs and benefits are computed over the lifecycle of the project (20 years). As stated earlier, construction is expected to be completed by 2016. Benefits accrue during the full operation of the project.

Included in the total benefits along with State of Good Repair, Economic Competitiveness, Quality of Life, Environmental Sustainability, and Safety benefits – are fare revenues/toll revenues. Fare/toll revenues, or "Agency Benefits" are added to total benefits to offset the (transfer) payments made by streetcar users as part of the general cost of travel and to avoid double-counting the portion of the project costs paid for indirectly through fares (once as a user cost, in the estimation of consumer surplus; and a second time as direct project costs, in the estimation of O&M and other expenses

Table 17: Overall Results of the Benefit Cost Analysis, Millions of 2014 Dollars*

Project Evaluation Metric	7% Discount Rate	3% Discount Rate
Total Discounted Benefits	$30.4	$47.4
Total Discounted Costs	$18.8	$23.5
Net Present Value	$11.6	$23.9
Benefit / Cost Ratio	1.6	2.0
Internal Rate of Return (%)	10.2%	
Payback Period (years)	2022	

** Unless Specified Otherwise*

Considering all monetized benefits and costs, the estimated internal rate of return of the project is 10.2 percent. With a 7 percent real discount rate, the $18.8 million investment would result in $30.4 million in total benefits and a Benefit/Cost ratio of approximately 1.6.

With a 3 percent real discount rate, the Net Present Value of the project would increase to $23.9 million, for a Benefit/Cost ratio of 2.0.

Table 18: Benefit Estimates by Long-Term Outcome for the Full Alignment

Long-Term Outcomes	Benefit Categories	7% Discount Rate	3% Discount Rate
State of Good Repair	Pavement Maintenance Savings	$261.5	$371.9
Economic Competitiveness*	Auto Generalized Travel Cost Savings	$78,320.9	$73,149.5
	Streetcar Generalized Travel Cost Savings	-$1,992,693.2	-$3,160,611.7
Quality of Life	Improvements in Active Transportation Network	$143,789.9	$229,151.6
Environmental Sustainability	Reductions in Air Emissions	$648,292.9	$1,035,325.8
Safety	Accident Reduction	$27,668,620.0	$43,560,798.3
Agency Benefits	Fare Revenue	$4,432,667.4	$7,030,344.3
Total Benefit Estimates		**$30,979,259.3**	**$48,768,572.5**

*Note: * Excluding the short-term employment impacts of the project*

10. Supplementary Data Tables

This section breaks down all benefits associated with the five long-term outcome criteria (State of Good Repair, Economic Competiveness, Quality of Life, Sustainability, and Safety) in annual form for the Sugar House Area Placemaking Enhancements Project. Supplementary data tables are also provided for some specific benefit categories. For example, tables providing estimates of annual emission reductions (in tons) are provided under Environmental Sustainability.

10.1 Annual Estimates of Total Project Benefits and Costs

Calendar Year	Project Year	Total Benefits (millions of $2014)	Total Costs (millions of $2014)	Undiscounted Net Benefits (millions of $2014))	Discounted Net Benefits @ 7%	Discounted Net Benefits @ 3%
2013	1					
2015	1	$0.0	$6.2	-$6.2	-$5.4	-$5.9
2016	2	$0.0	$8.9	-$8.9	-$7.3	-$8.2
2017 (opening)	3	$3.6	$0.7	$2.8	$2.2	$2.5
2018	4	$3.6	$0.7	$2.8	$2.0	$2.5
2019	5	$3.6	$0.7	$2.9	$1.9	$2.4
2020	6	$3.6	$0.7	$2.9	$1.8	$2.3
2021	7	$3.6	$0.7	$2.9	$1.7	$2.3
2022	8	$3.6	$0.7	$2.9	$1.6	$2.2
2023	9	$3.6	$0.7	$2.9	$1.5	$2.1
2024	10	$3.6	$0.7	$2.9	$1.4	$2.1
2025	11	$3.6	$0.7	$2.9	$1.3	$2.0
2026	12	$3.6	$0.7	$2.9	$1.2	$2.0
2027	13	$3.6	$0.7	$2.9	$1.1	$1.9
2028	14	$3.6	$0.7	$2.9	$1.0	$1.8
2029	15	$3.6	$0.7	$2.9	$1.0	$1.8
2030	16	$3.6	$0.7	$2.9	$0.9	$1.7
2031	17	$3.6	$0.7	$2.9	$0.9	$1.7
2032	18	$3.6	$0.7	$2.9	$0.8	$1.6
2033	19	$3.6	$0.7	$2.9	$0.7	$1.6
2034	20	$3.6	$0.7	$2.9	$0.7	$1.6
2035	21	$3.6	$0.7	$2.9	$0.7	$1.5
2036	22	$0.5	$0.0	$0.5	$0.1	$0.3
Total		$71.6	$29.6	$42.0	$12.0	$23.9

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10.2 Annual Demand Projections

Calendar Year	Project Year	Streetcar Ridership	Diverted from Auto	Diverted from Bus	Diverted from Walking	Induced Demand
2017 (opening)	3	650	177	104	78	291
2018	4	655	178	105	79	293
2019	5	660	180	106	79	295
2020	6	665	181	107	80	297
2021	7	670	182	107	80	299
2022	8	675	184	108	81	302
2023	9	680	185	109	82	304
2024	10	685	187	110	82	306
2025	11	690	188	111	83	308
2026	12	693	189	111	83	310
2027	13	697	190	112	84	312
2028	14	700	191	112	84	313
2029	15	704	192	113	84	315
2030	16	707	193	114	85	316
2031	17	711	194	114	85	318
2032	18	715	195	115	86	319
2033	19	718	196	115	86	321
2034	20	722	197	116	87	323
2035	21	725	198	116	87	324
2036	22	729	199	117	87	326
Total		13,851	3,774	2,223	1,662	6,191

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10.3 State of Good Repair: Annual Benefit Estimates

Calendar Year	Project Year	Pavement Maintenance Cost Savings (millions of $2014)	Pavement Maintenance Cost Savings @ 7%	Pavement Maintenance Cost Savings @ 3%
2017 (opening)	3	$0.00003	$0.00002	$0.00002
2018	4	$0.00003	$0.00002	$0.00002
2019	5	$0.00003	$0.00002	$0.00002
2020	6	$0.00003	$0.00002	$0.00002
2021	7	$0.00003	$0.00002	$0.00002
2022	8	$0.00003	$0.00002	$0.00002
2023	9	$0.00003	$0.00001	$0.00002
2024	10	$0.00003	$0.00001	$0.00002
2025	11	$0.00003	$0.00001	$0.00002
2026	12	$0.00003	$0.00001	$0.00002
2027	13	$0.00003	$0.00001	$0.00002
2028	14	$0.00003	$0.00001	$0.00002
2029	15	$0.00003	$0.00001	$0.00002
2030	16	$0.00003	$0.00001	$0.00002
2031	17	$0.00003	$0.00001	$0.00002
2032	18	$0.00003	$0.00001	$0.00002
2033	19	$0.00003	$0.00001	$0.00002
2034	20	$0.00003	$0.00001	$0.00002
2035	21	$0.00003	$0.00001	$0.00002
2036	22	$0.00003	$0.00001	$0.00002
Total		$0.00057	$0.00024	$0.00039

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10.4 Economic Competitiveness: Annual Benefit Estimates

Calendar Year	Project Year	Automobile (millions of $2014)	Streetcar (millions of $2014)	Automobile @ 7%	Streetcar @ 7%	Automobile @ 3%	Streetcar @ 3%	Calendar Year
2017 (opening)	3	$0.0	-$0.2	$0.0	-$0.2	$0.0	-$0.2	2017 (opening)
2018	4	$0.0	-$0.2	$0.0	-$0.2	$0.0	-$0.2	2018
2019	5	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.2	2019
2020	6	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.2	2020
2021	7	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.2	2021
2022	8	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.2	2022
2023	9	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.2	2023
2024	10	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.2	2024
2025	11	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.2	2025
2026	12	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.2	2026
2027	13	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.2	2027
2028	14	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.2	2028
2029	15	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.1	2029
2030	16	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.1	2030
2031	17	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.1	2031
2032	18	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.1	2032
2033	19	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.1	2033
2034	20	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.1	2034
2035	21	$0.0	-$0.2	$0.0	-$0.1	$0.0	-$0.1	2035
2036	22	-$0.3	-$0.2	-$0.1	-$0.1	$0.0	-$0.1	2036
Total		$0.0	-$4.7	$0.1	-$2.0	$0.2	-$3.2	**Total**

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10.5 Quality of Life: Annual Benefit Estimates

Calendar Year	Project Year	Improvements in Active Transportation Network (millions of $2014)	Improvements @7%	Improvements @3%
2017 (opening)	3	$0.015	$0.012	$0.014
2018	4	$0.016	$0.011	$0.013
2019	5	$0.016	$0.010	$0.013
2020	6	$0.016	$0.010	$0.013
2021	7	$0.016	$0.009	$0.013
2022	8	$0.016	$0.009	$0.012
2023	9	$0.016	$0.008	$0.012
2024	10	$0.017	$0.008	$0.012
2025	11	$0.017	$0.007	$0.012
2026	12	$0.017	$0.007	$0.011
2027	13	$0.017	$0.007	$0.011
2028	14	$0.017	$0.006	$0.011
2029	15	$0.017	$0.006	$0.011
2030	16	$0.018	$0.006	$0.011
2031	17	$0.018	$0.005	$0.010
2032	18	$0.018	$0.005	$0.010
2033	19	$0.018	$0.005	$0.010
2034	20	$0.018	$0.004	$0.010
2035	21	$0.018	$0.004	$0.010
2036	22	$0.019	$0.004	$0.009
Total		$0.340	$0.144	$0.229

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10.6 Environmental Sustainability: Annual Benefit Estimates

Calendar Year	Project Year	Reduction in Air Emissions (millions of $2014)	Reduction in Air Emissions @ 7%	Reduction in Air Emissions @ 3%
2017 (opening)	3	$0.068	$0.052	$0.060
2018	4	$0.069	$0.049	$0.060
2019	5	$0.071	$0.047	$0.059
2020	6	$0.072	$0.045	$0.058
2021	7	$0.072	$0.042	$0.056
2022	8	$0.073	$0.040	$0.056
2023	9	$0.074	$0.038	$0.055
2024	10	$0.075	$0.036	$0.054
2025	11	$0.076	$0.034	$0.053
2026	12	$0.076	$0.032	$0.052
2027	13	$0.078	$0.030	$0.052
2028	14	$0.079	$0.029	$0.051
2029	15	$0.079	$0.027	$0.050
2030	16	$0.080	$0.025	$0.049
2031	17	$0.080	$0.024	$0.047
2032	18	$0.082	$0.023	$0.047
2033	19	$0.083	$0.021	$0.046
2034	20	$0.083	$0.020	$0.045
2035	21	$0.084	$0.019	$0.044
2036	22	$0.085	$0.018	$0.043
Total		$1.538	$0.648	$1.035

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10.7 Safety: Annual Benefit Estimates

Calendar Year	Project Year	Accident Cost Savings (millions of $2014)	Accident Cost Savings @ 7%	Accident Cost Savings @ 3%
2017 (opening)	3	$3.199	$2.441	$2.843
2018	4	$3.199	$2.281	$2.760
2019	5	$3.199	$2.132	$2.680
2020	6	$3.199	$1.992	$2.601
2021	7	$3.199	$1.862	$2.526
2022	8	$3.199	$1.740	$2.452
2023	9	$3.199	$1.626	$2.381
2024	10	$3.199	$1.520	$2.311
2025	11	$3.199	$1.421	$2.244
2026	12	$3.199	$1.328	$2.179
2027	13	$3.199	$1.241	$2.115
2028	14	$3.199	$1.160	$2.054
2029	15	$3.199	$1.084	$1.994
2030	16	$3.199	$1.013	$1.936
2031	17	$3.199	$0.947	$1.879
2032	18	$3.199	$0.885	$1.825
2033	19	$3.199	$0.827	$1.771
2034	20	$3.199	$0.773	$1.720
2035	21	$3.199	$0.722	$1.670
2036	22	$3.199	$0.675	$1.621
Total		$64.0	$27.7	$43.6

8403 Colesville Road, Silver Spring, Maryland 20910 USA
Telephone: (240) 485-2600 • Fax: (240) 485-2635 • http://www.hdrinc.com

SHAPE

Sugar House Area Place-making Enhancements

Appendix D. Detailed Project Cost Estimates and Contingency Description

Salt Lake City Corporation

			Couplet - Ph. 2B Sugarmont to Highland Drive									
			0.8 Track Miles Approximately $16.8 Million Per Track Mile							Current Year 2012.00 (YR)		*Inflation Rate 3.50%*
SCC	**SCC Sub**	**Item #**	**Item Discription**	**Unit**	**Unit Cost**	**Quantity**	**Item Cost**	**A. Cont.**	**Item Cont.**	**Subtotal**	**YoE**	**Subtotal YoE**
10			**GUIDEWAY & TRACK ELEMENTS (route miles)**				**$1,876,000**		**$233,450**	**$2,109,450**		**$2,259,696**
	10.10		Track: Embedded				$1,701,000		$198,450	$1,899,450		**$2,034,738**
		10.10.01	Furnish Rail - Assume 112TRAM Block Rail	TF	$70	4050.0	$283,500	20%	$56,700	$340,200	2014	**$364,431**
		10.10.02	Embedded Track - Construct Track Slab	TF	$350	4050.0	$1,417,500	10%	$141,750	$1,559,250	2014	**$1,670,308**
	10.12		Track: Special (switches, turnouts)				$175,000		$35,000	$210,000		**$224,957**
		10.12.01	Embedded Turnout - Furnish and Install	EA	$175,000	1.0	$175,000	20%	$35,000	$210,000	2014	**$224,957**
		10.12.02	Embedded Crossing - Furnish and Install	EA	$120,000	0.0	$0	20%	$0	$0	2014	**$0**
20			**STATIONS, STOPS, TERMINALS, INTERMODAL (number)**				**$480,000**		**$96,000**	**$576,000**		**$617,026**
	20.01		At-grade station, stop, shelter, mall, terminal, platform				$480,000		$96,000	$576,000		**$617,026**
		20.01.01	Streetcar Stop - side/center split	EA	$120,000	4.0	$480,000	20%	$96,000	$576,000	2014	**$617,026**
		20.01.02	Streetcar Stop - Center shared	EA	$160,000	0.0	$0	20%	$0	$0	2014	**$0**
30			**SUPPORT FACILITIES: YARDS, SHOPS, ADMIN. BLDGS**				$0		$0	$0		**$0**
	30.02		Light Maintenance Facility				$0		$0	$0		**$0**
		30.02.01	0	XX	$0	0.0	$0	20%	$0	$0	2014	**$0**
40			**SITEWORK & SPECIAL CONDITIONS**				**$3,329,975**		**$617,550**	**$3,947,525**		**$4,228,687**
	40.01		Demolition, Clearing, Earthwork				$0		$0	$0		**$0**
		40.01.01	Building Demolition	SF	$5	0.0	$0	20%	$0	$0	2014	**$0**
	40.02		Site Utilities, Utility Relocation				$1,527,500		$458,250	$1,985,750		**$2,127,185**
		40.02.01	Utility Relocation - High Allowance (3+ or significant relocations)	TF	$500	2500.0	$1,250,000	30%	$375,000	$1,625,000	2014	**$1,740,741**
		40.02.02	Utility Relocation - Medium Allowance (1-2 relocations)	TF	$300	400.0	$120,000	30%	$36,000	$156,000	2014	**$167,111**
		40.02.03	Utility Relocation - Low Allowance (1 or less (avg) relocations)	TF	$150	1050.0	$157,500	30%	$47,250	$204,750	2014	**$219,333**
	40.06		Pedestrian / bike access and accommodation, landscaping				$45,000		$13,500	$58,500		**$62,667**
		40.06.01	Pedestrian Improvement Allowance (Per Intersection)	EA	$15,000	3.0	$45,000	30%	$13,500	$58,500	2014	**$62,667**
	40.07		Automobile, bus, van accessways including roads, parking lots				$526,500		$145,800	$672,300		**$720,185**
		40.07.01	Roadway Improvement Allowance	TF	$100	4050.0	$405,000	30%	$121,500	$526,500	2014	**$564,000**
		40.07.02	Track Drainage Allowance	TF	$20	4050.0	$81,000	20%	$16,200	$97,200	2014	**$104,123**
		40.07.03	Street Lighting Allowance (Adjustments, Relocations, New)	TF	$10	4050.0	$40,500	20%	$8,100	$48,600	2014	**$52,062**
	40.08		Temporary Facilities and other indirect costs during construction				$1,230,975		$0	$1,230,975		**$1,318,651**
		40.08.01	Temporary Maintenance of Traffic	LS	5%	7693591.5	$384,680	0%	$0	$384,680	2014	**$412,078**
		40.08.02	Contractor Indirects (Staff, Office, etc.)	LS	10%	7693591.5	$769,359	0%	$0	$769,359	2014	**$824,157**
		40.08.03	Art in Transit (1% of Construction)	LS	1%	7693591.5	$76,936	0%	$0	$76,936	2014	**$82,416**

50		**SYSTEMS**				**$1,574,500**		**$205,550**	**$1,780,050**		**$1,906,834**
	50.02	Traffic signals and crossing protection				$481,000		$96,200	$577,200		**$618,311**
		50.02.01	Modify Existing Traffic Signal	EA	$75,000	3.0	$225,000	20%	$45,000	$270,000	2014	**$289,231**
		50.02.02	New Traffic Signal Allowance	EA	$175,000	1.0	$175,000	20%	$35,000	$210,000	2014	**$224,957**
		50.02.03	Signal Priority Allowance	TF	$20	4050.0	$81,000	20%	$16,200	$97,200	2014	**$104,123**
		50.02.04	New Pedestrian Traffic Signal Allowance	EA	$125,000	0.0	$0	20%	$0	$0	2014	**0**
	50.03	Traction power supply: substations				$0		$0	$0		**$0**
		50.03.01	Traction Power Substation (Assume 1/Track Mile or 1 per 0.5 Rt. Mile)	EA	$900,000	0.0	$0	20%	$0	$0	2014	**$0**
	50.04	Traction power distribution: catenary and third rail				$1,093,500		$109,350	$1,202,850		**$1,288,523**
		50.04.01	Overhead Trolley Wire Allowance (Poles, wires, appurtenances)	TF	$270	4050.0	$1,093,500	10%	$109,350	$1,202,850	2014	**$1,288,523**
	50.05	Communications				$0		$0	$0		**$0**
		50.05.01	Communications Allowance	LS	$200,000	0.0	$0	0%	$0	$0	2014	**$0**
	50.06	Fare collection system and equipment				$0		$0	$0		**$0**
		50.06.01	Fare Collection (none - assume on vehicle)	EA	$0	0.0	$0	0%	$0	$0	2014	**$0**
	Construction Subtotal (10-50)					**$7,260,475**		**$1,152,550**	**$8,413,025**		**$9,012,242**
60		**ROW, LAND, EXISTING IMPROVEMENTS**				**$0**		**$0**	**$0**		**$0**
	60.01	Purchase or lease of real estate				$0		$0	$0		**$0**
		60.01.01	Right of Way Acquisition	SF	$15	0.0	$0	30%	$0	$0	2014	**$0**
70		**VEHICLES (number)**				$0		$0	$0		**$0**
	70.01	Light Rail				$0		$0	$0		**$0**
		70.01.01	Modern Streetcar Vehicle (Assumes wired system)	EA	$4,200,000	0.0	$0	2%	$0	$0	2014	**$0**
	70.07	Spare parts				$0		$0	$0		**$0**
		70.07.01	Spare Parts for New Vehicles (Per Vehicle)	EA	$100,000	0.0	$0	5%	$0	$0	2014	**$0**
80		**PROFESSIONAL SERVICES (applies to Cats. 10-50)**				**$2,538,512**		**$0**	**$2,538,512**		**$2,719,317**
	80.01	Preliminary Engineering				$225,306		$0	$225,306		**$241,353**
		80.01.01	Percentage of Direct Costs SCC (10-50)	LS	2.5%	9012242.3	$225,306	0%	$0	$225,306	2014	**$241,353**
	80.02	Final Design				$630,857		$0	$630,857		**$675,790**
		80.02.01	Percentage of Direct Costs SCC (10-50)	LS	7.0%	9012242.3	$630,857	0%	$0	$630,857	2014	**$675,790**
	80.03	Project Management for Design and Construction				$450,612		$0	$450,612		**$482,707**
		80.03.01	Percentage of Direct Costs SCC (10-50)	LS	5.0%	9012242.3	$450,612	0%	$0	$450,612	2014	**$482,707**
	80.04	Construction Administration & Management				$540,735		$0	$540,735		**$579,248**
		80.04.01	Percentage of Direct Costs SCC (10-50)	LS	6.0%	9012242.3	$540,735	0%	$0	$540,735	2014	**$579,248**
	80.05	Professional Liability and other Non-Construction Insurance				$270,367		$0	$270,367		**$289,624**
		80.05.01	Percentage of Direct Costs SCC (10-50)	LS	3.0%	9012242.3	$270,367	0%	$0	$270,367	2014	**$289,624**
	80.06	Legal; Permits; Review Fees by other agencies, cities, etc.				$180,245		$0	$180,245		**$193,083**
		80.06.01	Percentage of Direct Costs SCC (10-50)	LS	2.0%	9012242.3	$180,245	0%	$0	$180,245	2014	**$193,083**
	80.07	Surveys, Testing, Investigation, Inspection				$180,245		$0	$180,245		**$193,083**
		80.07.01	Percentage of Direct Costs SCC (10-50)	LS	2.0%	9012242.3	$180,245	0%	$0	$180,245	2014	**$193,083**
	80.08	Start up				$60,145		$0	$60,145		**$64,429**
		80.08.01	Percentage of Direct Costs SCC (10-50)	LS	2.0%	9012242.3	60145.1	0%	$0	$60,145	2014	**$64,429**
	Subtotal (10-80)						**$9,798,986**		**$1,152,550**	**$10,951,536**		**$11,731,560**
90		**UNALLOCATED CONTINGENCY**		**LS**	**10%**					**$1,095,154**		**$1,173,156**
100		**FINANCE CHARGES**								***Current Year Total***		***YoE Total***
	Segment Totals (10-100)									**$12,046,690**		**$12,904,715**

Highland Drive Lane Reduction - Slurry and Striping Costs

Bid Item	Bid Quantity	Units	Unit Price	Amount
Traffic Control	1	LS	$6,000.00	$6,000.00
Mobilization	1	LS	$10,000.00	$10,000.00
Construction Survey	1	LS	$2,000.00	$2,000.00
Bike Lane Sign	4	EA	$35.00	$140.00
Other Signs	4	EA	$35.00	$140.00
Sign Post	4	EA	$40.00	$160.00
Pavement Markings, 4" White Solid Line	1976	LF	$0.13	$513.76
Pavement Markings, 6" White Solid Line	1976	LF	$0.19	$750.88
Pavement Markings, 12" White Solid Line	200	LF	$0.37	$74.00
Pavement Markings, Bike Lane Symbol	8	EA	$100.00	$1,600.00
Pavement Markings, 4” Double Yellow Solid and Skip Lines	1976	LF	$0.13	$256.88
Pavement Markings, Left Arrow	10	EA	$8.33	$83.30
Pavement Markings, Right Arrow	7	EA	$8.33	$58.31
Slurry Seal	4,444	SY	$2.35	$10,443.40
			Subtotal	$32,220.53
Contingency & Adminstrative (20%)				$6,444.11
			Total	**$38,664.64**

HAWK Beacons

Materials	2	EA	$100,000	$200,000
Design	2	EA	$10,000	$20,000
			Total	**$220,000.00**

TIGER	Fairmont Park Proposed Improvements				
		Unit Cost	**Units**		**Cost**
Section 1	Complete Streets improvements (10' wide)	80	1010	LF	80800
	900 East/ Paving and landscape amenities				
Section 2	Complete Streets improvements (20' wide)	200	1110	LF	222000
	Sugarmont/ Linear Park and Paving improvements				
Section 3	Complete Streets improvements (15' wide)	150	1150	LF	172500
	McClelland Trail improvements				
Section 4	Enhanced Multiuse trail- Concrete (10')	80	865	LF	69200
	East central section				
Section 5	Enhanced Multiuse trail- Concrete (10')	80	575	LF	46000
	North promenade				
Section 6	Enhanced Multiuse trail- Concrete (10')	80	835	LF	66800
	Southwest connection				
Gateway 1	North Entrance to Fairmont Park	10	30000	SF	300000
Gateway 2	West Entrance to Fairmont Park	10	1000	SF	10000
Gateway 3	East Entrance to Fairmont Park	10	1000	SF	10000
Habitat	Pond habitat improvements	1	50000	LS	50000
	Total				**1027300**
	Design			10%	102730
	Contingency			10%	102730
	Engineering Adminstration Fee			20%	205460
	GRAND Total				**1438220**

Complete streets improvements to include landscaping (trees/groundcover/irrigaiton) and user amenities (benches, wayfinding signs)
Multiuse trail improvements to include landscape (trees/groundcover/irrigaiton) and user amenities (benches)

TIGER VI: Pedestrian Safety Lighting and Run-Off Mitigation Soft Infrastructure Project Budget

Project Element	Unit Cost	TIGER VI Grant Request	Local Match	Total
Hidden Hollow Pedestrian Safety Lighting	$2,500 per light x 62 lights	$125,544	$34,456	$160,000
Design	10% construction costs	$16,000	$0	$16,000
Contingency	10% construction costs	$16,000	$0	$16,000
Engineering Fees	20% construction costs	$32,000	$0	$32,000
	Subtotal Pedestrian Safety Lighting	$189,544	$34,456	$224,000
Street Run-Off Mitigation Soft Infrastructure	Fiber Scnience bank stabilization and labor: $4 per linear foot x 1,600 linear feet	$6,400	$0	$6,400
	Native Planting and labor: $1.50 per square foot (40,000 sf planting area)	$60,000	$0	$60,000
	Subtotal Construction Costs for Street Run-Off Mitigation			$66,400
Design	10% construction costs	$6,640	$0	$6,640
Contingency	10% construction costs	$6,640	$0	$6,640
Engineering Fees	20% construction costs	$13,280	$0	$13,280
	Subtotal Street Run-Off Mitigation Soft Infrastructure	$92,960	$0	$92,960
Grand Total		$282,504	$34,456	$316,960

S-Line Potential Operating Scenarios - Operating Cost Estimate
February 7, 2014

Operating Scenarios	Scope of Service	Hdwy	Operations	Vehicles Maintenance	MOW	Total Estimated Cost
Current Operations	M-S 6am - 9pm	20	$ 834,800	$ 300,292	$ 272,016	$ 1,407,108
Double Track Extension to 2100 South*	M-S 6am - 9pm	20	$ 978,200	$ 459,832	$ 394,909	$ 1,832,941
Extension to 2100 South w/Double Track**	M-S 6am - 9pm	15	$ 1,201,350	$ 482,126	$ 446,212	$ 2,129,688
Double Track Between 300 East to McClelland***	M-S 6am - 9pm	15	$ 968,200	$ 376,988	$ 402,688	$ 1,747,876

*No change to existing alignment. Double Track from McClelland to 2100 South
**Assumes double-track from 300 East to 2100 South
***Assumes no extension beyond McClelland

Contingency

Contingency is typically included in an estimate as an allowance for the level of engineering design completed or to address imperfections in estimating methods that are associated with a project's development stage. Contingency, in the statistical sense, is the estimated percentage by which a calculated value may differ from its true or final value. The contingency allowance is used to account for those items of work (and their corresponding costs) which may not be readily apparent or cannot be quantified at the current level of design, such as unknown project scope items, or a potential project change resulting from public/political issues or environmental or technical requirements. For the purposes of this estimating program, contingency will be assigned into two major categories – allocated and unallocated.

Allocated contingency will be used for projects where the engineering design level is determined to be less than 30 percent complete. Because of the level of design information available for individual items of work, as well as the relative difficulty in establishing unit prices for these items, a contingency allowance, in the range of 5 percent to 35 percent, will be allocated based on the FTA construction or procurement cost categories. The exact percentage selected for each cost category is based on professional judgment and experience related to the cost variability typically seen for items of work within a particular cost category. The percentages shown in **Table 1** are the values that will normally be used; however, slightly higher or lower values may be used if a project specific condition warrants.

Unallocated contingency is the second category to be used. The reasons for applying this contingency are similar to those for allocated contingency, primarily as an allowance for the level of engineering design completed. Once a project reaches the engineering design level of 30 percent or greater, there is generally sufficient details on which to base both quantity and unit price development. The percentages shown in **Table 2** are the values that will normally be used. In the case of estimates prepared in the planning stage (< 30% design completion), the allocated and unallocated contingencies are applied separately but the total contingency is the result of their combined effects. Estimates prepared in the design stage (> 30% design completion) would only include unallocated contingency.

Table 1. Allocated Contingency Percentages for Planning Estimates

FTA Category No.	Description	Allocated Contingency Percentage
10	Guideway and Track Elements	
	• Guideway Elements – At grade or above	25
	• Guideway Elements – Below grade	35
	• Track Elements	15
20	Stations, Stops, Terminals, Intermodals	15
30	Support Facilities: Yards, Shops, Admin Buildings	15
40	Sitework and Special Conditions	
	• Demolition, Clearing, Earthwork	25
	• Site Utilities, Utility Relocation	30
	• Hazardous materials, contaminated soil removal/mitigation, ground water treatments	30
	• Environmental mitigation, e.g., wetlands, historic/archeological, parks	30
	• Site structures including retaining walls, sound walls	25
	• Pedestrian / bike access and accommodation, landscaping	25
	• Automobile, bus, van access including roads, parking lots	25
50	Systems	15
60	Right-of-way, Land, Existing Improvements	50
70	Vehicles	5

Table 2. Unallocated Contingency Percentages for Estimates

Estimate Type	Description	Unallocated Contingency Percentage
Planning	Design less than 30%	10
Design	Preliminary Engineering (30%)	20
	Final Design (60% - 100%)	15
	Construction (Bidding)	5

SHAPE

Sugar House Area Place-making Enhancements

Appendix E. Federal Wage Rate Certifications

Salt Lake City Mayor Ralph Becker
Utah Transit Authority General Manager
Michael A. Allegra

Salt Lake City Corporation

RALPH BECKER
MAYOR

SALT LAKE CITY CORPORATION

OFFICE OF THE MAYOR

April 24, 2014

Mr. Anthony Foxx
Office of the Secretary of Transportation
U.S. Department of Transportation
1200 New Jersey Ave SE
Washington, DC 20590

RE: DT0559-14-RA-TIGER6 - Federal Wage Rate Certification

Dear Mr. Foxx:

I, Ralph Becker, on behalf of Salt Lake City Corporation, which is an applicant for U.S. Department of Transportation Investment Generating Economic Recovery (TIGER) VI Discretionary Grant Program funding, certify that Salt Lake City Corporation will comply with the requirements of subchapter IV of chapter 31 of title 40, United States Code (Federal wage rate requirements), if awarded TIGER VI funding for the Sugar House Place-making Enhancements.

Sincerely,

Ralph Becker
Mayor

APPROVED AS TO FORM
Salt Lake City Attorney's Office
Date 4/22/14
By

451 SOUTH STATE STREET, ROOM 306
P.O. BOX 145474, SALT LAKE CITY, UTAH 84114-5474
TELEPHONE: 801-535-7704 FAX: 801-535-6331
www.slcgov.com

CERTIFICATION

TIGER Discretionary Grants

Subchapter IV of Chapter 31 of Title 40, United States Code

As Required By the FY 2014 Continuing Appropriations Act

Name of Applicant: Utah Transit Authority

Authorized Representative: Bruce Jones, Legal Counsel

The Utah Transit Authority hereby certifies that it will comply with requirements of United States Code Title 40, Chapter 31, Subchapter IV, Federal Wage Rate Requirements.

This certification is made pursuant to TIGER 2014 Discretionary Grant (National Infrastructure Investments) requirements found in the Federal Register, Vol. 79, No. 41, Monday, March 3, 2014, on page 11862.

Date: 4/21/14

Signature: _____

Name: Bruce Jones

Title: Legal Counsel

Federal Wage Rate Certification

The Utah Transit Authority certifies that it will ensure compliance with the requirements of Subchapter VI of Chapter 31 of Title 40, United States Code (federal wage rate requirements), as required by the FY 2014 Continuing Appropriations Act for any projects that will receive federal funding under the TIGER VI program.

_____

Michael A. Allegra
General Manager
Utah Transit Authority

4/21/14
Date

ERIC D. SHAW
DIRECTOR

MARY DE LA MARE-SCHAEFER
DEPUTY DIRECTOR

SALT LAKE CITY CORPORATION

DEPARTMENT OF COMMUNITY & ECONOMIC DEVELOPMENT
OFFICE OF THE DIRECTOR

RALPH BECKER
MAYOR

CITY COUNCIL TRANSMITTAL

David Everitt, Chief of Staff

Date Received: _____
Date sent to Council: _____

TO: Salt Lake City Council
Charlie Luke, Chair

DATE: October 1, 2014

FROM: Mary DeLaMare-Schaefer
Acting CED Director

SUBJECT: TIGER Grant Review

STAFF CONTACT: Robin Hutcheson, Transportation Director
(801) 535-6630, robin.hutcheson@slcgov.com

COUNCIL SPONSOR: Exempt

DOCUMENT TYPE: Briefing - Information only

RECOMMENDATION: No action necessary

BACKGROUND/DISCUSSION:

This transmittal was prepared at the request of the City Council in order to provide information related to the recent federal application submittal for multi-modal improvements in Sugar House. In April 2014 Salt Lake City submitted a TIGER (Transportation Investments Generating Economic Recovery) Grant application for a multi-modal package of improvements in Sugar House. The application included phases 2a and 2b of the S Line extension, as well as bicycle, pedestrian, lighting, and roadway runoff mitigation improvements. The elements included in the application were consistent with the recently adopted Sugar House Circulation Master Plan and adopted Locally Preferred Alternative for streetcar.

Salt Lake City was not awarded a grant in this round. The U.S. Department of Transportation received $15 dollars in requests for every $1 of available funding, demonstrating the strong need for transportation improvements across the nation. Other applications were submitted from our State, and only one of these was successful. The Wasatch Front Regional Council was awarded a specific planning grant that will provide $820,000 for a study entitled, 'The Pioneer Corridor Plan.' This grant will provide funds to complete a transportation study developed in close collaboration with local and regional partners to address the critical needs in the region's primary I-15/FrontRunner transportation corridor.

The City is requesting a debrief to learn what, if anything, would have strengthened the S Line application. Given this Complete Streets project's high ratio of benefits to costs, the application may simply have been unsuccessful due to the high level of competitiveness of the TIGER program, as well as to selection factors unrelated to project or application merits. Another round of TIGER funding may or may not be approved by U.S. DOT, and City staff will continue to follow the national transportation budget discussion, and to watch for a Notice of Funding Availability (NOFA) for this or any other program for which the streetcar project may be eligible. It is common for projects to be funded only after a second or third round of application, as was the case with the initial Sugar House Streetcar Phase 1 application.

In the meantime, work on environmental analysis of the extension will continue, and options for designing and constructing smaller portions of the extension are being explored.