Chapter S: Summary

The Utah Transit Authority (UTA), in cooperation with the Cities of Salt Lake and South Salt Lake and the Federal Transit Administration (FTA), is preparing an Environmental Assessment (EA) under the National Environmental Policy Act (NEPA) for the proposed Sugar House Streetcar Project. This EA has been prepared to identify environmental effects associated with project construction and operation and to provide agencies and the public with the opportunity to review and comment on the effects of the proposed project. This EA contains information necessary to determine whether the project would result in significant impacts on socioeconomic, environmental, and transportation conditions in the project area and what further actions or mitigation are required to address the identified impacts.

This summary of the Sugar House Streetcar Project addresses the following topics:

- Project background
- Purpose of and need for the project
- Alternatives considered
- Summary of impacts (socioeconomic, environmental, and transportation)
- Public involvement and coordination

S.1 Project Background

In January 2007, UTA, representatives of the Cities of Salt Lake and South Salt Lake, the Utah Department of Transportation (UDOT), and the Wasatch Front Regional Council (WFRC) began a process to identify a range of potential transit projects that would serve South Salt Lake and the Salt Lake City community of Sugar House between about 1700 South and Interstate 80 (I-80). During this process, the team considered 12 transit technologies and three alignment alternatives. This process led to an alternatives analysis study and report. UTA completed the Sugar House Transit Corridor Alternatives Analysis (AA) in 2008.

The AA study scope was broad and considered many possible mode and alignment alternatives through a comprehensive analysis. The process was similar to FTA’s Project Development Process in which a long list of potential alternatives is developed, evaluated, and screened. The process also included a comprehensive public and agency outreach program. One of the alignments considered was an existing railroad right-of-way at about 2300 South. UTA currently owns this railroad right-of-way, which is no longer actively used for freight. This right-of-way was considered for a potential fixed-guideway transit solution in the AA study.

The AA study team consisted of members from the City of South Salt Lake, Salt Lake City, UTA, and UDOT. Through a collaborative effort, the AA study team developed multiple alternatives and performed three levels of screening and evaluation. The
screening and evaluation processes were used to determine the suitability of the alternatives based on the previously defined project objectives and project’s purpose and need. In addition to a No-Action Alternative, a range of four reasonable alternatives remained after the second level of screening. These alternatives were further screened to identify an action alternative.

This EA document is the final study phase of what has become known as the Sugar House Streetcar Project. This EA re-evaluates the project alternatives, analyzes an action alternative and a no-action alternative in detail, and identifies the environmental effects of the project. FTA will use the results of this EA either to make a Finding of No Significant Impact (FONSI) or to find that the project requires additional evaluation in an Environmental Impact Statement.

**S.2 Purpose of and Need for the Project**

**S.2.1 Purpose of the Project**

The purpose of the Sugar House Streetcar Project is to address the need and opportunity for improved connectivity and increased mobility between the newly developing 2100 South area of South Salt Lake, including the Market Station Redevelopment Area (RDA), and the Salt Lake City community of Sugar House, which includes many existing businesses and attractions as well as several RDAs including the Granite Block development area and the Sugar House RDA. Specifically, the purpose of the project is to:

- Contribute to improved connectivity on 2100 South and between neighborhoods and attractions in the Sugar House Streetcar study area and beyond
- Contribute to increased mobility on 2100 South
- Provide multimodal travel choices in the study area
- Increase mobility for short-range trips in the study area, especially pedestrian trips
- Provide connections to the regional transportation network, including the regional transit network
- Provide a transportation improvement that is pedestrian-friendly, is compatible with surrounding neighborhoods, and supports community and economic redevelopment

**S.2.2 Need for the Project**

The need for the Sugar House Streetcar Project is a result of the following conditions:

- Decreasing connectivity between neighborhoods and attractions in the Sugar House streetcar study area and beyond
- Decreasing mobility on 2100 South
- Lack of proximity to the existing transit network
- Lack of travel choices
- Lack of reliable travel times in the study area
- Changing land-use patterns and increased development
**S.3 Alternatives Considered**

A range of alternatives to consider in this EA was developed by reviewing previous studies, including the AA, and through the NEPA public and agency involvement process.

In the AA, UTA began with a list of possible alternatives for meeting the purpose of the project. These initial alternatives were put through a four-step screening process to determine which alternatives should be carried forward for detailed study in the NEPA document (that is, this Environmental Assessment). The four steps used in the screening process were:

- **Development of the Universe of Alternatives.** The universe of alternatives included all possible modes and alignments in the study area.

- **Level 1 Screening.** The universe of alternatives was evaluated against a broad set of qualitative criteria in order to produce a long list of viable alternatives. The first-level screening criteria consisted of logical assumptions that would eliminate technologies and alignments that were inappropriate for the Sugar House Streetcar study area.

- **Level 2 Screening.** The long list of alternatives that made it through level 1 screening was evaluated against a set of quantitative criteria in order to produce a smaller set of alternatives that could be defined and evaluated in more detail. The purpose of the level 2 screening was to eliminate alternatives that did not meet the project’s purpose. In addition, certain community-desired transit characteristics that were determined by Salt Lake City and the City of South Salt Lake, such as providing a facility that serves local trips with frequent stops at slow speeds as well as a facility with broad local support, were also considered in the screening criteria that were developed by the project team for level 2 screening. The purpose of the project is described in Section S.2.1, Purpose of the Project. The criteria used for level 2 screening were:
  - Improve connectivity within the study area and to the existing TRAX system
  - Avoid contributing to congestion on 2100 South
  - Minimize right-of-way impacts
  - Serve neighborhoods with frequent stops at slower speeds
  - Fit the context of the neighborhoods in South Salt Lake and the Salt Lake City community of Sugar House
  - Provide safe and efficient pedestrian access
  - Able to be integrated with traffic

Those alternatives that met the project’s purpose and the above criteria were further evaluated with level 3 screening.
• **Level 3 Screening.** The alternatives that were carried forward into level 3 screening were further evaluated through a combination of quantitative and qualitative criteria. The quantitative criteria were ridership, capital cost, and operations and maintenance cost, while the qualitative criteria were community compatibility, potential effects on land use, and public support.

### S.3.1 Alternatives Screening Results

Four technology options and two alignment options resulted from Level 1 screening:

- **Improvement to Existing Bus Service on 2100 South.** As of August 2007, bus service on 2100 South was increased to every 15 minutes. This alternative would further improve the existing bus service by revising stop locations, increasing amenities at stops, and providing alternate bus technology options (for example, buses with low floors).

- **Light-Rail Transit on 2100 South.** This alternative consists of a light-rail line in the current street right-of-way on 2100 South connecting the Central Pointe TRAX Station and a new station at 2100 South and 1100 East.

- **Modern Streetcar or Historic Trolley on 2100 South.** This alternative consists of a modern streetcar or historic trolley line on 2100 South connecting the Central Pointe TRAX Station and a new station at 2100 South and 1100 East.

- **Bus Rapid Transit on 2100 South.** This alternative consists of bus rapid transit in a separate lane dedicated to bus-only traffic on 2100 South.

- **Light-Rail Transit in the UTA-Owned Right-of-Way.** This alternative consists of a light-rail line in the UTA-owned right-of-way, located at about 2300 South, connecting the Central Pointe TRAX Station and a new station at 1100 East.

- **Modern Streetcar or Historic Trolley in the UTA-Owned Right-of-Way.** This alternative consists of a modern streetcar or historic trolley line on the UTA-owned right-of-way connecting the Central Pointe TRAX Station and a new station at 1100 East.

- **Bus Rapid Transit in the UTA-Owned Right-of-Way.** This alternative consists of bus rapid transit in a corridor dedicated to bus-only traffic on the UTA-owned right-of-way.

As part of the Level 2 screening process, the above alternatives were then screened against the project’s purpose and need. The level 2 screening process eliminated light-rail transit on 2100 South, bus rapid transit on 2100 South, and streetcar/trolley on 2100 South because of fatal flaws. The remaining four alternatives—improved bus service along 2100 South (which would not involve a major capital investment), plus bus rapid transit, modern streetcar or historic trolley, and light-rail transit along the UTA-owned right of way—were all carried forward for level 3 screening.
The project team conducted an in-depth analysis of the four action alternatives based on the evaluation criteria described above. Table S.3-1 summarizes the results of the analysis.

**Table S.3-1. Level 3 Screening Results**

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Ridership (daily users)a</td>
<td>2,100</td>
<td>1,800</td>
<td>2,300</td>
<td>2,200</td>
</tr>
<tr>
<td>Capital investmentb</td>
<td>$9.8 million</td>
<td>$17.7 million</td>
<td>$36.7 million/ $29.0 million</td>
<td>$35.6 million</td>
</tr>
<tr>
<td>Annual operating costb</td>
<td>$2.5 million</td>
<td>$1.4 million</td>
<td>$1.6 million</td>
<td>$1.6 million</td>
</tr>
<tr>
<td>Community compatibility</td>
<td>High</td>
<td>Medium</td>
<td>High</td>
<td>Low</td>
</tr>
<tr>
<td>Effects on land use</td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td>Meets travel needs</td>
<td>Medium</td>
<td>Medium</td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Public support</td>
<td>Low</td>
<td>Medium</td>
<td>Very high</td>
<td>Medium</td>
</tr>
</tbody>
</table>

a Ridership shown is for 2030.
b Costs are in 2007 dollars.

At a workshop specifically designed to evaluate alternatives, UTA, representatives of the Cities of Salt Lake and South Salt Lake, UDOT, and WFRC were asked to rank alternatives based on the technical information developed as well as qualitative characteristics such as public support and effects on land use. Workshop attendees participated in the process to rank the alternatives using the information in Table S.3-1 above and using the evaluation criteria established at the outset of the project. Attendees were asked to rank, from 1 to 5 (with 5 being lowest), the performance of each alternative based on these evaluation criteria. For qualitative criteria, definitions were given for each ranking category (1 through 5). The results from this workshop were summed to produce a total score for each alternative. The results are shown in Table S.3-2.

**Table S.3-2. Ranking of Action Alternatives Carried Forward**

<table>
<thead>
<tr>
<th>Alternative</th>
<th>A – Improved Bus Service on 2100 South</th>
<th>B – Bus Rapid Transit</th>
<th>C – Modern Streetcar/ Historic Trolley</th>
<th>D – Light Rail</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate scorea</td>
<td>156</td>
<td>199</td>
<td>286 / 253</td>
<td>203</td>
</tr>
<tr>
<td>Rank</td>
<td>5</td>
<td>4</td>
<td>1 / 2</td>
<td>3</td>
</tr>
</tbody>
</table>

a Reflects the sum of all steering committee members’ rankings.
Based on the cumulative results of the technical screening evaluations, the qualitative evaluation, and the workshop committee’s recommendation, the modern streetcar alternative operating in the UTA-owned right-of-way was recommended as the Preferred Action Alternative and was carried forward for detailed analysis in this EA.

The modern streetcar was selected over the historic trolley due to several operational factors, including the following:

- **Accessibility.** Historic trolleys must be retrofitted to meet the federal accessibility standards in the Americans with Disabilities Act (ADA) to be able to accommodate wheelchairs and people whose mobility is impaired.

- **Capacity.** Passenger capacity is much greater on a modern streetcar than on a historic trolley. Modern streetcars typically have 20% more capacity per car than historic trolleys. If there is enough demand for streetcar transit, the modern streetcar can also be operated as two linked vehicles, whereas the historic trolleys operate as single vehicles only. As ridership demand increases, higher-capacity vehicles increase the flexibility of system operations and would allow the system to be operated on a single track.

- **Expandability and Compatibility.** Historic trolley systems are typically implemented in a single area or specific corridor to identify a special type of commercial corridor or tourist attraction. Modern streetcars are more efficient in a network-type system of similar vehicles. In addition, modern streetcars can be built with similar specifications as light-rail vehicles, which means that separate maintenance facilities and tools are not necessary.

**S.3.2 Description of the Action Alternative**

The Action Alternative is a modern streetcar system that would provide service between the Central Pointe TRAX Station at about 250 West and 2100 South in South Salt Lake and the Granite Block development at Highland Drive and 2100 South in the Salt Lake City community of Sugar House (a total of about 2 miles). The streetcar line would operate on the UTA-owned right-of-way along about 2300 South for its entire length. The route and proposed stations are shown in Figure 2-2 through Figure 2-7, Alignment Detail, in Chapter 2, Alternatives. As shown in the figures, the Action Alternative includes the following seven stations: Central Pointe TRAX, State Street, 300 East, Kearns/St. Ann’s (450 East), 700 East, 900 East, and Granite Block (about 1100 East). Stations could also be considered at 600 East and 800 East instead of at 700 East and 900 East.

None of the new stations would include parking lots. Center platforms are currently proposed at the Granite Block Station (about 1100 East) and at the 500 East Station, where an adjacent siding track would be incorporated. Side platforms, which could be converted into center platforms in the future if UTA decides to add a double track, are
proposed at all other stations. Side platforms are designed in a way that capitalizes on the ability to use traffic signal priority at cross streets to minimize travel time. The streetcar would travel through the intersecting road with priority and then stop after it crosses the intersecting road.

**S.3.3 Description of the No-Action Alternative**

The No-Action Alternative provides a baseline for comparing the travel benefits and other environmental impacts associated with other alternatives. The improvements associated with the improved bus service and build alternatives are those that could be made in addition to those that are part of the No-Action Alternative.

The No-Action Alternative includes the existing highway network (which is also part of the Action Alternative) plus the transportation improvements included in the WFRC Regional Transportation Plan. The No-Action Alternative includes planned and committed highway and transit facilities that are likely to exist in the year 2030, with the exception of the Sugar House Streetcar Project itself. The No-Action Alternative assumes that bus service continues “as is” on 2100 South between the Central Pointe TRAX Station (at about 250 West and 2100 South) and Foothill Boulevard (2700 East) with a 15-minute headway (that is, every 15 minutes). Stops for the current bus Route 21 are currently about every other block.

The No-Action Alternative assumes normal maintenance and replacement of existing facilities and equipment as their design life is exceeded.

**S.4 Summary of Socioeconomic and Environmental Impacts**

Table S.4-1 below summarizes the specific socioeconomic and environmental impacts for the No-Action and Action Alternatives. For detailed information about the socioeconomic and environmental impacts of the alternatives, see Chapter 3, Affected Environment, Environmental Consequences, and Mitigation Measures. A summary of transportation impacts is provided in Section S.5, Summary of Transportation Impacts and Mitigation.
<table>
<thead>
<tr>
<th>Resource Category</th>
<th>No-Action Alternative</th>
<th>Action Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land Use</td>
<td>No impacts to land uses would occur as a result of the project. However, the No-Action Alternative would not be consistent with the land-use and transportation plans of Salt Lake City or the City of South Salt Lake. The No-Action Alternative would not support local growth objectives and would conflict with future land uses.</td>
<td>All stations (with the exception of the Central Pointe TRAX Station at the western terminus) would be located on the existing UTA-owned right-of-way and would be walk-up stations. The station at the western terminus would require acquisition of a strip of land outside the UTA-owned right-of-way from a property that abuts the east side of the tracks at 193 West 2100 South. No park-and-ride lots are proposed, so no additional land outside the right-of-way would be affected. The proposed streetcar line itself would be constructed on existing right-of-way that UTA owns and that the City of South Salt Lake and Salt Lake City have reserved for transit and trail use. The project is consistent with the Cities' master plan policies related to transit and transit-oriented development around and along the reserved corridor. Use of the corridor for the streetcar is consistent with the Cities' plans.</td>
</tr>
<tr>
<td>Social Environment</td>
<td>Residents would continue to be affected by ongoing change and growth in the study area. No other impacts to the social environment would occur.</td>
<td>Would improve access and mobility in the social evaluation area, reduce travel time, and add another mode of transportation. Construction could remove one outbuilding associated with the K2 church at about 200 West. Constructing the Action Alternative would not preclude future construction of the proposed Parley's Trail.</td>
</tr>
<tr>
<td>Property Effects</td>
<td>The Sugar House Streetcar line would not be built, and existing licenses for use of the right-of-way would not be affected. Existing license agreements would continue to be in effect through the time agreed on between UTA and the licensee.</td>
<td>UTA would need to revoke or modify existing agreements with Hatupis Enterprises, Otto Buehner &amp; Sons, Ralph Smithers (SugarHouse Barbeque Company), John Conti, and four lease holders whose overhead and underground wires cross the right-of-way. All of these leases abut the north side of the corridor, none on the south side of the corridor would be affected by the preliminary streetcar design. Existing uses of the affected properties could continue even if the leases are changed or revoked, although in some cases the number of accesses would need to be reduced. For example, the access into the SugarHouse Barbeque Company would have to be limited to its current northern driveway. No historic properties would be adversely affected or would require acquisition.</td>
</tr>
<tr>
<td>Environmental Justice Populations</td>
<td>No direct impacts to environmental justice populations would occur. Would not improve access and mobility for residents who do not own or drive a vehicle.</td>
<td>No disproportionately high and adverse impacts on any environmental justice populations. Would provide additional access and mobility options for these populations.</td>
</tr>
<tr>
<td>Economics</td>
<td>The No-Action Alternative would result in increased traffic congestion and delays. Further, the No-Action Alternative would not provide the social and economic enhancements for travel to work or recreation, or the mobility enhancements for no-vehicle households and low-income citizens, that would be attributed to the Action Alternative.</td>
<td>Would likely have beneficial commerce and employment effects on the Sugar House business district, particularly businesses such as restaurants and retail shops that can serve customers who arrive by foot or by transit. In addition, all businesses along 2100 South would benefit from increased visibility and increased transit accessibility for potential customers. Further, to the degree that land-use changes are made to facilitate future mixed residential and commercial uses near transit stations, there could be additional commerce and employment benefits.</td>
</tr>
<tr>
<td>Air Quality</td>
<td>Would not result in new violations of the National Ambient Air Quality Standards, increase the frequency or severity of existing violations of the standards, or delay the attainment of the standards.</td>
<td>Would not result in new violations of the National Ambient Air Quality Standards, increase the frequency or severity of existing violations of the standards, or delay the attainment of the standards.</td>
</tr>
</tbody>
</table>
## Table S.4-1. Comparison of Socioeconomic and Environmental Impacts

<table>
<thead>
<tr>
<th>Resource Category</th>
<th>No-Action Alternative</th>
<th>Action Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Noise and Vibration</td>
<td>No impacts.</td>
<td>Moderate noise impacts (noise levels of 54 to 56 dBA [A-weighted decibels]) were identified at residential locations in Segments 4, 5, 7, 8, 10, and 11 where existing noise levels are relatively low (46 to 52 dBA) and where the addition of the streetcar operating on steel rails would add an additional source of noise to the background noise levels. The noise impacts are in the low-moderate impact range.</td>
</tr>
<tr>
<td>Geologic Hazards</td>
<td>No direct impacts to soils, topography, or geologic conditions.</td>
<td>Because the right-of-way was previously used as a rail corridor, the right-of-way would require minimal grading to prepare the surface for the streetcar track. The Action Alternative would remove about 13 acres of soil and vegetation to construct the 2 miles of transit right-of-way and seven proposed stations. The Action Alternative would not affect the quality or quantity of soils in the evaluation area.</td>
</tr>
<tr>
<td>Paleontological Resources</td>
<td>No impacts to paleontological resources.</td>
<td>No impacts to paleontological resources.</td>
</tr>
<tr>
<td>Hazardous Waste Sites</td>
<td>No direct impacts to or from hazardous waste sites or materials would occur.</td>
<td>None of the hazardous waste sites within 500 feet of the Action Alternative are on the UTA-owned right-of-way. Several sites are close to the right-of-way, including three of the closed Superfund sites and a closed leaking underground storage tank, but impacts from these sites are unlikely since the sites closest to the right-of-way have been closed consistent with state and federal regulations.</td>
</tr>
<tr>
<td>Water Quality</td>
<td>The No-Action Alternative would not affect drinking water source protection zones or groundwater points of diversion and would not require constructing new drainage and storm drain structures.</td>
<td>Because project construction would disturb more than an acre of ground, the contractor would be required to develop a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the Utah Pollutant Discharge Elimination System (UPDES) permit that applies to construction-related stormwater management. Constructing the streetcar line could require closing or relocating several of the 10 points of diversion (wells) within the UTA-owned right-of-way. UTA would determine during the final design phase of the project whether any points of diversion would need to be closed or moved.</td>
</tr>
<tr>
<td>Floodplains</td>
<td>No impacts to floodplains.</td>
<td>In the vicinity of the North-South TRAX corridor along 200 West, the UTA-owned right-of-way is located in a low area that is prone to flooding. This area is designated by the Federal Emergency Management Agency (FEMA) on the associated flood insurance rate map as Shaded Zone X and is located in South Salt Lake. However, special flood hazard areas do not include Shaded Zone X.</td>
</tr>
</tbody>
</table>
### Table S.4-1. Comparison of Socioeconomic and Environmental Impacts

<table>
<thead>
<tr>
<th>Resource Category</th>
<th>No-Action Alternative</th>
<th>Action Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Historic Properties</td>
<td>No direct or indirect impacts to historic properties.</td>
<td>No adverse effect to 10 historic properties that are eligible for the National Register of Historic Places (NRHP). These 10 historic properties would be directly affected through minor strip takes of property within the UTA-owned right-of-way but historically associated with or used by the residential property; however, no historic buildings would be impacted or require acquisition, and the strip takes would not affect the integrity of the historic properties and therefore there would be no adverse effect. The remaining 44 properties with historic buildings would not be directly affected by the Action Alternative and would therefore have a finding of no historic properties affected. The Action Alternative would have an adverse effect on one historic linear resource site, the Denver &amp; Rio Grande Western (D&amp;RGW) Park City Branch/Salt Lake Eastern Railway, and no adverse effect on the Utah Southern/Union Pacific Railroad. Even though a contributing resource to the Forest Dale Historic District would experience an adverse effect (the D&amp;RGW), the District overall would experience no adverse effect since the tracks would be replaced with a modern streetcar system that would be in keeping with the overall historic context of the District. The Utah State Historic Preservation Office (SHPO) has concurred with the determination of eligibility and finding of effect.</td>
</tr>
<tr>
<td>Visual and Aesthetic Resources</td>
<td>No impacts. Continued changes from residential and commercial development.</td>
<td>Constructing the Action Alternative would cause short-term construction impacts to the visual environment as well as long-term changes in how the area looks. Once constructed, the Action Alternative would not substantially alter the general urban visual conditions along and adjacent to the UTA-owned right-of-way and would have a low-to-moderate impact to viewers in the evaluation area. Although the fixed elements of the streetcar along the UTA-owned right-of-way would not obstruct long-range views, the current views would change due to the addition of new elements. The changes to views would be most noticeable in the foreground and middle-ground views due to a change in how the right-of-way appears and the addition of overhead catenary, poles, substations, drainage structures, lighting, and station elements such as benches and pay stations.</td>
</tr>
<tr>
<td>Construction Impacts</td>
<td>No impacts from construction of the Sugar House Streetcar Project.</td>
<td>The Action Alternative could cause temporary impacts related to traffic, access, air quality, noise, and visual and aesthetic resources.</td>
</tr>
<tr>
<td>Section 4(f) Properties</td>
<td>Since the No-Action Alternative does not meet the project’s purpose to the extent that the Action Alternative does, it was not included in the Section 4(f) evaluation.</td>
<td>Twelve <em>de minimis</em> uses of Section 4(f) resources (10 historic properties, the Forest Dale Historic District, and the Utah Southern/Union Pacific Railroad) and one use (not <em>de minimis</em>) of a Section 4(f) resource (the D&amp;RGW Park City Branch/Salt Lake Eastern Railway).</td>
</tr>
</tbody>
</table>
S.5 Summary of Transportation Impacts and Mitigation

S.5.1 Impacts to Traffic Operations at Grade Crossings

The alignment of the Action Alternative intersects 14 streets that range from local alleys to major arterials. These at-grade crossings would require new gates, signals, and signs as determined appropriate by UTA’s design engineers and UDOT requirements. UTA has not made a final decision about the type of traffic control that would be used, but the analysis in Chapter 4, Transportation, assumes that at-grade crossings are controlled by actuated railroad gates in order to analyze the worst-case scenario since crossing gates stop vehicles longer than signals.

UDOT has been consulted throughout the grade crossing analysis. UDOT has been included in project activities since the inception of the AA in 2007. A full description of the past and ongoing coordination with UDOT is included in Section 4.2.1.3, Grade Crossing Analysis.

S.5.1.1 Vehicle Delay

Analysis of the Action Alternative considered delays as traffic waits for streetcars to cross at the new grade crossings. The grade crossing analysis specifically evaluates State Street and 700 East because these arterials carry substantially more traffic than do other intersecting streets. Using standard traffic engineering principles, the project team averaged the traffic delay incurred during streetcar crossings over all vehicles that traveled through the crossing during the 1-hour analysis period. The Action Alternative would not contribute to a large increase in traffic congestion along 700 East and State Street compared to the No-Action Alternative in 2030.

S.5.1.2 Vehicle Queuing

Analysis of the Action Alternative considered vehicle queuing between the grade crossings and adjacent intersections. The grade crossing analysis specifically evaluates State Street and 700 East because these arterials carry substantially more traffic than do other intersecting streets.

- The Action Alternative in 2030 would not create northbound vehicle queues long enough to affect adjacent intersections with traffic signals on State Street or 700 East, including the I-80 interchange ramps.
- Vehicle queues on 700 East would recover between streetcar arrivals.
- Southbound vehicle queues on State Street would extend beyond 2100 South and would not recover during the 1-hour analysis period. However, this congestion is partly due to the I-80 interchange.
S.5.2 Impacts to Traffic Operations at Intersections and Streets

Intersections near the streetcar corridor were evaluated under the No-Action and Action Alternatives to estimate impacts.

The Action Alternative would not degrade the level of service or percent demand served for any of the intersections evaluated. At some unsignalized side streets, such as Truman Avenue and Simpson Avenue, percent demand served would improve slightly because the Action Alternative would create gaps in the traffic streams on State Street and 700 East when the streetcar crosses. These gaps would allow motorists to turn onto or cross the major street.

S.5.3 Impacts to Transit

Under the Action Alternative, the streetcar is expected to carry 2,000 riders per day in 2030. An alternative ridership forecast estimates 3,400 riders per day as the upper range of potential ridership. Ridership on the only competing transit route, bus Route 21 on 2100 South, is not expected to increase above the current 1,900 daily riders. The Action Alternative would increase connectivity to existing and planned mass transit routes, including the existing Central Pointe TRAX Station, which would be the westernmost terminus of the Action Alternative.

S.5.4 Impacts to Bicycle and Pedestrian Facilities

No negative impacts to existing bicycle and pedestrian facilities are anticipated. Impacts to sidewalks or pathways would be addressed during the design process, and facilities disturbed by the Action Alternative would be replaced.

S.6 Public Involvement and Coordination

The public and agency involvement for the Sugar House Streetcar Project picked up where the Sugar House Transit Corridor AA left off.

S.6.1 Previous Coordination Conducted for the Sugar House Transit Corridor Alternatives Analysis (AA)

Public participation was an important part of the AA; almost one-third of the effort of the AA study involved public outreach and education. The public process for the AA study was a multileveled approach to educate residents, business owners, and city officials about the potential for a transitway in the area and to receive input and comments. Outreach efforts consisted of stakeholder committee meetings, interviews with individual stakeholders, public meetings, and presentations to city councils.
Two public open houses were held at critical points during the Sugar House Transit Corridor AA. On April 2, 2007, UTA hosted a public open house at the Columbus Community Center at 2530 South 500 East in South Salt Lake. The purpose of the open house was to introduce the project to the public, describe the existing conditions in the study area, present the “universe of alternatives” to meeting attendees, and gain feedback from the public on developing goals and objectives for the project. Advertising for the first public open house included direct mailers to over 1,500 residents along the UTA-owned right-of-way, postings on city websites, newspaper articles, and announcements in city newsletters.

A second public open house was held on July 12, 2007. This open house was held at the Sprague Library at 2131 South 1100 East in the Salt Lake City community of Sugar House. The purpose of this second meeting was to present the shortened list of alternative alignments and modes carried through for detailed study and to receive feedback for the preferred mode, alignment, and station locations. Advertising for the event used the same strategies as the first public open house; in addition, fliers were posted throughout the study area.

**S.6.2 Public and Agency Coordination Conducted for the Sugar House Streetcar Project**

Throughout the EA process, UTA has coordinated with local, state, and federal agencies that oversee the management of natural resources in the project area. Since these agencies oversee impacts and issue permits regarding their resource areas, it is important to include them from the initial scoping activities and throughout the project’s development. In this way, issues are identified early so that they can be properly considered and, if necessary, avoided, minimized, or mitigated as the project progresses. An agency scoping meeting was held on September 22, 2009, at the UTA office (200 South 669 West in Salt Lake City) with members of the project team and agency representatives who were interested in the project. In addition to project team members, nine agency representatives attended the September 22, 2009, meeting.

A public meeting will be held after the Sugar House Streetcar EA is released. In addition, if FTA finds that an EIS is warranted for this project, FTA and UTA would then initiate scoping as required under 40 Code of Federal Regulations (CFR) 1501.7.
The Sugar House Streetcar website, www.rideuta.com/projects/sugarhouseTransitStudy, is referenced on the UTA home page and allows the public to view current Sugar House Streetcar Project information. The website provides all project-related materials and is updated periodically as new information becomes available. The site includes the following elements:

- Upcoming project events and recent news
- Overview of and background information about the project
- Documents in portable document format (PDF)
- Map of the preliminary alignment
- Comment forms and contact information

**S.6.3 Funding**

At the time of this publication, the capital cost of the proposed project is estimated to be $55.5 million in 2011 dollars. The U.S. Department of Transportation recently awarded $26 million to the project through the Transportation Investment Generating Economic Recovery (TIGER) Grant program. The Cities and UTA have provided additional funding from local sources totaling $23.3 million. The project team will work to close the funding gap by reducing costs through final design, raising additional revenue, or a combination of both.

**S.6.4 Next Steps**

The official comment period for this EA is from November 19, 2010, to December 31, 2010, and a public meeting will be held during this period.

UTA will hold the public meeting on December 9, 2010, at the Sprague Library, 2131 South 1100 East, Salt Lake City, Utah. The meeting will be held in an open-house format from 5:00 PM to 7:00 PM. The meeting will be accessible according to the requirements of the Americans with Disabilities Act (ADA).

The public can comment on this EA using a variety of methods including traditional mail, e-mail, comment form at the meeting, and recorded comments at the meeting.

- Comments can be mailed to the Sugar House Streetcar Project, c/o Kerry Doane, UTA, 669 West 200 South, Salt Lake City, Utah, 84101.

- Comments can be e-mailed to sugarhouse@rideuta.com.

The availability of the EA will be announced using local media outlets and will be posted on the project website. Copies of the EA will be distributed to local libraries and UTA facilities. An electronic copy is available on the project website, www.rideuta.com/projects/sugarhouseTransitStudy, and CDs of the EA will also be provided on request. For a copy of this EA, contact Kerry Doane at (801) 237-1964.
Chapter 1: Purpose of and Need for the Sugar House Streetcar Project

1.1 Background

The Utah Transit Authority (UTA), in cooperation with the Cities of Salt Lake and South Salt Lake and the Federal Transit Administration (FTA), is preparing an Environmental Assessment (EA) for proposed transit service in the Sugar House area of Salt Lake County, Utah. The project study area is bounded by Interstate 15 (I-15) on the west, 1300 East on the east, 1700 South on the north, and Interstate 80 (I-80) on the south (see Figure 1-1 below). The new transit service would cover an area about 2 miles long. Project alternatives are discussed in Chapter 2, Alternatives.

In January 2007, UTA, representatives of the Cities of Salt Lake and South Salt Lake, the Utah Department of Transportation (UDOT), and the Wasatch Front Regional Council (WFRC) began a process to identify a range of potential transit projects that would serve South Salt Lake and the Salt Lake City community of Sugar House between about 1700 South and I-80. During this process, the team considered 12 transit technologies and three alignment alternatives. This process led to an alternatives analysis study and report. UTA completed the Sugar House Transit Corridor Alternatives Analysis (AA) in 2008.

The AA study scope was broad and considered many possible mode and alignment alternatives through a comprehensive analysis. The process was similar to FTA’s Project Development Process in which a long list of potential alternatives is developed, evaluated, and screened. The process also included a comprehensive public and agency outreach program. One of the alignments considered was an existing railroad right-of-way at about 2300 South. UTA currently owns this railroad right-of-way, which is no longer actively used for freight. This right-of-way was considered for a potential fixed-guideway transit solution in the AA study.

The AA study team consisted of members from the City of South Salt Lake, Salt Lake City, UTA, and UDOT. Through a collaborative effort, the AA study team developed multiple alternatives and performed three levels of screening and evaluation. The screening and evaluation processes were used to determine the suitability of the alternatives based on the previously defined project objectives and the project’s purpose and need. In addition to a No-Action Alternative, a range of four reasonable alternatives remained after the second level of screening. These alternatives were further screened to identify an action alternative.
Figure 1-1. Sugar House Streetcar EA Study Area Boundary
This EA document is the final study phase of what has become known as the Sugar House Streetcar Project. This EA re-evaluates the project alternatives, analyzes an action alternative and a no-action alternative in detail, and identifies the environmental effects of the project. FTA will use the results of this EA either to make a Finding of No Significant Impact (FONSI) or to find that the project requires additional evaluation in an Environmental Impact Statement.

1.2 Purpose of and Need for the Project

The Sugar House Streetcar Project is not a traditional transportation facility designed principally to address congestion. Instead, the Sugar House Streetcar Project addresses both this issue and the need and opportunity for improved connectivity between the existing business district and nearby economic redevelopment areas in the Salt Lake City community of Sugar House and in a larger area of planned redevelopment along the corridor served by the planned project in both Salt Lake City and South Salt Lake.

Modern streetcars are a different form of transit than more conventional modes such as bus rapid transit and light rail. These modes primarily serve longer trips, often serving commuters from outlying areas to employment centers. Streetcars primarily function as urban circulators, supporting short transit trips and pedestrian accessibility within urban districts. The modern streetcar serves as an urban transit circulator to address the transportation needs of the residents, workers, students, and visitors traveling within the streetcar’s service area. UTA’s overall long-range transportation goal is to provide a safe, efficient, economical, attractive, and integrated transit connection that contributes to increased economic development within the study area and helps reduce reliance on auto travel and reduce auto parking requirements.

1.2.1 Purpose of the Project

The purpose of the Sugar House Streetcar Project is to address the need and opportunity for improved connectivity and increased mobility between the newly developing 2100 South area of South Salt Lake, including the Market Station Redevelopment Area (RDA), and the Salt Lake City community of Sugar House, which includes many existing businesses and attractions as well as several RDAs including the Granite Block development area and the Sugar House RDA. Specifically, the purpose of the project is to:

- Contribute to improved connectivity on 2100 South and between neighborhoods and attractions in the Sugar House Streetcar study area and beyond
- Contribute to increased mobility on 2100 South
- Provide multimodal travel choices in the study area
- Increase mobility for short-range trips in the study area, especially pedestrian trips
• Provide connections to the regional transportation network, including the regional transit network

• Provide a transportation improvement that is pedestrian-friendly, is compatible with surrounding neighborhoods, and supports community and economic redevelopment

In addition to these items, the Cities of Salt Lake and South Salt Lake are partnering with UTA and have jointly developed characteristics that they would like the proposed transit service to include (UTA 2008). Both Cities are planning for walkable neighborhoods along the corridor (Market Station in South Salt Lake and Granite Block in Salt Lake City), and a primary goal of both Cities for this area of South Salt Lake and the Salt Lake City community of Sugar House is to preserve the community’s cultural identity while encouraging transit-oriented development and reducing urban sprawl. The desired characteristics of a transit system that would support these areas of South Salt Lake and Salt Lake City are:

• Serve local trips with frequent stops
• Travel at slow speeds
• Accommodate an urban linear park (trail)
• Provide safe and standardized pedestrian crossings
• Have broad local support
• Provide efficient transit-to-transit connections
• Be eligible for creative funding sources

1.2.2 Need for the Project

The need for the Sugar House Streetcar Project is a result of the following conditions:

• **Decreasing connectivity between neighborhoods and attractions in the Sugar House Streetcar study area and beyond.** Providing convenient access to major employment, commercial, educational, recreational, and activity centers in the Sugar House Streetcar study area is a key element of an integrated transportation system. The modern streetcar is needed to support both existing and future activity centers in and near the 2100 South corridor. These activity centers include the existing business districts as well as the redevelopment areas in both South Salt Lake and the Sugar House community of Salt Lake City. The existing business districts include a mix of shops, restaurants, bars, and coffee houses that are active throughout the day and evening. Without alternate means of mobility, increasing regional and local traffic congestion will isolate this corridor as an automobile-dependent area in an increasingly transit-served metropolitan region.

• **Decreasing mobility on 2100 South.** Traffic analysis shows that, by 2030, mobility will worsen during peak hours on 2100 South, which is the major east-west arterial in the study area. Continued population and employment growth in the study area has resulted in increased traffic on 2100 South that will exceed the
roadway capacity by 2030. For example, the increased traffic on 2100 South has led to increased congestion and longer commutes. This level of traffic also makes it difficult for drivers on 2100 South to turn left to access residential areas and businesses (see Section 1.4.1, Population, Household, and Employment Growth in the Study Area, and Section 1.4.3, Traffic Congestion and Travel Demand).

- **Lack of proximity to the existing transit network.** Currently, the closest location where residents of South Salt Lake and the Salt Lake City community of Sugar House can access the UTA rail transit network is the Central Pointe TRAX Station at about 200 West 2100 South in South Salt Lake. The most common ways of accessing this station are by bus or automobile. Residents living on the east end of the study area need an alternate way to access the Central Pointe TRAX Station. Additionally, as construction in redevelopment areas in the study area moves forward, people from outside the neighborhoods in the Sugar House Streetcar study area who want to access the businesses and services in these areas also need an alternate way to travel to places such as Market Station and the Granite Block.

- **Lack of travel choices.** The modern streetcar is needed to improve transit service in the study area. Although most of UTA’s existing transit service is oriented toward traditional employment centers such as downtown Salt Lake City and suburban office parks in Murray and Sandy, the modern streetcar will also serve emerging activity centers, business districts, and neighborhoods in a manner that extends beyond the characteristics of the existing transit system. The travel choices for people who live or work in the study area are limited to automobiles, local bus service, or travel by auto to a light-rail station. Although some people walk or bicycle to the TRAX station, extending transit services into residential neighborhoods would provide alternatives for people who might not walk or bicycle or do not have other means to access the Central Pointe TRAX Station.

- **Lack of reliable travel times in the study area.** Congested traffic lengthens transit travel times and reduces the reliability of public transportation in the Sugar House Streetcar study area. The addition of alternate transit options could contribute to reduced vehicle congestion by encouraging people to take transit instead of driving along 2100 South. Moreover, providing a transit option on a dedicated right-of-way promotes more-reliable travel times compared to mixed-traffic transit.

- **Changing land-use patterns and increased development.** Land use in the study area is planned to change over time, primarily becoming denser and more diversified with multiple large-scale developments currently being planned. Local long-range planning and near-term redevelopment strategies by the City of South Salt Lake and Salt Lake City and regional planning by WFRC target portions of the Sugar House Streetcar study area for high-density, transit-oriented development. This denser pattern of development would result in increased travel demand that could not be met by the local road system and current transit service.
New transit connections are needed to help meet the expected future transportation demand and planned land-use development goals and objectives of the City of South Salt Lake and Salt Lake City. The modern streetcar is needed to support policies of these Cities that describe specific ways to appropriately locate residential infill and nonresidential uses and to enhance design, pedestrian circulation, transit use, and streetscapes. These are shared goals with transit-oriented development, since they provide ridership for a modern streetcar system and capture sales tax dollars through redevelopment. It is highly unlikely that this different pattern of redevelopment could be achieved in this area without the enhanced travel choices that this project would provide.

1.3  **Regional and Local Planning Considerations**

This section provides an overview of the regional and local land-use and transportation plans that address the current and future conditions in the Sugar House Streetcar study area. The planning documents consist of the WFRC Regional Transportation Plan (WFRC 2007c), land-use and transportation plans prepared by Salt Lake City and the City of South Salt Lake, and the Statewide Transportation Improvement Program.

1.3.1  **WFRC Regional Transportation Plan**

WFRC is the designated metropolitan planning organization for the study area. WFRC works in partnership with UTA, UDOT, city and county governments, and other stakeholders to develop the Regional Transportation Plan, which is the region’s plan for highway, transit, and other transportation-related improvements to meet the area’s growing travel demand over the next 23 years. WFRC completed its most recent Regional Transportation Plan in 2007. The 2007 plan describes the planned transportation improvements between 2007 and 2030. The planned improvements are prioritized into phases depending on need and funding.

The Regional Transportation Plan recommends a number of projects in the Sugar House Streetcar study area. These projects include the West Valley Light-Rail line (the eastern terminus of which would be located at the 2100 South 200 West Central Pointe TRAX Station); a bus rapid transit line on State Street between the Utah State Capitol building and the Murray commuter-rail station (State Street passes through the study area); and a bus rapid transit line on 1300 East between the University of Utah and Fort Union Boulevard (1300 East passes through the study area).

The Sugar House Streetcar Project is included in the fiscally constrained Regional Transportation Plan as a Phase 1 project. The project was originally in the Regional Transportation Plan as a Phase 3 project; however, according to Amendment 5 to the Plan (dated January 28, 2010), WFRC moved the project from Phase 3 to Phase 1 (see Appendix A, Pertinent Correspondence). The recommended transportation improvements specific to the Sugar House Streetcar Project include the construction of a community-
level streetcar line from the TRAX line on 200 West to about Highland Drive/1100 East. According to the Regional Transportation Plan, it is intended that “the line will service the transit-friendly Sugar House District, parallel a portion of one of UTA’s best-performing routes, and provide an east-west connection with the West Valley Line.”

The 2007 WFRC Regional Transportation Plan supports transit in general by stating, “Transit investment is required with arterial highway investment to maintain annual hours of delay per person at what it is today.” (Annual hours of delay per person is a measure of the amount of time the average person spends in traffic per year.) In addition, the needs assessment of the WFRC Regional Transportation Plan demonstrates that combining highway, arterial, and transit investments lowers the amount of vehicle-miles traveled (WFRC 2007c).

1.3.2 Local Land-Use and Transportation Plans

The City of South Salt Lake and Salt Lake City have developed land-use and/or transportation plans that identify expected transportation improvements and describe the future land-use patterns desired by local leaders and the community.

1.3.2.1 City of South Salt Lake

According to the Sugar House Transit Corridor Alternatives Analysis (UTA 2008), the western part of the overall study area, much of which is in South Salt Lake, is characterized by a mix of “big box” commercial development (primarily along 2100 South and 300 West) and light-industrial uses bordered by higher-density residential. The arrangement of these mixed land uses promotes walking as a means of transportation. The City of South Salt Lake Future Land-Use Plan Map (City of South Salt Lake 2009a) shows major redevelopment areas along 2100 South and along the UTA-owned right-of-way. Most of these redevelopment areas are identified for mixed use, although there are also areas identified for general commercial uses and professional office uses. The Future Land-Use Plan Map does not show any new roads in the study area but does show a future West Valley City TRAX line and a future Sugar House transit line, both connecting to the existing Central Pointe TRAX Station at about 200 West and 2100 South.

1.3.2.2 Salt Lake City

Salt Lake City adopted a Sugar House Community Master Plan to direct the future development of this community. The plan contains a number of policies that directly address transit, including supporting construction of light rail along the Sugar House rail corridor (that is, the UTA-owned right-of-way), directing land-use decisions to support a light-rail station in the Sugar House Business District, and prohibiting development that would encroach on the UTA-owned right-of-way.
Salt Lake City adopted the Sugar House Community Master Plan with the desire for UTA to run transit in the UTA-owned right-of-way. At the time the Master Plan was written and adopted, the Cities thought that light rail would be the most desired mode of transit. However, since the Master Plan was adopted, UTA and the Cities completed the alternatives analysis process and found that the residents of South Salt Lake and the Salt Lake City community of Sugar House preferred streetcar to light rail. Moreover, the Cities found that streetcar better met their goals and objectives as well as the purpose of and need for the project. A letter of support for streetcar in the UTA-owned right-of-way from the Salt Lake City mayor is included in Appendix A, Pertinent Correspondence.

The study area also extends into the Central Community Master Plan area of Salt Lake City. The Master Plan Map shows future transit-oriented development along the TRAX line on 200 West and on 2100 South between 300 West and State Street. Like the Sugar House Community Master Plan, the Central Community Master Plan includes policies that focus on supporting transit (and transit-oriented development) in this part of Salt Lake City.

The Salt Lake City Transportation Master Plan (Salt Lake City 1996) includes a section that focuses on transit use and development. That plan includes a policy stating that the City “strongly supports measures that increase the convenience of transit usage.”

1.3.3 Statewide Transportation Improvement Program (STIP)

The Statewide Transportation Improvement Program (STIP) is a 5-year plan of highway and transit projects for the state of Utah that guides the development of projects from conception through construction. The adopted 2010–2015 STIP lists Sugar House Transit Improvements as an unfunded project and identifies funding for the project in 2012. The project funding will be detailed in the Transportation Improvement Program and STIP once it is identified.

1.4 Needs Assessment

1.4.1 Population, Household, and Employment Growth in the Study Area

Population, household, and employment growth are all important factors in determining future travel demand. Large increases in any of these factors over an extended period can cause substantial increases in travel demand, which results in congestion on roads if the roadway capacity does not keep up with the demand.

Population, household, and employment data and projections are derived from the WFRC travel demand model, which is based on population and employment projections published by the Governor’s Office of Planning and Budget (GOPB). The project team
supplemented basic demographic data about the area in consultation with WFRC. The modifications focused on updating the population and employment information for specific traffic analysis zones to more accurately reflect development patterns in the area. Demographic data are included in the modeling and are the basis for predicting travel patterns.

The WFRC travel demand model used for the Sugar House Streetcar Project is calibrated to 2005. According to data used in the model, the population of the Sugar House Streetcar study area in 2005 was about 33,000. At an average household size of 2.2 people, the number of households in the study area was about 15,500. The travel demand model calculated about 41,300 jobs in the study area in 2005.

The Sugar House Streetcar study area has experienced rapid growth in the past decade and is expected to continue this growth through 2030. Table 1.4-1 shows the projected growth in population, households, and employment in the study area.

<table>
<thead>
<tr>
<th>Demographic Characteristic</th>
<th>2005</th>
<th>2030</th>
<th>Percent Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>33,000</td>
<td>36,000</td>
<td>9%</td>
</tr>
<tr>
<td>Households</td>
<td>15,500</td>
<td>17,200</td>
<td>11%</td>
</tr>
<tr>
<td>Employment</td>
<td>41,300</td>
<td>54,400</td>
<td>32%</td>
</tr>
</tbody>
</table>

Recent population data for the study area are not readily available. A review of American Community Survey data from 2008 for Salt Lake City (within which much of the study area is located) shows that the average household size has not changed much (2.5 persons in 2008 versus 2.48 persons in 2000) and that the average annual population growth rate between 2000 and 2008 was slightly lower than that predicted for the study area between 2005 to 2030 (about 0.3% per year for 2000–2008 based on American Community Survey data for Salt Lake City versus about 0.4% per year for 2005–2030 based on the WFRC model data). In summary, recent information for the area indicates that the population conditions predicted using the model with a 2005 base year remain accurate.

### 1.4.2 Land-Use Patterns

The Sugar House Streetcar study area has a broad mix of land uses that range from light industrial to residential. The current and planned land-use patterns would facilitate nonmotorized travel through and in the study area. Redevelopment in the Market Station and Granite Block areas will result in mixed-use development surrounded by existing residential uses.
Currently, the part of the study area between about 900 East and 1100 East has dense residential development close to businesses. West of 900 East, land uses transition to commercial strips along 2100 South with higher-density residential to the north and south.

The western part of the study area is characterized by a mix of “big-box” development and light-industrial sites bordered by higher-density residential. The proximity of mixed land uses keeps walking distances short, which promotes walking as a mode of transportation.

In addition to these general land uses, the following major activity centers are located in the study area:

- Westminster College (1300 East)
- Sprague Library (Highland Drive)
- Fairmont Park and Aquatic Center (Sugarmont Avenue)
- Forest Dale Golf Course (900 East)
- Kearns/St. Ann’s School (500 East)
- Columbus Center (500 East)
- Granite Education Center (State Street)
- Salt Lake County Complex (State Street)

Land use in the study area is planned to change over time by becoming denser and more diversified. Two major activity centers will be added to the study area in the near term: Market Station (at about 2300 S. State Street) and the Granite Block (on the south side of 2100 South at 1100 East). The Market Station development in South Salt Lake will be a mixed-use development. Plans for this development include about 900 dwelling units and 360,000 square feet of retail space. The Granite Block in downtown Sugar House will be redeveloped with a mix of residential, commercial, and office use. Development plans show 400 new residences over the next several years. In addition, Westminster College anticipates constructing new buildings on campus, which could increase the daily average of 400 campus-based transit users.

Table 1.4-1 above shows that the population of the study area is projected to grow by 9% to about 36,000 in 2030. Employment in the study area is projected to grow by 32% to about 54,400 jobs in 2030. An east-west transit solution is needed to reduce the automobile trips generated by overall population and employment growth. A major transit corridor would also reduce the additional automobile trips created by redevelopment, densification, and expansion as well as provide travel mode choices for people living and working in the study area.
1.4.3 Traffic Congestion and Travel Demand

1.4.3.1 Roadway Network

A network of arterial and collector roads traverses the study area. Major arterials are State Street, 700 East, 1300 East, and 2100 South. Other important minor arterials are 300 East, 500 East, 900 East, 1700 South, 2700 South, and Highland Drive. A network of local collector streets serves the communities between these major and minor roads. The following roads in the study area carry the most traffic:

- **State Street.** State Street is a north-south arterial. The annual average daily traffic (AADT) on State Street was 33,000 in 2008, and the posted speed limit is 35 mph (miles per hour). State Street intersects with I-80, an east-west freeway, at about 2400 South.

- **700 East.** 700 East is a north-south arterial. The AADT on 700 East was 40,500 in 2008, and the posted speed limit is 45 mph. 700 East intersects with I-80 at about 2400 South.

- **1300 East.** 1300 East is a north-south arterial. Near the intersection with I-80, the AADT was 53,100 in 2008. The posted speed limit is 30 mph.

- **2100 South.** 2100 South is the only east-west arterial in the study area between 2700 South and 1700 South. In 2008, the AADT ranged from 17,600 to 26,400. The posted speed limit is 30 mph.

1.4.3.2 Congestion

Traffic analysis indicates that the primary roads through the Sugar House area are frequently congested. Table 1.4-2 below shows the levels of service (LOS), ranging from A (free flow) to F (gridlock), at key intersections in the study area for 2009 and 2030. Currently there is reoccurring congestion at intersections along 2100 South, as indicated by the levels of service of D, E, and F in the table. Alternate east-west neighborhood streets also experience congestion at unsignalized intersections with State Street, 700 East, and 900 East. (For more information about level of service, see Section 4.1.1.2, Analysis of Intersection Conditions.)

Traffic forecasts suggest that, by 2030, traffic congestion will worsen during the peak hour on 2100 South and the major north-south arterials in the study area. (The peak hour is the 2-hour period of the morning [AM] and afternoon [PM] commutes during which traffic volumes are the highest. The AM peak hour usually occurs between 7 AM and 9 AM, and the PM peak hour usually occurs between 4 PM and 6 PM.) Table 1.4-2 below shows that, by 2030, many of the signalized and unsignalized intersections are predicted to operate at or near failing conditions (LOS F) during the PM peak hour. The anticipated growth in traffic volumes, particularly on major north-south roads, will exacerbate existing traffic congestion and further limit east-west mobility. Further, as more traffic attempts to use roads with limited traffic capacity, the duration of the peak periods is
expected to increase (that is, a 3-hour period during the course of the day other than the peak hour will also be very congested).

**Table 1.4-2. Congestion at Key Intersections During the PM Peak Hour**

<table>
<thead>
<tr>
<th>Location</th>
<th>Current Level of Service (2009)</th>
<th>Future Level of Service (2030)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Worst Approach</td>
<td>Overall Intersection</td>
</tr>
<tr>
<td>State Street &amp; 2100 South</td>
<td>—</td>
<td>D</td>
</tr>
<tr>
<td>State Street &amp; Truman Avenue</td>
<td>F (EB)</td>
<td>A</td>
</tr>
<tr>
<td>State Street &amp; I-80 interchange</td>
<td>—</td>
<td>D/F</td>
</tr>
<tr>
<td>700 East &amp; 2100 South</td>
<td>—</td>
<td>D/E</td>
</tr>
<tr>
<td>700 East &amp; Simpson Avenue</td>
<td>E (WB)</td>
<td>A</td>
</tr>
<tr>
<td>700 East &amp; I-80 interchange</td>
<td>—</td>
<td>B/C</td>
</tr>
<tr>
<td>900 East &amp; 2100 South</td>
<td>—</td>
<td>C</td>
</tr>
<tr>
<td>900 East &amp; Sugarmont Avenue</td>
<td>C (WB)</td>
<td>A</td>
</tr>
</tbody>
</table>

EB = eastbound; WB = westbound

* Levels of service range from A (free-flowing traffic and insignificant delays) to F (extremely congested traffic and excessive delays). Levels of service of D, E, and F are generally considered unacceptable. For more information about level of service, see Section 4.1.1.2, Analysis of Intersection Conditions.

### 1.4.3.3 Travel Demand

Based on the socioeconomic and trip pattern information in the WFRC travel demand model (Version 6.0 beta), trip tables were developed that estimate the travel demand (that is, the anticipated trips) between various locations. Motorized and nonmotorized trips in the study area currently total about 15,000 trips each day. The majority of the trips that begin or end in Sugar House are to and from downtown Salt Lake City, the University of Utah area, and the Holladay area (which is called Mid-Valley East in Table 1.4-3 below).

The highest demand for travel in 2030 is projected to be between the study area and the Holladay area (Mid-Valley East) and between the study area and downtown Salt Lake City (the Central Business District). West Valley City, the second-largest city in the state, is expected to experience the largest growth in trips between 2005 and 2030 and is also predicted to involve many trips to and from the study area.

Table 1.4-3 below summarizes existing travel demand and future travel demand projections for trips to and from the Sugar House Streetcar study area. In the table, West Valley City is part of the Mid-Valley West area.
Table 1.4-3. Regional Travel Demand to and from the Study Area

<table>
<thead>
<tr>
<th>Origin or Destination</th>
<th>Daily Trips*</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2006</td>
<td>2030</td>
<td>Percent Change</td>
<td></td>
</tr>
<tr>
<td>Within Sugar House</td>
<td>15,200</td>
<td>23,000</td>
<td>51%</td>
<td></td>
</tr>
<tr>
<td>Salt Lake City Central Business District (CBD)</td>
<td>39,400</td>
<td>57,100</td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>East Salt Lake City/University of Utah area</td>
<td>27,700</td>
<td>29,800</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Western Salt Lake City</td>
<td>16,400</td>
<td>22,500</td>
<td>37%</td>
<td></td>
</tr>
<tr>
<td>Mid-Valley East</td>
<td>52,700</td>
<td>70,600</td>
<td>34%</td>
<td></td>
</tr>
<tr>
<td>Mid-Valley West (including West Valley City)</td>
<td>16,400</td>
<td>34,000</td>
<td>107%</td>
<td></td>
</tr>
<tr>
<td>South Valley East</td>
<td>11,500</td>
<td>20,600</td>
<td>79%</td>
<td></td>
</tr>
<tr>
<td>South Valley West</td>
<td>14,700</td>
<td>19,700</td>
<td>34%</td>
<td></td>
</tr>
</tbody>
</table>

Source: UTA 2008

* The numbers reported are daily person-trips.

**Transit Trip Demand.** The Sugar House Streetcar Project is needed to serve both shorter-range and long-distance transit trips. Trips within Sugar House are shorter trips that will consist of work, school, and errand-type trips within the study area. According to the WFRC regional travel demand model, the total predicted travel in the study area in 2030 will be 23,000 trips, which is 51% higher than the current number of trips.

In the context of this project, regional connection trips are longer trips made to access the regional transit system. These trips access the regional transit system either at the Central Pointe TRAX Station or via bus routes serving the area. In 2030, the majority of regional connection trips are anticipated to be for work or school purposes between the study area and Holladay, between the study area and downtown Salt Lake City, between the study area and the University of Utah, or between the study area and the growing western part of the Salt Lake Valley. By 2030, the number of all transit trips (TRAX, bus, and bus rapid transit trips), regional transit trips for work purposes, and regional transit trips for school purposes are all expected to increase.

- **TRAX, bus, and bus rapid transit (BRT) trips.** The WFRC travel demand model used for the Sugar House Streetcar Project is calibrated to 2005. As described in Section 1.4.1, Population, Household, and Employment Growth in the Study Area, recent population data for the study area are not readily available. A review of American Community Survey data from 2008 for Salt Lake City (within which much of the study area is located) shows that the average household size has not changed much (2.5 persons in 2008 versus 2.48 persons in 2000) and that the average annual population growth rate between 2000 and 2008 was slightly lower than that predicted for the study area between 2005 to 2030. Therefore, data for the 2005 model year are accurate. In 2005, 56% of all transit trips in the study area were made on TRAX. In 2030, 48% of transit trips are predicted to take TRAX, while 27% of transit users are predicted to take BRT, which is expected to be completed along 1300 East by 2030.
• **Regional trips for work purposes.** Jobs are predicted to grow by about 30% in the study area, and this growth will ultimately draw employees to the area from throughout the region. In 2005, about 5.8% of all transit trips were made for work purposes. By 2030, this percent is predicted to grow to an estimated 14%.

• **Regional trips for school purposes.** Salt Lake Community College, Westminster College, the Granite Education Center, and Kearns/St. Ann’s Elementary School are all within the study area, and each draws students from the surrounding region. The University of Utah is located near the study area and is another significant trip generator. In 2005, 13.2% of all transit trips were made for school purposes. This percent is predicted to grow to an estimated 16% in 2030.

Strong travel demand between the Salt Lake City Central Business District and the western part of the Salt Lake Valley will create future regional submarkets for transit. Between the Sugar House Streetcar study area and the Central Business District, trips are predicted to increase by about 45% to about 57,000 trips overall. Between Sugar House and the western Salt Lake Valley, the demand for trips is expected to double, growing from about 16,000 to 34,000 by 2030.

### 1.4.4 Transit Needs

The existing transit facilities in the study area include several bus routes and a north-south TRAX line. UTA operates bus Route 21 along 2100 South in the study area with 15-minute headways (that is, every 15 minutes). Given its close proximity to a variety of land uses and destinations, 2100 South is a highly successful transit corridor. Because few streets other than 2100 South run east to west throughout the entire study area, Route 21 is the only east-west transit line in the study area and is the primary route used by transit riders to access locations at either end of the study area. Route 21 carried about 537,000 passengers in 2008. Typical weekday ridership on Route 21 is 1,900 passengers; on an average weekend day, 500 riders will use this service.

TRAX is a major transit mode in the region; it facilitates trips to and from downtown Salt Lake City and the University of Utah. There is one TRAX park-and-ride lot in the study area: the Central Pointe TRAX Station, which has 57 parking spaces available. About 1,800 passengers board TRAX at the Central Pointe Station each day.

As described in Section 1.3.1, WFRC Regional Transportation Plan, the Regional Transportation Plan recommends construction of north-south BRT lines on 1300 East and State Street in the study area by 2030. However, these new lines would not serve customers who want to travel east and west. Given UTA’s current and planned bus routes in the study area, if the Sugar House Streetcar Project is not built, the only opportunity for riders to travel east and west would be on Route 21. Travel time on Route 21 is expected to increase as congestion along 2100 South increases. The proposed north-south lines would not serve these east-west users.

In addition to improving future travel time delay, access to existing and planned transit services also needs to be improved to help meet the expected future transportation
demand and planned land-use development goals and objectives of the Cities. Currently, people who want to use TRAX must either drive to the Central Pointe Station, take a bus on Route 21, walk, or bicycle from the Sugar House area. Because not everyone can walk or bicycle and not everyone has a car, having another transit route that serves the customers in the study area would move people east and west more quickly and efficiently.

1.5 Summary

In summary, the Utah Transit Authority (UTA), in cooperation with Salt Lake City and the City of South Salt Lake, is proposing the Sugar House Streetcar Project to increase connectivity and mobility, preserve the cultural identity in the Sugar House area of Salt Lake City and in part of South Salt Lake, and facilitate walkable urban development throughout a corridor where this type of development would not likely emerge otherwise.

The project is needed to address the following challenges between now and 2030:

- Decreasing connectivity between neighborhoods and attractions in the Sugar House streetcar study area and beyond
- Decreasing mobility on 2100 South
- Lack of proximity to the existing transit network
- Lack of travel choices
- Lack of reliable travel times in the study area
- Changing land-use patterns and increased development
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Chapter 2: Alternatives

This chapter describes the alternatives that were considered for meeting the purpose of and need for the Sugar House Streetcar Project as described in Chapter 1, Purpose of and Need for the Sugar House Streetcar Project. This chapter reviews the alternatives that were eliminated from detailed study through the screening process, describes the No-Action and Action Alternatives that were carried forward for detailed study, and summarizes the advantages and disadvantages of the No-Action and Action Alternatives. In all cases, the alternatives use a 2030 planning horizon.

The Sugar House Corridor Alternatives Analysis (UTA 2008) reviewed potential technology and transit alignment options for the Sugar House Streetcar study area. This chapter summarizes the results of that analysis and includes updated and refined information.

2.1 Alternative Development Process

A range of alternatives to consider in this EA was developed by reviewing previous studies, including the Sugar House Corridor Alternatives Analysis (AA), and through the National Environmental Policy Act (NEPA) public and agency involvement process.

In the Alternatives Analysis, UTA began with a list of possible alternatives for meeting the purpose of the project. These initial alternatives were put through a four-step screening process to determine which alternatives should be carried forward for detailed study in the NEPA document (that is, this Environmental Assessment). The four steps used in the screening process were:

- **Development of the Universe of Alternatives.** The universe of alternatives included all possible modes and alignments in the study area.

- **Level 1 Screening.** The universe of alternatives was evaluated against a broad set of qualitative criteria in order to produce a long list of viable alternatives. The first-level screening criteria consisted of logical assumptions that would eliminate technologies and alignments that were inappropriate for the Sugar House Streetcar study area.

- **Level 2 Screening.** The long list of alternatives that made it through level 1 screening was evaluated against a set of quantitative criteria in order to produce a smaller set of alternatives that could be defined and evaluated in more detail. The purpose of the level 2 screening was to eliminate alternatives that did not meet the project’s purpose. In addition, certain community-desired transit characteristics that were determined by Salt Lake City and the City of South Salt Lake, such as providing a facility that serves local trips with frequent stops at slow speeds as well as a facility with broad local support, were also considered in the screening criteria that were developed by the project team for level 2.
screening. The purpose of the project is described in Section 1.2.1, Purpose of the Project. The criteria used for level 2 screening were:

- Improve connectivity within the study area and to the existing TRAX system
- Avoid contributing to congestion on 2100 South
- Minimize right-of-way impacts
- Serve neighborhoods with frequent stops at slower speeds
- Fit the context of the neighborhoods in South Salt Lake and the Salt Lake City community of Sugar House
- Provide safe and efficient pedestrian access
- Able to be integrated with traffic

Those alternatives that met the project’s purpose and the above criteria were further evaluated with level 3 screening.

- **Level 3 Screening.** The alternatives that were carried forward into level 3 screening were further evaluated through a combination of quantitative and qualitative criteria. The quantitative criteria were ridership, capital cost, and operations and maintenance cost, while the qualitative criteria were community compatibility, potential effects on land use, and public support.

Figure 2-1 below illustrates the alternative development process.

### 2.1.1 Development of the Universe of Alternatives

Twelve initial technology options and three initial alignments were considered in the AA’s universe of alternatives. These initial alternatives were developed by the Sugar House Project Steering Committee that was established during the initial phase of the project. The work of the committee was supplemented with information from existing land-use and transportation plans. The following technologies were considered:

1. High-speed train
2. Magnetic levitation transport (MAG-LEV)
3. Gondola/aerial tramway
4. Monorail
5. Commuter rail
6. Diesel multiple units
7. Light-rail transit (LRT)
8. Modern streetcar
9. Historic trolley
10. Group rapid transit (GRT)/people mover
11. Personal rapid transit (PRT)
12. Bus

The following alignments within the study area were also included in the universe of alternatives:

- UTA-owned right-of-way (about 2300 South)
- 2100 South
- Local streets (including Transportation Systems Management, or TSM)
Figure 2-1. Sugar House Streetcar Alternative Development Process

- Universe of Alternatives
- Level One Screening: Proven Technology? Fits Local Context?
- Alternatives That Are Community Compatible With Proven Technology
- Level Two Screening: Evaluate Against Project Purpose and Community Transit Characteristics
- Alternatives That Meet the Project Purpose and Community Transit Characteristics
- Level Three Screening: Evaluate Community and Environmental Impacts, Ridership, and Costs
- Alternatives Carried Forward for Detailed Study
2.1.2 **Level 1 Screening**

The level 1 screening criteria used to evaluate the universe of alternatives consisted of logical assumptions that would eliminate technologies and alignments that were inappropriate for the Sugar House area. The initial alternatives were evaluated for how well they addressed the following questions:

- Do the mode and alignment fit within the context of the community?
- Is the technology proven and successfully implemented in other similar communities?

If an alternative met both of the above criteria as well as the purpose of the project, it was carried forward for level 2 screening. Those alternatives that did not fit within the context of the community or for which the technology was not proven were eliminated from further study.

2.1.2.1 **Evaluation of the Initial Alternatives**

**Technology Options**

Table 2.1-1 describes level 1 screening results for the 12 technology options.

<table>
<thead>
<tr>
<th>Technology Option</th>
<th>Description</th>
<th>Proven Technology?</th>
<th>Fits Local Context?</th>
</tr>
</thead>
<tbody>
<tr>
<td>High-speed train</td>
<td>High-speed regional rail; serves long distances.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>MAG-LEV</td>
<td>High-speed trains that hover magnetically over rails to decrease friction and increase speed. Used exclusively for regional transport.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Gondola/aerial tramway</td>
<td>A car or set of cars suspended by an overhead cable.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Monorail</td>
<td>An elevated railway running on a single center track.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Commuter rail</td>
<td>High speed, less-frequent stops; designed to carry many people for longer distances.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Diesel multiple units</td>
<td>Operates with an internal diesel motor that requires no overhead wires.</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Light-rail transit</td>
<td>Sub-regional rail; provides more-frequent stops than commuter rail; moderate speeds and medium distances.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Modern streetcar</td>
<td>Slow speed; more-frequent stops; serves neighborhood and sub-regional riders.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Historic trolley</td>
<td>Slow speed; more-frequent stops; serves neighborhood and sub-regional riders; can impart an identity or history in a particular area.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Group rapid transit/ people movers</td>
<td>GRT and people movers offer transportation on a fixed guideway. GRT is usually on-demand service, while people movers are more typically scheduled service.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Personal rapid transit</td>
<td>Small car with limited capacity that operates on a fixed guideway to predetermined locations.</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Bus</td>
<td>Most common technology for mass transit; most prevalent in the Salt Lake Valley.</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>

Source: UTA 2008
As shown in Table 2.1-1 above, the following technologies met both of the level 1 screening criteria and were carried forward to level 2 screening:

1. Light-rail transit
2. Modern streetcar
3. Historic trolley
4. Group rapid transit
5. Bus

**Alignment Options**

Once the suitable technologies were established, appropriate alignments within the study area could be identified. The following two alignments could accommodate LRT, modern streetcar, historic trolley, GRT, or bus:

- **UTA-owned right-of-way at about 2300 South.** This corridor consists of an existing, abandoned railroad right-of-way owned by UTA. The right-of-way is crossed by several existing north-south-running roads, including busy urban collectors and locally used neighborhood streets.

- **2100 South.** This corridor consists of a four-lane road with multiple intersections, high levels of traffic, and many access points to businesses.

The local streets alignment option was dropped from consideration because it would include many non-signalized intersections, could disrupt local residential traffic patterns and mobility, and could not accommodate significant transit improvements (such as a streetcar line) within the narrow cross-section of most of the streets. (These streets range from 32 feet to 44 feet wide and are typically one lane in each direction.)

The Transportation Systems Management (TSM) component of the local streets alignment option would also not be feasible. Applying TSM to local streets would involve making targeted, small-scale investments in technology and incremental infrastructure improvements in order to increase traffic capacity. A TSM option would not be feasible because the many unsignalized intersections and local street speed limits would limit improvements to the existing public transit system.
2.1.2.2  Level 1 Screening Results

After the initial technology and alignment options were screened using the level 1 screening criteria, the following alternatives were advanced to level 2 screening:

- **Improvement to Existing Bus Service on 2100 South.** As of August 2007, bus service on 2100 South was increased to every 15 minutes. This alternative would further improve the existing bus service by revising stop locations, increasing amenities at stops, and providing alternate bus technology options (for example, buses with low floors).

- **LRT on 2100 South.** This alternative consists of a light-rail line in the current street right-of-way on 2100 South connecting the Central Pointe TRAX Station and a new station at 2100 South and 1100 East.

- **Modern Streetcar or Historic Trolley on 2100 South.** This alternative consists of a modern streetcar or historic trolley line on 2100 South connecting the Central Pointe TRAX Station and a new station at 2100 South and 1100 East.

- **Bus Rapid Transit (BRT) on 2100 South.** This alternative consists of bus rapid transit in a separate lane dedicated to bus-only traffic on 2100 South. GRT options were replaced with BRT options because of the logistical infeasibility of GRT. This is described more below.

- **LRT in the UTA-Owned Right-of-Way.** This alternative consists of a light-rail line in the UTA-owned right-of-way, located at about 2300 South, connecting the Central Pointe TRAX Station and a new station at 1100 East.

- **Modern Streetcar or Historic Trolley in the UTA-Owned Right-of-Way.** This alternative consists of a modern streetcar or historic trolley line on the UTA-owned right-of-way connecting the Central Pointe TRAX Station and a new station at 1100 East.

- **BRT in the UTA-Owned Right-of-Way.** This alternative consists of BRT in a corridor dedicated to bus-only traffic on the UTA-owned right-of-way. GRT options were replaced with BRT options because of the logistical infeasibility of GRT. This is described more below.

This list uses BRT in place of GRT. The GRT options were replaced with BRT options because of logistical infeasibility of GRT, which is a driverless system. GRT is not feasible for the project area because both 2100 South and the UTA-owned right-of-way cross a number of streets, many of which are heavily traveled during the peak hours of the day. Because of the many potential conflict points along both alignments, the driverless GRT vehicle would need to be carefully operated. In contrast, the BRT that currently operates in the region uses rubber-tired vehicles that have a driver.
2.1.3 **Level 2 Screening**

The alternatives that made it through level 1 screening were further evaluated using the project purpose and the following criteria developed by project team members to arrive at a more refined list of alternatives:

- **Improve connectivity within the study area and to the existing TRAX system.** Alternatives were evaluated based on their anticipated ability to improve connectivity between neighborhoods and attractions within the study area and to existing and planned mass transit routes, including the existing Central Pointe TRAX Station.

- **Avoid contributing to congestion on 2100 South.** Traffic modeling of future conditions predicts that traffic will worsen at several locations along 2100 South. Alternatives were evaluated based on their anticipated ability to avoid contributing to congestion on 2100 South.

- **Minimize right-of-way impacts.** The amount of additional right-of-way acquired along 2100 South must be minimized to maintain traffic flow, preserve businesses and access, and ultimately preserve the character of the Sugar House community. Alternatives were evaluated based on whether their expected project footprint would fit within the existing right-of-way.

- **Serve neighborhoods with frequent stops at slower speeds.** An alternative must provide neighborhood service with frequent stops and slower speeds. Alternatives were evaluated based on their ability to provide this level of neighborhood service.

- **Fit the context of the Sugar House and South Salt Lake neighborhoods.** An alternative must be compatible with the Sugar House community and South Salt Lake neighborhoods. Alternatives were evaluated based on their ability to maintain or enhance the existing character of the study area.

- **Provide safe and efficient pedestrian access.** Pedestrians must be able to easily access stations and stops, which means that the transit alternative must be located within walking distance of areas used by pedestrians. Alternatives were based on their ability to safely accommodate pedestrians and to provide safe and efficient access.

- **Able to be integrated with traffic.** An alternative needs to be integrated with traffic at all cross streets along the alignment but especially 700 East and State Street, which have much more traffic than the other cross streets. Alternatives were evaluated for their impact on traffic operations.

2.1.3.1 **Evaluation of Alternatives Carried Through to Level 2 Screening**

As discussed in 2.1.2.2, Level 1 Screening Results, four technology options and two alignment options resulted from Level 1 screening. The combination of alternatives was screened against the project purpose and the criteria listed in Section 2.1.3, Level 2 Screening. The results of level 2 screening are shown in Table 2.1-2 below.
### Table 2.1-2. Level 2 Screening Results

<table>
<thead>
<tr>
<th>Criterion</th>
<th>2100 South Options</th>
<th>UTA-Owned Right-of-Way (2300 South) Options</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Improve Existing Bus Service</td>
<td>Light-Rail Transit</td>
</tr>
<tr>
<td>Contribute to reduced congestion and improved mobility on 2100 South</td>
<td>Neutral</td>
<td>Incompatible</td>
</tr>
<tr>
<td>Provide multimodal travel choices</td>
<td>Neutral</td>
<td>Compatible</td>
</tr>
<tr>
<td>Increase mobility for short trips</td>
<td>Neutral</td>
<td>Neutral</td>
</tr>
<tr>
<td>Provide connections to regional transportation network</td>
<td>Neutral</td>
<td>Neutral</td>
</tr>
<tr>
<td>Preserve and enhance community identity</td>
<td>Neutral</td>
<td>Neutral</td>
</tr>
</tbody>
</table>

**Meets Level 2 Screening Criteria**

| Criterion                                                                 | 2100 South Options | UTA-Owned Right-of-Way (2300 South) Options |
|                                                                           | Improve Existing Bus Service | Light-Rail Transit | Streetcar/Trolley | Bus Rapid Transit | Light-Rail Transit | Streetcar/Trolley | Bus Rapid Transit |
| Improve connectivity within the study area and to the existing TRAX system| Neutral            | Compatible        | Compatible        | Compatible        | Compatible        | Compatible        | Compatible        |
| Avoid contributing to congestion on 2100 South                            | Neutral            | Incompatible      | Incompatible      | Incompatible      | Neutral            | Neutral          | Neutral          |
| Minimize right-of-way impacts                                             | Neutral            | Incompatible      | Incompatible      | Incompatible      | Compatible        | Compatible        | Compatible        |
| Serve neighborhoods with frequent stops at slower speeds                  | Compatible         | Neutral           | Neutral           | Neutral           | Compatible        | Compatible        | Compatible        |
| Fit neighborhood contexts                                                 | Neutral            | Compatible        | Compatible        | Neutral           | Incompatible       | Compatible        | Neutral          |
| Provide safe and efficient pedestrian access                              | Neutral            | Neutral           | Neutral           | Neutral           | Compatible        | Compatible        | Compatible        |
| Able to be integrated with traffic                                        | Neutral            | Neutral           | Neutral           | Neutral           | Incompatible       | Incompatible       | Incompatible       |

**Summary**

<table>
<thead>
<tr>
<th></th>
<th>11 Neutral</th>
<th>6 Neutral</th>
<th>4 Neutral</th>
<th>7 Neutral</th>
<th>4 Neutral</th>
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<td>2 Incompatible</td>
<td>2 Incompatible</td>
<td>1 Incompatible</td>
<td>6 Compatible</td>
</tr>
</tbody>
</table>

*a Neutral means there would be no impact; the condition would remain in a similar state as it currently exists. Compatible means that the alternative would improve the condition or would be compatible with the goal. Incompatible means that the alternative would worsen the condition or would be incompatible with the goal. Incompatible – fatal flaw means that the alternative would not be feasible for logistical reasons; any alternative with a fatal flaw was not carried forward into level 3 screening.*
2.1.3.2 Level 2 Screening Results

As shown in Table 2.1-2 above, the level 2 screening process eliminated light-rail transit on 2100 South, bus rapid transit on 2100 South, and streetcar/trolley on 2100 South because of fatal flaws, namely that all three alternatives would require additional right-of-way along 2100 South in order to maintain traffic flow, and this would cause many impacts to businesses along 2100 South. The remaining four alternatives—improved bus service along 2100 South; and BRT, modern streetcar or historic trolley, and LRT along the UTA-owned right-of-way (2300 South)—were all carried forward for level 3 screening.

2.1.4 Level 3 Screening

The four alternatives that remained feasible at the end of level 3 screening were carried forward for more detailed analysis. In addition to these four action alternatives, UTA and FTA must evaluate a No-Action Alternative (see Section 2.3, Description of the No-Action Alternative).

Alternatives Considered in Level 3 Screening

The four alternatives that were carried into level 3 screening are improved bus service on 2100 South, which would not involve a major capital investment; and BRT, modern streetcar or historic trolley, and LRT along the UTA-owned right-of-way (2300 South). Although the BRT, streetcar/historic trolley, and light-rail alternatives would all be within the UTA-owned right-of-way (2300 South), the service characteristics of each alternative would be different.

The termini for the BRT, modern streetcar or historic trolley, and LRT alternatives are the same: the Central Pointe TRAX Station (at about 250 West and 2100 South) on the west and the Granite Block Redevelopment Area (at about 1050 East and 2100 South) on the east. Each alternative would essentially function as a shuttle route between the two termini. Due to the operational constraints of several light-rail lines and an additional rail service converging at the Central Pointe TRAX Station, at this time UTA is not considering connecting the rail-based alternatives with the existing TRAX system. However, passengers would be able to easily transfer across platforms to the TRAX system.

The four alternatives carried forward into level 3 screening are described in more detail below.

Alternative A – Improved Bus Service on 2100 South

Alternative A – Improved Bus Service on 2100 South would make only modest upgrades to the local transit infrastructure and would require the lowest level of capital investment of the options under consideration. Upgrades would be performed using TSM principles.
In the past, UTA operated fixed-route bus service on 2100 South between the Central Pointe TRAX Station (at about 250 West and 2100 South) and Foothill Boulevard (2700 East) with a 30-minute headway. UTA increased this frequency from every 30 minutes to every 15 minutes in 2007. Stops for the current Route 21 are currently about every other block and would remain so with Alternative A. Alternative A would retain 15-minute frequencies and adds the following features to improve overall performance:

- Traffic signal priority for buses
- Streamlined transfers for riders
- Improved rider facilities (canopies, benches, etc.)
- Real-time audio and visual traveler information (“Next bus in five minutes…”)
- Schedules and route maps posted at bus stops

Service would continue to be provided by conventional transit buses operating in mixed traffic. Service frequencies could be adjusted as necessary to accommodate ridership changes over time. Buses could be diesel-powered or could use alternative fuels.

Because buses would continue to operate in mixed traffic, they would be subject to similar delays as other street traffic, though they would have traffic signal priority. As future traffic conditions on 2100 South worsen over time, the quality of transit service would also deteriorate.

**Alternative B – Bus Rapid Transit on the UTA-Owned Right-of-Way**

BRT could function as a shuttle system between the two termini, or it could be integrated into another planned BRT project on Highland Drive. UTA is currently operating a BRT line on 3500 South in West Valley City and is planning and designing a BRT line on 5600 West in West Valley City and Kearns. BRT has the following general characteristics:

- Fuel-powered, either by diesel or alternative fuel sources
- Stop spacing typically ½ mile to 1½ miles
- Typically rubber-tire vehicles
- General capital cost of about $20 million per busway mile
- General range of $800,000 to $1 million per new bus
- Station boardings
- Estimated running time of 8.5 minutes, assuming no delays at crossings
- Infrastructure could include platforms, stations structures, signal pre-emption, and off-vehicle fare collection

BRT will require an investment by UTA in physical infrastructure and is an incremental increase in the level of investment that would be required for Alternative A. Because of the small number of vehicles required for this length of corridor, UTA does not anticipate that a new bus maintenance facility would be needed. UTA also expects that special BRT
vehicles, if purchased, would be stored and serviced at one of the existing UTA bus maintenance facilities.

**Alternative C – Modern Streetcar or Historic Trolley on the UTA-Owned Right-of-Way**

Modern streetcar and historic trolley are considered together because they would provide identical service, with the only difference being the vehicle design. A streetcar or trolley system would provide a shuttle-type service within the study area and would not directly connect to any other existing or planned rail transit systems (passengers could transfer between systems). Modern streetcar and historic trolley systems have the following general characteristics:

- Powered by electricity
- Steel wheels on tracks
- Curbside boarding possible; smaller stations than typical LRT
- Frequent stops
- General range of $20 million to $30 million per mile in capital infrastructure costs
- General range of $2 million to $3 million per new vehicle
- Estimated running time of 9 minutes, assuming no delay at crossings
- Single track, with double track at one location to allow trains to pass near the center of the alignment
- Single-car trains
- Infrastructure to be consistent with other transit facilities

**Alternative D – Light-Rail Transit in the UTA-Owned Right-of-Way**

Proposed LRT in the UTA-owned right-of-way would connect to the north-south TRAX line along 200 West at the Central Pointe TRAX Station (about 250 West and 2100 South). LRT typically uses multi-car, electrically powered rail cars in combination with reserved or dedicated tracks to provide high-frequency, high-capacity transit service. Characteristics include:

- Powered by electricity
- Able to increase capacity by adding units
- Stops spaced every ½ mile to 1½ miles
- Board at stations
- Steel wheels on tracks
• General range of $25 million to $30 million in capital infrastructure costs per mile
• General range of $3 million to $4 million per vehicle
• Estimated running time of about 7 minutes, assuming no delays at crossings
• Infrastructure includes platforms, station structures, substations, communications equipment, and maintenance shops

In suburban areas where trains operate in a fully dedicated right-of-way and can accelerate to full speed (55 mph) between stops, station spacing is at least 1 to 1½ miles apart. In downtown Salt Lake City, where maximum speeds are not possible, stops are about 0.15 mile apart (that is, every other block). Because Sugar House is in a similar urban area, stops would be similar to those in downtown Salt Lake City.

**Level 3 Screening Criteria**

The third level of screening for the short list of action alternatives carried forward consisted of a combination of quantitative and qualitative criteria. Quantitative criteria were ridership, capital cost, and operations and maintenance cost, while qualitative criteria were public support, community compatibility, and effects on land use.

**Ridership**

Version 6.1 of the WFRC travel demand model was used to forecast changes in transit ridership patterns associated with each alternative. Each modeled scenario included road and transit networks as well as population and employment projections for 2030. Modifications to the regional travel demand model included upgrades to the socioeconomic information for the study area.

**Capital Cost**

The project team developed unit costs for capital costs based on extensive and ongoing involvement in similar projects, adjusting for any special conditions unique to the specific modal alternatives and/or the Salt Lake metropolitan area, and updating as necessary to current dollars.

**Operations and Maintenance Cost**

Operating and maintenance estimates for each alternative were prepared covering the functional categories of transportation (vehicle operations), equipment maintenance, facilities maintenance (for fixed guideways), and general and administrative expenses (including operating and service agreements, if any).
Public Support

The public provided input on the project on several occasions through various means, including open houses held on April 2, 2007, and July 12, 2007, as part of the AA process. In addition, stakeholder interviews yielded valuable insights on expectations and preferences for the area. At the July 12, 2007, open house, the public was asked to indicate which of the four alternatives they preferred most.

Community Compatibility

Compatibility with the surrounding communities was determined by evaluating broad environmental impacts, such as noise and vibration. Other considerations used to help determine compatibility included:

- Scale of each alternative
- Access stops or stations within a short walking distance
- Pedestrians and vehicle interaction with the transit alternative at crossings
- Right-of-way

Effects on Land Use

Evidence suggests that particular transit modes can encourage development around the associated transit facilities. Private-sector investment and development are becoming more prevalent along fixed guideways because the guideways represent a tangible fixed investment and commitment by the public sector to improve mobility. In contrast, bus routes have greater flexibility but might attract less economic development and new construction since they represent a lower perceived level of public investment.

Additionally, the potential noise and pollution impacts of buses, and a poor track record of bus in relation to transit-oriented development, are also considered weaknesses (Currie 2005). A study of transit-oriented development across the United States concluded that rail tends to stimulate concentrated development in areas such as central business districts where transit is highly accessible and auto traffic is affected by congestion and costly parking (Porter 1997).

Results of Level 3 Screening

The project team conducted an in-depth analysis of the four action alternatives based on the evaluation criteria described above. Table 2.1-3 below summarizes the results of the analysis.
At a workshop specifically designed to evaluate alternatives, UTA, representatives of the Cities of Salt Lake and South Salt Lake, UDOT, and WFRC were asked to rank alternatives based on the technical information developed as well as qualitative characteristics such as public support and effects on land use. Workshop attendees participated in the process to rank the alternatives using the information in Table 2.1-3 above and using the evaluation criteria established at the outset of the project. Attendees were asked to rank, from 1 to 5 (with 5 being lowest), the performance of each alternative based on these evaluation criteria. For qualitative criteria, definitions were given for each ranking category (1 through 5). The results from this workshop were summed to produce a total score for each alternative. The results are shown in Table 2.1-4.

### Table 2.1-4. Ranking of Action Alternatives Carried Forward

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate score(a)</td>
<td>156</td>
<td>199</td>
<td>286 / 253</td>
<td>203</td>
</tr>
<tr>
<td>Rank</td>
<td>5</td>
<td>4</td>
<td>1 / 2</td>
<td>3</td>
</tr>
</tbody>
</table>

\(a\) Reflects the sum of all steering committee members’ rankings.

Based on the cumulative results of the technical screening evaluations, the qualitative evaluation, and the workshop committee’s recommendation, the modern streetcar alternative operating in the UTA-owned right-of-way was recommended as the Preferred Action Alternative and was carried forward for detailed analysis in this EA.
The modern streetcar was selected over the historic trolley due to several operational factors, including the following:

- **Accessibility.** Historic trolleys must be retrofitted to meet the federal accessibility standards in the Americans with Disabilities Act (ADA) to be able to accommodate wheelchairs and people whose mobility is impaired.

- **Capacity.** Passenger capacity is much greater on a modern streetcar than on a historic trolley. Modern streetcars typically have 20% more capacity per car than historic trolleys. If there is enough demand for streetcar transit, the modern streetcar can also be operated as two linked vehicles, whereas the historic trolleys operate as single vehicles only. As ridership demand increases, higher-capacity vehicles increase the flexibility of system operations and would allow the system to be operated on a single track.

- **Expandability and Compatibility.** Historic trolley systems are typically implemented in a single area or specific corridor to identify a special type of commercial corridor or tourist attraction. Modern streetcars are more efficient in a network-type system of similar vehicles. In addition, modern streetcars can be built with similar specifications as light-rail vehicles, which means that separate maintenance facilities and tools are not necessary.

### 2.2 Description of the Action Alternative (Modern Streetcar on the UTA-Owned Right-of-Way)

This section describes the Action Alternative (which is also the Preferred Alternative for this project).

#### 2.2.1 Route and Station Characteristics

The Action Alternative is a modern streetcar system that would provide service between the Central Pointe TRAX Station at about 250 West and 2100 South in South Salt Lake and the Granite Block development at Highland Drive and 2100 South in the Salt Lake City community of Sugar House (a total of about 2 miles). The streetcar line would operate on the UTA-owned right-of-way along about 2300 South for its entire length. The route and proposed stations are shown in Figure 2-2 through Figure 2-7 below. As shown in the figures, the Action Alternative includes the following seven stations: Central Pointe TRAX, State Street, 300 East, Kearns/St. Ann’s (450 East), 700 East, 900 East, and Granite Block (about 1100 East). Stations could also be considered at 600 East and 800 East instead of at 700 East and 900 East. The seven stations are about 0.3 mile apart, and service would occur every 15 minutes during peak hours and every 30 minutes during off-peak hours. Station design would be compatible with low-floor modern streetcar vehicles, would comply with the Americans with Disabilities Act (ADA), and would be standardized to control cost and provide a consistent experience for transit users.
Figure 2-2. Alignment Detail (1 of 6)

LEGEND

- Light Rail (LRT) Station
- Proposed Alignment
- New Right-of-Way
- Guideway Curb
- Retaining Wall
- Light Rail (LRT)
- Existing ROW
- Platform
- Panel
- New Buffer Stop
- Median
- Study Area Boundary

Up to 5 substations will be required for streetcar operation. Location of the substations will be determined during final design.
Figure 2-3. Alignment Detail (2 of 6)

Up to 3 substations will be required for streetcar operation. Location of the substations will be determined during final design.
Figure 2-4. Alignment Detail (3 of 6)

Up to 3 substations will be required for streetcar operation. Location of the substations will be determined during final design.
Figure 2-5. Alignment Detail (4 of 6)

LEGEND
- Light Rail (LRT) Station
- Proposed Alignment
- New Right-of-Way
- Guideway Curb
- Retaining Wall
- Light Rail (LRT)
- Existing ROW
- Platform
- Panel
- New Buffer Stop
- Median
- Study Area Boundary

Up to 3 substations will be required for streetcar operation. Location of the substations will be determined during final design.
Figure 2-6. Alignment Detail (5 of 6)

Up to 3 substations will be required for streetcar operation. Location of the substations will be determined during final design.
Figure 2-7. Alignment Detail (6 of 6)

Legend:
- Light Rail (LRT) Station
- Proposed Alignment
- New Right-of-Way
- Guideway Curb
- Retaining Wall
- Light Rail (LRT)
- Existing ROW
- Platform
- Panel
- New Buffer Stop
- Median
- Study Area Boundary

Up to 3 substations will be required for streetcar operation. Location of the substations will be determined during final design.
Station locations were determined by a combination of land-use analysis and public input. Stations were located around areas where development potential was high, in particular at the Granite Block and State Street locations. In addition, the project team wanted to locate stations near higher traffic generators, such as commercial areas or schools. During the 2007–2008 Alternatives Analysis, UTA showed the proposed station locations to the public, and, for the most part, the public was in favor of the proposed stations.

Stations would be standardized to provide a consistent experience for transit users (for example, all stations would have fare-vending equipment in similar locations in relation to the streetcar approach). UTA would use the graphic standards in its Design Criteria Manual or would follow streetcar design guidelines if UTA develops such guidelines. In general, stations would consist of 8-foot-wide at-grade platforms that would accommodate fare-vending (ticketing) equipment, passenger information (such as route maps and schedules), lighting, and an ADA-compliant clear zone. Optional station amenities that would likely be placed adjacent to the platform but still within the UTA-owned right-of-way include elements such as bicycle racks, trash cans, canopies, emergency telephones, and public art. In addition, station betterments could include electronic clocks that indicate the amount of time until the next streetcar arrives. The final platform configuration would be determined during the preliminary engineering and final design phases of the project.

None of the new stations would include parking lots. Center platforms are currently proposed at the Granite Block Station (about 1100 East) and at the 500 East Station, where an adjacent siding track would be incorporated. Side platforms, which could be converted into center platforms in the future if UTA decides to add a double track, are proposed at all other stations. Side platforms are designed in a way that capitalizes on the ability to use traffic signal priority at cross streets to reduce travel time. The streetcar would travel through the intersecting road with priority and then stop after it crosses the intersecting road.

### 2.2.2 Typical Cross-Sections

Figure 2-8 and Figure 2-9 below show typical cross-sections for the Action Alternative. These cross-sections are based on the varying widths along the UTA-owned right-of-way. Figure 2-10 below shows the typical station including the platform and canopy. In addition, a siding track would be required for passing at the midpoint location along the alignment. This siding track is illustrated in Figure 2-11 below along with stations to show the maximum width that would be needed at the passing location.
Figure 2-8. Track Typical Cross-Sections (1 of 2)
Figure 2-9. Track Typical Cross-Sections (2 of 2)
Figure 2-10. Track Station Plans

TYPICAL SIDE STATION PLAN

TYPICAL CENTER STATION PLAN

* Ramp down

* AS NECESSARY TO MATCH EXISTING SIDEWALK GRADE IF STATION PLATFORM CANNOT BE ELEVATED TO MATCH EXISTING SIDEWALK GRADE. ONE RAMP PER STATION, REFER TO PLANS FOR LOCATION.

TACTILE WARNING STEP AT PLATFORM EDGE: PLATFORM HEIGHT = 10" MAX ABOVE TOP OF RAIL (TYP) SEE TRACK PLANS
Figure 2-11. Siding Track Detail

LEGEND
- Light Rail (LRT) Station
- Proposed Alignment
- Guideway Curb
- Existing ROW
- Platform
- Panel
- Study Area Boundary
2.2.3 **Road Crossings and Drainage**

The Action Alternative would include 14 at-grade crossings of existing roads (see Table 2.2-1). These crossings would be designed in conformance with the design guidelines for UDOT Standard Drawings and the guidelines of the Cities of Salt Lake and South Salt Lake. Drainage would be designed to meet the requirements and design guidelines of the Cities of Salt Lake and South Salt Lake. No existing road crossings of the UTA-owned right-of-way would be closed. All 14 crossings would have some type of traffic control. The level of control would depend on the volume of traffic and posted speed on the cross street, the community character at the crossing location, and the sight distance of the intersecting road. UTA would coordinate with UDOT to address the safe crossing by rail vehicles of arterials managed by UDOT.

Because the UTA-owned right-of-way is a former railroad corridor, intersection modifications would be limited to less than 1 foot of change in centerline elevation. Therefore, intersection grading would have limited impact to adjacent properties. The maximum cut-and-fill slopes of any impacts would follow the UTA Design Criteria guidelines as well as those of UDOT and the Cities.

The Action Alternative footprint would cover about 113 acres. Streetcar drainage criteria would apply to the design of drainage facilities in this area. UTA would maintain all drainage facilities. Drainage would consist of gravity-flow systems where possible. At sections where gravity outfalls could not be constructed, pumping stations would be considered.

<table>
<thead>
<tr>
<th>Crossing Location</th>
<th>Recommended Control Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Temple(a) | Gated control</td>
<td></td>
</tr>
<tr>
<td>Main Street(a) | Gated control</td>
<td></td>
</tr>
<tr>
<td>State Street(a) | Gated control</td>
<td></td>
</tr>
<tr>
<td>200 East(b) | Stop or yield control (minimum); flashing light signal</td>
<td></td>
</tr>
<tr>
<td>300 East(b) | Stop or yield control (minimum); flashing light signal</td>
<td></td>
</tr>
<tr>
<td>400 East(b) | Stop or yield control (minimum); flashing light signal</td>
<td></td>
</tr>
<tr>
<td>500 East(b) | Gated control</td>
<td></td>
</tr>
<tr>
<td>600 East(b) | Stop or yield control (minimum); flashing light signal</td>
<td></td>
</tr>
<tr>
<td>700 East(b) | Gated control</td>
<td></td>
</tr>
<tr>
<td>Alley(b) | Stop sign</td>
<td></td>
</tr>
<tr>
<td>Lake Street(b) | Stop or yield control (minimum); flashing light signal</td>
<td></td>
</tr>
<tr>
<td>Alley(b) | Stop sign</td>
<td></td>
</tr>
<tr>
<td>800 East(b) | Stop or yield control (minimum); flashing light signal</td>
<td></td>
</tr>
<tr>
<td>900 East(b) | Gated control</td>
<td></td>
</tr>
</tbody>
</table>

Source: UTA 2009a

\(a\) A gate crossing would definitely be incorporated at this location.

\(b\) The crossing type would be determined during the final design phase of the project.
2.2.4 Operational Information

The Action Alternative assumes that the streetcar fleet would consist of three modern streetcar vehicles. Two vehicles would be in operation during peak hours, and the third car would serve as a spare in case one of the other cars is out of service. Non-peak service would be served by one or two streetcars.

When two cars are in operation, cars would operate in opposing directions and would pass at a mid-point siding track. If only one streetcar is in operation, the second car would be parked and secured at one of the terminal tail tracks.

By using a dedicated transit right-of-way that avoids travel on 2100 South and the local road network, the Action Alternative would offer higher service levels and increased reliability compared to an improved bus option, particularly as congestion on 2100 South increases. Assuming five intermediate stops and no delays at street crossings (see Section 2.2.3, Road Crossings and Drainage), the expected one-way running time for the modern streetcar is about 9 minutes between the Central Pointe TRAX Station and the Granite Block.

A traction electrification system would provide overhead power to the streetcar, composed of the overhead contact wire and traction power substations. The service would operate by line-of-sight rules, would not require complex signaling or communication systems, and would be incorporated into the existing UTA communications network. The streetcar traction electrification system would not conflict with existing parallel overhead power lines present in the UTA-owned right-of-way.

Traction power substations (TPSS) are anticipated to be located about 1 mile apart along the UTA-owned right-of-way, and the exact locations for the TPSS sites would be determined during the final design phase of the project. Each TPSS would be designed as a totally integrated, weatherproof unit and would provide a dry, condensation-free, stable internal environment by using fan-assisted ventilation and cooling. The substations would operate unattended and would be served by incoming power feeds from Rocky Mountain Power. The substations would be located largely within the right-of-way; however, some additional right-of-way might need to be acquired to accommodate the building. The configuration for the TPSS locations and layout would be determined during the final design phase of the project.

The proposed maintenance and storage facility for the Sugar House Streetcar Project would be a part of the new Jordan River Service Center maintenance facility, which is currently under construction to service light-rail vehicles from UTA’s 2015 Program. It is located at 2264 South 900 West in South Salt Lake. Vehicle maintenance, including cleaning and washing, will take place at the Jordan River Service Center during off hours or concurrently during normal operations with the spare vehicle in revenue service.

Although the proposed maintenance and storage facility is designed for light-rail vehicles, it can also serve the proposed modern streetcar fleet for light to major
maintenance and can function as a storage space for the vehicles and spare parts. The following compatibility issues will need to be considered:

- The modern streetcar vehicle dynamic envelope should be no greater than the existing or proposed UTA light-rail vehicle fleet dynamic envelope.
- Maintenance space at the Jordan River Service Center should be able to accommodate the proposed modern streetcar fleet and have available storage space for spares and parts.

Access to the Jordan River Service Center would be via the proposed West Valley Light Rail alignment to the existing North-South LRT alignment and would then cross over to the Sugar House alignment north of the West Valley and North-South TRAX junction. Streetcar vehicles would leave the Jordan River Service Center and enter onto the eastbound West Valley alignment. From there, the modern streetcars would then transition onto the northbound North-South LRT alignment and then proceed past the Sugar House junction. Once there, the streetcar vehicle would reverse direction and enter onto the proposed Sugar House track alignment.

### 2.3 Description of the No-Action Alternative

The No-Action Alternative provides a baseline for comparing the travel benefits and other environmental impacts associated with other alternatives. The improvements associated with the improved bus service and build alternatives are those that could be made in addition to those that are part of the No-Action Alternative.

The No-Action Alternative includes the existing highway network (which is also part of the Action Alternative) plus the transportation improvements included in the WFRC Regional Transportation Plan. The No-Action Alternative includes planned and committed highway and transit facilities that are likely to exist in the year 2030, with the exception of the Sugar House Streetcar Project itself. The No-Action Alternative assumes that bus service continues “as is” on 2100 South between the Central Pointe TRAX Station (at about 250 West and 2100 South) and Foothill Boulevard (2700 East) with a 15-minute headway (that is, every 15 minutes). Stops for the current bus Route 21 are currently about every other block.

The No-Action Alternative assumes normal maintenance and replacement of existing facilities and equipment as their design life is exceeded.
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Chapter 3: Affected Environment, Environmental Consequences, and Mitigation Measures

This chapter describes the existing environmental, social, and economic conditions (that is, the affected environment) in the Sugar House Streetcar Project study area and how the No-Action and Action Alternatives would affect those conditions. Specifically, this chapter focuses on the following subjects:

- Land use
- Social environment
- Property effects
- Economics
- Air quality
- Noise and vibration
- Water quality
- Floodplains
- Historic properties
- Visual and aesthetic resources
- Construction impacts
- Cumulative effects

Because there are no paleontological resources, farmlands, wetlands, or waters of the United States in the study area and because the area is developed and there is no habitat for fish and wildlife, these resources are not evaluated in this EA. For a technical memorandum that describes why these resources are not included in this EA, see Appendix B1, Subjects Not Studied in the Environmental Assessment.

Although there are environmental justice populations in the study area, technical analysis shows that there would be no disproportionate impacts from the Action Alternative on any of the populations. The technical analysis is included in Appendix B2, Environmental Justice. Additionally, although there are hazardous waste sites in the study area, none are on the UTA-owned right-of-way, and any near the right-of-way are “closed” sites far enough away to not be affected by construction. Because the project would have little to no effect on surrounding geology and soils, geologic hazards are also not evaluated in this chapter. The technical memoranda for these resource areas are included in Appendix B, Technical Memoranda.

Sugar House Streetcar Study Area. The Sugar House Streetcar study area is bounded by I-15 on the west, 1300 East on the east, 1700 South on the north, and I-80 on the south (see Figure 3-1 below). Stations are currently planned for the western and eastern termini (the Central Pointe TRAX Station at 2100 South on the west and Highland Drive on the east) and the intersections of the UTA-owned right-of-way along about 2300 South with State Street, 300 East, 500 East, 700 East, and 900 East.
Figure 3-1. Sugar House Streetcar Study Area
Some resources are evaluated within an evaluation area that is different from this general study area in order to understand how the project might affect those resources. For example, the land use evaluation area includes land within about one-half mile of the UTA-owned right-of-way because land use changes typically associated with a transit project are generally within about one-half mile of a transit facility. Resource-specific evaluation areas that differ from the general Sugar House Streetcar study area are described in each section as appropriate.

3.1 **Land Use**

This section describes the land-use policies and plans of the local jurisdictions in the land use evaluation area and identifies major activity centers and community facilities. It also describes current land-use patterns in the evaluation area. Finally, it analyzes the expected project impacts to existing and future land use and local and regional land-use plans.

The *land use evaluation area* includes all land within about one-half mile of the proposed streetcar alignment and the stations to the north, east, and west. Because I-80 forms a considerable barrier about one-quarter mile to the south, land uses south of I-80 are not considered in detail in this evaluation. Similarly, I-15 forms a significant barrier just west of the western terminus, so land uses west of I-15 are not considered. For the other areas, the one-half-mile evaluation area was identified based on an assumption that land-use changes such as transit-oriented development that could be caused by the project are typically focused on an area within about one-half mile of a transit facility.

3.1.1 **Statutory and Regulatory Setting**

Title 10, Chapter 9a, of the Utah Code (known as the Municipal Land Use, Development, and Management Act) was passed in 1992 and updated in 2005. It gives municipalities and Counties the authority to regulate land use within their jurisdictions. The Act requires that municipalities establish a planning commission, which makes recommendations to the City Council on the General Plan, land-use ordinances, zoning map, and amendments. It requires municipalities to prepare a General Plan, including mandatory Land Use, Transportation and Traffic Circulation, and Moderate Income Housing elements.

The General Plan, land-use ordinances, zoning map, and amendments as established by Salt Lake City and the City of South Salt Lake guide and regulate land use and development within the cities’ boundaries.

3.1.2 **Affected Environment**

As stated in the *Sugar House Transit Corridor Alternatives Analysis* (UTA 2008), the area supports a broad mix of land uses ranging from light industrial to residential. This section describes the land-use conditions in the evaluation area and the policies regarding land use that have been adopted by the City of South Salt Lake and Salt Lake City.
3.1.2.1 Methodology

The project team obtained land-use information about the evaluation area from the following sources:

- *Sugar House Transit Corridor Alternatives Analysis* (January 2008)
- Zoning and land-use maps for South Salt Lake (City of South Salt Lake 2008a, 2008b, 2008c)
- Salt Lake City Sugar House Community and Central Community master plans (Salt Lake City 2005a, 2005b) and zoning maps (Salt Lake City 2007, 2008)
- City of South Salt Lake General Plan (April 1997) and South Salt Lake General Plan Update, which was adopted on December 2, 2009 (City of South Salt Lake, no date; Carlson 2009)

This information was verified and supplemented by performing field inspections of the land use evaluation area and examining recent aerial photographs of the evaluation area.

3.1.2.2 South Salt Lake

Existing Land-Use Patterns

The area from the western project terminus at 200 West to 500 East is within South Salt Lake. According to the *Sugar House Transit Corridor Alternatives Analysis*, the western portion of the overall study area, most of which is within South Salt Lake, is characterized by a mix of “big box” commercial development (primarily along 2100 South and 300 West) and light-industrial uses bordered by higher-density residential. The arrangement of these mixed land uses promotes walking as a means of transportation.

According to the City’s current land-use map (City of South Salt Lake 2008a), the area along the UTA-owned right-of-way in South Salt Lake is generally developed with light-industrial uses west of the TRAX line along 200 West, commercial uses between the TRAX line and about State Street, and residential uses between about State Street and the city limit at 500 East. Uses to the south of the UTA-owned right-of-way show a similar pattern (industrial west of 200 West, commercial between 200 West and State Street, and residential between State Street and 500 East).

To the north, 2100 South forms the South Salt Lake boundary. Uses between the right-of-way and 2100 South also follow the same industrial-commercial-residential pattern from west to east except directly along 2100 South, which supports commercial and office uses between State Street and 400 East. The area north of 2100 South is within Salt Lake City and is discussed in Section 3.1.2.3, Salt Lake City.
Future Land Use

Recognizing that its general plan needed to be updated in order to reflect current conditions, the City of South Salt Lake recently finalized a new general plan that was officially adopted on December 2, 2009 (Carlson 2009). According to the newly adopted plan:

South Salt Lake is at the heart of the [principal] transportation corridor for the Salt Lake Valley. Every year, increasing numbers of people use public transportation to access employment and their homes. South Salt Lake should design around transit stops with a network of sidewalks, roads, and bike paths to encourage different methods of accessing public transportation system. New housing at appropriate densities, shopping, and public areas should be developed at strategically located transit stops.

The newly adopted plan contains goals, objectives, and policies that directly address transit. These policies and goals include:

- **Goal LU4**: Capitalize on South Salt Lake’s vast transit options by creating specific transit-oriented development land-use plans using current best practices.
  - **Objective LU4.2**: Create new specific area transit-oriented development plans.
    - **Policy LU4.2.2**: Create a transit-oriented development plan along the entire length of the Sugar House Spur Line (2250 South).

- **Goal LU8**: Accommodate higher-density housing in appropriate areas.
  - **Policy LU8.1.2**: Locate higher-density housing in transit-oriented development areas and areas that abut other forms of mass transit as well as on major arterial corridors.

Local long-range planning by the City of South Salt Lake and regional planning by WFRC target portions of the evaluation area for high-density, transit-oriented development that includes commercial uses, mixed uses, and some residential uses (Carlson 2009; City of South Salt Lake 2008c). Figure 3-2 below shows three redevelopment areas (RDAs): one around the TRAX station at 200 West and about 2100 South, one at the Market Station area between Main and State Streets, and one along the UTA-owned right-of-way between about 300 East and 500 East. The Market Station RDA is the only RDA that currently exists; the City also identifies this area as a “growth area.” According to the newly adopted general plan, Market Station encompasses about 40 acres and will ultimately support 600 to 800 dwelling units, retail uses, and office uses. The newly adopted plan notes that the Sugar House streetcar line will run through Market Station and will be a positive transportation amenity from the project (City of South Salt Lake, no date). The other two RDAs are only planned at this time.
Figure 3-2. Planned Land Uses in South Salt Lake
Land directly along the east side of State Street is identified as commercial, but the future uses transition to residential north of the right-of-way east of State Street. The development pattern of land along the UTA-owned right-of-way between about 300 West and Main Street will probably not change over the next 10 years (that is, before the City completes its next general plan update). Between State Street and 500 East, the area south of the right-of-way is in an area planned for transit-oriented development and includes one of the proposed RDAs. At 300 East, the transit-oriented development area extends north of the right-of-way. Areas to the north and south of the right-of-way (but not adjacent to the right-of-way) are planned for residential uses.

### 3.1.2.3 Salt Lake City

#### Existing Land-Use Patterns

The east and far northern parts of the evaluation area are in Salt Lake City. The city limit along the UTA-owned right-of-way begins at 500 East; the part of the evaluation area east of this line is entirely within Salt Lake City. The part of the evaluation area north of 2100 South and west of 500 East within one-half mile of the UTA-owned right-of-way is also in Salt Lake City, although the UTA-owned right-of-way itself is in South Salt Lake (see Figure 3-1 above, Sugar House Streetcar Study Area).

Currently, the part of the evaluation area that is in Salt Lake City is developed with commercial uses along 2100 South and along 700 East, 900 East, and Highland Drive. Much of the land along and south of the right-of-way is developed for residential uses, particularly the areas between 500 East and about 1000 East, although there are pockets of commercial development between 600 East and 700 East. The area between 1000 East and Highland Drive is developed as commercial uses north of the right-of-way and as park, public facility, and commercial uses south of the right-of-way.

In Salt Lake City, zoning and future land uses are mapped by “communities.” The evaluation area includes parts of two of these communities: Sugar House community and Central community.

#### Future Land Use

**Sugar House Community Master Plan and Zoning Map**

The most recent Sugar House Community Master Plan was adopted by Salt Lake City in 2005 (Salt Lake City 2005a). The master plan area is generally bounded by 500 East on the west, 1700 South on the north, 2300 East and Parley’s Way on the east, and about 3000 South on the south (see Figure 3-3 below). The part of the evaluation area that is north of 2100 South and west of 500 East in Salt Lake City is included in the Central Community Master Plan and is discussed in the next section.
Figure 3-3. Planned Land Uses in Salt Lake City
The Sugar House Community master plan identifies the area between 2100 South and I-15 and about 900 East and 1300 East as the business district of the Sugar House community. The streetcar line would end at the proposed Granite Block development in the heart of the business district at Highland Drive (about 1100 East); this area is identified as Business district mixed use, town center scale in the master plan. The master plan also shows that the area of the eastern streetcar terminus would be in the Sugar House RDA, which, like the business district, extends to 1300 East. The City has actively encouraged commercial development throughout the business district and RDA.

The rest of the evaluation area travels through residential areas north and south of (but not immediately adjacent to) the right-of-way between 500 East and about 1000 East; mixed-use areas adjacent to the right-of-way between 500 East and 900 East; public and open space (Fairmont Park) between 900 East and about Highland Drive; and business district mixed use north of but not adjacent to the right-of-way between 900 East and 1000 East.

The master plan shows a “light rail/rails with trails” corridor along the UTA-owned right-of-way and includes a number of policies to support transit development and compatible land use along the corridor. These policies include:

- Support the construction of light rail along the Sugar House rail corridor and determine locations for future transit stations and park-and-ride facilities within the Sugar House business district, near Brickyard Plaza and on 2100 South near 2300 East.

- Direct land-use decisions to support a light-rail station in the business district.

- Create a citywide transit-oriented development zoning district or overlay zone that can be applied to strategic areas and that requires development, both public and private, to facilitate transit use.

- Encourage UTA to acquire the Union Pacific rail line in order to preserve the options of converting the line to a “rails-with-trails” corridor for cycling, hiking, skating, and a light-rail line. (UTA purchased this property in 2000.)

- Prohibit development that encroaches on or uses the Union Pacific railroad line right-of-way, if that development compromises future use of the right-of-way for a trail or light-rail system.

- Enforce against individuals who have illegally built structures that encroach on the railroad right-of-way.

Salt Lake City adopted the Sugar House Community Master Plan with the desire for UTA to run transit in the UTA-owned right-of-way. At the time the Master Plan was written and adopted, the Cities thought that light rail would be the most desired mode of transit. However, since the Master Plan was adopted, UTA and the Cities went through the alternatives analysis process and found that the residents of South Salt Lake and the Salt Lake City community of Sugar House preferred streetcar to light rail. Moreover, the
Cities found that streetcar better met their goals and objectives and the purpose of and need for the project. A letter of support for streetcar in the UTA-owned right-of-way from the Salt Lake City mayor is included in Appendix A, Pertinent Correspondence.

Light rail and streetcar use very similar technologies, and, in the case of the Sugar House Streetcar Project, both modes would use the UTA-owned right-of-way. Light rail generally provides faster speeds than streetcars, and the stops are typically spaced farther apart and the vehicles are designed for higher speeds. In addition, light-rail vehicles are usually larger and have greater passenger capacities. The Cities found that the slower speeds, more-frequent stops, and small vehicles better fit their vision for the 2100 South area of South Salt Lake and the Salt Lake City community of Sugar House. Therefore, streetcar in place of light rail is consistent with the planned uses and would not preclude the addition of light rail later, if the Cities felt that additional capacity or less-frequent stops were warranted.

**Central Community Master Plan and Zoning Map**

The land use evaluation area extends into the Central Community Master Plan area on the north side of 2100 South west of 700 East (Salt Lake City 2005b). The UTA-owned right-of-way and the Central Pointe TRAX Station at 2100 South are not in this part of the evaluation area, but land uses could be affected by the facility.

The future land-use map in the 2005 Central Community Master Plan assumes that transit-oriented development would occur along the existing TRAX line and along the segment of 2100 South within about one-half mile of the TRAX line (see Figure 3-3 above, Planned Land Uses in Salt Lake City). The land-use map also shows commercial use along 2100 South between 700 East and about 200 East, residential use north of 2100 South between 700 East and State Street, and manufacturing/business park use between the transit-oriented development and I-15 to the west. Most of the evaluation area is in the Ball Park (formally known as People’s Freeway) neighborhood.

The Central Community Master Plan contains a section that specifically addresses transit-oriented development. This section includes a policy (Policy TOD-2.0) to encourage the development of mixed-use projects near light-rail stations to create a livable, walkable urban environment. The existing (and future West Valley City TRAX line) light-rail station near 2100 South would be just south of the Central Community Master Plan’s southern boundary.

The zoning map of the Central Community designates most of the area identified for transit-oriented development in the master plan for commercial uses (general commercial [CG] and commercial corridor [CC]) (Salt Lake City 2008). The commercial land along the north side of 2100 South is designated for community commercial/business uses in the community plan and on the zoning map.

The zoning ordinance does not specifically address transit-oriented development. However, local long-range planning by Salt Lake City and regional planning by WFRC
3.1.3 Environmental Consequences

3.1.3.1 Methodology

Land-use effects were determined by reviewing information listed in Section 3.1.2, Affected Environment, and evaluating how the proposed Action Alternative could affect the future land-use plans of the City of South Salt Lake and Salt Lake City.

3.1.3.2 No-Action Alternative

Under the No-Action Alternative, the existing right-of-way would not be used as a transitway. Other planned uses for the section of the corridor in Salt Lake City, such as the planned “rails to trails” uses of hiking, bicycling, and skating, might still be developed along the corridor in the future. The South Salt Lake and Salt Lake City future land-use plans currently expect the construction of transit along the corridor, and the Cities are planning for transit-compatible land uses along much of the corridor. The No-Action Alternative would not support the future land-use plans of the Cities and would be in conflict with the future land uses as presented on the South Salt Lake land-use map and the Salt Lake City Sugar House Community Plan land-use map. Because the Salt Lake City Central Community is not directly adjacent to the right-of-way, planned transit-oriented development along and near the existing north-south TRAX line along 200 West would probably still be constructed under the No-Action Alternative.

3.1.3.3 Action Alternative

The Action Alternative would construct a streetcar line along the UTA-owned right-of-way and stations at the Central Pointe TRAX Station, State Street, 300 East, Kearns/St. Ann’s (450 East), 700 East, 900 East, and Granite Block (about 1100 East). Stations could also be considered at 600 East and 800 East instead of at 700 East and 900 East. All stations (with the exception of the Central Pointe Station at the western terminus) would be located on existing UTA-owned right-of-way and would be walk-up stations. The station at the western terminus would require acquisition of a strip of land outside the UTA-owned right-of-way from a property that abuts the east side of the tracks at 193 West 2100 South. No park-and-ride lots are proposed, so no additional land outside the right-of-way would be affected. The Central Pointe, State Street, 300 East, and 500 East stations would be in South Salt Lake, and the 700 East, 900 East, and Granite Block stations would be in Salt Lake City.

South Salt Lake

Construction of a streetcar line in South Salt Lake is consistent with the City’s newly adopted general plan policies regarding transit development and is consistent with the
proposed future land uses for the area. The project would also support the City’s transit-oriented development goals.

Even though the project is not a light-rail project, use of the City’s designated corridor as a transitway is consistent with its plans for the UTA-owned right-of-way. Using the right-of-way for a streetcar would not preclude the right-of-way’s future use for a light-rail line.

The streetcar line would begin at a transit hub in South Salt Lake. This hub serves the existing TRAX line and will serve the West Valley City and Mid-Jordan light-rail lines once they are constructed. The City plans to use this area for mixed uses in the future. Connection of the new streetcar line to this hub is consistent with the existing use of this area and would support future mixed-use development. The property from which UTA would need to acquire a strip of land would still function as a commercial property (for more information about this property effect, see Section 3.3.3.3, Action Alternative).

Once the streetcar line leaves the transit station at 200 West, it would pass through the Market Station redevelopment area between about West Temple and State Street. As noted in Section 3.1.2.2, South Salt Lake, the City of South Salt Lake’s newly adopted general plan supports the streetcar line through this area as a positive transportation amenity. The project is consistent with the City’s future land-use plan and with plans for the Market Station area. The proposed State Street station would support the Market Station development.

Traveling east from State Street, the streetcar line would pass along the northern boundary of the area planned for transit-oriented development. The next transit stop would be at 300 East, which is also the point where the transit-oriented development area extends north of the right-of-way. A streetcar is consistent with the planned use of this area.

Currently, the area along the right-of-way east of State Street all the way to the city limit at 500 East is developed for residential uses. Because the streetcar line and stations would be constructed completely within the UTA-owned right-of-way, the existing residential uses would not be affected by the project.

The last stop in South Salt Lake is at 500 East, which is the border between South Salt Lake and Salt Lake City. This stop is in an area that is planned for mixed uses. Constructing a streetcar line is consistent with the planned uses and would benefit development around the station.

**Salt Lake City**

The project is consistent with both the Sugar House Community Master Plan and Central Community Master Plan policies related to future transit use of the right-of-way and transit-oriented development.

The streetcar line would enter Salt Lake City at 500 East. As noted in Section 3.1.2.3, Salt Lake City, the City’s Sugar House Community Master Plan identifies the right-of-way as a light rail/rails-with-trails corridor. Even though the plan shows light rail in the
UTA-owned right-of-way, constructing a streetcar line is consistent with this designation. Light rail and streetcar use very similar technologies, and, in the case of the Sugar House Streetcar Project, both modes would use the UTA-owned right-of-way. Light rail generally provides faster speeds than streetcars because the stops are typically spaced farther apart and the vehicles are designed for higher speeds. In addition, light-rail vehicles are usually larger and have greater passenger capacities. The Cities found that the slower speeds, more-frequent stops, and small vehicles better fit their vision for the 2100 South area of South Salt Lake and the Salt Lake City community of Sugar House. Therefore, streetcar in place of light rail is consistent with the planned uses and would not preclude the addition of light rail later, if the Cities felt that additional capacity or less-frequent stops were warranted.

In general, the area south of the right-of-way (but not immediately adjacent to the right-of-way) between 500 East and Fairmont Park at 900 East is developed as residential uses. The residential designations for these areas in the master plan map and zoning map indicate that this residential development pattern will continue in the future. Constructing the streetcar line would not affect this pattern. Existing and planned uses in the area north of but not immediately adjacent to the right-of-way are a mixture of residential, commercial, and mixed use between 500 East and the Business District boundary at about 1000 East. This pattern of varied uses would not be adversely affected by construction of the streetcar line.

Between 500 East and 600 East, the areas along the right-of-way are currently zoned and used for residential uses. The future land-use plan shows the area as mixed use. Constructing the streetcar line would help the area transition to mixed use, which would continue to include residential development.

The area along the right-of-way between 600 East and 700 East is zoned for commercial, and the master plan map shows the area as mixed use. Constructing the project would not affect the existing and expected development pattern of this area and would support a mixed-use pattern.

Much of the area along the right-of-way east of 700 East is currently zoned and planned for residential development. Commercial and mixed uses become more common as the right-of-way approaches the Business District and Highland Drive. Construction of a streetcar line would not adversely affect this land-use pattern.

Finally, the streetcar line would travel along the northern boundary of Fairmont Park between about 900 East and 1000 East and end at the Granite Block development area. The streetcar line would not affect use of the park and might even allow more visitation to the park by providing convenient access. The Granite Block development, which is in the city’s Business District, has been planned under the assumption that transit service would be provided to the area via the UTA-owned right-of-way. The planned Highland Station is consistent with plans for the Granite Block development.
Summary

The proposed streetcar line would be constructed on existing right-of-way that UTA owns and that the City of South Salt Lake and Salt Lake City have reserved for transit and trail use. Even though both Cities’ master plan policies show light-rail transit in the UTA-owned right-of-way, the project is consistent with the Cities’ master plan policies related to transit and transit-oriented development around and along the reserved corridor. Use of the corridor for the streetcar is consistent with the Cities’ plans.

Existing and planned uses along but not adjacent to the right-of-way vary from focused mixed-use development associated with redevelopment to residential use. Constructing a streetcar line would support mixed-use development and would not affect the continued use of residential areas.

3.1.3.4 Mitigation Measures for Land-Use Impacts

Because constructing a streetcar line would not adversely affect existing and planned land uses in the evaluation area and would support the Cities’ plans for future development along the right-of-way, no mitigation is proposed.

3.2 Social Environment

This section describes the social, or community, environment of the Sugar House Streetcar Project. The social environment is analyzed in terms of the following elements:

- Community cohesion and social interaction
- Quality of life
- Community facilities and recreation resources
- Public services and utilities
- Public safety

The community cohesion, quality of life, and public safety evaluation area includes the part of South Salt Lake that is north of I-80 and east of I-15 and the Sugar House community of Salt Lake City. The community facilities and recreation resources evaluation area is all land within about one-half mile of the right-of-way, since this is the area that is most likely to be affected by the proposed transit facility. The public services and utilities evaluation area is the same as the general Sugar House Streetcar study area described in Section 3.1, Land Use.

3.2.1 Statutory and Regulatory Setting

NEPA and its implementing regulations and guidelines require agencies to consider the social and economic impacts of a project when preparing an environmental document. The Council on Environmental Quality regulations that implement NEPA state that, when making any decision that could affect the environment, agencies must consider
qualitative factors and unquantifiable environmental amenities and values along with economic and technical considerations. Federal and state guidelines do not specifically require an analysis of every potential project-related community impact. However, UTA must be responsive to issues raised by concerned citizens, interest groups, and local agencies. Accordingly, community impacts should be clearly identified and carefully evaluated when preparing the environmental document.

### 3.2.2 Affected Environment

#### 3.2.2.1 Methodology

Information about the social environment was obtained by:

- Reviewing city plans, maps, and websites
- Consulting with local government representatives
- Attending public meetings
- Reviewing public comments received during previous public outreach efforts
- Conducting field reviews

#### 3.2.2.2 Community Cohesion and Social Interaction

*Neighborhood and community cohesion* are the patterns of social networking and the degree to which residents have a sense of belonging to their neighborhood or community, including commitment to the community or a strong attachment to neighbors, institutions, or particular groups (NCHRP 2001).

I-80 and I-15 currently act as major intercommunity barriers in South Salt Lake and affect the interactions between residents north of I-80 and east of I-15 and residents in other parts of South Salt Lake. The western part of South Salt Lake that is in the evaluation area is strongly business oriented, but there are some residential neighborhoods scattered throughout the area. Established neighborhoods dominate the landscape east of State Street. Many residents of these neighborhoods have lived in their homes for decades and exhibit pride in ownership. Neighbors interact as they go about their day-to-day business.

The part of South Salt Lake that is in the evaluation area does not include any public schools but does include a number of churches and associated services (including a private school). Because churches and schools provide opportunities for people to socialize, interact, and build bonds, these institutions provide important meeting places for area residents. The athletic fields associated with St. Ann’s Catholic Church and School provide opportunities for families to interact as groups gather to play baseball, soccer, and basketball. The Chamber of Commerce is currently constructing a park on the south side of the UTA-owned right-of-way along 400 East. This park will likely serve as an important gathering place for residents of the local neighborhood.
Within South Salt Lake, the majority of the Sugar House Streetcar study area is represented by the Columbus Neighborhood Advisory Committee. Residents of the community can be involved in this committee, which provides a forum where neighborhood concerns can be brought to the city councilperson who represents that district.

The part of Sugar House that is in the evaluation area does not include Sugar House Park and does not support any public schools. Highland High School is just east of Sugar House Park and is close enough that many students walk from the school into the business district, especially after school is out for the day. There are also several churches and private schools in the community that provide places for neighbors to interact. The business district further provides opportunities for residents to interact.

Residents of the community can be involved in their community through the Sugar House Community Council (SHCC), which provides opportunities for residents to identify issues, plans, and projects that enhance the beauty, safety, vibrancy, and human-scale character of Sugar House neighborhoods, businesses, and historical and natural resources (SHCC 2009). This community-level planning process encourages community cohesion and interaction.

Intercommunity barriers include I-80 in the southern part of the community and 700 East in the western part of the community.

3.2.2.3 Quality of Life

Quality of life can be characterized as a person’s well-being and happiness. The factors that affect quality of life vary by person but often include safety, general living environment, accessibility to public services and shopping, affordable housing, and plentiful leisure, cultural, and recreation activities. (For information about community facilities and recreation, see Section 3.2.2.4, Community Facilities and Recreation Resources. For information about public safety, see Section 3.2.2.6, Public Safety.)

South Salt Lake. Residents of the part of South Salt Lake that is in the evaluation area enjoy easy access to I-15 and I-80 as well as excellent access to the north-south-running TRAX line along 200 West. The local area also supports varied shopping opportunities, including numerous “big box” stores, most of which are west of State Street. The residential areas are largely contiguous, the neighborhoods east of State Street are generally quiet, and traffic through these areas mostly consists of local traffic. There are no large parks or other public gathering places in this part of the evaluation area, although residents use the grounds of St. Ann’s Catholic Church for recreation, and a small park is currently under construction along 400 East.

In general, crime rates in Utah have decreased in the last 3 years. South Salt Lake is no exception. The South Salt Lake Police Department recognized a need to emphasize safety and has been working to establish neighborhood partnerships, including a good-landlord program and a crime-free-rental-housing program. In 2008, the city’s Uniform Crime Reporting statistics dropped by 14%. South Salt Lake’s number of serious crimes (violent
crimes and property crimes) fell to under 100 crimes per 1,000 residents for the first time since 2002 (Salt Lake Tribune 2009; FBI 2009). Table 3.2-1 below summarizes the 2008 crime rates per 1,000 residents for South Salt Lake, Salt Lake City, and Utah. The South Salt Lake Police Department intends to continue these successful programs to help decrease crime in the city even more.

Table 3.2-1. Summary of Violent and Property Crimes in 2008

<table>
<thead>
<tr>
<th>Area</th>
<th>Violent Crimes</th>
<th>Property Crimes</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utah</td>
<td>2.2</td>
<td>33.6</td>
<td>35.8</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>7.9</td>
<td>89.6</td>
<td>97.5</td>
</tr>
<tr>
<td>South Salt Lake</td>
<td>10.3</td>
<td>87.9</td>
<td>98.2</td>
</tr>
</tbody>
</table>

Source: FBI 2009

An apartment complex along 500 East has historically been problematic for law-enforcement officials. The establishment of a community center in the complex has helped diminish crime in this area and has improved the quality of life for residents of the apartment complex.

Salt Lake City. Residents of the part of Sugar House that is in the evaluation area have easy access to I-80. The shopping opportunities in the Sugar House area are focused between about 1300 East and 700 East along and south of 2100 South. The area supports a number of “big box” stores but also includes many smaller businesses, dental and medical offices, and restaurants. Residential areas are scattered throughout the evaluation area, and contiguous neighborhoods along the right-of-way tend to be smaller than those in South Salt Lake. The larger neighborhoods are located mostly north of 2100 South. 700 East, 900 East, and 1100 East/Highland Drive support much of the community’s traffic. Local streets are quiet and are primarily used by local residents.

As shown in Table 3.2-1 above, the crime rate per 1,000 residents in Salt Lake City is about the same as that for South Salt Lake. The Salt Lake City Police Department is focusing on reducing crime in the city through several of its divisions, including the Fusion Division, which works to enhance interaction with and response to the community (Salt Lake City Police Department 2008).
3.2.2.4 Community Facilities and Recreation Resources

Table 3.2-2 lists the community facilities and recreation resources in and planned for the evaluation area, and Table 3.2-3 below lists the existing and proposed bikeways in the evaluation area.

Table 3.2-2. Existing and Planned Community Facilities and Recreation Resources in the Community Facilities and Recreation Resources Evaluation Area

<table>
<thead>
<tr>
<th>Facility</th>
<th>Service(s) Provided</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Boys and Girls Club</td>
<td>Structured activities for youth</td>
<td>968 E. Sugarmont Drive</td>
</tr>
<tr>
<td>Chamber of Commerce park (no name)</td>
<td>Planned park; no details available</td>
<td>400 East and about 2300 South</td>
</tr>
<tr>
<td>Fairmont Community Park</td>
<td>Pavilion, tables, fireplace, playgrounds,</td>
<td>900 East 2361 South</td>
</tr>
<tr>
<td></td>
<td>tennis courts, sand volleyball, swimming</td>
<td></td>
</tr>
<tr>
<td></td>
<td>pool, soccer fields, pond, horseshoe</td>
<td></td>
</tr>
<tr>
<td></td>
<td>pits, softball field, skate park</td>
<td></td>
</tr>
<tr>
<td>Hidden Hollow Natural Area</td>
<td>Passive recreation, open space</td>
<td>About 1200 East and 2200 South</td>
</tr>
<tr>
<td>Parley’s Trail</td>
<td>Planned multiple-use trail</td>
<td>Along UTA-owned right-of-way</td>
</tr>
<tr>
<td>Hser Ner Moo Community Learning Center</td>
<td>Refugee community services</td>
<td>500 East and about 2300 South</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(South Parc Apartments)</td>
</tr>
<tr>
<td>Salt Lake County Government Center</td>
<td>County services</td>
<td>2001 S. State Street</td>
</tr>
<tr>
<td>Sprague Library</td>
<td>Public (city) library</td>
<td>2131 South 1100 East</td>
</tr>
<tr>
<td>Friendly Neighborhood Senior Center</td>
<td>Public (county-administered) gathering</td>
<td>1992 South 200 East</td>
</tr>
<tr>
<td></td>
<td>place for mature adults</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Boys and Girls Clubs of Greater Salt Lake 2009; Salt Lake City 2005a, 2009; Salt Lake County 2009; Florence 2009
Several churches and many other private institutions (such as medical facilities and private schools) serve the communities in the evaluation area. Much of the area is also served by the Columbus Community Center, which is outside the evaluation area. Other nearby public amenities include Westminster College; Sugar House Park, a public (city) park; Forest Dale Public (city) Golf Course; and Nibley Park Public (city) Golf Course. These facilities are all outside the evaluation area.

Several public schools serve the evaluation area. Table 3.2-4 shows the schools that serve the area.

### Table 3.2-4. Public Schools Serving the Community Facilities and Recreation Resources Evaluation Area

<table>
<thead>
<tr>
<th>Facility or Service</th>
<th>Type of Service(s)</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Highland High</td>
<td>School</td>
<td>2166 South 1700 East, Salt Lake City</td>
</tr>
<tr>
<td>Clayton Middle</td>
<td>School</td>
<td>1471 South 1800 East, Salt Lake City</td>
</tr>
<tr>
<td>Nibley Park Elementary</td>
<td>School</td>
<td>2785 South 800 East, Salt Lake City</td>
</tr>
<tr>
<td>Hawthorne Elementary</td>
<td>School</td>
<td>1675 South 600 East, Salt Lake City</td>
</tr>
<tr>
<td>Whittier Elementary</td>
<td>School</td>
<td>1600 South 300 East, Salt Lake City</td>
</tr>
<tr>
<td>Granite Park Junior High</td>
<td>School</td>
<td>3031 South 200 East, Salt Lake City</td>
</tr>
<tr>
<td>Woodrow Wilson Elementary</td>
<td>School</td>
<td>2567 S. Main Street, Salt Lake City</td>
</tr>
</tbody>
</table>

Sources: Salt Lake City School District 2009; Granite School District 2009
3.2.2.5 Public Services and Utilities

Because the evaluation area is developed, it has many aboveground and underground utilities. Some of these utilities are publicly owned and operated, but others are owned and operated by licensed private entities. In general, utilities in and adjacent to the UTA-owned right-of-way include culinary water lines, sanitary sewer lines, natural-gas supply lines, power distribution lines and accessory structures (power poles), telephone lines and accessory structures (manholes, risers, and aerial facilities), and fiber-optic lines and accessory structures (manholes and risers, drainage structures, and storm drains) (UTA 2009a).

UTA currently has license agreements with some utility service providers for encroachments into the UTA-owned right-of-way.

3.2.2.6 Public Safety

Emergency Response and Law Enforcement

UTA has an ordinance that establishes safety, parking enforcement, and orderly-conduct requirements for users of public transit. To enforce the ordinance, UTA has transit public safety officers who patrol UTA facilities (such as transit stops) and transit vehicles. UTA’s transit officers work closely with the local Cities to respond to criminal activities and to prevent crime. UTA’s transit officers are full law enforcement officers who have the same training and testing requirements as all law enforcement officers in the state. However, UTA’s transit officers are able to police only UTA’s transit vehicles and facilities.

UTA is participating in a new national public awareness and education campaign patterned after the successful Neighborhood Watch program initiated in communities across the country. Promoting transit as a community partner and safe haven, the Transit Watch campaign encourages transit employees, passengers, and neighborhood residents to be actively involved in staying alert and working together to maintain a safe transit environment. The campaign encourages all UTA employees, transit riders, and community members to be aware of their surroundings and alert to activities, packages, or situations that seem suspicious.

The South Salt Lake Police Department, Salt Lake City Police Department, South Salt Lake Fire Department, and Salt Lake City Fire Department provide emergency services in the evaluation area. Even though emergency services are provided by each of the Cities, reciprocal agreements among emergency service providers in the region ensure prompt response to emergencies in the evaluation area. The South Salt Lake Fire Department has the exclusive license for emergency transport within South Salt Lake.

Salt Lake City Fire Station #3 is located within the evaluation area at 1085 E. Simpson Avenue (2250 South) (Herrmann 2009). South Salt Lake’s Fire Station #41 is located two blocks from the evaluation area. There are no other fire stations, police stations, or other emergency service provider facilities in the evaluation area.
School Safety

As shown in Table 3.2-4 above, Public Schools Serving the Community Facilities and Recreation Resources Evaluation Area, a number of schools serve the evaluation area. The Kearns/St. Ann’s private school is located north of the right-of-way between 400 East and 500 East. None of these schools are located adjacent to the right-of-way, but students from those schools that are within about one-half mile of the transit corridor might cross the right-of-way as they walk to and from school. Also, some students travel to and from school using the north-south TRAX line on 200 West, which means that they either walk to their destinations from the station at about 2100 South and 250 West or transfer to another transit mode (such as the bus line that travels on 2100 South) at or near the station.

Crossing Safety

An east-west-traveling streetcar line would include several at-grade crossings of existing roads and alleys. Table 3.2-5 lists the crossings.

<table>
<thead>
<tr>
<th>Street</th>
<th>Location</th>
<th>Number of Lanes</th>
<th>Jurisdiction</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Temple</td>
<td>South Salt Lake</td>
<td>2</td>
<td>South Salt Lake</td>
</tr>
<tr>
<td>Main Street</td>
<td>South Salt Lake</td>
<td>4</td>
<td>South Salt Lake</td>
</tr>
<tr>
<td>State Street</td>
<td>South Salt Lake</td>
<td>6</td>
<td>UDOT</td>
</tr>
<tr>
<td>200 East</td>
<td>South Salt Lake</td>
<td>2</td>
<td>South Salt Lake</td>
</tr>
<tr>
<td>300 East</td>
<td>South Salt Lake</td>
<td>2</td>
<td>South Salt Lake</td>
</tr>
<tr>
<td>400 East</td>
<td>South Salt Lake</td>
<td>2</td>
<td>South Salt Lake</td>
</tr>
<tr>
<td>500 East</td>
<td>South Salt Lake</td>
<td>2</td>
<td>South Salt Lake</td>
</tr>
<tr>
<td>600 East</td>
<td>Salt Lake City</td>
<td>2</td>
<td>Salt Lake City</td>
</tr>
<tr>
<td>700 East</td>
<td>Salt Lake City</td>
<td>8</td>
<td>UDOT</td>
</tr>
<tr>
<td>Alley</td>
<td>Salt Lake City</td>
<td>1</td>
<td>Salt Lake City</td>
</tr>
<tr>
<td>Lake Street</td>
<td>Salt Lake City</td>
<td>2</td>
<td>Salt Lake City</td>
</tr>
<tr>
<td>Alley</td>
<td>Salt Lake City</td>
<td>1</td>
<td>Salt Lake City</td>
</tr>
<tr>
<td>800 East</td>
<td>Salt Lake City</td>
<td>2</td>
<td>Salt Lake City</td>
</tr>
<tr>
<td>900 East</td>
<td>Salt Lake City</td>
<td>3</td>
<td>Salt Lake City</td>
</tr>
<tr>
<td>McClelland Street</td>
<td>Salt Lake City</td>
<td>2</td>
<td>Salt Lake City</td>
</tr>
</tbody>
</table>

Source: UDOT 2007

3.2.3 Environmental Consequences

3.2.3.1 Methodology

The expected environmental consequences of the Action Alternative were determined by reviewing information provided in Section 3.2.2, Affected Environment, and evaluating how constructing the Action Alternative could affect community cohesion and social
interaction, quality of life, community facilities and recreation resources, public services and utilities, and public safety. The project team also reviewed how potential design characteristics (such as utility accommodations and crossing types) could affect the social environment. In most cases, impacts to the social environment were analyzed qualitatively. For some subjects, such as community facilities and recreation resources, information was entered into a geographic information system (GIS) database and compared spatially using digital aerial photos and the expected alignment.

3.2.3.2 No-Action Alternative

Under the No-Action Alternative, the streetcar line would not be constructed and residents would continue to travel in and through the evaluation area using the existing transportation facilities. Since 2100 South is the only major east-west route that provides direct access to the Market Station and Granite Block development areas, congestion on 2100 South would continue to worsen and mobility would probably be adversely affected. Under the No-Action Alternative, the social environment would probably not change much, since the area is mostly developed and the social and community structures of the existing neighborhoods would probably not change.

Access to recreational facilities and community services could be affected by increased congestion and reduced mobility in the evaluation area. The No-Action Alternative would not affect emergency services, although response times could be affected by increased congestion and reduced mobility.

3.2.3.3 Action Alternative

Impacts to Community Cohesion and Social Interaction

The Action Alternative would improve access to and mobility in the area, especially for people who walk in and through the area. This ability to move throughout the area without having to drive would probably contribute to residents’ perceptions of community. Residents would also have the opportunity to interact as they walk through their neighborhoods. As demand grows, the transit-oriented development planned for South Salt Lake and the mixed-use development planned for Salt Lake City would cater to people traveling on foot or by bicycle. The Action Alternative would address some of the current problems associated with traffic and congestion on 2100 South and would offer another mode of transportation. These improvements could lead to increased neighborhood and community interaction, and, therefore, improved cohesion.

The Action Alternative would not affect residents’ access to churches or schools in the area. Residents would still be able to use local parks for recreation and gatherings. The streetcar line might also allow residents to more easily access new gathering places that they previously did not use because of the places’ locations. For example, residents of the South Salt Lake neighborhoods might travel to use the facilities at Fairmont Park because access would be more convenient.
Impacts to Quality of Life

Commuters, residents, and visitors would benefit from reduced travel times and an additional transportation option. These improvements would draw people from their cars, which in turn would reduce traffic on local streets. This would have a beneficial effect on the evaluation area’s generally auto-dependent character. Reduced travel time and less traffic congestion would improve the quality of life for residents in the area.

Impacts to Community Facilities and Recreation Resources

The Action Alternative would not affect access to or the function of any public community facilities or recreation facilities and would not affect access to any private community facilities (such as churches) or schools. Construction of the station at the western terminus of the streetcar line could affect at least one building on a property at 193 West 2100 South owned by Archer & Beck LLC (an outbuilding associated with the K2 church). UTA would work closely with the property owner to ensure that any impacts are compensated consistent with applicable regulations.

Constructing the Action Alternative could improve access to community facilities for people who rely on transit for transportation. For example, the Action Alternative would include stations within a comfortable walking distance to the resources listed in Table 3.2-2 above, Existing and Planned Community Facilities and Recreation Resources in the Community Facilities and Recreation Resources Evaluation Area.

Impacts to Public Services and Utilities

The Action Alternative could affect facilities along the proposed track alignment and could require utility treatments at stations and at-grade crossings. UTA would determine the effects on these utilities and appropriate utility treatments by working with local jurisdictions during the final design phase of the project.

UTA is currently a party to many license agreements for use of the right-of-way. Some of these agreements could affect whether right-of-way is available for constructing the Action Alternative. UTA would need to negotiate with the lessees of some of these agreements in order for the right-of-way to accommodate the streetcar line.

Conflicting Utilities. Conflicting utilities are publicly owned and operated, or privately owned and operated, utilities that would be disturbed or interrupted by constructing the proposed streetcar line. Relocating, replacing, adjusting, protecting, and/or abandoning existing utilities would be required only where there is an actual conflict between the existing utility and the streetcar system. A more-detailed evaluation of potential conflicting utility impacts would be required during the preliminary engineering and final design phases of the project.

Crossing Utilities. Crossing utilities are public or private utilities that currently exist underground and that the streetcar line would cross. If such utilities cross the right-of-way and would potentially be in conflict with construction, UTA will relocate and/or
protect the utilities. A more-detailed evaluation of crossing utility impacts would be required during the preliminary engineering and final design phases of the project.

**Public Safety Impacts**

*Emergency Response*

The Action Alternative would not affect any emergency response facilities or the ability of emergency responders to access the area. Emergency responders would be able to pre-empt traffic signals and communicate with streetcar operators. The Action Alternative could improve emergency response activity that uses streets in the evaluation area if traffic volumes decrease as a result of people using the streetcar instead of personal vehicles.

*Pedestrian Safety*

The Action Alternative would construct a streetcar line on a right-of-way that is currently not in use. The streetcar line would introduce additional pedestrian traffic at stations along the route. As described in the section titled Crime on page 3-26, constructing the streetcar line would not affect the existing or future crime rate trends in the evaluation area.

The Action Alternative would include 14 at-grade crossings of existing roads (see Table 3.2-6 below). These crossings would be designed in conformance with the design guidelines for UDOT Standard Drawings and the guidelines of the Cities of Salt Lake and South Salt Lake. Drainage would be designed to meet the requirements and design guidelines of the Cities of Salt Lake and South Salt Lake. No existing road crossings of the UTA-owned right-of-way would be closed. All 14 crossings would have some type of traffic control. The level of control would depend on the volume of traffic and posted speed on the cross street, the community character at the crossing location, and the sight distance of the intersecting road. UTA would coordinate with UDOT to address the safe crossing by rail vehicles of arterials managed by UDOT.
### Table 3.2-6. Preliminary At-Grade Crossing Types Proposed for the Action Alternative

<table>
<thead>
<tr>
<th>Crossing Location</th>
<th>Recommended Control Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Temple</td>
<td>Gated control</td>
</tr>
<tr>
<td>Main Street</td>
<td>Gated control</td>
</tr>
<tr>
<td>State Street</td>
<td>Gated control</td>
</tr>
<tr>
<td>200 East</td>
<td>Stop or yield control (minimum); flashing light signal</td>
</tr>
<tr>
<td>300 East</td>
<td>Stop or yield control (minimum); flashing light signal</td>
</tr>
<tr>
<td>400 East</td>
<td>Stop or yield control (minimum); flashing light signal</td>
</tr>
<tr>
<td>500 East</td>
<td>Gated control</td>
</tr>
<tr>
<td>600 East</td>
<td>Stop or yield control (minimum); flashing light signal</td>
</tr>
<tr>
<td>700 East</td>
<td>Gated control</td>
</tr>
<tr>
<td>Alley</td>
<td>Stop sign</td>
</tr>
<tr>
<td>Lake Street</td>
<td>Stop or yield control (minimum); flashing light signal</td>
</tr>
<tr>
<td>Alley</td>
<td>Stop sign</td>
</tr>
<tr>
<td>800 East</td>
<td>Stop or yield control (minimum); flashing light signal</td>
</tr>
<tr>
<td>900 East</td>
<td>Gated control</td>
</tr>
</tbody>
</table>

Source: UTA 2009a

- A gate crossing would definitely be incorporated at this location.
- The crossing type would be determined during the final design phase of the project.

Because the UTA-owned right-of-way is a former railroad corridor, intersection modifications would be limited to less than 1 foot of change in the elevation of the centerline of the road. Therefore, intersection grading would have limited impact to adjacent properties. The maximum cut-and-fill slopes of any impacts would follow UTA’s Design Criteria guidelines as well as those of UDOT and the Cities.

Fencing and/or barriers would be provided along the UTA-owned right-of-way between cross streets and would be high enough to prevent trespassing. Pedestrian traffic would not be permitted except at existing cross streets and at stations. Pedestrians using the area, including students walking to public and private schools, would not be permitted to pass through the right-of-way at any other points. Access control would prevent inappropriate use of the right-of-way by students walking to school and by other pedestrians.

UTA currently has a Train for Safety program to educate the public on rules to remain safe around transit vehicles, including buses and trains. Before opening the Sugar House Streetcar line, UTA would implement a media campaign using Train for Safety to alert the public and schools. UTA would provide Operation Lifesaver (another railway safety education program) presentations to students at all elementary and secondary schools in the Sugar House Streetcar study area as well as to any other schools or organizations that request a safety presentation. In addition, the Transit Watch campaign encourages transit employees, passengers, and neighborhood residents to be actively involved in staying alert and working together to maintain a safe transit environment.

Table 3.2-6 above lists the recommended crossing controls. As the project moves into the final design phase, UTA will review information about the proposed crossings and might...
change some of the recommendations based on the safety and efficiency of both the streetcar line and vehicle and pedestrian use of the cross street.

**Crime**

The Action Alternative would not affect the general safety of the area. UTA’s transit officers and officers associated with the South Salt Lake Police Department and Salt Lake City Police Department would patrol and respond to incidents in the area. A 2001 study (Liggett and others 2001) of the relationship between transit crime and the environment of adjacent neighborhoods noted that the socio-physical characteristics of the immediate station area affects the danger at a transit station. Less-serious crime (such as vandalism) was higher at stations in dense neighborhoods with higher proportions of youth. Such crime tended to occur more in unkempt neighborhoods with deteriorating buildings. The study also reported that certain design characteristics of stations were related to platform crime against people but that some socio-demographic indicators of the neighborhood (such as income, household size, and concentration of youth) were also related to station crime. Finally, the study stated that certain land uses in the neighborhood (notably the presence of liquor stores) were strongly correlated with station crime.

A 2002 study by the same authors (Liggett and others 2002) supplemented the 2001 study. The 2002 study evaluated how light rail affects crime rates and the transportation of crime from areas having higher crime rates into more “suburban” neighborhoods. The 2002 study found that, in general, the light-rail transit line being studied (which was located in an area that had a much higher crime rate than the Sugar House Streetcar study area) did not have a significant impact on crime trends or crime dislocation in the station neighborhoods and did not transport crime from the inner city (an area that generally has higher crime rates) to the suburbs.

A 2007 study and report prepared by the Denver Regional Transportation District also found that there was no increase in crime after a transit station was constructed (RTD 2007). No evidence suggests that constructing the Sugar House Streetcar line would affect current crime rates. Recent trends show that the overall crime rates in South Salt Lake and Salt Lake City have been declining; the construction of the streetcar should not affect this or any future crime rate trends.
### 3.3 Property Effects

This section summarizes the existing uses of property in the property effects evaluation area and the property impacts of the No-Action and Action Alternatives. The *property effects evaluation area* is the same as the Sugar House Streetcar study area described at the beginning of this chapter.

### 3.3.1 Statutory and Regulatory Setting

When property acquisitions are necessary, UTA must comply with the federal Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (42 United States Code [USC] 4601 and subsequent sections, as amended) and the State of Utah Relocation Program (part of the Utah Relocation Assistance Act, Utah Code Section 57-12-101 and subsequent sections). These acts provide for uniform and equitable treatment of all persons displaced from their homes or businesses without discrimination on any basis.

### 3.3.2 Affected Environment

#### 3.3.2.1 Methodology

The specific uses of land that abuts the UTA-owned right-of-way as well as the licensed use of land in the right-of-way were determined using information presented in the *Design Assumptions Technical Memorandum for the Sugar House Streetcar Project* (UTA 2009a) using lease information provided by UTA and public information available from the Salt Lake County Recorder’s Office through the Utah Automated Geographic Reference Center.

#### 3.3.2.2 Uses of the UTA-Owned Right-of-Way

Land that abuts the UTA-owned right-of-way is used for commercial and light-industrial businesses and for residences. The area west of State Street in South Salt Lake is dominated by light-industrial and commercial businesses. These businesses are accessed from existing major north-south streets and local east-west collector streets that parallel the right-of-way.

Areas along the right-of-way that are east of State Street are used for residences and commercial businesses. These properties are also accessed using major north-south streets and east-west collector streets.

UTA is currently a party to several license agreements for use of the right-of-way. The license agreements are summarized in Table 3.3-1 below. According to the current proposed streetcar design, only those license agreements that abut the north side of the corridor would be affected by the preliminary streetcar design. No leases on the south side of the corridor would be affected by the preliminary streetcar design.
Table 3.3-1. License Agreements Associated with the UTA-Owned Right-of-Way

<table>
<thead>
<tr>
<th>Licensee</th>
<th>Location*</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hatupis Enterprises</td>
<td>Milepost 1.1.7 (north side, State Street)</td>
<td>Lease</td>
</tr>
<tr>
<td>Mico Properties</td>
<td>2239 S. State Street (south side)</td>
<td>Lease</td>
</tr>
<tr>
<td>Zellebach, Division of International Paper Co.</td>
<td>2255 South 300 East, south side</td>
<td>Lease</td>
</tr>
<tr>
<td>Otto Buehner &amp; Company</td>
<td>Station 2+235’</td>
<td>Underground wire line</td>
</tr>
<tr>
<td>Otto Buehner &amp; Company</td>
<td>Station 2+300’</td>
<td>Overhead wire line</td>
</tr>
<tr>
<td>Otto Buehner &amp; Sons</td>
<td>624 E. Wilmington Ave., north side</td>
<td>Encroachment</td>
</tr>
<tr>
<td>Ralph Smithers (SugarHouse Barbeque Company)</td>
<td>2207 South 700 East, north side</td>
<td>Lease</td>
</tr>
<tr>
<td>John Conti</td>
<td>About 2199–2207 South at Lake St., north side</td>
<td>Lease</td>
</tr>
<tr>
<td>Comcast</td>
<td>Crossings at 700 East, about 760 East, and 900 East</td>
<td>Underground wire lines</td>
</tr>
<tr>
<td>MFN of Utah</td>
<td>Milepost 2.36 (crossing 900 East)</td>
<td>Underground wire line</td>
</tr>
</tbody>
</table>

Source: UTA 2010

* The addresses for some properties are not readily available. The locations listed are based on information provided in the Design Assumptions Technical Memorandum for the Sugar House Streetcar Project (UTA 2009a).

In addition to the license agreements associated with the UTA-owned right-of-way listed in Table 3.3-1 above, several other properties (including commercial and residential properties) might encroach into the UTA-owned right-of-way. Because the property lines have not been officially surveyed, exact information about the extent of the encroachments is unknown. Table 3.3-2 below lists the properties that appear to possibly encroach into the right-of-way. Again, with the exception of a few properties at both the eastern and western terminus tie-ins, only those properties on the north side of the corridor could be affected by the streetcar project under the current preliminary design.
### Table 3.3-2. Properties That Might Encroach into the UTA-Owned Right-of-Way

<table>
<thead>
<tr>
<th>Property Addressa</th>
<th>Type of Property</th>
<th>Tax Identification Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>2212 S. West Temple St. (impact on east side at western terminus)</td>
<td>Commercial</td>
<td>1524230013</td>
</tr>
<tr>
<td>210 W. Crossroads Square (impact on west side at western terminus)</td>
<td>Commercial</td>
<td>1524254008</td>
</tr>
<tr>
<td>225 W. Crossroads Square</td>
<td>Commercial</td>
<td>1524254013</td>
</tr>
<tr>
<td>2275 South 300 West (impact on west side at western terminus)</td>
<td>Commercial</td>
<td>1524255021</td>
</tr>
<tr>
<td>193 West 2100 South (impact on east side at western terminus)</td>
<td>Commercial</td>
<td>1524227001</td>
</tr>
<tr>
<td>2226 S. State St.</td>
<td>Commercial</td>
<td>1619105009</td>
</tr>
<tr>
<td>2231 S. State St.</td>
<td>Commercial</td>
<td>1619109002</td>
</tr>
<tr>
<td>132 E. Wentworth</td>
<td>Residential</td>
<td>1619109003</td>
</tr>
<tr>
<td>134 E. Wentworth</td>
<td>Residential</td>
<td>1619109004</td>
</tr>
<tr>
<td>140 E. Wentworth</td>
<td>Residential</td>
<td>1619109005</td>
</tr>
<tr>
<td>146 E. Wentworth</td>
<td>Residential</td>
<td>1619109006</td>
</tr>
<tr>
<td>150, 151, 152 E. Wentworth</td>
<td>Residential</td>
<td>1619109007</td>
</tr>
<tr>
<td>154 E. Wentworth</td>
<td>Residential</td>
<td>1619109008</td>
</tr>
<tr>
<td>158 E. Wentworth</td>
<td>Residential</td>
<td>1619109009</td>
</tr>
<tr>
<td>164 E. Wentworth</td>
<td>Residential</td>
<td>1619109010</td>
</tr>
<tr>
<td>170 E. Wentworth</td>
<td>Residential</td>
<td>1619109011</td>
</tr>
<tr>
<td>176 E. Wentworth</td>
<td>Residential</td>
<td>1619109012</td>
</tr>
<tr>
<td>2222 South 200 East</td>
<td>Residential</td>
<td>1619109013</td>
</tr>
<tr>
<td>2233 South 300 East</td>
<td>Commercial</td>
<td>1619206012</td>
</tr>
<tr>
<td>450 E. Wentworth</td>
<td>Commercial</td>
<td>1619207003</td>
</tr>
<tr>
<td>640 E. Wilmington</td>
<td>Commercial</td>
<td>1619235006</td>
</tr>
<tr>
<td>2200 South 700 East</td>
<td>Commercial</td>
<td>1620105002</td>
</tr>
<tr>
<td>450 East 2200 South</td>
<td>Commercial</td>
<td>1619207003</td>
</tr>
<tr>
<td>2262 S. Dundee St.</td>
<td>Commercial</td>
<td>169207006</td>
</tr>
<tr>
<td>2230 South 500 East</td>
<td>Residential</td>
<td>1619207011</td>
</tr>
<tr>
<td>2181 South 900 East</td>
<td>Commercial</td>
<td>1620135019</td>
</tr>
<tr>
<td>2201 South 900 East</td>
<td>Commercial</td>
<td>1620135007</td>
</tr>
<tr>
<td>2208 S. Lincoln</td>
<td>Residential</td>
<td>1620135018</td>
</tr>
<tr>
<td>968 E. Sugarmont Dr. (impact on south side at eastern terminus)</td>
<td>Commercial</td>
<td>1620178001</td>
</tr>
<tr>
<td>1030 E. Sugarmont Dr. (impact on south side at eastern terminus)</td>
<td>Commercial (park)</td>
<td>1620251005</td>
</tr>
</tbody>
</table>

Source: AGRC 2007

*a Properties listed in the table are on the north side of the UTA-owned right-of-way unless indicated otherwise.
3.3.3 Environmental Consequences

3.3.3.1 Methodology

The expected property effects of the Action Alternative were determined by reviewing information provided in Section 3.3.2, Affected Environment, and evaluating how constructing the Action Alternative would affect existing license agreements.

3.3.3.2 No-Action Alternative

Under the No-Action Alternative, the Sugar House Streetcar line would not be built and existing licenses for use of the right-of-way would not be affected. Existing license agreements would continue to be in effect through the time agreed on between UTA and the licensee.

3.3.3.3 Action Alternative

Based on information presented in the Design Assumptions Technical Memorandum for the Sugar House Streetcar Project (UTA 2009a) and on the terms of the existing UTA license agreements, some of the existing leased uses would significantly decrease the available right-of-way if the agreements remained in place. The terms of the agreements clearly state that the licenses are revocable.

UTA would need to revoke or modify existing agreements with Hatupis Enterprises, Otto Buehner & Sons, Ralph Smithers (SugarHouse Barbeque Company), John Conti, and four lease holders whose overhead and underground wires cross the right-of-way. The existing uses of the affected properties could continue even if the leases are changed or revoked, although in some cases the number of accesses would need to be reduced. For example, the access into the SugarHouse Barbeque Company would have to be limited to its current northern driveway.

UTA would complete a legal survey of the UTA-owned right-of-way and encroaching properties during the final design phase of the project, and this survey would help UTA determine if there are boundary conflicts. In cases where there appears to be a conflict, UTA and the affected property owner would need to research the chain of title to determine if a use is subject to a written agreement or to an operation of law (such as ingress/egress to a landlocked parcel or prescriptive use). The results of such research would determine how UTA would ultimately address the property impacts of the streetcar project.

Finally, the station at the western terminus of the streetcar line could affect at least one building on a property at 193 West 2100 South owned by Archer & Beck LLC. There are several buildings on this property, all of which appear to be outside the existing right-of-way. The current design proposes that the station be built south of this property to avoid affecting the southernmost building on the site. However, if the station design changes due to other factors, UTA might need to acquire a strip of the property, and this would probably require removing the southernmost building and could affect a connected
building on the same property. If any businesses are operating in the buildings, they might need to be relocated as a result of construction. UTA would make a final determination about the property during the preliminary engineering and final design phases of the project, which would occur in advance of construction. By the end of the design phase, UTA would determine the extent of the property effects and whether any relocation is required.

### 3.3.3.4 Mitigation Measures for Property Effects

If license agreements will be revoked or modified, UTA will notify the landowners as early as possible before the start of construction. Even though UTA is within its legal right to change or revoke existing license agreements associated with its land in the right-of-way, UTA will work with the property owners during the final design of the streetcar line to accommodate continued access to the affected properties as long as the access is safe and would not interfere with operation of the Sugar House streetcar line. Accommodations that UTA might consider include helping to design improvements to other accesses that are not in the right-of-way and helping to design modifications that might change the configuration of an access while allowing access to remain (for example, narrowing an existing access and allowing one-way, right-in and/or right-out access only).

To ensure that effects to other (non-lease) properties along the corridor are minimized, UTA will use survey information collected during the final design phase of the project and will research the chain of title for properties that appear to encroach into the UTA-owned right-of-way to determine if there is a boundary conflict. If a written agreement or operation of law is confirmed, UTA will work with the landowner to ensure that access to and use of the affected property remains intact.

If project construction requires the acquisition of part of the Archer & Beck LLC parcel at 193 West 2100 South, the acquisition and relocation of businesses (if necessary) will be completed in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended. Suitable replacement properties will be found nearby for the affected residents and business owners.
3.4 **Economics**

This section describes the existing and projected economic conditions in the economic evaluation area. The *economic evaluation area* is Salt Lake County, which includes the cities of Salt Lake City and South Salt Lake and the businesses that could experience adverse or beneficial impacts from construction and operation of the Sugar House Streetcar Project.

3.4.1 **Statutory and Regulatory Setting**

There are no federal, state, or local regulations that apply to the economic analysis of the affected environment. However, NEPA requires an examination of the economic development impacts of the Sugar House Streetcar Project.

3.4.2 **Affected Environment**

3.4.2.1 **Methodology**

The project team used economic and demographic data that are projected to the year 2030, and these projections are based on countywide totals produced by the Utah Governor’s Office of Planning and Budget and compiled and reported by WFRC.

The project team reviewed data on commercial and industrial activities, employment, wages, and income to provide an overview of the existing economic conditions in the economic evaluation area.

3.4.2.2 **Regional Economic Overview**

Salt Lake City was originally a farming community. It also depended on mining until the early 1980s when foreign competition began to erode profits from that industry. Today it has grown into a diverse economic region. As the state capital, the county seat of Salt Lake County, and the largest city in the four-county Wasatch Front metropolitan area, Salt Lake City is a government, commercial, and industrial center for Utah and much of the Intermountain West.

South Salt Lake touts reasonable, accessible commercial areas for large and small businesses. With the expansion of I-15 in 2002, the South Salt Lake area is in a prime location for new development.

Many factors support economic growth in the economic evaluation area. Utah offers a low cost of doing business (93.3% of the national average), a pro-business regulatory environment, and low business taxes (Tax Foundation 2009). Also, the availability of inexpensive labor is attractive to potential employers. In 2008, Utah had a per-capita personal income of $31,944. This income ranked 48th in the United States and was 79% of the national average (U.S. Department of Commerce, Bureau of Economic Analysis 2009).
Utah’s economy slowed during 2008. Employment growth fell from 4.0% in 2007 to 0.1% in 2008. Further, the unemployment rate was a post–World War II low of 2.7% in 2007; it rose to 3.7% in 2008. Construction was the hardest-hit sector in 2008, with an employment decline of 12.5%. Housing permits fell 9,900, or 48%, from 2007.

The economic evaluation area has experienced rapid growth in the past decade and is expected to continue this growth through 2030. Salt Lake City and South Salt Lake are fast-growing, urban cities. As a result of this rapid population growth, the need for additional high-quality and efficient transportation modes has increased. The continued increase in traffic congestion will lead to longer commute times for employees and a related loss of productivity.

### 3.4.2.3 Existing and Forecasted Economic Conditions in the Economic Evaluation Area

The economic evaluation area is located in a rapidly growing part of Salt Lake County. Future growth projections indicate that population and employment will continue to increase through 2030. In 2003, the Utah Governor’s Office of Planning and Budget reported the following observations in a study about the Greater Wasatch Front Area (GOPB 2003):

- The annual rate of population increase is about twice the national average.
- Natural population increase (that is, population increase due to births) is projected to account for 80% of the new growth.
- The Greater Wasatch Front Area will average about 42,300 new residents a year between now and 2030. These new residents will require government services and infrastructure. This growth will also increase the levels of congestion and will place tremendous pressures on open space, farmlands, and air quality.
- Utah’s economy is projected to continue to grow more rapidly than that of the nation, and its industrial structure is assumed to continue to diversify.

### Population and Employment

#### Primary Employment Sectors

The service sector, especially computer and healthcare services, produces the most jobs in Salt Lake City. Government and public education employment provide a considerable number of jobs, with the State of Utah, University of Utah, Salt Lake City School District, and Salt Lake City Corporation among the city’s top employers. A number of national and local financial institutions, including Wells Fargo and Zions Bank, have established branch offices in Salt Lake City, thereby making it the center of banking and finance for the region. Salt Lake City is the largest retail and wholesale market in Utah, and the city supports a thriving tourism industry.
Salt Lake Community College, Home Depot, and RC Willey Home Furnishings Store are three of the largest employers in South Salt Lake. Within the Sugar House Streetcar study area, primary employers tend to be restaurants and retail, along with some office, commercial, and industrial employment.

**Population Trends**

Economic and population trends are important indicators of the market for high-capacity transit because they influence the density of land development. Long-term forecasts predict increased population and employment growth regionally and locally (see Table 3.4-1), which should support continued demand for development. Higher-density land uses support public transit.

From 1990 to 2000, the population in Salt Lake County increased by about 24%, from 725,956 to 898,387. The two cities in the evaluation area also grew substantially over the same period: Salt Lake City grew from 159,928 to 181,743, an increase of about 14%; and South Salt Lake grew from 10,222 to 22,038, an increase of about 116% (U.S. Census Bureau 2000).

In both Salt Lake City and South Salt Lake, the growth in population was accompanied by an increase in population density. Since most of South Salt Lake is developed, future growth will involve redevelopment and infill. South Salt Lake’s growth in population will largely be the result of higher-density housing being developed in areas that had previously featured lower-density warehouses and commercial uses.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt Lake County</td>
<td>955,541</td>
<td>42%</td>
<td>1,037,048</td>
<td>1357,637</td>
<td>1,357,637</td>
<td>42%</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>178,178</td>
<td>12%</td>
<td>191,386</td>
<td>200,051</td>
<td>200,051</td>
<td>12%</td>
</tr>
<tr>
<td>South Salt Lake</td>
<td>21,421</td>
<td>45%</td>
<td>22,722</td>
<td>31,031</td>
<td>31,031</td>
<td>45%</td>
</tr>
</tbody>
</table>

Source: WFRC 2007a

**Employment Trends**

Currently, Utah’s metropolitan counties are experiencing an economic downturn along with the rest of Utah and the United States. The projections of the Utah Department of Workforce Services do not focus on today’s economic conditions but take a longer 10-year average view of how industries in Utah will grow. Between 2006 and 2016, Utah’s metropolitan labor market will create about 32,500 new jobs each year as the economy expands. In addition, there will be 25,900 job openings each year because of retirements or people leaving the labor market for other reasons. Therefore, the total
number of job openings each year will equal about 58,400 due to industry growth and other turnover.

The anticipated employment growth is shown in Table 3.4-2. Employment in Salt Lake County is expected to grow at a rate that exceeds the increase in population, and this growth is projected to continue into the year 2030.

Employment in South Salt Lake is projected to grow through 2030 but at a lower rate than that for Salt Lake County. Even though development in South Salt Lake is limited by space, employment growth in South Salt Lake is expected to be slightly higher than that in the surrounding areas largely due to the development of existing commercial and industrial facilities that are currently in transition. Between 2005 and 2030, the employment growth rate in South Salt Lake will essentially match the rate of population growth (a 45% increase in population versus a 50% increase in employment), whereas the employment growth rate in Salt Lake City and Salt Lake County will exceed the population growth rate, according to current estimates.

### Table 3.4-2. Employment Projections for Salt Lake County and Cities in the Economic Evaluation Area

<table>
<thead>
<tr>
<th>Area</th>
<th>Employment</th>
<th>Percent Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt Lake County</td>
<td>610,909</td>
<td>691,677</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>294,192</td>
<td>324,356</td>
</tr>
<tr>
<td>South Salt Lake</td>
<td>47,780</td>
<td>53,943</td>
</tr>
</tbody>
</table>

Source: WFRC 2007b

**Unemployment Trends**

The most recent employment high point in Utah was in June 2006, when employment grew 5.4% from the previous year. Since then, the employment growth rate has slowed. Utah has had a negative employment growth rate since July 2008 (that is, fewer jobs are available than there were the previous year). However, while Utah is still losing jobs, the rate has slowed. This suggests that Utah’s economy has passed a turning point in the business cycle and that the trend in the future will be a positive employment growth rate (Utah Department of Workforce Services 2009).

The unemployment rate in Utah for September 2009 was 6.2%. The unemployment rate in the U.S. overall climbed to 9.8% for September. Construction, manufacturing, trade and transportation, and professional and business services remain the employment sectors with the largest job losses. Education and health services as well as government remain the lone industries with job gains. The Utah Department of Workforce Services found job increases in the manufacturing, trade and transportation, and professional and business services sectors during the fall of 2009.
Retail Sales

According to data collected by the St. Louis Federal Reserve and the U.S. Census Bureau, the current recession has created a more substantial decline in retail sales than has any previous recession since 1973 (data cited in Utah League of Cities and Towns 2009). With regard to retail sales, this current recession is far worse than the previous two recessions in 2001 and 1990. Overall, for the state of Utah, retail sales were down 10.5% during the third quarter of 2009 compared to the third quarter of the previous year. This drop in sales has occurred after retail sales in the previous two quarters were each down 9.5%.

Tax Rates

Tax revenues and tax rates play an important role in economic development. Within the economic evaluation area, local sales taxes are collected by each municipality for use by that city. At the time of this analysis, both Salt Lake City and South Salt Lake had identical sales-and-use tax rates of 4.70% state sales tax; 1.00% local-option sales tax; 0.30% mass-transit tax; 0.25% additional mass-transit tax; 0.25% county-option sales tax; 0.25% county-option transportation tax; and 0.10% botanical, cultural, and zoo tax for a total sales tax of 6.85%.

Both Salt Lake City and South Salt Lake generate substantial revenues from local businesses, and the 1% local-option sales tax is one of the major funding sources for these cities. Following several years of 9% to 11% growth, local sales taxes have declined in the past 6 months. The statewide decline in sales tax is important to all cities.

Utah’s system of sales tax distribution is based on a 50/50 distribution split called the local-option sales-and-use tax. Instead of going into state coffers, it is split in two and distributed to cities and counties on a 50/50 basis: 50% is returned to the cities and/or counties in which the purchases were made, and the other 50% is divided among all other Utah cities and counties based on their respective populations’ percentage of the state’s total population. This means there is a significant incentive for cities and counties to attract as much retail business as possible, since half of 1% of sales tax dollars generated within their own boundaries stays there—indeed, about two-thirds of most city and county budgets is funded through sales tax revenues. The 50/50 distribution split of local sales tax revenue means that a decline in sales for one large city reduces the pool of money that can be distributed to all cities.

From July through September 2009, revenues from the 1% local-option sales tax declined 12.7% compared to the same period a year earlier. These receipts represented taxable sales from May through July. September distribution receipts, which represent July’s taxable sales, were also down 12.7%. The 12.7% decline represents around $4.6 million less in sales tax revenue for Utah’s cities (statewide) for the same month in 2008.
Property Values in Salt Lake County

As previously mentioned in Section 3.2.2.3, Quality of Life, Salt Lake County’s housing market has had a downturn that parallels the one occurring across the country. According to the Salt Lake Board of Realtors, the number of home sales in Salt Lake County fell to record-low levels in January 2009. Despite the drop in the number of sales, the prices paid for houses and condominiums remain relatively steady. The median sales prices for all of Salt Lake County were $250,000 in the second quarter of 2009 and about $300,000 at the peak in the second quarter of 2007 (City Data 2009).

There is a wide variation among the cities in terms of median housing values. Values range from about $170,000 in South Salt Lake to $247,300 in Salt Lake City. The Sugar House part of the evaluation area includes two ZIP codes: 84105 and 84106. In the second quarter of 2009, the median home prices in these areas were about $260,000 and $225,000, respectively. These prices are about $90,000 lower in ZIP code 84105 and about $55,000 lower in ZIP code 84106 than in the same areas during the recent peak in the second quarter of 2007.

Compared to the greater Salt Lake County median prices, median prices in ZIP code 84105 were about the same in the second quarter of 2009, while those in ZIP code 84106 were lower (City Data 2009). According to the most recent real estate information for the 84115 ZIP code (which includes the part of South Salt Lake that is in the economics evaluation area), this part of South Salt Lake has the most-affordable housing in the county. In the second quarter of 2009, the median sales price for the 84115 ZIP code was about $170,000. This is lower than the most recent high median price of about $220,000 in the second quarter of 2007.

3.4.2.4 Land Use in the Evaluation Area

Land use in the economic evaluation area is currently in transition. Light industrial is currently prevalent on the west end of the evaluation area, and land uses become more commercial as one moves east along the corridor. The Market Station development, located in South Salt Lake, is planned to be a mixed-use development with about 900 dwelling units, 100,000 square feet of retail space, and 350,000 square feet of office space. The developers of Market Station were a catalyst to launching the initial streetcar concept; they saw it as a critical component of their vision of dense, transit-oriented development in this part of the valley. Some development has started in South Salt Lake, such as the condominiums on the north side of the Market Street Redevelopment Area.

The Granite Block is in the existing Sugar House commercial district in Salt Lake City and is a formal redevelopment area. The block is planned to be redeveloped with a mix of residential, commercial, and office use. Two projects have been approved by Salt Lake City for this block: the Mecham Development and the Streets of Sugar House. In total, these developments will add 560 residential units, 275,000 square feet of office space, 450,000 square feet of retail space, and a hotel. The Granite Block development in the Salt Lake City part of the evaluation area is still planned; however, according to the
developer, the timeline for development is unknown due to the economy. Businesses that were once located on that site have relocated, and the site is currently an empty parcel. Some owners of businesses remaining near the Granite Block development site say that the delay in developing the Granite Block has negatively affected their business (Edwards and Markosian 2009).

### 3.4.3 Environmental Consequences

This section discusses the expected economic effects of the No-Action and Action Alternatives. The Action Alternative could affect local businesses and employment, the tax base, and overall investment in the economic evaluation area.

#### 3.4.3.1 No-Action Alternative

Traffic volumes from the projected growth in the region are expected to increase. The No-Action Alternative would result in increased traffic congestion and delays. Further, the No-Action Alternative would not provide the social and economic enhancements for travel to work or recreation, or the mobility enhancements for no-vehicle households and low-income citizens, that would be attributed to the Action Alternative.

**Commerce and Employment Impacts**

If transit improvements are not made, business and employment growth would likely continue to increase consistent with their past trends in the short term. However, as traffic congestion increases over time and as businesses seek to reduce costs, the Sugar House economic evaluation area’s economic competitiveness would diminish compared to other areas in the region with better transportation systems. The growth in business commerce and employment, especially with respect to businesses that depend on the transportation system, would be reduced over time compared to businesses in the region with better transportation access. Moreover, no new job opportunities related to the design, construction, operation, and maintenance of a streetcar system would be created under this alternative.

**Local Government Revenue Impacts**

Under the No-Action Alternative, local government revenues would continue to increase at a pace about equal to the community’s population and job growth. Property tax revenues and sales tax revenues would continue to be an important source of funds for the communities.
Property Value Impacts

Under the No-Action Alternative, residential and non-residential property values in the economic evaluation area and the region would continue to increase over time. However, as traffic congestion and connectivity in the evaluation area worsen and as travel times increase, the desirability of the residential and nonresidential properties in the evaluation area would decrease compared to areas with better transportation access. As a result, property values might continue to increase, but not as much as they would with a more effective local transit system. In addition, developers of the currently suspended mixed-use redevelopment projects in the evaluation area might not have the incentive to start up again without the streetcar project or might focus instead on auto-oriented design. Without the streetcar line, developers might not redevelop or upgrade deteriorating properties or create major new “livable places” where vacant or industrial properties currently exist.

Land-Use Impacts

In the absence of the streetcar line, some areas would still be redeveloped, but at much-reduced density and pace. New housing units added in the corridor by 2030 are projected to be in the range of 1,300 units, rather than the 4,000 projected with a streetcar line. Similarly, the number of new permanent jobs added would be closer to 2,900 than to the 7,700 with the streetcar line (UTA 2009b).

3.4.3.2 Action Alternative

The Action Alternative would have a beneficial economic impact to the traveling public. In addition to the benefit to those using the transit system, all other motorists would benefit from the small reduction in traffic congestion from fewer travelers on the roads.

Commerce and Employment Impacts

The Action Alternative would likely have beneficial commerce and employment effects on the Sugar House business district, particularly those businesses such as restaurants and retail shops that can serve customers who arrive on foot or by transit. In addition, all businesses along 2100 South would benefit from increased visibility and increased transit accessibility for potential customers. Further, to the degree that land-use changes are made to facilitate future mixed residential and commercial uses near transit stations, there could be additional commerce and employment benefits.

In addition to the short-term employment gains prior to 2012 caused by the construction of the streetcar line and the first phase of approved but currently suspended mixed-use real estate projects in the evaluation area, the streetcar project would produce enduring and highly beneficial long-term economic impacts.

Most of the presently vacant or extremely low-density commercial and light-industrial parcels within 600 feet of the proposed line are expected to be completely redeveloped.
into a combination of mainly three- to five-story residential areas interspersed with ground-floor retail and anchored by higher-density office and residential nodes near the ends of the line (UTA 2009b). UTA estimates that up to 4,000 new units of housing (6,400 people) and 7,700 permanent jobs could be added in these areas and other blocks within walking distance (one-quarter mile) of the line, which represents a possible 121% increase in population and 46% increase in employment over the next 20 years (UTA 2009b).

**Local Government Revenue Impacts**

The Action Alternative would not increase government tax revenues (property, sales, business and occupation, and other taxes) in the evaluation area over the long term. Public transportation services are not a retail business activity, so they do not contribute business or occupation taxes. Property tax revenues directly related to the development of the Action Alternative would not substantially change as long as the alignment and station locations are owned by UTA.

In the long term, the Action Alternative would increase the amount of revenue collected from local-option use taxes in the municipalities. Sales taxes are collected on products that are produced by the commercial and industrial sectors and sold to end users. Sales tax revenues are reduced when a business is displaced or removed from a taxing jurisdiction, which removes the business’s contribution to the local jurisdiction’s tax base. Because the project would not remove any businesses and would encourage more tax-producing business development, UTA expects that sales tax revenues would increase with more businesses open in the taxing jurisdiction.

**Property Value Impacts**

Being close to transit stations and stops would have beneficial effects on adjacent properties and other properties close to the facilities. This proximity reduces transportation costs for nearby households and increases the visibility of and accessibility to adjacent businesses. In a survey of eight previous studies, Diaz (1999) demonstrated a positive relationship between the proximity of rail transit and property values, particularly residential property values. However, based on the wide range of methodologies and impacts used in the case studies, it was not possible to standardize the results.

The availability of a transit system reduces household transportation costs, in some cases preventing a family from needing a second car or possibly precluding the need for a car at all for the elderly and people who choose not to, or cannot, drive. Further, transit improves the “walkability” of a community, which would improve quality of life and associated property values. These reduced costs and improved amenities increase the desirability of housing near transit stations and stops, resulting in higher residential property values. However, the amount of the increase in property value is highly uncertain and would be influenced by the quality of the transit system.

An increase in residential property values from an improved transit system would likely increase annual property tax bills for residential homeowners. Though the increase in
property value would be relatively small and the associated increase in the total tax bill is uncertain, this increase in property taxes would add to the financial burden for people on low, fixed incomes.

The streetcar line is expected to attract new investment as well as raise the value of existing properties that are close to the alignment. The Transit Cooperative Research Program (Transportation Research Board 2004) found that transit-proximity premiums (additional property value due to transit proximity holding all other value-affecting attributes constant) range from 2% to over 30%. Applying a conservative 4% premium, UTA estimates that the presence of the streetcar line would provide a net increase in real estate value of over $211 million (on a discounted basis). Additionally, travelers would benefit from travel time savings (travelers would be spending less time in traffic) (UTA 2009b).

**Land-Use Impacts**

Land use in the evaluation area is expected to change as a result of the Action Alternative by becoming more dense and more diversified. Three major designated and planned activity centers are the multi-block Market Station project (at about 2300 S. State Street) and two developments planned for the Granite Block property (on the south side of 2100 South at 1100 East). All three of these projects are in tax-increment redevelopment districts and receive strong support from their local jurisdictions. Each of the developers with projects along the streetcar line has expressed strong support for this project.

In the longer term, by 2030, the presence of the streetcar line could accelerate and reinforce economic revitalization and shift travel modes throughout the corridor, thereby furthering the area’s evolution into one of the Wasatch Front’s premier pedestrian-oriented, sustainable, mixed-use, highly livable, and popular “green” communities. This synergy between a properly placed streetcar line and large-scale, transit-oriented redevelopment has been achieved with great success in Portland, Oregon; Seattle, Washington; Little Rock, Arkansas; Tampa, Florida; Kenosha, Wisconsin; and other cities.

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1 Tax increment financing is a tool to allow communities to redevelop “blighted” areas by financing that redevelopment through increased property tax revenues generated by the redeveloped land.
3.4.3.3 Mitigation Measures for Economic Impacts

Overall, the project would result in economic benefits. No businesses would need to be relocated; however, parking and access for some businesses currently using the UTA-owned right-of-way could change. Changes in parking or access are not expected to cause an adverse impact on any business and are not likely to cause an adverse impact to the regional economy. UTA will work with any affected business owner to resolve parking and access issues during the final design phase of the project.

Construction activities could temporarily affect access to businesses in the construction area. Although access to properties would be maintained to the extent practicable, temporary detours would limit some access or change the route to some businesses. For each phase of the project, the project team will coordinate with property owners and businesses to evaluate ways to maintain access while still allowing efficient construction operations. This could entail having businesses share a temporary access or identifying acceptable timeframes when access is not needed. Adequate signs will be placed in construction areas to direct motorists to businesses and industrial areas.

Mitigation is generally not offered to local governments that are adversely affected when land is removed from their tax base. Over the long term, the increased property values and transit-oriented development that result from an improved regional transit system will generate enough revenue to offset the short-term loss of local government revenues.
3.5 **Air Quality**

This section describes the methods that were used to evaluate air quality impacts, the existing air quality conditions in the air quality evaluation area, and the air quality impacts from the No-Action and Action Alternatives. Because the project would be located in Salt Lake County, this county makes up the *air quality evaluation area* for the air quality analysis.

Air quality in a given area depends on several factors such as the area itself (size and topography), the prevailing weather patterns (meteorology and climate), and the pollutants released into the air. Air quality is described in terms of the concentrations of various pollutants in a given area of atmosphere (for example, parts per million or micrograms per cubic meter).

3.5.1 **Statutory and Regulatory Setting**

3.5.1.1 **National Ambient Air Quality Standards**

The federal Clean Air Act requires the U.S. Environmental Protection Agency (EPA) to set National Ambient Air Quality Standards for air pollutants that are considered harmful to public health and the environment. These national standards include both primary and secondary standards. Primary standards protect public health, while secondary standards protect public welfare (such as protecting property and vegetation from the effects of air pollution).

These national standards have been adopted by the Utah Division of Air Quality as the official ambient air quality standards for Utah. The current national standards are listed below in Table 3.5-1. The pollutants in Table 3.5-1 are referred to as *criteria pollutants* because air quality standards (criteria) have been established for these pollutants.

If an area meets the national standards for a given air pollutant, the area is called an *attainment area* for that pollutant (because the standards have been attained). If an area does not meet the national standards for a given air pollutant, the area is called a *non-attainment area*. A *maintenance area* is a non-attainment area that has not had a recorded violation of the national standards in several years and is in the process of being redesignated as an attainment area.
### Table 3.5-1. National and Utah Ambient Air Quality Standards

<table>
<thead>
<tr>
<th>Pollutant</th>
<th>National (EPA) and Utah Standardsa</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Primary</td>
</tr>
<tr>
<td><strong>Lead (Pb)</strong></td>
<td></td>
</tr>
<tr>
<td>Quarterly average</td>
<td>1.5 µg/m³</td>
</tr>
<tr>
<td><strong>Particulate Matter (PM₁₀)</strong></td>
<td></td>
</tr>
<tr>
<td>Annual arithmetic mean</td>
<td>Revokedb</td>
</tr>
<tr>
<td>24-hour average</td>
<td>150 µg/m³c</td>
</tr>
<tr>
<td><strong>Particulate Matter (PM₂.₅)</strong></td>
<td></td>
</tr>
<tr>
<td>Annual arithmetic mean</td>
<td>15.0 µg/m³d</td>
</tr>
<tr>
<td>24-hour average</td>
<td>35 µg/m³e</td>
</tr>
<tr>
<td><strong>Sulfur Dioxide (SO₂)</strong></td>
<td></td>
</tr>
<tr>
<td>Annual average</td>
<td>0.03 ppm</td>
</tr>
<tr>
<td>24-hour average</td>
<td>0.14 ppm</td>
</tr>
<tr>
<td>3-hour average</td>
<td>(no standard)</td>
</tr>
<tr>
<td><strong>Carbon Monoxide (CO)</strong></td>
<td></td>
</tr>
<tr>
<td>8-hour average</td>
<td>9 ppm (10 mg/m³)</td>
</tr>
<tr>
<td>1-hour average</td>
<td>35 ppm (40 mg/m³)</td>
</tr>
<tr>
<td><strong>Ozone (O₃)</strong></td>
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</tr>
<tr>
<td>8-hour average</td>
<td>0.08 ppm</td>
</tr>
<tr>
<td>1-hour average</td>
<td>0.12 ppm</td>
</tr>
<tr>
<td><strong>Nitrogen Dioxide (NO₂)</strong></td>
<td></td>
</tr>
<tr>
<td>Annual average</td>
<td>0.053 ppm (100 µg/m³)</td>
</tr>
</tbody>
</table>

Source: EPA 2008a

Annual standards are never to be exceeded. Short-term standards are not to be exceeded more than 1 day per calendar year unless noted otherwise.

- ppm = parts per million
- PM₁₀ = particulate matter 10 microns in diameter or less
- PM₂.₅ = particulate matter 2.₅ microns in diameter or less
- µg/m³ = micrograms per cubic meter

a Primary standards are set to protect public health. Secondary standards are based on other factors (for example, protecting crops and materials or avoiding nuisance conditions).
b Due to a lack of evidence linking health problems to long-term exposure to coarse particle pollution, EPA revoked the annual PM₁₀ standard in 2006 (effective December 17, 2006).
c Not to be exceeded more than once per year on average over 3 years.
d To attain this standard, the 3-year average of the weighted annual mean PM₂.₅ concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.
e To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).
3.5.1.2 NEPA Requirements

Guidance from FHWA and FTA for preparing environmental documents requires an evaluation of air quality at the mesoscale and microscale levels. *Mesoscale* evaluations analyze regional air quality, while *microscale* evaluations analyze local air quality, usually at individual roads or intersections.

3.5.1.3 Conformity Requirements

All states are required to develop a State Implementation Plan, which explains how the state will comply with the requirements of the federal Clean Air Act of 1970. Section 176(c) of the Clean Air Act, and the related requirements of the Transportation Equity Act for the 21st Century as supplemented by the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) of 2005, require that UTA and FTA demonstrate that the Sugar House Streetcar Project would conform to the State Implementation Plan. According to Section 176(c) of the Clean Air Act, the Sugar House Streetcar Project would conform to the State Implementation Plan if the project, both alone and in combination with other planned projects, would not:

- Create new violations of the national standards,
- Increase the frequency or severity of existing violations of the national standards, or
- Delay attainment of the national standards.

This conformity requirement applies to the specific pollutants (for example, carbon monoxide or particulate matter) for which an area has been designated a non-attainment or maintenance area. In addition, during the project development phase, a project must satisfy detailed “hot-spot” (local) requirements if it is located in a non-attainment or maintenance area for carbon monoxide or particulate matter (PM$_{10}$).

The most recent air quality transportation conformity analysis for the Salt Lake County PM$_{10}$ non-attainment area and the Salt Lake City CO maintenance area was conducted by WFRC in 2007. This conformity analysis concluded that, in 2030, if all regionally significant transportation projects in the Regional Transportation Plan are completed, Salt Lake County would be well within the PM$_{10}$ emission budget in the State Implementation Plan, and Salt Lake City would be well within the CO emission budget in the State Implementation Plan (WFRC 2007c). If all regionally significant transportation projects are completed, more than 50% of the CO and PM$_{10}$ emission budgets in the State Implementation Plan would remain in 2030.

On September 10, 2010, WFRC published an amendment to the 2007 Conformity Analysis to include a PM$_{2.5}$ emissions analysis (WFRC 2010). Work has begun on a PM$_{2.5}$ section for the State Implementation Plan, which will establish a motor vehicle emissions budget for emissions associated with PM$_{2.5}$. Until the PM$_{2.5}$ State Implementation Plan is completed and approved by EPA, PM$_{2.5}$ interim conformity
requirements apply. EPA interim conformity for PM$_{2.5}$ emissions requires that future NO$_x$ emissions (a precursor to PM$_{2.5}$) not exceed 2008 levels. The analysis for PM$_{2.5}$ concluded that projected mobile-source emissions of NO$_x$ in the PM$_{2.5}$ non-attainment area are less than the 2008 NO$_x$ emissions.

The Wasatch Front Area is currently in attainment for the new 8-hour ozone standard of 75 ppb (parts per billion). A new ozone standard in the range of 60 to 70 ppb is being considered by EPA but has not yet been promulgated. Most if not all areas along the Wasatch Front will likely be designated as non-attainment for the new standard when it is proposed.

Once the new standard is established, EPA will consider non-attainment area recommendations from the State before making final designations. The State of Utah will then need to prepare a new section of the State Implementation Plan for ozone emissions, including a motor vehicle emission budget. For the interim period between non-attainment designations and an approved motor vehicle emissions budget, conformity for ozone precursor emissions is based on future emissions being less than base-year emissions (2010). The most recent Conformity Plan amendment (WFRC 2010) indicates that future emissions of NO$_x$ and volatile organic carbons (VOCs) (ozone precursors) in Salt Lake County will be less than 2010 baseline emissions.

### 3.5.2 Affected Environment

#### 3.5.2.1 Methodology

**Major Pollutants of Concern**

The major air pollutants of concern for transportation projects are carbon monoxide (CO), particulate matter (PM$_{10}$ and PM$_{2.5}$), ozone (O$_3$), and nitrogen oxides (NO$_x$).

- CO, which is emitted by vehicle engines, is a colorless, odorless, poisonous gas that reduces the amount of oxygen carried in the bloodstream by forming carboxyhemoglobin, which prevents oxygenation of the blood. The national standards for CO are intended to protect people from adverse health effects; exposure to CO concentrations that meet the national standards will not cause elevated carboxyhemoglobin levels. CO is emitted directly into the atmosphere from automobiles, with the highest emission levels occurring at slow speeds, in stop-and-go traffic, and at colder temperatures. Since it disperses to non-harmful levels fairly quickly, CO is considered a local hot-spot pollutant and is the primary pollutant analyzed at the individual project level.

- Particulate matter of concern generally falls into one of two categories: particulate matter with a diameter of 10 microns or less (PM$_{10}$) and particulate matter with a diameter of 2.5 microns or less (PM$_{2.5}$). For transportation projects, the primary source of particulate matter is vehicle emissions. Particulate matter...
has been linked to a range of serious respiratory and cardiovascular health problems.

- $O_3$ is a secondary pollutant formed when precursor emissions—$NO_x$ and volatile organic compounds—react in the presence of sunlight. $O_3$ is a major component of photochemical smog. $O_3$ irritates the eyes and respiratory tract and increases the risk of respiratory and heart diseases.

- $NO_x$ is composed mainly of nitric oxide (NO) and nitrogen dioxide ($NO_2$). NO is formed in high-temperature combustion processes such as those in internal combustion engines. When NO reaches the atmosphere, most of it oxidizes and produces $NO_2$, the brown component of photochemical smog.

**Other Pollutants**

**Hazardous Air Pollutants**

In addition to the national standards, EPA has also established a list of 33 urban air toxics (64 Federal Register 38706). Urban air toxics are pollutants that can cause cancer or other serious health effects or adverse environmental effects. Most air toxics originate from human-made sources including road mobile sources, non-road mobile sources (such as airplanes), and stationary sources (such as factories or refineries).

Air toxics are in the atmosphere as a result of industrial activities and motor vehicle emissions. Scientific research has shown that the health risks to people exposed to urban air toxics at sufficiently high concentrations or lengthy durations include an increased risk of contracting cancer, damage to the immune system, and neurological, reproductive, and/or developmental problems (EPA 2000).

To better understand the effects that urban air toxics have on human health, EPA developed a list of 21 mobile-source air toxics (MSAT) including acetaldehyde, benzene, formaldehyde, diesel exhaust, acrolein, and 1,3-butadiene (66 Federal Register 17230). EPA assessed the risks of various kinds of exposures to these pollutants.

In July 1999, EPA published a strategy to reduce urban air toxics; in March 2001, EPA issued regulations for automobile and truck manufacturers to decrease the amounts of these pollutants by target dates in 2007 and 2020. Under the March 2001 regulation, between 1990 and 2020, on-highway emissions of benzene, formaldehyde, 1,3-butadiene, and acetaldehyde are to be reduced by 67% to 76% and on-highway diesel particulate matter emissions are to be reduced by 90%. These reductions are to be achieved by implementing mobile-source control programs including the reformulated gasoline program, a new cap on the toxics content of gasoline, the national low-emission vehicle standards, the Tier 2 motor vehicle emission standards and gasoline sulfur-control requirements, the heavy-duty engine and vehicle standards, and the on-highway diesel fuel sulfur-control requirements (EPA 2000).
**Greenhouse Gases**

**Federal Efforts To Reduce Greenhouse Gas Emissions**

The issue of global climate change is an important national and global concern that is being addressed in several ways by the federal government. The transportation sector is the second-largest source of total greenhouse gases in the United States and the largest source of carbon dioxide (CO₂) emissions, the predominant greenhouse gas. In 2004, the transportation sector was responsible for 31% of all CO₂ emissions produced in the United States. The principal anthropogenic (human-made) source of carbon emissions is the combustion of fossil fuels, which account for about 80% of anthropogenic emissions of carbon worldwide. Almost all (98%) of transportation-related greenhouse gas emissions result from the consumption of petroleum products such as motor gasoline, diesel fuel, jet fuel, and other residual fuels.

Recognizing this concern, FTA and FHWA are working with other agencies through the U.S. Department of Transportation’s Center for Climate Change and Environmental Forecasting to develop strategies to reduce the transportation sector’s contribution to greenhouse gases—particularly CO₂ emissions—and to assess the risks to transportation systems and services from climate changes.

**State Efforts To Reduce Greenhouse Gas Emissions**

In Utah, the Governor’s Blue Ribbon Advisory Council on Climate Change identified measures that the State could take to reduce the impacts of transportation-related greenhouse gas emissions. The measures recommended by the Council in its report (BRAC 2007) include reducing vehicle-miles traveled through developing and encouraging the use of mass transit, ridesharing, and telecommuting. Other strategies discussed in the report include promoting alternative fuels and hybrid vehicles and vehicle technologies that support greater fuel efficiency. In addition, the report encourages an idle-reduction program for school buses and heavy-duty trucks.

UTA recognizes the importance of reducing greenhouse gases and that greenhouse gas emissions can be substantially lowered by converting vehicle-miles of travel in single-occupancy vehicles to transit passenger-miles by providing multiple transit options (including streetcars, light-rail transit, bus rapid transit, and increased bus service) that increase ridership and ultimately reduce the use of single-occupant vehicles by the traveling public.

**3.5.2.2 Climate**

Weather directly influences air quality. Important meteorological factors that affect weather include wind speed and direction, atmospheric stability, temperature, sunlight intensity, and mixing height. The Sugar House Streetcar Project corridor is located along the Wasatch Front at an elevation of about 4,200 feet above sea level.
The Great Salt Lake contributes to weather conditions in the evaluation area in both winter and summer. In the winter, the water in the lake is warmer than the air. This increases the moisture content of the air, which creates thermal instability that causes “lake effect” storms. As a result, areas surrounding the lake receive more snowfall than more distant areas. In the summer, the Great Salt Lake has a high evaporation rate, which humidifies the air and causes thunderhead clouds to develop.

The lowest average daily temperatures (28 °F, or degrees Fahrenheit) occur in January, and the highest average daily temperatures (78 °F) occur in July. The highest amount of precipitation generally occurs during April, when the average precipitation is 2.6 inches. Average annual precipitation is 15.6 inches. The area receives an annual snowfall of 63 inches (National Weather Service 1997).

Temperature inversions, which are associated with higher air pollution concentrations, occur when warmer air overlies cooler air. During temperature inversions, which typically occur between November and February in the evaluation area, particulates and CO from wood stoves, fireplaces, and vehicles can be trapped close to the ground, which can lead to violations of the national standards. In Salt Lake County, “no-burn” days are announced during inversions.

### 3.5.2.3 Air Quality Attainment Status

The Clean Air Act Amendments of 1990 require that all areas with recorded violations of the National Ambient Air Quality Standards are designated as non-attainment areas. A State Implementation Plan that identifies control strategies for bringing the region back into compliance with the national standards must be developed for non-attainment areas. Non-attainment areas are also classified as marginal, moderate, serious, severe, or extreme depending on the severity of the recorded violations. An area classified as marginal will have less time to reach attainment than an area classified as extreme.

Table 3.5-2 below shows the air quality attainment status for transportation-related pollutants in the vicinity of the air quality evaluation area. As shown in Table 3.5-2, Salt Lake County is classified as a non-attainment area for PM10 and PM2.5, and Salt Lake City is classified as a maintenance area for CO. In addition, Salt Lake County is a maintenance area for 1-hour ozone (O3). EPA has revoked the original 1-hour ozone standard and replaced it with a new 8-hour ozone standard. Salt Lake County is in attainment for the new 8-hour standard, so the original State Implementation Plan for meeting this standard has been replaced by a plan to maintain ozone-related emissions at or below levels that are meeting the new standard.

On October 8, 2009, EPA issued final designations for areas that are not meeting the 24-hour national standard for fine particulate matter (PM2.5). Salt Lake County is one of these areas. Within 3 years of the effective date of the PM2.5 non-attainment designation, the Utah Department of Environmental Quality must submit a State Implementation Plan to EPA detailing how the PM2.5 standard will be met in Salt Lake County.
Table 3.5-2. Air Quality Attainment Status for Transportation-Related Pollutants in the Air Quality Evaluation Area

<table>
<thead>
<tr>
<th>Area</th>
<th>Pollutant</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salt Lake City</td>
<td>Carbon monoxide (CO)</td>
<td>Maintenance area</td>
</tr>
<tr>
<td>Salt Lake County</td>
<td>Particulate matter (PM10)</td>
<td>Non-attainment area (designation as a maintenance area is pending)</td>
</tr>
<tr>
<td>Salt Lake County</td>
<td>Particulate matter (PM2.5)</td>
<td>Non-attainment area</td>
</tr>
<tr>
<td>Salt Lake County</td>
<td>1-hour ozone (O3)(^a)</td>
<td>Maintenance area</td>
</tr>
</tbody>
</table>

Source: Utah Division of Air Quality 2006

\(^a\) As of June 15, 2005, EPA revoked the 1-hour ozone standard in all areas except for Early Action Compact areas that are not in attainment for the 8-hour ozone standard. Salt Lake County is not a designated Early Action Compact area; therefore, Salt Lake County does not need to conform to the requirements in the State Implementation Plan for ozone.

3.5.2.4 Monitored Air Quality in the Air Quality Evaluation Area

The main air pollutants in the air quality evaluation area are wind-blown dust and particulates (PM\(_{2.5}\) and PM\(_{10}\)) from exposed soils and vehicle emissions (primarily CO) from traffic on existing roads in the area.

The Utah Division of Air Quality maintains a network of air quality monitoring stations throughout the area. In general, these monitoring stations are located where there are known air quality problems, so they are usually in or near urban areas or close to specific emission sources. Other stations are located in remote areas to provide an indication of regional air pollution levels.

Table 3.5-3 through Table 3.5-5 below show the monitoring results for transportation-related criteria pollutants from 2003 through 2007 at the monitoring stations in Salt Lake County.
### Table 3.5-3. Summary of CO Monitoring Data for Salt Lake County

<table>
<thead>
<tr>
<th>Monitoring Station</th>
<th>Parameter</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawthorne (1675 South 600 East, Salt Lake City)</td>
<td>Peak 1-hour value (ppm)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>6.3</td>
<td>5.8</td>
<td>6.5</td>
<td>8.9</td>
<td>4.1</td>
</tr>
<tr>
<td></td>
<td>Peak 8-hour value (ppm)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>3.5</td>
<td>3.8</td>
<td>3.0</td>
<td>3.7</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>Days above standard</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Cottonwood (5715 South 1400 East, Salt Lake City)</td>
<td>Peak 1-hour value (ppm)</td>
<td>4.5</td>
<td>3.9</td>
<td>4.1</td>
<td>4.1</td>
<td>3.0</td>
</tr>
<tr>
<td></td>
<td>Peak 8-hour value (ppm)</td>
<td>2.3</td>
<td>2.6</td>
<td>2.4</td>
<td>2.5</td>
<td>2.2</td>
</tr>
<tr>
<td></td>
<td>Days above standard</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>West Valley City (3275 West 3100 South, West Valley City)</td>
<td>Peak 1-hour value (ppm)</td>
<td>5.9</td>
<td>5.4</td>
<td>7.1</td>
<td>6.1</td>
<td>3.7</td>
</tr>
<tr>
<td></td>
<td>Peak 8-hour value (ppm)</td>
<td>4.0</td>
<td>4.3</td>
<td>3.2</td>
<td>3.3</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td>Days above standard</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: EPA 2008b  
<sup>a</sup> 1-hour CO standard = 35 ppm  
<sup>b</sup> 8-hour CO standard = 9 ppm

### Table 3.5-4. Summary of PM<sub>10</sub> Monitoring Data for Salt Lake County

<table>
<thead>
<tr>
<th>Monitoring Station</th>
<th>Parameter</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cottonwood (5715 South 1400 East, Holladay)</td>
<td>Annual average (µg/m&lt;sup&gt;3&lt;/sup&gt;)&lt;sup&gt;a&lt;/sup&gt;</td>
<td>32</td>
<td>27</td>
<td>25</td>
<td>29</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Peak 24-hour value (µg/m&lt;sup&gt;3&lt;/sup&gt;)&lt;sup&gt;b&lt;/sup&gt;</td>
<td>145</td>
<td>114</td>
<td>82</td>
<td>110</td>
<td>177</td>
</tr>
<tr>
<td></td>
<td>Days above standard</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hawthorne (1675 South 600 East, Salt Lake City)</td>
<td>Annual average (µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>29</td>
<td>24</td>
<td>24</td>
<td>28</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Peak 24-hour value (µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>129</td>
<td>139</td>
<td>88</td>
<td>122</td>
<td>191</td>
</tr>
<tr>
<td></td>
<td>Days above standard</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Magna (2935 South 8560 West, Magna)</td>
<td>Annual average (µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>24</td>
<td>22</td>
<td>20</td>
<td>22</td>
<td>24</td>
</tr>
<tr>
<td></td>
<td>Peak 24-hour value (µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>88</td>
<td>177</td>
<td>80</td>
<td>89</td>
<td>104</td>
</tr>
<tr>
<td></td>
<td>Days above standard</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>North Salt Lake (1795 North 1000 West, Salt Lake City)</td>
<td>Annual average (µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>42</td>
<td>37</td>
<td>41</td>
<td>46</td>
<td>40</td>
</tr>
<tr>
<td></td>
<td>Peak 24-hour value (µg/m&lt;sup&gt;3&lt;/sup&gt;)</td>
<td>189</td>
<td>153</td>
<td>188</td>
<td>174</td>
<td>188</td>
</tr>
<tr>
<td></td>
<td>Days above standard</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>4</td>
<td>2</td>
</tr>
</tbody>
</table>

Source EPA 2008b  
<sup>a</sup> Annual PM<sub>10</sub> standard = 50 µg/m<sup>3</sup> (annual standard revoked by EPA on December 18, 2006)  
<sup>b</sup> 24-hour PM<sub>10</sub> standard = 150 µg/m<sup>3</sup> (standard allows three exceedances over a 3-year period)
### Table 3.5-5. Summary of PM$_{2.5}$ Monitoring Data for Salt Lake County

<table>
<thead>
<tr>
<th>Monitoring Station</th>
<th>Parameter</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cottonwood (5715 South 1400 East, Holladay)</td>
<td>Annual average (ppm)$^a$</td>
<td>14.3</td>
<td>11.1</td>
<td>10.2</td>
<td>12.5</td>
<td>10.5</td>
</tr>
<tr>
<td></td>
<td>Peak 24-hour value (ppm)$^b$</td>
<td>69</td>
<td>63</td>
<td>44</td>
<td>85</td>
<td>60</td>
</tr>
<tr>
<td></td>
<td>(98th percentile)</td>
<td>(66)</td>
<td>(42)</td>
<td>(39)</td>
<td>(58)</td>
<td>(47)</td>
</tr>
<tr>
<td>Herriman (5600 West 12950 South, Herriman)</td>
<td>Annual average (ppm)</td>
<td>10.9</td>
<td>7.8</td>
<td>7.3</td>
<td>8.2</td>
<td>7.7</td>
</tr>
<tr>
<td></td>
<td>Peak 24-hour value (ppm)</td>
<td>62</td>
<td>40</td>
<td>29</td>
<td>57</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td>(98th percentile)</td>
<td>(48)</td>
<td>(27)</td>
<td>(22)</td>
<td>(23)</td>
<td>(42)</td>
</tr>
<tr>
<td>Hawthorne (1675 South 600 East, Salt Lake City)</td>
<td>Annual average (ppm)</td>
<td>14.2</td>
<td>11.0</td>
<td>9.7</td>
<td>11.4</td>
<td>10.2</td>
</tr>
<tr>
<td></td>
<td>Peak 24-hour value (ppm)</td>
<td>94</td>
<td>61</td>
<td>49</td>
<td>87</td>
<td>64</td>
</tr>
<tr>
<td></td>
<td>(98th percentile)</td>
<td>(64)</td>
<td>(43)</td>
<td>(38)</td>
<td>(64)</td>
<td>(37)</td>
</tr>
<tr>
<td>North Salt Lake (1795 North 1000 West, Salt Lake City)</td>
<td>Annual average (ppm)</td>
<td>17.8</td>
<td>14.1</td>
<td>13.0</td>
<td>16.1</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>Peak 24-hour value (ppm)</td>
<td>86</td>
<td>63</td>
<td>55</td>
<td>81</td>
<td>ND</td>
</tr>
<tr>
<td></td>
<td>(98th percentile)</td>
<td>(57)</td>
<td>(44)</td>
<td>(40)</td>
<td>(79)</td>
<td>ND</td>
</tr>
<tr>
<td>West Valley City (3275 West 3100 South, West Valley City)</td>
<td>Annual average (ppm)</td>
<td>13.4</td>
<td>11.1</td>
<td>13.9</td>
<td>12.0</td>
<td>10.8</td>
</tr>
<tr>
<td></td>
<td>Peak 24-hour value (ppm)</td>
<td>74</td>
<td>63</td>
<td>47</td>
<td>79</td>
<td>48</td>
</tr>
<tr>
<td></td>
<td>(98th percentile)</td>
<td>(61)</td>
<td>(40)</td>
<td>(39)</td>
<td>(50)</td>
<td>(48)</td>
</tr>
</tbody>
</table>

Source: EPA 2008b  
ND = No data  
$^a$ Annual PM$_{2.5}$ standard = 15 µg/m$^3$  
$^b$ 24-hour PM$_{2.5}$ standard = 35 µg/m$^3$; violations determined from 98th-percentile concentrations

### 3.5.3  Environmental Consequences

This section describes the air quality impacts from the Sugar House Streetcar Project. The air quality impacts from the project were evaluated using guidelines and procedures from EPA, FTA, FHWA, and UDOT. Since the streetcar would operate on electricity, there would be no direct emissions from the streetcar line itself. However, because the streetcar line would cross several arterial roads, traffic would be stopped and there could be increased emissions from vehicle queues on major streets such as State Street and 700 East.

#### 3.5.3.1  Methodology

Table 3.5-6 below lists the air quality analyses that are required by the federal Clean Air Act. The following sections provide more details about each analysis as well as other analyses that were performed for this EA.
Table 3.5-6. Air Quality Analyses Required for the Sugar House Streetcar Project

<table>
<thead>
<tr>
<th>Law, Statute, or Regulation</th>
<th>Analysis Required</th>
<th>Geographic Area of Analysis</th>
<th>Applicable Air Quality Standard</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clean Air Act</td>
<td>Regional conformity analyses for PM$_{10}$ and CO</td>
<td>Salt Lake County PM$_{10}$ non-attainment area and Salt Lake City CO maintenance area</td>
<td>PM$_{10}$ and CO emission budgets in the State Implementation Plan</td>
</tr>
<tr>
<td>Clean Air Act</td>
<td>Project-level conformity analysis for PM$_{10}$</td>
<td>Roads and intersections near the transit corridor within the Salt Lake County PM$_{10}$ non-attainment area</td>
<td>PM$_{10}$ emission budget in the State Implementation Plan</td>
</tr>
<tr>
<td>Clean Air Act</td>
<td>Project-level conformity analysis for CO</td>
<td>Roads and intersections near the transit corridor within the Salt Lake City CO maintenance area</td>
<td>CO emission budget in the State Implementation Plan</td>
</tr>
</tbody>
</table>

Analyses Required by the Clean Air Act (Transportation Conformity)

*Transportation conformity* is the process of determining whether transportation projects are consistent with, or “conform” to, the State Implementation Plan. This conformity requirement applies when a project is located in a non-attainment or maintenance area. Because the Sugar House Streetcar Project is located in Salt Lake County, which is a non-attainment area for PM$_{10}$, this EA includes conformity analyses for PM$_{10}$ at both the regional and project levels. In addition, since the project is located in Salt Lake City, which is a maintenance area for CO, this EA also includes a conformity analysis for CO at both the regional and project levels.

In order for the Sugar House Streetcar Project to be built, the conformity analyses need to show that PM$_{10}$ and CO emissions from the project, in combination with PM$_{10}$ and CO emissions from other regionally significant transportation projects, would not exceed the emission budget in the State Implementation Plan for each pollutant. Regional conformity analyses are conducted by the appropriate metropolitan planning organization (in this case, WFRC for Salt Lake County). WFRC has included the Sugar House Streetcar Project as a “regionally significant” project in its most recent regional conformity analysis (WFRC 2009).

A qualitative project-level analysis for PM$_{2.5}$ was not conducted for the project. The Sugar House Streetcar Project study area is within the northern Wasatch Front PM$_{2.5}$ non-attainment area. EPA made official attainment and non-attainment designations for PM$_{2.5}$ in October 2009, and those designations became effective in November 2009. The transportation conformity requirements would apply to FHWA and FTA projects 1 year after the effective date of the designations (late 2010). A project-level conformity determination is required for the first federal approval action after the 1-year grace period for new non-attainment areas expires.
Salt Lake County PM$_{10}$ Regional Conformity Determination

The State Implementation Plan does not establish PM$_{10}$ emission budgets beyond 2003. The 2003 emission budget is the established budget for 2003 and for future-year conformity determinations. Regional conformity analyses conducted after 2003 must use the 2003 emission budgets for primary and secondary particulates.

- **Primary particulates** consist mostly of fugitive road dust (that is, dust stirred up by vehicles) but also include particles from brake and tire wear as well as direct tailpipe emissions.
- **Secondary particulates** consist of gaseous tailpipe emissions that form through chemical reactions in the atmosphere. NO$_x$ is the main component of secondary particulates.

### 3.5.3.2 No-Action Alternative

Under the No-Action Alternative, the Sugar House Streetcar Project would not be built. However, other regionally significant transportation projects identified in the WFRC long-range plan and by the communities would be constructed, and these projects would contribute to regional and local air quality impacts throughout the evaluation area.

The most recent transportation conformity analysis for the Salt Lake County PM$_{10}$ non-attainment area and the Salt Lake City CO maintenance area concluded that, in 2030 with all regionally significant transportation projects in the Regional Transportation Plan (including the Sugar House Streetcar Project) constructed, Salt Lake County would be well within the PM$_{10}$ emission budget in the State Implementation Plan and Salt Lake City would be well within the CO emission budget in the State Implementation Plan (WFRC 2009). Because the No-Action Alternative would include all regional transportation projects minus the Sugar House Streetcar Project, the area would still be in conformance under the No-Action scenario.

Table 3.5-7 and Table 3.5-8 below, which are taken from WFRC’s 2007 regional conformity determination (and 2009 amendment), show that the expected mobile-source emissions for primary and secondary particulates in the Salt Lake County PM$_{10}$ non-attainment area would be within the 2003 emission budgets established for Salt Lake County in the State Implementation Plan.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>2015</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission budget (tons/day)</td>
<td>40.30</td>
<td>40.30</td>
<td>40.30</td>
</tr>
<tr>
<td>Vehicle-miles traveled (VMT)</td>
<td>29,282,516</td>
<td>35,034,454</td>
<td>37,074,818</td>
</tr>
<tr>
<td>Projected emissions (tons/day)</td>
<td>27.80</td>
<td>32.26</td>
<td>33.95</td>
</tr>
<tr>
<td>Conformity determination</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
</tr>
</tbody>
</table>

Source: WFRC 2009
Table 3.5-8. Regional Conformity Determination for Secondary PM$_{10}$ (NO$_x$) Emissions in Salt Lake County

<table>
<thead>
<tr>
<th>Parameter</th>
<th>2015</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission budget (tons/day)</td>
<td>32.30</td>
<td>32.30</td>
<td>32.30</td>
</tr>
<tr>
<td>Vehicle-miles traveled (VMT)</td>
<td>29,282,516</td>
<td>35,034,454</td>
<td>37,074,818</td>
</tr>
<tr>
<td>Projected emissions (tons/day)</td>
<td>24.60</td>
<td>12.36</td>
<td>10.87</td>
</tr>
<tr>
<td>Conformity determination (projected &lt; budget?)</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
</tr>
</tbody>
</table>

Source: WFRC 2009

An additional factor that will affect PM$_{10}$ levels between now and 2030 is particulate-control programs that have been established by EPA at the national level. These programs will reduce particulate emissions from most major sources as well as the emissions’ precursor pollutants (such as NO$_x$). EPA’s Tier 2 light-duty vehicle regulations and 2007 heavy-duty vehicle standards, along with control of the sulfur content of fuels, are expected to reduce the rate of particulate emissions from motor vehicles by 59% between 2005 and 2015, with an additional 25% reduction between 2015 and 2030. EPA’s May 2004 non-road engine regulations (EPA 2004) took effect in 2008 and will reduce particulate matter and NO$_x$ emissions from these vehicles by 90% by 2030.

**Salt Lake City CO Regional Conformity Determination**

WFRC’s 2007 regional conformity determination (and 2009 amendment) found that all regionally significant transportation projects included in the WFRC 2030 Regional Transportation Plan would conform to the CO emission budget established in the State Implementation Plan. Table 3.5-9 shows the projected mobile-source emissions for CO in Salt Lake City and demonstrates that CO emissions will be within the emission budget established by the CO maintenance plan through 2030.

Table 3.5-9. Regional Conformity Determination for CO Emissions in Salt Lake City

<table>
<thead>
<tr>
<th>Parameter</th>
<th>2012</th>
<th>2019</th>
<th>2025</th>
<th>2030</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emission budget (tons/day)</td>
<td>278.62</td>
<td>278.62</td>
<td>278.62</td>
<td>278.62</td>
</tr>
<tr>
<td>Vehicle-miles traveled (VMT)</td>
<td>7,102,582</td>
<td>7,449,107</td>
<td>8,035,359</td>
<td>8,314,131</td>
</tr>
<tr>
<td>Projected emissions (tons/day)</td>
<td>111.62</td>
<td>93.72</td>
<td>95.39</td>
<td>95.63</td>
</tr>
<tr>
<td>Conformity determination (projected &lt; budget?)</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
<td>Pass</td>
</tr>
</tbody>
</table>

Source: WFRC 2009
If all regionally significant transportation projects are completed, more than 50% of the CO and PM$_{10}$ emission budgets in the State Implementation Plan would remain in 2030. As a result, the No-Action Alternative (which would include all of these regionally significant projects without the Sugar House Streetcar Project) would not cause new violations of the national air quality standards, increase the frequency or severity of existing violations of the standards, or delay the attainment of the standards.

Because the Sugar House Streetcar Project would not be built under this alternative, no project-level air quality analyses were conducted for the No-Action Alternative.

### 3.5.3.3 Action Alternative

**Project-Level PM$_{10}$ Conformity Analysis**

As stated in Section 3.5.3.2, No-Action Alternative, the Sugar House Streetcar Project is identified in WFRC long-range plan as a regionally significant transportation project. A WFRC conformity determination shows that the project in the long-range plan meets the regional conformity requirements.

There are currently no EPA-approved quantitative methods for conducting a project-level analysis for PM$_{10}$ or PM$_{2.5}$. Therefore, EPA requires a qualitative project-level analysis. The methodology for this qualitative analysis is described in the EPA and FHWA guidance *Transportation Conformity Guidance for Qualitative Hot-Spot Analysis in PM$_{2.5}$ and PM$_{10}$ Non-attainment and Maintenance Areas* (EPA and FHWA 2006).

PM$_{10}$ concentrations in the environment come from direct sources such as dust stirred up by vehicle tires as well as secondary reactions of NO$_x$ and sulfur oxides (SO$_x$) that form PM$_{10}$ in the atmosphere. Traffic volumes and the corresponding traffic congestion have less of an impact on PM$_{10}$ concentrations than do the larger regional trends in emission rates and industrial pollution controls (UDOT 2003). Therefore, PM$_{10}$ in Salt Lake County will likely remain a regional issue related to prolonged temperature inversions and a gradual build-up of PM$_{10}$-related pollutants.

In WFRC’s most recent regional conformity analysis, all regionally significant transportation projects were determined to be in compliance with the PM$_{10}$ emission budgets in the State Implementation Plan (see Section 3.5.3.2, No-Action Alternative). Therefore, since the region has been determined to conform to the PM$_{10}$ emission budgets, the Sugar House Streetcar Project would conform at the project level as well.

The Sugar House Streetcar Project would be powered by electricity and would have no PM$_{10}$ emissions associated with it; therefore, the project would have a negligible impact on overall PM$_{10}$ emissions along the Wasatch Front.

Fugitive dust emissions from construction of the Sugar House Streetcar Project are discussed in Section 3.11.3.2, Construction Impacts on Air Quality.
Project-Level Analysis of CO (CO Hot-Spot Analysis)

A CO hot-spot analysis using the CAL3QHC dispersion model was conducted to predict CO levels at the two most heavily traveled arterials in the transit corridor (State Street and 700 East) in 2030 with the streetcar line. When the streetcar crosses these streets, traffic would be stopped, and the gated crossing would effectively operate as a signalized intersection. The project-level analysis was conducted with the following assumptions:

- Streetcars would cross each street every 7.5 minutes, and traffic would be stopped for 1 minute during the crossing.
- CAL3QHC input parameters were derived from existing monitoring data representative of the project area and from UDOT’s Air Quality Hot-Spot Manual.

The highest modeled 1-hour CO concentrations at the State Street and 700 East crossings were 4.8 ppm and 5.0 ppm, respectively. Eight-hour CO concentrations at these same crossings were 4.1 ppm and 4.2 ppm, respectively. All modeled CO concentrations were below the 1-hour (35 ppm) and 8-hour (9 ppm) national standards for CO. Therefore, there would be no CO impacts associated with the Action Alternative.

Greenhouse Gases and Climate Change

Power for the Action Alternative will likely come from a variety of sources ranging from coal-fired power plants in eastern and southern Utah to hydropower facilities throughout the Intermountain West. In general, power is produced near the energy source and is transmitted by overland distribution lines to the Salt Lake Valley.

Emissions Displaced by Transit

One of the primary strategies to reduce greenhouse gas emissions is to provide choices for travel so that options other than single-occupant vehicle travel are available. The Action Alternative would provide a transit travel option that does not currently exist in the Sugar House area of the Salt Lake Valley. The Action Alternative would support existing development and proposed commercial and residential redevelopment, thereby encouraging higher-density land uses that would allow fewer vehicle-miles of travel and, as a result, fewer greenhouse gas emissions. A recent study by SAIC (2007) found that, if all travel that used public transportation in the United States were instead made in private vehicles, an additional 16.2 million metric tonnes of CO2 would have been released into the atmosphere.

Public transportation’s carbon emissions were 4.0 million metric tonnes less than what would have been used by personal vehicles alone. In addition, the use of public transportation reduced congestion levels enough to save an additional 340 million gallons of gasoline, leading to another 3.0 million metric tonnes of CO2 reduction. This resulted in a net CO2 emission reduction of 6.9 million metric tonnes due to public transportation options (SAIC 2007).
The Action Alternative is expected to reduce regional vehicle-miles traveled by about 3,400 miles per day, which in turn would reduce direct greenhouse gas emissions, though by a small amount. If ridership numbers increase and corresponding vehicle-miles are further reduced, then further reductions of greenhouse gas emissions would occur. In addition, the Action Alternative provides an alternate transit mode that can connect with other transit options (light rail, commuter rail, or buses), thereby contributing to reduced single-occupant-vehicle travel in Salt Lake County.

**Emissions Produced by Transit**

Although no direct greenhouse gas emissions are produced by the streetcar vehicles themselves since they are electrically powered, an estimate can be made of indirect greenhouse gas emissions associated with the electric power used by the streetcar vehicles. Because the emission changes due to the Action Alternative (that is, the reduction in regional vehicle-miles of travel) would be very small compared to the regional amount of vehicle-miles traveled, greenhouse gas emissions were not estimated specifically for the Action Alternative.

However, greenhouse gas emissions were recently estimated for a proposed light-rail transit project (the Draper Transit Corridor Project) in the Salt Lake Valley (UTA 2010). The Draper Transit Corridor Project (which consists of a light-rail transit line for a distance of about 8 miles) is expected to reduce regional vehicle-miles traveled by about 50,000 miles per day, which would result in modest reductions in annual greenhouse gas emissions in Salt Lake County (451 tons per year of CO₂, 0.01 ton of nitrous oxide, and no change in methane emissions).

Given that the Action Alternative is expected to reduce regional vehicle-miles traveled by 3,400 miles per day, it is reasonable to assume that the estimated reductions in greenhouse gas emissions from the Sugar House Streetcar Project would be less than those resulting from the Draper Transit Corridor Project. The greenhouse gas emissions calculated for the Draper Transit Corridor Project are included in Appendix B6, Greenhouse Gas Emissions Calculated for the Draper Transit Corridor Project.

Nonetheless, to the extent that the Action Alternative reduces vehicle-miles traveled in Salt Lake City and Salt Lake County, the project would reduce CO₂ emissions.

**3.5.3.4 Mitigation Measures for Impacts to Air Quality**

There would be no air quality impacts from the Action Alternative; therefore, no mitigation measures are proposed. The Utah Air Quality Rules require a dust-control plan from all sources whose activities or equipment could produce fugitive dust or airborne dust. A dust-control plan will be prepared for the construction phase of the project. Dust-control measures could include planting vegetative cover, providing synthetic covers, and watering and/or chemically stabilizing unpaved haul roads.
3.6 **Noise and Vibration**

This section summarizes the basic concepts of noise and vibration, explains the methods that were used to evaluate noise and vibration impacts, describes the existing noise and vibration conditions in the noise and vibration evaluation area, and describes the noise and vibration levels that are expected at sensitive receptors (such as individual residences) in the noise and vibration evaluation area due to the Action Alternative.

The **noise and vibration evaluation area** consists of the area within about 200 feet on each side of the proposed streetcar alignment. The FTA guidance manual *Transit Noise and Vibration Impact Assessment* (FTA 2006) recommends an unobstructed screening distance for noise sources associated with steel-wheeled, low- and intermediate-capacity transit systems of 125 feet. (An unobstructed screening distance refers to a clear line of sight between the noise source and the sensitive receiver without any intervening buildings to block noise.) Extending the evaluation area to 200 feet on both sides of the alignment ensures that all noise and vibration impacts associated with the project are accounted for in the analysis.

### 3.6.1 Statutory and Regulatory Setting

The Federal Noise Control Act of 1972 (Public Law 92-574) requires that all federal agencies administer their programs in a manner that promotes an environment free from noises that could jeopardize public health or welfare. The noise and vibration impact assessment for this EA was prepared in accordance with NEPA and the guidelines in FTA’s *Transit Noise and Vibration Impact Assessment* (FTA 2006).

The FTA guidelines are specifically used to assess noise and vibration impacts from transit vehicles (for example, buses and light-rail trains) and stationary noise sources associated with transit systems (for example, maintenance facilities and park-and-ride lots). FTA assesses impacts at sensitive receivers such as residences, schools, and libraries. A description of the FTA evaluation criteria and the modeling methodologies is included in Section 3.6.3.1, Methodology.

In addition, this noise analysis follows UTA’s Noise Assessment and Mitigation Policy for use with all capital development projects. The policy is based on procedures in FTA’s *Transit Noise and Vibration Impact Assessment* (FTA 2006) (“FTA guidance”) and in UDOT’s Noise Abatement Policy.
3.6.2 Affected Environment

3.6.2.1 Methodology

Human Perception of Noise

Noise is defined as unwanted sound. Several factors affect the level and quality of sound (or noise) as perceived by the human ear: loudness, pitch (or frequency), and time variation. The loudness, or magnitude, of noise determines its intensity and is measured in decibels (dB) that can range from below 40 dB (the rustling of leaves) to over 100 dB (a rock concert). Pitch describes the character and frequency content of noise, such as the very low “rumbling” noise of stereo subwoofers or the very high-pitched noise of a piercing whistle. Finally, the time variation of noise sources can be characterized as continuous, such as with a building ventilation fan; intermittent, such as for trains passing by; or impulsive, such as pile-driving activities during construction.

Various sound levels are used to quantify noise from transit sources, including a sound’s loudness, duration, and tonal character. For example, the A-weighted decibel (dBA) is commonly used to describe the overall noise level because it more closely matches the human ear’s response to audible frequencies. Because the A-weighted decibel scale is logarithmic, a 10-dBA increase in a noise level is generally perceived as a doubling of loudness, while a 3-dBA increase in a noise level is just barely perceptible to the human ear. Typical A-weighted sound levels from transit and other common sources are shown in Chart 3.6-1 below.
Several A-weighted noise descriptors are used to determine impacts from transit-related noise sources. Two of these are the $L_{eq}$, which represents a level of constant noise with the same acoustical energy as the fluctuating noise levels observed during a given interval [such as 1 hour, written as $L_{eq}(h)$], and the $L_{dn}$, or the 24-hour day-night noise level that includes a 10-dBA penalty for all nighttime activity between 10 PM and 7 AM.

**Human Perception of Vibration**

Ground-borne vibration is usually the result of uneven interactions between wheels and the road or rail surfaces. Examples of such interactions that cause ground-borne vibration include train wheels over a jointed rail, an untrue rail car wheel with “flats,” and a motor vehicle tire hitting a pothole, a manhole cover, or any other uneven surface.

Unlike noise, which travels in air, transit vibration typically travels along the surface of the ground. Depending on the geological properties of the surrounding terrain and the type of building structure exposed to transit vibration, vibration propagation can be more or less efficient. Buildings with a solid foundation set in bedrock are “coupled” more efficiently to the surrounding ground and experience relatively higher vibration levels than buildings in sandier soil. On the other hand, heavier buildings (such as masonry
structures) are less susceptible to ground-borne vibration than wood-frame buildings because they absorb more of the vibration.

To describe the human response to vibration, the average vibration amplitude (called the root mean square, or RMS, amplitude) is used to assess impacts. The RMS velocity level is expressed in inches per second or vibration decibels (VdB). All VdB vibration levels are referenced to 1 micro-inch per second. Typical ground-borne vibration levels from transit and other common sources are shown in Chart 3.6-2.

**Chart 3.6-2. Typical Ground-Borne Vibration Levels**

<table>
<thead>
<tr>
<th>Human/Structural Response</th>
<th>VELOCITY LEVEL*</th>
<th>Typical Sources (50 ft from source)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Threshold, minor cosmetic damage to fragile buildings</td>
<td>60</td>
<td>Drilling from construction projects</td>
</tr>
<tr>
<td>Difficulty with tasks such as reading a computer screen</td>
<td>50</td>
<td>Backhoe and other heavy tracked construction equipment</td>
</tr>
<tr>
<td>Residential annoyance, infrequent events (e.g., commuter rail)</td>
<td>40</td>
<td>Commuter rail, upper range</td>
</tr>
<tr>
<td>Residential annoyance, frequent events (e.g., rapid transit)</td>
<td>30</td>
<td>Rapid transit, upper range</td>
</tr>
<tr>
<td>Limit for vibration sensitive equipment. Approximate threshold for human perception of vibration</td>
<td>20</td>
<td>Bus or truck over bump</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Rapid transit, typical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bus or truck, typical</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Typical background vibration</td>
</tr>
</tbody>
</table>

* RMS vibration velocity level in VdB relative to 10⁻⁷ inches/second

Source: FTA 2006
Methods Used To Determine Existing Noise and Vibration Levels

FTA’s *Transit Noise and Vibration Impact Assessment* guidance manual discusses the basic concepts, methods, and procedures for evaluating the extent and severity of noise and vibration impacts from transit projects. Transit noise and vibration impacts are assessed based on land-use categories and sensitivity to noise and vibration from transit sources under the FTA guidelines.

**Noise**

The FTA land-use categories and the associated noise metrics are described in Table 3.6-1. Category 1 includes uses where quiet is an essential element in their intended purpose, such as indoor concert halls, outdoor concert pavilions, or outdoor National Historic Landmarks where outdoor interpretation routinely takes place. Category 2 land uses include residences and buildings where people sleep, and Category 3 includes institutional land uses with primarily daytime and evening use such as schools, places of worship, and libraries.

It is important to note that the categories in Table 3.6-1 do not apply to most commercial or industrial uses because, in general, the activities within these buildings are compatible with higher noise levels. The criteria do apply to business uses that depend on quiet as an important part of their operations, such as sound and motion picture recording studios.

<table>
<thead>
<tr>
<th>Land-Use Category</th>
<th>Noise Descriptor</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>$L_{eq}(h)$</td>
<td>Tracts of land set aside for serenity and quiet, such as outdoor amphitheaters, concert pavilions, and historic landmarks.</td>
</tr>
<tr>
<td>2</td>
<td>$L_{dn}$</td>
<td>Buildings used for sleeping, such as residences, hospitals, and hotels, and other areas where nighttime sensitivity to noise is of utmost importance.</td>
</tr>
<tr>
<td>3</td>
<td>$L_{eq}(h)$</td>
<td>Institutional land uses with primarily daytime and evening use including schools, libraries, churches, museums, cemeteries, historic sites, and parks, and certain recreational facilities used for study or meditation.</td>
</tr>
</tbody>
</table>

Source: FTA 2006
The project team used the FTA screening assessment guidelines (FTA 2006) to identify noise-sensitive receptors and land uses in the noise and vibration evaluation area. Noise-sensitive land uses are residential areas and buildings such as hospitals, schools, and churches (residences are included in land-use Category 2 in Table 3.6-1 above). As shown in Figure 3-4 through Figure 3-15 below, the project team identified 11 representative monitoring locations where existing noise levels would be measured. No FTA Category 1 receptors were identified in the noise and vibration evaluation area within the screening distance of 200 feet.

**Vibration**

Table 3.6-2 lists the three categories of land use that FTA considers to be vibration sensitive. Vibration Category 1 includes vibration-sensitive land uses such as research and manufacturing facilities, hospitals with vibration-sensitive equipment, and university research operations. There are no Vibration Category 1 land uses in the noise and vibration evaluation area. As with the noise impact criteria, the vibration criteria do not apply to most commercial or industrial uses.

<table>
<thead>
<tr>
<th>Vibration Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – High Sensitivity</td>
<td>Buildings where vibration would interfere with interior operations. Typical land uses covered by Category 1 are vibration-sensitive research and manufacturing, hospitals with vibration-sensitive equipment, and university research operations.</td>
</tr>
<tr>
<td>2 – Residential</td>
<td>All residential land uses and any buildings where people sleep, such as hotels and hospitals.</td>
</tr>
<tr>
<td>3 – Institutional</td>
<td>Schools, churches, other institutions, and quiet offices that do not have vibration-sensitive equipment but whose activities could still experience interference from vibration.</td>
</tr>
</tbody>
</table>

Source: FTA 2006
Figure 3-4. Noise Monitoring-Locations (1 of 12)
Figure 3-5. Noise-Monitoring Locations (2 of 12)
Figure 3-6. Noise-Monitoring Locations (3 of 12)
Figure 3-7. Noise-Monitoring Locations (4 of 12)
Figure 3-8. Noise-Monitoring Locations (5 of 12)
Figure 3-9. Noise-Monitoring Locations (6 of 12)
Figure 3-10. Noise-Monitoring Locations (7 of 12)
Figure 3-11. Noise-Monitoring Locations (8 of 12)
Figure 3-12. Noise-Monitoring Locations (9 of 12)
Figure 3-14. Noise-Monitoring Locations (11 of 12)
Figure 3-15. Noise-Monitoring Locations (12 of 12)
### 3.6.2.2 Existing Noise Levels

Noise measurements were taken in the noise and vibration evaluation area on October 7, 2009. As shown in Table 3.6-3, measured noise levels in the evaluation area ranged from 54 to 67 dBA. Lower noise levels were measured in residential neighborhoods away from major streets, which are the primary source of noise in the evaluation area. Higher noise levels were measured at monitoring locations (ML) at commercial/industrial facilities closer to busy streets such as West Temple Street, Main Street, State Street, 700 East, and 900 East.

#### Table 3.6-3. Monitored Noise Levels in the Noise and Vibration Evaluation Area

<table>
<thead>
<tr>
<th>Monitoring Location\textsuperscript{a}</th>
<th>Receptor Description</th>
<th>FTA Land-Use Category\textsuperscript{b}</th>
<th>Monitored Noise Level (dBA) (Leq)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ML-1</td>
<td>Commercial/industrial between 200 West and West Temple Street</td>
<td>3\textsuperscript{c}</td>
<td>60</td>
</tr>
<tr>
<td>ML-2</td>
<td>Commercial/industrial between West Temple Street and Main Street</td>
<td>3\textsuperscript{c}</td>
<td>53</td>
</tr>
<tr>
<td>ML-3</td>
<td>Commercial/industrial between Main Street and State Street</td>
<td>3\textsuperscript{c}</td>
<td>55</td>
</tr>
<tr>
<td>ML-4</td>
<td>Residential between State Street and 200 East</td>
<td>2</td>
<td>52</td>
</tr>
<tr>
<td>ML-5</td>
<td>Residential between 200 East and 300 East</td>
<td>2</td>
<td>49</td>
</tr>
<tr>
<td>ML-6</td>
<td>Commercial/industrial between 300 East and 400 East</td>
<td>3\textsuperscript{c}</td>
<td>46</td>
</tr>
<tr>
<td>ML-7</td>
<td>Residential between 400 East and 500 East</td>
<td>2</td>
<td>47</td>
</tr>
<tr>
<td>ML-8</td>
<td>Residential between 500 East and 600 East</td>
<td>2</td>
<td>48</td>
</tr>
<tr>
<td>ML-9</td>
<td>Residential between Lake Street and 800 East</td>
<td>2</td>
<td>46</td>
</tr>
<tr>
<td>ML-10</td>
<td>Residential between 800 East and 900 East</td>
<td>2</td>
<td>46</td>
</tr>
<tr>
<td>ML-11</td>
<td>Residential between 900 East and McClelland Street</td>
<td>2</td>
<td>57</td>
</tr>
</tbody>
</table>

\textsuperscript{a} See Figure 3-4 through Figure 3-15 above, Noise-Monitoring Locations, for the locations of these receptors.

\textsuperscript{b} See Table 3.6-1 above, FTA Land-Use Categories for Evaluating Transit Noise Impacts, for a description of Category 2.

\textsuperscript{c} FTA’s land-use categories do not apply to most commercial/industrial land uses except for those that are noise sensitive, such as recording studios and motion picture facilities. There are no such land uses in the noise and vibration evaluation area. However, in order to analyze and fully disclose all noise impacts from the proposed project, this EA evaluates noise levels at commercial/industrial receptors in addition to Category 2 residential receptors.

### 3.6.2.1 Existing Vibration

Vibration in the noise and vibration evaluation area is primarily due to traffic on heavily traveled streets such as West Temple Street, Main Street, State Street, and 700 East. There are no railroads that contribute to existing vibration.
3.6.3 Environmental Consequences

This section describes the noise and vibration impacts of the No-Action and Action Alternatives. A General Noise Assessment was conducted according to FTA procedures and guidelines using the existing noise sources in the evaluation area and the noise sources that would be added by the proposed project. As stated in the FTA guidance manual, a General Noise Assessment can provide the appropriate level of detail about noise impacts for transit projects when an environmental document (such as an EA) is being prepared (FTA 2006).

For General Noise Assessments, estimates of project-related noise and existing noise conditions are used to define the location of noise impact contours (that is, the distance from the noise source at which there would be no impacts, moderate impacts, or severe impacts) for Category 2 (residential) and Category 3 (commercial/institutional) land uses. By taking an inventory of noise-sensitive land uses within each noise contour area, the project team can identify the number of noise impacts associated with the noise source and the locations where noise mitigation might be appropriate.

3.6.3.1 Methodology

Transit Noise and Vibration Evaluation Criteria

FTA’s guidance manual presents the basic concepts, methods, and procedures for evaluating the extent and severity of noise and vibration impacts from transit projects. Noise and vibration impacts are assessed based on land-use categories and these uses’ sensitivity to noise and vibration from transit sources.

Noise Criteria

As shown in Chart 3.6-3 below, the FTA transit noise impact criteria define noise impacts in terms of the existing noise levels, the expected noise levels with the proposed project, and the land uses that would be affected. Category 1 and 2 land uses are more sensitive to noise than Category 3 land uses (see Table 3.6-1 above, FTA Land-Use Categories for Evaluating Transit Noise Impacts). The criteria do not apply to most commercial or industrial uses because, in general, the activities in these buildings are compatible with higher noise levels. However, in order to analyze all noise impacts from the proposed project, this EA includes an assessment of noise impacts at commercial land uses.

The FTA noise criteria separate noise impacts into two categories: moderate impact and severe impact. The moderate impact category indicates that the change in noise is noticeable but might not be sufficient to cause a strong, adverse community reaction. The severe impact category indicates that a significant percentage of the population would be highly affected by the new noise. The degree of impact at any specific location can be determined by comparing the predicted project noise level at the site to the existing noise level.
Vibration Criteria

The FTA vibration criteria for evaluating ground-borne vibration impacts are shown in Table 3.6-4 below. The vibration criteria are related to ground-borne vibration levels that are expected to result in human annoyance and are based on root-mean-square (RMS) velocity levels expressed in velocity decibels (VdB) referenced to 1 micro-inch per second.

FTA’s experience with community response to ground-borne vibration indicates that, when only a few vibration-inducing events occur per day (for example, trains passing by a residential development), it takes higher vibration levels to evoke the same community response that occurs from more-frequent events. This is taken into account in the FTA criteria by distinguishing between projects with frequent, occasional, and infrequent vibration events. The frequent events category is defined as more than 70 vibration-inducing events per day (and is the criterion for the proposed project), the occasional events category is defined as between 30 and 70 events per day, and the infrequent events category is defined as fewer than 30 events per day.
### Table 3.6-4. FTA Ground-Borne RMS Vibration Impact Criteria

<table>
<thead>
<tr>
<th>Receptor Land Use</th>
<th>RMS Vibration Levels (VdB)&lt;sup&gt;a&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequent Events</td>
</tr>
<tr>
<td>Category Description</td>
<td>Frequent Events</td>
</tr>
<tr>
<td>1</td>
<td>Buildings where low vibration is essential for interior operations</td>
</tr>
<tr>
<td>2</td>
<td>Residences and buildings where people normally sleep</td>
</tr>
<tr>
<td>3</td>
<td>Daytime institutional and office use</td>
</tr>
<tr>
<td>Specific buildings</td>
<td>TV or recording studios, concert halls</td>
</tr>
<tr>
<td>Specific buildings</td>
<td>Auditoriums</td>
</tr>
<tr>
<td>Specific buildings</td>
<td>Theaters</td>
</tr>
</tbody>
</table>

Source: FTA 2006

<sup>a</sup> Ground-borne vibration levels (VdB) are referenced to 1 micro-inch per second.

### Modeling Methodology

The existing noise levels described in Section 3.6.2.2, Existing Noise Levels, were used to assess the expected noise impacts from the Sugar House Streetcar Project in 2030. The FTA Noise Impact Assessment Spreadsheet model (HMMH 2007) was used to assess noise impacts in the evaluation area for the operation of a single streetcar operating with 15-minute headways in each direction (eight pass-by events per hour). Since there would be no transit stations (other than simple platforms) and no park-and-ride lots, these noise sources were not included in the analysis.

Since the most noise-sensitive land uses are residential (Category 2), the $L_{dn}$ descriptor was used to reflect the heightened sensitivity of residents to nighttime noise. (The $L_{dn}$ adds an additional 10 dBA of noise to nighttime noise levels to account for the increased sensitivity to noise at night, when most people are asleep.) The $L_{eq}$ (the average noise level over a specified time, such as 1 hour) was used to assess noise impacts at commercial/institutional (Category 3) land uses.

A General Noise Assessment was conducted to model the noise from the Action Alternative. The reference noise levels and assumptions used in the analysis are shown in Table 3.6-5 below and are described following the table.
### Table 3.6-5. Summary of Noise Source Reference Data for Transit Systems

<table>
<thead>
<tr>
<th>Noise Source Description</th>
<th>SEL Noise Level (dBA)</th>
<th>Source: FTA 2006</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rail transit (at-grade, ballast, welded rail)(^b)</td>
<td>82</td>
<td>Noise level reported in A-weighted decibels (dBA) at a reference distance of 50 feet and a reference speed of 50 mph. SEL is the sound exposure level that converts the cumulative noise energy of an event to that of an event lasting 1 second.</td>
</tr>
</tbody>
</table>

\(^a\) No streetcar-specific SEL is included in the FTA guidance manual. An SEL of 82 dBA for rail transit systems (Table 5-1 of the FTA guidance manual) was used for streetcar operations. This is higher than the recommended SEL for electric buses (80 dBA; Table 5-3 of the FTA guidance manual), which results in a more conservative (that is, higher) noise level for streetcar operations.

The operational assumptions for the analysis were as follows:

- Transit system operations were based on 15-minute headways between the operating hours of 5:30 AM and 12:30 AM.
- An average speed of 20 mph was used.

Vibration impacts from the proposed project were evaluated using FTA’s general assessment guidelines for intermediate-capacity transit projects. Measured noise levels (see Table 3.6-3 above, Monitored Noise Levels in the Noise and Vibration Evaluation Area) and FTA procedures were used to estimate the \(L_{eq}\) at commercial/institutional locations and the \(L_{dn}\) at residential locations in the evaluation area. The nearest residences to the Action Alternative alignment are within about 50 to 75 feet of the centerline of the alignment and represent the residences and commercial facilities that would be most affected by noise from the proposed project.

At increased distances from the alignment, noise from the streetcar line would decrease due to screening by intervening buildings and noise attenuation (loss of sound energy) over distance.
### 3.6.3.2 No-Action Alternative

**Noise and Vibration Impacts**

Existing noise levels in the noise and vibration evaluation area were measured and are reported in Table 3.6-3 above, Monitored Noise Levels in the Noise and Vibration Evaluation Area. The measured noise levels indicate existing conditions under the No-Action Alternative.

Future noise levels in the noise and vibration evaluation area under the No-Action Alternative are expected to be similar to those measured under the existing conditions. Under the No-Action Alternative, the Sugar House Streetcar Project would not be constructed in the evaluation area. Since the evaluation area is already built out with residential and commercial development, noise levels in the evaluation area in 2030 would be similar to current levels (see Table 3.6-3 above, Monitored Noise Levels in the Noise and Vibration Evaluation Area). Since no major vibration-inducing activities are expected in the evaluation area, vibration levels would also be similar to current levels. Because no project elements are proposed under the No-Action Alternative, there would be no noise or vibration impacts from the Sugar House Streetcar Project under this alternative.

### 3.6.3.3 Action Alternative

This section describes the noise and vibration impacts from the Action Alternative. The project team conducted a General Noise Assessment to determine the noise and vibration impacts at residences and other sensitive receptors in the noise and vibration evaluation area due to the Action Alternative in 2030.

**Noise Impacts**

To assess noise impacts, the project team divided the streetcar alignment into 12 segments. For each segment, the noise level produced by the project was combined with the existing noise level (as measured in the field). The resulting noise level was then compared to Chart 3.6-3 above, FTA Transit Noise Impact Criteria, to determine if there were moderate or severe impacts due to the project.

Table 3.6-6 below shows the operational noise impacts from the Action Alternative. As shown in Table 3.6-6, there would be no impacts at commercial/institutional locations in the evaluation area. Because of the relatively low background noise levels in the residential portions of the alignment, moderate noise impacts would be experienced in Segments 4, 5, 7, 8, 10, and 11. No severe noise impacts would be experienced.
### Table 3.6-6. Noise Impacts in the Noise and Vibration Evaluation Area

<table>
<thead>
<tr>
<th>Segment</th>
<th>General Land-Use Category</th>
<th>Existing Noise Level</th>
<th>Future Noise Levela</th>
<th>Impact Thresholdsb</th>
<th>Impacts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 – 200 West to West Temple Street</td>
<td>Commercial</td>
<td>60</td>
<td>ML-1</td>
<td>60</td>
<td>63–68 &gt;68 None</td>
</tr>
<tr>
<td>2 – West Temple Street to Main Street</td>
<td>Commercial</td>
<td>53</td>
<td>ML-2</td>
<td>54</td>
<td>59–65 &gt;65 None</td>
</tr>
<tr>
<td>3 – Main Street to State Street</td>
<td>Commercial</td>
<td>55</td>
<td>ML-3</td>
<td>56</td>
<td>60–66 &gt;66 None</td>
</tr>
<tr>
<td>4 – State Street to 200 East</td>
<td>Residential</td>
<td>52</td>
<td>ML-4</td>
<td>56</td>
<td>54–60 &gt;60 Moderate noise impacts to 5 single-family residences</td>
</tr>
<tr>
<td>5 – 200 East to 300 East</td>
<td>Residential</td>
<td>49</td>
<td>ML-5</td>
<td>55</td>
<td>53–59 &gt;59 Moderate noise impacts to 10 single-family residences</td>
</tr>
<tr>
<td>6 – 300 East to 400 East</td>
<td>Commercial</td>
<td>46</td>
<td>ML-6</td>
<td>50</td>
<td>57–64 &gt;64 None</td>
</tr>
<tr>
<td>7 – 400 East to 500 East (north side)</td>
<td>Commercial</td>
<td>47</td>
<td>ML-7</td>
<td>52</td>
<td>58–64 &gt;64 None</td>
</tr>
<tr>
<td>(south side)</td>
<td>Residential</td>
<td>47</td>
<td>ML-7</td>
<td>54</td>
<td>52–59 &gt;59 Moderate noise impacts to about 24 multi-family units</td>
</tr>
<tr>
<td>8 – 500 East to 600 East (north side)</td>
<td>Commercial</td>
<td>48</td>
<td>ML-8</td>
<td>53</td>
<td>58–64 &gt;64 None</td>
</tr>
<tr>
<td>(south side)</td>
<td>Residential</td>
<td>48</td>
<td>ML-8</td>
<td>54</td>
<td>53–59 &gt;59 Moderate noise impacts to 20 multi-family townhome units</td>
</tr>
<tr>
<td>9 – 600 East to 700 East</td>
<td>Commercial</td>
<td>54c</td>
<td>–c</td>
<td>55</td>
<td>60–66 &gt;66 None</td>
</tr>
<tr>
<td>10 – 700 East to 800 East</td>
<td>Residential</td>
<td>46</td>
<td>ML-9</td>
<td>54</td>
<td>52–59 &gt;59 Moderate noise impacts to 7 single-family residences and 8 multi-family units</td>
</tr>
<tr>
<td>11 – 800 East to 900 East</td>
<td>Residential</td>
<td>46</td>
<td>ML-10</td>
<td>54</td>
<td>52–59 &gt;59 Moderate noise impacts to 11 single-family residences</td>
</tr>
<tr>
<td>12 – 900 East to McClelland Street</td>
<td>Residential</td>
<td>57</td>
<td>ML-11</td>
<td>59</td>
<td>56–62 &gt;62 None</td>
</tr>
</tbody>
</table>

a The future noise level is the estimated noise from the project combined with existing noise. The future noise level was calculated using L_{eq} values for commercial locations and L_{dn} values for residential locations. For the L_{dn}, noise levels between 10 PM and 7 AM in residential locations were increased by 10 dBA to represent residents’ heightened sensitivity to nighttime noise (see Section 3.6.2.1, Methodology).

b The impact thresholds vary by location based on the existing noise levels.

c Estimated from ML-3.
Vibration Impacts

Vibration impacts from the Action Alternative were evaluated using FTA’s general assessment guidelines for intermediate-capacity transit projects. Intermediate-capacity transit projects are those with relatively low operating speeds. These types of transit projects generally do not cause significant vibration problems unless they operate close to vibration-sensitive buildings.

For the Action Alternative, the 50-mph ground surface vibration curve for light-rail transit vehicles (FTA 2006, Figure 10-1) was adjusted to an operating speed of 20 mph to reflect the average speed for the Action Alternative.

The nearest residences to the Action Alternative alignment are within about 50 to 75 feet of the centerline of the alignment and represent the residences that would be most affected by vibration from the Action Alternative. The speed-adjusted vibration for residences within 50 feet of the alignment is 68.6 VdB.

As shown in Table 3.6-4 above, FTA Ground-Borne RMS Vibration Impact Criteria, the vibration criterion for residential land uses (Category 2) is 72 VdB. The speed-adjusted vibration level for the proposed project (68.6 VdB) is less than the Category 2 criterion; therefore, there would be no vibration impacts from the Action Alternative.

3.6.3.4 Mitigation Measures for Noise and Vibration Impacts

Noise

The noise impact criteria in UTA’s Noise Assessment and Mitigation Policy provide the framework for identifying the magnitude of noise impacts. The need for noise mitigation at a particular location is based on the magnitude of the noise impact as well as factors that are specifically related to the proposed project, such as the affected land uses and the cost of the mitigation measure.

Project-specific noise in the no-impact range is not likely to be found annoying. Noise projections in this range are considered acceptable by FTA, and mitigation is not required. At the other extreme, noise impacts in the severe range represent the most compelling need for mitigation. Noise impacts in the moderate range require more judgment and require consideration of both the context and the magnitude of the impact to determine if noise mitigation is warranted.

UTA uses its Noise Assessment and Mitigation Policy to determine when noise mitigation will be incorporated into a capital development project. For noise levels in the No Impact range and the Low-Moderate Impact range (that is, the lower half of the Moderate Impact range as shown in Chart 3.6-3 above, FTA Transit Noise Impact Criteria), no noise mitigation measures are required. For noise levels in the High-Moderate Impact range (that is, the upper half of the Moderate Impact range as shown in Chart 3.6-3 above), noise mitigation is incorporated into a project only if it is considered
reasonable and feasible. Because noise barriers are the most common type of noise mitigation for transit projects, UTA uses the following criteria to evaluate whether noise abatement is reasonable and feasible for a project’s impacted receivers:

- The cost for the proposed noise barrier will not exceed $30,000 per benefitted receiver (in 2010 dollars; this figure is updated as needed).
- The noise barrier will achieve at least a 5-dBA noise reduction for a majority of impacted receivers.
- There are no substantial safety or maintenance issues caused by the noise abatement.

The type of barrier to be applied is determined during the final design phase of the project and depends on the site location and terrain.

For noise levels in the Severe Impact range, UTA incorporates noise mitigation into the project unless there are extenuating circumstances that prevent it. If noise barriers are not feasible, mitigation could include sound insulation.

As shown in Table 3.6-6 above, Noise Impacts in the Noise and Vibration Evaluation Area, there were no impacts at commercial land uses in the evaluation area. No severe impacts were identified at residential locations; however, moderate noise impacts were identified at residential locations in Segments 4, 5, 7, 8, 10, and 11 where existing noise levels are relatively low (46 dBA to 52 dBA) and where the addition of the streetcar operating on steel rails would add an additional source of noise to the background noise levels.

Because noise levels produced by the addition of streetcars are in the low end of the moderate impact range (Low-Moderate range) and some of the assumptions used in the analysis are quite conservative (that is, the noise estimates are high), noise barriers are not proposed for the project. Noise-control measures could be included in the transit vehicles to further reduce operational noise. Source treatments that could be included in the design specifications for the transit vehicles include vehicle skirts that block wheel noise and sound-absorbing undercoating on the transit vehicles. According to FTA, such measures can reduce transit vehicle noise by 5 to 10 dBA and would mitigate all moderate noise impacts in the transit corridor to no-impact levels (FTA 2006).

**Vibration**

No vibration impacts from the proposed project were identified; therefore, no mitigation measures are proposed.
3.7 Water Quality

Because the Sugar House Streetcar study area is urban and contains only one remnant of a creek, the water quality evaluation area focuses on stormwater quality and drainage, drinking water, and groundwater. The water quality evaluation area is the area within a one-half-mile radius of the UTA-owned right-of-way.

EPA has delegated authority for the National Pollutant Discharge Elimination System (NPDES) program in Utah to UDEQ. Under this program, certain industries that could discharge wastewater, stormwater, or other pollutants into water bodies must obtain a Utah Pollutant Discharge Elimination System (UPDES) permit to reduce impacts to water quality. Construction activities that disturb more than 1 acre are also required to obtain a UPDES permit.

Drinking water is regulated by the Utah Division of Drinking Water. Groundwater is regulated through the Utah Division of Water Quality’s Groundwater Quality Protection Program. This program was created to apply the provisions of the Utah Water Quality Act (Utah Code Title 19, Chapter 5).

3.7.1 Statutory and Regulatory Setting

Water quality in Utah is regulated by EPA through the federal Clean Water Act and by the regulations of the Utah Divisions of Water Quality and Drinking Water as stated in the Utah Administrative Code (UAC) Rules 317 and 309.

3.7.2 Affected Environment

3.7.2.1 Methodology

UTA evaluated the presence of surface water resources along the UTA-owned right-of-way through field visits and by reviewing maps and aerial photographs. The locations of drinking water source protection zones and groundwater wells were overlaid on an aerial photograph of the evaluation area. Information about the stormwater system that would be constructed as part of the project was taken from the Design Assumptions Technical Memorandum for the Sugar House Streetcar Project (UTA 2009a).

3.7.2.2 Surface Water

Because the evaluation area is urban, stormwater and other urban runoff (such as that associated with landscape irrigation) is collected through the storm drain systems maintained by the City of South Salt Lake and Salt Lake City. Some runoff infiltrates into the ground in open and undeveloped areas, such as the UTA-owned right-of-way.

A very short section of Parley’s Creek surfaces just east of Highland Drive in the Hidden Hollow Natural Area. Parley’s Creek flows from Parley’s Canyon and has been diverted to underground drainage structures for most of its length west of about 1300 East. The
Hidden Hollow segment is the last section that is aboveground before the creek disappears completely into the cities’ storm drain systems.

### 3.7.2.3 Drinking Water

There are no drinking water sources in the evaluation area, but two drinking water source protection zones extend into the evaluation area. Both are considered Zone 4, which is an area within a 15-year groundwater time of travel to the wellhead. The first zone extends into the west end of the evaluation area near the existing TRAX station (associated with a source that is on the west side of I-15 at about 2200 South and 600 West), and the second zone extends into the southern part of the evaluation area just north of I-80 between about 300 East and Fairmont Park (associated with a source that is at about 300 East and 2500 South). The areas that include both zones are fully developed with urban uses. Figure 3-16 below shows the boundaries of these zones.

### 3.7.2.4 Groundwater

Groundwater is water that is found underground, usually in an aquifer. Aquifers can be either deep (principal) aquifers that are confined by an impermeable layer of rock or clay, or shallow aquifers that are not confined. Aquifers are recharged when water filters down through the soil and into the aquifer. Aquifers often have a primary recharge area and a secondary recharge area. The primary recharge area is the area where water can move directly from the surface into the aquifer because there are few confining layers. The secondary recharge area is the area where water has to move through more confining layers before it enters the principal aquifer.

The Salt Lake Valley contains a deep principal aquifer and several shallower aquifers that sit on top of the deep aquifer’s confining layer. The groundwater in these aquifers is recharged by water from the mountains on the east and west sides of the valley. The part of the evaluation area east of about 900 East is in a secondary recharge area, and the area west of about 900 East is in a groundwater discharge area. In discharge areas, the water in confined aquifers discharges to the land surface or to a shallow unconfined aquifer. Recharge areas are most susceptible to contamination from contaminants applied from the surface (UGS 2008c). Groundwater in the evaluation area generally moves east to west, consistent with topography.

The evaluation area contains 491 active points of diversion (wells).
Figure 3-16. Water Right Points of Diversion

LEGEND
- Public Water Source
- Water Right Point of Diversion
- Within ROW
- Outside ROW
- Light Rail (LRT) Station
- Proposed Alignment
- Light Rail (LRT)

[Map showing water right points of diversion with various symbols and labels]
3.7.3  Environmental Consequences

3.7.3.1  Methodology

The effects of the Action Alternative were determined by reviewing information provided in Section 3.7.2, Affected Environment, and by evaluating how constructing the Action Alternative could affect drainage and stormwater, drinking water, and groundwater. Information about the location of drinking water sources and groundwater points of diversion was entered into a GIS database and was compared spatially using digital aerial photographs and the expected alignment.

3.7.3.2  No-Action Alternative

Under the No-Action Alternative, the UTA-owned right-of-way would not be developed for a streetcar use. The No-Action Alternative would not affect the drinking water source protection zones or groundwater points of diversion and would not require constructing new drainage and storm drain structures.

3.7.3.3  Action Alternative

Drainage and Stormwater

UTA would construct the stormwater system in the right-of-way consistent with its standard drainage criteria and in accordance with local jurisdictional requirements. UTA would maintain all drainage structures in the right-of-way. UTA would construct catch basins, curbs, culverts, gutters, and storm sewers as necessary to permanently control water runoff during the operation of the project (UTA 2007).

The exact locations and sizes of any necessary hydraulic structures, detention basins, and other storm drainage features are not known during this phase of the analysis. A more-detailed evaluation would be conducted during the final design phase of the project.

Because project construction would disturb more than an acre of ground, the contractor would be required to develop a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the UPDES permit that applies to construction-related stormwater management. The SWPPP would include measures to prevent the contamination of groundwater or surface water.

Drinking Water

The Action Alternative would not affect any existing water sources. The boundary of one of the Zone 4 water source protection zones comes very close to the UTA-owned right-of-way near the point where the western end of the streetcar line would be located. However, the operation of the streetcar system would not cause pollutant discharges that would affect groundwater in this zone.
Groundwater

There are 10 perfected (that is, proof filed and right certified) groundwater points of diversion (wells) within the UTA-owned right-of-way. Table 3.7-1 summarizes the locations and uses of these wells. Some of these points of diversion have been in place for many years, and the permitted uses might represent historical types of use (such as livestock watering) as well as current use (such as domestic use for household and drinking water).

Table 3.7-1. Groundwater Points of Diversion in the UTA-Owned Right-of-Way

<table>
<thead>
<tr>
<th>Location²</th>
<th>Type</th>
<th>Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>2235 South 459 East</td>
<td>Underground water well</td>
<td>Domestic</td>
</tr>
<tr>
<td>2240 South 220 East</td>
<td>Underground water well</td>
<td>Domestic, irrigation</td>
</tr>
<tr>
<td>2240 South 150 East</td>
<td>Underground water well</td>
<td>Domestic, irrigation</td>
</tr>
<tr>
<td>2235 South 264 East</td>
<td>Underground water well</td>
<td>Domestic, irrigation</td>
</tr>
<tr>
<td>2240 South 220 East</td>
<td>Underground water well</td>
<td>Domestic, irrigation, livestock watering</td>
</tr>
<tr>
<td>2242 South 457 East</td>
<td>Underground water well</td>
<td>Domestic</td>
</tr>
<tr>
<td>2240 South 434 East</td>
<td>Underground water well</td>
<td>Domestic, irrigation, livestock watering</td>
</tr>
<tr>
<td>2235 South 200 East</td>
<td>Underground water well</td>
<td>Domestic, irrigation, livestock watering</td>
</tr>
<tr>
<td>2240 South 150 East</td>
<td>Underground water well</td>
<td>Domestic, irrigation</td>
</tr>
<tr>
<td>2235 South 264 East</td>
<td>Underground water well</td>
<td>Irrigation</td>
</tr>
</tbody>
</table>

Source: Utah Division of Water Rights 2009

* Approximate location; locations are not assigned addresses by the State of Utah.

Constructing the streetcar line could require closing or relocating some of these points of diversion. UTA would determine during the final design phase of the project whether any points of diversion would need to be closed or moved.

3.7.3.4 Mitigation Measures for Water Quality Impacts

As final design progresses, UTA will work directly with the owners and/or operators of any affected points of diversion. UTA will strive to protect the 10 points of diversion that are within the right-of-way and to maintain the water supply associated with the points of diversion. If points of diversion cannot be protected, UTA will either (1) ensure that wells are replaced and that the replaced wells are properly abandoned or (2) compensate the owners for their water rights.
3.8 **Floodplains**

Floodplains are defined as normally dry areas that are occasionally inundated by snowmelt or stormwater runoff or high lake water. Development in floodplains can reduce their flood-carrying capacity and extend the flooding hazard beyond the developed area.

This section describes the floodplains and flooding sources in the floodplain evaluation area and identifies the expected impacts of the project on floodplains. The floodplain evaluation area is the same as the Sugar House Streetcar study area.

3.8.1 **Statutory and Regulatory Setting**

3.8.1.1 **Federal Emergency Management**

In response to escalating taxpayer costs for flood disaster relief, Congress established the National Flood Insurance Program. This program is a voluntary mitigation program administered by the Federal Emergency Management Agency (FEMA). Under this program, the federal government makes flood insurance available in those communities that practice sound floodplain management. This incentive encourages state and local governments to develop and implement floodplain management programs.

In the 1970s and 1980s, FEMA performed location hydrologic and hydraulic studies to identify and map special flood hazard areas within communities. A result of the FEMA studies is the development of flood insurance rate maps that show the floodplain for each river, lake, or other surface water resource that was studied. A special flood hazard area is the area that would be inundated by a 100-year flood (that is, a flood elevation that occurs on average once every 100 years). Special flood hazard areas are given a zone designation based on the level of detail of the FEMA study and the anticipated type of flooding. There are several types of zones, but only the following two zones are present in the floodplain evaluation area (FEMA 2009a):

- **Zone AE** – Areas that would be flooded by a 1% annual chance (100-year) flood and where the base flood elevations have been determined.

- **Shaded Zone X** – Areas that would be flooded by a 0.2% annual chance (500-year) flood; areas that would be flooded by a 1% annual chance (100-year) flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from the 1% annual chance flood.

The 100-year floodplain for rivers and streams is the area in and around the river or stream that would be inundated by a 100-year flood.
3.8.1.2 Executive Order 11988, Floodplain Management

Executive Order 11988, Floodplain Management (May 24, 1977), established federal policy “to avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.” Based on Executive Order 11988, FTA adopted regulations governing the development of projects that could have impacts on floodplains. These regulations state that FTA will not approve a project that involves a “significant encroachment” on a floodplain unless FTA finds that the proposed significant encroachment is the “only practicable alternative.” In addition, if the proposed action involves significant encroachment, FTA will consider alternatives that avoid or minimize adverse impacts.

What constitutes a “significant encroachment” is determined on a case-by-case basis by considering adjacent development and the floodwater capacity of the waterway. Under FTA’s regulations, a significant encroachment would involve raising the floodwater elevations and causing one or more of the following impacts:

- A considerable probability of loss of human life
- Likely future damage associated with the encroachment that could be substantial in cost or extent, including interruption of service for a vital transportation facility
- A notable adverse impact on natural and beneficial floodplain values

Natural and beneficial floodplain values include flood conveyance and storage, groundwater recharge, water quality maintenance functions, and wildlife habitat and diversity.

3.8.2 Affected Environment

3.8.2.1 Methodology

The project team obtained information about floodplains and floodplain management in the evaluation area from the following sources:

- Flood Insurance Rate Maps of Salt Lake County, Utah, and Incorporated Areas (FEMA 2009a)
- Community Status Book (FEMA 2009b)
- Online information regarding floodplain management and special flood hazard areas (FEMA 2009c)
- City of South Salt Lake, Utah, Code of Ordinances (City of South Salt Lake 2009b)
3.8.2.2 Existing Conditions

The evaluation area includes portions of the following jurisdictions. These jurisdictions manage the floodplains within their boundaries and have the authority to issue permits for development in floodplains. FEMA’s community identification numbers are noted in parentheses.

- Salt Lake City (490105)
- City of South Salt Lake (490219)
- Salt Lake County (490102)

According to flood insurance rate maps produced by FEMA for Salt Lake County, flooding sources in the eastern part of the evaluation area include Emigration Creek and Parley’s Creek. Flooding sources for the low-lying areas in the western part of the evaluation area are not as clearly defined but include the Jordan River, Mill Creek, and surface runoff via overland flow and/or minor drainageways. Factors that influence flooding in the evaluation area include the low-relief topography, the Jordan River and Mill Creek levees, and significant barriers to surface water flow including embankments for the Union Pacific Railroad, I-15, and I-80.

Table 3.8-1 lists the FEMA-defined floodplains in the evaluation area.

<table>
<thead>
<tr>
<th>Water Body</th>
<th>Flood Zones</th>
</tr>
</thead>
<tbody>
<tr>
<td>Emigration Creek</td>
<td>AE, Shaded X</td>
</tr>
<tr>
<td>Parley’s Creek</td>
<td>AE, Shaded X</td>
</tr>
<tr>
<td>Jordan River/Mill Creek&lt;sup&gt;a&lt;/sup&gt;</td>
<td>Shaded X</td>
</tr>
</tbody>
</table>

Source: FEMA 2009a

<sup>a</sup> The main channels of the Jordan River and Mill Creek are not located in the floodplain evaluation area. See the discussion above in Section 3.8.2.2 regarding low-lying areas and barriers to surface water flow.

3.8.3 Environmental Consequences

3.8.3.1 Methodology

The sources listed in Section 3.8.2.1, Methodology, were used to determine the environmental consequences of the No-Action and Action Alternatives.
3.8.3.2 No-Action Alternative

Under the No-Action Alternative, the existing UTA-owned right-of-way would not be used as a transitway. No infrastructure would be built, and the existing drainage patterns and floodplains would be unaffected.

3.8.3.3 Action Alternative

The floodplains associated with Emigration Creek and Parley’s Creek terminate at or near Highland Drive. Based on the flood insurance rate maps, the UTA-owned right-of-way is unaffected by floodwaters from these sources during the 1% and 0.2% annual chance floods (that is, floods that have a 1% and 0.2% annual chance of occurring, or floods that occur on average every 100 and 500 years).

In the vicinity of the North-South TRAX corridor along 200 West, the UTA-owned right-of-way is located in a low area that is prone to flooding. This area is designated as Shaded Zone X and is located in South Salt Lake.

The City of South Salt Lake is a participating community in the National Flood Insurance Program. As a participant, the community is required to adopt floodplain management ordinances that meet or exceed FEMA’s minimum standard. South Salt Lake Municipal Code, Chapter 15, addresses land development and flood damage prevention (City of South Salt Lake 2009b). Chapter 15 incorporates flood insurance rate maps by reference, and the City requires a development permit for construction or development within special flood hazard areas. However, as presented on the flood insurance rate map (FEMA 2009a) and documented by FEMA (FEMA 2009c), special flood hazard areas do not include Shaded Zone X. Although UTA will take the risk of flooding into account as it plans and designs the Action Alternative, no floodplain development permit is required from the City, which acts as the local floodplain administrator.

Summary. The Action Alternative would not cause impacts to special flood hazard areas as defined by FEMA. The Action Alternative would make infrastructure improvements in a Shaded Zone X floodplain.

3.8.3.4 Mitigation Measures for Floodplain Impacts

UTA will coordinate with the local municipalities to ensure that their requirements are incorporated into the design of the project. UTA will ensure that the design of all facilities will accommodate drainage needs and will not make existing flooding conditions worse.
3.9 Historic Properties

This section describes the known historic properties in the Sugar House Streetcar study area. The evaluation area for each type of historic property is the geographic area or areas within which an undertaking\(^2\) may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. This area is called the area of potential effects (APE). The APE is influenced by the scale and nature of an undertaking and can be different for different kinds of effects caused by the undertaking.

3.9.1 Statutory and Regulatory Setting

The historic property assessment for the Sugar House Streetcar Project complied with the federal and state guidelines listed in Table 3.9-4, Antiquities Laws and Regulations That Apply to the Sugar House Streetcar Project, on page 3-107. Of the laws and regulations summarized in Table 3.9-4, the National Historic Preservation Act is the only act with a clear process that describes the required steps for considering the impacts of proposed undertakings on historic properties.

3.9.1.1 Section 106 of the National Historic Preservation Act

Section 106 of the National Historic Preservation Act requires federal agencies to take into account the effects of their undertakings on historic properties and give the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The National Historic Preservation Act was enacted to assess impacts to historic properties that may be affected by federal undertakings. The Act requires federal agencies that fund, in whole or in part; issue a permit, license, or approval for; or are otherwise involved in a project to consider the impacts that the undertaking would have on historic properties. The Act mandates that agencies perform the following actions:

- **Initiate the Section 106 process** by first determining whether the agency has an undertaking that is the type of activity that may affect historic properties. If so, the agency must identify the appropriate State Historic Preservation Office (SHPO)/Tribal Historic Preservation Office (THPO) to consult with during the process. It should also plan to involve the public and identify other potential consulting parties. If it determines that there is no undertaking, or that its undertaking is a type of activity that has no potential to affect historic properties, the agency has no further Section 106 obligations.

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\(^2\) An *undertaking* is a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a federal agency, including those carried out by or on behalf of a federal agency, those carried out with federal financial assistance, and those requiring a federal permit, license, or approval.
• **Identify historic properties** that may be affected by a project, including historic sites that either are listed on the National Register of Historic Places (NRHP) or have been determined through a consensus process to be eligible for listing on the NRHP.

• **Assess adverse effects** including the nature and extent of the expected effects on the qualities of the property that resulted in its listing on the NRHP or the determination that it was eligible for listing on the NRHP.

• **Resolve adverse effects** by considering measures to avoid, minimize, or mitigate those effects.

The process for carrying out the mandates of the National Historic Preservation Act is described in 36 CFR 800 and subsequent sections. This process includes steps for consulting with state and/or tribal historic preservation officers, the Advisory Council on Historic Preservation, Native American tribes, and other interested parties.

### 3.9.1.2 Section 4(f) of the Department of Transportation Act

Section 4(f) of the Department of Transportation Act of 1966 gives special consideration to historic properties that are either listed on or eligible for listing on the NRHP. Section 4(f), which also addresses publicly owned parks, recreation areas, and wildlife and waterfowl refuges, is discussed in detail in Chapter 6, Section 4(f) and 6(f) Evaluation.

### 3.9.2 Methods To Identify and Evaluate Historic Resources

The Section 106 process describes specific steps for assessing the impacts of federal undertakings on historic properties. The first step is initiation of the Section 106 process by determining whether the agency has an undertaking that is the type of activity that may affect historic properties. If so, the agency must identify the appropriate SHPO/THPO to consult with during the process. It should also plan to involve the public and identify other potential consulting parties. If it determines that there is no undertaking, or that its undertaking is a type of activity that has no potential to affect historic properties, the agency has no further Section 106 obligations.

The second step involves identifying historic properties that may be affected by the project, including historic sites that either are listed on the NRHP or have been determined through a consensus process to be eligible for listing on the NRHP. In order to complete this step, the project team must establish the area of potential effects (APE)—the geographic area within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. As described in Section

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3 The *National Register of Historic Places*, or NRHP, is the official federal list of districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture.
3.9.3, Agencies, Tribes, and Other Consulting Parties and Their Roles, UTA and FTA coordinated with the consulting parties, including the SHPO, tribes, and other parties, to establish the APE and agree on the methods to be used to identify properties in the area.

Once the APE was established, the project team used several approaches to identify historic properties that may be affected by the alternatives under consideration. These methods consisted of literature reviews, field inspections, and the above-mentioned consultation with agency experts, city and county personnel, Native American tribes, and members of the general public with specific information about historic properties in the Sugar House Streetcar study area. These literature review and field inspection methods are described in greater detail in the technical reports for the historic property surveys (SWCA 2009a) and are summarized in Section 3.9.2.2, Literature Reviews, and Section 3.9.2.3, Field Inspections. The consultation efforts are described in Section 3.9.3, Agencies, Tribes, and Other Consulting Parties and Their Roles.

The third step in the Section 106 process is assessing adverse effects to historic properties including the nature and extent of the expected impacts on the qualities of the property that resulted in its listing on the NRHP or the determination that it was eligible for listing on the NRHP. Information about the criteria used to evaluate historic properties is provided in Section 3.9.2.4, Criteria for Evaluating the Eligibility of Historic Resources.

### 3.9.2.1 Definition of Historic Resources

Generally speaking, *historic resources*—districts, sites, buildings, structures, and objects—are those parts of the natural or built landscape that have cultural value to people. The National Historic Preservation Act defines a *historic property* as any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places. Historic resources can include historic buildings, archaeological sites, traditional cultural properties, and other manifestations of past human activity.

- **Historic buildings, districts, and structures** can represent important facets of history at the national, state, or local level.

- **Archaeological resources**, the material remains of past human life or activities that are preserved in their original setting, can be important to understanding prehistory or history.

- **Traditional cultural properties** are historic resources associated with cultural practices or beliefs of a living community that are rooted in that community’s history and are important in maintaining the continuing cultural identity of the community.

Typically, historic resources are defined as physical manifestations or remains of past human activity that are at least 50 years old. For the Sugar House Streetcar Project, all resources that are 45 years old or older were considered historic resources in order to
account for the amount of time that would likely elapse between the identification of historic resources as part of this EA and the construction of the project.

The evaluation of historic resources included an archaeological assessment, which focused on prehistoric and historic archaeological sites and historic structures such as railroads and canals, and an assessment of historic buildings associated with residential, commercial, and industrial properties. The evaluation of traditional cultural properties was conducted through consultations with Native American communities and other interested groups (see Section 3.9.3, Agencies, Tribes, and Other Consulting Parties and Their Roles).

### 3.9.2.2 Literature Reviews

Literature reviews included examining the project, site, and historic architectural records of the Utah SHPO. The project team obtained copies of records for historic buildings, districts, and archaeological sites known to be present within or directly adjacent to the Action Alternative. The NRHP and other lists of state and local landmarks were consulted for information regarding resources that might be present within the boundaries of the Action Alternative.

### 3.9.2.3 Field Inspections

Two types of field inspections were conducted in the spring of 2009 to identify historic resources that could be affected by the Action Alternative. The first type of inspection focused on identifying historic buildings, and the other type focused on identifying archaeological sites that are visible on the ground surface. The technical reports produced for the historic property surveys (SWCA 2009a, 2009b) include more details about the procedures used to identify, document, and evaluate historic buildings and archaeological sites in the Sugar House Streetcar study area.

### 3.9.2.4 Criteria for Evaluating the Eligibility of Historic Resources

To be eligible for the NRHP, historic properties must be important in American history, architecture, archaeology, engineering, or culture. In addition, properties must possess integrity of location, design, settings, materials, workmanship, feeling, and association and must meet at least one of four criteria shown in Table 3.9-1 below.
### Table 3.9.1. Criteria for Evaluating the Eligibility of Historic Resources for the NRHP

<table>
<thead>
<tr>
<th>NRHP Criterion</th>
<th>Characteristics of the Historic Resource</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Associated with events that have made a significant contribution to the broad patterns of our history</td>
</tr>
<tr>
<td>B</td>
<td>Associated with the lives of persons significant in our past</td>
</tr>
<tr>
<td>C</td>
<td>Embodies distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic values, or represents a significant and distinguishable entity whose components may lack individual distinction</td>
</tr>
<tr>
<td>D</td>
<td>Yielded, or may be likely to yield, information important in prehistory or history</td>
</tr>
</tbody>
</table>

Source: 36 CFR 60

## 3.9.3 Agencies, Tribes, and Other Consulting Parties and Their Roles

FTA is the lead federal agency in the environmental review process for the Sugar House Streetcar Project. As a federal agency, FTA must comply with Section 106 of the National Historic Preservation Act, which requires all federal agencies to take into account the effects of their undertakings on historic properties. In addition, as an agency within the U.S. Department of Transportation, FTA is required to comply with Section 4(f) of the Department of Transportation Act of 1966, as amended, which protects historic properties as well as parklands, recreation areas, and wildlife refuges.

The Advisory Council on Historic Preservation is the federal agency responsible for overseeing compliance with Section 106. Typically, the Council does not participate directly in the Section 106 consultation process for a specific undertaking. However, the Council must be notified of federal agencies’ determinations at key milestones, and the Council has the right to enter the consultation process based on criteria in the Section 106 regulations. If the Council elects to participate in consultation, the Council’s approval is required for any Memorandums of Agreement or Programmatic Agreements for the undertaking. The Council also can participate in resolving disputes between federal and state agencies or project proponents that might arise regarding the management of historic and archaeological resources within the APE of an undertaking.

As part of the effort to identify historic resources in the APE, Section 106 consultation was carried out between FTA, UTA, and several agencies and organizations. Among those agencies consulted were the Utah State Historic Preservation Office (SHPO) (both the Preservation and Antiquities Departments), federally recognized Native American tribes, and other potential consulting parties.
3.9.3.1 **SHPO Consultation**

Copies of all formal Section 106 correspondence with the SHPO regarding Section 106 responsibilities, the APE, identification of historic properties, determinations of eligibility, and findings of effect are provided in Appendix A, Pertinent Correspondence.

FTA and UTA consulted with the Utah SHPO on a number of occasions through both written correspondence and verbal communication. Key consultation with the SHPO included correspondence regarding the APE. In early September 2009, FTA formally initiated Section 106 consultation with the SHPO regarding the Sugar House Streetcar Project, provided a description of the proposed APE for historic properties, and requested the SHPO’s concurrence with that APE. The SHPO indicated its concurrence with the APE by written letter to FTA dated September 22, 2009.

On January 15, 2010, FTA submitted technical reports and letters to the Utah SHPO with FTA and UTA’s list of identified historic buildings and archaeological resources and preliminary determinations of eligibility for the NRHP for each resource. The Utah SHPO concurred with the determinations on February 17, 2010, by a written letter. Following the steps of the Section 106 process, FTA also submitted a letter to the SHPO describing FTA and UTA’s preliminary findings of effects for archaeological sites and historic buildings in the APE. This letter was also sent on January 15, 2010. The Utah SHPO concurred with the preliminary findings of effects on February 17, 2010. See Appendix A, Pertinent Correspondence, for the SHPO concurrence letter.

FTA and the Utah SHPO have started working on developing a Draft Memorandum of Agreement (MOA), with UTA as an invited signatory. When finalized, the MOA will describe the specific mitigation measures to be implemented if the Action Alternative is selected for the project. FTA and UTA are continuing to coordinate with the consulting parties. The MOA must be executed before FTA can issue a Finding of No Significant Impact. The final Section 4(f) determination will also be made at this time. The initial Draft MOA is included in Appendix C, Draft Memorandum of Agreement. FTA welcomes public comments on this Draft MOA. The MOA will be finalized and executed before FTA issues its decision on this project.

3.9.3.2 **Tribal Consultation**

Federal legislation such as the National Historic Preservation Act and Executive Order 13175, Consultation and Coordination with Indian Tribal Governments, mandates that federal agencies involved in an undertaking that may affect resources of importance to Native American tribes must consult with those federally recognized tribes when the location of the federal undertaking is within an area of traditional use for the tribe. This consultation is to occur at a government-to-government level in recognition of the sovereign status of the tribes.

The goal of the consultation is to identify resources of importance to the affected tribes, to assess the nature and extent of the impact on the characteristics of the resources that
make them important, and to work through a collaborative process to identify acceptable measures for avoiding, minimizing, or mitigating significant impacts to the resources. Other laws, such as the Native American Graves Protection and Repatriation Act, mandate additional consultation with tribal governments if human remains, burial goods, or items of cultural patrimony are identified in association with a federal undertaking and are on federal or tribal land.

The following five Native American tribes with patrimonial claims over the general project area were contacted by FTA in September 2009, invited to be consulting parties to the Sugar House Streetcar Project Section 106 process, asked to concur with the proposed APE and methods of identification, invited to provide comments on known or potential resources or issues of concern to the tribes, and offered a meeting with UTA and FTA:

- Confederated Tribes of Goshute Reservation
- Northwestern Band of Shoshone Nation
- Shoshone-Bannock Tribes
- Skull Valley Band of Goshute Indians
- Ute Indian Tribe

None of the Native American tribes contacted by FTA requested to be consulting parties, to meet with UTA and/or FTA, or to provide input on the proposed undertaking. FTA continues to coordinate with the tribes to get their comments on the environmental effects of the project and the Draft Memorandum of Agreement.

### 3.9.3.3 Local Governments and Historical Societies

In addition to the agencies and tribes, consultation was undertaken with several other entities with direct interest in historic properties that could be affected by the project. Agencies with direct jurisdiction over land within or adjacent to the Action Alternative were also consulted. These entities included certified local governments (CLG), historical societies and organizations, and mayors or town councils where no CLG or historical society exists. The following groups were contacted by letter, were invited to become consulting parties for the project, and were invited to provide information about historic properties of importance to their communities or organizations:

- Salt Lake City Planning Department (CLG): Ms. Janice Lew, Planner
- Salt Lake City Historic Landmarks Commission: Mr. Warren Lloyd, Chair
- Sugar House Community Council Historical Committee: Ms. Susan Petheram
- Utah Heritage Foundation: Mr. Kirk Huffaker
- Salt Lake City Council, District 7: Councilman Søren Simonsen

Consultation with the CLGs, mayors, and other potentially interested parties focused on soliciting information about the study area for historic resources, the methods for identifying such resources in the study area, known or potential historic resources in the study area, the significance of those resources, and the effects of the project on historic
resources in the study area. All of the parties listed above were invited by written letter to become formal consulting parties in the Section 106 process. Four parties—the Salt Lake City Planning Department (CLG, Janice Lew); the Salt Lake City Historic Landmarks Commission (Warren Lloyd); the Sugar House Community Council Historical Committee (Susan Petheram); and the councilperson representing the Salt Lake City Council, District 7 (Søren Simonsen)—requested to become a consulting party. To date, none of the consulting parties have identified specific historic properties of concern. However, the Salt Lake City Planning Department (Janice Lew) did provide project team members with a list and map of designated historic structures in Salt Lake City. FTA sent the consulting parties a request for concurrence on adverse effects on October 6, 2010 (see Appendix A, Pertinent Correspondence). FTA will continue to coordinate with the local governments and historical societies to get their comments on the environmental effects of the project and the Draft Memorandum of Agreement.

3.9.3.4 The Public

The Section 106 process requires that FTA and UTA provide an opportunity for the public to review the results of the agency’s effort to identify historic properties, evaluate their significance, and assess the undertaking’s effects on them. When adverse effects are found, the federal agency must also make information available to the public about the undertaking, must explain its effects on historic properties and alternatives to resolve the adverse effects, and must provide the public with an opportunity to express their views about how to resolve adverse effects. When adverse effects are found, the federal agency must also notify the Advisory Council on Historic Preservation and provide them an opportunity to consult. FTA sent the Advisory Council on Historic Preservation a Notice of Adverse Effect on October 10, 2010 and an e-mail transmittal of additional materials on October 26, 2010 (see Appendix A, Pertinent Correspondence). The Advisory Council on Historic Preservation replied to FTA on November 8, 2010, stating that they did not believe that their participation in the consultation to resolve adverse effects was necessary (see Appendix A, Pertinent Correspondence).

FTA and UTA will provide information to the public regarding impacts to historic properties and will accept comments on the EA and the Section 106 process during the public comment period when the EA is released to the public.

3.9.4 Affected Environment

3.9.4.1 Historic Resources in the APE

A variety of historic resources were identified within the APE for the Sugar House Streetcar Project. These include historic buildings and archaeological sites. For this analysis, archaeological sites include historic linear resource sites such as railroads and canals. No prehistoric or historical archaeological sites other than the historic linear resource sites were identified in the APE. The following sections describe the historic properties known to be present in the APE.
Historic Buildings

As part of the environmental analysis for the Sugar House Streetcar Project, an inventory of historic buildings was carried out. The APE for historic buildings included the 66-foot-wide UTA-owned right-of-way from Highland Drive to the western project terminus at the existing UTA TRAX station at 2100 South (a distance of about 2.2 miles), then north along the TRAX light-rail right-of-way to about 2100 South. The APE includes this corridor as well as all properties directly adjacent to that right-of-way (that is, one property deep along the right-of-way). All station locations would be placed within the existing UTA-owned right-of-way and would be encompassed by this APE. This APE was established to include the areas that would be directly disturbed during construction of the streetcar line and the station locations as well as areas that might be affected indirectly through noise, vibration, or visual intrusions. The Utah SHPO and other consulting parties were consulted regarding the APE for historic buildings in September 2009 (see Appendix A, Pertinent Correspondence) and concurred with this APE.

The selective reconnaissance-level survey for historic buildings was carried out in November 2009. A total of 74 properties containing primary historic buildings were identified. Of the 74 properties, 54 are considered eligible for the NRHP under either Criterion A or Criterion C. Twenty-four of these eligible properties are listed as contributing resources of the Forest Dale Historic District (seven properties in the Forest Dale Historic District are non-contributing) through which the proposed streetcar line would pass. This historic district is on the NRHP.

Table 3.9-2 summarizes the properties and their eligibility for the NRHP and identifies the properties in the Forest Dale Historic District (indicated by table footnote a). Determinations of eligibility were made in consultation with the Utah SHPO and other consulting parties (for more information, see Section 3.9.3, Agencies, Tribes, and Other Consulting Parties and Their Roles). The SHPO concurred with these findings in a letter dated February 17, 2010 (see Appendix A, Pertinent Correspondence).

Table 3.9-2. Historic Buildings in the Historic Properties Evaluation Area (APE) (Listed East to West)

<table>
<thead>
<tr>
<th>Address</th>
<th>Description</th>
<th>National Register Eligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>2211 South 1000 East</td>
<td>Ca. 1922 Bungalow residence exhibiting general Bungalow style – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>2208 South 1000 East</td>
<td>Ca. 1922 Bungalow exhibiting Prairie School style</td>
<td>Eligible</td>
</tr>
<tr>
<td>2207 S. Lincoln St.</td>
<td>Ca. 1922 Bungalow exhibiting Bungalow and vernacular Prairie School style</td>
<td>Eligible</td>
</tr>
<tr>
<td>2208 S. Lincoln St.</td>
<td>Ca. 1922 Bungalow exhibiting general Bungalow style</td>
<td>Eligible</td>
</tr>
<tr>
<td>2201 South 900 East</td>
<td>Ca. 1962 Service Bay Business building exhibiting Late 20th Century Other style</td>
<td>Eligible</td>
</tr>
<tr>
<td>2240 South 900 East</td>
<td>Ca. 1911 Service Bay Business building exhibiting Late 20th Century style – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>875 E. Simpson Ave.</td>
<td>Ca. 1915 Bungalow residence exhibiting Bungalow style</td>
<td>Eligiblea</td>
</tr>
<tr>
<td>867 E. Simpson Ave.</td>
<td>Ca. 1948 Early Ranch residence exhibiting Early Ranch style</td>
<td>Eligiblea</td>
</tr>
<tr>
<td>857 E. Simpson Ave.</td>
<td>Ca. 1909 Bungalow exhibiting Bungalow and Arts &amp; Crafts style</td>
<td>Eligiblea</td>
</tr>
</tbody>
</table>
### Table 3.9-2. Historic Buildings in the Historic Properties Evaluation Area (APE) (Listed East to West)

<table>
<thead>
<tr>
<th>Address</th>
<th>Description</th>
<th>National Register Eligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>841 E. Simpson Ave.</td>
<td>Ca. 1897 Foursquare residence exhibiting Bungalow style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>839 E. Simpson Ave.</td>
<td>Ca. 1910 Bungalow residence exhibiting Bungalow style – Altered</td>
<td>Not eligible&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>837 E. Simpson Ave.</td>
<td>Ca. 1915 Bungalow residence exhibiting Bungalow style – Altered</td>
<td>Not eligible&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>829 E. Simpson Ave.</td>
<td>Ca. 1910 Bungalow residence exhibiting Bungalow style – Altered</td>
<td>Not eligible&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>827 E. Simpson Ave.</td>
<td>Ca. 1919 Bungalow residence exhibiting Bungalow style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>819 E. Simpson Ave.</td>
<td>Ca. 1897 Other Residential Type residence exhibiting Victorian: Other style; formerly included a neighborhood grocery store on first floor</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>809 E. Simpson Ave.</td>
<td>Ca. 1915 Bungalow residence exhibiting Bungalow style – Altered</td>
<td>Not eligible&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>805 E. Simpson Ave.</td>
<td>Ca. 1909 Bungalow residence exhibiting Bungalow style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>801 E. Simpson Ave.</td>
<td>Ca. 1902 Rectangular Block residence exhibiting Victorian: Other style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>783 E. Simpson Ave.</td>
<td>Ca. 1900 Foursquare exhibiting Bungalow and Victorian: Other style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>779–781 E. Simpson Ave.</td>
<td>Ca. 1913 Duplex exhibiting Bungalow style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>777 E. Simpson Ave.</td>
<td>Ca. 1913 Bungalow residence exhibiting Bungalow and Victorian Eclectic style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>757 E. Simpson Ave.</td>
<td>Ca. 1939 Residential Court exhibiting Modern: Other style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>866 E. Wilmington Ave.</td>
<td>Ca. 1910 Bungalow residence exhibiting Bungalow style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>850 E. Wilmington Ave.</td>
<td>Ca. 1917 Bungalow residence exhibiting Bungalow and Arts &amp; Crafts style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>844 E. Wilmington Ave.</td>
<td>Ca. 1935 Bungalow residence exhibiting Bungalow style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>832 E. Wilmington Ave.</td>
<td>Ca. 1915 Bungalow residence exhibiting Bungalow style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>830 E. Wilmington Ave.</td>
<td>Ca. 1915 Foursquare exhibiting Victorian: Other style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>828 E. Wilmington Ave.</td>
<td>Ca. 1915 Foursquare exhibiting Victorian: Other style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>826 E. Wilmington Ave.</td>
<td>Ca. 1912 Foursquare exhibiting Victorian: Other style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>824 E. Wilmington Ave.</td>
<td>Ca. 1907 Bungalow residence exhibiting Bungalow style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>820 E. Wilmington Ave.</td>
<td>Ca. 1915 Other Residential type residence exhibiting Victorian: Other style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>816 E. Wilmington Ave.</td>
<td>Ca. 1915 Foursquare exhibiting Victorian: Other style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>2204 South 800 East</td>
<td>Ca. 1915 Foursquare exhibiting Early Ranch style – Altered</td>
<td>Not eligible&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>2205 South 800 East</td>
<td>Ca. 1907 Bungalow residence exhibiting Bungalow style – Altered</td>
<td>Not eligible&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>2222 South 800 East</td>
<td>Ca. 1947 Other Residential type residence exhibiting Late 20th Century Other style – Altered</td>
<td>Not eligible&lt;sup&gt;b&lt;/sup&gt;</td>
</tr>
<tr>
<td>2206 S. Lake Street</td>
<td>Ca. 1925 Bungalow residence exhibiting Bungalow style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>2222 S. Lake Street</td>
<td>Ca. 1887 Foursquare residence exhibiting Italianate and Classical: Other style</td>
<td>Eligible&lt;sup&gt;a&lt;/sup&gt;</td>
</tr>
<tr>
<td>717 E. Simpson Ave.</td>
<td>Ca. 1960 Commercial building of indeterminate type and Late 20th Century Other style – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>2219 South 700 East</td>
<td>Ca. 1947 One-part Block commercial building exhibiting vernacular style – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>2200 South 700 East</td>
<td>Ca. 1936 and 1968 commercial building of undefined type and vernacular style – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>2230 South 700 East</td>
<td>Ca. 1952–1954 One-part Block commercial building exhibiting vernacular style – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>2237 South 600 East</td>
<td>Ca. 1915 Commercial/Industrial Block building exhibiting vernacular style</td>
<td>Eligible</td>
</tr>
<tr>
<td>2225 South 500 East</td>
<td>Ca. 1940 Commercial/Industrial Block building exhibiting vernacular Mission style</td>
<td>Eligible</td>
</tr>
</tbody>
</table>
## Table 3.9-2. Historic Buildings in the Historic Properties Evaluation Area (APE) (Listed East to West)

<table>
<thead>
<tr>
<th>Address</th>
<th>Description</th>
<th>National Register Eligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>2230 South 500 East</td>
<td>Ca. 1944 World War II (WWII)-Era Cottage exhibiting vernacular Minimal Traditional style</td>
<td>Eligible</td>
</tr>
<tr>
<td>450 East 2200 South</td>
<td>Ca. 1964 Commercial/Industrial Block building exhibiting Late 20th Century Other style</td>
<td>Eligible</td>
</tr>
<tr>
<td>2233 South 300 East</td>
<td>Ca. 1963 Business/Office building exhibiting Modern style</td>
<td>Eligible</td>
</tr>
<tr>
<td>2250 South 300 East</td>
<td>Ca. 1951 Commercial/Industrial Block building exhibiting vernacular Art Deco style</td>
<td>Eligible</td>
</tr>
<tr>
<td>2220 South 300 East</td>
<td>Ca. 1955 Service Bay/Business exhibiting Late 20th Century Other style</td>
<td>Eligible</td>
</tr>
<tr>
<td>280 E. Wentworth Ave.</td>
<td>Ca. 1931 Period Cottage exhibiting Period Revival style</td>
<td>Eligible</td>
</tr>
<tr>
<td>270 E. Wentworth Ave.</td>
<td>Ca. 1929 Bungalow residence exhibiting Bungalow and Minimal Traditional styles</td>
<td>Eligible</td>
</tr>
<tr>
<td>266 E. Wentworth Ave.</td>
<td>Ca. 1926 Bungalow residence exhibiting Bungalow style – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>264 E. Wentworth Ave.</td>
<td>Ca. 1937 Bungalow exhibiting Bungalow style</td>
<td>Eligible</td>
</tr>
<tr>
<td>260 E. Wentworth Ave.</td>
<td>Ca. 1909 Bungalow residence exhibiting vernacular Prairie School style</td>
<td>Eligible</td>
</tr>
<tr>
<td>246 E. Wentworth Ave.</td>
<td>Ca. 1938 Period Cottage exhibiting Period Revival and Minimal Traditional style</td>
<td>Eligible</td>
</tr>
<tr>
<td>240 E. Wentworth Ave.</td>
<td>Ca. 1909 Bungalow residence exhibiting Bungalow and Victorian Eclectic styles</td>
<td>Eligible</td>
</tr>
<tr>
<td>230 E. Wentworth Ave.</td>
<td>Ca. 1957 Ranch/Rambler residence exhibiting Ranch/Rambler and Post-WWII: Other styles</td>
<td>Eligible</td>
</tr>
<tr>
<td>224 E. Wentworth Ave.</td>
<td>Ca. 1915 Bungalow residence exhibiting Arts &amp; Crafts style</td>
<td>Eligible</td>
</tr>
<tr>
<td>220 E. Wentworth Ave.</td>
<td>Ca. 1914 Bungalow residence exhibiting Bungalow style</td>
<td>Eligible</td>
</tr>
<tr>
<td>208 E. Wentworth Ave.</td>
<td>Ca. 1923 Bungalow residence exhibiting Bungalow and Late 20th Century: Other styles – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>206 E. Wentworth Ave.</td>
<td>Ca. 1909 Bungalow residence exhibiting vernacular Prairie School style – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>2265 S. State Street</td>
<td>Ca. 1958 Bowling alley building exhibiting Late 20th Century: Other style</td>
<td>Eligible</td>
</tr>
<tr>
<td>2222 South 200 East</td>
<td>Ca. 1962 Fourplex residence exhibiting Late 20th Century: Other style</td>
<td>Eligible</td>
</tr>
<tr>
<td>176 E. Wentworth Ave.</td>
<td>Ca. 1936 Period Cottage exhibiting vernacular Period Revival style – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>170 E. Wentworth Ave.</td>
<td>Ca. 1939 Duplex residence exhibiting Bungalow style</td>
<td>Eligible</td>
</tr>
<tr>
<td>164 E. Wentworth Ave.</td>
<td>Ca. 1950 WWII-Era Cottage exhibiting Minimal Traditional style – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>158 E. Wentworth Ave.</td>
<td>Ca. 1951 Early Ranch residence exhibiting Early Ranch and Minimal Traditional styles</td>
<td>Eligible</td>
</tr>
<tr>
<td>146 E. Wentworth Ave.</td>
<td>Ca. 1927 Other Residential type residence exhibiting vernacular style – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>140 E. Wentworth Ave.</td>
<td>Ca. 1910 Central-Block-with-Projecting-Bays residence exhibiting Victorian Eclectic style</td>
<td>Eligible</td>
</tr>
<tr>
<td>134 E. Wentworth Ave.</td>
<td>Ca. 1933 Bungalow residence exhibiting Bungalow and Colonial Revival styles</td>
<td>Eligible</td>
</tr>
<tr>
<td>2226 S. State Street</td>
<td>Ca. 1945 Commercial/Industrial Block building exhibiting Post-WWII: Other style – Altered</td>
<td>Not eligible</td>
</tr>
<tr>
<td>2230 S. Main Street</td>
<td>Ca. 1962 Business/Office building exhibiting Post-WWII: Other style</td>
<td>Eligible</td>
</tr>
<tr>
<td>48 W. Senior Way</td>
<td>Ca. 1960 Business/Office building exhibiting Modern style</td>
<td>Eligible</td>
</tr>
<tr>
<td>2260 S. West Temple</td>
<td>Ca. 1935 Warehouse building exhibiting 20th Century Commercial style</td>
<td>Eligible</td>
</tr>
</tbody>
</table>

Sources: SWCA 2009a, 2009b

- Contributing resource of the Forest Dale Historic District.
- Located within the Forest Dale Historic District but non-contributing.
Archaeological Sites, Including Historic Linear Resource Sites

The APE for archaeological sites included the 66-foot-wide UTA-owned right-of-way from Highland Drive to the western project terminus at the existing UTA TRAX station at 2100 South, a distance of about 2.2 miles.

Two historic linear resource sites were identified within the APE (see Table 3.9-3). No other archaeological sites were encountered during the survey. The historic linear resource sites within the APE are the Utah Southern/Union Pacific Railroad (site 42SL344) and the Denver & Rio Grande Western (D&RGW) Park City Branch/Salt Lake Eastern Railway (site 42SL416).

Table 3.9-3. Archaeological Sites (Including Historic Linear Resource Sites) in the Area of Potential Effects

<table>
<thead>
<tr>
<th>Site Number</th>
<th>Site Name</th>
<th>Site Type</th>
<th>National Register Eligibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>42SL344</td>
<td>Utah Southern/Union Pacific Railroad</td>
<td>Historic railroad and associated features</td>
<td>Eligible under Criterion A</td>
</tr>
<tr>
<td>42SL416</td>
<td>D&amp;RGW Park City Branch/Salt Lake Eastern Railway</td>
<td>Historic railroad and associated features</td>
<td>Eligible under Criterion A, Contributing resource of the Forest Dale Historic District</td>
</tr>
</tbody>
</table>

The Utah Southern/Union Pacific Railroad is located within the north-south section of the proposed streetcar line between UTA’s existing 2100 South TRAX station and the proposed east-west streetcar corridor at about 2220 South. The rail site shares the right-of-way with UTA’s TRAX line. The Utah Southern/Union Pacific Railroad segment within the APE has been documented on several previous occasions. The overall railroad site has been determined eligible for the NRHP as a result of that documentation.

The D&RGW Park City Branch/Salt Lake Eastern Railway site is located within the proposed east-west streetcar corridor between Highland Drive and 200 West. The remains of the rail line are discontinuous and consist in some areas of short segments of track, including spur line and siding segments, and in other areas as simply a raised, flat-topped ballast berm. The D&RGW Park City Branch/Salt Lake Eastern Railway still retains several historic features including sidings and parts of loading docks. In addition, much of the track that is still intact likely dates to the historic period. UTA and FTA determined this site to be eligible for the NRHP under Criterion A. This rail site is also listed as a contributing resource of the Forest Dale Historic District.

These determinations were made in consultation with the Utah SHPO and other consulting parties. The SHPO concurred with these findings in a letter dated February 17, 2010 (see Appendix A, Pertinent Correspondence).

Traditional Cultural Properties

The APE for traditional cultural properties is the same as the APE for archeological sites. No traditional cultural properties were identified in this APE through either field inspections or consultation with Native American tribes or other groups.
### Table 3.9-4. Antiquities Laws and Regulations That Apply to the Sugar House Streetcar Project

<table>
<thead>
<tr>
<th>Title</th>
<th>Implementing Regulation</th>
<th>Year Enacted and Amended</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mining Law Act</td>
<td>None</td>
<td>1872; amended 1962</td>
</tr>
<tr>
<td>Antiquities Act</td>
<td>43 CFR 3</td>
<td>1906</td>
</tr>
<tr>
<td>Historic Sites Act</td>
<td>None</td>
<td>1935</td>
</tr>
<tr>
<td>Reservoir Salvage Act amended as the Archaeological and Historic Preservation Act, Archaeological Data Preservation Act of 1974 or Moss-Bennett Act</td>
<td>None</td>
<td>1960; amended 1974</td>
</tr>
<tr>
<td>Department of Transportation Act, Section 4(f)</td>
<td>None</td>
<td>1966; amended 1983 (relevant for easements through Bureau of Land Management–administered public land)</td>
</tr>
<tr>
<td>Executive Order 11593: Protection and Enhancement of the Cultural Environment</td>
<td>None</td>
<td>1971; codified as part of the 1980 amendments to the National Historic Preservation Act</td>
</tr>
<tr>
<td>American Indian Religious Freedom Act (AIRFA)</td>
<td>None</td>
<td>1978</td>
</tr>
<tr>
<td>Archaeological Resources Protection Act (ARPA)</td>
<td>43 CFR 7</td>
<td>1979; amended 1988</td>
</tr>
<tr>
<td>Native American Graves Protection and Repatriation Act (NAGPRA)</td>
<td>43 CFR 10</td>
<td>1990</td>
</tr>
<tr>
<td>Archeological and Historic Preservation Act (AHPA) of 1974 (16 USC 469 to 469c-2)</td>
<td>None</td>
<td>1974</td>
</tr>
<tr>
<td>Executive Order 13007: Indian Sacred Sites</td>
<td>None</td>
<td>1996</td>
</tr>
<tr>
<td>Executive Order 13175: Consultation and Coordination with Indian Tribal Governments</td>
<td>None</td>
<td>2000</td>
</tr>
<tr>
<td>Executive Order 13287: Preserve America</td>
<td>None</td>
<td>2003</td>
</tr>
</tbody>
</table>
3.9.5 Environmental Consequences

This section addresses the impacts of the Action Alternative on historic properties. Based on the historic properties inventories, the Action Alternative would affect historic properties.

Impacts to historic properties from the Action Alternative were documented using the Section 106 guidelines in 36 CFR 800.5. (For more information, see Section 3.9.1, Statutory and Regulatory Setting.) These impacts are described as no historic properties affected, no adverse effect, or adverse effect. The types of impacts from the Action Alternative were documented by FTA and UTA in the Determination of Eligibility and Finding of Effect (see Appendix A, Pertinent Correspondence). These impacts are defined as follows:

- **No historic properties affected.** A no historic properties affected determination is made when it is determined that either there are no historic properties present or there are historic properties present but the undertaking would have no effect on them as defined in 36 CFR 800.16(i).

- **No adverse effect.** A no adverse effect determination is made when the undertaking’s effects do not meet the criteria described in the item above for an adverse effect, or the undertaking is modified or conditions are imposed, such as the subsequent review of plans for rehabilitation by the SHPO, to ensure consistency with the Secretary of the Interior’s Standards for the Treatment of Historic Properties (36 CFR 68) and applicable guidelines, to avoid adverse effects.

- **Adverse effect.** An adverse effect determination is made when an undertaking may alter, directly or indirectly, any of the characteristics of a historic property that qualify the property for inclusion in the NRHP in a manner that would diminish the integrity of the property’s location, design, setting, materials, workmanship, feeling, or association. Consideration is given to all qualifying characteristics of a historic property, including those that might have been identified after the original evaluation of the property’s eligibility for the NRHP. Adverse effects can include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance, or be cumulative.

3.9.5.1 Methods for Assessing Impacts

This section describes the methods for assessing impacts to historic properties from the Action Alternative. The historic properties described in Section 3.9.4.1, Historic Resources in the APE, that are considered to be eligible for the NRHP were assessed to determine whether the Action Alternative would affect any part of the historic property.

For NRHP-eligible historic properties, an impact was considered likely if any part of the primary building, contributing outbuilding(s), historically associated lands, or site features and artifacts was found within the APE. Next, the nature and extent of that
impact on the characteristics of the property or site that qualify it as eligible for the NRHP under a particular criterion were assessed. If the contributing characteristics would be altered so that some part of the property or site would no longer convey its historic significance as an eligible property, an adverse impact was considered likely. The assessment of effects on both historic buildings and archaeological sites (a category that includes historic linear resource sites such as railroads and canals) was carried out in consultation with the Utah SHPO, tribes, and other consulting parties as described in Section 3.9.3, Agencies, Tribes, and Other Consulting Parties and Their Roles.

The following sections summarize the impacts to known historic and archaeological sites, including linear historic resource sites, from the No-Action and Action Alternatives. The Action Alternative would directly affect both linear historic resource sites and would directly affect several properties containing historic buildings.

The direct effects on the linear historic resource sites would result from physically altering or removing features of the two historic railroad sites to accommodate construction of the streetcar line and/or stations. The direct effects to properties containing historic buildings would result from strip takes of land associated with the historic buildings. In all such cases, the existing land associated with the residential property encroaches into the UTA-owned right-of-way. However, because these parcels of land have historically been used as part of the residential property, the Utah SHPO considers the parcels de facto residential property for the purpose of Section 106.

No vibration impacts were identified.

### 3.9.5.2 No-Action Alternative

Under the No-Action Alternative, the Sugar House Streetcar Project would not be built, so no direct or indirect impacts to historic properties would occur as a result of the project.

### 3.9.5.3 Action Alternative

Under the Action Alternative, several NRHP-eligible properties would be affected. Table 3.9-5, Impacts of the Action Alternative on NRHP-Eligible Historic Properties in the Historic Properties Evaluation Area (APE), on page 3-111 summarizes the anticipated effects of this alternative.

**Archaeological Sites, Including Historic Linear Resource Sites**

The Action Alternative would have an adverse effect on one historic linear resource site, the D&RGW Park City Branch/Salt Lake Eastern Railway, and no adverse effect on the Utah Southern/Union Pacific Railroad. The D&RGW Park City Branch/Salt Lake Eastern Railway is also a contributing resource of the Forest Dale Historic District.
Historic Districts

Even though a contributing resource to the Forest Dale Historic District would experience an adverse effect, the District overall would experience no adverse effect since the tracks would be replaced with a modern streetcar system that would be in keeping with the overall historic context of the District.

Historic Buildings

Of the 54 NRHP-eligible properties with historic buildings, 10 would be directly affected through minor strip takes of property within the UTA-owned right-of-way but historically associated with or used by the residential property; however, no historic buildings would be impacted or require acquisition and the strip takes would not affect the integrity of the historic properties, so there would be no adverse effect. The remaining 44 properties with historic buildings would not be directly affected by the Action Alternative.

However, several of the 44 properties are located in areas where noise levels would increase slightly. Sometimes the introduction of audible elements that diminish the integrity of a historic property can result in an adverse effect. However, in the case of the Sugar House Streetcar Project, the historic buildings that would be subject to the noise impacts were all constructed when the D&RGW Park City Branch/Salt Lake Eastern Railway, which occupies the UTA-owned right-of-way, was constructed and in operation. For this reason, the historic context and setting of these properties includes an adjacent operational railroad system.

Additionally, under FTA noise guidelines, only certain historic properties (such as National Historic Landmarks with significant outdoor uses requiring quiet) are considered sensitive to noise and therefore potentially affected by noise. None of the 54 NRHP-eligible properties with historic buildings in the Sugar House APE fall into this sensitive property type.

UTA and FTA also considered the potential effects of visual intrusions on the historic resources in the evaluation area. The NRHP-eligible historic buildings in the evaluation area were all constructed when the D&RGW Park City Branch/Salt Lake Eastern Railway, which occupies the UTA-owned right-of-way, was constructed and in operation. For this reason, the historic context and setting of these properties includes an adjacent operational railroad system.

Therefore, UTA and FTA find that there would be no historic properties affected by either noise or visual intrusions from the Action Alternative. Consequently, UTA and FTA have issued a finding of no historic properties affected for the remaining 44 historic properties. The SHPO concurred with these findings of effect in a letter dated February 17, 2010 (see Appendix A, Pertinent Correspondence).
### Table 3.9-5. Impacts of the Action Alternative on NRHP-Eligible Historic Properties in the Historic Properties Evaluation Area (APE)

<table>
<thead>
<tr>
<th>Site Number/Address</th>
<th>Site/Property Description</th>
<th>Nature of Impact</th>
<th>Type of Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Archaeological Sites, Including Historic Linear Resource Sites</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42SL344, Utah Southern/Union Pacific Railroad</td>
<td>Historic railroad</td>
<td>All tracks removed for new construction; existing tracks are modern and no historic features are present along the affected segment.</td>
<td>No adverse effect</td>
</tr>
<tr>
<td>42SL416, D&amp;RGW Park City Branch/Salt Lake Eastern Railway</td>
<td>Historic railroad</td>
<td>All tracks and features removed for new construction.</td>
<td>Adverse effect</td>
</tr>
<tr>
<td><strong>Historic Districts</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Dale Historic District</td>
<td>Historic district containing 249 buildings</td>
<td>Removing the historic tracks and replacing them with a modern streetcar system would be in keeping with the overall historic context of the District.</td>
<td>No adverse effect</td>
</tr>
<tr>
<td><strong>Historic Buildings</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2208 South 1000 East</td>
<td>Ca. 1922 Bungalow residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>2207 S. Lincoln St.</td>
<td>Ca. 1922 Bungalow residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>2208 S. Lincoln St.</td>
<td>Ca. 1922 Bungalow residence</td>
<td>Strip take along south side yard of property of about 114 square feet out of 3,355 square feet (3% take). NOTE: Property encroaches into UTA-owned right-of-way; no indirect effect.</td>
<td>No adverse effect</td>
</tr>
<tr>
<td>2201 South 900 East</td>
<td>Ca. 1962 Service Bay Business</td>
<td>Strip take along south side yard of property of about 177 square feet out of 3,019 square feet (4% take). NOTE: Property encroaches into UTA-owned right-of-way; no indirect effect.</td>
<td>No adverse effect</td>
</tr>
<tr>
<td>875 E. Simpson Ave.*</td>
<td>Ca. 1915 Bungalow residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>867 E. Simpson Ave.*</td>
<td>Ca. 1948 Early Ranch residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>857 E. Simpson Ave.*</td>
<td>Ca. 1909 Bungalow residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>841 E. Simpson Ave.*</td>
<td>Ca. 1897 Foursquare residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>827 E. Simpson Ave.*</td>
<td>Ca. 1919 Bungalow residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>819 E. Simpson Ave.*</td>
<td>Ca. 1897 Other Residential Type residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>805 E. Simpson Ave.*</td>
<td>Ca. 1909 Bungalow residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>Site Number/Address</td>
<td>Site/Property Description</td>
<td>Nature of Impact</td>
<td>Type of Effect</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------</td>
<td>-----------------</td>
<td>---------------</td>
</tr>
<tr>
<td>801 E. Simpson Ave.*</td>
<td>Ca. 1902 Rectangular Block residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>783 E. Simpson Ave.*</td>
<td>Ca. 1900 Foursquare residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>779–781 E. Simpson Ave.*</td>
<td>Ca. 1913 Duplex residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>777 E. Simpson Ave.*</td>
<td>Ca. 1913 Bungalow residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>757 E. Simpson Ave.*</td>
<td>Ca. 1939 Residential Court</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>856 E. Wilmington Ave.*</td>
<td>Ca. 1910 Bungalow residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>850 E. Wilmington Ave.*</td>
<td>Ca. 1917 Bungalow residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>844 E. Wilmington Ave.*</td>
<td>Ca. 1935 Bungalow residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>832 E. Wilmington Ave.*</td>
<td>Ca. 1915 Bungalow residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>830 E. Wilmington Ave.*</td>
<td>Ca. 1915 Foursquare residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>828 E. Wilmington Ave.*</td>
<td>Ca. 1915 Foursquare residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>826 E. Wilmington Ave.*</td>
<td>Ca. 1912 Foursquare residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>824 E. Wilmington Ave.*</td>
<td>Ca. 1907 Bungalow residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>820 E. Wilmington Ave.*</td>
<td>Ca. 1915 Other Residential Type residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>816 E. Wilmington Ave.*</td>
<td>Ca. 1915 Foursquare residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>2206 S. Lake Street*</td>
<td>Ca. 1925 Bungalow residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>2222 S. Lake Street*</td>
<td>Ca. 1887 Foursquare residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
</tbody>
</table>
### Table 3.9-5. Impacts of the Action Alternative on NRHP-Eligible Historic Properties in the Historic Properties Evaluation Area (APE)

<table>
<thead>
<tr>
<th>Site Number/Address</th>
<th>Site/Property Description</th>
<th>Nature of Impact</th>
<th>Type of Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>653–657 E. Simpson Ave.</td>
<td>Ca. 1950–1954 Warehouse</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>2237 South 600 East</td>
<td>Ca. 1915 Commercial/Industrial Block</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>2225 South 500 East</td>
<td>Ca. 1949 Commercial/Industrial Block</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>2230 South 500 East</td>
<td>Ca. 1944 WWII-Era Cottage residence</td>
<td>Strip take along south side yard of property of about 324 square feet out of 3,918 square feet (8% take). NOTE: Property encroaches into UTA-owned right-of-way and a non-contributing addition would be directly affected; no indirect effect.</td>
<td>No adverse effect</td>
</tr>
<tr>
<td>450 East 2200 South</td>
<td>Ca. 1964 Commercial/Industrial Block</td>
<td>Strip take along south side yard of property of about 239 square feet out of 4,042 square feet (6% take); no indirect effect.</td>
<td>No adverse effect</td>
</tr>
<tr>
<td>2233 South 300 East</td>
<td>Ca. 1963 Business/Office building</td>
<td>Strip take along south side yard of property of about 4,835 square feet out of 167,514 square feet (3% take). NOTE: Property encroaches into UTA-owned right-of-way; no indirect effect.</td>
<td>No adverse effect</td>
</tr>
<tr>
<td>2250 South 300 East</td>
<td>Ca. 1951 Commercial/Industrial Block</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>2220 South 300 East</td>
<td>Ca. 1955 Service Bay/Business</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>280 E. Wentworth Ave.</td>
<td>Ca. 1931 Cottage Bungalow residence</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>270 E. Wentworth Ave.</td>
<td>Ca. 1929 Bungalow residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>264 E. Wentworth Ave.</td>
<td>Ca. 1937 Bungalow residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>260 E. Wentworth Ave.</td>
<td>Ca. 1909 Bungalow residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>246 E. Wentworth Ave.</td>
<td>Ca. 1938 Period Cottage residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>240 E. Wentworth Ave.</td>
<td>Ca. 1909 Bungalow residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>230 E. Wentworth Ave.</td>
<td>Ca. 1957 Ranch/Rambler residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
</tbody>
</table>
### Table 3.9-5. Impacts of the Action Alternative on NRHP-Eligible Historic Properties in the Historic Properties Evaluation Area (APE)

<table>
<thead>
<tr>
<th>Site Number/Address</th>
<th>Site/Property Description</th>
<th>Nature of Impact</th>
<th>Type of Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>224 E. Wentworth Ave.</td>
<td>Ca. 1915 Bungalow residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>220 E. Wentworth Ave.</td>
<td>Ca.1914 Bungalow residence</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>2265 S. State Street</td>
<td>Ca. 1958 Bowling Alley</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>2222 South 200 East</td>
<td>Ca. 1962 Fourplex residence</td>
<td>Strip take along rear of property of about 162 square feet out of 5,547 square feet (3% take). NOTE: Property encroaches into UTA-owned right-of-way and a non-contributing carport would be directly affected; no indirect effect.</td>
<td>No adverse effect</td>
</tr>
<tr>
<td>170 E. Wentworth Ave.</td>
<td>Ca. 1939 Duplex residence</td>
<td>Strip take along rear of property of about 161 square feet out of 5,842 square feet (3% take). Property encroaches into UTA-owned right-of-way; no indirect effect.</td>
<td>No adverse effect</td>
</tr>
<tr>
<td>158 E. Wentworth Ave.</td>
<td>Ca. 1951 Early Ranch residence</td>
<td>Strip take along rear of property of about 150 square feet out of 5,841 square feet (3% take). NOTE: Property encroaches into UTA-owned right-of-way; no indirect effect.</td>
<td>No adverse effect</td>
</tr>
<tr>
<td>140 E. Wentworth Ave.</td>
<td>Ca. 1910 Central-Block-with-Projecting-Bays residence</td>
<td>Strip take along rear of property of about 154 square feet out of 7,010 square feet (2% take). NOTE: Property encroaches into UTA-owned right-of-way; no indirect effect.</td>
<td>No adverse effect</td>
</tr>
<tr>
<td>134 E. Wentworth Ave.</td>
<td>Ca. 1933 Bungalow residence</td>
<td>Strip take along rear of property of about 99 square feet out of 4,674 square feet (2% take). NOTE: Property encroaches into UTA-owned right-of-way and a non-contributing outbuilding would be directly affected; no indirect effect.</td>
<td>No adverse effect</td>
</tr>
<tr>
<td>2230 S. Main Street</td>
<td>Ca. 1962 Business/Office building</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>48 W. Senior Way</td>
<td>Ca. 1960 Business/Office building</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
<tr>
<td>2260 S. West Temple</td>
<td>Ca. 1935 Warehouse building</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
</tr>
</tbody>
</table>

Sources: SWCA 2009a, 2009b

* Located within the Forest Dale Historic District.
3.9.5.4 Mitigation Measures for Adverse Effects

Adverse effects were identified for one historic linear resource site in the APE. This resource is the D&RGW Park City Branch/Salt Lake Eastern Railway (site 42SL416), the remains of which would be removed to allow construction of the streetcar line and stations. Adverse impacts to the D&RGW Park City Branch/Salt Lake Eastern Railway would require mitigation. The exact mitigation measures will be negotiated among FTA, UTA, the Utah SHPO, and other consulting parties through the Section 106 process of the National Historic Preservation Act. Typically, mitigation of a historic linear resource site such as a railroad involves a combination of field documentation and historic archival research. These measures will be determined by historic protection experts to mitigate, to the greatest extent feasible, the impacts to this historic property.

FTA and the Utah SHPO have developed a Draft Memorandum of Agreement (MOA), with UTA as an invited signatory. When finalized, the MOA will describe the specific mitigation measures to be implemented if the Action Alternative is selected for the project. FTA and UTA are continuing to coordinate with the consulting parties. The MOA must be executed before FTA can issue a Finding of No Significant Impact. The final Section 4(f) determination will also be made at this time. The initial Draft MOA is included in Appendix C, Draft Memorandum of Agreement. FTA welcomes public comments on this Draft MOA. The MOA will be finalized and executed before FTA issues its decision on this project.

Since no historic buildings would be affected by the Action Alternative, no mitigation measures are necessary for those properties.

In accordance with 36 CFR 800.13(b), FTA and UTA are providing for the protection, evaluation, and treatment of any historic property discovered prior to or during construction. The procedures to be followed if any historic properties and/or human remains are discovered during construction of the project are described in the MOA.

3.9.6 Next Steps

FTA and UTA will provide information to the public regarding impacts to historic properties and will accept comments on the EA and the Section 106 process during the EA public comment period. In addition, the four consulting parties—the Salt Lake City Planning Department (CLG, Janice Lew); the Salt Lake City Historic Landmarks Commission (Warren Lloyd); the Sugar House Community Council Historical Committee (Susan Petheram); and the councilperson representing the Salt Lake City Council, District 7 (Søren Simonsen) (see Section 3.9.3.3, Local Governments and Historical Societies)—were sent information regarding impacts to historic properties on October 6, 2010 (see Appendix A, Pertinent Correspondence).

Janice Lew with Salt Lake City concurred with the adverse effect in a letter dated October 22, 2010 (see Appendix A, Pertinent Correspondence). No other consulting parties have provided additional comments to date. All consulting parties and all Native
American tribes initially contacted for this project (see Section 3.9.3, Agencies, Tribes, and Other Consulting Parties and Their Roles) will receive copies of this EA and the Draft MOA.

### 3.10 Visual and Aesthetic Resources

The aesthetic quality of a community depends on its visual resources—the physical features that make up the visible landscape, including land, water, vegetation, and human-made features such as buildings and roads. The visual evaluation area for the Sugar House Streetcar Project includes the UTA-owned right-of-way and areas that are visible from the right-of-way.

#### 3.10.1 Statutory and Regulatory Setting

Title 23, Section 109(h), of the United States Code (23 USC 109[h]) requires aesthetic values to be considered during the development of federally funded projects. The Council on Environmental Quality’s regulations for implementing NEPA also state that aesthetic effects should be considered (Section 1508.8, Effects). To consider the aesthetic effects of the Sugar House Streetcar Project, a visual analysis was conducted.

#### 3.10.2 Affected Environment

**3.10.2.1 Methodology**

The visual evaluation area for the Sugar House Streetcar Project consists of the UTA-owned right-of-way (which includes the proposed stations) and the viewshed for these areas. (Viewshed is a term that describes all of the views that can be seen from a given location.) The viewshed is influenced by existing topography, vegetation, and structures. This section considers the views of and from properties next to the UTA-owned right-of-way as well as residents’ views of the surrounding landscape.

In order to obtain information about valuable and sensitive visual resources, the project team conducted field surveys of the visual evaluation area. Using the information gathered during the field surveys, the project team divided the visual evaluation area into four visual assessment units. Each of these units was defined and assessed based on its general visual character, the commonality of its land uses, and its primary viewers. Primary viewers are those groups of people who regularly experience the views in an area, and these viewers are related to the locations or land-use activities from which they see the visual environment. Types of primary viewers include residents, passing motorists, and pedestrians.

Visual assets are the positive attributes of the environment that contribute to the visual quality and character as seen by the viewers in an area. Along the UTA-owned right-of-way, these visual assets include nearby views of trees, neighboring structures, and the surrounding area.
3.10.2.2 Existing Visual Setting

The visual evaluation area lies within northern Utah’s Great Salt Lake Basin along the eastern edge of the Basin and Range topographic region, which is characterized by a series of north-south-trending, linear, fault-block mountain ranges. To the east, the Wasatch Range extends in a north-south direction and consists of uplifted, fault-block mountains. This mountain range is the most distinct element in the region and dominates the eastern horizon. The Oquirrh Mountains, another north-south mountain range, lie to the west.

The UTA-owned right-of-way begins at the Central Pointe TRAX Station at 200 West and about 2100 South in South Salt Lake. It passes south through an area developed with light-industrial and commercial uses between 200 West and State Street. East of State Street, the right-of-way passes through areas that are developed with residential and commercial uses, the site of a park that will be developed in the future (the Chamber of Commerce park at about 400 East in South Salt Lake), and a developed park (Fairmont Park between 900 East and 1100 East in Salt Lake City). The area between about 400 East in South Salt Lake and 900 East in Salt Lake City is mostly residential, but there is some commercial development between 600 East and 700 East. The right-of-way terminates at the Granite Block, a redevelopment area that is planned for mixed uses, but there is currently extensive commercial development in the area surrounding the Granite Block.

3.10.2.3 Inventory of Visual Resources

The project team made a visual inventory of the visual evaluation area to document the character of the various areas along the UTA-owned right-of-way. This inventory included a survey on foot and about 70 photographs of views to and from the right-of-way along its entire length. The purpose of this inventory was to document the visual and aesthetic resources in the area and to help identify visual assessment units that are representative of land-use types along the right-of-way.
### 3.10.2.4 Descriptions of Visual Assessment Units

This section describes the four visual assessment units.

**Unit 1 – South Salt Lake Commercial and Light-Industrial Development**

Unit 1 begins at the Central Pointe TRAX Station and ends at State Street. This area is characterized by light-industrial and commercial development (see Photo 3.10-1). Views from the right-of-way are dominated by large buildings, but the Wasatch Mountains can be seen when looking east. Views of the right-of-way are blocked from most areas in the vicinity by the large buildings. The right-of-way itself appears unkempt and contains weedy vegetation and litter.

![Photo 3.10-1. Unit 1: Looking west from West Temple Street.](image)

**Unit 2 – South Salt Lake Mixed Commercial and Residential Development**

Unit 2 begins at State Street and ends at about 500 East. This area supports single-family and multifamily residential development, commercial development, and light-industrial development (see Photo 3.10-2 and Photo 3.10-3 below). Views from the right-of-way are characterized by single-family and multifamily residences as well as buildings and parking lots associated with businesses. The Wasatch Mountains can be seen from the right-of-way.
The right-of-way can be seen from cross streets and from open backyards and parking areas. The right-of-way is currently dominated by weedy vegetation and supports utility lines. The Chamber of Commerce park site at about 400 East has been graded but is currently undeveloped.
Unit 3 – Salt Lake City Residential Development

Unit 3 begins at 500 East and ends at 900 East. This area primarily supports residential development, although there is some commercial development in the block between 600 East and 700 East (see Photo 3.10-4 and Photo 3.10-5).

Views from the right-of-way are dominated by residences, but the Wasatch Mountains can be seen to the east. 600 East and 800 East are used primarily to access residences in the area and do not carry a lot of traffic. People driving or walking through the area currently see a weedy corridor and utility lines along the UTA-owned right-of-way.
700 East is a major transportation corridor that crosses the right-of-way in this unit. The commercial development in Visual Assessment Unit 3 is clustered along this eight-lane road.

**Unit 4 – Sugar House Community Center**

Unit 4 begins at 900 East and ends at the eastern terminus of the project at the Granite Block (about 1100 East). While much of this area is developed with commercial uses, there are some single-family residences on the north side of the right-of-way between 900 East and 1000 East. These residential areas are accessed from the north by streets that dead-end at the right-of-way (see Photo 3.10-6). Residents of homes closest to the right-of-way can see the right-of-way and the Boys and Girls Club facility to the south.

![Photo 3.10-6. Unit 4: Looking north on Lincoln Street (about 950 East).](image)

The area south of the right-of-way between 900 East and McClelland Street supports the Boys and Girls Club and Fairmont Park. This section of the right-of-way still has tracks, so people driving along Sugarmont Drive, which parallels the right-of-way through this same area, see the tracks and houses to the north. Once east of McClelland Street, the right-of-way travels through all commercial development (or redevelopment areas currently planned for commercial development). The right-of-way travels between two Granite Furniture Company buildings before terminating at the Granite Block (see Photo 3.10-7 below). Views from the right-of-way through this area are dominated by large commercial buildings.
3.10.3 Environmental Consequences

3.10.3.1 Methodology

To determine the effects on the visual environment, the project team developed ratings for describing the levels of project impacts on the visual assets in each visual assessment unit (see Table 3.10-1). The final impact ratings take into consideration the impacts from the project, any planned mitigation measures, and the sensitivity of the viewer types in that assessment unit to changes in their visual environment (see Table 3.10-2 below).

<table>
<thead>
<tr>
<th>Impact</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>High</td>
<td>Indicates major changes to visual resources including the introduction of structures that obstruct scenic vistas or the removal of mature vegetation that provides landscape character.</td>
</tr>
<tr>
<td>Moderate</td>
<td>Indicates noticeable changes to visual resources, such as the introduction of major elements into the existing landscape that obstruct or alter existing scenic vistas. Mitigation methods could be used to reduce impacts.</td>
</tr>
<tr>
<td>Low</td>
<td>Indicates minor changes to visual resources, such as the introduction of elements in areas where existing transportation or utility facilities are located.</td>
</tr>
<tr>
<td>None/Negligible</td>
<td>Indicates no impact or negligible impact to visual resources or viewing conditions.</td>
</tr>
</tbody>
</table>
When determining the visual impact ratings for each alternative, the project team considered how sensitive different types of viewers were to changes in their visual environment. Viewer groups were developed by determining each viewer type’s proximity to the right-of-way and its frequency and duration of exposure to the visual environment. Visual sensitivity is also modified by viewer activity, awareness, and visual expectations in relation to the viewing duration. The visual sensitivity is generally higher for the group viewing the new streetcar system than for the group that uses the system (FHWA 1983).

Table 3.10-2 lists the three viewer types that were used in this analysis. Viewer types were mainly defined in relation to visual changes along the UTA-owned right-of-way.

<table>
<thead>
<tr>
<th>Viewer Type</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resident</td>
<td>Viewer who lives in the evaluation area and has views of the existing UTA-owned right-of-way (including views from an adjacent yard or through residential windows that face the right-of-way). Residents are considered the most sensitive viewer type, since they would have the most visual exposure to the streetcar line. A resident’s degree of sensitivity to the streetcar line depends on the orientation and distance of his or her house relative to the streetcar line.</td>
</tr>
<tr>
<td>Motorist</td>
<td>Viewer who travels across or parallel to the UTA-owned right-of-way in a motorized vehicle. The motorist would be temporarily exposed to the streetcar line. Motorists are considered less sensitive to the streetcar line because their exposure would be short term.</td>
</tr>
<tr>
<td>Pedestrian or recreational user</td>
<td>Viewer on foot or on a bicycle who crosses the right-of-way or is within viewing distance of the right-of-way. Pedestrians and recreational users have a higher degree of sensitivity to the streetcar line due to their proximity to the line and because they travel near the right-of-way at a slower rate than vehicles. This category includes people using Fairmont Park.</td>
</tr>
</tbody>
</table>

3.10.3.2 No-Action Alternative

Under the No-Action Alternative, the Sugar House Streetcar Project would not be constructed, and the visual conditions would not change due to the project. Continued development of commercial areas and regular changes in residential areas would continue to result in changes in views from the right-of-way.

3.10.3.3 Action Alternative

General Effects

Constructing the Action Alternative would cause short-term construction impacts to the visual environment as well as long-term changes in how the area looks. Construction impacts are described in Section 3.11.3.4, Construction Impacts on Visual and Aesthetic Resources.

Once constructed, the Action Alternative would not substantially alter the general urban visual conditions along and adjacent to the UTA-owned right-of-way and would have a low-to-moderate impact to viewers in the evaluation area. Although the fixed elements of the streetcar along the UTA-owned right-of-way would not obstruct long-range views,
the current views would change due to the addition of new elements. The changes to views would be most noticeable in the foreground and middle-ground views due to a change in how the right-of-way appears and the addition of drainage structures, lighting, and station elements such as benches and pay stations.

The fixed elements of the Action Alternative, such as track, stations, the overhead contact system, power substations, and other facilities, would be designed using UTA’s Light-Rail Design Criteria. Major elements of the project include track, station loading areas, lights, and signaling/signing. All elements would be within the existing UTA-owned right-of-way. Specific design standards would be used when designing all elements of the Action Alternative to reduce visual impacts on the surrounding viewshed, particularly in areas that UTA determines have higher visual sensitivity. In urban settings, wires and poles are common elements and should blend into the existing setting.

**Impacts to Unit 1 – South Salt Lake Commercial and Light-Industrial Development**

Viewer types in this area are motorists driving on streets that cross the evaluation area and pedestrians walking the same routes. Both types of users would notice a change in the way the right-of-way looks. Because the area would still be dominated by industrial and commercial buildings, the effects experienced by motorists driving through the area would be low. (As described in Table 3.10-1 above, Visual Impact Ratings, low indicates minor changes to visual resources in areas where existing transportation facilities are located.) Pedestrians would continue to experience the long-range views as they currently exist with momentary exceptions when streetcars pass by. In addition, some pedestrians might feel that the Action Alternative improves the appearance of the area, especially since the currently overgrown, run-down right-of-way would be cleaned up and the rail corridor would be restored to its former use. Overall, impacts on pedestrians would be low.

**Impacts to Unit 2 – South Salt Lake Mixed Commercial and Residential Development**

Viewer types in this unit are motorists driving on streets that cross the evaluation area, pedestrians walking along the same cross streets, and people living in residences east of State Street. West of State Street, the right-of-way is similar in appearance to the section in Unit 1, and the impacts from the Action Alternative would be similar to those experienced by motorists and pedestrians. Some people living in the residential area east of State Street could see the changed right-of-way, depending on how their homes are situated relative to the right-of-way. Some residents might feel that the addition of the streetcar and related elements adversely affects long-range views from their properties. Some pedestrians might feel that the Action Alternative improves the appearance of the area, especially since the currently overgrown, run-down right-of-way would be cleaned up and the rail corridor restored to its former use. The effects of the Action Alternative on these viewers would be low to moderate depending on how the views are changed and the extent to which residents and pedestrians would see the changes.
The visual impacts on motorists driving through the area east of State Street would be low, since views of the right-of-way would be momentary. Visual impacts experienced by pedestrians would be low to moderate depending on a particular person’s preference (a right-of-way developed with rail versus the current condition). Pedestrians would maintain distant views of the mountains.

**Impacts to Unit 3 – Salt Lake City Residential Development**

Viewer types that apply to this unit are motorists driving on streets that cross the evaluation area, pedestrians walking along the same cross streets, and people living in residences along the right-of-way. Visual impacts for motorists driving through the area would be low, since motorists would have only momentary views of the altered right-of-way. Pedestrians walking through the area might feel that the visual impacts are low to moderate, depending on their sensitivity to how the Action Alternative changes the way the right-of-way looks. Some pedestrians might feel that the Action Alternative improves the appearance of the area, especially in those areas where commercial and residential uses are intermixed. Pedestrians would still have distant views of the mountains.

People living in residences along the right-of-way would experience low to moderate visual impacts, depending on how their homes are situated relative to the right-of-way. Some residents might feel that the changes to the right-of-way are intrusive, especially if they can see elements such as station lighting and amenities, while other residents might feel that the changes are an improvement.

**Impacts to Unit 4 – Sugar House Community Center**

Viewer types that apply to this unit are primarily motorists driving on streets that cross the evaluation area and pedestrians walking along the same cross streets. There are a few residences that could be affected by the Action Alternative, and people recreating at Fairmont Park could also be affected by the Action Alternative.

Visual impacts for motorists driving through the area would be low, since motorists would have only momentary views of the altered right-of-way. Pedestrians walking through the area might feel that the visual impacts are low to moderate, depending on their sensitivity to how the Action Alternative changes the way the right-of-way looks. Some pedestrians might feel that the Action Alternative improves the appearance of the area, especially in the center of the community.

People living in the few residences along the right-of-way would experience low to moderate visual impacts, depending on how their homes are situated relative to the right-of-way. Some residents might feel that the changes to the right-of-way are intrusive, especially if they can see elements such as station lighting and amenities, while other residents might feel that the changes are an improvement.

People using some parts of Fairmont Park would have a direct view of the right-of-way. Because the park is already situated in an urban environment and the view is interrupted by an existing parking lot, the extent of the impacts from this change in the visual
environment would depend on how the change is perceived by users. Visual impacts experienced by people using Fairmont Park would be low to moderate.

### 3.10.3.4 Mitigation Measures for Visual Impacts

Aesthetic measures, such as lighting and vegetation at stations, will be considered during the final design of the project. All aesthetic measures will meet local city ordinances. Lighting will be provided at all station locations, and lights will be directed downward and away from residential buildings to the extent possible. Non-plant elements of the landscape will be developed so that they blend with the landscaping and are visually pleasing to people traveling across the right-of-way by car or by foot and to people using the streetcar system.

### 3.11 Construction Impacts

#### 3.11.1 Methodology

The type and level of effects from construction were determined by reviewing typical construction activities for a light-rail line (UTA’s *Light-Rail Design Criteria* [UTA 2007]), the project *Design Assumptions Technical Memorandum for the Sugar House Streetcar Project* (UTA 2009a), and the existing environmental conditions as described throughout this chapter.

#### 3.11.2 No-Action Alternative

Under the No-Action Alternative, there would be no construction-related impacts from constructing the streetcar line. Construction related to other development in the area, such as that expected in the Market Station and Granite Block redevelopment areas, could cause short-term construction impacts that would be independent of constructing a streetcar line.
3.11.3 **Action Alternative**

The Action Alternative could cause temporary construction-related impacts related to traffic, access, air quality, noise and vibration, and visual and aesthetic resources.

### 3.11.3.1 Construction Impacts on Traffic and Access

Constructing the streetcar line could require the temporary closure of cross streets during some phases of construction. UTA’s *Light-Rail Design Criteria* (UTA 2007) require UTA to apply the following measures during construction to reduce impacts on businesses in or near the project work area:

- Minimize the length of time that any street block is closed.
- Schedule construction during off-peak traffic periods in sensitive areas, if possible.
- Keep the maximum possible number of traffic lanes open during construction periods.
- Keep sidewalks available for use or provide alternate walkways.
- Maintain the visibility of businesses by coordinating with local merchants, using temporary signs, and using other appropriate special measures.

### 3.11.3.2 Construction Impacts on Air Quality

Constructing the streetcar line could cause temporary air quality impacts from dust and vehicle emissions. Vehicle emissions from construction equipment are regulated by EPA standards, and the Utah Air Quality Rules require a dust-control plan from all construction contractors whose activities or equipment could produce fugitive or airborne dust. A dust-control plan will be prepared for the construction phase of the project. Dust-control measures could include planting vegetative cover, providing synthetic covers, and watering and/or chemically stabilizing unpaved haul roads.

### 3.11.3.3 Construction Impacts on Noise and Vibration

Noise and vibration from construction activities, although temporary, could be a nuisance at nearby sensitive receptors such as residences and schools. Noise and vibration levels during construction are difficult to predict and vary depending on the types of construction activity and the types of equipment used for each stage of work. For example, pile-driving activities generally create the most noticeable vibration impacts; however, pile driving is not anticipated for the proposed project. Heavy machinery, the major source of noise in construction, is constantly moving in unpredictable patterns and is not usually at one location for very long. Project construction activities can include relocating utilities, adding pavement to accommodate the project, and constructing transit platforms.
Construction normally occurs during daylight hours when some residents are not at home, or when residents who are at home are less sensitive to construction activities and other local noise sources contribute to higher ambient noise levels. Since none of the residential locations in the noise and vibration evaluation area are expected to be exposed to construction noise for a long time, extended disruption of normal activities is not expected.

Construction noise differs from transit noise in two ways.

- Construction noise lasts for the duration of the construction contract and is usually limited to daylight hours when most human activity occurs. Construction activities are generally of a short duration and, depending on the nature of construction operations, could last from seconds (such as for a truck passing by) to months (such as when constructing a bridge at an overpass).

- Construction noise is also intermittent and depends on the type of operation, location, and function of the equipment as well as the equipment usage cycle. Transit noise, on the other hand, is present in a more continuous fashion after construction activities are completed.

### 3.11.3.4 Construction Impacts on Visual and Aesthetic Resources

Construction-related impacts would include construction vehicle activity and accompanying staging areas, stockpiling of excavated material, traffic impacts, and construction-related dust. During construction, the work zone would be cleared of vegetation, and the exposed bare ground would likely contrast visually with the surroundings that viewers are used to seeing. Until the construction is completed and the disturbed areas are revegetated or become part of the streetcar line, the construction areas would stand out.

### 3.11.3.5 Mitigation Measures for Construction Impacts

#### Mitigation Measures for Construction Impacts on Noise and Vibration

To reduce temporary construction noise and vibration impacts, several “good housekeeping” practices are recommended. The following noise- and vibration-control measures could be incorporated into the construction process:

- Erect temporary noise barriers between noisy activities and noise-sensitive receptors.

- Establish equipment and material staging areas away from sensitive receptors.

- Reroute construction traffic along roads to reduce impacts at nearby sensitive receptors.
- Require contractors to use best available control technologies to limit excessive noise and vibration at nearby residences.
- Whenever possible, conduct all construction activities during the daytime.
- Adequately notify the public of construction operations and schedules. Methods such as construction-alert publications could be used to handle complaints quickly.
- Comply with all local ordinances concerning construction noise.

### 3.12 Cumulative Effects

This section examines the cumulative effects of the Sugar House Streetcar Project (specifically the Action Alternative) and other actions. *Cumulative effects* are defined as “the impact on the environment which results from the incremental impact of the [proposed] action when added to other past, present, and reasonably foreseeable future actions regardless of what agency or person undertakes such actions.”

The purpose of the analysis of cumulative effects is to determine whether the proposed action, when combined with other foreseeable actions, would result in significant degradation of a resource, loss of biological diversity, or significant social or economic effects that would not result from the proposed action by itself.

#### 3.12.1 Methodology

Cumulative effects need to be analyzed in terms of the specific resource or ecosystem being affected. The list of environmental effects must focus on those effects and affected resources that are truly meaningful. For this Environmental Assessment, the parameters of the cumulative effects analysis are as follows:

- Cumulative effects are assessed on a local level for the area that includes South Salt Lake and the Salt Lake City community of Sugar House.
- The timeframe extends from the recent past (about 1980) to the foreseeable future (about 2020).
- The cumulative effects analysis includes the effects of the following recent actions:
  - Retail, commercial, and residential developments on 2100 South, 1300 East, 1100 East, Wilmington Avenue, and Highland Drive in the part of the Sugar House Streetcar study area in Salt Lake City
  - Retail and commercial developments on 2100 South and State Street in the part of the Sugar House Streetcar study area in South Salt Lake
• The cumulative effects analysis also includes the effects of the following planned or likely future actions:
  
  o Development of Parley’s Trail, a paved bicycle and pedestrian trail, in the UTA-owned right-of-way. The trail would use sidewalks and roads to navigate the Sugar House business district and would connect to the UTA-owned right-of-way by Fairmont Park. The trail would then proceed west through Salt Lake City and South Salt Lake in a “rails-with-trails” configuration. Rails-with-trails are a small subset of rail trails in which a railway right-of-way remains in use by trains yet also has a parallel recreational trail (Rails-to-Trails Conservancy 2000). Construction of the proposed Parley’s Trail could require additional right-of-way along the south side of the existing UTA-owned right-of-way and would add pedestrian activity to the Sugar House Streetcar study area.

  o Other actions that are being undertaken or considered in the study area are revitalization and redevelopment of the 2100 South corridor and nearby areas in the Salt Lake City community of Sugar House and in the 2100 South corridor and nearby State Street area in South Salt Lake. These actions involve previously developed areas and will have positive economic and social benefits.

For this cumulative effects analysis, the effects of concern are:

• Land-use effects
• Social effects
• Economic effects

Traffic effects are discussed in Chapter 4, Transportation, and are not repeated here.

3.12.2 Cumulative Land-Use and Socioeconomic Effects of the Action Alternative

Although the Action Alternative might accelerate planned development and redevelopment in the study area, this development (if implemented) is still expected to occur during the analysis period of this study. It is highly unlikely that redevelopment could be achieved in the study area without the enhanced travel choices that the Action Alternative would provide. Because much of the natural environment has been and continues to be degraded by commercial and residential development, UTA expects that this trend will continue as the reasonably foreseeable future actions listed above are implemented.

The Action Alternative would have the overall general socioeconomic benefit of improving the regional transportation system. This benefit, when combined with the positive socioeconomic effects of the other planned development and redevelopment projects, along with the positive mobility and circulation benefit provided by the
proposed Parley’s Trail project, would mean a considerable improvement in local mobility, pedestrian circulation, convenience, and access.

For development and redevelopment to occur, demand for developable property, supplies of developable property, and institutional requirements must be compatible and must be present at the same time and place. For the last several years, development in South Salt Lake and the Salt Lake City community of Sugar House has demonstrated that this is the case. In anticipation of some type of additional fixed-rail transit service, redevelopment has already been occurring.

The Action Alternative could influence the location, intensity, and nature of redevelopment near the proposed transit stations. However, based on the future land uses projected in local land-use and transportation master plans and redevelopment plans, some level of development would occur with or without the Action Alternative.

Two additional expected positive cumulative effects are an improved tax base and economic development. The Action Alternative is also anticipated to have positive effects on commercial and residential development near transit stations. In addition, it would contribute economic benefits by encouraging and supporting higher-density residential and commercial land uses around the proposed transit stations.

### 3.12.3 Mitigation for Cumulative Effects

The cumulative effects of the Action Alternative are planned for, expected, and desired by the Cities. No mitigation for the expected cumulative effects of the Action Alternative is proposed.
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Chapter 4: Transportation

This chapter describes the existing transportation conditions in the transportation evaluation area and the expected transportation impacts from the No-Action and Action Alternatives. The transportation evaluation area consists of key freeways, arterial streets, intersections, and transit service within and in the vicinity of the UTA-owned right-of-way between I-15 on the west, 1300 East on the east, 1700 South on the north, and I-80 on the south.

4.1 Affected Environment

4.1.1 Methodology

4.1.1.1 Data Collection

The project team analyzed traffic conditions in the PM (afternoon) peak hour at intersections in the transportation evaluation area that are close to the UTA-owned right-of-way. The PM peak hour was selected for analysis since it is the period of the day with the highest traffic volumes and therefore provides a worst-case scenario for evaluating the effects of the project. Because the proposed streetcar stations would be pedestrian oriented, they would not have parking lots and so would not generate automobile traffic. Therefore, the most significant effects on the surrounding transportation system would occur on the streets that intersect the UTA-owned right-of-way.

The project team compiled data on traffic at intersections between 2005 and 2007. The team preferred historical traffic counts over new traffic counts since the reconstruction of I-80 affected local and regional travel patterns during the period when this traffic analysis was being performed. Historical traffic data were adjusted in coordination with UDOT using an annual 0.5% growth rate to estimate traffic volumes in 2009.

The traffic analysis for the existing conditions in 2009 assumes that the I-80 reconstruction project has been completed (this project was completed in November 2009).

The following intersections were included in the traffic analysis:

- Major roadway intersections:
  - State Street / 2100 South
  - State Street / Truman Avenue
  - State Street / I-80 westbound ramp
  - State Street / I-80 eastbound ramp
  - 700 East / 2100 South
  - 700 East / Simpson Avenue
  - 700 East / I-80 westbound ramp
  - 700 East / I-80 eastbound ramp
• Minor roadway intersections:
  o 900 East / 2100 South
  o 900 East / Sugarmont Avenue
  o Main Street / Senior Way
  o Main Street / Bowers Way
  o 500 East / Wilmington Avenue
  o 500 East / Haven Avenue

4.1.1.2 Analysis of Intersection Conditions

Traffic conditions in the PM peak hour were analyzed at intersections in the evaluation area that are close to the UTA-owned right-of-way. Traffic conditions were estimated using VISSIM traffic analysis software. VISSIM includes specific functionality for transit operations that was used to evaluate the project alternatives presented in Section 4.2, Environmental Consequences.

Traffic conditions for all intersections are reported in terms of level of service, vehicle delay, and percent demand served.

• **Level of service (LOS)** is a term that describes the operating performance of an intersection or road and is the primary measure of traffic operations. Level of service is measured on a scale from A to F, with LOS A representing the best conditions (free-flowing traffic and insignificant delays) and LOS F the worst conditions (extremely congested traffic and excessive delays). Generally, LOS D or better is considered acceptable at intersections. Table 4.1-1 below describes each LOS letter designation. For intersections with traffic signals, the level of service is reported for the overall intersection (that is, the level of service is calculated based on a weighted average of the delays from all directions, or approaches). For intersections without traffic signals, the level of service is reported based on the approach with the worst delay.

• **Overall delay values** were calculated for intersections without traffic signals to provide additional information and to represent the overall conditions at the intersection rather than just the approach with the worst delay.

• **Percent demand served** is a measure of intersection throughput and describes the portion of total 1-hour traffic demand volume that actually passes through an intersection during the peak hour. At congested intersections, vehicles might be queued (lined up) on the approaches to the intersection at the end of the 1-hour analysis period. These queued vehicles are the portion of the demand volume that is not served during the peak hour. In this case, the estimated 1-hour demand volume is served over a period longer than 1 hour. This increase in the duration of the peak period is known as **peak spreading** and has been observed in congested urban areas with limited opportunities for improving the capacity of the roadway network. Percent demand served is typically a secondary measure of traffic operations that is a useful metric to further compare alternatives under...
failing (LOS F) conditions. Percent demand served essentially allows one to quantify the difference between LOS F and “LOS F minus” (if there were such a thing) and is accepted as a measurement of congestion by UDOT. For the Sugar House Streetcar Project, this metric helps to show the influence of the streetcar line on an intersection that is already operating at LOS F (State Street/I-80 eastbound).

Because many intersections would operate at an unacceptable level of service in 2030 without the project, the project team assumed that there would be no impact from the streetcar line if the percent demand served at the intersection remained within 5% of the No-Action conditions in 2030.

**Table 4.1-1. Level of Service Descriptions**

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Description of Traffic Conditions</th>
<th>Intersections with Signals</th>
<th>Intersections without Signals</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td><strong>Free Flow of Traffic / Insignificant Delays</strong> Free-flowing traffic with individual drivers virtually unaffected by the presence of other drivers in traffic.</td>
<td>0 to 10</td>
<td>0 to 10</td>
</tr>
<tr>
<td>B</td>
<td><strong>Stable Flow of Traffic / Minimum Delays</strong> Stable traffic flow with a high degree of freedom for drivers to select their speed and freedom to maneuver but with some influence from other drivers.</td>
<td>&gt;10 to 20</td>
<td>&gt;10 to 15</td>
</tr>
<tr>
<td>C</td>
<td><strong>Stable Flow of Traffic / Acceptable Delays</strong> Restricted traffic flow that remains stable but with significant interactions with other drivers in the traffic stream. Drivers’ general level of comfort and convenience declines noticeably at this level.</td>
<td>&gt;20 to 35</td>
<td>&gt;15 to 25</td>
</tr>
<tr>
<td>D</td>
<td><strong>Approaching Unstable Flow of Traffic / Tolerable Delays</strong> High-density traffic flow in which drivers’ speed and freedom to maneuver are severely restricted and in which drivers’ comfort and convenience have declined even though the traffic flow remains stable.</td>
<td>&gt;35 to 55</td>
<td>&gt;25 to 35</td>
</tr>
<tr>
<td>E</td>
<td><strong>Unstable Flow of Traffic / Significant Delays</strong> Unstable traffic flow at or near the capacity of the road with poor levels of comfort and convenience for drivers.</td>
<td>&gt;55 to 80</td>
<td>&gt;35 to 50</td>
</tr>
<tr>
<td>F</td>
<td><strong>Forced, Unpredictable Flow of Traffic / Excessive Delays</strong> Forced traffic flow in which the amount of traffic approaching a point exceeds the amount that can be served by the roadway capacity. LOS F is characterized by stop-and-go waves of traffic, poor travel times, low comfort and convenience, and increased possibility of accidents.</td>
<td>&gt;80</td>
<td>&gt;50</td>
</tr>
</tbody>
</table>

Sources: Descriptions based on Transportation Research Board 2000 and Virginia DOT, no date

a Overall intersection level of service and average delay (seconds/vehicle) for all approaches.

b Level of service and delay (seconds/vehicle) for the worst approach only.
4.1.2 Existing Conditions

4.1.2.1 Existing Crossings

The UTA-owned right-of-way crosses many streets at grade. Because the right-of-way has not been used for several years, there are currently no intersection controls or crossing treatments (such as crossing gates or flashers) at these crossings.

4.1.2.2 Existing Transit Service

The existing transit services in the transportation evaluation area are a TRAX light-rail transit (LRT) line and several bus routes as shown in Figure 4-1 below.

Existing Light Rail

UTA’s North-South TRAX LRT line and the Sandy/University line operate at the western edge of the UTA-owned right-of-way. These routes share the same track and stations near the UTA-owned right-of-way. The North-South LRT line operates every 15 minutes from 6 AM to 12 AM between the Salt Lake Central Station and the Sandy Civic Center Station. The Sandy/University line operates every 30 minutes from 6 AM to 8 PM between the University of Utah Medical Center Station and the Sandy Civic Center Station. About 1,800 passengers board TRAX at the Central Pointe Station each day; the park-and-ride lot at the station has 57 parking spaces.

UTA is currently constructing the Mid-Jordan line, which will join the North-South trunk line at 6200 South and use the Central Pointe Station, and the West Valley TRAX Line, which will connect to the North-South trunk line at about 2230 South.

Existing Bus Transit

UTA operates several bus routes near the UTA-owned right-of-way, most of which provide north-south service. The following bus routes currently intersect or parallel the UTA-owned right-of-way:

- Route 200: State Street North
- Route 203: 300 East
- Route 205: 500 East
- Route 209: 900 East
- Route 213: 1300 East/1100 East
- Route 307: Cottonwood Heights Fast Bus
- Route 320: Highland Drive Fast Bus
- Route 21: 2100 South/2100 East
Figure 4-1. Existing Transit Facilities

LEGEND
- UTA Bus Stop
- Along Route 21
- UTA Bus Stop
- Light Rail (LRT) Station
- UTA Bus Route
- UTA Bus Route 21
- Proposed Alignment
- Light Rail (LRT)
- Study Area Boundary

0.125 0.25 Miles
Most of these routes offer service throughout the day from 6 AM to about 10 PM. Routes 307 and 320 provide fast bus service during the peak commuting hours (from about 6 AM to 8:30 AM and from about 4 PM to 6:30 PM). Because few streets run east to west throughout the entire transportation evaluation area, Route 21 is the only east-west transit line in the evaluation area and is the primary route used by transit riders to access locations at either end of the evaluation area. Route 21 carried about 537,000 passengers in 2008. The typical weekday ridership on Route 21 is 1,900 passengers; on an average weekend day, 500 riders will use this service (Bartholomew 2009).

4.1.2.3 Existing Pedestrian and Bicycle Facilities

The area surrounding the UTA-owned right-of-way is urban and provides continuous facilities for pedestrians and cyclists. Pedestrian facilities throughout the evaluation area include sidewalks, marked pedestrian crosswalks on the entire street network, and signal countdown timers at some locations. There are Class II bicycle lanes (striped markings) on 1700 South, 300 East, 700 East, and Sugarmont Drive and Class III bicycle routes (signs only) on 1700 South, 600 East, and 2700 South.

According to the Salt Lake City Bicycle and Pedestrian Plan, bicycle facilities are planned on the following streets:

- Main Street
- 800 East connecting to Fairmont Park
- 900 East
- 1100 East continuing to Highland Drive
4.1.2.4 Existing Roadway Facilities

The street network in the evaluation area follows the established Salt Lake County street grid system. However, the street network in the evaluation area predominantly accommodates north-south travel. The major north-south arterials, which are State Street, 700 East, and 1300 East, are complemented by several minor arterials including 300 East, 500 East, 900 East, and Highland Drive (1100 East).

Within the evaluation area, the only continuous east-west arterial between 2700 South and 1700 South is 2100 South. There are no minor arterials to support east-west travel in the evaluation area. Although there are many east-west local streets and collectors, they usually intersect the north-south streets at unsignalized intersections. Because several of the north-south streets carry high levels of traffic on multiple lanes, it is difficult for drivers to turn onto or cross these north-south streets from the east-west streets, particularly during busy times of the day. The following key roads are within the evaluation area (see Figure 4-2 below):

- **State Street** is a major north-south arterial. In the evaluation area, it consists of three travel lanes in each direction, parallel on-street parking, and a center raised median with intermittent left-hand turn lanes. The annual average daily traffic (AADT) on State Street was about 33,000 in 2008, and the posted speed limit is 35 mph (UDOT 2008). There is a full freeway interchange with I-80 at about 2400 South.

- **700 East** is a major north-south arterial. In the evaluation area, it consists of three or four travel lanes in each direction, parallel on-street parking, and a center raised median with intermittent left-hand turn lanes. The AADT on 700 East was 40,500 in 2008, and the posted speed limit is 45 mph (UDOT 2008). There is a full freeway interchange with I-80 at about 2400 South.

- **1300 East** is a north-south arterial. In the evaluation area north of 2100 South, it consists of a single travel lane in each direction with a continuous center two-way left-turn lane. South of 2100 South, it consists of three travel lanes in each direction and a center raised median. Near the I-80 interchange, the AADT on 1300 East was 53,100 in 2008, and the posted speed limit is 30 mph (UDOT 2008).

- **2100 South** is the only major east-west arterial in the evaluation area between 2700 South and 1700 South. 2100 South consists of two travel lanes in each direction. In 2008, the AADT ranged from 17,600 to 26,400, and the posted speed limit is 30 mph (UDOT 2008). Most intersections have left- and right-turn lanes; however, 2100 South does not have center left-turn lanes or right-turn lanes at the many access points (such as driveways) between signalized intersections. There are also numerous mid-block pedestrian crossings on 2100 South.
Figure 4-2. Existing Roadway Facilities
4.1.2.5 Existing Traffic Conditions at Intersections

This section describes the existing traffic conditions (congestion levels, queuing, and delays) during the PM peak hour at intersections in the evaluation area that are close to the UTA-owned right-of-way.

The existing traffic conditions during the PM peak hour at major intersections are described below and summarized in Table 4.1-2 below.

- **State Street.** Intersections on State Street generally operate at acceptable levels of service, though traffic is frequently congested at the I-80 interchange during the PM peak hour. This is due in part to the configuration of the interchange; State Street narrows from three lanes in each direction to two lanes in each direction at the interchange. Vehicles on the eastbound off ramp are frequently backed up as well. Drivers who want to turn onto State Street from Truman Avenue experience long delays because there are few gaps in the traffic on State Street.

- **700 East.** Intersections on 700 East operate acceptably with the exception of the intersection with 2100 South. At this intersection, there are high volumes of traffic on all approaches during the PM peak hour, including left-turning traffic. Drivers who want to turn onto 700 East from Simpson Avenue experience considerable delays because there are few gaps in the traffic on 700 East.

- **900 East, Main Street, and 500 East.** Intersections on these streets operate at acceptable levels of service. Drivers who want to turn onto these streets from side streets experience only minor delays because these streets have fewer directional travel lanes, lower speeds, and less traffic than State Street and 700 East.
Table 4.1-2. Current Traffic Congestion and Delays at Intersections During the PM Peak Hour

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Type of Traffic Control</th>
<th>Conditions for the Worst Approach&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Conditions for the Overall Intersection&lt;sup&gt;b&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ID Location</td>
<td>Worst Approach</td>
<td>Delay (sec/veh)</td>
</tr>
<tr>
<td>1</td>
<td>State Street / 2100 South</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>2</td>
<td>State Street / Truman Ave.</td>
<td>EB/WB stop sign</td>
<td>EB &gt;50.0 F</td>
</tr>
<tr>
<td>3</td>
<td>State Street / I-80 WB</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>4</td>
<td>State Street / I-80 EB</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>5</td>
<td>700 East / 2100 South</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>6</td>
<td>700 East / Simpson Ave.</td>
<td>EB/WB stop sign</td>
<td>WB 46.0 E</td>
</tr>
<tr>
<td>7</td>
<td>700 East / I-80 WB</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>8</td>
<td>700 East / I-80 EB</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>9</td>
<td>900 East / 2100 South</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>10</td>
<td>900 East / Sugarmont Ave.</td>
<td>WB stop sign</td>
<td>WB 16.0 C</td>
</tr>
<tr>
<td>11</td>
<td>Main Street / Senior Way</td>
<td>EB stop sign</td>
<td>EB 5.6 A</td>
</tr>
<tr>
<td>12</td>
<td>Main Street / Bowers Way</td>
<td>EB stop sign</td>
<td>EB 5.4 A</td>
</tr>
<tr>
<td>13</td>
<td>500 East / Wilmington Ave.</td>
<td>EB/WB stop sign</td>
<td>EB 8.5 A</td>
</tr>
<tr>
<td>14</td>
<td>500 East / Haven Ave.</td>
<td>EB/WB stop sign</td>
<td>WB 7.4 A</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers 2009

<sup>a</sup> Level of service and delay (seconds/vehicle) for the worst approach are reported for unsignalized intersections only.

<sup>b</sup> The overall intersection level of service and delay (seconds/vehicle) are the weighted averages of delays for all approaches. Percent demand served is over a peak hour.

4.2 Environmental Consequences

This section discusses the effects of the No-Action and Action Alternatives, including effects on regional mobility, traffic conditions, grade crossings, and pedestrians and bicyclists.

4.2.1 Methodology

4.2.1.1 Regional Travel Demand Modeling

Future travel demand (that is, anticipated trips) was forecasted to understand the future travel conditions and the degree to which the proposed transit project would affect future transportation conditions. To forecast the future travel demand, the project team used version 6.0 of the travel demand model maintained by WFRC. Version 6.0 incorporates land use, projected demographic data, and planned highway and transit improvements from WFRC’s 2007–2030 Wasatch Front Regional Transportation Plan. Version 6.0 was used to understand general travel conditions in the transportation evaluation area.
For subsequent modeling to project the transit ridership for the Action Alternative, the project team used version 6.1 from WFRC. This updated model version generally shares the same input data files as version 6.0 but differs in the assumptions applied during the mode choice estimation. WFRC and UTA made adjustments to mode choice coefficients based on feedback from FTA. Thus, the regional travel patterns and traffic growth modeled in version 6.0 remain valid, while version 6.1 provides a more credible estimate of transit ridership.

The base year for the WFRC travel model is 2005. Future-year (2030) forecasts for transit ridership and traffic volumes were estimated using inputs from WFRC, including projected information about population, employment, and the transit and roadway network. The project team completed model runs for each of the project alternatives for 2030 to compare their transportation impacts.

WFRC’s demographic data for 2030 show a slight decline in population and households in some traffic analysis zones in the evaluation area, which is not consistent with the actual growth patterns in the region or in each city. To adjust WFRC’s demographic data, the project team made assumptions about future population growth based on known future developments and meetings with officials from each city. These demographic adjustments accounted for developments that have been entitled and assumed a 3% growth in households within the traffic analysis zones that had negative household growth in the unadjusted WFRC demographic data.

### 4.2.1.2 Estimates of Future Traffic Volumes

The project team analyzed traffic operations during the PM peak hour for future (2030) conditions. Traffic volumes for 2030 were estimated using recent traffic counts, historical growth rates, and forecasted volumes from the WFRC regional travel model. Linear annual growth factors were estimated for each intersection approach using the base year (2005) and future year (2030) forecast volumes. These growth factors were checked using UDOT’s historical data published in *Traffic on Utah Highways* (UDOT 2008). The growth factors were then applied to existing intersection volumes. An iterative procedure was used to adjust future volumes to balance intersection approach and departure volumes. UDOT was consulted while the project team developed these growth factors.

### 4.2.1.3 Grade Crossing Analysis

Grade crossings associated with the Action Alternative were analyzed to determine the effect of this alternative on the surrounding transportation system. The UTA-owned right-of-way crosses 14 streets that range from local alleys to major arterials. The Action Alternative would include new gates, signals, and signs at crossing locations as determined appropriate by UTA’s design engineers and UDOT requirements.

The grade crossing analysis presented in Section 4.2.3.3, Traffic Congestion and Delays at Streetcar Crossings, assumes gated crossings at the following major streets: Main Street, State Street, 500 East, 700 East, and 900 East. The grade crossing analysis
specifically evaluates State Street and 700 East because these arterials carry substantially more traffic than do other intersecting streets. This analysis considered delays as traffic waits for streetcars to cross at the new grade crossings as well as vehicle queuing (lining up) between the grade crossings and adjacent intersections.

UDOT has been consulted throughout the grade crossing analysis. UDOT has been included in project activities since the inception of the Alternatives Analysis (AA) in 2007. A UDOT representative was included on the project steering committee, which met monthly over a 12-month period. During the AA phase of this project, UDOT reviewed a preliminary analysis of the State Street and 700 East crossings, and UTA submitted conceptual-level results for UDOT’s review and comment in August and October 2007.

UDOT reviewed revised and updated versions of models beginning in September 2009 during the Environmental Assessment phase of the project. No formal steering committee was assembled at this time; however, coordination meetings were held with UDOT in August and October 2009, in addition to their participation in the agency scoping meeting in October 2009. UDOT has reviewed and commented on the technical analysis including models submitted in September (existing conditions) and October (the No-Action Alternative and the Action Alternative on opening day [2015] and 2030).

The project team addressed UDOT’s comments on the existing conditions model by collecting additional data and further refining the model. UDOT’s comments noted in their September 2009 letter (see Appendix A, Pertinent Correspondence) regarding the No-Action and Action Alternatives focused primarily on mitigation measures, and the project team has since incorporated additional mitigation measures into the Environmental Assessment. In addition, UDOT submitted a letter on June 16, 2010, concurring with the concept of at-grade streetcar crossings of 700 East and State Street (see Appendix A, Pertinent Correspondence). UTA will continue to coordinate with UDOT on grade crossings through the preliminary engineering and final design phases of the project.

4.2.2 No-Action Alternative

Under the No-Action Alternative, the Sugar House Streetcar Project would not be built, but the improvements in the WFRC regional transportation plan would continue to be implemented. The only roadway improvement in the study area included in the WFRC long-range plan is widening I-80 in Phase 3 of the plan (2026–2030).

The 2030 baseline transit system is the transit system that would be in place under the No-Action Alternative. This baseline transit system is based on WFRC’s Regional Transportation Plan, except for a streetcar line in the UTA-owned right-of-way in Sugar House. The transit improvements in WFRC’s long-range plan are:

- Bus rapid transit on State Street in Phase 2 of the plan (2016–2025).
- Bus rapid transit on 1300 East/Highland Drive in Phase 3 of the plan. This project would be primarily on 1300 East; however, through the project study area the bus rapid transit is shown on Highland Drive.
Traffic conditions under the No-Action Alternative are shown in Table 4.2-1, Traffic Congestion and Delays at Intersections During the PM Peak Hour with the No-Action and Action Alternatives in 2030, on page 4-15 and are included in Section 4.2.3, Action Alternative, to provide a comparison between these alternatives.

4.2.3 Action Alternative

4.2.3.1 Transit Improvements and Regional Mobility

This section discusses the improvements to transit ridership and regional mobility as a result of the Action Alternative. The WFRC travel demand model version 6.1 was used to develop primary estimates of ridership on the future streetcar line. By 2030, the proposed streetcar line is projected to carry 2,000 riders per day, 550 of whom are riders new to the transit system who would otherwise drive. Assuming an average trip length of 6.2 miles, this additional transit use would mean about 3,400 fewer daily vehicle-miles traveled on the roadway network.

With the Action Alternative, bus ridership on 2100 South (Route 21) would be 1,900 riders per day, or about what it is today. No modifications to Route 21 have been included in the Action Alternative. Of the 2,000 streetcar riders, 930 are projected to board and alight at the existing 2100 South TRAX station, and many of these riders would continue their trip on TRAX. The Action Alternative would increase connections to other mass transit routes, including the planned BRT route on Highland Drive.

Because the proposed streetcar route is relatively short, the regional travel model lacks the sensitivity to analyze local land uses and the pedestrian scale at which the proposed system would operate. Additional modeling was prepared using direct ridership forecast modeling to supplement the regional model output and provide a range of reasonable future streetcar ridership. Direct ridership models use multivariate regression based on empirical local data to determine the station characteristics that most influence transit patronage for light rail, commuter rail, and heavy rail. This tool is calibrated to the UTA system. Using this methodology, the upper range of streetcar ridership is predicted to be 3,400 riders per day.

4.2.3.2 Traffic Congestion and Delays at Intersections

This section describes traffic congestion and delays in the PM peak hour in 2030 at intersections of streets that would cross the proposed streetcar line.

Table 4.2-1, Traffic Congestion and Delays at Intersections During the PM Peak Hour with the No-Action and Action Alternatives in 2030, on page 4-15 and Figure 4-3, Results of 2030 Traffic Analysis, on page 4-16 present the congestion and delay in 2030 with the No-Action and Action Alternatives. Because many intersections under the No-Action Alternative would operate at an unacceptable level of service in 2030, the project team assumed that the streetcar line would substantially affect traffic conditions if the percent demand served at an intersection differed by more than 5% from the conditions...
under the No-Action Alternative (in other words, the congestion and delay would be measurably worse because of the streetcar line).

The project team assumed that a traffic signal would be installed at 900 East/Sugarmont Avenue under the Action Alternative. This signal would be justified by the amount of traffic projected at the intersection in 2030 without the streetcar line.

The future traffic conditions during the PM peak hour at major intersections are described below and summarized in Table 4.2-1 below.

- **State Street.** Intersections on State Street would generally operate at failing levels of service (LOS F) under the No-Action Alternative. As described in Section 4.1.2.5, Existing Traffic Conditions at Intersections, southbound State Street is congested at I-80 in part because the through lanes narrow from three lanes to two lanes under the freeway overpass. This resulting traffic queue causes long delays for drivers on Truman Avenue because there are few gaps in the traffic on State Street.

  The Action Alternative would create gaps in the southbound traffic stream on State Street when the streetcar crosses. This would allow northbound drivers who want to turn left at Truman Avenue to turn, thereby improving the percent demand served at State Street/Truman Avenue by about 5%. Because more northbound drivers who want to turn left at Truman Avenue would be able to pass through the intersection, vehicles would no longer queue back into the northbound through lanes on State Street. This would improve the northbound traffic flow on State Street and would increase the percent demand served at the State Street/2100 South intersection by about 3%. Without the Action Alternative, it is likely that some drivers who would want to turn onto Truman Avenue from northbound State Street would find an alternate route when faced with long delays and long vehicle queues rather than block the through lanes on State Street.

- **700 East.** Intersections on 700 East would be congested in 2030, and there would be failing levels of service at 2100 South and long delays at side streets without traffic signals. The I-80 interchange would not be as congested at 700 East as it would be at State Street because 700 East maintains three through lanes under the I-80 overpass. Percent demand served would not change significantly with the Action Alternative.

- **900 East, Main Street, and 500 East.** Intersections on these streets would operate at acceptable levels of service in 2030. Drivers who want to turn onto these streets from side streets would experience only minor delays because these streets have fewer directional travel lanes, lower speeds, and less traffic than State Street and 700 East.
Table 4.2-1. Traffic Congestion and Delays at Intersections During the PM Peak Hour with the No-Action and Action Alternatives in 2030

<table>
<thead>
<tr>
<th>ID</th>
<th>Intersection</th>
<th>No-Action Alternative</th>
<th>Action Alternative</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Type of Traffic Control</td>
<td>Worst Approach^a</td>
<td>Delay (sec/veh)^a</td>
</tr>
<tr>
<td>1</td>
<td>State Street / 2100 South</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>2</td>
<td>State Street / Truman Ave.</td>
<td>EB/WB stop sign</td>
<td>EB</td>
</tr>
<tr>
<td>3</td>
<td>State Street / I-80 WB</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>4</td>
<td>State Street / I-80 EB</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>5</td>
<td>700 East / 2100 South</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>6</td>
<td>700 East / Simpson Ave.</td>
<td>EB/WB stop sign</td>
<td>EB</td>
</tr>
<tr>
<td>7</td>
<td>700 East / I-80 WB</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>8</td>
<td>700 East / I-80 EB</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>9</td>
<td>900 East / 2100 South</td>
<td>Traffic signal</td>
<td>—</td>
</tr>
<tr>
<td>10</td>
<td>900 East / Sugarmont Ave.</td>
<td>WB stop sign^c</td>
<td>WB</td>
</tr>
<tr>
<td>11</td>
<td>Main Street / Senior Way</td>
<td>EB stop sign</td>
<td>EB</td>
</tr>
<tr>
<td>12</td>
<td>Main Street / Bowers Way</td>
<td>EB stop sign</td>
<td>EB</td>
</tr>
<tr>
<td>13</td>
<td>500 East / Wilmington Ave.</td>
<td>EB/WB stop sign</td>
<td>EB</td>
</tr>
<tr>
<td>14</td>
<td>500 East / Haven Ave.</td>
<td>EB/WB stop sign</td>
<td>EB</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers 2009

^a Level of service and delay (seconds/vehicle) are reported for the worst approach for unsignalized intersections. For signalized intersections, level of service and delay are reported for the overall intersection and are the weighted averages of the delays from all approaches.

^b The percent demand served is reported for the overall intersection, including all approaches. Percent demand served is over a peak hour.

^c Under the Action Alternative, there would be a traffic signal at the 900 East/Sugarmont Avenue intersection.
Figure 4-3. Results of 2030 Traffic Analysis
4.2.3.3 Traffic Congestion and Delays at Streetcar Crossings

Because State Street and 700 East carry high volumes of traffic and are major arterials, the project team conducted additional analysis to understand how at-grade streetcar crossings at these locations would affect traffic congestion and delays. UTA has not made a final decision about the type of traffic control that would be used, but, in order to analyze the worst-case scenario, this analysis assumes that at-grade crossings are controlled by actuated railroad gates. Additional sensitivity analysis has been performed to understand how a signal crossing would differ from a gated crossing in terms of its effects on congestion and delays. For more information, see the Sugar House Streetcar Traffic Micro-Simulation Memorandum dated December 24, 2009, which is available by contacting the Utah Transit Authority at 200 South 669 West, Salt Lake City, Utah, 84101 or (801) 262-5626.

Crossing gates detect an approaching streetcar and stop vehicle traffic to minimize the delay for the streetcar. For this analysis, the project team assumed that the gate would stop traffic for 37 to 42 seconds (20 seconds of warning time, 5 to 10 seconds of crossing time, and 12 seconds for the gate to retract). The streetcar was assumed to operate every 15 minutes both eastbound and westbound, so streetcars would stop traffic eight times at each crossing during the peak hour.

700 East Crossing

The Action Alternative would not contribute to a large increase in traffic congestion along 700 East and State Street compared to the No-Action Alternative in 2030. The increase in traffic delay associated with the streetcar line on 700 East would be due to the interruption of free-flowing traffic at the streetcar crossing. During a 1-hour simulation, the streetcar system operating at 15-minute headways would interrupt traffic up to eight times for 37 to 42 seconds each time. Averaged over about 5,200 vehicles that would cross the streetcar alignment on 700 East during the peak hour, the average delay is estimated to be about 3.9 seconds per vehicle. Thus, the total delay created by the streetcar system during the peak hour on 700 East would be about 5.5 to 6 hours of vehicle delay that would not otherwise exist under the No-Action conditions.

It is important to note the distinction between delay and congestion when looking at 700 East. The Action Alternative would not cause 700 East to become congested. However, the Action Alternative would cause vehicles to be delayed about 3.9 additional seconds due to the streetcar crossing. At the 700 East streetcar crossing, vehicle queues would dissipate after each streetcar arrival, as demonstrated using traffic micro-simulation and summarized in Chart 4.2-1, Vehicle Queues During the PM Peak Hour with the Action Alternative in 2030, on page 4-19. Because vehicle queues would clear, the streetcar crossing on 700 East would impose delay on some drivers but would not create a system bottleneck that causes chronic congestion.
State Street Crossing

Measuring the traffic impact caused by the streetcar system on State Street is more complicated because peak-hour traffic conditions in 2030 are expected to be heavily congested (LOS F) in both directions between State Street and I-80. This congestion would exist without the streetcar system under the No-Action conditions. Analysis of 700 East illustrates the streetcar system’s impact on a similar arterial under free-flow conditions; if State Street were not congested, it is expected that similar delay would be imposed on vehicle traffic. In congested conditions, the streetcar system will simply interrupt traffic that is already moving slowly or stopped and could increase the length of standing vehicle queues.

The reported delay at the State Street crossing represents failing conditions (that is, LOS F). As discussed in Section 4.1.2.5, Existing Traffic Conditions at Intersections, the cause of this delay is largely the State Street/I-80 interchange. Table 4.2-2 shows the projected congestion and delay at the proposed crossings on State Street and 700 East in 2030.

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Type of Traffic Control</th>
<th>Conditions for Vehicles</th>
<th>Conditions for Streetcars</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ID Location</td>
<td>Average Delay (sec/veh)a</td>
<td>LOS a</td>
</tr>
<tr>
<td>1</td>
<td>State Street / UTA-owned right-of-way</td>
<td>&gt;80.0</td>
<td>F</td>
</tr>
<tr>
<td>2</td>
<td>700 East / UTA-owned right-of-way</td>
<td>&lt;5.0</td>
<td>A</td>
</tr>
</tbody>
</table>

Source: Fehr & Peers 2009

a Level of service and delay represent the vehicle approach delay averaged over the total vehicles during the peak hour.
b Percent demand served is reported for vehicles only.
c Level of service and delay represent the average streetcar approach delay.
d Percent demand served is reported for streetcars only.

Chart 4.2-1 below illustrates the maximum lengths of vehicle queues during the 2030 PM peak hour at crossings at 700 East and State Street. The blue line in each graph shows the maximum expected length of the vehicle queue during the 1-hour simulation; the peaks correspond to times when the crossing control stops vehicles so that the streetcar can pass by. The available space for queued vehicles is shown as a bold, black horizontal line and represents the distance to the nearest intersection with a traffic signal.

This analysis indicates that the Action Alternative in 2030 would not create northbound vehicle queues long enough to affect adjacent intersections with traffic signals on State Street or 700 East, including the I-80 interchange ramps.

Southbound vehicle queues on State Street would extend beyond 2100 South and would not recover during the 1-hour analysis period. However, this congestion is partly due to
the I-80 interchange. In 2030 under the No-Action Alternative, southbound vehicle queues are expected to extend from I-80 to 2100 South. The Action Alternative would worsen this congestion and cause vehicle queues past 2100 South. See Section 4.2.3.5, Mitigation Measures for Transportation Impacts, for mitigation measures to reduce these vehicle queues.

Chart 4.2-1. Vehicle Queues During the PM Peak Hour with the Action Alternative in 2030

Additional analysis was performed to estimate the effects of the opening year using 2009 as a proxy year for 2012 conditions. This analysis is discussed in the *Sugar House Streetcar Traffic Micro-Simulation Memorandum* dated December 24, 2009 (Fehr & Peers 2009).

**4.2.3.4 Effects on Bicyclists and Pedestrians**

Because the streetcar line would be located in its own right-of-way, UTA does not anticipate any negative impacts to existing pedestrian and bicycle activities. The Parley’s Trail, which is a separate project with a separate sponsor and is planned within the UTA-owned right-of-way, could be affected by the narrow right-of-way at some locations along the corridor, including 900 East to McClelland Street and 400 East to 500 East. In these locations, the UTA-owned right-of-way might not be wide enough to accommodate the proposed trail. See Section 4.2.3.5 below for measures to reduce effects on pedestrians.
The streetcar line is anticipated to generate additional pedestrian activity at stations. Considerations for pedestrian safety at major crossings such as 700 East and State Street are discussed in Section 4.2.3.5 below.

### 4.2.3.5 Mitigation Measures for Transportation Impacts

Mitigation measures will be necessary to prevent vehicles from blocking the streetcar crossing at State Street. These measures will include, at minimum, signs and lighted warning devices.

The streetcar stations could generate additional pedestrian activity. At stations adjacent to higher-volume streets (namely State Street and 700 East) where there are currently no pedestrian facilities for safe crossing, mitigation will include one of the following measures:

- Placing a streetcar stop or minimal station on the east and west sides of the street so that pedestrians do not need to cross the street to access the streetcar. This is the approach preferred by UTA.

- Placing the station one-half to one block away from the street to discourage pedestrians from crossing.
Chapter 5: Coordination

Public and agency involvement is critical to the success of any project that could affect the community. The planning for the Sugar House Streetcar Project involved extensive coordination and consultation with the affected community and Cities. The Sugar House Streetcar Project team proactively shared project information with and sought comments from the public, resource agencies, and municipalities throughout the study process. The planning process for the Sugar House Streetcar Project was structured and implemented to ensure that all relevant factors were considered, including the affected community’s concerns and issues related to the project’s purpose and need, engineering solutions, social impacts, environmental impacts, transportation impacts economic effects, financing, and other items of concern to the community.

The public and agency involvement for the Sugar House Streetcar Project picks up where the Sugar House Transit Corridor Alternatives Analysis left off. This chapter summarizes the public coordination that took place for the Alternatives Analysis, then summarizes the consultation and coordination activities that were undertaken specifically for the Sugar House Streetcar Project.

5.1 Previous Coordination Conducted for the Sugar House Transit Corridor Alternatives Analysis

Public input plays an important role in identifying issues and generating solutions regarding future improvements to the Sugar House Streetcar study area. Public participation was an important part of the Sugar House Transit Corridor Alternatives Analysis (AA); almost one-third of the effort of the AA study involved public outreach and education. The public process for the AA study was a multileveled approach to educate residents, business owners, and city officials about the potential for a transitway in the area and to receive input and comments. Outreach efforts consisted of stakeholder committee meetings, interviews with individual stakeholders, public meetings, and presentations to city councils.

A Steering Committee was established to guide the process and assist in the analysis of alternatives. The Steering Committee consisted of representatives from each of the Cities. Representatives included staff from public works, transportation, mayors’ offices, community and economic development, and the Salt Lake City Redevelopment Agency. The Steering Committee also included representatives from UTA, UDOT, and WFRC. The Steering Committee was responsible for reviewing and evaluating project information and progress to be sure they were consistent with the project goals and met the purpose of and need for the project.
A separate stakeholder committee was also established that consisted of community council members, special-interest groups, developers, and citizens. This group met four times at critical milestones over the course of the study. Meeting topics included introducing the project, developing goals and objectives, evaluating alternatives, and wrapping up the AA study to discuss next steps and funding options.

The AA team also conducted an individual interview with each of the 17 stakeholders on the stakeholder committee in order to gain an overall understanding of sentiments toward a major transit project in the area.

Two public open houses were held at critical points during the Sugar House Transit Corridor Alternatives Analysis. On April 2, 2007, UTA hosted a public open house at the Columbus Community Center at 2530 South 500 East in South Salt Lake. The purpose of the open house was to introduce the project to the public, describe the existing conditions in the study area, present the “universe of alternatives” to meeting attendees, and gain feedback from the public on developing goals and objectives for the project. Advertising for the first public open house included direct mailers to over 1,500 residents along the UTA-owned right-of-way, postings on city websites, newspaper articles, and announcements in city newsletters.

A second public open house was held on July 12, 2007. This open house was held at the Sprague Library at 2131 South 1100 East in Sugar House. The purpose of this second meeting was to present the shortened list of alternative alignments and modes carried through for detailed study and to receive feedback for the preferred mode, alignment, and station locations. Advertising for the event used the same strategies as for the first public open house; in addition, flyers were posted throughout the study area.

A summary of the comments received at both public meetings is included in Appendix B4, Coordination Completed for Environmental Assessment and Alternatives Analysis.

5.2 Agency Coordination Conducted for the Sugar House Streetcar Project

Throughout the EA process, UTA has coordinated with local, state, and federal agencies that oversee the management of natural resources in the project area. Since these agencies oversee impacts and issue permits regarding their resource areas, it is important to include them from the initial scoping activities and throughout the project’s development. In this way, issues are identified early so that they can be properly considered and, if necessary, avoided, minimized, or mitigated as the project progresses.

A public meeting will be held after the Sugar House Streetcar EA is released. In addition, if FTA finds that an Environmental Impact Statement is warranted for this project, FTA and UTA would then initiate scoping as required under 40 CFR 1501.7.
5.2.1 **Agency Scoping Conducted for the Sugar House Streetcar Project**

An agency scoping meeting was held on September 22, 2009, at the UTA office (200 South 669 West in Salt Lake City) with members of the project team and agency representatives who were interested in the project. Letters of notification were mailed in early September to about 35 agencies that represent interests in the Sugar House Streetcar study area. The list of invitees was taken from the Sugar House Transit Corridor Alternatives Analysis phase. These invitations included a brief history of the Sugar House Streetcar Project, invited agency representatives to attend the agency scoping meeting, and solicited agency comments on the resources in the Sugar House Streetcar study area.

The purposes of the meeting were to provide the attendees with an understanding of the project’s background, explain the reason for the EA, and obtain agency input on the project. The agency representatives were invited to comment on issues of special concern to them.

In addition to project team members, nine agency representatives attended the September 22, 2009, meeting. The list of invitees, the sign-in sheet, and the meeting notification materials are included in Appendix B4, Coordination Completed for Environmental Assessment and Alternatives Analysis.

5.2.2 **Additional Agency Coordination Conducted for the Sugar House Streetcar Project**

As part of the effort to identify historic properties in the area of potential effects and assess the effects to those properties, Section 106 consultation activities are being conducted among FTA, UTA, and several agencies, tribes, and organizations. Among those agencies consulted were the Utah State Historic Preservation Office (both the Preservation and Antiquities Departments), federally recognized Native American tribes, and other potential consulting parties. Four parties accepted the invitation to become formal consulting parties: Janice Lew with the Salt Lake City Planning Department, Warren Lloyd with the Salt Lake City Historic Landmarks Commission, Søren Simonsen with the Salt Lake City Council, and Susan Petheram with the Sugar House Community Council Historical Committee. For more information, see Section 3.9.3, Agencies, Tribes, and Other Consulting Parties and Their Roles.
5.2.3 Agency Comments on the Sugar House Streetcar Project

The following comments were received from agencies prior to the release of the EA (for reproductions of these comments, see Appendix B4, Coordination Completed for Environmental Assessment and Alternatives Analysis):

- **Natural Resources Conservation Service (Elise Boeke):** NRCS only comments on projects that will primarily impact private agricultural lands.

- **UDOT (Richard Manser):** UDOT requests that the EA address in detail the traffic impacts of new, at-grade rail crossings on 700 East and State Street. UDOT believes that the traffic influence of these crossings extends through the I-80 interchanges and ramps and the EA needs to determine and address freeway operations impacts. The adverse impacts of pedestrians crossing at the same locations need to be fully understood and addressed with the project. Physical separation of the pedestrian crossings and possibly the streetcar crossings may be justified due to safety concerns, delay to north-south travel, and increased pollution associated with the delay.

UTA continues to work with UDOT to address their concerns expressed in the letter dated September 22, 2009. UDOT provided a letter of support for the concept of at-grade crossings of State Street and 700 East in a letter dated June 16, 2010 (see Appendix A, Pertinent Correspondence).

In addition, Janice Lew of the Salt Lake City Planning Department provided a list of designated historic structures in Salt Lake City.

5.3 Public Coordination Conducted for the Sugar House Streetcar Project

5.3.1 Website for the Sugar House Streetcar Project

The Sugar House Streetcar website, [www.rideuta.com/projects/sugarhouseTransitStudy](http://www.rideuta.com/projects/sugarhouseTransitStudy), is referenced on the UTA home page and allows the public to view current Sugar House Streetcar Project information. The website provides all project-related materials and is updated periodically as new information becomes available. The site includes the following elements:

- Upcoming project events and recent news
- Overview of and background information about the project
- Documents in portable document format (PDF)
- Map of the preliminary alignment
- Comment forms and contact information
5.3.2 Public Meeting, Comments, and EA Distribution for the Sugar House Streetcar Project

The official comment period for this EA is from November 19, 2010, to December 31, 2010, and a public meeting will be held during this period.

UTA will hold the public meeting on December 9, 2010, at the Sprague Library, 2131 South 1100 East, Salt Lake City, Utah. The meeting will be held in an open-house format from 5:00 PM to 7:00 PM. The meeting will be accessible according to the requirements of the Americans with Disabilities Act (ADA).

The public can comment on this EA using a variety of methods including traditional mail, e-mail, comment form at the meeting, and recorded comments at the meeting.

- Comments can be mailed to the Sugar House Streetcar Project, c/o Kerry Doane, UTA, 669 West 200 South, Salt Lake City, Utah, 84101.
- Comments can be e-mailed to sugarhouse@rideuta.com.

The availability of the EA will be announced using local media outlets and will be posted on the project website. Copies of the EA will be distributed to the local libraries and UTA facilities listed in Table 5.3-1. An electronic copy is available on the project website, www.rideuta.com/projects/sugarhouseTransitStudy, and CDs of the EA will also be provided on request. For a copy of this EA, contact Kerry Doane at (801) 237-1964.

<table>
<thead>
<tr>
<th>Table 5.3-1. Public Distribution Locations for EA Hard Copies and CDs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
</tr>
<tr>
<td>Sprague Library</td>
</tr>
<tr>
<td>South Salt Lake Library</td>
</tr>
<tr>
<td>Utah Transit Authority – Frontlines Headquarters</td>
</tr>
<tr>
<td>Utah Transit Authority – Meadowbrook</td>
</tr>
</tbody>
</table>
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Chapter 6: Section 4(f) and 6(f) Evaluation

This chapter evaluates the use of Section 4(f) and Section 6(f) resources by the proposed Sugar House Streetcar Project.

**Section 4(f).** Section 4(f) (49 USC 303) of the Department of Transportation Act of 1966 applies to publicly owned parks, recreation areas, and wildlife and waterfowl refuges and publicly or privately owned significant historic properties. The requirements of Section 4(f) apply only to agencies within the U.S. Department of Transportation (USDOT) (for example, FTA, FHWA, and the Federal Aviation Administration). This chapter discusses Section 4(f) resources starting in Section 6.1, Regulatory Setting.

**Section 6(f).** State and local governments often obtain grants through the Land and Water Conservation Fund (LWCF) Act of 1965 (16 USC 460l-4) to acquire or make improvements to parks and recreation areas. Section 6(f) of this Act prohibits the conversion of property acquired or developed with these grants to a non-recreational purpose without the approval of the National Park Service. There are no Section 6(f) properties in the Section 6(f) evaluation area. (The evaluation area for Section 6(f) properties consists of the area within one-half mile of the UTA-owned right-of-way.) Therefore, the Action Alternative would not convert any land acquired with LWCF funds, so no Section 6(f) use would occur as a result of the project. Because there would be no use of Section 6(f) resources, Section 6(f) is not discussed further in this chapter.

### 6.1 Regulatory Setting

Section 4(f) requirements are stated in 49 USC 303, as amended, and 23 CFR 774. The regulation 23 CFR 771 also includes amendments to Section 4(f) requirements as detailed in the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), which was enacted by Congress in 2005.

Section 4(f) prohibits USDOT agencies from approving the use of any Section 4(f) land for a transportation project, except as follows:

- First, the USDOT agency can approve the use of Section 4(f) land by making a determination that (1) there is no prudent and feasible alternative that would avoid the use of the Section 4(f) resource and (2) the project includes all possible planning to minimize harm to that property (23 CFR 774.3[a]).
- Second, the USDOT agency can approve the use of Section 4(f) property by making a finding of *de minimis* use for that property. (For a definition of *de minimis* use, see Section 6.2.5, Section 4(f) Use Findings)
FTA’s and FHWA’s Section 4(f) regulations are codified at 23 CFR 774. To provide additional context for the Section 4(f) findings in this chapter, the sections below provide information regarding each of the steps in the process for complying with Section 4(f):

- Identifying Section 4(f) resources
- Determining whether there is a use of any Section 4(f) resource
- Determining which of the uses, if any, are de minimis
- For any uses that are not determined to be de minimis, identifying and evaluating avoidance alternatives and finding the alternative that would do the least harm

### 6.2 Proposed Action

#### 6.2.1 Study Area

The project study area is bounded by I-15 on the west, 1300 East on the east, 1700 South on the north, and I-80 on the south. The new transit service would cover an area about 2 miles long.

#### 6.2.2 Purpose of and Need for the Project

The Sugar House Streetcar Project is not a traditional transportation facility designed principally to address congestion. Instead, the Sugar House Streetcar Project addresses both this issue and the need and opportunity for improved connectivity between the existing business district and nearby economic redevelopment areas in the Salt Lake City community of Sugar House and in a larger area of planned redevelopment along the corridor served by the planned project in both Salt Lake City and South Salt Lake.

Modern streetcars are a different form of transit than more conventional modes such as bus rapid transit and light rail. These modes primarily serve longer trips, often serving commuters from outlying areas to employment centers. Streetcars primarily function as urban circulators, supporting short transit trips and pedestrian accessibility within urban districts. The modern streetcar serves as an urban transit circulator to address the transportation needs of the residents, workers, students, and visitors traveling within the streetcar’s service area. UTA’s overall long-range transportation goal is to provide a safe, efficient, economical, attractive, and integrated transit connection that contributes to increased economic development within the study area and helps reduce reliance on auto travel and reduce auto parking requirements.
6.2.2.1 Purpose of the Project

The purpose of the Sugar House Streetcar Project is to address the need and opportunity for improved connectivity and increased mobility between the newly developing 2100 South area of South Salt Lake, including the Market Station Redevelopment Area (RDA), and the Salt Lake City community of Sugar House, which includes many existing businesses and attractions as well as several RDAs including the Granite Block development area and the Sugar House RDA.

Specifically, the purpose of the project is to:

• Contribute to improved connectivity on 2100 South and between neighborhoods and attractions in the Sugar House Streetcar study area and beyond
• Contribute to increased mobility on 2100 South
• Provide multimodal travel choices in the study area
• Increase mobility for short-range trips in the study area, especially pedestrian trips
• Provide connections to the regional transportation network, including the regional transit network
• Provide a transportation improvement that is pedestrian-friendly, is compatible with surrounding neighborhoods, and supports community and economic redevelopment

In addition to these items, the Cities of Salt Lake and South Salt Lake are partnering with UTA and have jointly developed characteristics that they would like the proposed transit service to include (UTA 2008). Both Cities are planning for walkable neighborhoods along the corridor (Market Station in South Salt Lake and Granite Block in Salt Lake City), and a primary goal of both Cities for this area of South Salt Lake and the Salt Lake City community of Sugar House is to preserve the community’s cultural identity while encouraging transit-oriented development and reducing urban sprawl. The desired characteristics of a transit system that would support these areas of South Salt Lake and Salt Lake City are:

• Serve local trips with frequent stops
• Travel at slow speeds
• Accommodate an urban linear park (trail)
• Provide safe and standardized pedestrian crossings
• Have broad local support
• Provide efficient transit-to-transit connections
• Be eligible for creative funding sources
6.2.2.2 Need for the Project

The need for the Sugar House Streetcar Project is a result of the following conditions:

- **Decreasing connectivity between neighborhoods and attractions in the Sugar House Streetcar study area and beyond.** Providing convenient access to major employment, commercial, educational, recreational, and activity centers in the Sugar House Streetcar study area is a key element of an integrated transportation system. The modern streetcar is needed to support both existing and future activity centers in and near the 2100 South corridor. These activity centers include the existing business districts as well as the redevelopment areas in both South Salt Lake and the Sugar House community of Salt Lake City. The existing business districts include a mix of shops, restaurants, bars, and coffee houses that are active throughout the day and evening. Without alternate means of mobility, increasing regional and local traffic congestion will isolate this corridor as an automobile-dependent area in an increasingly transit-served metropolitan region.

- **Decreasing mobility on 2100 South.** Traffic analysis shows that, by 2030, mobility will worsen during peak hours on 2100 South, which is the major east-west arterial in the study area. Continued population and employment growth in the study area has resulted in increased traffic on 2100 South that will exceed the roadway capacity by 2030. For example, the increased traffic on 2100 South has led to increased congestion and longer commutes. This level of traffic also makes it difficult for drivers on 2100 South to turn left to access residential areas and businesses (see Section 1.4.1, Population, Household, and Employment Growth in the Study Area, and Section 1.4.3, Traffic Congestion and Travel Demand).

- **Lack of proximity to the existing transit network.** Currently, the closest location where residents of South Salt Lake and the Salt Lake City community of Sugar House can access the UTA rail transit network is the Central Pointe TRAX Station at about 200 West 2100 South in South Salt Lake. The most common ways of accessing this station are by bus or automobile. Residents living on the east end of the study area need an alternate way to access the Central Pointe TRAX Station. Additionally, as construction in redevelopment areas in the study area moves forward, people from outside the neighborhoods in the Sugar House Streetcar study area who want to access the businesses and services in these areas also need an alternate way to travel to places such as Market Station and the Granite Block.

- **Lack of travel choices.** The modern streetcar is needed to improve transit service in the study area. Although most of UTA’s existing transit service is oriented toward traditional employment centers such as downtown Salt Lake City and suburban office parks in Murray and Sandy, the modern streetcar will also serve emerging activity centers, business districts, and neighborhoods in a manner...
that extends beyond the characteristics of the existing transit system. The travel choices for people who live or work in the study area are limited to automobiles, local bus service, or travel by auto to a light-rail station. Although some people walk or bicycle to the TRAX station, extending transit services into residential neighborhoods would provide alternatives for people who might not walk or bicycle or do not have other means to access the Central Pointe TRAX Station.

- **Lack of reliable travel times in the study area.** Congested traffic lengthens transit travel times and reduces the reliability of public transportation in the Sugar House Streetcar study area. The addition of alternate transit options could contribute to reduced vehicle congestion by encouraging people to take transit instead of driving along 2100 South. Moreover, providing a transit option on a dedicated right-of-way promotes more-reliable travel times compared to mixed-traffic transit.

- **Changing land-use patterns and increased development.** Land use in the study area is planned to change over time, primarily becoming denser and more diversified with multiple large-scale developments currently being planned. Local long-range planning and near-term redevelopment strategies by the City of South Salt Lake and Salt Lake City and regional planning by WFRC target portions of the Sugar House Streetcar study area for high-density, transit-oriented development. This denser pattern of development would result in increased travel demand that could not be met by the local road system and current transit service. New transit connections are needed to help meet the expected future transportation demand and planned land-use development goals and objectives of the City of South Salt Lake and Salt Lake City. The modern streetcar is needed to support policies of these Cities that describe specific ways to appropriately locate residential infill and nonresidential uses and to enhance design, pedestrian circulation, transit use, and streetscapes. These are shared goals with transit-oriented development since they provide ridership for a modern streetcar system and capture sales tax dollars through redevelopment. It is highly unlikely that this different pattern of redevelopment could be achieved in this area without the enhanced travel choices that this project would provide.
6.2.3 **Project Alternatives**

This EA evaluates two alternatives in detail: the No-Action Alternative and the Action Alternative (Modern Streetcar on the UTA-Owned Right-of-Way).

6.2.3.1 **No-Action Alternative**

The No-Action Alternative provides a baseline for comparing the travel benefits and other environmental impacts associated with other alternatives. The improvements associated with the improved bus service and build alternatives are those that could be made in addition to those that are part of the No-Action Alternative.

The No-Action Alternative includes the existing highway network (which is also part of the Action Alternative) plus the transportation improvements included in the WFRC Regional Transportation Plan. The No-Action Alternative includes planned and committed highway and transit facilities that are likely to exist in the year 2030, with the exception of the Sugar House Streetcar Project itself. The No-Action Alternative assumes that bus service continues “as is” on 2100 South between the Central Pointe TRAX Station (at about 250 West and 2100 South) and Foothill Boulevard (2700 East) with a 15-minute headway (that is, every 15 minutes). Stops for the current bus Route 21 are currently about every other block.

The No-Action Alternative assumes normal maintenance and replacement of existing facilities and equipment as their design life is exceeded.

6.2.3.2 **Action Alternative (Modern Streetcar on the UTA-Owned Right-of-Way)**

The Action Alternative is a modern streetcar system that would provide service between the Central Pointe TRAX Station at about 250 West and 2100 South in South Salt Lake and the Granite Block development at Highland Drive and 2100 South in the Salt Lake City community of Sugar House (a total of about 2 miles). The streetcar line would operate on the UTA-owned right-of-way along about 2300 South for its entire length. The route and proposed stations are shown in Figure 6-1 through Figure 6-6 below. As shown in the figures, the Action Alternative includes the following seven stations: Central Pointe TRAX, State Street, 300 East, Kearns/St. Ann’s (450 East), 700 East, 900 East, and Granite Block (about 1100 East). Stations could also be considered at 600 East and 800 East instead of at 700 East and 900 East.
Figure 6-1. Alignment Detail (1 of 6)

Legend:
- Light Rail (LRT) Station
- Proposed Alignment
- New Right-of-Way
- Guideway Curb
- Retaining Wall
- Light Rail (LRT)
- Existing ROW
- Platform
- Panel
- New Buffer Stop
- Median
- Study Area Boundary

Up to 5 substations will be required for streetcar operation. Location of the substations will be determined during final design.
Figure 6-2. Alignment Detail (2 of 6)

Legend:
- Light Rail (LRT) Station
- Proposed Alignment
- New Right-of-Way
- Guideway Curb
- Retaining Wall
- Light Rail (LRT)
- Existing ROW
- Platform
- Panel
- New Buffer Stop
- Median
- Study Area Boundary

Up to 3 substations will be required for streetcar operation. Location of the substations will be determined during final design.
Figure 6-3. Alignment Detail (3 of 6)

Legend:
- Light Rail (LRT) Station
- Proposed Alignment
- New Right-of-Way
- Guideway Curb
- Retaining Wall
- Light Rail (LRT)
- Existing ROW
- Platform
- Panel
- New Buffer Stop
- Median
- Study Area Boundary

Up to 3 substations will be required for streetcar operation. Location of the substations will be determined during final design.
Figure 6-4. Alignment Detail (4 of 6)

LEGEND
- Light Rail (LRT) Station
- Proposed Alignment
- New Right-of-Way
- Guideway Curb
- Retaining Wall
- Light Rail (LRT)
- Existing ROW
- Platform
- Panel
- New Buffer Stop
- Median
- Study Area Boundary

Up to 3 substations will be required for streetcar operation. Location of the substations will be determined during final design.
Figure 6-5. Alignment Detail (5 of 6)

LEGEND
- Light Rail (LRT) Station
- Proposed Alignment
- New Right-of-Way
- Guideway Curb
- Retaining Wall
- Light Rail (LRT)
- Existing ROW
- Platform
- Panel
- New Buffer Stop
- Median
- Study Area Boundary

Up to 3 substations will be required for streetcar operation. Location of the substations will be determined during final design.
Figure 6-6. Alignment Detail (6 of 6)

Up to 3 substations will be required for streetcar operation. Location of the substations will be determined during final design.
6.2.4 Use of Section 4(f) Resources

This section evaluates the impacts of the Sugar House Streetcar Project on Section 4(f) properties by type of use. Section 4(f) “use” is defined and addressed in the FTA regulations at 23 CFR 774.17. There are three types of “use” of a property under Section 4(f): use, temporary use, and constructive use.

- **Use** occurs “when land is permanently incorporated into a transportation facility.”

- **Temporary use** occurs “when there is a temporary occupancy of land that is adverse in terms of the statute’s preservation purpose as determined by the criteria in §774.13(d).” The regulation 23 CFR 774.13(d) defines five criteria that must be met to make a finding that a temporary occupancy is not a Section 4(f) use:
  1. The duration must be temporary.
  2. The scope of work must be minor.
  3. There must be no anticipated adverse physical impacts or interference with the activities or purpose of the resource on either a temporary or permanent basis.
  4. The resource must be fully restored.
  5. There must be documented agreement between the appropriate federal, state, or local agencies having jurisdiction over the resource.

- **Constructive use** of a Section 4(f) property as determined by the criteria in 23 CFR 774.15 occurs when there is no physical impact or use, but the project’s proximity impacts—for example, noise or visual impacts—are “so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired.” The regulations in 23 CFR 774.15(a) state that a substantial impairment occurs “only when the protected activities, features, or attributes of the resource are substantially diminished.” The FTA regulations provide specific instructions and examples for determining whether a constructive use has occurred, including causing noise levels that interfere with campground use, interfering with views of a significant historical building, or restricting access to a resource that is enjoyed by the public.

FTA is responsible for determining whether a project would result in the “use” of a Section 4(f) resource. This determination is made based on information developed during the NEPA process and considers input received from agencies with jurisdiction over the resource.
6.2.5 **Section 4(f) Use Findings**

For each Section 4(f) resource, FTA makes one of the following findings:

- No use
- *De minimis* use
- Use; not *de minimis*

**No Use.** A finding of “no use” is made when an alternative **avoids any direct physical impact on a Section 4(f) property and there would be no constructive or temporary use.** For historic properties, this Section 4(f) finding of “no use” corresponds to a finding of “no effect” or “no historic properties affected” for the Section 106 process (see Section 3.9.5, Environmental Consequences).

**De Minimis Use.** A finding of “*de minimis* use” is made when an alternative **involves a direct physical impact on a Section 4(f) resource but no adverse effect on the significant qualities of the resource.** In general, a finding of *de minimis* use requires a determination that the project will have no adverse effect on the protected activities, features, or attributes of the resource. In making this determination, FTA considers any avoidance, minimization, mitigation, or enhancement measures that have been incorporated into the project. If a finding of *de minimis* use is made for a Section 4(f) resource, the requirements of Section 4(f) are satisfied; an analysis of prudent and feasible avoidance alternatives is not required for *de minimis* uses. For historic properties, this Section 4(f) finding of “*de minimis* use” corresponds to a finding of “no adverse effect” for the Section 106 process (see Section 3.9.5, Environmental Consequences).

In addition, for historic properties, FTA’s finding of *de minimis* use requires the concurrence of the State Historic Preservation Office (SHPO), which has jurisdiction over historic properties (as well as archaeological sites, including historic linear resource sites, that qualify for Section 4(f) protection), and must be developed in consultation with any consulting parties involved in the Section 106 process. As part of the finding of effect, the Utah SHPO was asked to agree with FTA’s Section 4(f) finding of *de minimis* use for properties with a determination of “no adverse effect”; the SHPO concurred with FTA’s Section 106 determination (see Appendix A, Pertinent Correspondence).

For parklands and recreational resources, a finding of *de minimis* use requires the concurrence of the responsible agency.

**Use; Not De Minimis.** A finding of “use; not *de minimis*” is made when an alternative **involves a direct physical impact on a Section 4(f) resource and that impact would cause an adverse effect on the significant qualities of the resource.** This also includes temporary use or constructive use. This is the type of use that can be approved only if FTA finds that (1) there is no prudent and feasible alternative to the use of the resource and (2) the project includes all possible planning to minimize harm. For historic properties, this Section 4(f) finding of “use” corresponds to a finding of “adverse effect” for the Section 106 process (see Section 3.9.5, Environmental Consequences).
6.2.6 Section 4(f) Properties in the Sugar House Streetcar Project Area and Their Use

For the proposed Sugar House Streetcar Project, the project team conducted a review of potential Section 4(f) properties. Based on this review, the only 4(f) properties potentially affected by the project were historic properties.

6.2.6.1 Parks, Recreation Areas, and Wildlife and Waterfowl Refuges

Public lands that might qualify for the Section 4(f) regulations as parks, recreation areas, and refuges are also identified as part of the NEPA process. In general, the boundaries of publicly owned parks, recreation areas, and refuges are well established and can be readily identified. However, there are situations where the Section 4(f) status of publicly owned lands is unclear. For example, some publicly owned lands are managed for multiple uses or have no clear designation. In addition, some privately owned lands are considered publicly owned for the purpose of Section 4(f) because the lands have been made available for public use under a lease or easement. Also, publicly owned land can be considered a Section 4(f) resource if it is planned to be developed as a park, recreation area, or refuge.

Direct Use of Public Parks and Recreation Areas

Section 4(f) applies to publicly owned parks and recreation areas including those that are planned on publicly owned property. For the Sugar House Streetcar Project, the project team conducted an inventory of parks and recreation resources in the community facilities and recreation resources evaluation area (see Section 3.2, Social Environment). (There are no wildlife or waterfowl refuges in the Sugar House Streetcar study area.) The Action Alternative would not directly use any public parks or trails in the community facilities and recreation resources evaluation area.

Parks. Within the community facilities and recreation resources evaluation area are several recreation facilities administered by the local Cities and by Salt Lake County. Parks and recreation facilities are listed in Table 6.2-1 below.
Table 6.2-1. Parks and Recreation Facilities and Their Section 4(f) Uses

<table>
<thead>
<tr>
<th>Facility</th>
<th>Activities and Amenities</th>
<th>Location</th>
<th>Section 4(f) Use from Action Alternative?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chamber of Commerce park (no name)</td>
<td>Planned park; no details available</td>
<td>400 East and about 2300 South</td>
<td>No</td>
</tr>
<tr>
<td>Fairmont Community Park Pavilion</td>
<td>Pavilion, tables, fireplace, playgrounds, tennis courts, sand volleyball, swimming pool, soccer fields, pond, horseshoe pits, softball field, skate park</td>
<td>900 East 2361 South</td>
<td>No</td>
</tr>
<tr>
<td>Hidden Hollow Natural Area</td>
<td>Passive recreation, open space</td>
<td>About 1200 East and 2200 South</td>
<td>No</td>
</tr>
<tr>
<td>Parley’s Trail</td>
<td>Planned multiple-use trail</td>
<td>Along UTA-owned right-of-way</td>
<td>No</td>
</tr>
</tbody>
</table>

Sources: Salt Lake City 2005a, 2009; Boys and Girls Clubs of Greater Salt Lake 2009; Florence 2009; Salt Lake County 2009

*Trails.* Public trails are linear greenways through urban areas that provide recreation space while also serving as passive transportation corridors between neighborhoods and connecting congested areas to green space (Rails-to-Trails Conservancy 2000).

There are no existing trails in the community facilities and recreation resources evaluation area. However, part of the planned Parley’s Trail is proposed within the UTA-owned right-of-way and would run adjacent to the Action Alternative, although the project is separate from the Sugar House Streetcar Project and is not sponsored by UTA.

The trail is proposed to be developed as a multi-use trail (bicycle and pedestrian), and there will likely be a provision that UTA could relocate or remove segments of the trail from the right-of-way if UTA found such an action necessary for transit and safety purposes. According to 23 CFR 774.13(i):

> When a property is formally reserved for a future transportation facility before or at the same time a park, recreation area, or wildlife and waterfowl refuge is established and concurrent or joint planning or development of the transportation facility and the Section 4(f) resource occurs, then any resulting impacts of the transportation facility will not be considered a use as defined in §774.17. Examples of such concurrent or joint planning or development include, but are not limited to: (1) designation or donation of property for the specific purpose of such concurrent development by the entity with jurisdiction or ownership of the property for both the potential transportation facility and the Section 4(f) property; or (2) designation, donation, planning, or development of property by two or more governmental agencies with jurisdiction for the potential transportation facility and the Section 4(f) property, in consultation with each other.

Additionally, the FHWA 4(f) policy paper (question #17) states that Section 4(f) applies to planned 4(f) resources “when the public agency that owns the property has formally designated and determined it to be significant for park, recreation area, wildlife and waterfowl refuge purposes” (FHWA 2005). UTA has not formally designated any portion of the right-of-way for trail use. Therefore, the Parley’s Trail is not subject to Section
4(f); for more information, see Section 6.2.3.2, Action Alternative (Modern Streetcar on the UTA-Owned Right-of-Way).

**Constructive Use of Public Parks and Recreation Areas**

A *constructive use* occurs when there is no physical impact to or use of a resource, but the project’s proximity impacts—for example, noise or visual impacts—are “so severe that the protected activities, features, or attributes that qualify a resource for protection under Section 4(f) are substantially impaired.”

As explained above, the proposed Parley’s Trail that is proposed to run adjacent to and within the UTA-owned right-of-way is not subject to Section 4(f).

**Noise Impacts at Parks and Trails.** No noise impacts are predicted from the Action Alternative at any parks or existing trails. As stated in the FTA Noise and Vibration Manual (FTA 2006):

> Whether a park is noise-sensitive depends on how it is used. Most parks used primarily for active recreation would not be considered noise-sensitive. However, some parks—even some in dense urban areas—are used for passive recreation like reading, conversation, meditation, etc. These places are valued as havens from the noise and rapid pace of everyday city life, and they should be treated as noise-sensitive. The noise sensitivity of parks should be determined on a case-by-case basis after carefully considering how each facility is used. The state or local agency with jurisdiction over the park should be consulted on questions about how the park is used and how much use it gets.

No parks in the community facilities and recreation resources evaluation area are used for passive recreation.

**Visual Impacts at Park and Trails.** No substantial visual impacts are predicted at the Fairmont Park under the Action Alternative. People using some parts of Fairmont Park would have a direct view of the right-of-way. Because the park is already situated in an urban environment, the extent of the impacts from this change in the visual environment would depend on how the change is perceived by users. However, the railroad corridor is already part of the visual setting at Fairmont Park, and views from the park are not the main use of the Section 4(f) resource; therefore, no constructive use is expected.

No other proximity impacts are predicted to substantially impair any parks or trails under the Action Alternative.

**6.2.6.2 Historic Properties**

The Section 4(f) regulations define *historic site* to include any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places (NRHP). The term includes properties of traditional religious and cultural importance to Native American tribes that are included in, or are eligible for inclusion in, the NRHP. The consultation process established under Section
106 of the National Historic Preservation Act is used to identify properties that are listed on or are eligible for listing on the NRHP. Section 106 consultation involves thorough research and coordination with the SHPO and other consulting parties to identify and evaluate potential NRHP-listed properties in the area of potential effects (APE). The APE is the geographic area within which an undertaking could directly or indirectly alter the character or use of historic properties, if any such properties exist.

The results of the Section 106 process are documented in Section 3.9, Historic Properties. The results of the Section 106 process were used to identify historic properties that qualify for protection under Section 4(f).

**Direct Use of Historic Buildings**

Section 4(f) applies to all historic buildings that are eligible for the NRHP. To identify historic buildings, the project team conducted literature searches and surveys of historic resources in the Sugar House Streetcar study area. These studies documented all of the historic buildings in the study area that are at least 45 years old and identified which buildings are eligible for the NRHP.

A total of 74 properties containing historic buildings were identified. Of the 74 properties, 54 were considered eligible for the NRHP under either Criterion A or Criterion C. (For descriptions of the NRHP criteria, see Table 3.9-1, Criteria for Evaluating the Eligibility of Historic Resources for the NRHP.) Twenty-four of these eligible properties are listed as contributing resources of the Forest Dale Historic District, which is listed on the NRHP and through which the proposed streetcar project would pass. Seven properties in the Forest Dale Historic District are non-contributing.

Table 6.2-2 below summarizes the 54 properties and their eligibility for the NRHP. Determinations of eligibility were made in consultation with the Utah SHPO and other consulting parties.

UTA and FTA have determined, and the SHPO has concurred on, the NRHP eligibility of properties listed in this Section 4(f) evaluation and that Section 4(f) considerations do apply (see Appendix A, Pertinent Correspondence). Under the Action Alternative, of the 54 NRHP-eligible properties with historic buildings, 44 would experience “no historic properties affected” under Section 106, and therefore there would be no Section 4(f) use. The other 10 historic properties would be directly affected through minor strip takes of property and would experience “no adverse effect” under Section 106 and a de minimis use under Section 4(f). The “no adverse effect” under Section 106 to the Forest Dale Historic District would also be considered a de minimis use under Section 4(f).
### Table 6.2-2. NRHP-Eligible Historic Properties and Their Section 4(f) Uses

<table>
<thead>
<tr>
<th>Site Number, Name, or Address</th>
<th>Description</th>
<th>NRHP Criterion</th>
<th>Nature of Impact</th>
<th>Section 106 Effect Determination</th>
<th>Section 4(f) Use Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Archaeological Sites, Including Linear Historic Resource Sites</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42SL344</td>
<td>Utah Southern/Union Pacific Railroad</td>
<td>A</td>
<td>All tracks removed for new construction; existing tracks are modern and no historic features are present along the affected segment.</td>
<td>No adverse effect</td>
<td>De minimis use</td>
</tr>
<tr>
<td>42SL416</td>
<td>Denver &amp; Rio Grande Western (D&amp;RGW) Park City Branch/Salt Lake Eastern Railway</td>
<td>A</td>
<td>All tracks and features removed for new construction.</td>
<td>Adverse effect</td>
<td>Use</td>
</tr>
<tr>
<td><strong>Historic Districts</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Forest Dale Historic District</td>
<td>Historic district containing 249 buildings</td>
<td>Listed on the NRHP</td>
<td>One contributing railroad site (42SL416) removed. Removing the historic tracks and replacing them with a modern streetcar system would be in keeping with the overall historic context of the District.</td>
<td>No adverse effect</td>
<td>De minimis use</td>
</tr>
<tr>
<td><strong>Historic Buildings</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2208 South 1000 East</td>
<td>Ca. 1922 Bungalow residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>2207 S. Lincoln St.</td>
<td>Ca. 1922 Bungalow residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>2208 S. Lincoln St.</td>
<td>Ca. 1922 Bungalow residence</td>
<td>A</td>
<td>Strip take along south side yard of property of about 114 square feet out of 3,355 square feet (3% take). NOTE: Property encroaches into UTA-owned right-of-way; no indirect effect.</td>
<td>No adverse effect</td>
<td>De minimis use</td>
</tr>
<tr>
<td>2201 South 900 East</td>
<td>Ca. 1962 Service Bay Business</td>
<td>A</td>
<td>Strip take along south side yard of property of about 177 square feet out of 3,019 square feet (4% take). NOTE: Property encroaches into UTA-owned right-of-way; no indirect effect.</td>
<td>No adverse effect</td>
<td>De minimis use</td>
</tr>
<tr>
<td>875 E. Simpson Ave.*</td>
<td>Ca. 1915 Bungalow residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>867 E. Simpson Ave.*</td>
<td>Ca. 1948 Early Ranch residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>857 E. Simpson Ave.*</td>
<td>Ca. 1909 Bungalow residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
</tbody>
</table>
### Table 6.2-2. NRHP-Eligible Historic Properties and Their Section 4(f) Uses

<table>
<thead>
<tr>
<th>Site Number, Name, or Address</th>
<th>Description</th>
<th>NRHP Criterion*</th>
<th>Nature of Impact</th>
<th>Section 106 Effect Determination</th>
<th>Section 4(f) Use Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>841 E. Simpson Ave.*</td>
<td>Ca. 1897 Foursquare residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>827 E. Simpson Ave.*</td>
<td>Ca. 1919 Bungalow residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>819 E. Simpson Ave.*</td>
<td>Ca. 1897 Other Residential Type residence</td>
<td>C</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>805 E. Simpson Ave.*</td>
<td>Ca. 1909 Bungalow residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>801 E. Simpson Ave.*</td>
<td>Ca. 1902 Rectangular Block residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>783 E. Simpson Ave.*</td>
<td>Ca. 1900 Foursquare residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>779–781 E. Simpson Ave.*</td>
<td>Ca. 1913 Duplex residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>777 E. Simpson Ave.*</td>
<td>Ca. 1913 Bungalow residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>757 E. Simpson Ave.*</td>
<td>Ca. 1939 Residential Court</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>856 E. Wilmington Ave.*</td>
<td>Ca. 1910 Bungalow residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>850 E. Wilmington Ave.*</td>
<td>Ca. 1917 Bungalow residence</td>
<td>C</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>844 E. Wilmington Ave.*</td>
<td>Ca. 1935 Bungalow residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>832 E. Wilmington Ave.*</td>
<td>Ca. 1915 Bungalow residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>830 E. Wilmington Ave.*</td>
<td>Ca. 1915 Foursquare residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>828 E. Wilmington Ave.*</td>
<td>Ca. 1915 Foursquare residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
</tbody>
</table>
### Table 6.2-2. NRHP-Eligible Historic Properties and Their Section 4(f) Uses

<table>
<thead>
<tr>
<th>Site Number, Name, or Address</th>
<th>Description</th>
<th>NRHP Criterion*</th>
<th>Nature of Impact</th>
<th>Section 106 Effect Determination</th>
<th>Section 4(f) Use Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>826 E. Wilmington Ave.*</td>
<td>Ca. 1912 Foursquare residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>824 E. Wilmington Ave.*</td>
<td>Ca. 1907 Bungalow residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>820 E. Wilmington Ave.*</td>
<td>Ca. 1915 Other Residential Type residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>816 E. Wilmington Ave.*</td>
<td>Ca. 1915 Foursquare residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>2206 S. Lake Street*</td>
<td>Ca. 1925 Bungalow residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>2222 S. Lake Street*</td>
<td>Ca. 1887 Foursquare residence</td>
<td>C</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>653–657 E. Simpson Ave.</td>
<td>Ca. 1950–1954 Warehouse</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>2237 South 600 East</td>
<td>Ca. 1915 Commercial/Industrial Block</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>2225 South 500 East</td>
<td>Ca. 1949 Commercial/Industrial Block</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>2230 South 500 East</td>
<td>Ca. 1944 World War II–Era Cottage residence</td>
<td>A</td>
<td>Strip take along south side yard of property of about 324 square feet out of 3,918 square feet (8% take). NOTE: Property encroaches into UTA-owned right-of-way and a non-contributing addition would be directly affected; no indirect effect.</td>
<td>No adverse effect</td>
<td>De minimis use</td>
</tr>
<tr>
<td>450 East 2200 South</td>
<td>Ca. 1964 Commercial/Industrial Block</td>
<td>A</td>
<td>Strip take along south side yard of property of about 239 square feet out of 4,042 square feet (6% take); no indirect effect.</td>
<td>No adverse effect</td>
<td>De minimis use</td>
</tr>
<tr>
<td>2233 South 300 East</td>
<td>Ca. 1963 Business/Office building</td>
<td>A</td>
<td>Strip take along south side yard of property of about 4,835 square feet out of 167,514 square feet (3% take). NOTE: Property encroaches into UTA-owned right-of-way; no indirect effect.</td>
<td>No adverse effect</td>
<td>De minimis use</td>
</tr>
<tr>
<td>2250 South 300 East</td>
<td>Ca. 1951 Commercial/Industrial Block</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>2220 South 300 East</td>
<td>Ca. 1955 Service Bay/Business</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>280 E. Wentworth Ave.</td>
<td>Ca. 1931 Cottage Bungalow residence</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
</tbody>
</table>
### Table 6.2-2. NRHP-Eligible Historic Properties and Their Section 4(f) Uses

<table>
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<th>Section 106 Effect Determination</th>
<th>Section 4(f) Use Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>270 E. Wentworth Ave.</td>
<td>Ca. 1929 Bungalow residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>264 E. Wentworth Ave.</td>
<td>Ca. 1937 Bungalow residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>260 E. Wentworth Ave.</td>
<td>Ca. 1909 Bungalow residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>246 E. Wentworth Ave.</td>
<td>Ca. 1938 Period Cottage residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>240 E. Wentworth Ave.</td>
<td>Ca. 1909 Bungalow residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>230 E. Wentworth Ave.</td>
<td>Ca. 1957 Ranch/Rambler residence</td>
<td>C</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>224 E. Wentworth Ave.</td>
<td>Ca. 1915 Bungalow residence</td>
<td>A</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>220 E. Wentworth Ave.</td>
<td>Ca. 1914 Bungalow residence</td>
<td>C</td>
<td>No direct effect from streetcar project; moderate indirect noise impact to the rear of the property that would not alter the historic function or context of the property.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>2265 S. State Street</td>
<td>Ca. 1958 Bowling Alley</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>2222 South 200 East</td>
<td>Ca. 1962 Fourplex residence</td>
<td>A</td>
<td>Strip take along rear of property of about 162 square feet out of 5,547 square feet (3% take). NOTE: Property encroaches into UTA-owned right-of-way and a non-contributing carport would be directly affected; no indirect effect.</td>
<td>No adverse effect</td>
<td>De minimis use</td>
</tr>
<tr>
<td>170 E. Wentworth Ave.</td>
<td>Ca. 1939 Duplex residence</td>
<td>A</td>
<td>Strip take along rear of property of about 161 square feet out of 5,842 square feet (3% take). NOTE: Property encroaches into UTA-owned right-of-way; no indirect effect.</td>
<td>No adverse effect</td>
<td>De minimis use</td>
</tr>
<tr>
<td>158 E. Wentworth Ave.</td>
<td>Ca. 1951 Early Ranch residence</td>
<td>C</td>
<td>Strip take along rear of property of about 150 square feet out of 5,841 square feet (3% take). NOTE: Property encroaches into UTA-owned right-of-way; no indirect effect.</td>
<td>No adverse effect</td>
<td>De minimis use</td>
</tr>
<tr>
<td>140 E. Wentworth Ave.</td>
<td>Ca. 1910 Central-Block-with-Projecting-Bays residence</td>
<td>A</td>
<td>Strip take along rear of property of about 154 square feet out of 7,010 square feet (2% take). NOTE: Property encroaches into UTA-owned right-of-way; no indirect effect.</td>
<td>No adverse effect</td>
<td>De minimis use</td>
</tr>
</tbody>
</table>
### Table 6.2-2. NRHP-Eligible Historic Properties and Their Section 4(f) Uses

<table>
<thead>
<tr>
<th>Site Number, Name, or Address</th>
<th>Description</th>
<th>NRHP Criterion&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Nature of Impact</th>
<th>Section 106 Effect Determination</th>
<th>Section 4(f) Use Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>134 E. Wentworth Ave.</td>
<td>Ca. 1933 Bungalow residence</td>
<td>A</td>
<td>Strip take along rear of property of about 99 square feet out of 4,674 square feet (2% take). NOTE: Property encroaches into UTA-owned right-of-way and a non-contributing outbuilding would be directly affected; no indirect effect.</td>
<td>No adverse effect</td>
<td>De minimis use</td>
</tr>
<tr>
<td>2230 S. Main Street</td>
<td>Ca. 1962 Business/Office building</td>
<td>C</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>48 W. Senior Way</td>
<td>Ca. 1960 Business/Office building</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
<tr>
<td>2260 S. West Temple</td>
<td>Ca. 1935 Warehouse building</td>
<td>A</td>
<td>No direct or indirect effect.</td>
<td>No historic properties affected</td>
<td>No use</td>
</tr>
</tbody>
</table>

Source: SWCA 2009a

* Located within the Forest Dale Historic District.

<sup>a</sup> For descriptions of the NRHP criteria, see Table 3.9-1, Criteria for Evaluating the Eligibility of Historic Resources for the NRHP.
Constructive Use of Historic Buildings

Constructive use can include impacts such as noise, access restrictions, vibration, ecological intrusions, and visual impacts. However, according to 23 CFR 771.135, constructive use occurs only in those situations where the proximity impacts of a project (including mitigation) on the Section 4(f) property are so severe that the activities, features, or attributes that qualify the property or resource for protection under Section 4(f) are substantially impaired.

Because noise levels produced by the addition of streetcars are in the moderate impact range and some of the assumptions used in the analysis are quite conservative, noise barriers are not proposed for the project. Additionally, any NRHP-eligible historic buildings that would be subject to mitigatable noise impacts were all constructed when the Denver & Rio Grande Western (D&RGW) Park City Branch/Salt Lake Eastern Railway, which occupies the UTA-owned right-of-way, was constructed and in operation. For this reason, the historic context and setting of these properties includes an adjacent operational railroad system (see the section titled Historic Buildings under Section 3.9.5.3, Action Alternative).

Additionally, constructive use does not occur when there is a finding of “no historic properties affected” or “no adverse effect” under Section 106. Therefore, there would be no Section 4(f) constructive use from the Action Alternative.

Direct Use of Archaeological Sites, Including Historic Linear Resource Sites

In Utah, historic linear resource sites such as railroads and canals are managed as archaeological resources by the SHPO. Two historic linear resource sites were identified within the APE (see Table 6.2-2 above, NRHP-Eligible Historic Properties and Their Section 4(f) Uses). No other archaeological sites were encountered during the survey. The historic linear resource sites within the APE are the Utah Southern/Union Pacific Railroad (site 42SL344) and the D&RGW Park City Branch/Salt Lake Eastern Railway (site 42SL416).

The Utah Southern/Union Pacific Railroad is located within the north-south section of the proposed streetcar line between UTA’s existing 2100 South TRAX station and the proposed east-west streetcar corridor at about 2220 South. The rail site shares the right-of-way with UTA’s TRAX line. The Utah Southern/Union Pacific Railroad segment within the APE has been documented on several previous occasions. The overall railroad site has been determined eligible for the NRHP as a result of that documentation.

The D&RGW Park City Branch/Salt Lake Eastern Railway site is located within the proposed east-west streetcar corridor between Highland Drive and 200 West. The remains of the rail line are discontinuous and consist in some areas of short segments of track, including spur line and siding segments, and in others as simply a raised, flat-topped ballast berm.
The D&RGW Park City Branch/Salt Lake Eastern Railway still retains several historic features including sidings and parts of loading docks. In addition, much of the track that is still intact likely dates to the historic period. This rail site is also listed as a contributing resource of the Forest Dale Historic District. Because the Action Alternative would entirely remove the tracks and the features of the D&RGW Park City Branch/Salt Lake Eastern Railway, it would have an “adverse effect” under Section 106 and a “use” under Section 4(f).

Although all tracks would be removed from the Utah Southern/Union Pacific Railroad for new construction, the existing tracks are modern and no historic features are present along the affected segment. There would be “no adverse effect” under Section 106 and, therefore, the Section 4(f) use would be *de minimis*.

**Constructive Use of Archaeological Sites, Including Historic Linear Resource Sites**

None of the NRHP-eligible historic linear resource sites would be indirectly affected by noise, vibration, or visual intrusions from the Action Alternative.

### 6.3 Avoidance and Least-Harm Analyses

If an alternative would use a Section 4(f) resource and the use is not *de minimis*, FTA can approve that alternative only by determining that (1) there is no prudent and feasible avoidance alternative and (2) the project includes all possible planning to minimize harm resulting from the use (23 CFR 774.3[a]).

The first step in meeting this requirement is to develop and consider avoidance alternatives. An *avoidance alternative* is one that completely avoids the use of Section 4(f) resources. An avoidance alternative must be evaluated to determine whether it is prudent and feasible. The FTA Section 4(f) regulations list a series of factors to consider in determining whether an alternative is prudent and feasible. These factors are listed in Section 6.3.1, Avoidance Analysis. If there is a prudent and feasible avoidance alternative, no further analysis is needed; FTA must select the avoidance alternative and avoid the Section 4(f) use.

If there is *not* a prudent and feasible avoidance alternative, FTA proceeds to the second step of the Section 4(f) regulations: determining which alternative would cause the least overall harm. The FTA Section 4(f) regulations (23 CFR 774.3[c][1]) list a series of factors to consider in determining which alternatives “cause the least overall harm in light of the statute’s preservation purpose.” These factors are listed in Section 6.3.2, Least-Overall-Harm Analysis. After considering the factors listed in 23 CFR 774.3(c)(1), FTA must select the alternative that would cause the “least overall harm.”

The Action Alternative would involve a use (*not de minimis*) of one Section 4(f) resource (the D&RGW Park City Branch/Salt Lake Eastern Railway). Before approving such a use, FTA must determine whether there is a prudent and feasible alternative that entirely
avoids the use of the Section 4(f) resource. If there is no prudent and feasible avoidance alternative, then FTA must compare the alternatives to determine which one causes the least overall harm.

6.3.1 Avoidance Analysis

When there is a Section 4(f) use and it is not *de minimis*, FTA is required to develop and evaluate avoidance alternatives. Under FTA regulations, an avoidance alternative is one that *completely avoids* the use of Section 4(f) resources. Therefore, an alternative that avoids one Section 4(f) resource but uses another would *not* be considered an avoidance alternative. FTA must review each avoidance alternative and determine whether it is “prudent and feasible.”

6.3.1.1 Role of the Project Purpose and Need in Section 4(f) Decision-Making

If an alternative does not meet the project’s purpose and need, it can be rejected regardless of whether that alternative avoids or uses Section 4(f) property. However, the basis for dismissing such an alternative is slightly different depending on whether the alternative being considered is an avoidance alternative or whether it is an alternative that uses Section 4(f) property.

*Project Purpose and Need inAvoidance Analysis.* An avoidance alternative is one that completely avoids all Section 4(f) properties. If an avoidance alternative does not meet the project’s purpose and need, that alternative is determined to be “imprudent.” Therefore, it is not considered further. See the definition of *prudent and feasible avoidance alternative* in 23 CFR 774.17 (which states that “an alternative is not prudent if … it compromises the project to the degree that it is unreasonable to proceed with the project in light of its stated purpose and need”).

*Project Purpose and Need in Least-Overall-Harm Analysis.* An alternative that uses some Section 4(f) property is not considered to be an avoidance alternative; therefore, under FTA regulations, the “prudence” test does not apply. Instead, an alternative that uses some Section 4(f) property is evaluated to determine whether it causes less overall harm. One of the factors considered under that standard is “the degree to which each alternative meets the purpose [of] and need for the project.” An alternative that is unable to meet the project’s purpose and need can be eliminated on that basis as part of the least-overall-harm analysis. In addition, if an alternative meets the project’s purpose and need but to a lesser extent, that factor can be considered along with others in deciding to eliminate that alternative.

*Other Alternatives Considered for the Sugar House Streetcar Project.* As described in Chapter 2, Alternatives, other alternatives along 2100 South would not be prudent and feasible based on their inability to meet the purpose and need elements, increased right-of-way impacts, and increased traffic impacts compared to the Action Alternative.
Therefore, these alternatives are determined to be “imprudent” Section 4(f) avoidance alternatives and are not considered further in this evaluation.

6.3.1.2 No-Action and Other Potential Avoidance Alternatives in the Sugar House Streetcar Evaluation Area

No-Action Alternative. The No-Action Alternative was considered as an alternative for avoiding the use of Section 4(f) resources. The No-Action Alternative avoids the use of any Section 4(f) resources because it does not involve construction of any transportation improvements. However, the No-Action Alternative does not meet the project’s purpose and need as documented in Chapter 1, Purpose of and Need for the Sugar House Streetcar Project, and as summarized in Chapter 2, Alternatives. For this reason, the No-Action Alternative is not a prudent and feasible avoidance alternative.

Location Alternatives. In addition to the alternatives considered in Chapter 2, FTA considered the potential to develop other alternatives in the Sugar House Streetcar study area that would completely avoid all Section 4(f) resources. Because the Sugar House Streetcar study area is located in a dense, urban environment, the addition of a new rail line would require many relocations and higher costs. There are also a number of historic properties scattered throughout the Sugar House Streetcar study area and beyond, including many homes constructed during the World War II and post–World War II eras that are now over 50 years old and could be eligible for listing on the NRHP. The widespread presence of these structures precludes the development of a new east-west streetcar line that completely avoids all Section 4(f) resources.

Finally, alternatives could be developed that would include transit that runs along 2100 South or another east-west street. However, these streets are also lined with historic properties, and the Section 106 effects, Section 4(f) uses, and right-of-way costs, along with the impacts to traffic, make such options not feasible.

Potential Avoidance Alternatives outside the Sugar House Streetcar Study Area. Alignments and alternatives outside the Sugar House Streetcar study area would not meet the project’s purpose and need and therefore were not evaluated. Alternatives outside the study area would not meet the community and economic redevelopment desires of the Cities or contribute to decreased congestion along 2100 South. Therefore, these alternatives would not meet the purpose of and need for the project.
6.3.2 **Least-Overall-Harm Analysis**

The regulation at 23 CFR 774.3(2)(c) states:

(c) If the analysis in paragraph (a)(1) of this section concludes that there is no feasible or prudent avoidance alternative, then the [Federal Highway] Administration may approve, from among the remaining alternatives that use Section 4(f) property, only the alternative that:

(1) Causes the least overall harm in light of the statute’s preservation purpose. The least overall harm is determined by balancing the following factors:

(i) The ability to mitigate adverse impacts to each Section 4(f) property (including any measures that result in benefits to the property);

(ii) The relative severity of the remaining harm, after mitigation, to the protected activities, attributes, or features that qualify each Section 4(f) property for protection;

(iii) The relative significance of each Section 4(f) property;

(iv) The views of the official(s) with jurisdiction over each Section 4(f) property;

(v) The degree to which each alternative meets the purpose [of] and need for the project;

(vi) After reasonable mitigation, the magnitude of any adverse impacts to resources not protected by Section 4(f); and

(vii) Substantial differences in costs among the alternatives.

If there is no prudent and feasible avoidance alternative, FTA must select the alternative that “causes the least overall harm in light of the statute’s preservation purpose”—that is, the alternative that minimizes harm (see 23 CFR 774.3[2][c]). Under 23 CFR 774.3(2)(c), the “least overall harm” is determined by balancing the factors described in this section.

6.3.3 **Measures To Minimize Harm to Section 4(f) Properties**

During the design process, design staff worked with the environmental resource specialists to minimize harm to Section 4(f) properties by implementing alignment shifts, installing retaining walls, and minimizing the construction limits. This resulted in *de minimis* impacts to all historic resources other than the rail corridor itself. Because all of the original railroad features would need to be removed for streetcar construction, there is no way to minimize impacts to this historic resource (the D&RGW Park City Branch/Salt Lake Eastern Railway [site 42SL416]). Mitigation for this resource is included in the Draft MOA, as discussed in Section 6.3.7, Mitigation and Memorandum of Agreement.
6.3.4 **Ability To Mitigate Adverse Impacts to Each Section 4(f) Property**

FTA and the Utah SHPO have started working on developing a Draft Memorandum of Agreement (MOA), with UTA as an invited signatory. When finalized, the MOA will describe the specific mitigation measures to be implemented if the Action Alternative is selected for the project. FTA and UTA are continuing to coordinate with the consulting parties. The MOA must be executed before FTA can issue a Finding of No Significant Impact. The final Section 4(f) determination will also be made at this time. The initial Draft MOA is included in Appendix C, Draft Memorandum of Agreement. FTA welcomes public comments on this Draft MOA. The MOA will be finalized and executed before FTA issues its decision on this project.

The Draft MOA stipulates that the adversely affected historic resources be mitigated through documentation, including completion of the Intermountain Antiquities Computer System (IMACS) site form, global positioning system (GPS) mapping of site boundaries, and photographs of the site and features. All documentation materials will be submitted to the Utah Division of State History, Historic Preservation Office, to be placed on file.

6.3.5 **Significance of Each Section 4(f) Property and Views of Officials with Jurisdiction over Each Section 4(f) Property**

The office with jurisdiction over the historic properties is the Utah SHPO. The Sugar House Streetcar Project team has corresponded with and met with representatives from the SHPO on several occasions throughout this project. FTA and UTA have prepared a Determination of Eligibility and Finding of Effect (DOE/FOE), which documents historic properties in the Sugar House Streetcar study area. The DOE/FOE establishes the eligibility rating for each historic property and the type of effect that each would receive from the Action Alternative. The SHPO has agreed to the DOE/FOE, which is found in Appendix A, Pertinent Correspondence. The SHPO ratings for each historic property are found in the DOE.

The Action Alternative would have a Section 4(f) use of the D&RGW Park City Branch/Salt Lake Eastern Railway (site 42SL416) by removing or modifying contributing features.

6.3.6 **Conclusion**

After taking into account the ability to mitigate impacts, the severity of the remaining harm, the significance of the resources, and the views of the officials with jurisdiction over the resources, FTA has concluded that there are no prudent or feasible avoidance alternatives to the Preferred Alternative and, therefore, in accordance with 23 CFR
774.3(a), the Preferred Alternative would cause the least overall harm to Section 4(f) properties.

### 6.3.7 Mitigation and Memorandum of Agreement

A Draft Memorandum of Agreement (MOA) has been developed among FTA, the Utah SHPO, and UTA as an invited signatory. The MOA describes the specific mitigation measures to be implemented if the Action Alternative is selected for the project. FTA and UTA are continuing to coordinate with the consulting parties. The MOA must be executed before FTA can issue a Finding of No Significant Impact. The Draft MOA is included in Appendix C, Draft Memorandum of Agreement.

The Draft MOA stipulates that the adversely affected property will be mitigated through documentation. The documentation will include the following elements:

- The IMACS site form will be completed.
- Site boundaries will be mapped using GPS equipment.
- Color and/or black-and-white 35-millimeter photographs (4-inch-by-6-inch prints with accompanying negatives) taken of the historic railroad site and features will be produced. At least three photos of each feature will be taken from various angles. Photographs will be numbered and labeled with a location and the date when the photograph was taken. All prints and negatives will be submitted in archivally stable protective storage pages.
- All materials will be placed on file with the Utah Division of State History, Historic Preservation Office.

### 6.3.8 Coordination

All Section 4(f) property owners in the study area and relevant agencies are on the project mailing list and have received invitations to attend and comment at the project-related public meetings that have been held to date.

UTA has developed the Section 4(f) evaluation in coordination with FTA.
Chapter 7: Distribution

Federal Agencies

Federal Emergency Management Agency, Region 8
Federal Highway Administration
Federal Transit Administration, Region 8
U.S. Army Corps of Engineers, Utah Regional Office
U.S. Environmental Protection Agency, Region 8
U.S. Fish and Wildlife Service

State Agencies

Governor’s Office of Planning and Budget
Utah Department of Community and Culture
  • State Historic Preservation Office
Utah Department of Environmental Quality
  • Division of Air Quality
  • Division of Environmental Response and Remediation
  • Division of Solid and Hazardous Waste
  • Division of Water Quality
Utah Department of Natural Resources
  • Division of State Parks and Recreation
  • Division of Wildlife Resources
Utah Department of Transportation
  • Complex
  • Region 2
Utah Transportation Commission

City and County Governments

City of South Salt Lake
  • Mayor’s Office
  • City Council
  • Community and Economic Development
Salt Lake City
  • Mayor’s Office
  • City Council
  • Community and Economic Development
  • Redevelopment Agency of Salt Lake City
  • Transportation Advisory Board
Salt Lake County
  • Mayor’s Office
  • Bicycle Advisory Committee
  • Parks and Recreation Division

Nongovernmental Organizations

Envision Utah
PRATT Coalition
Sierra Club
Utah Heritage Foundation
Utah Moms for Clean Air
Wasatch Front Regional Council
Tribal Governments

Confederated Tribes of Goshute Reservation Council
Northwestern Band of Shoshone Tribe
Shoshone-Bannock Tribes
Skull Valley Band of Goshute Indians
Ute Indian Tribe

Consulting Parties

Janice Lew, Salt Lake City Planning Department
Warren Lloyd, Salt Lake City Historic Landmarks Commission
Susan Petheram, Sugar House Community Council Historical Committee
Søren Simonson, Salt Lake City Council
Chapter 8: References

[AGRC] Utah Automated Geographic Reference Center
2007 Salt Lake County parcel data.

[APTA] American Public Transportation Association

Bartholomew, Tina
2009 E-mail from Tina Bartholomew of UTA to Kyle Cook of Fehr & Peers regarding existing transit ridership. November 23.

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2009 Personal communication between Dave Carlson, City Attorney for the City of South Salt Lake, and Heidi Spoor of HDR Engineering regarding the existing environment in the Sugar House Streetcar study area and impacts to various resources. December 10.

City Data

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No date South Salt Lake City General Plan Draft.
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2008c City of South Salt Lake Future Land Use Map. February.

Currie, Graham
Diaz, Roderick B.

Edwards, Rebecca, and Richard Markosian

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[EPA and FHWA] U.S. Environmental Protection Agency and Federal Highway Administration
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[FBI] Federal Bureau of Investigation

Fehr & Peers

[FEMA] Federal Emergency Management Agency
2009a Flood Insurance Rate Maps of Salt Lake County, Utah, and Incorporated Areas. msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1. Reviewed online at the FEMA Map Service Center on October 14, 2009.

[FHWA] Federal Highway Administration, Office of Environmental Policy
Florence, Mike
2009  Personal communication between Mike Florence, Planner for South Salt Lake City, and Sue Lee of HDR Engineering regarding South Salt Lake’s General Plan, future land-use plans, and RDAs and community characteristics. October 29.

[FTA] Federal Transit Administration

[GOPB] Utah Governor’s Office of Planning and Budget

Granite School District

Herrmann, David
2009  Personal communication between David Herrmann of Salt Lake City Fire and Rescue and Sue Lee of HDR Engineering regarding the locations of Salt Lake City fire stations. October 14.

[HMMH] Harris Miller Miller & Hanson, Inc.

Liggett, Robin, Anastasia Loukaitou-Sideris, and Hiroyuki Iseki

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1997  International Meteorological Climate Summary, Salt Lake City, Utah.

[NCES] National Center for Education Statistics

[NCHRP] National Cooperative Highway Research Program

[NRCS and others] Natural Resources Conservation Service, Utah Department of Agriculture and Food, and Utah Association of Conservation Districts
2005  Salt Lake County, Utah, Resource Assessment. August.

Porter, Douglas R.
Rails-to-Trails Conservancy

[RTD] Regional Transportation District (Denver)
2007 RTD FasTracks Fact Sheet: Crime at Transit Stations.

[SAIC] Science Applications International Corp.

Salt Lake City
1996 Salt Lake City Transportation Master Plan. April 16.
2004 Salt Lake City Bicycle and Pedestrian Master Plan.
2006 Salt Lake City Green Bikeways Map.
2008 Central Community Zoning Map. Salt Lake City Planning Division. December.

Salt Lake City Police Department
2008 2008 Report to the Community.

Salt Lake City School District
2009 Salt Lake City School District school boundary information.

Salt Lake County

Salt Lake Tribune
2009 South Salt Lake sees major crime numbers drop. August 5.

[SHCC] Sugar House Community Council

SWCA Environmental Consultants
2009b Sugar House Streetcar Project Salt Lake County Archaeologic and Linear Historic Resources Assessment. December.

Tax Foundation
Transportation Research Board

U.S. Census Bureau
2000 Census 2000 data.

U.S. Department of Commerce, Bureau of Economic Analysis

[UDEQ] Utah Department of Environmental Quality

[UDOT] Utah Department of Transportation
2007 State Highway Map of Salt Lake City, Ogden, Provo and Vicinity.

[UGS] Utah Geological Survey

[USDOT] U.S. Department of Transportation

[UTA] Utah Transit Authority
2009a Design Assumptions Technical Memorandum for the Sugar House Streetcar Project.

Utah Department of Workforce Services
Utah Division of Air Quality

Utah Division of Water Rights

Utah League of Cities and Towns

[Virginia DOT] Virginia Department of Transportation

[WFRF] Wasatch Front Regional Council
2009 Air Quality Memorandum Report 25b: Conformity Analysis for the 2030 Regional Transportation Plan Amended to Advance the Sugar House Streetcar Project to Phase 1. November.
Appendix A

Pertinent Correspondence
Appendix A: Pertinent Correspondence

Gray-shaded entries indicate correspondence that was submitted with attachments. These attachments might also appear elsewhere in this table as separate items.

<table>
<thead>
<tr>
<th>Date</th>
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<th>To</th>
<th>Regarding</th>
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</thead>
<tbody>
<tr>
<td>April 24, 2008</td>
<td>Sheri Ellis, SWCA</td>
<td>Martha Hayden, UGS</td>
<td>Paleontological file search request</td>
</tr>
<tr>
<td>April 28, 2008</td>
<td>Martha Hayden, UGS</td>
<td>Sheri Ellis, SWCA</td>
<td>Paleontological file search</td>
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<tr>
<td>September 9, 2009</td>
<td>Charles Chappell, WFRC</td>
<td>Secretary Ray LaHood, USDOT</td>
<td>Letter of support for UTA's TIGER Grant application</td>
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<td>• WFRC RTP amendment</td>
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<tr>
<td>January 28, 2010</td>
<td>Charles Chappell, WFRC</td>
<td>Lori Hunsaker, Utah SHPO</td>
<td>Initiation of Section 106 consultation (including list of parties receiving</td>
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<td>consulting party invitation letters and example invitation letter)</td>
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<td>September 10, 2009</td>
<td>Terry Rosapep, FTA</td>
<td>Sørren Simonsen, Salt Lake</td>
<td>Initiation of Section 106 process and invitation to be a consulting party</td>
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<td>City Council</td>
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<td>Identical invitation also sent to:</td>
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<td>• Janice Lew, Salt Lake City Planning Department</td>
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<td>• Warren Lloyd, Salt Lake City Historic Landmarks Commission</td>
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<td>• Kirk Huffaker, Utah Heritage Foundation</td>
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<td>• Susan Petheram, Sugar House Community Council Historical Committee</td>
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<tr>
<td>September 10, 2009</td>
<td>Terry Rosapep, FTA</td>
<td>Alonzo Colby, Shoshone-</td>
<td>Section 106 consulting party invitation</td>
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<td>Bannock Tribes</td>
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<td>September 21, 2009</td>
<td>Janice Lew, Salt Lake City Planning</td>
<td>Kerry Doane, UTA</td>
<td>Section 106 initiation; acceptance of consulting party invitation</td>
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<tr>
<td>September 21, 2009</td>
<td>Elise Boeke, NRCS</td>
<td>Kerry Doane, UTA</td>
<td>Declined to comment on project</td>
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<tr>
<td>Date</td>
<td>From</td>
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<tr>
<td>September 22, 2009</td>
<td>Chris Hansen, Utah SHPO</td>
<td>Terry Rosapep, FTA</td>
<td>Initiation of Section 106 Consultation and concurrence on APE and approach for identifying historic properties</td>
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<td>September 22, 2009</td>
<td>Richard Manser, UDOT</td>
<td>Kerry Doane, UTA</td>
<td>Sugar House Streetcar scoping letter</td>
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<tr>
<td>October 6, 2009</td>
<td>Søren Simonson, Salt Lake City Council</td>
<td>Mary DeLoretto, UTA</td>
<td>Section 106 initiation; acceptance of consulting party invitation</td>
</tr>
<tr>
<td>October 6, 2009</td>
<td>Susan Petheram, Sugar House Community Council Historical Committee</td>
<td>Mary DeLoretto, UTA</td>
<td>Section 106 initiation; acceptance of consulting party invitation</td>
</tr>
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<td>October 18, 2009</td>
<td>Warren Lloyd, Salt Lake City Historic Landmarks Commission</td>
<td>Terry Rosapep, FTA</td>
<td>Section 106 initiation; acceptance of consulting party invitation</td>
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<td>October 29, 2009</td>
<td>Warren Lloyd, Salt Lake City Historic Landmarks Commission</td>
<td>Mary DeLoretto, UTA</td>
<td>Section 106 initiation; acceptance of consulting party invitation</td>
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<tr>
<td>January 15, 2010</td>
<td>Terry Rosapep, FTA</td>
<td>Lori Hunsaker, Chris Hansen, Utah SHPO</td>
<td>Determinations of eligibility, findings of effect, and notification of Section 4(f) de minimis impact findings</td>
</tr>
<tr>
<td>February 17, 2010</td>
<td>Chris Hansen, Utah SHPO</td>
<td>Terry Rosapep, FTA</td>
<td>Concurrence with determinations of eligibility and findings of effect and request of clarification regarding reference to Utah Code</td>
</tr>
<tr>
<td>March 4, 2010</td>
<td>Kristin Kenyon, FTA</td>
<td>Chris Hansen, Utah SHPO</td>
<td>Clarification regarding a statement in a letter to SHPO citing the Utah Code</td>
</tr>
<tr>
<td>June 16, 2010</td>
<td>Robert Miles, UDOT Region 2</td>
<td>Jim Webb, UTA</td>
<td>Concurrence with concept of at-grade crossings of State Street and 700 East</td>
</tr>
<tr>
<td>October 6, 2010</td>
<td>Terry Rosapep, FTA</td>
<td>Søren Simonsen, Salt Lake City Council</td>
<td>Section 106 consulting party concurrence on adverse effect</td>
</tr>
<tr>
<td>October 8, 2010</td>
<td>Terry Rosapep, FTA</td>
<td>Charlene Dwin Vaughn, Advisory Council on Historic Preservation</td>
<td>Advisory Council notification of adverse effect</td>
</tr>
<tr>
<td>October 22, 2010</td>
<td>Janice Lew, Salt Lake City</td>
<td>Terry Rosapep, FTA</td>
<td>Section 106 consulting party concurrence on adverse effect</td>
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<tr>
<td>October 25, 2010</td>
<td>Charlene Dwin Vaughn, Advisory Council on Historic Preservation</td>
<td>Terry Rosapep, FTA</td>
<td>Request for more information regarding the notification of adverse effect</td>
</tr>
<tr>
<td>Date</td>
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<tr>
<td>October 26, 2010</td>
<td>Kristin Kenyon, FTA</td>
<td>Blythe Semmer, Advisory Council on Historic Preservation</td>
<td>E-mail transmittal of additional materials requested and attachments</td>
</tr>
<tr>
<td>November 8, 2010</td>
<td>LaShavio Johnson, ACHP</td>
<td>Terry Rosapep, FTA</td>
<td>Reply to notification of adverse effect</td>
</tr>
</tbody>
</table>
April 24, 2008

Ms. Martha Hayden
Utah Geological Survey
1594 West North Temple
P.O. Box 146100
Salt Lake City, UT 84114-6100

RE: Paleontological File Search and Recommendations for the Parley’s Creek Trail Project;
UDOT Project No. F-LC35(168), PIN 6183

Dear Ms. Hayden:

This letter is sent in accordance with UDOT guidelines to request a file search and to solicit any comments or recommendations you may have relative to paleontological resources that could be affected by pedestrian and bike trail within the Parleys Creek Trail Project area in Salt Lake County, Utah (see attached map for project location). The project is under the jurisdiction of the UDOT, Region Two office. This paleontological file search is requested in compliance with the programmatic agreement between the UDOT and UGS regarding paleontological resources associated with transportation projects.

The project area of potential effects (APE) consists of a linear corridor extending between approximately Highland Drive in Sugarhouse and the Jordan River. The corridor follows an existing but exempt railroad line. The study corridor encompasses the entire railroad right-of-way, which averages 66 feet wide. The study area is located in Township 1S, Range 1E, Sections 19 and 20 of USGS 7.5 minute Quad Sugarhouse, Utah, and Township 1S, Range 1W, Sections 23 and 24 of USGS 7.5 minute Quad Salt Lake City South, Utah.

We request information from you regarding specific known paleontological localities and the potential for finding such resources within the project corridor. We also request any recommendations you may have for addressing paleontological resources which are known to exist or have the potential to be located during construction within the project area. Thank you in advance for your assistance with this project.

Sincerely,

Sheri Murray Ellis, M.S., RPA
NHPA/NEPA Sr. Project Manager

cc: File 13968 (SWCA)

Parleys Creek Trail Project
UGS consultation
04/24/08
April 28, 2008

Sheri Murray Ellis
SWCA Environmental Consultants, Inc.
257 East 200 South, Suite 200
Salt Lake City UT 84111

RE: Paleontological File Search and Recommendations for the Parley’s Creek Trail Project, UDOT Project No. F-LC35(168), Salt Lake County, Utah
U.C.A. 63-73-19 compliance; literature search for paleontological specimens or sites

Dear Sheri:

I have conducted a paleontological file search for the Parley’s Creek Trail Project in response to your letter of April 24, 2008. This project qualifies for treatment under the UDOT/UGS executed Memorandum of Understanding.

There are no paleontological localities recorded in our files within this project right-of-way. Quaternary and Recent alluvial deposits that are exposed here have a low potential for yielding significant fossil localities. Unless fossils are discovered as a result of construction activities, this project should have no impact on paleontological resources.

If you have any questions, please call me at (801) 537-3311.

Sincerely,

[Signature]

Martha Hayden
Paleontological Assistant
September 9, 2009

The Honorable Ray LaHood
Secretary
United States Department of Transportation
1200 New Jersey Avenue, SE
Washington, DC 20590

Dear Secretary LaHood:

On behalf of the Wasatch Front Regional Council (WFRC), I am pleased to add this letter of support to the application of the Utah Transit Authority (UTA) for the Sugar House Streetcar Project for a Transportation Investment Generating Economic Recovery (TIGER) Grant. This transit project will construct a Streetcar line in a rail corridor owned by the Utah Transit Authority at approximately 2200 South between 250 West and 1100 East in Salt Lake City and South Salt Lake, Utah. The Sugar House Streetcar project is included in the Wasatch Front Regional Transportation Plan: 2007-2030. We are in the process of amending the Plan to move this project to Phase 1. If the grant is awarded, we will promptly take action to amend the project into a financially-constrained, conforming Regional Transportation Plan and the Transportation Improvement Program.

We support such projects throughout the Wasatch Front for the obvious benefits to quality of life for the citizenry.

Thank you for your consideration of this worthy project. Should you have any questions, please do not hesitate to contact me or Ned Hacker of our staff.

Sincerely,

Charles W. Chappell, P.E.
Executive Director
RESOLUTION OF THE WASATCH FRONT REGIONAL COUNCIL
APPROVING AMENDMENT 5 TO THE WASATCH FRONT
REGIONAL TRANSPORTATION PLAN: 2007 - 2030

WHEREAS, the Wasatch Front Regional Council is the officially designated Metropolitan Planning Organization for the Salt Lake and Ogden-Layton Urbanized Areas and, as such, has the responsibility for developing Regional Transportation Plans for both Areas, and

WHEREAS, the Wasatch Front Regional Transportation Plan: 2007-2030 recommends improvements to the highway, transit, and non-motorized transportation systems through the year 2030 for both the Salt Lake and Ogden-Layton Urbanized Areas, and

WHEREAS, the Salt Lake Area Technical Advisory Committee, Salt Lake County Council of Governments, the Regional Growth Committee, and the Utah Transit Authority have been involved in developing and evaluating the proposed amendment to the Wasatch Front Regional Transportation Plan: 2007-2030, and

WHEREAS, based on the evaluation of the proposed amendment the Wasatch Front Regional Council desires to adopt Amendment 5 to the Wasatch Front Regional Transportation Plan: 2007-2030, as shown in the attachment to this resolution, and

WHEREAS, the State Implementation Plan includes goals and objectives for reducing air pollutant emissions from mobile sources for the Wasatch Front Urban Area, and

WHEREAS, Amendment 5 to the Wasatch Front Regional Transportation Plan: 2007-2030 is a regionally-significant project and, therefore, requires a new air quality conformity finding, and

WHEREAS, the Wasatch Front Regional Council has developed a Financial Plan for Amendment 5 to the Wasatch Front Regional Transportation Plan 2007-2030, and

WHEREAS, Amendment 5 to the Wasatch Front Regional Transportation Plan: 2007-2030 addresses the requirements of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU), and

WHEREAS, public comment was invited on the Wasatch Front Regional Council website, at a Regional Growth Committee meeting and at the Regional Council meeting,

NOW THEREFORE LET IT BE RESOLVED, that the Wasatch Front Regional Council:
(1) Approves Amendment 5 to the Wasatch Front Regional Transportation Plan: 2007-2030, and
(2) Finds that Amendment 5 to the Wasatch Front Regional Transportation Plan: 2007-2030 includes a reasonable Financial Plan and addresses the requirements identified in SAFETEA-LU, and
(3) Finds that the development of the Wasatch Front Regional Transportation Plan: 2007-2030 conforms to the air quality requirements.

[Signatures]
Councilman Michael H. Jansen, Chairman
Wasatch Front Regional Council

Date: January 28, 2010

Charles W. Chappell, P.E., Executive Director
Wasatch Front Regional Council
Resolution of the Wasatch Front Regional Council
Approving Amendment 4 to the Wasatch Front Regional Transportation Plan: 2007 - 2030

January 28, 2010

Attachment

Amendment 5 Project

The following project is amended in the Wasatch Front Regional Transportation Plan: 2007-2030 as described below:

Salt Lake County
Sugar House Streetcar (South Salt Lake and Salt Lake City)
This project is moved from Phase 3 to Phase 1 of the RTP.
September 10, 2009

Lori Hunsaker  
Deputy State Historic Preservation Officer  
Utah Division of State History  
300 Rio Grande Street  
Salt Lake City, UT 84101  

Re: Initiation of Section 106 Consultation for the Utah Transit Authority’s Proposed Sugarhouse Streetcar Project, Salt Lake City, Utah  

Dear Ms. Hunsaker:  

Salt Lake City and the City of South Salt Lake, in cooperation with the Utah Transit Authority (UTA) and the Federal Transit Administration (FTA) are preparing an Environmental Assessment (EA) for proposed high-frequency, high-capacity transit service in the Sugarhouse area of Salt Lake County, Utah. The FTA is the lead federal agency for the project.  

This letter serves as our initiation of the Section 106 process with your office under the requirements of 36 Code of Federal Regulations (CFR) 800, the implementing regulations for the National Historic Preservation Act. With this letter we formally request your engagement in the Section 106 process for this project and your concurrence with our proposed area of potential effects (APE) and our proposed approach for identifying historic properties.  

The purpose of the Sugarhouse Streetcar project is to reduce automobile congestion on 2100 South, provide multi-modal travel choices, provide access to a regional, fixed-guideway transit network, support community and economic redevelopment, and enhance and support community goals for growth in the area. The project will increase mobility for shorter trips as well as provide a connection to the larger regional transportation system while preserving the cultural identity in the Sugarhouse area of Salt Lake City and South Salt Lake. The project will enhance the community by providing a transportation improvement that is pedestrian friendly and compatible with the traditional character of the surrounding neighborhoods.  

The overall goal for this project is to increase local and regional mobility and reduce automobile congestion in the study area through 2030. The project will increase multi-modal trip options and reduce automobile travel, thereby helping to decrease local congestion and regional pollution.  

The study area for the proposed transit service extends from the Central Pointe TRAX Station at about 200 West 2100 South eastward to about 1100 East and from 1700 South to 2700 South. The route length would be about two miles, and seven transit stations are proposed. Based on an Alternatives Analysis study completed by UTA in 2008, we are evaluating two alternatives for the streetcar project in the current EA. One is the No-Action Alternative, and the other (the Modern Streetcar Alternative) would consist of a fixed-guideway, electrified streetcar line within the
existing east-west-running railroad right-of-way at about 2300 South (see attached map). This rail corridor is no longer active—some of the tracks have been removed—and UTA owns the right-of-way. Use of this existing corridor will reduce impacts compared to constructing the proposed system in an entirely new location where no contiguous corridor currently exists.

All development associated with the streetcar system would occur within the existing 2300 South railroad corridor. That is, all ground disturbance and construction, including station locations, would occur within the existing right-of-way. For this reason, UTA proposes that the Area of Potential Effects (APE) for archaeological resources be confined to this right-of-way. The right-of-way would be inventoried for archaeological resources using accepted intensive-level pedestrian survey techniques. All identified archaeological resources, including the remains of the historic railroad line within the right-of-way, would be documented on Intermountain Antiquities Computer System (IMACS) forms or other forms, as appropriate.

Because developing the streetcar line will require constructing above-ground stations (that is, platforms) and overhead electrical catenary, the project could affect the setting and feeling of nearby historic structures. Additionally, vibration from the operation of the streetcars will likely extend outside the rail right-of-way. However, because the streetcars to be used are small and light, vibration would be limited and would attenuate rapidly with increasing distance from the rail itself. For these reasons, UTA proposes that the APE for historic buildings and structures be extended outside the railroad property to include all properties directly abutting both sides of the proposed railroad corridor. These properties would be inventoried in accordance with the Utah Division of State History's standard operating procedures for selective reconnaissance-level building surveys.

We are also inviting the following other groups to become consulting parties for this project: the Salt Lake City Certified Local Government and Historic Landmarks Commission, the Utah Heritage Foundation, the Sugarhouse Community Council Historical Committee, and federally recognized Native American tribes. We would appreciate any suggestions you have for additional consulting parties.

Thank you for your participation and interest in this project. If you have any concerns about either the APE or our proposed methods for identifying historic properties, please contact Kristin Kenyon in my office at 720-963-3319 or Mary DeLoretto with UTA at 801-741-8808 at your earliest convenience. We look forward to hearing from you.

Sincerely,

Terry J. Rosapep
Regional Administrator

cc: Kristin Kenyon, FTA
    Mary DeLoretto, UTA

Enclosures: Project Maps
September 10, 2009

Søren Simonsen
Salt Lake City Council Office
451 South State Street Room 304
P.O. Box 145476
Salt Lake City, UT 84114-5476

Re: Invitation To Become a Consulting Party for the Section 106 Process for the Utah Transit Authority’s Proposed Sugarhouse Streetcar Project, Salt Lake City, Utah

Dear Mr. Simonsen:

Salt Lake City and the City of South Salt Lake, in cooperation with the Utah Transit Authority (UTA), and the Federal Transit Administration (FTA) are preparing an Environmental Assessment (EA) for proposed high-frequency, high-capacity transit service in the Sugarhouse area of Salt Lake County, Utah. Since this project is requesting federal funds and would be administered by the FTA, it is considered an undertaking subject to review under Section 106 of the National Historic Preservation Act (NHPA).

With this letter, we formally invite you to become a consulting party in the Section 106 process for this project as specified under the National Historic Preservation Act (NHPA). If you wish to become a consulting party, we would like your feedback about our proposed area of potential effects (APE) for the project and our proposed approach for identifying historic properties. Additionally, we would appreciate any information you have about specific cultural resources of concern to your organization or the Sugarhouse community that are present in the proposed APE.

Responsibilities of a Consulting Party

A consulting party is typically an agency, group, or organization with special knowledge of, concern for, or a mandated regulatory role relative to cultural resources in a given project area. Cultural resources include such things as archaeological sites, historic buildings, and historic structures or landscapes. Consulting parties have a formal and defined role in the process. They help FTA consider the impacts of proposed federal undertakings on cultural resources. This includes helping to identify resources located in or near the project area (defined as the area of potential effects), assessing the historical...
significance of those resources relative to the criteria of the National Register of Historic Places (NRHP), and identifying measures that could be implemented to minimize or mitigate adverse effects to those resources that are determined eligible for listing on the NRHP.

Being a consulting party would involve your time and expertise in providing FTA and UTA with input on the issues listed above. This input could take the form of written correspondence, verbal conversations, or in-person meetings. We do not anticipate the amount of time required to be burdensome or extensive.

Project Purpose

The purpose of the Sugarhouse Streetcar project is to reduce automobile congestion on 2100 South, provide multi-modal travel choices, provide access to a regional, fixed-guideway transit network, support community and economic redevelopment, and enhance and support community goals for growth in the area. The project will increase mobility for shorter trips as well as provide a connection to the larger regional transportation system while preserving the cultural identity in the Sugarhouse area of Salt Lake City and South Salt Lake. The project will enhance the community by providing a transportation improvement that is pedestrian friendly and compatible with the traditional character of the surrounding neighborhoods.

The overall goal for this project is to increase local and regional mobility and reduce automobile congestion in the study area through 2030. The project will increase multi-modal trip options and reduce automobile travel, thereby helping to decrease local congestion and regional pollution.

Study Area, Area of Potential Effects, and Proposed Approach to Identifying Historic Properties

The study area for the proposed Sugarhouse Streetcar project extends from the Central Pointe TRAX Station at about 200 West 2100 South eastward to about 1100 East and from 1700 South to 2700 South. The route length would be about 2 miles, and seven transit stations are proposed. Based on an Alternatives Analysis study completed by UTA in 2008, we are evaluating two alternatives for the streetcar project in the current EA. One is the No-Action Alternative, and the other (the Modern Streetcar Alternative) would consist of a fixed-guideway, electrified streetcar line within the existing east-west running railroad right-of-way at about 2300 South (see attached map). This rail corridor is no longer active—some of the tracks have been removed—and UTA owns the right-of-way. Use of this existing corridor will reduce impacts compared to constructing the proposed system in an entirely new location where no contiguous corridor currently exists.

All development associated with the streetcar system would occur within the existing 2300 South railroad corridor. That is, all ground disturbance and construction, including station locations, would occur within the existing right-of-way. For this reason, UTA proposes that the APE for archaeological resources (that is, the area that would be assessed for the presence or absence of those resources) be confined to this right-of-way. The right-of-
way would be inspected for cultural resources using accepted intensive-level pedestrian survey techniques. All identified cultural resources, including the remains of the historic railroad line within the right-of-way, would be documented on Intermountain Antiquities Computer System (IMACS) forms or other forms, as appropriate.

Because developing the streetcar line will require constructing above-ground stations (that is, platforms) and overhead electrical catenary, the project could affect the setting and feeling of nearby historic structures. Additionally, vibration from the operation of the streetcars will likely extend outside the rail right-of-way; however, because the streetcars to be used are small and light, vibration would be limited and would attenuate rapidly with increasing distance from the rail itself. For these reasons, UTA proposes that the APE for historic buildings and structures be extended outside the railroad property to include all properties directly abutting both sides of the proposed railroad corridor. These properties would be inventoried in accordance with the Utah Division of State History’s standard operating procedures for selective reconnaissance-level building surveys.

If you wish to be a consulting party for the Sugarhouse Streetcar Project Section 106 process, please notify Kristin Kenyon in my office at 720-963-3319 or Mary DeLoreto with UTA at 801-741-8808 at your earliest convenience. We would appreciate receiving a response within 30 days of your receiving this letter.

If you have any questions or concerns about either the APE or our proposed methods for identifying historic properties, or if you have information about specific cultural resources of concern, please contact Mary DeLoreto at 801-741-8808.

Sincerely,

Terry J. Rosapep
Regional Administrator

cc: Kristin Kenyon, FTA
   Mary DeLoreto, UTA

Enclosures: Project Maps
September 10, 2009

Alonzo A. Coby, Chairman
Shoshone-Bannock Tribes
P. O. Box 306 Pima Drive
Fort Hall, ID 83203

Re: Request to be a Consulting Party for the
Utah Transit Authority's Sugarhouse Streetcar Project
Salt Lake City, Utah

Dear Mr. Coby:

The Federal Transit Administration (FTA), in cooperation with the Utah Transit Authority (UTA), wishes to initiate a formal consultation under Section 106 of the National Historic Preservation Act for the Sugarhouse Streetcar Environmental Assessment (EA) on a proposal to implement fixed-guideway transit through the Sugarhouse area of Salt Lake County (please refer to enclosed map of the corridor). Pursuant to the National Environmental Policy Act (NEPA) of 1969 and the Council on Environmental Quality implementing regulations (40 CFR 1500–1508), FTA and UTA are documenting the potential social, economic, and environmental consequences of this action in an EA.

The purpose of the Sugarhouse Streetcar project is to reduce automobile congestion on 2100 South, provide multi-modal travel choices, provide access to a regional, fixed-guideway transit network, support community and economic redevelopment, and enhance and support community goals for growth in the area. The project will increase mobility for shorter trips as well as provide a connection to the larger regional transportation system while preserving the cultural identity in the Sugarhouse area of Salt Lake City and South Salt Lake. The project will enhance the community by providing a transportation improvement that is pedestrian friendly and compatible with the traditional character of the surrounding neighborhoods.

The overall goal for this project is to increase local and regional mobility and reduce automobile congestion in the study area through 2030. The project will increase multi-modal trip options and reduce automobile travel, thereby helping to decrease local congestion and regional pollution.
FTA and UTA are seeking the participation of regional tribal governments, as required by Section 106 of the National Historic Preservation Act implementing regulations, 36 CFR 800 et seq. As a consulting party, you are offered the opportunity to identify traditional cultural and religious sites, to evaluate the significance of these sites, and to indicate how the projects might affect them. Further, if it is found that the projects will impact cultural resources that are eligible for inclusion on the National Register of Historic Places and are of religious or cultural significance to your tribe, your role in the consultation process would include participation in resolving how best to avoid, minimize, or mitigate those impacts. If you feel that there are any historic properties of traditional religious and/or cultural importance that may be affected by the proposed undertakings, we request your notification and, we invite you to be a consulting party.

The study area for the proposed transit service extends from the Central Pointe TRAX Station at about 200 West 2100 South eastward to about 1100 East and from 1700 South to 2700 South. The route length would be about 2 miles, and seven transit stations are proposed. Based on an Alternatives Analysis study completed by UTA in 2008, we are evaluating two alternatives for the streetcar project in the current EA. One is the No-Action Alternative, and the other (the Modern Streetcar Alternative) would consist of a fixed-guideway, electrified streetcar line within the existing east-west running railroad right-of-way at about 2300 South (see attached map). This rail corridor is no longer active—some of the tracks have been removed—and UTA owns the right-of-way. Use of this existing corridor will reduce impacts compared to constructing the proposed system in an entirely new location where no contiguous corridor currently exists.

An approximate Area of Potential Effect (APE) for the undertaking as defined by 36 CFR 800.16(d) is shown on the attached map. All development associated with the streetcar system would occur within the existing 2300 South railroad corridor. That is, all ground disturbance and construction, including station locations, would occur within the existing right-of-way. For this reason, UTA proposes that the area of potential effects (APE) (that is, the area that would be assessed for the presence or absence of archaeological resources) be confined to this right-of-way. A comprehensive survey and assessment of historic properties within that APE will be conducted for both corridors. Once this task has been completed, all interested parties and consulting tribes will be apprised of the results and asked to comment. We would appreciate any information you have that may locate cultural resources in this corridor so that they may be considered with other known resources.

The NEPA process will entail an analysis of the cumulative effects of the undertaking. Cumulative effects include past, present and reasonably foreseeable future projects. If you have any issues of concern from the standpoint of cumulative impacts, please let us know. Also, the Salt Lake City metropolitan area is home to a significant number of American Indian people. If you are aware of members of your tribe living in proximity to the study area who would be interested in participating in the NEPA consultation process on some level, please notify us so that we can facilitate that interaction.

At your request, FTA and UTA staff are available to meet with you to discuss your concerns regarding these projects. If such a meeting would be helpful, please contact...
Kristin Kenyon in my office at (720) 963-3319 or kristin.kenyon@dot.gov in order to identify a convenient date or time. Please be assured that FTA, UTA, and their consultants will maintain strict confidentiality about information concerning any of the sacred sites that may be affected by these projects, should a request be made by you to do so. If you wish to be a consulting party for the Sugarhouse Streetcar Project Section 106 process, please notify Kristin Kenyon at your earliest convenience. We would appreciate receiving a response within 30 days of your receiving this letter.

We are committed to ensuring that tribal governments are informed of and involved in decisions that may impact places that have significance to one or more tribes. The 30-day period has been established to encourage your participation at this stage in project development. Failure to respond within this time frame will not prevent your tribe from becoming a consulting party at a later date. However, studies and decision-making will proceed and it may become difficult to reconsider previous determinations or findings, unless significant new information is introduced.

Thank you for considering this request for consultation.

Very truly yours,

[Signature]

Terry J. Rosaep
FTA Regional Administrator

cc: Kristin Kenyon, FTA
    Mary DeLoreto, UTA
    File

Attachments
Area of Potential Effects
Subject: FW: sugarhouse stakeholder

-----Original Message-----
From: kristin.kenyon@dot.gov [mailto:kristin.kenyon@dot.gov]
Sent: Monday, September 21, 2009 11:02 AM
To: Doane, Kerry (Strategic Planner III); Deloretto, Mary (Environmental Studies Manager)
Cc: janice.lem@slcgov.com
Subject: sugarhouse stakeholder

Hi Mary and Kerry

Janice Lew of Salt Lake City Planning Dept called and would like to be a Consulting Party for Sugarhouse.
I told her about the scoping meeting scheduled for tomorrow (Tuesday) and gave her the info. She sounded interested in attending.

Please add her to the stakeholder mailing list. I believe she said she is the new planner for historic landmarks, so perhaps you could update your mailing list to make sure Janice is on the list now. (Her contact info is listed below.)
Thank you!
Kristin

From: Lew, Janice [mailto:Janice.Lew@slcgov.com]
Sent: Fri 9/18/2009 5:28 PM
To: Kenyon, Kristin (FTA)
Cc: Paterson, Joel; Comarell, Pat
Subject: Section 106 for UTA Sugar House streetcar project

Hello Kristin,

As we discussed, Salt Lake City would like to become a consulting party in the Section 106 process for this project. I understand that there will be a meeting held on September 22 with UTA to review the project which I plan to attend.

Thank you for your consideration.

Janice Lew
Salt Lake City Planning Division
451 South State Street, Room 406
PO Box 145480
Salt Lake City, UT 84114-5480
801.535.7625
Mr. Kerry Doane  
UTA Front Line Headquarters  
669 West 200 South  
Salt Lake City, Utah 84101

Dear Mr. Doane:

Thank you for the letter regarding the scoping meeting on September 22, 2009, for Sugarhouse Streetcar Environmental Assessment.

Due to staffing limitations, NRCS can only comment on projects that will primarily impact private agricultural lands.

We encourage you to utilize existing soil survey information for your project planning. Soil survey information for Utah is available at [http://www.ut.nrcs.usda.gov/technical/sols/index.htm](http://www.ut.nrcs.usda.gov/technical/sols/index.htm).

If you have any questions, please contact Mike Domeier, State Soil Scientist, at (801) 524-4574.

Sincerely,

[Signature]

ELISE BOEKE  
State Resource Conservationist

[Logo: NRCS - Natural Resources Conservation Service]

[Tagline: Helping People Help the Land]

[Equal Opportunity Provider and Employer]
Terry J. Rosapep  
Regional Administrator 
Federal Transit Administration 
12300 West Dakota Avenue, Suite 310 
Lakewood CO 80228

RE: Initiation of Section 106 Consultation for the Utah Transit Authority’s Proposed Sugarhouse Streetcar Project, Salt Lake City, Utah

In reply please refer to Case No. 09-1305

Dear M. Rosapep,

Based on the information submitted to the Utah State Historic Preservation Office, we are comfortable with the proposed area of potential effects and with the approach for identifying historic properties for the project. We have no further suggestions for consulting party groups. We appreciate your efforts of taking into account Utah’s historic resources as you plan and move forward with the project.

This information is provided to assist with Section 106 responsibilities as per §36CFR800. If you have any questions, please contact me at clhansen@utah.gov or (801) 533-3561.

Regards,

Chris Hansen  
Preservation Planner
DEPARTMENT OF TRANSPORTATION

JOHN R. NOORD, P.E.
Executive Director

CARLOS M. BRACERAS, P.E.
Deputy Director

State of Utah
GARY R. HERBERT
Governor

GREG BELL
Lieutenant Governor

September 22, 2009

Kerry Doane
Project Manager
Utah Transit Authority
669 West 200 South
Salt Lake City UT 84101

Dear Ms. Doane:

Re: Sugarhouse Streetcar Environmental Assessment Scoping

Thank you for the opportunity to comment on environmental impacts and issues to be evaluated and addressed during the Environmental Assessment (EA) for this proposed project. Our comments are similar in nature to those we submitted in letter to G.J. Labonty, UTA Project Manager, dated October 9, 2007 during the Alternatives Analysis (AA).

Within the proposed transit corridor, crossings at 700 East and State Street carry a combined daily volume of about 75,000 vehicles per day in and out of Salt Lake City and South Salt Lake City. The Wasatch Front Regional Council’s Regional Transportation Plan forecasts these combined volumes as high as 124,000 vehicles per day in 2030. These routes connect directly to Interstate 80 ramps approximately 1000 feet south of the transit corridor. The Sugarhouse Transit AA predicted 2300 trips per day (assuming 5% transit ridership) would use a streetcar in the UTA corridor. The project also desires to accommodate a linear park/trail that would run parallel to the streetcar tracks throughout the UTA corridor. A street car station is planned adjacent to each of these state routes creating an attraction for bicyclists and pedestrians to cross state highways where there are currently no signals or pedestrian crossings.

The EA needs to address in detail the traffic impacts of new, at-grade rail crossings on 700 East and State Street. Based on preliminary modeling work during the AA, we believe the traffic influence of these crossings extends through the I-80 interchanges and ramps and the EA needs to determine and address freeway operations impacts. Likewise, the adverse impacts of pedestrians crossing at the same locations need to be fully understood and addressed with the project. Physical separation of the pedestrian crossings and possibly the street car crossings may be justified due to safety.
concerns, the delay to people traveling north-south, and increased pollution associated with the delay.

Again, thank you for the opportunity to comment on project impacts needing to be addressed as part of UTA’s Sugarhouse Streetcar Environmental Assessment. I look forward to working with you to address these issues.

Sincerely,

Richard Manser, P.E.
Engineering Liaison, Rail Transit Projects

Copy: Jason Davis, Region Two Deputy Director
Robert Miles, Region Two Traffic Operations Engineer
Brandon Weston, Region Two Preconstruction Support Manager
October 6, 2009

Mary DeLorretto
U.S. Dept. of Transportation
12300 W. Dakota Ave., Suite 310
Lakewood, Colorado 80228

Dear Ms. DeLorretto,

In response to Terry Rosapep’s letter dated September 10, 2009, I would be happy to participate as a consulting party for the Sugar House Streetcar Project Section 106 process. The Sugar House area is included in my City Council District, and I look forward to providing my input as part of this process.

Sincerely,

[Signature]

Søren D. Simonsen
Salt Lake City Council
District Seven

SS/su
From: Susie Petheram <susie@crsa-us.com>
To: DeLoreto, Mary (Environmental Studies Manager); kristin.kenyon@dot.gov <kristin.kenyon@dot.gov>
Sent: Tue Oct 06 10:19:37 2009
Subject: Sugar House Streetcar Project Section 106 process

Mary, Kristin:
Thank you for the invitation to be part of the Section 106 process for the proposed Sugar House Streetcar. I'm happy to participate, so just keep me posted on when and how you need my feedback. I can be contacted either here at work (contact info in the signature line below) or at home (Ph: 801-467-7657, e-mail: apatheram@earthlink.net)

Susie Petheram
Senior Planner

CRSA
Planning • Preservation • Urban Design
649 East South Temple
Salt Lake City, Utah 84102
801-240-4838 Direct
801-355-3016 Main Ext. 128
801-355-4085 Fax
www.crsa.us.com
susie@crsa-us.com

file://\site-src\1\Projdocs\UTA Sugarhouse Streetcar\Environmental Assessment\06_EA_Document... 1/12/2010
Salt Lake City
Historic Landmarks Commission

October 18, 2009

US Department of Transportation
Federal Transit Administration
Terry J. Rosapep, Regional Administrator

Re: Invitation to Become a Consulting Party for the Section 106 Process for the Utah Transit Authority’s Proposed Sugarhouse Streetcar Project, Salt Lake City, Utah

Dear Terry,

The Salt Lake City Historic Landmark Commission has received your invitation to become a consulting party in the Section 106 process of the National Historic Preservation Act and we appreciate and anxiously accept this opportunity to consult and advise within the area of potential effects. The proposed area of potential effect along the Sugarhouse Streetcar Project boundaries as defined in the study area include our most recently designated historic district, Forrest Dale National Historic District, as well as the Highland Park National Historic District, and numerous landmark sites within Sugarhouse that are listed on the Salt Lake City Register of Cultural Resources.

These landmark sites consist of individually listed buildings and sites that are protected and regulated under the Historic Preservation Overlay District. The buildings and sites on the Register are of exceptional importance in a local, state, regional or national context and impart high artistic, historic or cultural values.

The Historic Landmark Commission, with authority granted by the historic district act, section 11-18-1, et seq., of the Utah Code Annotated, 1953, serves an advisory role to Salt Lake City to encourage proper development and utilization of lands and areas adjacent to historical areas and to encourage complimentary, contemporary design and construction and to safeguard the heritage of the city by providing for the protection of landmarks representing significant elements of its history.

The proposed Sugarhouse Streetcar project holds great potential to restore walkability, and economic activity while protecting some of Salt Lake City’s most distinctive neighborhoods and cultural landmarks. However, the impact of the proposed streetcar project upon the Forest Dale
& Sugarhouse neighborhoods should be thoughtfully considered to ensure the proper protection of such important landmarks. The Historic Landmark Commission looks forward to the opportunity to work with the Federal Transit Administration, UDOT and other agencies involved in this project in this endeavor. Please let us know what the next steps in this process will be and how the HLC can provide assistance.

Sincerely,

[Signature]

Warren K. Lloyd AIA, HLC chair

cc. Anne Oliver, HLC Vice-Chair
    Pat Comarell, SLC Deputy Planning Director
DeLoretto, Mary (Environmental Studies Manager) [MDeLORETTO@rideuta.com]
Sent: Thursday, October 29, 2009 10:20 AM
To: Spoor, Heidi K.
Cc: kristin.kenyon@dot.gov; Doane, Kerry (Strategic Planner III)
Subject: FW: Sugarhouse Streetcar sect. 106 process
Attachments: USDOT-HLCconsulting party.pdf; ATT2387530.htm; USDOT-sugarhouse.pdf; ATT2387531.htm

Heidi,

Please see the attached letter from the Salt Lake Historic Landmark Commission. I spoke to Warren this morning and said we would send him any pertinent correspondence on this project.

Thanks,

Mary

From: Warren Lloyd [mailto:warren@lloyd-arch.com]
Sent: Thursday, October 29, 2009 10:12 AM
To: DeLoretto, Mary (Environmental Studies Manager)
Subject: Sugarhouse Streetcar sect. 106 process

Mary:

I enjoyed talking with you this morning and am sending on the response from the SLC Historic Landmark Commission that was mailed to Terry Rosapep at the Federal Transit Administration as well as the original invitation from the FTA. The commission looks forward to receiving further information on the Environmental Assessment process in the Sugarhouse area.

thanks,

Warren

Warren K. Lloyd, AIA LEED AP
Principal
Lloyd Architects
Salt Lake City, UT

file://\sle-srv1\Projdocs\UTA Sugarhouse Streetcar\Environmental Assessment\06_EA_Document...  1/12/2010
January 15, 2010

Lori Hunsaker, Deputy Historic Preservation Officer  
Chris Hansen, Preservation Planner  
Division of State History  
300 Rio Grande Street  
Salt Lake City, UT 84101-1182

RE: Utah Transit Authority Sugar House Streetcar Project, Utah County, Utah  
Determinations of Eligibility, Findings of Effect, and Notification of Section 4(f) De Minimis Impact Findings

Dear Mr. Hansen and Ms. Hunsaker:

The Utah Transit Authority (UTA), in cooperation with the Federal Transit Administration (FTA), is preparing to undertake a federal-aid project: a streetcar system through part of Salt Lake County, Utah. As part of this undertaking, UTA and FTA have made an effort to identify historic properties that could be affected by the proposed action or its alternatives and to fully assess those effects. We offer the Utah State Historic Preservation Office (SHPO) an opportunity to comment on our determinations of eligibility of and findings of effect on these properties in accordance with UCA 9-8-404; the implementing regulations of the National Historic Preservation Act at 36 CFR Part 800; and Section 4(f) of the Department of Transportation Act of 1966, 23 U.S.C. § 138 (as amended) and 49 U.S.C. § 303 (as amended).

The proposed Sugar House Streetcar Project (Streetcar Project) would be built along the UTA-owned railroad right-of-way at about 2220 South between about Highland Drive and 200 West and along the UTA-owned railroad right-of-way at 200 West between about 2220 South and our existing TRAX station at 2100 South. The Streetcar Project, which would include a fixed-guideway streetcar line and walk-up stations, would be located almost entirely within the existing UTA-owned right-of-way. No new parking facilities would be constructed.

In order to identify historic properties that could be affected by the proposed undertaking, UTA, through its environmental consultants, conducted a selective reconnaissance-level architectural survey and an intensive-level archaeological survey along the project corridor.
Two archaeological sites, both linear historic resources, and 74 properties containing historic buildings were identified during these field studies. Additionally, the project corridor passes through the center of the newly listed Forest Dale National Register Historic District, and 24 of the documented historic buildings and one of the linear historic sites are located within the district. No known traditional cultural properties or paleontological resources are located in the study area. The area of potential effect (APE), the methods used, and the results of the inventories are detailed in the enclosed technical reports prepared by SWCA Environmental Consultants. Based on the information in the technical reports, FTA has made determinations of eligibility for each of the identified historic resources. These determinations are summarized in Tables 1 and 2 (attached).

UTA and FTA are preparing an environmental assessment (EA) for the proposed undertaking and have considered two alternatives: the No-Action Alternative and the Modern Streetcar on the UTA-Owned Right-of-Way Alternative (the Action Alternative).

**No-Action Alternative.** Under the No-Action Alternative, no streetcar system would be constructed. Planned transportation improvements currently included in the Wasatch Front Regional Council's Regional Transportation Plan (the Plan) would be implemented by the parties responsible for those projects and as funding becomes available. The Plan includes transit development projects, but it does not include the Sugar House Streetcar Project. Under this alternative, historic and archaeological resources along the Streetcar Project corridor would continue to experience existing levels of positive and negative effects. These effects may be caused by changes in the setting and feeling due to the development of the surrounding areas or by property owners' physical alterations of historic buildings. Property boundaries for historic resources would remain as is unless modified by the property owners or acquired for other public projects (such as roadway improvements) undertaken by the City, County, or State. Adverse effects on historic and archaeological resources would be taken into consideration and mitigated in association with those undertakings subject to state or federal cultural resource law or policy. The No-Action Alternative for the Streetcar Project would not affect any historic or archaeological resources.

**Modern Streetcar on the UTA-Owned Right-of-Way Alternative (the Action Alternative).** This is the preferred alternative. The Action Alternative includes a fixed-guideway streetcar rail line and seven walk-up stations between the Granite Block development at Highland Drive and 2100 South and the existing Central Pointe TRAX Station at about 250 West and 2100 South. The transit line would run along an existing UTA-owned right-of-way formerly owned by the Denver & Rio Grande Western Railroad and partially occupied by their abandoned Park City Branch railroad. All of the new stations would be walk-up stations, meaning there would be no new parking facilities constructed to accommodate passengers.
The stations would consist of small platforms with limited shelters and ticket vending machines. These stations would be located in the center of the streetcar right-of-way. All new crossings of the existing streets would be at grade; no overpasses or other aboveground crossing structures would be constructed. The vast majority of the project would be located within the existing UTA-owned right-of-way; however, UTA would need to acquire minor amounts of property in a few areas to accommodate the planned design. In a few cases, platted parcel boundaries encroach on the UTA-owned right-of-way. FTA has taken this into account in its assessment of effects on historic properties. Details of the anticipated effects on individual historic properties are provided in Table 2, as are formal findings of effect, including findings under both Section 106 and Section 4(f). Please note that under this alternative, FTA has made one finding of Adverse Effect and 12 findings of No Adverse Effect under Section 106. For the Adverse Effect, FTA has made one finding of Section 4(f) use. Upon SHPO concurrence with the No Adverse Effect findings, FTA intends to make 12 corresponding findings of Section 4(f) de minimis use for historic and archaeological resources.

We request that you review this document and the enclosed technical reports, and, providing you agree with the determinations of eligibility and findings of effect contained herein, provide your written concurrence to Terry J. Rosapep, Regional Administrator. Should you have any questions about this letter, please do not hesitate to contact Kristin Kenyon, Community Planner at 720-963-3318 or kristin.kenyon@dot.gov.

Sincerely,

Terry J. Rosapep
Regional Administrator

cc: Mary DeLoretto, UTA

Enclosures
Archaeological and Linear Historic Resources Assessment
Historic Buildings Assessment
Table 1. Properties Determined *ineligible* for the National Register of Historic Places (Sugar House Streetcar Project)

<table>
<thead>
<tr>
<th>Address/Name</th>
<th>Description</th>
<th>SHPO Rating</th>
<th>NRHP Criterion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archaeological Sites and Linear Historic Resources</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Historical Buildings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2211 S. 1000 E.</td>
<td>Ca. 1922 Bungalow residence exhibiting general Bungalow style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>2240 S. 900 E.</td>
<td>Ca. 1911 Service Bay Business building exhibiting Late 20th Century style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>839 E. Simpson Ave.</td>
<td>Ca. 1910 Bungalow residence exhibiting Bungalow style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>837 E. Simpson Ave.</td>
<td>Ca. 1915 Bungalow residence exhibiting Bungalow style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>829 E. Simpson Ave.</td>
<td>Ca. 1910 Bungalow residence exhibiting Bungalow style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>809 E. Simpson Ave.</td>
<td>Ca. 1915 Foursquare exhibiting Early Ranch style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>2204 S. 800 E.</td>
<td>Ca. 1915 Bungalow residence exhibiting Bungalow style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>2205 S. 800 E.</td>
<td>Ca. 1907 Bungalow residence exhibiting Early Ranch style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>2222 S. 800 E.</td>
<td>Ca. 1914 Other Residential type residence exhibiting Late 20th Century Other style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>717 E. Simpson Ave.</td>
<td>Ca. 1950 Commercial building of indeterminate type and Late 20th Century Other style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>2219 S. 700 E.</td>
<td>Ca. 1947 1-part Block commercial building exhibiting vernacular style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>2200 S. 700 E.</td>
<td>Ca. 1938 and 1988 commercial building of undefined type and vernacular style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>2230 S. 700 E.</td>
<td>Ca. 1952-1954 1-part Block commercial building exhibiting vernacular style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>268 E. Wentworth Ave.</td>
<td>Ca. 1926 Bungalow residence exhibiting Bungalow style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>Address/Name</td>
<td>Description</td>
<td>SHPO Rating</td>
<td>NRHP Criterion</td>
</tr>
<tr>
<td>----------------------</td>
<td>-----------------------------------------------------------------------------</td>
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<td>----------------</td>
</tr>
<tr>
<td>206 E. Wentworth Ave.</td>
<td>Ca. 1923 Bungalow residence exhibiting Bungalow and Late 20th Century; Other styles – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>206 E. Wentworth Ave.</td>
<td>Ca. 1909 Bungalow residence exhibiting vernacular Prairie School style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>176 E. Wentworth Ave.</td>
<td>Ca. 1936 Period Cottage exhibiting vernacular Period Revival style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>164 E. Wentworth Ave.</td>
<td>Ca. 1950 WWII-Era Cottage exhibiting Minimal Traditional style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>146 E. Wentworth Ave.</td>
<td>Ca. 1927 Other Residential type residence exhibiting vernacular style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
<tr>
<td>2226 S. State Street</td>
<td>Ca. 1945 Commercial/Industrial Block building exhibiting Post-WWII; Other style – Altered</td>
<td>C</td>
<td>Not Eligible</td>
</tr>
</tbody>
</table>
Table 2. Properties Determined *Eligible* for the National Register of Historic Places and Findings of Effect for the Preferred Alternative (Sugar House Streetcar Project)

<table>
<thead>
<tr>
<th>Address/Name</th>
<th>Description</th>
<th>SHPO Rating</th>
<th>NRHP Criterion</th>
<th>Nature of Impact</th>
<th>Section 106 Effect Determination</th>
<th>Section 4(f) Use Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>42SL344</td>
<td>Utah Southern/Union Pacific Railroad</td>
<td>N/A</td>
<td>A</td>
<td>All tracks removed for new construction; existing tracks are modern and no historic features are present along the affected segment</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>42SL416</td>
<td>D&amp;RGW Park City Branch/Salt Lake Eastern Railway</td>
<td>N/A</td>
<td>A</td>
<td>All tracks and features removed for new construction</td>
<td>Adverse Effect</td>
<td>Use</td>
</tr>
<tr>
<td>Forest Dale Historic District</td>
<td>Historic district containing 249 buildings</td>
<td>N/A</td>
<td>Listed on the NRHP</td>
<td>One contributing railroad site (42SL416) removed and 11 contributing buildings subject to moderate, but not adverse, indirect effects from noise. The removal of the historic tracks and replacement with a modern streetcar system would be in keeping with the overall historic context of the District.</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>Address/Name</td>
<td>Description</td>
<td>SHPO Rating</td>
<td>NRHP Criterion</td>
<td>Nature of Impact</td>
<td>Sec 106 Effect Determination</td>
<td>Section 405 Use Finding</td>
</tr>
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</tr>
<tr>
<td>2208 S. 1000 E.</td>
<td>Ca. 1922 Bungalow</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td></td>
<td>residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2207 S. Lincoln St.</td>
<td>Ca. 1922 Bungalow</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td></td>
<td>residence</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>2208 S. Lincoln St.</td>
<td>Ca. 1922 Bungalow</td>
<td>B</td>
<td>A</td>
<td>Strip take along south side yard of property of approx. 114 sq. ft. out of 3,355 sq. ft. (3%) take; NOTE: Property encroaches into UTA ROW; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td></td>
<td>residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2201 S. 900 E.</td>
<td>Ca. 1962 Service</td>
<td>B</td>
<td>A</td>
<td>Strip take along south side yard of property of approx. 177 sq. ft. out of 3,019 sq. ft. (5%) take; NOTE: Property encroaches into UTA ROW; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td></td>
<td>Bay Business</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>875 E. Simpson Ave.*</td>
<td>Ca. 1915 Bungalow</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td></td>
<td>residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>867 E. Simpson Ave.*</td>
<td>Ca. 1943 Early</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>No Use</td>
</tr>
<tr>
<td></td>
<td>Ranch residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>857 E. Simpson Ave.*</td>
<td>Ca. 1909 Bungalow</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td></td>
<td>residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>841 E. Simpson Ave.*</td>
<td>Ca. 1897 Foursquare</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td></td>
<td>residence</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>827 E. Simpson Ave.*</td>
<td>Ca. 1919 Bungalow</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>Address/Name</td>
<td>Description</td>
<td>SHPO Rating</td>
<td>NRHP</td>
<td>Nature of Impact</td>
<td>Sec 106 Effect Determination</td>
<td>Section 4(f) Use Finding</td>
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</tr>
<tr>
<td>819 E. Simpson Ave.*</td>
<td>Ca. 1897 Other Residential Type residence</td>
<td>A</td>
<td>C</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>805 E. Simpson Ave.*</td>
<td>Ca. 1909 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property.</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>801 E. Simpson Ave.*</td>
<td>Ca. 1902 Rectangular Block residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property.</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>783 E. Simpson Ave.*</td>
<td>Ca. 1900 Foursquare residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>779-781 E. Simpson Ave.*</td>
<td>Ca. 1913 Duplex residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property.</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>777 E. Simpson Ave.*</td>
<td>Ca. 1913 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>757 E. Simpson Ave.*</td>
<td>Ca. 1939 Residential Court</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property.</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>856 W. Wilmington Ave.*</td>
<td>Ca. 1910 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property.</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>850 W. Wilmington Ave.*</td>
<td>Ca. 1917 Bungalow residence</td>
<td>A</td>
<td>C</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>Address/Name</td>
<td>SHPO Rating</td>
<td>NRHP Citation</td>
<td>SIPO Rating</td>
<td>Nature of Impact</td>
<td>Sec. 106 Effect Determination</td>
<td>Use Finding</td>
</tr>
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</tr>
<tr>
<td>844 E. Wilmington Ave.</td>
<td>B</td>
<td>Ca. 1925 Bungalow</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>832 E. Wilmington Ave.</td>
<td>B</td>
<td>Ca. 1915 Bungalow</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>828 E. Wilmington Ave.</td>
<td>B</td>
<td>Ca. 1915 Fourquare</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>824 E. Wilmington Ave.</td>
<td>B</td>
<td>Ca. 1912 Fourquare</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>820 E. Wilmington Ave.</td>
<td>B</td>
<td>Ca. 1907 Bungalow</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>816 E. Wilmington Ave.</td>
<td>B</td>
<td>Ca. 1915 Fourquare</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2222 S. Lake St.</td>
<td>A</td>
<td>Ca. 1925 Residential</td>
<td>C</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2220 S. Lake St.</td>
<td>A</td>
<td>Ca. 1954 Ware/Use</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2208 S. Lake St.</td>
<td>A</td>
<td>Ca. 1897 Fourquare</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>833-857 E. Simpson Ave.</td>
<td>B</td>
<td>Ca. 1940-1954 Commercial</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2237 S. 600 E</td>
<td>B</td>
<td>Ca. 1915 Industrial-B.</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>Address/Name</td>
<td>Description</td>
<td>SHPO Rating</td>
<td>NRHP Criterion</td>
<td>Nature of Impact</td>
<td>Sec 106 Effect Determination</td>
<td>Section 4(f) Use Finding</td>
</tr>
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</tr>
<tr>
<td>2225 S. 500 E.</td>
<td>Ca. 1940 Commercial/Industrial Block</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2230 S. 500 E.</td>
<td>Ca. 1944 WWII-Era Cottage residence</td>
<td>B</td>
<td>A</td>
<td>Strip take along south side yard of property of approx. 324 sq. ft out of 3,916 sq. ft (6% take); NOTE: Property encroaches into UTA ROW and non-contribution addition would be directly affected; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>450 E. 2200 S.</td>
<td>Ca. 1964 Commercial/Industrial Block</td>
<td>B</td>
<td>A</td>
<td>Strip take along south side yard of property of approx. 239 sq. ft out of 4,042 sq. ft (5% take); No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>2233 S. 300 E.</td>
<td>Ca. 1963 Business/Office building</td>
<td>B</td>
<td>A</td>
<td>Strip take along south side yard of property of approx. 4,835 sq. ft out of 107,314 sq. ft (3% take); NOTE: Property encroaches into UTA ROW; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>2250 S. 300 E.</td>
<td>Ca. 1951 Commercial/Industrial Block</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2220 S. 300 E.</td>
<td>Ca. 1955 Service Bay/Business</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>280 E. Wentworth Ave.</td>
<td>Ca. 1931 Period Cottage residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>270 E. Wentworth Ave.</td>
<td>Ca. 1929 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>264 E. Wentworth Ave.</td>
<td>Ca. 1937 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>Address/Name</td>
<td>Description</td>
<td>SHPO Rating</td>
<td>NRHP Criterion</td>
<td>Nature of Impact</td>
<td>Sec 106 Effect Determination</td>
<td>Section 4(f) Use Finding</td>
</tr>
<tr>
<td>-------------------</td>
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<td>-----------------------------------------------------------------------------------</td>
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<td>-------------------------</td>
</tr>
<tr>
<td>260 E. Wentworth Ave.</td>
<td>Ca. 1909 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>245 E. Wentworth Ave.</td>
<td>Ca. 1938 Period Cottage residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>240 E. Wentworth Ave.</td>
<td>Ca. 1909 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>230 E. Wentworth Ave.</td>
<td>Ca. 1957 Ranch/Rambler residence</td>
<td>A</td>
<td>C</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>224 E. Wentworth Ave.</td>
<td>Ca. 1915 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>220 E. Wentworth Ave.</td>
<td>Ca. 1914 Bungalow residence</td>
<td>A</td>
<td>C</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>225 S. State Street</td>
<td>Ca. 1958 Bowling Alley</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affects</td>
<td>No Use</td>
</tr>
<tr>
<td>2222 S. 200 E.</td>
<td>Ca. 1962 Four-plex residence</td>
<td>B</td>
<td>A</td>
<td>Strip take along rear of property of approx. 162 sq. ft. of 5,547 sq. ft. (5% take); NOTE: Property encroaches into UTA ROW and a non-contributing carport would be directly affected; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>Address/Name</td>
<td>Description</td>
<td>SHPO Rating</td>
<td>NRHP Criterion</td>
<td>Nature of Impact</td>
<td>Sec.106 Effect Determination</td>
<td>Section 4(f) Use Finding</td>
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</tr>
<tr>
<td>170 E. Wentworth Ave.</td>
<td>Ca. 1939 Duplex residence</td>
<td>B</td>
<td>A</td>
<td>Strip take along rear of property of approx. 161 sq. ft out of 5,842 sq. ft (3% take); NOTE: Property encroaches into UTA ROW; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>155 E. Wentworth Ave.</td>
<td>Ca. 1951 Early Ranch residence</td>
<td>A</td>
<td>C</td>
<td>Strip take along rear of property of approx. 150 sq. ft out of 5,841 sq. ft (3% take); NOTE: Property encroaches into UTA ROW; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>140 E. Wentworth Ave.</td>
<td>Ca. 1910 Central-Block-with-Projecting-Bays residence</td>
<td>B</td>
<td>A</td>
<td>Strip take along rear of property of approx. 154 sq. ft out of 7,010 sq. ft (2% take); NOTE: Property encroaches into UTA ROW; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>134 E. Wentworth Ave.</td>
<td>Ca. 1933 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>Strip take along rear of property of approx. 99 sq. ft out of 4,674 sq. ft (2% take); NOTE: Property encroaches into UTA ROW and a non-contributing outbuilding would be directly affected; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>2230 S. Main Street</td>
<td>Ca. 1962 Business/Office building</td>
<td>A</td>
<td>C</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>48 W. Senior Way</td>
<td>Ca. 1960 Business/Office building</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2250 S. West Temple</td>
<td>Ca. 1935 Warehouse building</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
</tbody>
</table>

*Located within the Forest Dale Historic District*
February 17, 2010

Terry J. Rosapep  
Regional Administrator  
Federal Transit Administration  
12300 West Dakota Avenue, Suite 310  
Lakewood CO 80228  

RE: Utah Transit Authority Sugar House Streetcar Project, Salt Lake County, Utah  

In reply please refer to Case No. 19-1305  

Dear Mr. Rosapep:  

The Utah State Historic Preservation Office (SHPO) has reviewed the submittal (letter dated January 15, 2010 with accompanying materials) from the Federal Transit Authority (FTA) regarding the Sugar House Streetcar Project and offers the following comments relative to complying with Section 106 of the National Historic Preservation Act:  

In the first paragraph Utah Code Annotated 9-8-404 is referenced, our office is interested in knowing why that state code has been cited. As we remain unclear as to what constitutes a Federal project and State project pertaining to the Utah Transit Authority, we request clarification on the subject matter.  

Based on the information submitted and upon request, we concur with your determinations of eligibility for the project. Further, we concur that the project will result in an adverse effect (historic rail line, 42SL416, will be adversely affected). As the project appears to be confined within the Right-of-Way, it does not appear that other historic properties will be adversely affected, although we recommend monitoring potential noise and vibration effects. Also, has an archaeological discovery clause been considered for this project? We appreciate FTA’s efforts of taking Utah’s historic properties into account as they move forward with this project. If you have any questions, please contact me at clhansen@utah.gov or (801) 533-3561.  

Regards,  

Chris Hansen  
Preservation Planner
DeLoretto, Mary (Environmental Studies Manager)

From: Christopher Hansen [chansen@utah.gov]
Sent: Thursday, March 04, 2010 12:00 PM
To: kristin.kenyon@dot.gov
Cc: Heidi.Spoor@hdrinc.com; DeLoretto, Mary (Environmental Studies Manager)
Subject: Re: Sugar House SHPO letter

Kristin,
Thank you for the clarification. I will add this to our project file.

Regards,

Chris

Chris L. Hansen
Preservation Planner
Utah State Historic Preservation Office
300 Rio Grande
Salt Lake City, UT 84101
Phone: 801/533-3561
Fax: 801/533-3503
chansen@utah.gov

>>> <kristin.kenyon@dot.gov> 3/4/2010 11:56 AM >>>

Chris
Thank you for your letter dated February 17th on the proposed Sugar House Streetcar project (attached).
Given your comment regarding the Utah Code, we wanted to clarify that the statement was inadvertently included from an outdated version. It should be stricken from the letter. We apologize for the confusion.
Thank you for your prompt response,
Krisin Kenyon
FTA Region 8
June 16, 2010

Jim Webb, P.E.
Utah Transit Authority
2520 West 4700 South, Suite 9A
Salt Lake City, UT 84118

Mr. Webb

The Utah Department of Transportation has reviewed the submitted traffic models for the crossings of State Street and 700 East of the proposed Sugarhouse Trolley Line. We concur that the concept of an at-grade crossing at both the State Street and the 700 East locations is acceptable.

As has been discussed previously the details of the crossing still need to be agreed to be developed.

Sincerely,

Robert Miles, P.E.
UDOT Region 2
Traffic Operations Engineer

cc:
file
October 6, 2010

Mr. Søren Simonsen  
Salt Lake City Council Office  
P.O. Box 145476  
Salt Lake City, UT 84114-5476

Re: Sugar House Streetcar Project, Salt Lake County, Utah  
Environmental Assessment  
Section 106 Consulting Party Concurrence on Adverse Effect

Dear Mr. Simonsen:

The Utah Transit Authority (UTA), in cooperation with the Federal Transit Administration (FTA), is preparing to undertake a federally funded project: a streetcar system through the southern part of Salt Lake County, Utah. As part of this undertaking, UTA and FTA have made an effort to identify historic properties that could be affected by the proposed action or its alternatives and to fully assess these effects. We offer the consulting parties an opportunity to comment on our determinations of eligibility of and findings of effect on these properties in accordance with the implementing regulations of the National Historic Preservation Act at 36 CFR Part 800; and Section 4(f) of the Department of Transportation Act of 1966, 23 U.S.C. § 138 (as amended) and 49 U.S. C. § 303 (as amended).

The proposed Sugar House Streetcar Project (Streetcar Project) would be built along the UTA-owned railroad right-of-way at about 2220 South between about Highland Drive and 200 West and along the UTA-owned railroad right-of-way at 200 West between about 2220 and our existing TRAX station at 2100 South. The Streetcar Project, which would include a fixed-guideway streetcar line and walk-up stations, would be located almost entirely within the existing UTA-owned right-of-way. No new parking facilities would be constructed.

In order to identify historic properties that could be affected by the proposed undertaking, the UTA, through its environmental consultants, conducted a selective reconnaissance-level architectural survey and an intensive-level archaeological survey along the project corridor (as documented in the reports Historic Buildings Assessment for the Sugar House Streetcar Project in Salt Lake County, Utah, SWCA, December 2009 and Sugar House Streetcar Project, Salt Lake County, Archaeological and Linear Historic Resources Assessment, SWCA, December 2009). Two archaeological sites, both linear historic resources, and 74 properties containing historic...
buildings were identified during these field studies. Additionally, the project corridor passes through the center of the newly listed Forest Dale National Register Historic District, and 24 of the documented historic buildings and one of the two linear historic sites are located within the district. No known traditional cultural properties or paleontological resources are located in the study area. The area of potential effects (APE), the methods used, and the results of the inventories are detailed in technical reports prepared by SWCA Environmental Consultants and available from UTA upon request. Based upon the information in the technical reports, the FTA has made determinations of eligibility for each of the identified historic resources. These determinations are summarized in Tables 1 and 2 (attached).

UTA and FTA are preparing an environmental assessment (EA) for the proposed undertaking and evaluating two alternatives: the No-Action Alternative and the Sugar House Streetcar Transit Alternative (the Action Alternative).

**No-Action Alternative.** Under the No-Action Alternative, no streetcar system would be constructed. All planned transportation improvements currently included in the Wasatch Front Regional Council Regional Transportation Plan (the Plan) except for the Sugar House Streetcar Project itself would be implemented by the parties responsible for those projects and as funding becomes available. The No-Action Alternative for the Streetcar Project would not directly impact any historic or archeological resources although may have indirect effects. While changes to historic properties would be reduced, so would the potential to enhance the benefits to the historic properties and district. Under this alternative, historic and archeological resources along the Streetcar Project corridor would continue to experience existing levels of positive and negative effects. These effects would be caused by changes in the setting and feeling due to the development of the surrounding areas and by property owners' physical alterations of historic buildings. Property boundaries for historic resources would remain as is unless modified by the property owners or acquired for other public projects (such as roadway improvements) undertaken by the city, county, or state. Adverse effects on historic and archeological resources would be taken into consideration and mitigated in association with those undertakings subject to state or federal cultural resource law or policy.

**Modern Streetcar on the UTA-Owned Right-of-Way Alternative (the Action Alternative).** This is the preferred alternative. The Action Alternative includes a fixed-guideway streetcar rail line and seven walk-up station locations between the Granite Block Development at Highland Drive and 2100 South and the existing Central Pointe TRAX Station at approximately 250 West and 2100 South. The transit line would run along an existing UTA-owned right-of-way formerly owned by the Denver & Rio Grande Western Railroad. All of the new stations would be walk-up stations, meaning there would be no new parking facilities constructed to accommodate passenger automobiles. These stations would consist of small platforms with limited shelters and ticket vending machines. These stations would be located in the center of the streetcar right-of-way. All new crossings of the existing roadways would be at-grade; no overpasses or other above-ground crossing
structures would be constructed. The vast majority of the project would be located within the existing UTA-owned right-of-way; however, there would be two partial property takes where the Sugar House line would turn to connect with the UTA main line near 200 West. Additionally, UTA might need to acquire minor strip takes where several properties appear to encroach into the UTA-owned right-of-way, because the property lines have not been surveyed, exact information about the extent of the encroachments is unknown. FTA has taken this into account in its assessment of effects on historic properties. Details of the anticipated effects on individual historic properties are provided in Table 2, as are formal findings of effect, including findings under both Section 106 and Section 4(f). Please note under the Preferred Alternative, FTA has made one finding of Adverse Effect for the D&RGW Park City Branch/Salt Lake Eastern Railway and 12 findings of No Adverse Effect under Section 106. For the Adverse Effect, FTA has made one finding of Section 4(f) use for the D&RGW Park City Branch/Salt Lake Eastern Railway and for the 12 No Adverse Effect findings; FTA has made 12 corresponding findings of Section 4(f) de minimis use for historic and archaeological resources. The State Historic Preservation Officer (SHPO) concurred with these findings in a letter dated February 17, 2010.

We request that you review this document and the attached tables, and, providing you agree with the determinations of eligibility and findings of effect contained herein, provide your written concurrence to Terry J. Rossape, Regional Administrator by October 22, 2010. Should you have any questions, comments or concerns about our determinations and findings, please do not hesitate to contact Kristin Kenyon, Community Planner, in my office, at (720) 963-3319 or kristin.kenyon@dot.gov, or Mary DeLoreto, UTA Environmental Manager at (801) 741-8808 or MDeLoreto@rideuta.com.

Sincerely,

[Signature]

Terry J. Rossape
Regional Administrator

Enclosure

cc: Kristin Kenyon, FTA
    Mary DeLoreto, UTA
List of letter recipients:

Søren Simonsen  
Salt Lake City Council Office  
P.O. Box 145476  
Salt Lake City, UT 84114-5476

Janice Lew, Planner  
Salt Lake City Planning Department  
P.O. Box 145480  
Salt Lake City, UT 84114-5480

Warren Lloyd, Chair  
Salt Lake City Historic Landmarks Commission  
573 East 600 South  
Salt Lake City, UT 84102

Kirk Huffaker  
Utah Heritage Foundation  
P.O. Box 28 Salt Lake City, UT 84110-0028

Susan Petheram  
Sugarhouse Community Council Historical Committee 2260 Lake Street Salt Lake City, UT 84106-1868

Tribes:

Rupert Steele, Chairman  
Confederated Tribes of the Goshute Reservation P.O. Box 6104 Ibapah, Utah 84034-6036

Bruce Parry, Chairman  
Northwestern Band of Shoshone Nation  
707 N. Main Street  
Brigham City, UT 84302

Lawrence Bear, Chairman  
Skull Valley Band of Goshute Indians  
P.O. Box 448  
Grantsville, Utah 84029

Curtis Cesspooch, Chairman  
Ute Indian Tribe  
P.O. Box 190  
Fort Duchesne, Utah 84026-0190

Alonzo A. Coby, Chairman  
Shoshone-Bannock Tribes  
P.O. Box 506 Pima Drive  
Fort Hall, ID 83203
Locally Preferred Alternative
<table>
<thead>
<tr>
<th>Address/Name</th>
<th>Description</th>
<th>SHPO Rating</th>
<th>NRHP Criterion</th>
<th>Nature of Impact</th>
<th>Section 106 Effect Determination</th>
<th>Section 4(f) Use Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>2211 S. 1000 E.</td>
<td>Ca. 1922 Bungalow residence exhibiting general Bungalow style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>2240 S. 900 E.</td>
<td>Ca. 1911 Service Bay Business building exhibiting late 20th Century style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>839 E. Simpson Ave. *In Forest Dale Historic District</td>
<td>Ca. 1910 Bungalow residence exhibiting Bungalow style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>837 E. Simpson Ave. *In Forest Dale Historic District</td>
<td>Ca. 1915 Bungalow residence exhibiting Bungalow style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>829 E. Simpson Ave. *In Forest Dale Historic District</td>
<td>Ca. 1910 Bungalow residence exhibiting Bungalow style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>809 E. Simpson Ave. *In Forest Dale Historic District</td>
<td>Ca. 1915 Bungalow residence exhibiting Bungalow style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>2204 S. 800 E. *In Forest Dale Historic District</td>
<td>Ca. 1915 Four-square exhibiting Early Ranch style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>2205 S. 800 E. *In Forest Dale Historic District</td>
<td>Ca. 1907 Bungalow residence exhibiting Bungalow style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>2222 S. 800 E. *In Forest Dale Historic District</td>
<td>Ca. 1947 Other Residential type residence exhibiting Late 20th Century Other style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>717 E. Simpson Ave.</td>
<td>Ca. 1960 Commercial building of indeterminate type and late 20th Century Other style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>Address/Name</td>
<td>Description</td>
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<td>NRHP Criterion</td>
<td>Nature of Impact</td>
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</tr>
<tr>
<td>2219 S. 700 E.</td>
<td>Ca. 1947 1-part Block commercial building exhibiting vernacular style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>2200 S. 700 E.</td>
<td>Ca. 1936 and 1968 commercial building of undefined type and vernacular style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>2230 S. 700 E.</td>
<td>Ca. 1952-1954 1-part Block commercial building exhibiting vernacular style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>266 E. Wentworth Ave.</td>
<td>Ca. 1926 Bungalow residence exhibiting Bungalow style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>208 E. Wentworth Ave.</td>
<td>Ca. 1923 Bungalow residence exhibiting Bungalow and Late 20th Century; Other styles -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>206 E. Wentworth Ave.</td>
<td>Ca. 1909 Bungalow residence exhibiting vernacular Prairie School style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>176 E. Wentworth Ave.</td>
<td>Ca. 1936 Period Cottage exhibiting vernacular Period Revival style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>164 E. Wentworth Ave.</td>
<td>Ca. 1950 WWII-Era Cottage exhibiting Minimal Traditional style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>146 E. Wentworth Ave.</td>
<td>Ca. 1927 Other Residential type residence exhibiting vernacular style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
<tr>
<td>2226 S. State Street</td>
<td>Ca. 1945 Commercial/Industrial Block building exhibiting Post-WWII; Other style -- Altered</td>
<td>C</td>
<td>Not Eligible</td>
<td>N/A</td>
<td>No Historic Properties Affected</td>
<td>N/A</td>
</tr>
</tbody>
</table>
### Table 2. Properties Determined *Eligible* for the National Register of Historic Places and Findings of Effect for the Preferred Alternative (Sugar House Streetcar Project)

<table>
<thead>
<tr>
<th>Address/Name</th>
<th>Description</th>
<th>SHPO Rating*</th>
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<th>Nature of Impact</th>
<th>Section 106 Effect Determination</th>
<th>Section 4(f) Use Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>42SL344</td>
<td>Utah Southern/Union Pacific Railroad</td>
<td>N/A</td>
<td>A</td>
<td>All tracks removed for new construction; existing tracks are modern and no historic features are present along the affected segment</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>42SL416</td>
<td>D&amp;RGW Park City Branch/Salt Lake Eastern Railway</td>
<td>N/A</td>
<td>A</td>
<td>All tracks and features removed for new construction</td>
<td>Adverse Effect</td>
<td>Use</td>
</tr>
</tbody>
</table>

**Archaeological Sites and Linear Historic Resources**

**Forest Dale Historic District**

- Historic district containing 249 buildings
- Listed on the NRHP
- One contributing railroad site (42SL416) removed and 11 contributing buildings subject to moderate, but not adverse, indirect effects from noise. The removal of the historic tracks and replacement with a modern streetcar system would be in keeping with the overall historic context of the District.

<table>
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<tr>
<th>Address/Name</th>
<th>Description</th>
<th>SHPO Rating*</th>
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<th>Section 106 Effect Determination</th>
<th>Section 4(f) Use Finding</th>
</tr>
</thead>
<tbody>
<tr>
<td>2208 S. 1000 E.</td>
<td>Co. 1922 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2207 S. Lincoln St.</td>
<td>Co. 1922 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2208 S. Lincoln St.</td>
<td>Co. 1922 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>Strip take along south side yard of property of approx. 114 sq. ft out of 3,555 sq. ft (3% take). NOTE: Property encroaches into UTA ROW; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>Address/Name</td>
<td>Description</td>
<td>SHPO Rating*</td>
<td>NRHP Criterion</td>
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</tr>
<tr>
<td>2201 S. 900 E.</td>
<td>Co. 1962 Service Bay Business</td>
<td>B</td>
<td>A</td>
<td>Strip take along south side yard of property of approx. 177 sq. ft out of 3,019 sq. ft (6% takes); NOTE: Property encroaches into UTA ROW; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>875 E. Simpson Ave.*</td>
<td>Co. 1915 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>867 E. Simpson Ave.*</td>
<td>Co. 1948 Early Ranch residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>857 E. Simpson Ave.*</td>
<td>Co. 1909 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>841 E. Simpson Ave.*</td>
<td>Co. 1897 Foursquare residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>827 E. Simpson Ave.*</td>
<td>Co. 1919 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>819 E. Simpson Ave.*</td>
<td>Co. 1897 Other Residential Type residence</td>
<td>A</td>
<td>C</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>805 E. Simpson Ave.*</td>
<td>Co. 1909 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
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</tr>
<tr>
<td>801 E. Simpson Ave.*</td>
<td>Co. 1902 Rectangular Block residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td>783 E. Simpson Ave.*</td>
<td>Co. 1900 Fourquare residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>779-781 E. Simpson Ave.*</td>
<td>Co. 1913 Duplex residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>777 E. Simpson Ave.*</td>
<td>Co. 1913 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>757 E. Simpson Ave.*</td>
<td>Co. 1939 Residential Court</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>856 E. Wilmington Ave.*</td>
<td>Co. 1910 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>850 E. Wilmington Ave.*</td>
<td>Co. 1917 Bungalow residence</td>
<td>A</td>
<td>C</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>844 E. Wilmington Ave.*</td>
<td>Co. 1935 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>832 E. Wilmington Ave.*</td>
<td>Co. 1915 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
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<tr>
<td>830 E. Wilmington Ave.*</td>
<td>Co. 1915 Foursquare residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>828 E. Wilmington Ave.*</td>
<td>Co. 1915 Foursquare residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>826 E. Wilmington Ave.*</td>
<td>Co. 1912 Foursquare residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>824 E. Wilmington Ave.*</td>
<td>Co. 1907 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>820 E. Wilmington Ave.*</td>
<td>Co. 1915 Other Residential Type residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>816 E. Wilmington Ave.*</td>
<td>Co. 1915 Foursquare residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>2205 S. Lake Street*</td>
<td>Co. 1925 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>2222 S. Lake Street*</td>
<td>Co. 1887 Foursquare residence</td>
<td>A</td>
<td>C</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>653-657 E. Simpson Ave.</td>
<td>Co. 1950-1954 Warehouse</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2237 S. 600 E.</td>
<td>Co. 1915 Commercial/ Industrial Block</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2225 S. 500 E.</td>
<td>Co. 1940 Commercial/ Industrial Block</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2230 S. 500 E.</td>
<td>Co. 1944 WWII-Era Cottage residence</td>
<td>B</td>
<td>A</td>
<td>Strip take along south side yard of property of approx. 324 sq. ft. (9% take); NOTE: Property encroaches into UTA ROW and non-contributing addition would be directly affected; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>Address/Name</td>
<td>Description</td>
<td>SHPO Rating*</td>
<td>NRHP Criterion</td>
<td>Nature of Impact</td>
<td>Section 106 Effect Determination</td>
<td>Section 4(f) Use Finding</td>
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<tr>
<td>450 E. 2200 S.</td>
<td>Co. 1964 Commercial/Industrial Block</td>
<td>B</td>
<td>A</td>
<td>Strip take along south side yard of property of approx. 239 sq. ft out of 4,042 sq. ft (6%) take; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>2233 S. 300 E.</td>
<td>Co. 1963 Business/Office building</td>
<td>B</td>
<td>A</td>
<td>Strip take along south side yard of property of approx. 4,935 sq. ft out of 167,514 sq. ft (3%) take; NOTE: Property encroaches into UTA ROW; No Indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>2250 S. 300 E.</td>
<td>Co. 1951 Commercial/Industrial Block</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>2220 S. 300 E.</td>
<td>Co. 1955 Service Bay/Business</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>280 E. Wentworth Ave.</td>
<td>Co. 1931 Period Cottage residence</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>270 E. Wentworth Ave.</td>
<td>Co. 1929 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>264 E. Wentworth Ave.</td>
<td>Co. 1937 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>260 E. Wentworth Ave.</td>
<td>Co. 1909 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affected</td>
<td>De Minimis</td>
</tr>
<tr>
<td>Address/Name</td>
<td>Description</td>
<td>SHPO Rating*</td>
<td>NRHP Criterion</td>
<td>Nature of Impact</td>
<td>Section 106 Effect Determination</td>
<td>Section 4(f) Use Finding</td>
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</tr>
<tr>
<td>246 E. Wentworth Ave.</td>
<td>Co. 1938 Period Cottage</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td></td>
<td>residence</td>
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<tr>
<td>240 E. Wentworth Ave.</td>
<td>Co. 1909 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
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<tr>
<td>230 E. Wentworth Ave.</td>
<td>Co. 1957 Ranch/ Rambler</td>
<td>A</td>
<td>C</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
<tr>
<td></td>
<td>residence</td>
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<td></td>
</tr>
<tr>
<td>224 E. Wentworth Ave.</td>
<td>Co. 1915 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
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<tr>
<td>220 E. Wentworth Ave.</td>
<td>Co. 1914 Bungalow residence</td>
<td>A</td>
<td>C</td>
<td>No direct effect; moderate indirect noise impact to the rear of the property that would not alter historical function or context of the property</td>
<td>No Historic Properties Affects</td>
<td>De Minimis</td>
</tr>
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</tr>
<tr>
<td>2265 S. State Street</td>
<td>Co. 1958 Bowling Alley</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>Address/Name</td>
<td>Description</td>
<td>SHPO Rating</td>
<td>NRHP Criterion</td>
<td>Nature of Impact</td>
<td>Section 106 Effect Determination</td>
<td>Section 4(f) Use Finding</td>
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</tr>
<tr>
<td>2222 S. 200 E.</td>
<td>Co. 1962 Fourplex residence</td>
<td>B</td>
<td>A</td>
<td>Strip take along rear of property of approx. 162 sq. ft out of 5,547 sq. ft (3% take); NOTE: Property encroaches into UTA ROW and a non-contributing corridor would be directly affected; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>170 E. Wentworth Ave.</td>
<td>Co. 1939 Duplex residence</td>
<td>B</td>
<td>A</td>
<td>Strip take along rear of property of approx. 161 sq. ft out of 5,842 sq. ft (3% take); NOTE: Property encroaches into UTA ROW; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>158 E. Wentworth Ave.</td>
<td>Co. 1951 Early Ranch residence</td>
<td>A</td>
<td>C</td>
<td>Strip take along rear of property of approx. 150 sq. ft out of 5,841 sq. ft (3% take); NOTE: Property encroaches into UTA ROW; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>140 E. Wentworth Ave.</td>
<td>Co. 1910 Central-Black-with-Protecting-Bays residence</td>
<td>B</td>
<td>A</td>
<td>Strip take along rear of property of approx. 154 sq. ft out of 7,010 sq. ft (2% take); NOTE: Property encroaches into UTA ROW; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>134 E. Wentworth Ave.</td>
<td>Co. 1933 Bungalow residence</td>
<td>B</td>
<td>A</td>
<td>Strip take along rear of property of approx. 99 sq. ft out of 4,574 sq. ft (3% take); NOTE: Property encroaches into UTA ROW and a non-contributing outbuilding would be directly affected; No indirect effect</td>
<td>No Adverse Effect</td>
<td>De Minimis</td>
</tr>
<tr>
<td>2230 S. Main Street</td>
<td>Co. 1962 Business/ Office building</td>
<td>A</td>
<td>C</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>48 W. Senior Way</td>
<td>Co. 1960 Business/ Office building</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
<tr>
<td>Address/Name</td>
<td>Description</td>
<td>SHPO Rating*</td>
<td>NRHP Criterion</td>
<td>Nature of Impact</td>
<td>Section 106 Effect Determination</td>
<td>Section 4(f) Use Finding</td>
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</tr>
<tr>
<td>2260 S. West Temple</td>
<td>Co. 1935 Warehouse building</td>
<td>B</td>
<td>A</td>
<td>No direct or indirect effect</td>
<td>No Historic Properties Affected</td>
<td>No Use</td>
</tr>
</tbody>
</table>
October 8, 2010

Ms. Charlene Dwin Vaughn
Assistant Director
Office of Federal Agency Programs
Advisory Council on Historic Preservation
1100 Pennsylvania Avenue NW, Suite 803
Washington, DC  20004

Re: Sugar House Streetcar Project, Salt Lake County, Utah
Environmental Assessment
Advisory Council Notification of Adverse Effect

Dear Ms. Vaughn:

Salt Lake City and the City of South Salt Lake, in cooperation with the Utah Transit Authority (UTA) and the Federal Transit Administration (FTA), are preparing an Environmental Assessment (EA) for proposed high-frequency, high-capacity transit service in the Sugarhouse area of Salt Lake County, Utah. The purpose of this letter is to ask the Advisory Council on Historic Preservation (ACHP) to review the attached information and determine whether it wishes to join the Section 106 consultation process for the Sugar House Streetcar Project. If the ACHP chooses to participate, we would appreciate a response by November 5, 2010.

Documentation Included in This Letter

In accordance with 36 Code of Federal Regulations (CFR) 800.56(a)(1), FTA and UTA are providing this letter to the ACHP as notification that the build alternative for the proposed project would have an adverse effect on historic properties. FTA is the lead agency for this project under the National Environmental Policy Act (NEPA). Following 36 CFR 800.8 and 800.11(c), FTA will use the NEPA process to conduct Section 106 consultation and requests your review of the Draft Environmental Assessment (EA) once it is distributed. As specified in 36 CFR 800.11(c), the following documentation is enclosed:

1. A description of the undertaking specifying the federal involvement and its area of potential effects including photographs, maps, and drawings, as necessary;
2. A description of the steps taken to identify historic properties;
3. A description of the affected historic properties, including information on the characteristics that qualify them for the National Register of Historic Places (NRHP);
4. A description of the undertaking's effect on historic properties;
5. An explanation of why the criteria of adverse effect were found applicable or inapplicable, including any conditions or future actions to avoid, minimize, or mitigate adverse effects; and
6. Copies or summaries of any views provided by consulting parties and the public.

Description of the Undertaking

The Sugar House Streetcar Project study area begins at the Central Pointe TRAX Station at about 200 West and 2100 South in South Salt Lake City, and extends eastward to about 1100 East and from 1700 South to 2700 South in Salt Lake City. The route length is about two miles, and seven transit stations are proposed. The study area is located in the cities of Salt Lake and South Salt Lake. The attached figure shows the project limits.

The primary purposes of the Sugar House Streetcar Project are: to contribute to improved mobility and connectivity along 2100 South and between neighborhoods and attractions in the Sugar House Streetcar study area and beyond; provide multi-modal travel choices in the area; provide better access to a regional, fixed-guideway transit network; and support community and economic redevelopment goals. The project will increase mobility for shorter trips as well as provide a more direct connection to the larger regional transportation system. In addition, this project will preserve the cultural identity in the Sugar House area of Salt Lake City and South Salt Lake. The project will enhance the community by providing a transportation improvement that is pedestrian friendly and compatible with the traditional character of the surrounding neighborhoods. The overall goal for this project is to increase local and regional mobility in the study area through 2030. The project will increase multi-modal trip options and reduce automobile travel, thereby helping to decrease local congestion and regional pollution. In compliance with the National Environmental Policy Act (NEPA) and FTA’s implementing regulations (23 CFR 771 et seq.), an EA is being prepared for this project. Two alternatives are being evaluated, a No-Action Alternative and an Action Alternative, as described below.

- **No Action Alternative**: Under the No-Action Alternative, no streetcar would be constructed. All planned transportation improvements currently included in the Wasatch Front Regional Council Regional Transportation Plan (the Plan) except for the Sugar House Streetcar Project, would be implemented by the parties responsible for those projects, as funding becomes available. While changes to historic properties would be reduced, so would the potential to enhance the benefits to the historic properties and district. Under this alternative, historic and archaeological resources along the Streetcar Project corridor would continue to experience existing levels of positive and negative effects. These effects would be caused by changes in the setting and feeling due to the
development of the surrounding areas and by property owners' physical alterations of historic buildings. Property boundaries for historic resources would remain as is unless modified by the property owners or acquired for other public projects (such as roadway improvements) undertaken by the city, county, or state.

- **Action Alternative:** The Action Alternative is a modern streetcar system that would provide service between the Central Pointe TRAX Station at about 250 West and 2100 South and the Granite Block development at Highland Drive and 2100 South in Sugar House (a total of about 2 miles). The streetcar would operate on the UTA-owned right-of-way along about 2300 South for its entire length. The Action Alternative includes the following seven stations: Central Pointe TRAX, State Street, 300 East, Kearns/St. Ann's (450 East), 700 East, 900 East, and Granite Block (about 1100 East). Stations could also be considered at 600 East and 800 East instead of at 700 East and 900 East. All of the new stations would be walk-up stations, meaning there would be no new parking facilities constructed to accommodate passenger automobiles. These stations would consist of small platforms with limited shelters and ticket vending machines. These stations would be located in the center of the streetcar right-of-way. All new crossings of the existing roadways would be at-grade; no overpasses or other above-ground crossing structures would be constructed.

**Steps Taken To Identify Historic Properties**

The effort to identify and evaluate all historic, archaeological, and paleontological resources within the Area of Potential Effects (APE) as defined by 36 CFR 800.16(c) was completed and presented in reports prepared by HDR Engineering, Inc. and SWCA Environmental Consultants entitled “Historic Buildings Assessment for the Proposed Sugar House Streetcar Project in Salt Lake County, Utah,” dated December 2009 and “The Sugar House Streetcar Project, Salt Lake County, Archaeological and Linear Historic Resources Assessment,” dated December 28, 2009. The inventories and evaluations were conducted according to the Secretary of the Interior’s Standards and Guidelines for Archaeology and Historic Preservation (48 Federal Register Part IV).

**Description of Affected Historic Properties and Effects of the Undertaking on Historic Properties**

A total of 74 historic buildings and two linear archaeological sites were identified and recorded as listed in the attached tables. Of the 74 historic buildings, 54 were determined through consultation with the Utah Division of State History to be eligible for the NRHP under either Criterion A or Criterion C. Twenty-four of these eligible properties are listed as contributing resources of the Forest Dale Historic District (seven properties in the Forest Dale Historic
District are non-contributing) through which the proposed streetcar project would pass. This historic district is on the NRHP. The two linear archaeological sites (the Utah Southern/Union Pacific Railroad and the D&RGW Park City Branch/Salt Lake Eastern Railway) were previously determined eligible for the NRHP under Criterion A as a result of other projects. The segments of these linear sites in and adjacent to the Sugar House Streetcar Project APE retain integrity and therefore contribute to the overall NRHP eligibility of the sites. The D&RGW Park City Branch/Salt Lake Eastern Railway is also listed as a contributing resource of the Forest Dale Historic District. No known traditional cultural properties or paleontological resources are located in the APE.

The Action Alternative would have an Adverse Effect on one historic linear resource site, the D&RGW Park City Branch/Salt Lake Eastern Railway, and a No Adverse Effect on the Utah Southern/Union Pacific Railroad. The D&RGW Park City Branch/Salt Lake Eastern Railway is also a contributing resource of the Forest Dale Historic District. Even though a contributing resource to the Forest Dale Historic District would experience an adverse effect, the District overall would experience no adverse effect since the tracks would be replaced with a modern streetcar system that would be in keeping with the overall historic context of the District.

Of the 54 NRHP-eligible properties with historic buildings, ten would be directly affected through minor strip takes of property, but we believe there would be a finding of No Adverse Effect for these ten properties. The findings for the remaining 44 properties with historic buildings would be No Effect, because they would not be directly affected by the Action Alternative.

SHPO Concurrence

The Utah SHPO has concurred with the Determinations of Eligibility and Findings of Effect for the action alternative being considered (see attached concurrence letter dated February 17, 2010). To date, no other consulting parties have provided comments. Four parties have confirmed consulting party invitations: the Salt Lake City Planning Department, the Salt Lake City Historic Landmarks Commission, the Sugar House Community Council Historical Committee, and the Salt Lake City Council, District 7 Representative. A public hearing to receive any comments on the proposed Sugar House Streetcar Project will be held after the Draft EA has been approved by FTA. A Memorandum of Agreement (MOA) will be developed among FTA, the Utah SHPO (UTA is an invited signatory), the Advisory Council on Historic Preservation (if it chooses to participate), and any appropriate consulting parties describing the specific mitigation measures to be implemented if the Action Alternative is selected for the project. FTA and UTA will work with the SHPO to draft the MOA and continue to coordinate with the consulting parties. The MOA will be executed before FTA can issue a Finding of No Significant Impact.
FTA and UTA request that the ACHP review the attached information and determine whether it wishes to join the consultation process for the Sugar House Streetcar Project. Please let us know if you need any additional information to make that determination. Should you require additional information, please contact either Kristin Kenyon at (720) 963-3319 or kristin.kenyon@dot.gov. If the ACHP chooses to participate, we would appreciate a response by November 5, 2010, preferably by emailing a copy of your response letter to FTA at kristin.kenyon@dot.gov. Thank you for your time.

Sincerely,

[Signature]

Terry J. Rosapep
Regional Administrator

Enclosures

cc: Chris Hansen, Utah Division of State History
    Mary DeLoretto, UTA
October 22, 2010

Terry J. Rosapep  
Regional Administrator  
Federal Transit Administration  
12300 West Dakota Avenue, Suite 310  
Lakewood, CO 80228  

Re: Sugar House Streetcar Project, Salt Lake County, UT  
Section 106 Consulting Party Concurrence on Adverse Effect

Dear Mr. Rosapep:

The Salt Lake City Planning Division has reviewed the submittal dated October 6, 2010 regarding the Sugar House Streetcar Project and concurs with the determinations of eligibility and findings contained within the document.

We appreciate the opportunity to provide input about potential effects of the proposed project on historic properties within the City. Please contact me at (801)535-7625 or janice.lew@slc.gov if I may be of further assistance.

Best regards,

Janice Lew  
Senior Preservation Planner
October 25, 2010

Mr. Terry J. Rosapep  
Regional Administrator  
Federal Transit Administration Region VIII  
12300 West Dakota Ave., Suite 310  
Lakewood, CO 80228

Ref: Proposed Sugar House Streetcar Project  
Salt Lake County, Utah

Dear Mr. Rosapep:

On October 18, 2010, the Advisory Council on Historic Preservation (ACHP) received your notification of adverse effect for the referenced undertaking that was submitted in accordance with Section 800.6(a)(1) of our regulations, “Protection of Historic Properties” (36 CFR Part 800). The background documentation included with your submission does not meet the specifications in Section 800.11(e) of the ACHP’s regulations. We, therefore, are unable to determine whether Appendix A of the regulations, Criteria for Council Involvement in Reviewing Individual Section 106 Cases, applies to this undertaking. Accordingly, we request that you submit the following additional information so that we can determine whether our participation in the consultation to resolve adverse effects is warranted.

- A description of steps FTA took to involve federally-recognized Indian tribes that may have an interest in the undertaking, and copies or summaries of any comments received from tribes.

- A copy of the February 17, 2010, letter from the Utah State Historic Preservation Officer that is referenced in your letter but was not attached.

FTA’s letter also notes, “Following 36 CFR 800.8 and 800.11(e), FTA will use the NEPA process to conduct Section 106 consultation and requests your review of the Draft Environmental Assessment (EA) once it is distributed.” Please note that the procedures in our regulations allowing a federal agency to use the National Environmental Policy Act (NEPA) process for Section 106 purposes [36 CFR §800.8(c)] require advance written notice to the State or Tribal Historic Preservation Officer (SHPO/THPO) and ACHP. Since FTA did not provide such notice prior to initiating Section 106 consultation, this procedure is unavailable to the agency for this undertaking. Accordingly, the ACHP will not consider the EA as fulfilling the four-step process established by 36 CFR Part 800.
Upon receipt of the additional information, we will notify you within 15 days of our decision.

If you have any questions, please contact Blythe Semmer at 202-606-8552 or via e-mail at bsemmer@achp.gov.

Sincerely,

Charlene Dwin Vaughn, AICP
Assistant Director
Office of Federal Agency Programs
Federal Permitting, Licensing, and Assistance Section
Dear Blythe,

I am following up to the October 25th letter from your agency regarding missing materials in UTA’s proposed Sugar House Streetcar Project.

I really apologize for dropping the ball and not ensuring all the essential materials were included with the original letter. I have attached the materials to this email (six attachments) and hope that will be ok. (If you need me to mail the originals, please let me know. I am headed out of town but would be able to mail them to you on Monday.) We actually just learned this project received a TIGER 2 grant of $24M so there are actually funds now to make this project a reality.

First, we understand that the NEPA process will not satisfy the steps required for Section 106. Sorry – that was an oversight on my part and we didn’t intend for that to be the case.

Second- here is a summary of the efforts to include the tribes:

We initially mailed letters to our list of tribes (called “tribal letter” attached to the “consulting parties” list attached) on September 10, 2010, letting them know of the project, the proposed APE and inviting them to become consulting parties. We did not receive any responses. We also recently sent them letters describing the determination of effects and findings of effect – called “20101006 Sugar House Consulting Parties Letter” letter attached. So far, we have not received any comments. I am planning on placing follow up calls and emails to the tribes in short order to confirm that they received the materials and do not have any comments nor concerns.

Third – all correspondence from the SHPO is attached: their initial letter confirming the APE (“SHPO APE Concrmc letter”), their letter dated Feb 17, 2010 and the follow up email clarifying a statement in the Feb 17th letter.

I hope this covers everything. My apologies again for not providing your agency with a comprehensive package initially...and please let me know if you’d like me to formally transmit these to ACHP via mail.

Thank you so much for your help! Kristin

Kristin Kenyon
Federal Transit Administration, Region 8
(720) 963-3319
kristin.kenyon@dot.gov
November 8, 2010

Mr. Terry J. Roaspep
Regional Administrator
Federal Transit Administration Region VIII
12300 West Dakota Avenue, Suite 310
Lakewood, CO 80228

Ref: Proposed Sugar House Streetcar Project
Salt Lake County, Utah

Dear Mr. Roaspep:

The Advisory Council on Historic Preservation (ACHP) has received the additional documentation transmitted in response to our letter of October 25, 2010, regarding the referenced undertaking. Based upon the information you provided, we have concluded that Appendix A, Criteria for Council Involvement in Reviewing Individual Section 106 Cases, of our regulations, “Protection of Historic Properties” (36 CFR Part 800), does not apply to this undertaking. Accordingly, we do not believe that our participation in the consultation to resolve adverse effects is needed. However, should circumstances change, and you determine that our participation is needed to conclude the consultation process, please notify us.

Pursuant to 36 CFR §800.6(b)(1)(iv), you will need to file the final Memorandum of Agreement (MOA), developed in consultation with the Utah State Historic Preservation Office (SHPO), and any other consulting parties, and related documentation with the ACHP at the conclusion of the consultation process. The filing of the MOA and supporting documentation with the ACHP is required in order to complete the requirements of Section 106 of the National Historic Preservation Act.

Thank you for providing us with your notification of adverse effect and the additional information we requested. If you have any questions or require further assistance, please contact Ms. Blythe Semmer at 202-606-8552, or via e-mail at bsemmer@achp.gov.

Sincerely,

LaShavio Johnson
Historic Preservation Technician
Office of Federal Agency Programs

ADVISORY COUNCIL ON HISTORIC PRESERVATION
1100 Pennsylvania Avenue NW, Suite 803 • Washington, DC 20004
Phone: 202-606-8503 • Fax: 202-606-8647 • achns@achp.gov • www.achp.gov
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Appendix B

Technical Memoranda
Appendix B1

Subjects Not Studied in the Environmental Assessment
RE: Subjects not studied in the Environmental Assessment

This memorandum reviews the subjects not studied in the environmental assessment (EA) for the Sugar House Streetcar Project (project).

**Farmland**

The project study area is urban and does not support any actively farmed land. Furthermore, the study area is completely within incorporated city limits (Salt Lake City and South Salt Lake), and the Natural Resources Conservation Service (NRCS), the agency that regulates farmland under the federal Farmland Policy Protection Act, does not normally consider lands within city limits in its farmland impact evaluations. NRCS was not contacted for this project.

In summary, because there are no active farmlands in the study area and because the project is in an urban area that would not normally be regulated by NRCS, an evaluation of potential project effects on farmlands is not included in the project EA.

**Water Resources (Including Waters of the United States)**

Most of the project study area is developed for urban uses. Undeveloped, vacant parcels are typical for urban areas in that all of them have been previously disturbed.

The results of a review of aerial photos and U.S. Geological Survey (USGS) topographic maps shows that the project area does not support any waterways such as “blue line” streams or ditches. The results of a review of the National Wetlands Inventory (NWI) show two features near but not along the alignment for the Action Alternative. The first is a wetland feature near the intersection of West Temple Street and Wentworth Avenue, which is north of the alignment. This isolated feature, if it exists, appears to be associated with a commercial property. The Action Alternative would not affect this property in any way.

The other feature is a pond within the boundaries of Fairmont Park between about 1050 and 1100 East. The Action Alternative would travel north of the park and would not affect the park or the pond in any way.

In summary, the Action Alternative would not affect any water resources, including waters of the United States.
Ecosystem Resources

The project study area is urban and does not support any undisturbed or natural habitat. The disturbed habitats that are present along the UTA-owned right-of-way do not support any wildlife. There are no streams, so there are no fish or other aquatic species in the study area. Landscaped yards adjacent to the right-of-way probably support common bird species, but since these areas would not be disturbed by construction, the project would not affect any nests or individuals.

In summary, the Action Alternative would not affect any ecosystem resources.
Appendix B2: Environmental Justice

This appendix summarizes the existing environmental justice populations in the environmental justice evaluation area and the expected impacts to those populations. The environmental justice evaluation area is larger than the general study area. It includes those portions of Salt Lake City and South Salt Lake bounded by I-80 south of the right-of-way, I-15 west of the right-of-way, 1300 East east of the right-of-way, and a line about one-half mile north of the UTA-owned right-of-way. This area was selected because, for those areas that are currently not divided by I-80 or I-15, most people who use transit live or work within about one-half mile of transit stations.

Statutory and Regulatory Setting

Environmental justice is a term used to describe the fair and equitable treatment of minority and low-income people (environmental justice populations) with regard to all federally funded projects and activities. Transit service is essential for many minority and low-income people who have no other way to travel through their communities. Fair treatment means that, over the course of the Sugar House Streetcar Project, FTA and UTA should (USDOT 1997):

- Ensure that new investments and changes in transit facilities, services, maintenance, and vehicle replacement deliver equitable levels of service and benefits to minority and low-income populations.
- Avoid, minimize, or mitigate disproportionately high and adverse effects on minority and low-income populations.
- Enhance public involvement activities to identify and address the needs of minority and low-income populations when making transportation decisions.

Executive Order 12898, Federal Actions To Address Environmental Justice in Minority and Low-Income Populations, mandates that all federal actions be reviewed for possible effects on environmental justice populations. In accordance with Executive Order 12898, FHWA issued Order 6640.23, which established FHWA’s policies and procedures for complying with its obligations under the executive order. FTA follows FHWA’s order for environmental justice matters related to transit projects. In this order, FHWA defines low-income and minority populations as follows:

- A minority is any person belonging to any of the following groups: Black, Hispanic, Asian (including Native Hawaiian or other Pacific Islander), or American Indian or Alaskan Native.
- A low-income population is any persons having a household or median income at or below the poverty thresholds defined by the U.S. Census Bureau and the U.S. Department of Health and Human Services.
Affected Environment

Methodology

To define minority and low-income people and identify environmental justice populations and communities, the project team considered information from the following sources:

- U.S. Census Bureau: Census 2000 (updated American Community Survey data were not available for the entire evaluation area)
- National Center for Education Statistics (NCES) information about schools that serve the evaluation area
- Meetings with local government representatives
- Driving surveys of the evaluation area
- Public involvement activities for the project

The Census data were consulted first in order to identify areas that might support environmental justice communities in the environmental justice evaluation area. Local government officials offered more details about the locations of environmental justice communities. Public involvement activities and field observations also helped the project team identify environmental justice populations.

Census data are reported by larger geographic areas called census tracts and smaller areas within the census tracts called block groups. A census tract–block group number such as 1029-3 indicates both the census tract (1029) and the block group (3). For simplicity, census tract–block groups are referred to as block groups in this EA.

Low-Income Persons

Census Information

Table B2-1 below shows the income and poverty status of residents of Utah, Salt Lake County, South Salt Lake, and Salt Lake City in 1999 (U.S. Census Bureau 2000). As shown in the table, the median household income of the cities’ residents was lower than the median household income of residents in the county and the state. The percentage of people living in poverty was also higher in the cities than in the county and the state.
Table B2-1. Summary of Median Household Income and Poverty in 1999

<table>
<thead>
<tr>
<th>Area</th>
<th>Median Household Income</th>
<th>Population for Whom Poverty Status Was Determined</th>
<th>Percentage of People Living in Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utah</td>
<td>$45,726</td>
<td>2,195,034</td>
<td>9.4%</td>
</tr>
<tr>
<td>Salt Lake County</td>
<td>$48,373</td>
<td>883,946</td>
<td>8.0%</td>
</tr>
<tr>
<td>South Salt Lake</td>
<td>$29,801</td>
<td>19,899</td>
<td>16.3%</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>$36,944</td>
<td>178,190</td>
<td>15.3%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau 2000

Detailed Census 2000 information about the median household income and poverty status of people living in the evaluation area is included in Table B2-3.

Table B2-2. Median Household Income and Poverty in 1999

<table>
<thead>
<tr>
<th>Area or Census Tract and Block Group</th>
<th>Median Household Income</th>
<th>Population for Whom Poverty Status Was Determined</th>
<th>Percentage of Persons Living in Poverty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utah</td>
<td>$45,726</td>
<td>2,195,034</td>
<td>9.4%</td>
</tr>
<tr>
<td>Salt Lake County</td>
<td>$48,373</td>
<td>883,946</td>
<td>8.0%</td>
</tr>
<tr>
<td>South Salt Lake</td>
<td>$29,801</td>
<td>19,899</td>
<td>16.3%</td>
</tr>
<tr>
<td>Tract 1114, block group 1</td>
<td>$29,048</td>
<td>912</td>
<td>10.0%</td>
</tr>
<tr>
<td>Tract 1114, block group 6</td>
<td>$29,938</td>
<td>1,032</td>
<td>5.1%</td>
</tr>
<tr>
<td>Tract 1115, block group 1</td>
<td>$23,393</td>
<td>1,738</td>
<td>30.1%</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>$36,944</td>
<td>178,190</td>
<td>15.3%</td>
</tr>
<tr>
<td>Tract 1029, block group 3</td>
<td>$27,000</td>
<td>1,452</td>
<td>18.3%</td>
</tr>
<tr>
<td>Tract 1032, block group 1</td>
<td>$36,063</td>
<td>1,333</td>
<td>8.7%</td>
</tr>
<tr>
<td>Tract 1032, block group 2</td>
<td>$30,898</td>
<td>1,511</td>
<td>18.1%</td>
</tr>
<tr>
<td>Tract 1032, block group 3</td>
<td>$20,538</td>
<td>1,833</td>
<td>22.3%</td>
</tr>
<tr>
<td>Tract 1033, block group 1</td>
<td>$36,404</td>
<td>1,291</td>
<td>8.5%</td>
</tr>
<tr>
<td>Tract 1033, block group 2</td>
<td>$42,750</td>
<td>1,365</td>
<td>9.6%</td>
</tr>
<tr>
<td>Tract 1033, block group 3</td>
<td>$38,333</td>
<td>1,299</td>
<td>8.5%</td>
</tr>
<tr>
<td>Tract 1046, block group 1</td>
<td>$38,000</td>
<td>1,058</td>
<td>13.6%</td>
</tr>
<tr>
<td>Tract 1049, block group 1</td>
<td>$40,179</td>
<td>886</td>
<td>17.8%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau 2000

South Salt Lake. An examination of these data for South Salt Lake and for the three census block groups that are in the South Salt Lake part of the evaluation area shows that the median household income of two of the three block groups was nearly the same as that of the city as a whole, but the median household income of block group 1115-1 was lower than that of the city. This block group also had a much higher percentage of people
living in poverty than did the city as a whole (the two other block groups had lower percentages of people living in poverty).

**Salt Lake City.** In the Salt Lake City part of the evaluation area, the median household income of six of the nine block groups in the evaluation area was nearly the same as or higher than the median household income for all city residents. The three Salt Lake City block groups that had lower median household incomes (1029-3, 1032-2, and 1032-3) also had higher percentages of people living in poverty than did the city as a whole. One other Salt Lake City block group, 1049-1, also had a higher percentage of people living in poverty than did the city as a whole.

**Supplemental Research**

The 2000 Census data provide a good starting point for identifying low-income populations. To supplement the Census information, the project team conducted further research to confirm if there are minority populations present in the evaluation area.

The National School Lunch Program provides subsidized lunches to children from lower-income families. Children from families with incomes at or below 130% of the poverty level are eligible for free meals, while children from families with incomes between 130% and 185% of the poverty level are eligible for reduced-price meals.

The area covered by block groups 1029-3, 1032-2, and 1032-3 in Salt Lake City is served by a single elementary school, Whittier Elementary, and nearly all of the students that attend Whittier Elementary are eligible for free or reduced-price lunches (NCES 2009). Two other nearby elementary schools that also serve the evaluation area, Hawthorne Elementary and Nibley Park Elementary, also have very high eligibility rates for free and reduced-price lunch programs. The elementary school that serves block group 1115-1 in South Salt Lake, Woodrow Wilson Elementary, has a high rate of eligibility for free lunches but a very low rate of eligibility for reduced-price lunches (see Table B2-3).

### Table B2-3. Student Eligibility for Free and Reduced-Price Lunches in the Environmental Justice Evaluation Area

<table>
<thead>
<tr>
<th>School</th>
<th>Lunch Assistance Program Participation</th>
<th>Race of Enrolled Students</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Eligible for Free Lunch</td>
<td>Eligible for Reduced-Price Lunch</td>
</tr>
<tr>
<td>Highland High</td>
<td>0.3%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Clayton Middle</td>
<td>0.8%</td>
<td>0.2%</td>
</tr>
<tr>
<td>Nibley Park Elementary</td>
<td>73.6%</td>
<td>25.7%</td>
</tr>
<tr>
<td>Hawthorne Elementary</td>
<td>72.7%</td>
<td>26.7%</td>
</tr>
<tr>
<td>Whittier Elementary</td>
<td>75.9%</td>
<td>23.6%</td>
</tr>
<tr>
<td>Granite Park Junior High</td>
<td>0.8%</td>
<td>0.1%</td>
</tr>
<tr>
<td>Woodrow Wilson Elementary</td>
<td>20.8%</td>
<td>7.2%</td>
</tr>
</tbody>
</table>

Source: NCES 2009
Housing assistance programs operated by local housing authorities target low-income people. The Housing Authority of Salt Lake County sponsors a Housing Choice Voucher Program (commonly known as “Section 8”), a low-income public housing program, and an affordable-housing program. The Housing Authority owns and operates three multifamily housing developments as part of the affordable-housing program, but none of these developments are in the evaluation area. There are a number of subsidized housing developments in Salt Lake County, including two in the evaluation area: one at 1750 South and about 100 West (family housing) and one at 1878 S. Main Street (housing for people with disabilities). These two housing developments are within block group 1029-3.

Minorities

Census Information

Table B2-4 below summarizes the ethnicity and race of residents of Utah, Salt Lake County, South Salt Lake, and Salt Lake City in 2000 (U.S. Census Bureau 2000). As shown in the table, the county and the cities had higher proportions of ethnic Hispanic or Latino residents than did the state as a whole. The table also shows that the cities had higher proportions of minorities than did the county or state.

Detailed 2000 Census information about the evaluation area is included in Table B2-5 and Table B2-6 below.
### Table B2-4. Ethnicity and Race Summary for Utah, Salt Lake County, and Cities in the Environmental Justice Evaluation Area

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Utah</th>
<th>Salt Lake County</th>
<th>South Salt Lake</th>
<th>Salt Lake City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>2,233,169</td>
<td>898,387</td>
<td>22,038</td>
<td>181,743</td>
</tr>
<tr>
<td>Ethnic Hispanic or Latino (regardless of race)</td>
<td>201,559</td>
<td>106,787</td>
<td>4,932</td>
<td>34,254</td>
</tr>
<tr>
<td></td>
<td>(9.0% of total)</td>
<td>(11.9% of total)</td>
<td>(22.4% of total)</td>
<td>(18.9% of total)</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White</td>
<td>1,992,975</td>
<td>775,666</td>
<td>16,582</td>
<td>143,933</td>
</tr>
<tr>
<td></td>
<td>(89.2% of total)</td>
<td>(86.3% of total)</td>
<td>(75.2% of total)</td>
<td>(79.2% of total)</td>
</tr>
<tr>
<td>Racial minority&lt;sup&gt;a&lt;/sup&gt;</td>
<td>240,194</td>
<td>122,721</td>
<td>5,456</td>
<td>37,810</td>
</tr>
<tr>
<td></td>
<td>(10.8% of total)</td>
<td>(13.7% of total)</td>
<td>(24.8% of total)</td>
<td>(20.8% of total)</td>
</tr>
<tr>
<td>Black/African American</td>
<td>17,657</td>
<td>9,495</td>
<td>642</td>
<td>3,433</td>
</tr>
<tr>
<td></td>
<td>(0.8% of total)</td>
<td>(1.1% of total)</td>
<td>(2.9% of total)</td>
<td>(1.9% of total)</td>
</tr>
<tr>
<td>American Indian/Alaskan Native</td>
<td>29,684</td>
<td>7,892</td>
<td>662</td>
<td>2,442</td>
</tr>
<tr>
<td></td>
<td>(1.3% of total)</td>
<td>(0.9% of total)</td>
<td>(3.0% of total)</td>
<td>(1.3% of total)</td>
</tr>
<tr>
<td>Asian</td>
<td>37,108</td>
<td>22,991</td>
<td>584</td>
<td>6,579</td>
</tr>
<tr>
<td></td>
<td>(1.7% of total)</td>
<td>(2.6% of total)</td>
<td>(2.6% of total)</td>
<td>(3.6% of total)</td>
</tr>
<tr>
<td>Native Hawaiian/Other Pacific Islander</td>
<td>15,145</td>
<td>11,075</td>
<td>266</td>
<td>3,437</td>
</tr>
<tr>
<td></td>
<td>(0.7% of total)</td>
<td>(1.2% of total)</td>
<td>(1.2% of total)</td>
<td>(1.9% of total)</td>
</tr>
<tr>
<td>Some other race</td>
<td>93,405</td>
<td>48,166</td>
<td>2,356</td>
<td>15,482</td>
</tr>
<tr>
<td></td>
<td>(4.2% of total)</td>
<td>(5.4% of total)</td>
<td>(10.7% of total)</td>
<td>(8.5% of total)</td>
</tr>
<tr>
<td>Two or more races</td>
<td>47,195</td>
<td>23,102</td>
<td>946</td>
<td>6,437</td>
</tr>
<tr>
<td></td>
<td>(2.1% of total)</td>
<td>(2.6% of total)</td>
<td>(4.3% of total)</td>
<td>(3.5% of total)</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau 2000

<sup>a</sup> Includes people who declare themselves to be Black or African American, American Indian or Alaskan Native, Asian, Native Hawaiian or Other Pacific Islander, a race not defined by the Census Bureau, or two or more races. Hispanic persons can be any race.
### Table B2-5. Race Summary for Block Groups in the Environmental Justice Evaluation Area

<table>
<thead>
<tr>
<th>Census Tract and Block Group</th>
<th>Total Population</th>
<th>White</th>
<th>Not White</th>
<th>Black/African American</th>
<th>American Indian/Alaska Native</th>
<th>Asian</th>
<th>Native</th>
<th>Hawaiian/Other Pacific Islander</th>
<th>Some Other Race</th>
<th>Two or More Races</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Salt Lake</td>
<td>22,038</td>
<td>16,582</td>
<td>5,456</td>
<td>642</td>
<td>662</td>
<td>584</td>
<td>266</td>
<td>2,356</td>
<td>946</td>
<td>10.7%</td>
</tr>
<tr>
<td>Tract 1114, block group 1</td>
<td>971</td>
<td>739</td>
<td>232</td>
<td>37</td>
<td>14</td>
<td>22</td>
<td>18</td>
<td>93</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Tract 1114, block group 6</td>
<td>1,088</td>
<td>845</td>
<td>213</td>
<td>22</td>
<td>19</td>
<td>43</td>
<td>9</td>
<td>72</td>
<td>48</td>
<td></td>
</tr>
<tr>
<td>Tract 1115, block group 1</td>
<td>2,017</td>
<td>1,403</td>
<td>614</td>
<td>54</td>
<td>86</td>
<td>44</td>
<td>30</td>
<td>304</td>
<td>96</td>
<td></td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>181,743</td>
<td>143,933</td>
<td>37,810</td>
<td>3,433</td>
<td>2,442</td>
<td>6,579</td>
<td>3,437</td>
<td>15,482</td>
<td>6,437</td>
<td></td>
</tr>
<tr>
<td>Tract 1029, block group 3</td>
<td>1,508</td>
<td>1,113</td>
<td>395</td>
<td>21</td>
<td>43</td>
<td>52</td>
<td>31</td>
<td>160</td>
<td>88</td>
<td></td>
</tr>
<tr>
<td>Tract 1032, block group 1</td>
<td>1,330</td>
<td>1,132</td>
<td>198</td>
<td>24</td>
<td>38</td>
<td>30</td>
<td>15</td>
<td>54</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Tract 1032, block group 2</td>
<td>1,762</td>
<td>1,470</td>
<td>292</td>
<td>37</td>
<td>30</td>
<td>20</td>
<td>24</td>
<td>132</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Tract 1032, block group 3</td>
<td>1,789</td>
<td>1,342</td>
<td>447</td>
<td>36</td>
<td>52</td>
<td>58</td>
<td>4</td>
<td>224</td>
<td>73</td>
<td></td>
</tr>
<tr>
<td>Tract 1033, block group 1</td>
<td>1,697</td>
<td>1,464</td>
<td>233</td>
<td>22</td>
<td>12</td>
<td>64</td>
<td>2</td>
<td>96</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Tract 1033, block group 2</td>
<td>1,340</td>
<td>1,195</td>
<td>145</td>
<td>11</td>
<td>10</td>
<td>35</td>
<td>7</td>
<td>33</td>
<td>49</td>
<td></td>
</tr>
<tr>
<td>Tract 1033, block group 3</td>
<td>1,237</td>
<td>1,075</td>
<td>162</td>
<td>13</td>
<td>28</td>
<td>17</td>
<td>34</td>
<td>36</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Tract 1046, block group 1</td>
<td>1,090</td>
<td>941</td>
<td>149</td>
<td>15</td>
<td>6</td>
<td>26</td>
<td>16</td>
<td>52</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Tract 1049, block group 1</td>
<td>873</td>
<td>737</td>
<td>136</td>
<td>18</td>
<td>17</td>
<td>5</td>
<td>0</td>
<td>65</td>
<td>31</td>
<td></td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau 2000
Table B2-6. Ethnicity Summary for Block Groups in the Environmental Justice Evaluation Area

<table>
<thead>
<tr>
<th>Census Tract and Block Group</th>
<th>Total Population</th>
<th>Hispanic or Latino, Regardless of Race</th>
<th>Not Hispanic or Latino</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Salt Lake</td>
<td>22,038</td>
<td>4,932</td>
<td>17,106</td>
</tr>
<tr>
<td></td>
<td></td>
<td>22.4%</td>
<td>77.6%</td>
</tr>
<tr>
<td>Total for block groups in evaluation area</td>
<td>4,076</td>
<td>24.8%</td>
<td>75.2%</td>
</tr>
<tr>
<td>Tract 1114, block group 1</td>
<td>971</td>
<td>18.4%</td>
<td>81.6%</td>
</tr>
<tr>
<td>Tract 1114, block group 6</td>
<td>1,088</td>
<td>18.7%</td>
<td>81.3%</td>
</tr>
<tr>
<td>Tract 1115, block group 1</td>
<td>2,017</td>
<td>31.1%</td>
<td>68.9%</td>
</tr>
<tr>
<td>Salt Lake City</td>
<td>161,743</td>
<td>34,254</td>
<td>147,489</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18.9%</td>
<td></td>
</tr>
<tr>
<td>Total for block groups in evaluation area</td>
<td>12,626</td>
<td>15.1%</td>
<td>84.9%</td>
</tr>
<tr>
<td>Tract 1029, block group 3</td>
<td>1,508</td>
<td>27.7%</td>
<td>72.3%</td>
</tr>
<tr>
<td>Tract 1032, block group 1</td>
<td>1,330</td>
<td>11.0%</td>
<td>89.0%</td>
</tr>
<tr>
<td>Tract 1032, block group 2</td>
<td>1,762</td>
<td>15.3%</td>
<td>84.7%</td>
</tr>
<tr>
<td>Tract 1032, block group 3</td>
<td>1,789</td>
<td>25.9%</td>
<td>74.1%</td>
</tr>
<tr>
<td>Tract 1033, block group 1</td>
<td>1,697</td>
<td>9.0%</td>
<td>91.0%</td>
</tr>
<tr>
<td>Tract 1033, block group 2</td>
<td>1,340</td>
<td>5.1%</td>
<td>94.9%</td>
</tr>
<tr>
<td>Tract 1033, block group 3</td>
<td>1,237</td>
<td>8.9%</td>
<td>91.1%</td>
</tr>
<tr>
<td>Tract 1046, block group 1</td>
<td>1,090</td>
<td>10.1%</td>
<td>89.9%</td>
</tr>
<tr>
<td>Tract 1049, block group 1</td>
<td>873</td>
<td>19.4%</td>
<td>80.6%</td>
</tr>
</tbody>
</table>

Source: U.S. Census Bureau 2000

**South Salt Lake.** A detailed look at these data for South Salt Lake and for the three Census block groups that are in the South Salt Lake part of the evaluation area shows that South Salt Lake had the following characteristics:

- In 2000, 75.2% of the population was white and 24.8% was not white; the 24.8% included people who declared themselves to be of a race not defined by the Census Bureau or who declared themselves to be of more than one race.

- Compared to Salt Lake County as a whole, the 2000 population of South Salt Lake had a higher percentage of racial and ethnic minorities.

- There are three block groups in the South Salt Lake part of the evaluation area: 1114-1, 1114-6, and 1115-1. Block group 1115-1 includes a much larger area that is outside the evaluation area and west of I-15, so data from this block group might not represent the evaluation area.

- The proportions of racial minorities in all three of the block groups in 2000 were similar to that of the city as a whole. The two block groups that are completely
within the evaluation area had slightly lower percentages of minorities than the city as a whole, while the block group that extends outside the evaluation area had a higher percentage of minorities than did the city as a whole.

- The two block groups that are completely within the evaluation area had lower percentages of Hispanic or Latino residents than did the city as a whole in 2000, while the one block group that extends outside the evaluation area had a higher percentage of Hispanic or Latino minorities than did the city as a whole.

**Salt Lake City.** A detailed look at 2000 Census data for Salt Lake City and for the nine Census block groups that are in the Sugar House community of Salt Lake City (and in the evaluation area) shows that Salt Lake City had the following characteristics:

- In 2000, 79.2% of the population was white and 20.8% of the population was not white; the 20.8% of the population included people who declared themselves to be of a race not defined by the Census Bureau or who declared themselves to be of more than one race.

- Compared to Salt Lake County as a whole, Salt Lake City had a higher percentage of racial and ethnic minorities.

- The proportions of racial minorities in all but two of the nine block groups were lower than that of the city as a whole. The two block groups that had a higher percentage of minorities (block groups 1029-3 and 1032-3) are contiguous and connect to a block group in South Salt Lake that also had a higher proportion of racial minorities than did South Salt Lake as a whole (block group 1115-1). The distribution of racial minorities in this area indicates that these block groups might support environmental justice populations.

- When evaluated in combination, the nine block groups had a lower proportion of ethnic minorities than did the city as a whole, but three block groups individually had proportions of ethnic minorities that were higher (block groups 1029-3, 1032-3, and 1049-1). Two of these three block groups also supported greater proportions of racial minorities than did the city as a whole (block groups 1029-3 and 1032-3).

**Supplemental Research**

To supplement the Census information, the project team conducted further research to confirm if there are minority populations present in the evaluation area.

The area covered by block groups 1029-3 and 1032-3 in Salt Lake City is served by a single elementary school, Whittier Elementary. About 56% of the students enrolled at this school are racial minorities (NCES 2009). Of the elementary schools in the Salt Lake City School District that serve the evaluation area, Whittier Elementary has the highest percentage of minority students. In the South Salt Lake part of the evaluation area, Woodrow Wilson Elementary (in the Granite School District) serves the student
population. This school serves block group 1115-1 and has a minority student percentage of about 65% (NCES 2009). When considered in combination with enrollment information about Whittier Elementary, the data further confirm that the population in the area served by these two schools has a high percentage of minorities.

The part of South Salt Lake and Salt Lake City west of about 500 East and between I-80 and about 2100 South is home to many people who have recently immigrated to this country, many of whom are refugee families. The Utah Refugee Employment and Community Center, a privately operated community center at 1588 S. Major Street (between State and Main Streets), is north of the evaluation area but provides services to many people living in the evaluation area. The Hser Ner Moo Community Learning Center, a community center for refugees, is located at the South Parc apartment complex at about 500 East and 2300 South, and this apartment complex is home to many refugee families. The complex and Hser Ner Moo Center serve as an important community for the people living there. Since it opened, the Hser Ner Moo Center has helped create a more positive atmosphere at the apartment complex (Florence 2009).

Public Outreach during Past Phases of the Project

UTA conducted extensive public outreach during the alternatives development process. The public process was designed to educate residents about the potential for a transitway in the area and to receive input and comments. UTA held two public meetings during the Alternatives Analysis to connect with environmental justice communities.

UTA sponsored two public open houses during the alternatives development process. The first open house was held on April 2, 2007, at the Columbus Community Center in South Salt Lake. The purpose of the open house was to introduce the project to the public and to gather comments on the project’s goals and objectives. UTA notified all residents living along the right-of-way (including those who might be low-income or minorities) of the April 2 open house through a direct mailing.

UTA sponsored a second open house on July 12, 2007, at the Sprague Library in the Sugar House community of Salt Lake City. The purpose of this second open house was to present a short list of alternative alignments and modes and to receive comments on residents’ preferred mode, alignment, and station locations. Residents living along the right-of-way were notified of the meeting through a direct mailing.

Comments received at the open houses do not provide information about the presence of environmental justice communities.

Summary of Minority and Low-Income Populations

In summary, the part of the evaluation area that is east of I-15, south of 1700 South, west of 500 East, and north of I-80 is home to many minority and low-income households (see Figure B2-1 below). The Environmental Consequences section below focuses on impacts to people living in this part of the evaluation area.
Figure B2-1. Census Block Groups and Potential Environmental Justice Populations
Environmental Consequences

Methodology

Once environmental justice communities were identified, the project team used a two-step approach to identify any disproportionate impacts to environmental justice communities. First, the project team determined whether the Action Alternative could change resources in a way that would affect people in the environmental justice evaluation area. The main resources that are likely to affect local populations are community cohesion (the extent to which a community feels connected or cohesive), economics, relocations, transportation, air quality, and noise.

Next, the project team reviewed the impact information for these resources to determine if the impacts would exceed a law, regulation, guidance, or accepted guideline, or if, based on their professional judgment, the impacts would have an effect, whether positive or negative, on environmental justice communities. If the project team determined that any of the previous conditions would occur, the second step was to decide whether the impact would cause a disproportionately high and adverse effect on an environmental justice population.

No-Action Alternative

Under the No-Action Alternative, the Sugar House Streetcar Project would not be constructed, and there would be no short-term (construction-related) or long-term effects on any communities living along or near the UTA-owned right-of-way. Environmental justice communities in the evaluation area would continue to use existing services in the area, including bus transit services along the surface streets and light rail along 200 West. Living conditions would not be likely to worsen for environmental justice populations since the accessibility of services would probably not change. Increasing traffic congestion in the area would affect all people living in the evaluation area regardless of race or income.

Action Alternative

This section discusses the expected impacts to environmental justice populations due to changes in social and economic conditions, air quality, noise and vibration, and safety and security and due to construction activities. In general, the service provided through transit projects benefits environmental justice populations. New service can provide greater opportunities for people to move within and between communities, thereby providing access to jobs, housing, and services.

Social Environment. As described in Section 3.2.3.3, Action Alternative, the Action Alternative would not adversely affect community cohesion, social interaction, quality of life, or access to community services in the evaluation area. The Action Alternative would improve access and mobility for all residents, would not affect existing social networks or access to places where people socialize, and would reduce travel time for all
residents. Because the project would not adversely affect the overall social environment and in fact would improve mobility and access, it would not cause any disproportionate or high adverse effects on the social environment of environmental justice populations.

**Economic Conditions.** The economic conditions in the evaluation area are described in Section 3.4, Economics. The environmental justice evaluation area includes very distinct commercial and industrial areas that are likely to remain through 2030. As the area develops consistent with the adopted land-use plan of South Salt Lake and the Sugar House Community Plan, some areas that are currently developed for residential use might transition into mixed uses, which could bring additional economic benefits to people living in the area. For example, residents might be able to work closer to home, thereby avoiding costs associated with travel to and from work. Because the Action Alternative would benefit the economy of the entire evaluation area, it would not cause disproportionate adverse economic effects on environmental justice communities.

**Air Quality.** The overall air quality and noise effects of the project are described in Section 3.5, Air Quality. Because the Sugar House Streetcar line would be powered by electricity, would not contribute PM$_{10}$ emissions, and would not cause any local carbon monoxide impacts (“hot spot” impacts), the project would not cause air quality impacts that would affect the quality of life of any residents living along the Action Alternative alignment. Because there would not be any overall project-related air quality impacts, the Action Alternative would not cause disproportionate or high adverse effects on air quality in areas that support environmental justice populations.

**Noise and Vibration.** As described in Section 3.6, Noise and Vibration, the project would not cause any vibration effects. However, because of the relatively low background noise levels in residential areas next to the Action Alternative alignment, some residents living in the area that supports environmental justice populations would experience moderate noise impacts. Specifically, 10 single-family residences between about 200 East and 300 East would experience moderate noise impacts.

According to the FTA guidelines, the moderate impact category indicates that the change in noise is noticeable but is probably not great enough to cause a strong, adverse community reaction. Moderate impacts would also be experienced by residents who do not live in the area that supports environmental justice populations. Because the noise impacts would be moderate (as compared to severe) and would not be borne solely by environmental justice populations, the Action Alternative would not cause disproportionate or high adverse noise effects in areas that support environmental justice populations.

**Safety and Security.** The Sugar House Streetcar line would travel along a rail right-of-way that would cross several existing city streets. All crossings would be designed to ensure the safety of pedestrians and bicyclists as well as the safety of people in automobiles.

Security at transit stations is often a concern when new transit lines such as the Sugar House Streetcar line are constructed. As described in the section titled Crime on page 3-26, the Action Alternative would not affect the general safety of the area. UTA’s transit
officers and officers associated with the South Salt Lake Police Department and the Salt Lake City Police Department would patrol and respond to incidents in the area. Security at stations and on rail lines is important to UTA, and the UTA security offices work closely with local municipalities. Once constructed, the platform areas at all stations would be well-lit during operational hours. Overall, there would be no disproportionately high and adverse safety and security issues in areas that support environmental justice populations.

**Construction Impacts.** Under the Action Alternative, construction-related impacts would affect all people living in the evaluation area. All people living in the evaluation area would experience noise, dust, and traffic impacts during construction. Because all people living in the evaluation area would experience the same impacts, these construction-related activities would not cause disproportionate or high adverse effects on environmental justice communities.
Appendix B3

Hazardous Waste Sites
Appendix B3: Hazardous Waste Sites

This appendix lists the sites in the hazardous waste site evaluation area that could contain hazardous, toxic, or radiological wastes. These sites are collectively referred to as hazardous waste sites in this appendix. This appendix also discusses the expected impacts of the project on hazardous waste sites in the hazardous waste sites evaluation area.

The hazardous waste sites evaluation area is the area within one-half mile of each side of the centerline of the UTA-owned right-of-way. The analysis of hazardous waste sites was further narrowed to focus on sites of concern, which are sites that have a reasonable chance of affecting or being affected by the proposed project.

Statutory and Regulatory Setting

Hazardous waste sites are regulated by the Resource Conservation and Recovery Act (RCRA); the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA); and Utah Administrative Code Title 19 (Environmental Quality Code).

Affected Environment

Methodology

The project team used readily available information to determine the location of hazardous waste sites in the evaluation area. The team searched databases maintained by EPA and the Utah Division of Environmental Response and Remediation (DERR). The project team also reviewed the Utah Department of Environmental Quality (UDEQ) Interactive Map viewer (UDEQ 2009) and the EPA EnviroMapper database (EPA 2009) on October 27, 2009.

Once the team identified potential sites, the sites were screened to identify those that are more likely to contain contaminated soil or groundwater and those that are located closer to the UTA-owned right-of-way. The screening process identified the sites that have a reasonable chance of affecting or being affected by the project. These sites are referred to as sites of concern. The screening process used the following two steps:

- Identify the type of site and its current status.
- Compare the site’s location to the proposed project so that sites outside the hazardous waste sites evaluation area could be eliminated from further study.

The first step in evaluating sites of concern was to categorize the types of sites identified in the hazardous waste sites evaluation area by the relative likelihood of finding contamination. Sites were categorized as having a high, moderate, or low probability of environmental degradation.
High Probability of Environmental Degradation. Open leaking underground storage tank (LUST) sites and Superfund sites have a relatively high probability of environmental degradation.

Open LUST sites, which are evaluated and monitored by DERR, have had known releases of hazardous chemicals. The amount of hazardous chemicals that were released and the potential threat to human health and the environment dictate the degree of cleanup that is required.

Superfund sites are sites with known contamination. The status of a Superfund site (under investigation, active, or closed) is an important consideration in determining the level of concern about the site. Sites currently being investigated or active sites are undergoing regulatory actions that could prevent transportation improvements from using the site. Superfund sites that are closed or are classified as “no further action required” likely have a low probability of remaining contamination and have few regulatory restrictions on development.

Moderate Probability of Environmental Degradation. Closed LUST sites and active underground storage tank (UST) sites have a moderate probability of environmental degradation. Closed LUST sites can have residual contamination, or contamination might have been left in place if it did not pose a threat to human health or the environment. Active UST sites are also regulated by DERR but typically have not been thoroughly investigated for chemical releases.

Low Probability of Environmental Degradation. Removed and closed USTs and areas undergoing voluntary cleanup have a low probability of environmental degradation.

Existing Conditions

The database searches showed that there are 26 hazardous waste sites within 500 feet of the UTA-owned right-of-way and another 140 sites within the evaluation area. These sites are shown in Figure B3-1 below. Table B3-1 following the figure summarizes the sites within 500 feet. Detailed information about all 166 sites is provided in Table B3-2, Sites within the Hazardous Waste Sites Evaluation Area, starting on page B3-7.
Figure B3-1. Potentially Hazardous Waste Sites
Table B3-1. Hazardous Sites within 500 Feet of the Action Alternative

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Probability of Environmental Degradation</th>
<th>Address</th>
<th>Type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bennett Paint Corporation^a</td>
<td>Moderate</td>
<td>2131 South 300 West, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Bennett Paint Corporation^a</td>
<td>Low</td>
<td>2131 South 300 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>UTA transfer station</td>
<td>Low</td>
<td>2100 South 200 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Fernwood Candy &amp; Ice Cream Company^a</td>
<td>Moderate</td>
<td>150 W. Commonwealth Ave., Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Fernwood Candy &amp; Ice Cream Company^a</td>
<td>Low</td>
<td>150 W. Commonwealth Ave., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Previously Rent-It Center</td>
<td>Low</td>
<td>2270 S. Main Street, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Granite Mill site</td>
<td>Moderate</td>
<td>2270 S. Main Street, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Whirlpool Kitchens facility</td>
<td>Low</td>
<td>2200 S. Main Street, South Salt Lake</td>
<td>Superfund; no further action required</td>
<td>Closed</td>
</tr>
<tr>
<td>Hayes Bros. Buick Jeep^a</td>
<td>Moderate</td>
<td>2280 S. State Street, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Hayes Bros. Buick Jeep^a</td>
<td>Moderate</td>
<td>2280 S. State Street, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Hayes Bros. Buick Jeep^a</td>
<td>Low</td>
<td>2280 S. State Street, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Vacant building</td>
<td>Low</td>
<td>156 W. Utopia (2170 South), Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Bob's Transmission Service</td>
<td>Low</td>
<td>2220 South 300 East, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Zellerbach Paper Company</td>
<td>Low</td>
<td>2255 South 300 East, South Salt Lake</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sugar House Van Lines^a</td>
<td>Moderate</td>
<td>450 East 2200 South, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sugar House Van Lines^a</td>
<td>Low</td>
<td>450 East 2200 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Henrie's</td>
<td>Moderate</td>
<td>2253 South 500 East, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Wasatch Plaza</td>
<td>Low</td>
<td>2240 South 500 East, Salt Lake City</td>
<td>Superfund; no further action required</td>
<td>Closed</td>
</tr>
<tr>
<td>Wasatch Storage</td>
<td>Low</td>
<td>560 East 2275 South, Salt Lake City</td>
<td>Superfund; no further action required</td>
<td>Closed</td>
</tr>
<tr>
<td>2266 Partnership</td>
<td>Low</td>
<td>2266 South 600 East, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Wasatch Ponds</td>
<td>Low</td>
<td>630 East 2250 South, Salt Lake City</td>
<td>Superfund; no further action required</td>
<td>Closed</td>
</tr>
<tr>
<td>Triangle #69</td>
<td>Low</td>
<td>2180 South 700 East, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Old Precision Lube</td>
<td>Low</td>
<td>2207 South 700 East, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>J.V. Automotive^a</td>
<td>Moderate</td>
<td>2205 South 900 East, Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>J.V. Automotive^a</td>
<td>Moderate</td>
<td>2205 South 900 East, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
</tbody>
</table>

Source: UDEQ 2009

- Multiple sites at one address

The Action Alternative would be constructed on a right-of-way that was previously used for rail transport. Given the past use of chemicals by railroad companies, contaminants could be present along the UTA-owned right-of-way. Herbicides, lubricants, polychlorinated biphenyls (PCBs), and petroleum hydrocarbons could be present in the soil under the railroad tracks. Also, rail ballasts along the UTA-owned right-of-way might have originated as slag material from the various smelters in the Salt Lake City area and, therefore, could contain elevated levels of heavy metals.
Environmental Consequences

Methodology

To determine the impacts of the project on these sites, the site locations were added to a GIS file. The footprint of the Action Alternative was then added to the file and overlaid onto the hazardous waste site locations to determine which sites would be within the footprint of the Action Alternative.

Even if a site is known or suspected to be contaminated, building the Action Alternative would not necessarily affect the site, and the site would not necessarily affect the project. Impacts from hazardous materials and hazardous waste sites would occur only due to direct construction activities. More-detailed information regarding project design, which would be developed during the final design phase of this project, would be used to determine the appropriate method(s) to be implemented to address hazardous/regulated material sites.

No-Action Alternative

Under the No-Action Alternative, the Sugar House Streetcar Project would not be built, so no direct impacts to or from hazardous waste sites or materials would occur as a result of the project.

Action Alternative

None of the 26 sites listed in Table B3-1 above are on the UTA-owned right-of-way. Several sites are close to the right-of-way, including three of the closed Superfund sites and a closed LUST. Impacts from cut-and-fill activity during construction could affect contaminated soil or groundwater that could migrate from hazardous sites near the right-of-way, but such impacts are unlikely since the sites closest to the right-of-way have been closed consistent with state and federal regulations. UTA is aware of the possibility of residual soil contamination at known sites or previously undocumented sites and would take appropriate steps to prevent construction workers from being exposed to or spreading hazardous chemicals when working near these properties.

Mitigation Measures for Hazardous Waste Site Impacts

During the final design phase of the project, UTA will coordinate with DERR and EPA, the construction contractor, and the appropriate property owners. This coordination will involve determining the status of the sites of concern (if any) at the time of construction and identifying the nature and extent of remaining contamination (if any) to minimize the risk to all parties involved. The potential to affect newly discovered sites will be identified by reviewing DERR records. UTA will determine the need for Phase I environmental site assessments at suspect properties during the final design phase to further evaluate the potential for encountering hazardous materials within the Action Alternative right-of-way. If the assessments determine that contamination is still present,
the remedial measures will be determined based on the nature and extent of contamination through coordination with DERR and EPA.

Previously unidentified sites or contamination (such as buried drums, fuel USTs, or solvent USTs) could be encountered during construction. In such a case, all work will stop in the area of the contamination, and the contractor will consult with UTA and DERR to determine the appropriate remedial measures. Hazardous wastes will be handled according to the requirements and regulations of UDEQ and EPA.

In addition, the construction contractor will use engineering controls (such as dust mitigation, temporary soil covers, and groundwater extraction) and personal protective equipment for construction workers as necessary to reduce the potential for workers or the public to be exposed to hazardous materials.

No additional mitigation is necessary.
### Table B3-2. Sites within the Hazardous Waste Sites Evaluation Area

Evaluation area boundary is I-15 on the west, I-80 on the south, 1700 South on the north, and 1300 East on the east

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Address</th>
<th>Type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>7-Eleven #1851-23099</td>
<td>2102 S. State St., Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>North Nevada Construction Co.</td>
<td>351 W. Hartwell Ave. (1940 South), Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>O.C. Tanner Mfg. Co.</td>
<td>1930 S. State St., Salt Lake City</td>
<td>Toxic Release Inventory</td>
<td>Closed</td>
</tr>
<tr>
<td>Sam’s Club #6686-05</td>
<td>1905 South 300 West, Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Ricci Investment Co #7</td>
<td>97 West 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Familian</td>
<td>20 E. Truman Ave., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Clearwater Trucking Inc.</td>
<td>1800 South 300 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sam’s Club #6686-05</td>
<td>1905 South 300 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Colonial Mortuary</td>
<td>2128 S. State St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>S.L.C. Fire Dept. Station #3</td>
<td>1085 Simpson Ave., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Okie’s Towing</td>
<td>380 W. Hartwell Ave. (1940 South), Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Semi Service Shop #1</td>
<td>2200 South 400 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Super Sonic Car Wash</td>
<td>26 West 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Sams Club #6686-05</td>
<td>1905 South 300 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Royce Industries</td>
<td>2225 South 400 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sinclair #43022</td>
<td>1974 South 1100 East, Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Mowhawk Food &amp; Gas</td>
<td>1708 S. State St., Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Former service station</td>
<td>1001 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Tesoro #62104</td>
<td>502 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Shoppers Express</td>
<td>108 West 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Royce Industries</td>
<td>2225 South 400 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Western Road Machinery Co.</td>
<td>2300 S. Main St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Lund Machinery</td>
<td>2350 S. West Temple, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Hinckley Dodge Inc.</td>
<td>2309 S. State St., Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Zig’s Mini Mart</td>
<td>2314 Highland Ave., Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Tesoro #62098</td>
<td>2280 S. Highland Dr., Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Semi Service Shop #1</td>
<td>2200 South 400 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>21st Street Sinclair</td>
<td>2101 S. State St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Angelo’s Pizza (old Rio Vista Oil)</td>
<td>1761 S. Main St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>R.C. Willey Home Furnishings</td>
<td>210 W. Haven Dr., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>2100 S. and Highland Dr.</td>
<td>2100 S. Highland Dr., Salt Lake City</td>
<td>Superfund – Site Under Investigation</td>
<td>Closed</td>
</tr>
<tr>
<td>17th South Tesoro #59</td>
<td>1689 South 1300 East, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Mill Square–Schocker Construction</td>
<td>1800 W. Temple, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
</tbody>
</table>
## Table B3-2. Sites within the Hazardous Waste Sites Evaluation Area

Evaluation area boundary is I-15 on the west, I-80 on the south, 1700 South on the north, and 1300 East on the east

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Address</th>
<th>Type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>TV Specialists Inc.</td>
<td>170 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>R.C. Willey Home Furnishings</td>
<td>210 W. Haven Dr., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Ricci Investment Co #7</td>
<td>97 West 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Premium Oil #1</td>
<td>278 West 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Boats Inc.</td>
<td>543 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>S.L.C. Fire Dept. Station #3</td>
<td>1085 Simpson Ave., Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Osterloh, Inc. DBA Broadway Gar.</td>
<td>231 W. Haven Ave., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Maverik #199</td>
<td>1707 South 300 West, Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Interstate Texaco</td>
<td>2375 S. State St., Salt Lake City</td>
<td>UST</td>
<td>Unknown</td>
</tr>
<tr>
<td>Semi Service Shop #1</td>
<td>2200 South 400 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Phillips 66 Company #004382</td>
<td>404 East 1700 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Interstate Texaco</td>
<td>2375 S. State St., Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>D Howard Investment Corp.</td>
<td>376 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Former Hygia Ice Rink</td>
<td>1230 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Clark's Car Shop</td>
<td>506 East 1700 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Midas (old Phillips 66 #007054)</td>
<td>2076 South 900 East (945 East or Lincoln St.), Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Zig's Mini Mart</td>
<td>2314 Highland Ave., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Clearwater Trucking Inc.</td>
<td>1800 South 300 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sinclair #43023</td>
<td>602 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Godfather's Pizza</td>
<td>900 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sugarhouse Paint &amp; Decorating</td>
<td>2006 South 900 East, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>21st Street Sinclair</td>
<td>2101 S. State St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Premium Oil #1</td>
<td>278 West 2100 South, Salt Lake City</td>
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</tr>
<tr>
<td>Sinclair #43023</td>
<td>602 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sugarhouse Station</td>
<td>1953 South 1100 East, Salt Lake City</td>
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<td>Open</td>
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<tr>
<td>Western Road Machinery Co.</td>
<td>2300 S. Main St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Howe Rents Inc.</td>
<td>55 East 2400 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Khemo-Klean Co., The</td>
<td>190 W. Haven Ave., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sinclair #43023</td>
<td>602 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sinclair #43022</td>
<td>1974 South 1100 East, Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Lund Machinery</td>
<td>2350 S. West Temple, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Alliance House Corporation</td>
<td>1724 S. Main St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
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<tr>
<td>U-Haul 72050</td>
<td>415 West 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Quality Gas &amp; Snacks</td>
<td>1751 South 1100 East, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
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</tbody>
</table>
## Table B3-2. Sites within the Hazardous Waste Sites Evaluation Area

Evaluation area boundary is I-15 on the west, I-80 on the south, 1700 South on the north, and 1300 East on the east

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Address</th>
<th>Type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>U.S. West #673270</td>
<td>781 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Minit-Lube #1025</td>
<td>2102 S. Main St., Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Westlink Paging</td>
<td>80 West 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Ricci Investment Co. #7</td>
<td>97 West 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Crus Oil Inc.</td>
<td>2260 S. West Temple, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Kehmo-Klean Co., The</td>
<td>190 W. Haven Ave., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>St. Joseph Villa</td>
<td>451 E. Bishop Federal Ln. (1950 South), Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Applied Electronics Inc.</td>
<td>10 W. Burton Ave., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>TV Specialists Inc.</td>
<td>170 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sam’s Club #6686-05</td>
<td>1905 South 300 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sugarhouse Conoco</td>
<td>1006 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Interstate Texaco</td>
<td>2375 S. State St., Salt Lake City</td>
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<td>Costco Wholesale #113</td>
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<tr>
<td>Sam’s Club #6686-05</td>
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<td>UST</td>
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<tr>
<td>Applied Electronics Inc.</td>
<td>10 W. Burton Ave., Salt Lake City</td>
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<td>Closed</td>
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<tr>
<td>Royce Industries</td>
<td>2225 South 400 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Old Conoco</td>
<td>2402 S. State St., Salt Lake City</td>
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<td>Closed</td>
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<tr>
<td>TCI Cablevision of Utah, Inc.</td>
<td>1251 Wilmington Ave., Salt Lake City</td>
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<tr>
<td>Extramart #90</td>
<td>2110 South 1300 East, Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>U.S. West #673270</td>
<td>781 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Minit-Lube #1025</td>
<td>2102 S. Main St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sugarhouse Conoco</td>
<td>1006 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Intermountain Lumber Company</td>
<td>1948 S. West Temple, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Tesoro #62104</td>
<td>502 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
<tr>
<td>Okie’s Towing</td>
<td>380 W. Hartwell Ave. (1940 South), Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Osterloh, Inc. DBA Broadway Gar.</td>
<td>231 W. Haven Ave., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Clark’s Car Shop</td>
<td>506 East 1700 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Old Conoco</td>
<td>2402 S. State St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Tesoro #62104</td>
<td>502 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
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<tr>
<td>D Howard Investment Corp</td>
<td>376 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sugar House Project</td>
<td>1300 E. Wilmington Ave., Salt Lake City</td>
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<td>Closed</td>
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<tr>
<td>Easyniders of Salt Lake</td>
<td>1716 S. State St., Salt Lake City</td>
<td>UST</td>
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<tr>
<td>North Nevada Construction Co.</td>
<td>351 W. Hartwell Ave. (1940 South), Salt Lake City</td>
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</tr>
<tr>
<td>21st Street Sinclair</td>
<td>2101 S. State St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
</tbody>
</table>
### Table B3-2. Sites within the Hazardous Waste Sites Evaluation Area

Evaluation area boundary is I-15 on the west, I-80 on the south, 1700 South on the north, and 1300 East on the east

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Address</th>
<th>Type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quality Gas &amp; Snacks</td>
<td>1751 South 1100 East, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
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<tr>
<td>Premium Oil #1</td>
<td>278 West 2100 South, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sam’s Club #6686-05</td>
<td>1905 South 300 West, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Godfather’s Pizza</td>
<td>900 East 2100 South, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Interstate Texaco</td>
<td>2375 S. State St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Okland Construction Company</td>
<td>1978 S. West Temple, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Senior High Rise</td>
<td>1966 South 200 East, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sam’s Club #6686-05</td>
<td>1905 South 300 West, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>G &amp; D Tire &amp; Service</td>
<td>2165 S. Highland Dr., Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Colonial Mortuary</td>
<td>2128 S. State St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sam’s Club #6686-05</td>
<td>1905 South 300 West, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Governmental Center</td>
<td>176 E. Westminster Ave. (1910 South), Salt Lake City</td>
<td>UST</td>
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</tr>
<tr>
<td>Sam’s Club #6686-05</td>
<td>1905 South 300 West, Salt Lake City</td>
<td>UST</td>
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<td>Atwood Mobile Products, Hydroflame Corp.</td>
<td>1874 S. Pioneer Rd., Salt Lake City</td>
<td>Toxic Release Inventory</td>
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<tr>
<td>Property Management</td>
<td>304 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Extramat #90</td>
<td>2110 South 1300 East, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Four Seasons Auto</td>
<td>2095 S. Main St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Sugarhouse Conoco</td>
<td>1006 East 2100 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Okland Construction Company</td>
<td>1978 S. West Temple, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Angelo's Pizza (old Rio Vista Oil)</td>
<td>1761 S. Main St., Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Hinckley Dodge Inc.</td>
<td>2309 S. State St., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Tune-A-Medix</td>
<td>2030 S. Lincoln St. (900 or 945 East), Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>G &amp; D Tire &amp; Service</td>
<td>2165 S. Highland Dr., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>21st Street Sinclair</td>
<td>2101 S. State St., Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Property Management</td>
<td>304 East 2100 South, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
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<tr>
<td>Bennett Paint – Karpowitz Coal</td>
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<td>Superfund – No Further Action</td>
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<td>7-Eleven #1851-23099</td>
<td>2102 S. State St., Salt Lake City</td>
<td>LUST</td>
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</tr>
<tr>
<td>Howe Rents Inc.</td>
<td>55 East 2400 South, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Tesoro #62098</td>
<td>2280 S. Highland Dr., Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Crus Oil Inc.</td>
<td>2260 S. West Temple, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Intermountain Lumber Company</td>
<td>1948 S. West Temple, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Premium Oil #1</td>
<td>278 West 2100 South, Salt Lake City</td>
<td>LUST</td>
<td>Open</td>
</tr>
<tr>
<td>Higrade Meats</td>
<td>2160 S. West Temple, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>17th South Tesoro #59</td>
<td>1689 South 1300 East, Salt Lake City</td>
<td>UST</td>
<td>Open</td>
</tr>
</tbody>
</table>
**Table B3-2. Sites within the Hazardous Waste Sites Evaluation Area**

Evaluation area boundary is I-15 on the west, I-80 on the south, 1700 South on the north, and 1300 East on the east

<table>
<thead>
<tr>
<th>Site Name</th>
<th>Address</th>
<th>Type</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mill Square – Schocker Construction</td>
<td>1800 S. West Temple, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Clark’s Car Shop</td>
<td>506 East 1700 South, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>U-Haul #72050</td>
<td>415 West 2100 South, Salt Lake City</td>
<td>LUST</td>
<td>Closed</td>
</tr>
<tr>
<td>Pacific Coast Building Products</td>
<td>2114 South 400 West, Salt Lake City</td>
<td>UST</td>
<td>Closed</td>
</tr>
<tr>
<td>Clark’s Car Shop</td>
<td>506 East 1700 South, Salt Lake City</td>
<td>LUST</td>
<td>Open</td>
</tr>
</tbody>
</table>

UST = underground storage tank; LUST = leaking underground storage tank; DBA = doing business as
Appendix B4

Coordination Completed for Environmental Assessment and Alternatives Analysis
Appendix B4: Coordination Completed for Environmental Assessment and Alternatives Analysis

This appendix includes the following public and agency coordination materials:

- Sugar House Transit Corridor Alternatives Analysis Draft Final Report
- Materials from the agency scoping meeting for the Sugar House Streetcar Project EA:
  - Agency invitation letter and list of agencies invited
  - Sign-in sheet
  - Presentation
  - Comments received
APPENDIX
SUMMARY OF PUBLIC COMMENT
I. Event Summary

On Monday, April 2nd, 2007 UTA hosted an open house for the Sugar House Transit Corridor Alternatives Analysis. The open house was held at the Columbus Center in South Salt Lake, from 5 – 8 p.m. The purpose of the open house was to introduce the project to the public, and gain input on several topics. Advertising for the event utilized several strategies:

- Direct mailers to over 1,500 residents along the UTA right-of-way
- Media advisory
- Postings on city websites
- Announcements at Salt Lake City Community Council meetings
- Blurb in city newsletters regarding the open house and the project

At the open house there were several different stations to present information to participants, on a variety of topics:

- **Study Background** – reasons for completing an Alternatives Analysis, steps in the process, general schedule
- **Existing Conditions** – activity centers, traffic volumes, transit ridership, bicycle and pedestrian networks, land use, travel demand
- **Transit Alternatives** – the “universe” of alternatives, and the “long list” of alternatives

In addition to the information stations, participants were encouraged to provide input on several different issues. At one of the interactive stations, participants were invited to use color-coded stickers on a map to indicate their daily trip origins and destinations throughout the valley. At another station they were invited to share their opinions (from “strongly agree” to “strongly disagree”) on the key project criteria identified at the outset of the project by Salt Lake City and South Salt Lake. In addition, general comment cards were available for participants to leave behind written comments for the consultant team.

The graphic boards displayed at the open house are attached as an appendix to this document, and the comments received at the open house are summarized in the following sections.

II. Stated Travel Patterns

Open house participants placed stickers (green for origin, yellow for destination) on an aerial map of the Salt Lake Valley to indicate:

- Where they live
- Where they work
Sugar House Streetcar Project

Appendix B4: Coordination Completed for Environmental Assessment and Alternatives Analysis

III. Validation of Key Project Criteria

Participants were asked to rate the key project criteria on a scale from “strongly agree” to “strongly disagree”. Participants were provided with stickers to place in boxes correlating with their opinions. The table below summarizes participant’s opinions on the criteria.

<table>
<thead>
<tr>
<th>The preferred alternative should have:</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>No Opinion</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
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<tr>
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<td>7</td>
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<td>0</td>
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<td>10</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
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<td>10</td>
<td>3</td>
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<td>6</td>
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<td>Broad Community Support</td>
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<td>16</td>
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<td>3</td>
<td>4</td>
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<td>3</td>
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<td>Community &amp; Economic Development Benefits</td>
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<td>3</td>
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<td>3</td>
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<tr>
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<td>0</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Connectivity to Buses</td>
<td>22</td>
<td>13</td>
<td>1</td>
<td>0</td>
<td>4</td>
</tr>
</tbody>
</table>

IV. Actual Comments Received

From Flip Chart Near “Key Project Criteria” Station

“We need a TRAX station on 27th South and 2nd West with an East-West Bus route to 20th East that goes to the U of U using the “907” route to 2nd South and University Street.” (Another participant wrote: “good idea!” next to this.)
Sugar House Transit Corridor

“Scale and character must fit the scale and character of neighborhood(s)—a trolley or streetcar would appear to fit this criteria—small, historic looks, frequent stops, slow-to-moderate speeds. It should be combined with a bike and pedestrian trail with amenities (sitting, recreation, play areas, etc.).” (Another participant wrote “just” next to this)

“When you finish with this, please look into an East-West route on 1300 South. I find it very annoying that the only East-West routes in this area are on 2100 South (route 30 bus) and the TRAX on 400 S. to the U.”

“Please, we need public transportation to the airport. And we need to think more about the older people that will not be able to drive.”

“We need alternative transportation regardless of community and economic benefits.”

“The best would be single TRAX station at Fairmont Park with a single train starting at the 2100 S. station and returning with a linear trail system (if room).”

“2100 South is too narrow for any type of rails. Use the other right-of-way.”

“SLC is sorely lacking sidewalks, perimeter, and cross-town bike right-of-ways. Especially in relation to the bicycling community. Please look in Albuquerque and Boulder, CO, for shining examples. Please link Jordan River Parkway to Sugar House Park.”

“Agreewith previous comment to link Jordan River Parkway to Sugar House Park without TRAX as a bike and pedestrian trail.”

“Don’t make auto traffic worse.”

“TRAX should serve the working commuters.”

“We need a NON polluting source of transit and more green space or trails. Provided that no one loses their house, the old railroad spur seems like the best choice.”

“Please incorporate a bike lane into the priorities — also, any method to reducing PM’s is preferred.”

“We like the idea of a bike/pedestrian lane along the route of the rail spur and connecting to other trails, i.e. Jordan River Parkway, Parley Trail (Et), etc.”

“Goud unusual fun!”

“Lots of trees, public art, bike and pedestrian and equine trails — low impact on our neighborhood.”

From Comment Cards

“I am greatly in favor of the proposed line using the existing UTA right-of-way. Your room for PRATT. It’s very important that both be built at the same time. I am not particularly concerned about the mode of transport, although the trolley would probably be the most popular and cost effective. As far residents along the corridor who are concerned about possible noise/traffic/etc., I’m sure they’ll change their minds when their property values go through the roof. Let’s do something positive with that crime-ridden, weed-infested corridor, and make it a positive for our community. And let’s reduce pollution and money spent on roads by offering friendly, easy-to-use public transportation. Thanks!”
"I am excited to see an alternative route heading east and west beside the U of U TRAX line. I absolutely love the idea of being able to shop, eat, and enjoy myself without driving in traffic. I lived in Boston and found I never wanted a car and I'm glad UTA is helping the Sugarhouse area become a walkable city (community). I'm excited to see it paired up with the BRT and that to me means more security, fighting, and beautifying the community. Way to go! Thanks for allowing us to voice our opinions – it is most appreciated."

"As a resident of the city, a property owner along the corridor, and a person working in an office along the corridor, I can say enough good about these concepts. In our form, we will follow this closely and offer whatever support we are able."

"Any transit facility must fit the scale and character of the area, the neighborhood is run through. This means it should be small, quiet, hidden, small, and not show moving. A trolley or streetcar would work well. This could be an important transit attraction and economic benefit for Sugarhouse/SLC/SLC area. A bike and pedestrian trail park should be combined with the trolley or streetcar. Ideally, it should be energy-efficient, using photo-volcaic, bio-fuels, etc. Be innovative, think out-of-the-box. Think future. Think sustainable, environmental, economic, social."

"As a resident of the area I believe the 2100 South corridor is blighted and I believe that a trolley would be ideal and the area surrounding the tracks would make an ideal walking/jogging path. The trolley, though unimproved, would enhance TRAX in ridership level. Now get finished with this and start on the airport extension."

"Would like a small, slow-moving small bus on balloon tires. Stops at every street. Sound wall for residents. Locked gates at night. Trains should only operate from 9 a.m. – 9 p.m. Only non-diesel vehicles should be used. UTA should provide their own security and upkeep of the corridor. No bells, flashing lights, or horns."

"The only vehicle we as a community would recommend would be a small balloon tire bus with stops at every street. These buses should stop for traffic. Trains should not stop for them. Sound walls. This vehicle would hurt the businesses that are in S. Salt Lake already. Locked gates. Trains to shut down at 9 p.m. open again at 9 a.m. Gates locked to all other traffic at night. Only a non-diesel engine should be allowed in the neighborhood. UTA should supply their own private security and complete upkeep of property. Proper lighting, landscaping. No bells, flashing lights, or horns. This is a novelty trolley for Sugar House and should not make South Salt Lake supply police protection at any time. This is dividing the neighborhood in South Salt Lake again. We are not an extension of Sugar House. We are very proud of being South Salt Lake, City Uptown."

"I would like to see bus service improvement on 2100 South and around other parts of Sugar House. For new transit options, I think the UTA right-of-way is more possible. My preference would be for a slow-moving, frequent-stopping option, such as a trolley or streetcar. This type of option would work well with a bike/pedestrian trail alongside the trail is not a priority for me. I would like to see the trail phased in first, while the final transit option is being decided, funded, etc."

"I favor doing something like the streetcar or trolley—would make the most sense and be the most reasonable in terms of cost and efficiency. I also think an old-fashioned trolley fits with the character of Sugar House and the community's desire to preserve its great history. Thank you!"

"Bus to Sundance Festival and Park City (year-round). Drivers on my current routes say their routes won't change."

"Be sure to accommodate the Parky's Trail. Low speed for stops—compatible with trail."

"Whatever you do, try to make transit a supplement to automobile transit, not a substitute. Don't decrease carry capacity of streets with transit. I guess this means using the RR right-of-way."

"We prefer the old "right-of-way" option."

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Appendix

Environmental Assessment
Sugar House Transit Corridor

- Method of transport preferred would be trolley, light rail
- Linear park is a MUST. Whether it’s a trail or paved, does not matter. Must be bike friendly.
- Our property touches the right-of-way. We have some concern about access, traffic, and aesthetics. If done right we fully support living right next to the project?

"I definitely support bringing transit to the proposed corridor (2200 S), and would use it on a daily basis. Preferred mode would be TRAX light rail or streetcar."

"It doesn’t seem to me that this is needed — or at least not for now and in the near future. However, if such a line is desired, then it should be as under disruptive as possible. For example, people should be able to cross the right-of-way at any point without having to walk to designated crossing areas — i.e., the tracks should not be fenced. Also, the vehicle chosen should be as quiet as possible. Finally, a trolley, bus, or streetcar makes more sense in such a short distance."

"Light rail should go down the middle of 2100 South, reducing auto traffic to one lane in each direction. The old railroad easement should be part of a hike-bike trail that links the Jordan River Parkway & the Bennet Shoreline Trail. The railroad right-of-way is a stupid place for a public transit line. It’s too far away from everything."

"This appears to be a very forward-thinking project. I have been a volunteer for all three opening for TRAX and I hope to still be around for the Sugar House Transit Corridor. I hope this project meets with approval from the citizens of Salt Lake."

"Something needs to be done with the property soon, even if it is to clean up the weeds and trash found there now. It is an eyesore to the neighborhood! Also, the sidewalk on the east side of State Street where the old line crosses needs to be replaced, similar to what was done at 300, 200, and 500 East. What we will really need is to transport people from 1100 E. to downtown and back, if they will even use it."

"If you’re going to make the investment, build the system to service the working commuters. Build the system to go on 2100 South to Sugar House so the workers will ride it. Don’t use the old track in order to save money."

"If no homes are in frequency of being removed and if green space and/or trails are alongside a non-polluting transit system, I think the right-of-way is probably the best choice. Stops on 600 E. would also be nice. 2100 South is too crowded already."

"I see great benefits from a light rail line and a dedicated bike lane. Please don’t just upgrade bus service! Thanks!"

"I like the transit alternatives (streetcar, etc.) that explore the options available. However, as the study progresses I wonder which of them are actually viable choices given the surrounding environment (road widths). Personally — I prefer the UTA right-of-way instead of using 2100 South as the corridor."

"I would really like to see the UTA right-of-way corridor used by a historic trolley or streetcar with parks, lots of stops, and slow speeds. The public transportation option is badly needed and this unique and unusual corridor is perfect. A personal plus for me is that it might reduce traffic on Simpson Ave."

"My husband and I would like to see any transit option connect to a TRAX station or be within walking distance of one. I would prefer light rail but a bus would be fine."
Sugar House Transit Corridor

"I believe the best alternatives would be the streetcar or the bus rapid transit to provide the most efficiency while giving South Salt Lake residents access. I also feel the urban linear park provides SSL an important feature."

"There is no question that a form of transit is needed between Sugar House and South Salt Lake. It is what form it takes. I feel that a rubber-wheeled trolley along the existing railway would meet the needs of the traffic demand and the neighbors living along the rail way."

"1. Use the rail corridor
2. Combine something slow, that also allows a walking/bike trail?"

"If there is truly a need for this system, the current right-of-way doesn’t seem to serve a long-standing purpose. I would need to see some alternatives in connecting where the right-of-way ends at 1700 E, 2100 S, may work to go further east, but the Sugar House area would not be able to serve automobile traffic on 2100 S anymore. It really seems more like a complete waste of time and money. Use it to develop more eco-friendly busses."

"If a mass transit vehicle system is going to be placed in the Sugar House area on the UTA property, I would prefer that it NOT be a TRAX — rather, a streetcar system or trolley with a pre-designated route. I mean to use that word — linear park. As for location, I would prefer it to be on 2100 South and the UTA property become part of the Bonneville Trail with pedestrian, bike, and equestrian trails. I’ve been told that this was part of the master plan originally and this was a factor in purchasing my home where I now live. Thank you for the info."

"I love going on the train.
I love riding the train."

"Provide a rail-based system. The Sugar House community needs this system, and needs it soon! It would really boost ridership on N-S LRT. Also, please make it compatible with Parleys Trail."

"Traxity!!"

"Let’s build it."

"Concerned about noise, crime along the tracks. How will this affect the value of my property?"

"I believe the UTA right-of-way should be used. I also feel that a trail should also be in the corridor creating a pleasant multi-user area. I also envision a trolley to best fit this plan due to the trail, quiet, safe, slow speeds, frequent stop ability. It would also be unique and a great fit for old Sugar House. TRAX is overkill for the right-of-way."

"I’m so pleased that this project is moving forward. I support any use of the corridor. Especially a multi-use (TRAX and trails) system. I live on the corridor and hope to see a system on line as soon as possible."

"As a pedestrian and bike/ TRAX/ bus rider the Sugar House corridor is a much needed addition to the current transit system. The right-of-way can easily be converted to a green/ single track line that would bring riders from Central Point to the Granite Block. I hope that future shops will add to the already existing local shops to create a vibrant shopping location. As it is, I walk 2100 S and the existing right-of-way (dangerous) and would welcome alternative routes to get from West to East."

"Overall, the transit corridor is a very positive and useful system. The preliminary impact may be great, as far as inconveniences, but overall it will decrease auto traffic hopefully and increase foot and commuter traffic. I would be interested..."
Sugar House Transit Corridor

in seeing example figures in other cities, on the impact of property values around the corridor. Is there a completed study from other cities i.e., Bowery’s T system that can substantiate these figures.”

"The need for rapid transit is minimal. The destination to 1100 E. will only cause more congestion on 2100 S. east of 1100 E. Improving I-80, 2100 S. and better bus transportation seems less intrusive and less expensive fix. Just because you own the right-of-way doesn’t mean you HAVE to put a train on it. I-80 and 2100 South need improving now anyway. Why not do it right?"

"2100 South is already pretty crowded, especially approaching Highland Drive, and since the “right-of-way” is already available, it might as well be used. It would save time and money, I think the simplest solution is the best. Something like a high-speed train is overkill for a small neighborhood. Buses are chunky, I say add a TRAX line to connect downtown and Sugar House."

"I'm very glad you are developing public transit alternatives between South Salt Lake and Sugar House. I live in South Salt Lake and attend Westminster College. It takes me an hour on the bus to get to school but only ten minutes to drive, I never drive up 2100 S. because it is too busy. I think a TRAX line is the most environmentally responsible alternative.”

"Highland & 2100 South
2100 South & 1300 East
Living here tells me these are worse."

"Old Granite tracks (UTA right-of-way) I feel would be best used as a bike and pedestrian trail. As running transit would in my opinion disrupt the residential neighborhood (children, pets and peace)."

"I am against using the Rio Grande tracks or the right-of-way – it would waste of tax payers’ money! 2100 S. would be a better option. Buses on 2100 South going from TRAX line [are] nearly empty."

"Use the existing corridor to connect TRAX to Sugar House. Prefer a streetcar/tramway option with frequent stops. Low speeds to preserve residential corridor. Encourage re-development west of State Street. Keep neighborhood residential."

"Looks like we need a volume public transport alternative. Like the trolley with bypass or even two tracks. Seems volume can be some above 500 riders per day with one set of tracks and over 1,000 with two sets. Seems a viable feeder to the rest of UTA system. Prefer “old-style” trolley with bi-tech engine inside.”

"Service is needed sooner rather than later. The valley is polluted enough, steps must be taken to curb this problem. I favor the existing UTA right-of-way tracks with PRATT access along this route. A trolley would seem a useful compa"nion for all concerned. We need to utilize existing property to avoid buying up large parcels of land along 2100 South. Any modes of travel other than rail will only increase the demand on already overburdened roadways. The future is now!"

"What a great place for a new TRAX line. Please build it soon!”

"Let’s go for it. I think it is a good thing."

"Options that allow commuters into Sugar House to access other forms of transit (bus, TRAX, etc.) are preferable.

Appendix
Sugar House Transit Corridor

"I do not think any type of rail can be put on 2100 South. It is too narrow already. If this is to be done, it should be on the UTA right-of-way."

"1st - Great opportunity — thank you!
2nd - Caution F&P employees expressing bias towards a preferred transit option.
3rd - Transit Concerns:
1. Even with a transit on UTA right-of-way (rail), auto pressure on surface streets will continue to increase.
2. According to UTA’s plan construction would not begin for 10-15 years. Surface street capacity will exceed load.
3. Because of item 2, the transit choice will be limited to high volume, speeds & low-frequency stop options—opposing the community’s requirements.
4. Reorganization of UTA bus routes may decrease north/south routes and thereby eliminate rail transit stops in SSL."

General Suggestions from participants:
- At next meeting, F&P should provide (if possible) some way to measure how different transit options will impact road traffic conditions now and project projection date, i.e., ridership projections, how many cars off road from using transit — for three transit options (not necessary for ditched ones) — at intersections (including secondary intersections)
- At next meeting show UTA’s bus redesign route map. If 500 E. and 300 E. are on the chopping block, then the study (F&P) should indicate how that would impact transit stops (how many end up in plan), and demand on roads.

Random Thoughts & Reiterations:
- I support a public transit option along the UTA rail corridor.
- I support the city’s 6 points (slow, frequent stops, trail, etc.)
- How do we ensure the option we choose in the end gets implemented 10-15 years down the line when UTA gets to it?
- I feel the streetcar or trolley option is the best option
Thanks again!
I fear 15 years from now light rail without frequent stops will be imposed upon us due to traffic conditions at the time.
Summary of Comments from Open House #2

Summary:
- Total written comments received: 29
- Total comments in favor of transit in the ROW: 17
- Total comments expressing concerns: 9
- Total comments against transit in ROW: 3

Modes:
- In favor of Modern Streetcar: 3
- In favor of Historic Streetcar: 3
- In favor of either Modern or Historic Streetcar: 2
- In favor of LRT: 2
- In favor of BRT: 2
- In favor of Bus on 2100 South (do nothing): 4

Negative comments about LRT: 1
Negative comments about bus on 2100 South: 3
Negative comments about Historic Trolley: 1

Issues:
- Include trail: 5
- Concerned about parking: 2
- Concerned about transients in Fairmont Park: 3
- Frequent stops (at least every block or every other): 2
Sugar House Transit Corridor Alternatives Analysis Study
Open House Comment Sheets
Thursday, July 12, 2007

"The historic trolley would provide a valid mode of transportation to desirable areas without any of the blight and continued destruction of the Sugar House culture. Keep our area free of TRAX."

"Before deciding which type of Alternate Transportation method, I'd request UTA fund some kind of plan to deal with the Fairmount Park design. It looks like it isn't going to work. "I think this is a big problem, so this proposal offers some valid service."

"Due to long-term connectivity concerns I'd recommend LRT along a corridor which utilizes loop traffic — i.e., follows the UTA ROW and 2100 S in one direction, connecting the two along Highland Dr. - M.E."

"1) Interested in environmental impacts of each alternative. 2) Will there be parking lots at each of the stops?"

"BRT is the option to use in your corridor. It is a good compromise between short/fast/cheap/expensive. It is (necessary) as this line must eventually connect to something N-S in the U etc. That is, it's quite far."

"The problem you have in your (study) corridor does not go far enough east. You HAVE GOT TO GET IT East and north 1 1/2 along the park to near the high school. The H.S. has a bridge N-S over 1-15 the 11th or 13th. Use the bridge N-S as you eventually expand north. GET PAST Highland Drive and 13th and you 1) make this thing much more useful now and 2) years from now. - T.M.S."

"One concern we have is with parking in the neighborhood of the stops. We would prefer to have more stops, so that there won't be too much traffic and parking in the neighborhood of each individual stop. - S.D."

"I prefer the Historic Trolley option. I dislike the bus alternatives, because the exhaust fumes combined with the jerky stop & go driving makes me sick. I prefer the smooth ride & permanence that would be provided with a light rail or Trolley station. I would prefer the historic trolley over light rail, because it would be more fun. I think it would make transit cool, and create the best overall experience of all options. - J.M."

"I definitely support transit in the UTA ROW. A historic streetcar is preferred for neighborhood compatibility - TRAX light rail for system wide integration. - M.M."

"Thank you""

"First, thanks for the opportunity to see the available options and for answering all the questions.

Second, This is the second card I have submitted (did one @ Columbus Center) so if my voice only count once use the earlier comments.

Again I support the historic and modern streetcar alternative, with the criteria determined by the established community recommendations. The trail component is critical to the success of this project.

Kudos on the Data - Vote Chart @. - J.S."

"Remarks — very informative & designed well. I really would like to see streetcar. I would not like BRT because it pollutes too much. Also, historic trolleys are not close enough to ground for me to load my bike, plus I feel people won't take them"

1 Handwriting unclear — italic text in ( ) is best guess of what the word appears to be.
Sugar House Transit Corridor

seriously. Might be too industrial for the residential neighborhood. Thus, I like the streetcar option. It would be good for the economic vitality of S. SLC & SLC. Good Job! – J.B."

"I. I prefer the streetcar first; TRAX second; and Express Bus third. 2. The idea of improving public transport in SALT is wonderful – it will make us (as a family) less dependent on our cars. – P.R."

"If you run a transit system down this corridor, two things are very important: 1) That it is accessible to the people that live in the communities through which it runs (i.e. more stops), and 2) SAFETY – These are residential streets with kids that walk to school. Lights & arms that raise & lower should be everywhere! – J.J."

"Sugar House is a beautiful area. I love the ambiance. However, I would prefer buses and or light rail. Light rail is big, but it feels safer to me. A train will usually win any accident. UTA Trax drivers are very safe, cautious, and competent. Buses are smaller and slower than BRT, which I fear may pose a danger to those who are walking, running, playing etc. Streetcars are cool, but are they more expensive? I want to comment all those who work so hard to make UTA work with all of us! It is an honor to take UTA! – A.H."

"Could a ground level electrical source be safely developed? If in BRT, TRAX, or Trolleys would be great. Existing bus cross traffic needs to be shown for we who live away from 21st South. – A.P."

"Anyway that UTA can make my commute faster would be greatly appreciated! – C.G."

"I believe each choice has its values, I didn’t see any reference to a trail. Is that part of the study? And what about funding, how and when will that information be out. Thank you."

"I think the streetcar or historic trolley would keep the unique feel of Sugarhouse. Although, with the stop being at 900 E, I worry about the existing transit problem at Fairmont Park. – W.T.

"I am interested in who will ride this system? The only viable stop on the east side of State Street will be the end of the line at Fairmont Park.

"Please keep us informed on upcoming events. – D.S."

"What precautions are going to be made around Fairmont Park and the transient population?"

"Your open house was well organized & was easy to understand & follow. - Stopping every block or two is a must as residential it on both sides of the line along the entire proposed corridor. - 2400 South is much too congested to support mass transit other than bus, therefore the existing rail line should be utilized. - In addition to all the benefits that mass transit provides, the utilization of the existing rail line will provide for a cleaner, safer environment that currently exists there. - Line will help synergize improvement & continued development along the corridor. - The rail corridor should be used in conjunction to the Parley's Pratt trail system. - My preference would be for a streetcar System (Modern) – S.A."

"The Bus Rapid Transit allows greater flexibility for future development. Our neighborhood, Highland Park, was recently eliminated from the areas UTA Services. To stop at 11th rather than 13th disadvantages us a second time. Continuing in 13th brings choices to our neighborhood, serves a private college w/400 potential daily riders, and brings people to a major area shopping center. – R.R."
"Since this looks like a done deal—South Salt Lake has the right to say what happens in our city. Not UTA telling us what we'll do!
1. You pay for your own voting.
2. Laws of Safety Issues
3. No resident homes (condemned) for this service to use a bus stop station (or whatever)
4. Too stopping of traffic every few minutes in Peak Times is not happening
5. No increase in Taxes for Support — U.M."

"I support an alternative that creates & enhances the community environment in the Sugar House area. Sugar House is one of the unique neighborhoods of SLC. Let's enhance & build on that. Increase pedestrian traffic, reduce vehicle traffic. — B.R."

"I am largely impressed by your approach to this process and the careful analysis."

"I support the streetcar / trolley option because it seems the most compatible with community needs. My special interest is in the rolls – rolls – tracks component ensuring that transit users can enter and complete their trips using safe, off-site tracks corridors. I have faith that transit in the UTA corridor will be a wonderful engine for new economic development in South Salt Lake and a great enhancement to proposed development in Sugar House. — L.O."

"As a citizen of South Salt Lake, I have a very hard time justifying any type of transit going down the backyards of our residents — especially when it will not benefit them. Going to work on TRAX or a bus is not the same as going shopping on the transit system. As our city has a majority elderly population this makes use of this mode of transportation not very attractive. Noise, pollution, etc., are not acceptable in a neighborhood. — J.S."

"Improve the bus service on 21st South and create the green way through the proposed Transit corridor — this keeps vehicular traffic on 21st where it already is — and provides foot / bicycle traffic where there currently is none. I think this will be more environmentally and people friendly. Just because you own a right of way and can build through people's backyards doesn't mean you should. — R.F.H."

"Keep the bus lane on 21st!"

"I am most interested in a paved bike/footpath in the "corridor". I am within walking distance of the corridor (one of those who this transit is supposedly design for) and I am not interested in another transit line in this area. — E.R."

"There should be service west of Central Pointe Trac on the 2100-2400 S. Corridor.
The 2100 S – 2400 S should interconnect to service to Westminster Divide and Unity Hospital.
I am interested that the pedestrian trail be incorporated with Bus/Trolley routes. — R.O."

"I used Trac every day until I moved to Sugarhouse and started working from home (Sandy -> the U and back).

"If the Public transit is low-impact pollution, I will use it often to go from Sugar House to Downtown. — B.C."
## Appendix B4: Coordination Completed for Environmental Assessment and Alternatives Analysis

### Environmental Assessment

<table>
<thead>
<tr>
<th>#</th>
<th>Date</th>
<th>Comment</th>
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</table>
| 1  | 4/2/2007   | "At Zellerbach (2255 S 300 E), we are concerned about the impact on our wholesale distribution business, i.e., employee parking, truck loading and unloading and easy change to traffic access in our facility. Please keep us informed. Thank you."
| 2  | 4/3/2007   | "I attended the open house last night and didn’t find the answers I was looking for. My house (per my address) is within 55 feet of the rail line! What hours would the public transportation be running? What will be the impact on my property values? Will sound barriers be installed? I would LOVE to see a bike/walking path on this space, i.e., either just a bike/walking lane or along with the public transportation."
| 3  | 5/29/2007  | "Please include good pedestrian and bike trails from the west end of the area to the east, and connect them into Sugarhouse Park, too."
| 4  | 4/6/2007   | "I attended the meeting at the Columbines Center the other evening and felt it was most interesting. As I have driven and walked on 2100 South since the openhouse, I have kept in mind all the alternatives presented. I think there is no more that wasn’t even presented, because UTA owns the railroad tracks. UTA thinks only in terms of mass transit. Here is idea number one. Turn the abandoned tracks into a two lane road parallel to 2100 South, allowing locals to take this new back road in the Sugarhouse shopping area. 2100 South is a busy street, but there is no East West corridor close by. 1700 South is four blocks from the shopping area. Why would one go four blocks north to double back??? 2700 North is six blocks too far south. However, it is used by people coming from the south if they know the north/south thorough streets. Rather than the expense multiple person transportation, which may or may not be used, why not just put in a road which will be, Thank you."
| 5  | 4/18/2007  | "I attended the open house on April 2 and have these comments. I disagree that a slow-speed, frequent stop transit service is the best option for the UTA ROW property. In my opinion that would be a duplication of the service currently available on 2100 South - UTA’s local bus service. Additionally, the display graphics indicated that most of the existing pedestrian crosswalks exist on 2100 South, further identifying that corridor as having the same characteristics being considered for the UTA ROW. While it is true that 2100 South is congested and probably one of the reasons for slow-speed bus service, I think using the UTA ROW corridor to bypass or avoid that congestion is a better use. I believe the corridor is wide enough to accommodate both a transit option and a linear urban park with trail for non-motorized use. If not, the alignment is short enough that maybe a single track streetcar type system would suffice. I believe it would be better for the Sugarhouse area economy to tap into the traveling population that already exists on the north-south TRAX line by providing a faster (few stops) connection to the shopping opportunities at the end of the ROW. Thank you for the opportunity to comment.
Sincerely,
Kerry Duane"
| 6  | 4/24/2007  | "I think that the most important element of this study is to allow for a pedestrian trail along with the rail. Salt Lake needs more open space and pedestrian-friendly designs."
| 7  | 4/26/2007  | "I would love to see a trolley or tram that did a circuit 1700 S & 250 W, 1700 S & 1300 E, 2100 S & 1300 E, 2100 S & 350 W, 1700 S & 250 W. This would include 2 colleges (SLCC & Westminster College) which would then be linked into the TRAX system, as well as provide easy access into shopping @ Sugarhouse."
| 8  | 5/2/2007   | "I would love to see a trolley along the existing rail line in the Sugarhouse area. I think this solution would improve traffic and parking congestion and bring more business into the area."
<table>
<thead>
<tr>
<th>Date</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/11/2007</td>
<td>&quot;That would be great if there was a bus that went along back and forth (east/west) on 2700 south&quot;</td>
</tr>
</tbody>
</table>
| 6/20/2007  | "I live in Sugarhouse and work in West Valley. I am just wondering why the 2700 S. bus route stops at 300 W. It would be nice if continued westward to Redwood Rd. As it is, I would have to go downtown first and then to Redwood down to Decker Lake. There are alot of businesses in the Decker Lake area and West Valley Areas. Why not connect these two areas with a bus line along 2700 S, to Redwood."
| 6/28/2007  | "I live in the heart of Sugarhouse, right on 13th East, which is narrow and congested because it hosts both heavy traffic and buses. I can see the same thing happening if we use 21st South for fast transit, unless we close it to all other traffic (except those entering local stores and businesses). At the same time, I feel for the people who live right on the edge of the 2200 S. corridor because the noise and traffic really affect your lifestyle. For example, we can't use our front yard or even sit out on the front porch, unless we want all the people who are lined up waiting to get on the freeway to look at us. It sounds like a TRAX system has already been ruled out, because it's not a community priority."
| 7/12/2007  | "I think it would be worthwhile to include the Downtown Southwest Extension (700 South 600 West) in the Intermodal Hub, with the Sugar House Study. Depending on the mode of transit there will be a need to create a western end of line and a way to turn around."
| 7/13/2007  | "Use the existing rail corridor. Old style rehabilitated trinity like MUNI "F" Line in San Francisco. Single line track, distance is too short for two lines. Trails, bike, and walking. Surface crossings, minimal fencing. Implement and build it now, not in 10-20 years. Consider room for adding a "T" line to run North and South on 200 East to Trolley Square (5th South TRAX station)."
| 7/15/2007  | "I would prefer that the Sugar House option for mass transit would be to use the abandonment rail line at 2200 S for a Light-rail system."
| 7/15/2007  | "I am very happy with the bus. UTA has canceled a lot routes. Making it harder for the disabled, elderly and people that do not have a car to get around. Please do not keep hurting that need public transit. Thank You!"
| 7/17/2007  | "Either a trolley or the lightrail would be the best option. Although the initial cost would be significantly more, I feel that the ridership would pay off in the long run. This type of transit has worked as a viable option in this area before when the trolley was president in Salt Lake City."
| 7/17/2007  | "As someone who works in Sugarhouse and have enjoyed visiting the neighborhood for years, I would be very excited to be able to take the Trolley. I would happily ride it at least 4 times a week. Please do not wait 26 years."
| 7/18/2007  | "Connecting the Sugarhouse neighborhood to downtown would not only be a great way to minimize driving, congestion and reduce pollution, it would assist in driving more economical travel."

**Appendix**
<table>
<thead>
<tr>
<th>Date</th>
<th>Comment</th>
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</thead>
<tbody>
<tr>
<td>7/18/07</td>
<td>&quot;Please put a trolley line that runs in Sugarhouse. Pretty please . . . &quot;</td>
</tr>
<tr>
<td>7/18/07</td>
<td>&quot;I think that a light rail system would be used the most and could most easily be connected with the Sandy Trax line. It would greatly ease congestion in Sugarhouse too. &quot;</td>
</tr>
<tr>
<td>7/18/07</td>
<td>&quot;Please have trolley service sugarhouse! Also, is there active discussion about a bus/mass transit up and down Parley’s Canyon? &quot;</td>
</tr>
<tr>
<td>7/18/07</td>
<td>&quot;I think this a great spot for Light rail to be used, it would be good to use to get to the shopping areas of Sugarhouse and also to use to commute downtown which is where I work this is needed for this area the traffic on 2100 South is horrible day and night. I think this would help with the traffic congestion along 2100 South.&quot;</td>
</tr>
<tr>
<td>7/23/07</td>
<td>&quot;I personally favor the idea of a trolley from the South Salt Lake Trax stop to 1700 E. I think that area has so much charm and a trolley would fit perfect into it. I think it would be unique, VERY cost effective compared to trams and very very environment friendly compared to bus rapid transit or the like. . . , I personally am legally blind and do not own a car and find it to be quite a task to get in sugarhouse. I think a trolley would be a very good decision because it is reliable, it would fit great into the already historic and artsy community that is sugarhouse and it would provide a sure shot route to the Sugarhouse business district from trams. It would fit great with the market station development planned for that area, and the turn around time would be a lot faster than building trams. My vote is for Doug White’s trolley. Thank you.&quot;</td>
</tr>
<tr>
<td>7/23/07</td>
<td>Do whatever you can to keep traffic low and slow on 17000E please. That makes less noise for me and keeps my well-used, unpainted, bike lane safe(ish) for everyone (except on that deadly hill above 3300E). I vote for a small electric trolley from Trax to through the re-vamped Granite block with a bike lane along side in the existing right-of-way. Include a stop at Sugarhouse BBQ in case I’m hungry. :) &quot;</td>
</tr>
<tr>
<td>7/28/07</td>
<td>&quot;I would much prefer to see a trolley service Sugar House, which could evolve into something similar to San Francisco’s F-line. That line runs vintage streetcars and enjoys high ridership in large part due to being able to travel back in history. My least preference is for a bus.&quot;</td>
</tr>
<tr>
<td>7/20/07</td>
<td>&quot;No bus along 2100 East to the University of Utah is concerning. We have so many apartments in our neighborhood and a fair amount of folks that ride the bus. Who will clean the sidewalks so that we can get to 2100 East and 2100 South to catch a bus early in the morning. Landlords are certainly not concerned. Why such a drastic change?&quot;</td>
</tr>
</tbody>
</table>
| 8/2/07   | "As a property owner and commuter in the Sugarhouse area I would love to have options to get out of my car. However, if the transit mode is not competitive time wise and cost wise (with me in my car) then I would rarely use it except in the case that there is an event that would make parking impossible. I know long term the price of being a single occupant in a car will be too high environmentally, cost and time) but I'd like to go green sooner.
I assume there will be noise and vibration impacts to the adjacent properties BUT they will also reap the biggest reward in securing property values - thinking long term, I wonder what speed actually means. The same speed as TRAX/light rail or less? It would be good to have that listed in the intents. A heavy rail/tram is not a joke - studies are for tourists but not often as needed in that frequent stops will slow the train too - what is proposed for distance between stations? TRAX downtown seems frequent enough to accommodate riders. Walking a few blocks is doable for most of the population, I think the park and ride lots in Sugarhouse proper should be minimized - or if needed build the ugly thing underground. This seems to be a land use and aesthetic issue. I think a streetcar like Portland OR or a LRT line that connects with north-south TRAX and CRT is what is needed for long term mobility. Sugarhouse has appeal because of shopping, the park, and I-80 access but this could change. (And in the near..."
Sugar House Transit Corridor

8/20/07

"I really feel that it’s quite unfair to totally eliminate Rt. 7, which has served this area for many years. To have to walk in 20th El, or 13th East, or So, in 3rd St., it is very difficult for many of us citizens in this area. I hope you’re imitating services in some areas, but you should not be at the expense of residents of other areas by totally eliminating their service, or at the very least, making it very inconvenient for them to get to an area where a bus or TRAX is available."

8/21/07

"I need to live near 27th South and 21st East & have fond memories of living in Sugar House. Ever since working in Portland, OR a few years ago, I was very impressed with their Portland street trolley (http://portlandstreetcar.org/ideologies). Very neighborhood friendly, low impact, quick construction, relatively low cost, and a more permanent transit solution this more enticing to development than bus routes which are not."

8/23/07

"I like the quietness of the trolley, but I keep seeing 2100 S. I would prefer because: 1. The rail corridor would be for trains only. Using the corridor for rail would reduce traffic impact. 2. Commuters will be the majority of the riders. The preferred solution does not require a transfer at Centerpoint to get downtown. 3. 2100 S. option would provide a better opportunity to extend the line in the future. Extending the line east to Parley’s Way or South to Brickyard would add significant value to the project. If the 2100 S option unnecessaries impede traffic flow, OR A transfer is required at Centerpoint THEN the trolley would be the preferred solution because it meets all of these criteria better. 1. 2100 S. is preferred unless the traffic impact is too great. 2. The usefulness of the project is significantly limited if either option stops short of 1300 E."

8/23/07

"Although beyond the scope of this Sugar House study, consider creating Sugarhouse-University-Downtown loop. Extend the current Sugar House proposal to Parley’s Way and the University line from the Medical Center to Parley’s way. This would benefit many Sugar House and other outside University commuters and increase ridership from Millcreek and Holladay. While this would triple the cost it would triple ridership as well."

8/30/07

"It seems like Trac is bad on a main road, like 21st South instead of a small residential street. Businesses are usually found on busy roads and they’re less likely to complain than residents who might have a Trac line right out of their front door. I think it’s odd so have a train on a small residential street, and if I lived there, I’m sure I would welcome it. Other than the initial construction, I think businesses would welcome a Trac line on their street and would welcome the foot traffic. So, put Trac on main roads, and not down quiet residential streets."

8/31/07

"A future light rail or a streetcar along the existing Sugarhouse Line right-of-way all the way to the Ceramic Furniture Building or even all the way to 1300 East. It’s a great idea to include a trail along the right-of-way too."

9/5/07

"Are you sure?"

Appendix
<table>
<thead>
<tr>
<th>35</th>
<th>9/10/07</th>
<th>It's wonderful. Wow</th>
</tr>
</thead>
<tbody>
<tr>
<td>36</td>
<td>9/22/07</td>
<td>&quot;Your streetcar map ends at Highland, short of Sugarhouse. So, either change the name or extend the range...I'm a SL native map, in the end.&quot;</td>
</tr>
</tbody>
</table>
Materials from the Agency Scoping Meeting for the Sugar House Streetcar Project EA

Agency Invitation Letter and List of Agencies Invited

September 1, 2009

Dear {Name}:

Salt Lake City and the City of South Salt Lake, in cooperation with the Utah Transit Authority (UTA) and the Federal Transit Administration (FTA), are preparing an Environmental Assessment (EA) for proposed high-frequency, high-capacity transit service in the Sugarhouse area of Salt Lake County, Utah. An agency scoping meeting will be held Tuesday, September 22, 2009, at 1:00 p.m. at UTA’s Front Line Headquarters, 689 West 200 South, in Salt Lake City, Utah. Your agency is invited to attend this meeting. If you plan to attend the agency meeting, please RSVP by September 14, 2009, to Kerry Doane at kdoane@rideuta.com.

Written comments or questions concerning the Sugarhouse Streetcar EA should be addressed to Kerry Doane and should be received by September 29, 2009, at the following address:

Kerry Doane  
UTA Front Line Headquarters  
689 West 200 South  
Salt Lake City, UT 84101

Study Area

The study area for the proposed transit service extends from the Central Pointe TRAX Station at about 200 West 2100 South in South Salt Lake City eastward to about 1100 East and from 1700 South to 2700 South in Salt Lake City (see attached map). The route length would be about 2 miles, and seven transit stations are proposed.

Project Purpose

The purpose of the Sugarhouse Streetcar project is to reduce automobile congestion on 2100 South, provide multi-modal travel choices, provide access to a regional, fixed-guideway transit network, support community and economic redevelopment, and enhance and support community goals for growth in the area. The project will increase mobility for shorter trips as well as provide a connection to the larger regional transportation system. In addition, this project will preserve the cultural identity in the Sugarhouse area of Salt Lake City and South Salt Lake. The project will enhance the community by providing a transportation improvement that is pedestrian friendly and compatible with the traditional character of the surrounding neighborhoods. The overall goal for this project is to increase local and regional mobility and reduce automobile congestion in the study area through 2030. The project will increase multi-modal trip options and reduce automobile travel, thereby helping to decrease local congestion and regional pollution.

Alternatives Analysis

In 2008, UTA completed an Alternatives Analysis (AA) for this project. The AA study scope was broad and considered many possible mode and alignment alternatives through a comprehensive process. The process was similar to the FTA Project Development Process in which a long list of potential alternatives is developed, evaluated, and screened. The process also included a comprehensive public and agency outreach program. One
of the alignments considered was an existing railroad right-of-way at about 2300 South. UTA currently owns this railroad right-of-way. This rail corridor is no longer actively used for freight and was considered for a potential fixed-guideway transit solution in this analysis.

The AA study team consisted of members from the City of South Salt Lake, Salt Lake City, UTA, and the Utah Department of Transportation (UDOT). Through a collaborative effort, the AA study team developed multiple alternatives and performed three levels of screening and evaluation to determine the suitability of the alternatives based on the previously defined project objectives and project's purpose and need. In addition to a No-Build Alternative, a range of reasonable alternatives was studied in the AA, including Enhanced Bus Service on 2100 South, Bus Rapid Transit (BRT) on the UTA right-of-way, Modern Streetcar or Historic Trolley on the UTA right-of-way, and Light-Rail Transit (LRT) on the UTA right-of-way.

Locally Preferred Alternative (LPA)

The Modern Streetcar alternative best meets the purpose of and need for the project and is being carried forward in the EA as the Locally Preferred Alternative (LPA). No new alternatives will be studied as part of the Sugarhouse Streetcar EA project. The LPA has been formally adopted by both Salt Lake City and South Salt Lake. In July 2008, a resolution was signed by each City to support the streetcar project. In addition, the Sugar House Streetcar was moved from Phase 3 to Phase 1 in the Wasatch Front Regional Council's (WFRC) fiscally constrained Long-Range Plan (LRP). The LPA has been formally adopted by each of the Cities and is recognized as part of their master transportation plans.

Environmental Assessment

In the EA, the Cities, UTA, and FTA will evaluate the significant environmental, social, and economic impacts of the No-Build Alternative and the LPA. The expected impacts of the project will be disclosed for the long-term operation of each alternative and for the short-term construction period. Measures to avoid, minimize, or mitigate all adverse impacts will be identified, evaluated, and adopted as appropriate.

To ensure that a full range of issues related to the proposed action is addressed and all significant issues are identified, comments and suggestions are invited from all interested parties. Your comments are being solicited as part of the agency scoping process and will be used to identify environmental concerns to be evaluated in the EA.

Your participation is critical to the successful completion of the study, and your input ensures that the recommended project will be an asset to the community.

Thank you for your participation and interest in this project. Please feel free to contact me with your questions or comments.

Respectfully,

Kerry Doane
Project Manager
UTA
(801) 237-1954

Enclosures: Study Area Map, Locally Preferred Alternative Map, Comment Form
Locally Preferred Alternative
Sugarhouse Streetcar Project
Scoping Comment Form

Name: ____________________________________________
Address: _________________________________________
_________________________________________________________________________

Comments can be submitted to:
Kerry Doane, Project Manager
Utah Transit Authority
659 West 200 South
Salt Lake City, UT 84101
Fax: (801) 741-8892
E-mail: KDoane@rideuta.com

Deadline: September 29, 2009

What environmental issues and impacts are you concerned about?
Please be as specific as possible.

_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
_________________________________________________________________________
Sugarhouse Streetcar, Agencies List

**Federal Lead**

Federal Transit Administration

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**Local Leads**

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Federal

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(303) 312-4967 FAX

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Federal Emergency Management Agency
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(303) 225-4970 FAX

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Regional Administrator
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(916) 498-8548 FAX
alvin.settle@fra.dot.gov

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Steve Call
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801-963-0182
kelly.lund@fhwa.dot.gov

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Western Regional Office
Allan Ansposch, Regional Director
400 North 5th Street, 2 AZ Center, 12th Floor
Phoenix, AZ 85004
(602) 370-3600
(602) 370-4415 FAX
Bureau of Land Management
Glenn Carpenter
Bureau of Land Management
2370 South 2300 West
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(801) 977-4587 FAX
Glenn_Carpenter@blm.gov

U.S. Army Corps of Engineers
Jason Gipson, Chief
Utah Regulatory Office
U.S. Army Corps of Engineers
533 West 2800 South
Bountiful, UT 84010-7744
801-295-6560 x14
jason.a.gipson@usace.army.mil

Natural Resources Conservation Service
Utah State Office
Natural Resources Conservation Service
Attention: Ms. Sylvia Gillen
125 South State St.
Salt Lake City, UT 84111
801-524-4551
sylvia.gillen@ut.usda.gov

U.S. Fish and Wildlife Service – Utah Field Office
Mr. Larry Crisst
U.S. Fish and Wildlife Service
2350 West Otton Circle, Suite 50
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(801) 975-3331 FAX
larry.crisst@fws.gov

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plambert@usgs.gov

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## Sign-In Sheet

### Sugar House Streetcar Project

**Agency/Firm**
- SLC Planning Division

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**Name**
- Janice Lewis
- Brandon Henry
- Dave Carlson
- Lynne Enyedi
- Mary Delcrocco
- Kerry Davee
- Kevin Young
- H. Hart
- DJ Barton

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**Sugar House Streetcar Project**

**Agency Scoping Meeting Sign-In**
Presentation

Sugar House Streetcar Project

Agency Scoping Meeting
September 22, 2009

Team Organization

Kerry Doane
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Fehr and Peers
Transportation Modeling/Public Involvement
(801) 463-7690
Project Study Area

Sugar House Streetcar Project

Project Background

- In 2008, an Alternatives Analysis was completed. Many possible modes and alignments were evaluated and screened through a thorough application of evaluation criteria documented in a comprehensive public and agency outreach program.

- Among the alignments studied was an existing railroad right-of-way, owned by UTA at about 2300 South, which is no longer actively used for freight. In the end, the Modern Streetcar Alternative on the UTA-owned right-of-way best met the purpose and need and is being carried forward as the Locally Preferred Alternative (Action Alternative) in the EA.

- The streetcar will operate between the Central Pointe TRAX station at 2100 South and 221 West and the Sugar House commercial district centered around 2100 South and Highland Drive, using UTA’s existing rail right-of-way located at about 2300 South. The route length is 2 miles.

- The route includes seven stops about 0.3 miles apart, service every 15 minutes during peak hours, and every 30 minutes during off-peak hours.

Sugar House Streetcar Project
Adoption of Locally Preferred Alternative

- The Locally Preferred Alternative (LPA) has been formally adopted by both Salt Lake City and South Salt Lake and recognized as part of each City's master transportation plan.

- A resolution was signed by each City to support the streetcar project in July, 2008.

Jurisdictional & Stakeholder Collaboration

Since the birth of the idea of a streetcar to Sugar House, this process has been highly collaborative, involving people at every level, including residents, developers, business, stakeholders, elected officials, Parley's Rails, Trails and Tunnels (PRATT) Coalition, and UTA.
Financial Feasibility and TIGER Grant

- Since selection of the LPA, additional work has been completed on a financing strategy.
- A TIGER Grant Application was submitted to obtain partial funding for the streetcar.

Purpose and Need

**Purpose:**
- Reduce automobile congestion on 2100 South
- Provide multi-modal travel choices in the study area
- Provide access to a regional fixed guideway transit network
- Support community and economic redevelopment
- Support the enhancement and support of community goals for growth in the area

**Need:**
- Increasing vehicle congestion on 2100 South
- Lack of reliable travel times in study area
- Increasing population and urbanization in the study area
- Decreasing access to transportation network
- "Pedestrian accelerator" to move people efficiently over longer distances within the study area
Alternatives to be Studied in EA

- No-Action Alternative
  The No-Action Alternative provides a baseline for comparing the travel benefits and other environmental impacts associated with the Action Alternative. The No-Action Alternative includes the existing highway network (which is part of all alternatives) plus the transportation improvements included in the WFRC Regional Transportation Plan. The No-Action Alternative includes planned and committed highway and transit facilities that are likely to exist in the year 2030, with the exception of the Sugar House Streetcar Project itself. The No-Action Alternative assumes bus service continues “as is” on 2100 South.

- Action Alternative - Modern Streetcar on UTA-owned ROW
  The Preferred Action Alternative includes streetcar service along the UTA-owned right-of-way of the former Union Pacific Railroad at about 2300 South between the Central Pointe TRAX station at 2100 South and 221 West and Highland Drive. The alternative includes seven stations (Central Pointe TRAX, State Street, 300 East, Kearns/St. Anne’s (450 East), 700 East, 900 East, and Granite Block) and is about 2 miles long.
Environmental Issues

Because the right-of-way is an abandoned railway in an urban environment, very few, if any environmental impacts are anticipated.

- Noise and vibration
- Visual impacts
- Land use
- Historic/Cultural Resources
- Environmental Justice
- Grade crossings and traffic related issues
- Integration of Streetcar with PRATT trail, to be co-located in ROW
- Other issues identified during the project scoping process.

Agency Scoping

Scoping defined:

Process of determining the focus and content (scope) of an Environmental Assessment (EA).

Purpose of scoping:

- Define key issues to be evaluated.
- Propose mitigation measures to be evaluated.
Project Schedule

- August 5, 2009: Met with FTA to discuss review of AA and review process for EA. FTA and project team agreed on fast-track review schedule for EA document.
- Mid-August 2009: Sent scoping letters to agencies, which will summarize the project and request scoping comments; initiate Section 106 process; and conduct field work.
- September 22, 2009: Agency scoping meeting.
- September–October 2009: EA chapter development.
- End of October 2009: Complete administrative draft EA.
- Mid-November 2009: Revise admin. draft EA per comments.
- End of November 2009: Submit draft EA to FTA for review and comment.
- Mid-November 2009–Mid-January 2010: FTA review and comment period.
- Mid-January–Mid-February 2010: Issue notice of availability, begin public comment period, and hold public meeting.
- Mid-February–Mid-March 2010: Produce Final EA; and draft a finding of no significant impacts (FONSI), if applicable.
- End of March 2010: Receive signed FONSI, if applicable.

Agency Point of Contact

What do we need from you?

- Contact information for your agency lead on this project
- Each agency’s specific issues
For additional project information


Kerry Doane
Sugar House Streetcar Project Manager
Utah Transit Authority
669 West 200 South
Salt Lake City, UT 84101
kdoane@rideuta.com
(801) 237-1964
Comments Received

United States Department of Agriculture

September 21, 2009

Mr. Kerry Doane
UTA Front Line Headquarters
669 West 200 South
Salt Lake City, Utah 84101

Dear Mr. Doane:

Thank you for the letter regarding the scoping meeting on September 22, 2009, for Sugarhouse Streetcar Environmental Assessment.

Due to staffing limitations, NRCS can only comment on projects that will primarily impact private agricultural lands.

We encourage you to utilize existing soil survey information for your project planning. Soil survey information for Utah is available at [http://www.ut.nrcs.usda.gov/technical/soils/index.htm](http://www.ut.nrcs.usda.gov/technical/soils/index.htm).

If you have any questions, please contact Mike Domeier, State Soil Scientist, at (801) 524-4574.

Sincerely,

[Signature]

ELISE BOEKE
State Resource Conservationist

Helping People Help the Land
An Equal Opportunity Provider and Employer
September 22, 2009

Kerry Doane  
Project Manager  
Utah Transit Authority  
669 West 200 South  
Salt Lake City UT 84101

Dear Ms. Doane:

Re: Sugarhouse Streetcar Environmental Assessment Scoping

Thank you for the opportunity to comment on environmental impacts and issues to be evaluated and addressed during the Environmental Assessment (EA) for this proposed project. Our comments are similar in nature to those we submitted in letter to G.J. Labenty, UTA Project Manager, dated October 9, 2007 during the Alternatives Analysis (AA).

Within the proposed transit corridor, crossings at 700 East and State Street carry a combined daily volume of about 75,000 vehicles per day in and out of Salt Lake City and South Salt Lake City. The Wasatch Front Regional Council’s Regional Transportation Plan forecasts these combined volumes as high as 124,000 vehicles per day in 2030. These routes connect directly to Interstate 80 ramps approximately 1000 feet south of the transit corridor. The Sugarhouse Transit AA predicted 2300 trips per day (assuming 3% transit ridership) would use a streetcar in the UTA corridor. The project also desires to accommodate a linear park/trail that would run parallel to the street car tracks throughout the UTA corridor. A street car station is planned adjacent to each of these state routes creating an attraction for bicyclists and pedestrians to cross state highways where there are currently no signals or pedestrian crossings.

The EA needs to address in detail the traffic impacts of new, at-grade rail crossings on 700 East and State Street. Based on preliminary modeling work during the AA, we believe the traffic influence of these crossings extends through the I-80 interchanges and ramps and the EA needs to determine and address freeway operations impacts. Likewise, the adverse impacts of pedestrians crossing at the same locations need to be fully understood and addressed with the project. Physical separation of the pedestrian crossings and possibly the street car crossings may be justified due to safety.
DEPARTMENT OF TRANSPORTATION

concerns, the delay to people traveling north-south, and increased pollution associated with the delay.

Again, thank you for the opportunity to comment on project impacts needing to be addressed as part of UTA’s Sugarhouse Streetcar Environmental Assessment. I look forward to working with you to address these issues.

Sincerely,

Richard Manser, P.E.
Engineering Liaison, Rail Transit Projects

Copy: Jason Davis, Region Two Deputy Director
Robert Miles, Region Two Traffic Operations Engineer
Brandon Weston, Region Two Preconstruction Support Manager

Region Two Headquarters, 2010 South 2760 West, Salt Lake City, Utah 84110-4592
telephone 801-975-4990 • facsimile 801-975-6891 • www.udot.utah.gov
Appendix B5

Paleontological Resources
Appendix B5: Paleontological Resources

This appendix discusses the significant paleontological resources along the UTA-owned right-of-way and the impacts of the project on paleontological resources. Significant paleontological resources include vertebrate fossil remains that are identifiable to a scientifically useful level and other remains that are determined to be rare or unusually well preserved. The paleontological resources evaluation area is the area within about 250 feet of each side of the centerline of the UTA-owned right-of-way, for a total width of about 500 feet.

Statutory and Regulatory Setting

Paleontological resources are given consideration and protection under a variety of laws and regulations. Among the federal laws is the American Antiquities Act, which refers only to “objects of antiquity” but has been frequently interpreted to include paleontological resources. Additionally, NEPA also requires consideration of impacts to paleontological resources.

Affected Environment

Methodology

In accordance with standard protocols for the State of Utah, the Utah Geological Survey (UGS) was consulted by a written letter that asked it to identify any known paleontological localities within or immediately adjacent to the area of potential effects (APE) for the project and to assess the potential for encountering such resources during either field inventories or construction. The consultation letter was sent on April 24, 2008, and UGS responded on April 28, 2008.

The project team reviewed published literature regarding the prehistoric and historic uses and the known geological composition of the paleontological resources evaluation area to determine whether paleontological resources would be affected by the proposed project. In addition, a pedestrian (walk-through) survey of the evaluation area was conducted in September 2009.

Existing Conditions

No known paleontological resources are present within the evaluation area. Consultation with UGS confirmed that no fossil localities have been previously documented in or near the paleontological resources evaluation area and that the overall potential for such resources is low because of the area’s geology (see Appendix A, Pertinent Correspondence). However, exposures of Lake Bonneville deposits could be present in
the area, and these deposits have been known to yield significant vertebrate fossils elsewhere along the Wasatch Front.

Environmental Consequences

Methodology

Paleontological impacts were determined through a pedestrian survey of the evaluation area and by evaluating information provided by UGS (see Appendix A, Pertinent Correspondence).

No-Action Alternative

Because the No-Action Alternative would not disturb any ground, it would not affect any paleontological resources. Furthermore, according to UGS, there are no known paleontological resources in the area.

Action Alternative

Because no known paleontological resources were identified within the evaluation area for the Action Alternative, no analysis of specific paleontological localities was conducted. No known paleontological resources would be affected by the Action Alternative.
Appendix B6

Greenhouse Gas Emissions Calculated for the Draper Transit Corridor Project
Appendix B6: Greenhouse Gas Emissions Calculated for the Draper Transit Corridor Project

Power facilities that generate electricity are required to report their overall greenhouse gas emissions. However, because UTA does not purchase power directly from a specific source, generator-specific emission factors cannot be used. An estimate of indirect greenhouse gas emissions can be made using eGRID region-specific emission factors provided in The Climate Registry protocol, Chapter 14 (APTA 2009).

The calculation of indirect greenhouse gas emissions is based on the estimated energy consumption for Salt Lake County provided in Section 5.16, Energy, of the Draper Transit Corridor Project EIS (UTA 2010). For that greenhouse gas estimate, the energy consumption calculated for the No-Action Alternative (2030) and for Alternative C – Full Build (2030), which included fuel consumption for all of Salt Lake County, was converted from British thermal units (Btu) into megawatt hours (MWh) of electricity usage per year. Then emissions of individual greenhouse gases (carbon dioxide, methane, and nitrous oxide) were calculated using regional emission factors developed for the Western Electric Coordinating Council’s Rockies region (EPA 2008c).

Table B6-1 shows the estimated indirect greenhouse gas emissions for the No-Action Alternative and Alternative C – Full Build in 2030. The difference between the emission estimates for the No-Action Alternative and Alternative C – Full Build represents greenhouse gas reductions due to Alternative C – Full Build for the Draper Transit Corridor Project.

<table>
<thead>
<tr>
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</thead>
<tbody>
<tr>
<td>Carbon dioxide (CO₂)</td>
<td>93,607</td>
<td>93,156</td>
<td>451</td>
</tr>
<tr>
<td>Methane (CH₄)</td>
<td>1.98</td>
<td>1.98</td>
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</tr>
<tr>
<td>Nitrous oxide (N₂O)</td>
<td>1.55</td>
<td>1.54</td>
<td>0.01</td>
</tr>
</tbody>
</table>
As shown in Table B6-1 above, Alternative C – Full Build for the Draper Transit Corridor Project would result in modest reductions in annual greenhouse gas emissions in Salt Lake County. Alternative C – Full Build would reduce vehicle-miles traveled by about 50,000 miles per day, which would have a minor effect on overall greenhouse gas emissions in Salt Lake County. Since the Sugar House Streetcar Action Alternative would reduce regional vehicle-miles traveled by much less than would Alternative C – Full Build for the Draper Transit Corridor Project, the resulting greenhouse gas emissions from the Sugar House Streetcar Action Alternative would be less than those shown in Table B6-1 above.
Appendix B7: Geologic Hazards

This appendix discusses the existing topography, geology, geologic hazards, and soils along the UTA-owned right-of-way where new construction would occur as well as the effects of the project on geology and soils. The geology and soils evaluation area includes the southern Salt Lake Valley for regional geology and seismicity and about one-half mile on each side of the UTA-owned right-of-way for geologic hazards.

The UTA-owned right-of-way is located in the Great Basin, a relatively flat lowland plain along the western edge of the Wasatch Range and the eastern shore of the Great Salt Lake. The topography of the terrain in the project corridor is relatively flat with ground elevations ranging from about 4,250 feet on the western end to about 4,350 feet on the eastern end of the corridor.

Statutory and Regulatory Setting

The Clean Water Act is discussed in Section 3.7, Water Quality. Because Section 402 of the Clean Water Act is directly relevant to excavation and grading, additional information is provided here. Amendments in 1987 to the Clean Water Act added Section 402p, which establishes a framework for regulating municipal and industrial stormwater discharges under the National Pollutant Discharge Elimination System (NPDES) program.

Under the NPDES Phase II Rule, any construction activity that disturbs 1 acre or more must obtain coverage under the state’s General Permit for Storm Water Discharges Associated with Construction Activity (General Permit). General Permit applicants are required to prepare a Notice of Intent and a Storm Water Pollution Prevention Plan and to implement and maintain best management practices (BMPs) to avoid adverse effects on the quality of receiving waters as a result of construction activities, including earthwork.

Affected Environment

Methodology

The soils and geologic conditions for the evaluation area were established by reviewing existing published material and aerial photographs of soils, geologic formations, and geologic hazards. The physical properties and characteristics identified included general soil conditions, soil expansion potential, general geologic classification, stability of material, and potential seismicity and other geologic hazards. The information and analysis in this EA are largely based on materials available from the Utah Geological Survey and the federal Natural Resources Conservation Service.

Soil Conditions

The geology and soils evaluation area is developed with urban uses. The soil associated with many developed parcels is not exposed, or, if it is exposed, it is stabilized using
planted landscaping. However, because the UTA-owned right-of-way currently consists of exposed soil, soils along the corridor are or could be susceptible to sheet, rill, and wind erosion; erosion associated with construction; depletion of organic matter; compaction; and contamination (NRCS and others 2005). Possible soil contamination associated with previous use of the right-of-way for rail use is addressed in Appendix B3, Hazardous Waste Sites.

Geologic Setting

The Wasatch Fault zone runs north-south through the evaluation area along about Highland Drive/1100 East (UGS 2008a). This fault zone, which trends north-south throughout the eastern side of the Salt Lake Valley, is considered active. Past seismic activity demonstrates that the Wasatch Fault zone and related fault segments can generate moderate to large earthquakes of Richter magnitudes ranging from 6.5 to 7.25 with a recurrence interval of 250 to 280 years.

Geologic Hazards

Several potential geologic hazards are associated with the frequency and distribution of earthquakes in the region, which is dominated by the Wasatch Fault zone. These hazards include ground shaking, liquefaction, and tectonic subsidence. Landslides are another geologic hazard that can be directly or indirectly related to earthquake activity. The following sections provide more information about these potential hazards.

Ground Shaking

The Wasatch Fault zone is active and can produce damaging seismic waves during an earthquake. Structures associated with the Sugar House Streetcar Project would have to be designed to withstand the anticipated ground shaking and earthquake accelerations associated with movement along the Wasatch Fault zone.

Liquefaction

Liquefaction is the sudden loss of strength and stiffness in soil during strong earthquake shaking. During liquefaction, soil transforms from a solid state to a liquid state. Liquefaction can cause subsidence, sand boils, lateral soil spreading, and loss of support for structures such as buildings and bridges. The UTA-owned right-of-way and much of the evaluation area are located in a high-liquefaction-potential zone. The northeastern corner of the evaluation area (north of about 2100 South) is in a moderate-liquefaction-potential zone (UGS 2008b).

Tectonic Subsidence

A major earthquake along the Wasatch Fault zone could cause some degree of tectonic subsidence. Tectonic subsidence is the vertical movement of the outer shell of the earth without any change in the weight of the overlying sediments or water. Although ground
subsidence is a potential hazard, it is not practical to incorporate measures in the design of the Sugar House Streetcar Project to mitigate this risk.

**Landslides**

A landslide is gravity-induced downward and outward movement of rock or soil. Landslides can range in size from tiny pop-outs on soil slopes to massive earth movements.

The *Landslide Susceptibility Map of Utah* (UGS 2007) does not show any areas of low, moderate, or high landslide susceptibility in the evaluation area. The susceptibility of most of the valley floor is considered low, meaning that these are areas that are unlikely to produce landslides.

**Environmental Consequences**

**Methodology**

The expected environmental consequences of the Action Alternative were determined by reviewing information provided in the Affected Environment section of this appendix, evaluating how constructing the Action Alternative could affect soil conditions, and evaluating how the project might be affected by geologic activity.

**No-Action Alternative**

Under the No-Action Alternative, the Sugar House Streetcar Project would not be built, so there would be no soil disturbance associated with constructing a rail line on the UTA-owned right-of-way. The evaluation area would continue to be subject to geologic forces related to seismic activity and to natural wind and water erosion.

**Action Alternative**

The Action Alternative could affect soils through grading. Because the UTA-owned right-of-way is a former railroad corridor, modifications to roadway intersections that cross the corridor would be limited to less than 1 foot of change in centerline elevation. This limited change in elevation would have limited effects on adjacent properties. If grading were to cause any direct effects, the maximum cut slopes and fill slopes would be designed so that they follow the UTA Design Criteria and the UDOT guidelines and/or city guidelines (depending on who manages the affected road).

Because the right-of-way was previously used as a rail corridor, the right-of-way would require minimal grading to prepare the surface for the streetcar track. The Action Alternative would remove about 13 acres of soil and vegetation to construct the 2 miles of transit right-of-way and seven proposed stations. The Action Alternative would not affect the quality or quantity of soils in the evaluation area.
Mitigation Measures for Geologic Impacts

The evaluation area is in an area that is subject to ground shaking and liquefaction. UTA would design the streetcar track system to withstand some stress that might be related to seismic events, but some risk associated with geologic activity would remain. However, since the magnitude and occurrence of geologic activity related to seismic events are unknown, UTA can only design the system to withstand seismic effects using the best available technology. No additional mitigation is proposed.
Appendix C

Draft Memorandum of Agreement
MEMORANDUM OF AGREEMENT
BETWEEN THE FEDERAL TRANSIT ADMINISTRATION (FTA) AND THE UTAH STATE HISTORIC PRESERVATION OFFICER (SHPO)

REGARDING THE SUGAR HOUSE STREETCAR PROJECT SALT LAKE COUNTY, UTAH NOVEMBER 1, 2010

WHEREAS, the FTA has determined that, should FTA provide financial assistance for construction of the Sugar House Streetcar Project, it will constitute a Federal undertaking subject to Section 106 of the National Historic Preservation Act and 36 CFR 800; and

WHEREAS, the proposed federally assisted undertaking is the construction of the Sugar House Streetcar Project (the Project) located in the right of way corridor of the Denver and Rio Grande Western Park City Branch/Salt Lake Eastern Railway in Salt Lake City and South Salt Lake City, Utah between approximately 200 West in South Salt Lake City and McClelland Street (approximately 1100 East) in Salt Lake City, Utah with seven walk-up stations only (no parking provided) described in detail in the Sugar House Streetcar Environmental Assessment, November 2010; and

WHEREAS, the FTA, in consultation with the Utah SHPO and consulting parties, has determined that the Area of Potential Effects (APE), as defined in 36 CFR 800.16(d), to be the area within the 33 to 66 foot right of way from the Central Pointe TRAX station near 2100 South and 200 West to 1100 East, a distance of approximately two miles, plus all properties directly adjacent to that right of way, all station locations and a 500-foot buffer around each station location; and

WHEREAS, the FTA, in consultation with the Utah SHPO, has determined, pursuant to 36 CFR 800.5(a), that the undertaking will have an adverse effect on the Denver and Rio Grande Western Park City Branch/Salt Lake Eastern Railway, which has been previously determined to be eligible for the National Register of Historic Places (NRHP); and

WHEREAS, Section 106 of the National Historic Preservation Act, 16 USC 470 et seq. requires Federal agencies to take into account the effects of their undertakings on historic properties and afford the Advisory Council on Historic Preservation (ACHP) a reasonable opportunity to comment on such undertakings; and

WHEREAS, the FTA, in consultation with the Utah SHPO, has notified the ACHP of its adverse effect determination pursuant to 36 CFR 800.6(a)(1) and the ACHP has determined their participation in the consultation to resolve adverse effects is not needed; and
WHEREAS, the public and consulting parties were given an opportunity to comment on the adverse effects of the undertaking, and consulting parties were invited to be concurring parties to this MOA (*these activities are still in progress, not completed*); and

WHEREAS, the FTA, in consultation with the Utah SHPO, has invited the Utah Transit Authority (UTA) to become an invited signatory to this MOA; and

WHEREAS, the UTA has participated with the FTA in the consultation with the SHPO and has been invited to be a signatory to the MOA to reflect its commitment to the measures described in this MOA and to its obligations in a grant that will fund the construction of the Project; and

NOW, THEREFORE, the FTA and the Utah SHPO agree that, upon submission of a copy of this executed MOA, as well as the documentation specified in 36 CFR 800.11(e) and (f) to the ACHP pursuant to 36 CFR 800.6(b)(1)(iv), the FTA shall ensure that the proposed federally-assisted undertaking shall be implemented in accordance with the following stipulations in order to take into account the effect of the undertaking on the historic property listed above and identified in the Environmental Assessment.

**STIPULATIONS**

The FTA shall ensure that the following measures are carried out for the affected historic features of the Denver and Rio Grande Western Park City Branch/Salt Lake Eastern Railway that is eligible for inclusion on the National Register of Historic Places:

**I. DOCUMENTATION OF THE FOLLOWING HISTORIC RESOURCES:**

*Mitigation activities are in process of being determined as of 11/10/10*

**II. DISCOVERY:** In accordance with 36 CFR 800.13(b), the UTA is providing for the protection, evaluation, and treatment of any historic property discovered prior to or during construction. This stipulation specifies procedures to be followed by all UTA employees and all UTA contractors and subcontractors should any archaeological, historic, or paleontological resources be discovered during construction of the project. The procedures, which will be incorporated into all construction contracts, are as follows:
A. Contractors will immediately suspend construction operations in the vicinity of the discovery if a suspected historic, archeological or paleontological item, feature, prehistoric dwelling site or artifact of historic or archeological significance is encountered.

B. Contractors will notify the UTA Project Manager for the project verbally of the nature and exact location of the discovery.

C. The UTA Project Manager for the project immediately will contact the SHPO and will consult with a qualified historian or archaeologist to advise SHPO and UTA regarding the significance and recommended disposition of the discovery.

D. The UTA Project Manager for the project will protect the discovered objects from damage, theft, or other harm while the procedures of this stipulation are being carried out.

E. UTA and FTA will consult with the SHPO in accordance with 36 CFR 800.13(b)(3) toward developing and implementing an appropriate treatment plan prior to resuming construction. SHPO will expedite its response time in consideration of the cost of the suspension of construction activities. The time necessary for the SHPO to advise UTA, and for UTA to handle the discovered item, feature, or site is variable and will depend on the nature and condition of the discovered item. The FTA will not allow work to resume in the vicinity of the discovery, and the UTA will not resume construction until the SHPO and FTA have agreed in writing to that resumption.

F. Should human remains be inadvertently discovered during construction, all project-related ground disturbances within 300 feet of the discovery shall cease immediately. UTA will notify the FTA, the SHPO and most likely descendent Native American Tribes as soon as possible. The relevant county sheriff or coroner shall also be notified as soon as practicable. The UTA and FTA shall consult with these agencies and Tribes to determine the appropriate treatment of the remains. If it is determined that the remains are Native American, no project-related ground disturbance shall resume in the area of the discovery until written permission to do so is provided by FTA in consultation with the SHPO. If Native American human remains are discovered, UTA will adhere to Utah State Code Annotated 9-8-309 and 9-9-400.

III. REPORTING: As long as this MOA or its Amendments are in effect, UTA shall provide an annual report to FTA and the SHPO of any and all activities carried out pursuant to this MOA and, upon request, to any signatories and consulting parties.
IV. PERSONNEL QUALIFICATIONS: UTA shall ensure that all work carried out pursuant to this MOA is completed by or under the direct supervision of a person or persons meeting or exceeding the Secretary of the Interior's Professional Qualification Standards for History and/or Archaeology (36 CFR Part 61) as appropriate to the specific task.

V. DURATION: This MOA will be null and void upon completion of the undertaking, as evidenced by FTA close-out of all grants related to the project, or ten (10) years from the date of execution of the MOA, whichever occurs first. Prior to such time, any of the Parties hereto may consult to reconsider the terms of the MOA and amend it in accordance with Stipulation VII below.

VI. DISPUTE RESOLUTION: Should any signatory or concurring party to this MOA object at any time to any actions proposed in this manner in which the terms of this MOA are implemented, FTA shall consult with such party to resolve the objection. If FTA determines that the objection(s) cannot be resolved, FTA will:

A. Forward all documentation relevant to the dispute, including the FTA proposed resolution, to the ACHP. The ACHP shall provide the FTA with advice on the resolution of the objection within thirty days of receiving adequate documentation. Prior to reaching a final decision on the dispute, the FTA shall prepare a written response that takes into account any timely advice or comments regarding the dispute from the ACHP, signatories, and concurring parties, and provide them a copy of this written response. FTA will then proceed according to its final decision.

B. If the ACHP does not provide its advice regarding the dispute within the thirty day time period, the FTA may make a final decision on the dispute and proceed accordingly. Prior to reaching such a final decision, the FTA shall prepare a written response that takes into account any timely comments regarding the dispute from the signatories and concurring parties to the MOA, and provide them and the ACHP with a copy of such written response.

C. FTA’s responsibility to carry out all other actions subject to the terms of this MOA that are not the subject of the dispute remain unchanged.

VII. AMENDMENTS AND NONCOMPLIANCE: If any signatory to this MOA determines that its terms will not or cannot be carried out or that an amendment to its terms must be made, that party shall immediately consult with the other parties to develop an amendment to this MOA pursuant to 36 CFR 800.6(c)(7) and 800.6(c)(8). The amendment will be effective on the date a copy, signed by all of the original signatories, is filed with the ACHP. If within 30 days or another time period agreed to by
all signatories, agreement to the terms of an amendment cannot be reached, any signatory may terminate the MOA in accordance with Stipulation VII, below and upon written notification to the other signatories.

VIII. TERMINATION: If an MOA is not amended following the consultation set out in Stipulation VII, it may be terminated by any signatory.

Execution of this MOA by the FTA and the Utah SHPO, and the submission of documentation and filing of this MOA with ACHP pursuant to 36 CFR 800.6(b)(1)(iv) prior to FTA’s approval of this undertaking, and implementation of its terms, is evidence that the FTA has taken into account the effects of this undertaking on historic properties and has afforded the SHPO and ACHP an opportunity to comment on the effects of the project on historic properties.

THE FEDERAL TRANSIT ADMINISTRATION

By: ___________________________ Date: ________________
Terry J. Rosapep, FTA Region VIII Administrator

UTAH STATE HISTORIC PRESERVATION OFFICER

By: ___________________________ Date: ________________
Wilson G. Martin, Utah SHPO

Invited signatory:

UTAH TRANSIT AUTHORITY

By: ___________________________ Date: ________________
Michael A. Allegra, General Manager

Proposed Action

The proposed action, the Sugar House Streetcar Project, is intended to increase mobility, reduce congestion, and support community and economic redevelopment in the Salt Lake City community of Sugar House and in part of South Salt Lake. Specifically, the proposed action would contribute to improved connectivity on 2100 South and between neighborhoods and attractions in the Sugar House Streetcar study area and beyond; contribute to increased mobility on 2100 South; provide multimodal travel choices in the study area; increase mobility for short-range trips in the study area, especially pedestrian trips; provide connections to the regional transportation network, including the regional transit network; and provide a transportation improvement that is pedestrian-friendly, is compatible with surrounding neighborhoods, and supports community and economic redevelopment.

This EA addresses the impacts of constructing and operating a modern streetcar system that would provide service between the Central Pointe TRAX Station at about 250 West and 2100 South and the Granite Block development at Highland Drive and 2100 South in Sugar House (a total of about 2 miles). The streetcar line would operate on the UTA-owned right-of-way along about 2300 South for its entire length. The proposed action includes the following seven stations: Central Pointe TRAX, State Street, 300 East, Kearns/St. Ann’s (450 East), 700 East, 900 East, and Granite Block (about 1100 East). Stations could also be considered at 600 East and 800 East instead of at 700 East and 900 East.
How To Comment

The official comment period for this EA is from **November 19, 2010, to December 31, 2010**, and a public meeting will be held during this period.

UTA will hold the public meeting on **December 9, 2010**, at the Sprague Library, 2131 South 1100 East, Salt Lake City, Utah. The meeting will be held in an open-house format from 5:00 PM to 7:00 PM. The meeting will be accessible according to the requirements of the Americans with Disabilities Act (ADA).

The public can comment on this EA using a variety of methods including traditional mail, e-mail, comment form at the meeting, and recorded comments at the meeting.

- Comments can be mailed to the Sugar House Streetcar Project, c/o Kerry Doane, UTA, 669 West 200 South, Salt Lake City, Utah, 84101.

- Comments can be e-mailed to sugarhouse@rideuta.com.

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\begin{align*}
\text{Michael A. Allegra, General Manager} \\
\text{Utah Transit Authority}
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\text{Terry J. Rossopop, Regional Administrator} \\
\text{Federal Transit Administration}
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