LOCAL LINK ALTERNATIVES ANALYSIS

March 2022

LOCAL LINK
Connect to Your Community

Acknowledgments

Led by:

Salt Lake City

In cooperation with:

Holladay City

Millcreek

City of South Salt Lake

Salt Lake County

Prepared by:

AECOM

Jacobs

Alta Planning + Design

Horrocks Engineers

Executive Summary

Salt Lake City—in partnership with the City of South Salt Lake, Millcreek, Holladay City, Salt Lake County, and in consultation with Utah Transit Authority (UTA)—conducted a transit study to analyze transportation options between Sugar House and Millcreek with an extension into Holladay. The connections explored include routes along **1300 East** or **Highland Drive**, using enhanced bus, bus rapid transit (BRT), light rail, or streetcar transit options.

The study identified goals, needs, and existing conditions; developed and compared a range of transit modes and two routes by several screening criteria; and identified a locally preferred alignment and mode as well as next steps.

PROJECT PRIORITIES

Stakeholder meetings and brainstorming sessions were held at the beginning of the project to identify area needs and project priorities. Based on these meetings, several key needs and priorities emerged as a guide for the study, including reasonability, sustainability, choice, movement, connectivity, accessibility, adaptability, and safety.

EXISTING CONDITIONS

Current conditions were identified in the study area for each alignment including the existing roadway configuration, population and job projections, parcel density, land use types, key destinations, multimodal transportation networks, and safety issues. These conditions built a basis of understanding of the corridor conditions and needs, and laid the foundation for the development of alternatives and the screening process.

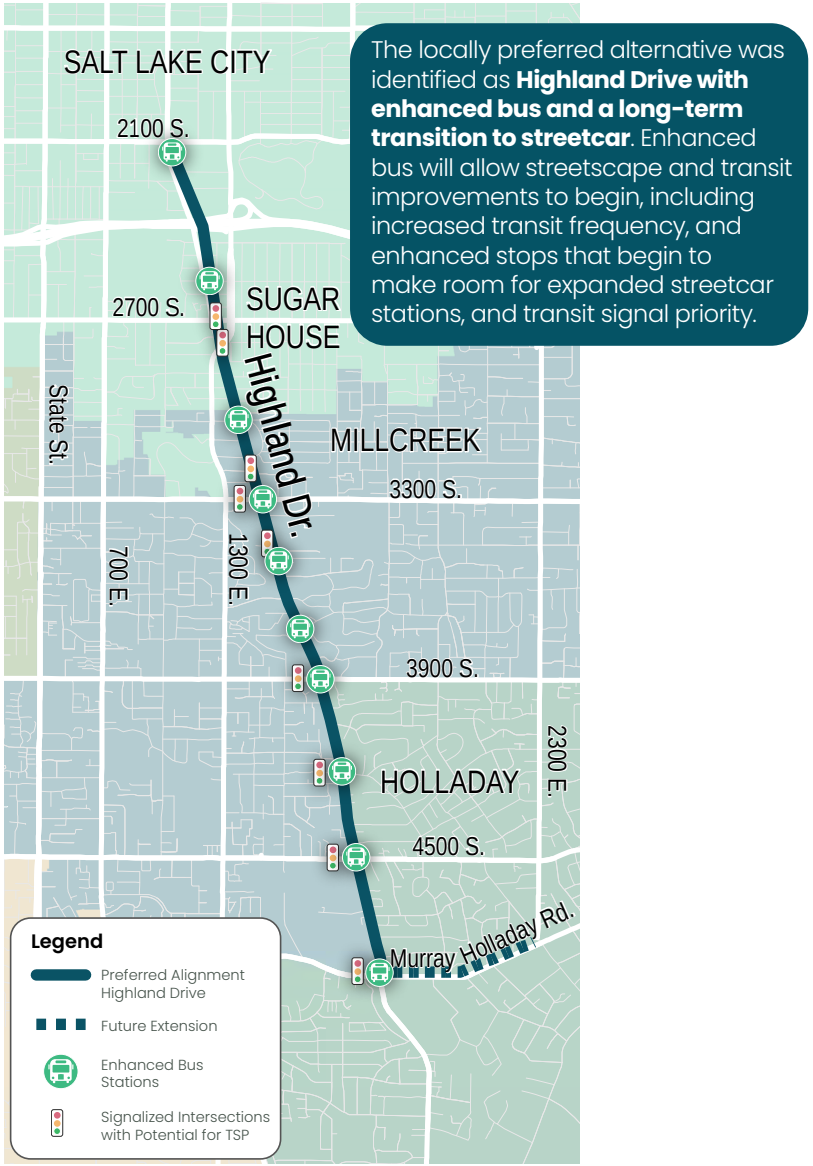
ALTERNATIVES DEVELOPMENT AND SCREENING

Based on the cities' goals, existing conditions, and needs, potential transit modes and routes were compared based on cost, projected ridership, engineering feasibility, right-of-way, and carbon emissions. These criteria were analyzed for each alignment (1300 East and Highland Drive) and for each mode, including light rail, BRT, streetcar, and enhanced bus.

LOCALLY PREFERRED ALTERNATIVE

Based on the evaluation conducted through the existing conditions analysis, alternatives screening, and stakeholder and community feedback, the locally preferred alternative was identified as **Highland Drive with enhanced bus and a long-term transition to streetcar** (Figure 1). Enhanced bus could include bus electrification and

FIGURE 1. LOCALLY PREFERRED ALTERNATIVE



The locally preferred alternative was identified as **Highland Drive with enhanced bus and a long-term transition to streetcar**. Enhanced bus will allow streetscape and transit improvements to begin, including increased transit frequency, and enhanced stops that begin to make room for expanded streetcar stations, and transit signal priority.

will allow streetscape and transit improvements to begin, including increased transit frequency, and enhanced stops that begin to make room for expanded streetcar stations, and transit signal priority which uses signals to improve transit service travel speed and consistency.

PUBLIC INVOLVEMENT

Public involvement was completed in two phases—the first during existing conditions analysis to understand issues and needs and the second during the evaluation to gain an understanding of transit mode preference. The second round of engagement was re-opened based on community desire for more input and conversation. An in-person engagement event occurred at Yappy Hour, and much more feedback was submitted during this extended period of engagement. Each phase included online surveys and interactive mapping, and overall engaged nearly 2,000 community members. After both rounds of feedback, the public preferred the streetcar mode on Highland Drive.

NEXT STEPS

Although the streetcar is the long-term planned mode for Highland Drive, transit improvements are needed quickly to mitigate increased traffic and increased transit demand, and therefore enhanced bus was identified as a short-term solution. The streetcar alternative is more expensive and will require securing additional funding through a cost competitiveness process. Once funding is identified there will be a more extensive design process to implement.

This analysis results in a transit service that is different than what is currently on the Regional Transportation Plan (RTP). If the service requires enough capital investment that would increase eligibility for federal funds, a revision to the WFRC RTP would be needed. UTA will determine if an environmental study is needed for enhanced bus, and will determine the level of environmental document if one is needed. After this, funding for capital, operations, and maintenance costs will need to be identified for this project, and the environmental study and preliminary engineering can begin. These steps will lay the foundation for final design and construction and operation to follow. A key aspect of all these future phases will be a continuation of the public outreach that began during this study and will continue through construction.

This process will repeat for the next phase of improvements to implement the streetcar alternative.

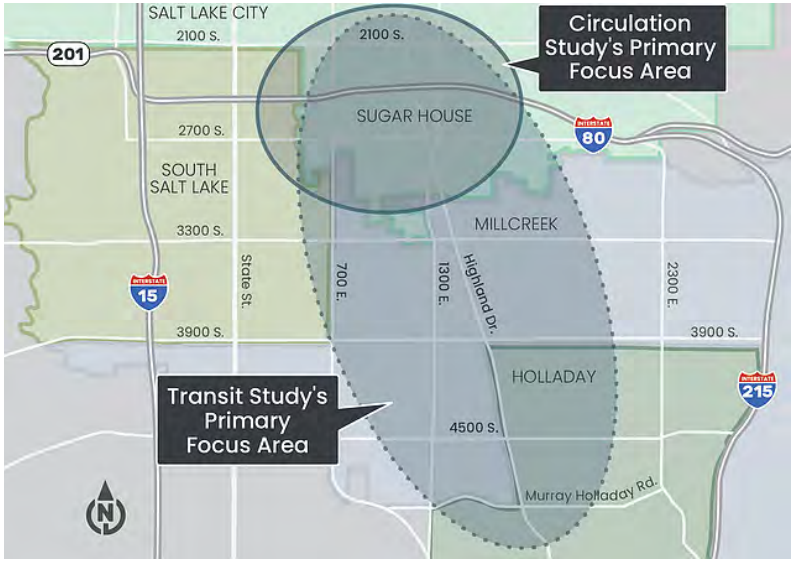
1 Introduction

Salt Lake City—in partnership with the City of South Salt Lake, Millcreek, Holladay City, Salt Lake County, and in consultation with Utah Transit Authority (UTA)—conducted an Alternatives Analysis through the Local Link project, from June 2020 to December 2021 to learn how the community travels in and around the study area shown in Figure 2. This alternatives analysis follows the 2020 circulation study developed at the beginning of the Local Link project, which outlined how people travel in and around the Sugar House Business District.

The 2020 circulation study evaluated opportunities to better accommodate transportation options such as walking, bicycling, transit, and automobile, and identified the gaps and barriers that make it challenging for the community to efficiently travel through and around the study area. The analysis revealed several corridors and spots in need of capital investment. These range from new trail alignments, to the addition of bicycle lanes in gap areas, to improved intersections for pedestrians and people on bicycles, to the creation of complete streets. The Local Link Circulation Study 2020 goes further into detail on the final program and policy recommendations. This information, as well as the Sugar House Streetcar Phase 2 project which recommended an extension to the north from the existing S-Line Alternatives Analysis on 1100 East, guided portions of this alternatives analysis especially with regard to bicycle, pedestrian, and transit connections in Sugar House.

This transit alternatives analysis goes a step beyond the circulation study, specifically analyzing transit and how the surrounding communities can effectively incorporate various modes of public transportation—such as streetcar, light rail, BRT, and enhanced bus—from the Sugar House Business District through Millcreek and into Holladay. The process for the alternatives analysis is shown in Figure 3, and includes defining project needs and goals, developing alternatives, evaluating and comparing alternatives, and identifying a preferred alternative. After this, funding will need to be identified for this project, which will lay the foundation for the environmental study and preliminary engineering.

FIGURE 2. STUDY AREA



WHAT IS LOCAL LINK?

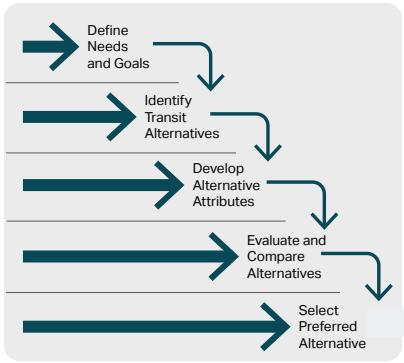
Salt Lake City, South Salt Lake, Millcreek, and Holladay City teamed up on Local Link to learn how you travel in and around your community in order to develop innovative, multimodal options for more convenient, connected trips.

The cities conducted a circulation study, which wrapped up in October 2020, that analyzed biking and walking connections into the Sugar House Business District. This alternatives analysis then analyzed transit options between Sugar House and Millcreek, with an extension into Holladay.

While these studies are providing a fresh look at transportation options, the Local Link effort is also building on a foundation of previous studies and proposed plans, including the 2013 Circulation and Streetscape Amenities Plan for the Sugar House Business District. The 2013 plan, as well as the Phase 2 locally preferred alternative, is still valid, except where it conflicts with this one, in which case this most recent plan takes precedence.

The goal of the alternatives analysis is to assess transit options between Sugar House and Millcreek with an extension into Holladay and improve north-south connections, and determine if additional and or improved transit could be supported in the study area. The transportation network that connects these communities will be safe, inviting, sustainable, and provide comfortable travel choices for everyone. It promotes a connected network between local neighborhoods and regional centers in South Salt Lake, Millcreek, and Holladay to the Sugar House Business District. Active and public transportation connections to schools, neighborhood centers, parks, and other public attractions are prioritized.

FIGURE 3. ALTERNATIVES ANALYSIS PROCESS



STUDY AREA, CORRIDORS, AND MODE OPTIONS

The alternatives analysis study area includes the Highland Drive and 1300 East corridors from Murray Holladay Road on the south to 2100 South on the north, as well as the potential extension area to the south along Murray Holladay Road to 2300 East. It also includes an area slightly beyond the project termini to include multimodal connectivity considerations and nearby destinations. Prior to narrowing down to the two corridors, several additional options were explored and eliminated due to various feasibility and operational limitations. Table 1 shows more information about these alternatives, and why they were not selected. A map illustrating the eliminated alternatives located in Appendix A.

The modes considered for the study include enhanced bus, streetcar, BRT, and light rail. Figure 5 on the next page provides a brief overview and potential implications of each mode.

TABLE 1. ELIMINATED ALTERNATIVES

Alternative Description	Justification for Elimination
1300 East: From Wilmington Avenue in Sugar House over I-80 to Murray Holladay Road.	Removed due to the potential constraints of crossing UDOT's I-80/1300 East overpass. Terminus along 1300 East would be outside of the core Sugar House Business District and future planned transit connections from Sugar House to downtown.
A loop on Highland Drive to the north and turning around at 2100 South to go south on 1300 East.	Removed due to likely transit user confusion and potential out-of-direction travel with 'loop' routing.
Switching over from Highland Drive on the south, to 1300 East in the middle via 3900 South and back over to Highland Drive at 2700 South.	Removed due to likely transit user confusion and anticipated additional travel time with the out-of-direction travel between Highland Drive and 1300 East.
Only using Highland Drive, and adding a stop to the west at St. Mark's Hospital off 3900 South.	Removed due to anticipated additional travel time and out-of-direction routing to accommodate a new stop at St. Mark's Hospital.

FIGURE 4. STUDY CORRIDOR OPTIONS

STEERING AND STAKEHOLDER COMMITTEES

Guiding the study, in addition to the project team, were the steering and stakeholder committees. The steering committee met monthly and was made up of representatives from project partners to provide feedback on alternatives and share insight from their respective parties in order to make decisions. Steering committee members received content to share with their networks and communicated their needs and concerns back to the project team to help make decisions.

Agencies involved in the steering committee included:

- Salt Lake City (Engineering and Transportation Divisions)
- Holladay City
- City of South Salt Lake
- Millcreek
- UTA
- Utah Department of Transportation (UDOT)
- Wasatch Front Regional Council (WFRC)

The stakeholder committee met bi-monthly and was made up of representatives from additional organizations and interests throughout the community. The Local Link project team worked closely with the committee to provide content and updates to share with their organizations and communications channels to reach more people and gain additional feedback from the public.

Groups represented in the stakeholder committee included:

- Sugar House Community Council
- Sugar House Business Developers
- Millcreek Business Developers
- Local Business Owners
- St. Mark's Hospital
- East Millcreek Community Council
- Millcreek Community Council
- Canyon Rim Citizens Association
- Granite School District
- Holladay Developers
- PRATT
- University of Utah
- Bike Utah
- Move Utah
- Westminster College
- Salt Lake School District
- SLC Business Ombudsman

FIGURE 5. TRANSIT MODE OPTIONS

ENHANCED BUS

This option runs more frequently than the existing bus line, but with a limited number of stops. It is not separated from traffic, but can have some premium enhancements including transit signal priority and other speed and reliability improvements.

STREETCAR

The streetcar option uses rail transit vehicles designed for locally focused transportation on a city street. The vehicles are powered by electricity, and the rail vehicles can share a lane with other vehicles.

BUS RAPID TRANSIT

This is a bus-based option with a dedicated travel lane, separate from vehicles, and includes transit signal priority, level boarding, and enhanced stops and stations.

LIGHT RAIL

Light rail is the most intensive transit option, as it includes a full passenger train, and requires its own tracks and separation from vehicle traffic. It also includes larger stations and traffic signal enhancements.

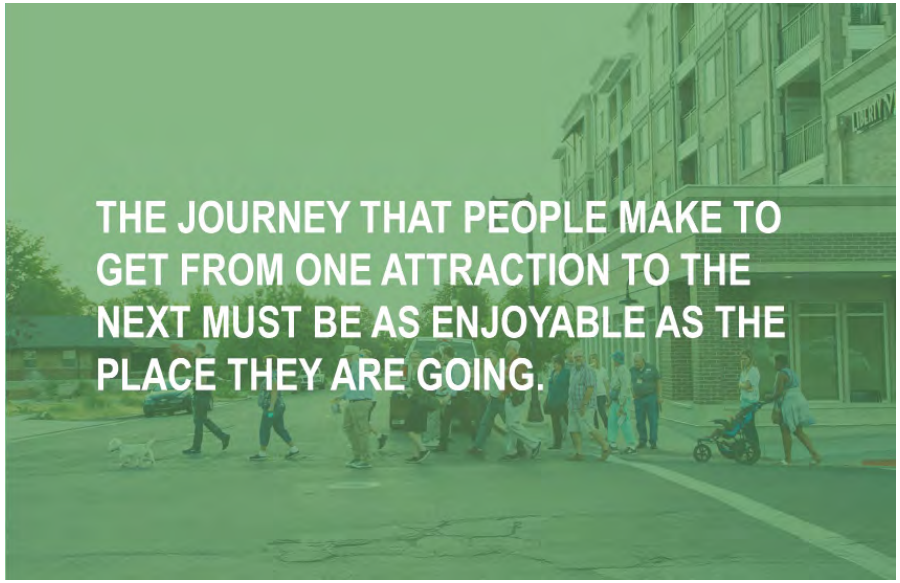
2 Project Priorities

Early during the alternatives analysis, the project team met with Salt Lake City, South Salt Lake, Millcreek, Holladay City, UTA, and Salt Lake County through steering and stakeholder committees to identify project priorities in mid-2020. The meetings included brainstorming sessions, where participants were encouraged to share their priorities and needs for the area through this project.

Based on these meetings, several key needs and priorities emerged. These included site- and corridor-specific needs at intersections or roadways, but also global needs throughout the study area. The following were identified as the main priorities:

Reasonability:	Affordable and feasible to construct
Sustainability:	Prevents emissions and helps improve air quality
Choice:	Options for bikers, walkers, transit riders, and drivers
Movement:	Relieve traffic congestion and keep people moving
Connectivity:	Connect residents to work, errands, and leisure across city boundaries
Accessibility:	Create equitable and affordable mobility options for all users
Adaptability:	Prepare for a growing population, land use changes, and future activity nodes
Safety:	Create a safe way to travel for all modes of transportation

The priorities guided the first round of public survey questions and development of screening criteria as the project progressed.



3 Existing Conditions

1300 East and **Highland Drive** were identified as important corridors for connecting the Sugar House, Millcreek, and Holladay communities and play a key role in connecting people to regional destinations (Figure 6). This study analyzed both corridors and potential transit enhancements to identify the best strategy for improving connectivity and accessibility through sustainable transportation options for all users in the future.

Both the 1300 East and Highland Drive corridors are near the Sugar House Business District, Brickyard, and the developing mixed-use Millcreek City Center. They are also densely populated (and still growing) with household projections increasing throughout the study area and more jobs projected in the Sugar House Business District area.

12% Population growth is projected in the study area over the next 10 years

5% Job growth is projected in the study area over the next 10 years

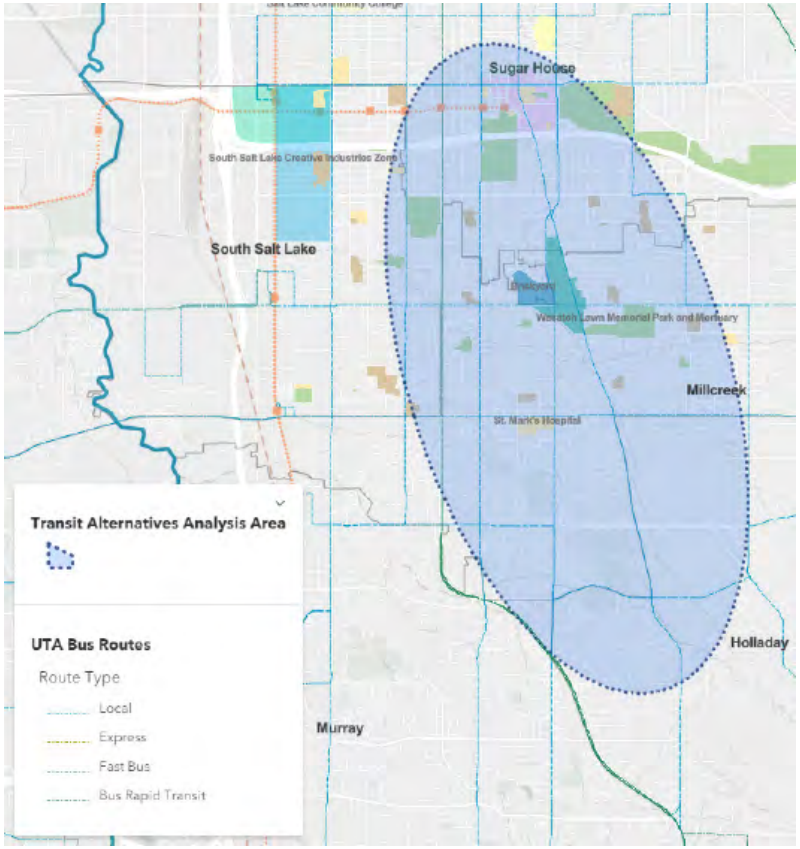
The corridors have a mix of commercial and residential properties. 1300 East has higher percentages of residential properties, whereas Highland Drive has higher percentages of commercial properties compared to other uses. Differences in land use, as well as the roadway widths differ on the 1300 East and Highland Drive corridors before they converge in the north. As these study corridors converge and then pass I-80, the parcel density and building heights increase significantly.

To the south of the Highland Drive intersection, the 1300 East cross-sections vary but in general have one traffic lane in each direction, a two-way left turn lane in the center, and shoulders that vary in width based on the right-of-way width in a given section. 1300 East to the north of the Highland Drive intersection was not considered for transit improvements due to freeway interchange constraints, grade issues, and high levels of existing congestion.

Highland Drive, the corridor with denser commercial uses and wider roadway widths, is two lanes in each direction with a two-way left-turn lane. (Note that Highland Drive was restriped with one lane in each direction and a center turn lane between Richmond and 3300 South and between Ashton Avenue and Wilmington Avenue part-way through the alternatives analysis process, between 2020 and 2021.) This indicates that Highland Drive may already be operating as a preferred street for drivers to travel through or to access destinations, whereas 1300 East may be used most often by people whose destination is accessed directly by 1300 East.

Transit is already active along 1300 East and Highland Drive, with high ridership stops found at most major intersections, including 2100 South, 3300 South, and 3900 South for both alignments. There are parks and active transportation infrastructure adjacent to both corridors, although 1300 East is better connected by bike lanes. Even on the roads with bike lanes, these lanes are only comfortable for more confident cyclists. The next two pages explore each corridor in more detail.

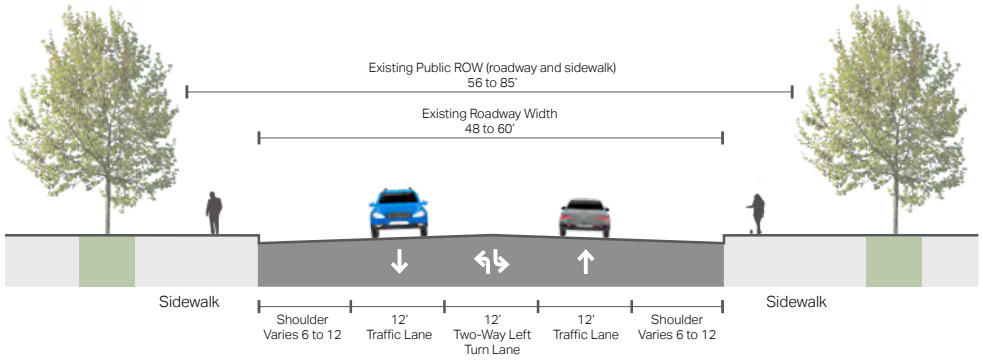
FIGURE 6. STUDY AREA



Alignments were focused on 1300 East and Highland Drive in this area.

1300 EAST

1300 East currently has one travel lane in each direction, with a center turn lane and shoulders and sidewalks on each side. The average roadway width is 55 feet in the southern section of the corridor, between Highland Drive and 3300 South.



Recent growth in the Sugar House Business District and mixed-use developments along 1300 East are establishing a trend of high-density development for this corridor. Likely due to the predominantly residential parcels on this corridor, building setbacks and the overall scale of the street is smaller than what is seen along Highland Drive.

Existing Land Use Along 1300 East

23% COMMERCIAL

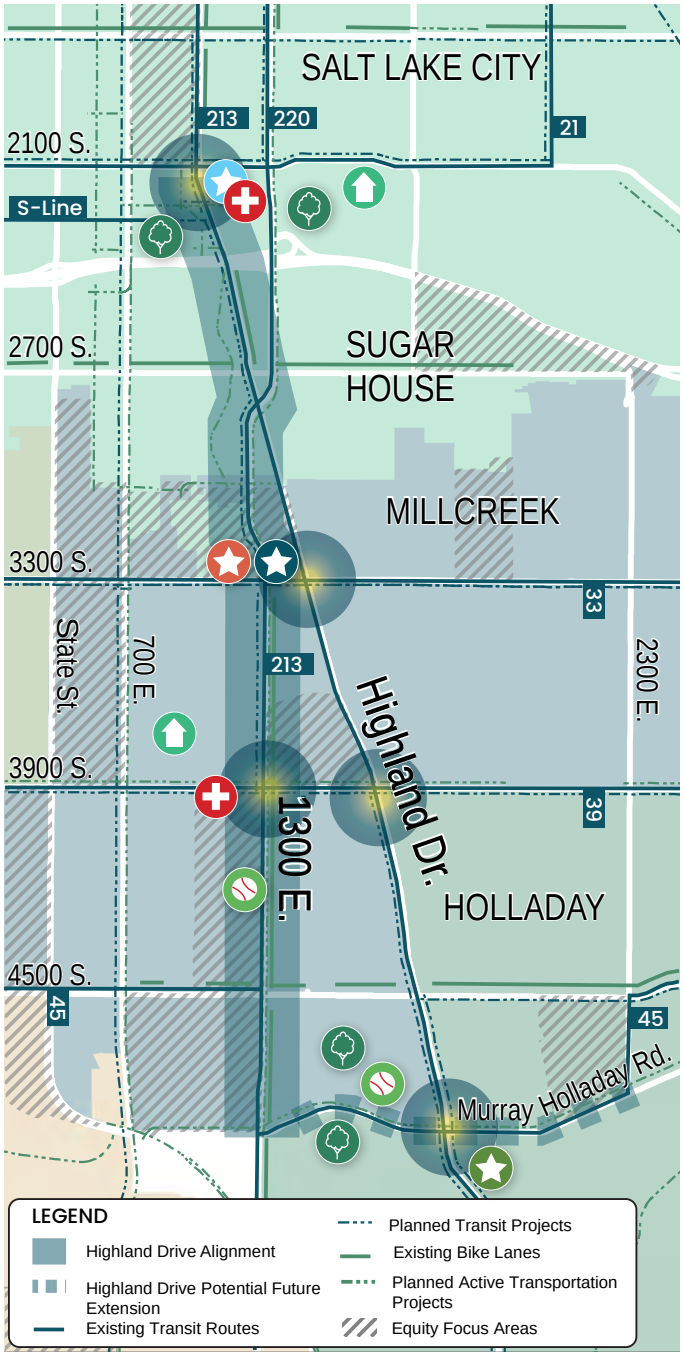
56% RESIDENTIAL

4 MULTI-FAMILY BUILDINGS

The 1300 East corridor sees slightly lower levels of retail and commercial businesses compared to the alternative on Highland Drive, and best connects to public space and amenities in the northern section of the study corridor. Transit serves the most people at some of the larger intersections on 1300 East, primarily at the 3900 South and 2100 South intersections. 1300 East also crosses six equity focus areas, locations that may include higher rates of transit riders, and includes areas with high percentages of low-income, minority, or zero car households. The following key amenities are highlighted in Figure 7.

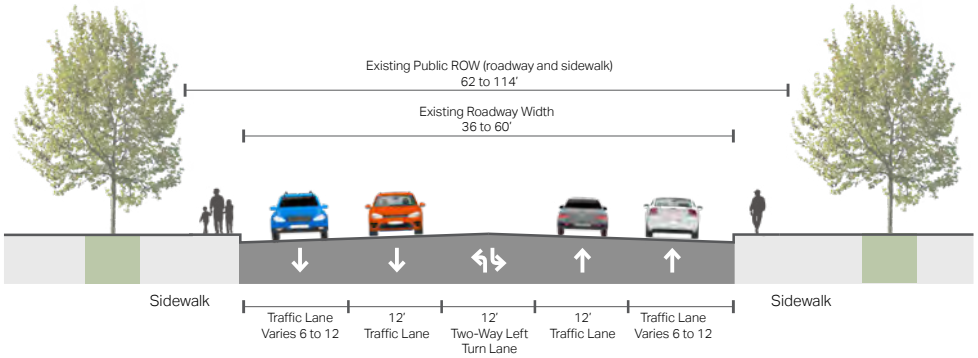
- HIGH RIDERSHIP BUS STOPS
- EQUITY FOCUS AREAS
- MEDICAL FACILITY
- PARK
- RECREATION CENTER
- SCHOOL
- THE BRICKYARD
- SUGAR HOUSE BUSINESS DISTRICT
- COTTONWOOD MALL REDEVELOPMENT
- MILLCREEK CITY CENTER

FIGURE 7. 1300 EAST KEY FEATURES



HIGHLAND DRIVE

Highland Drive currently has two lanes of traffic in each direction, with a center turn lane and sidewalks on each side. (Note that this configuration on Highland Drive changed to one lane in each direction and a center turn lane for a portion of the corridor part-way through the alternatives analysis process.) The average roadway width is 60 feet in the southern section of the corridor.



The Highland Drive corridor consists primarily of low- to medium-density development. The corridor hosts primarily commercial properties, with large setbacks and parking lots. After crossing 1300 East to the northern part of Highland Drive, the corridor narrows and becomes more residential with buildings closer to the street and trees lining the curb.

Existing Land Use Along Highland Drive

57% COMMERCIAL

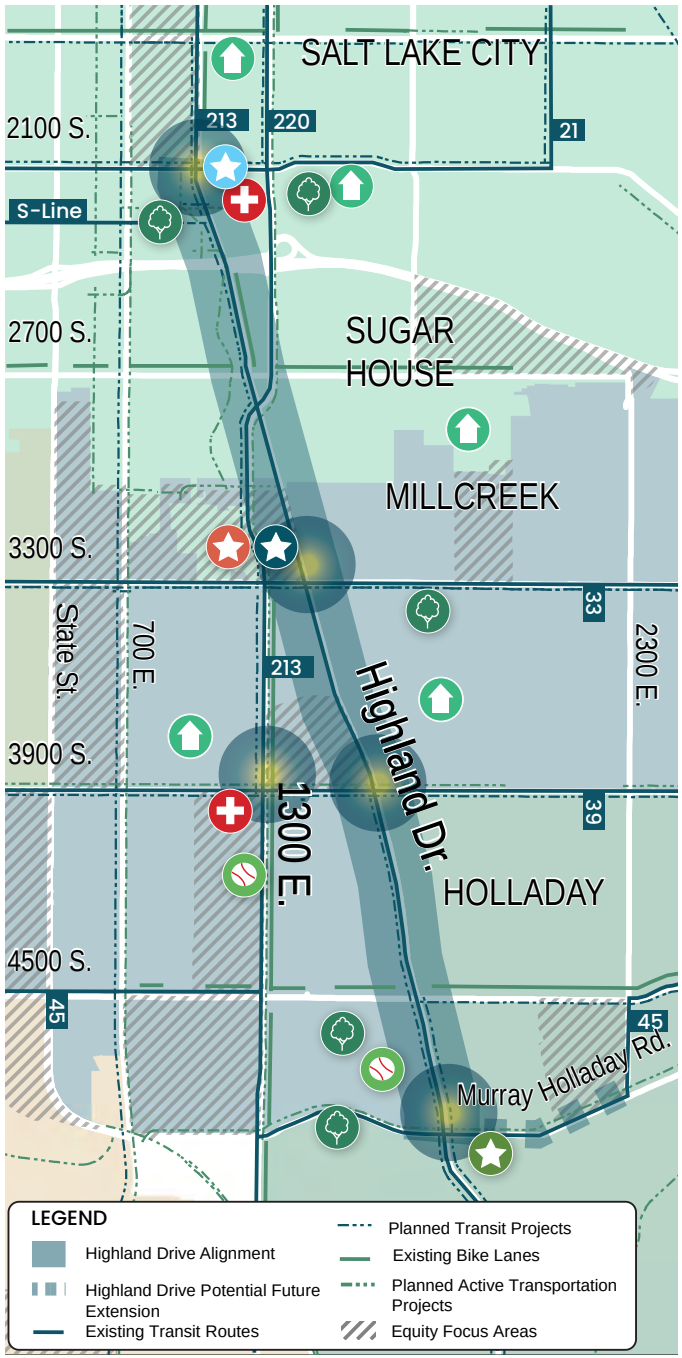
31% RESIDENTIAL

8 MULTI-FAMILY BUILDINGS

This corridor supports significantly higher levels of retail and commercial business adjacent to the roadway compared to 1300 East, and better access to public space and amenities throughout the corridor. Transit serves the most people at the larger intersections on Highland Drive, primarily at the Murray Holladay Road, 3900 South, 3300 South, and 2100 South intersections. Highland Drive also crosses four equity focus areas (two less than 1300 East). The following key amenities are highlighted in Figure 8.

- HIGH RIDERSHIP BUS STOPS
- EQUITY FOCUS AREAS
- MEDICAL FACILITY
- PARK
- RECREATION CENTER
- SCHOOL
- THE BRICKYARD
- SUGAR HOUSE BUSINESS DISTRICT
- COTTONWOOD MALL REDEVELOPMENT
- MILLCREEK CITY CENTER

FIGURE 8. HIGHLAND DRIVE KEY FEATURES



SCREENING PROCESS

To better understand the benefits and drawbacks associated with improving transit on either 1300 East or Highland Drive, the alternative roadways and each mode were evaluated with a consistent set of criteria. The criteria included cost range, projected ridership, engineering feasibility, right-of-way, and carbon emissions, and are detailed below.

COST RANGE
Estimated range based on construction costs, including transit construction, road widening where needed, associated right-of-way, and operation costs.

PROJECTED RIDERSHIP
The study projected ridership for 2050 using the STOPS model, which is the model the Federal Transit Administration uses to evaluate and rate projects.

ENGINEERING FEASIBILITY
Access (driveways), utilities, and compatibility with the existing and planned transit system.

RIGHT-OF-WAY
Estimate of approximately how many properties would likely need to be purchased in order to implement each option.

CARBON EMISSIONS
Comparison of carbon emissions savings over 25 years for each option. Reduced air pollution is one component in improving air quality along the Wasatch Front.

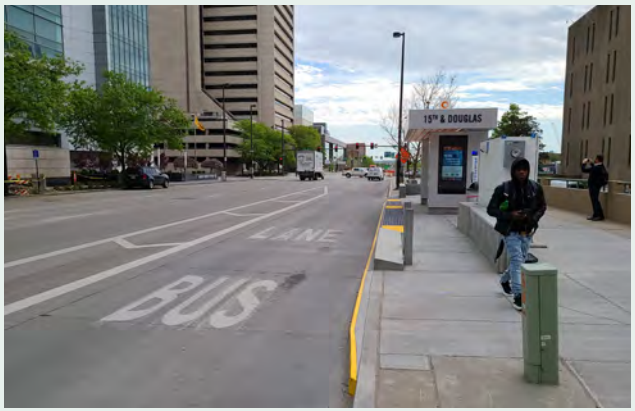
These criteria were analyzed for each alignment (1300 East and Highland Drive) and for each mode. Four modes were considered and evaluated: light rail, BRT, streetcar, and enhanced bus. Each mode is described along with the benefits, drawbacks, and cost of implementation. Some of the factors that change from mode to mode include property acquisition needs, speed and frequency of service, station enhancement opportunities, and opportunity for additional enhancements in the future.

LIGHT RAIL
Light rail is the most intensive transit option, as it includes a full passenger train, and requires its own tracks and separation from vehicle traffic. It also includes larger stations and traffic signal enhancements.

- Limited stops help make this transit service more frequent and faster than existing bus service
- Enhanced stations
- Requires purchase of the largest amount of private property for stations and dedicated rail lane
- Dedicated lane for transit enhances service
- $$$ Highest cost

BUS RAPID TRANSIT (BRT)

This is a bus-based option with a dedicated travel lane that is separate from vehicles, and includes transit signal priority, level boarding, and enhanced stops and stations.



- Limited stops help make this transit service more frequent and faster than existing bus service
- Enhanced stations
- Requires purchase of a moderate amount of private property for stations and dedicated lane
- Dedicated bus-only lane improves service
- $ $ Moderate cost

STREETCAR

The streetcar option uses rail transit vehicles designed for locally focused transportation on a city street. The vehicles are powered by overhead electricity, and the rail vehicles can share a lane with other vehicles.

- Limited stops help make this transit service more frequent and faster than existing bus service
- Powered by overhead electricity
- Enhanced stations
- Requires purchase of a small amount of private property for stations
- Sharing a lane with cars can slow service
- $ $ Moderate cost

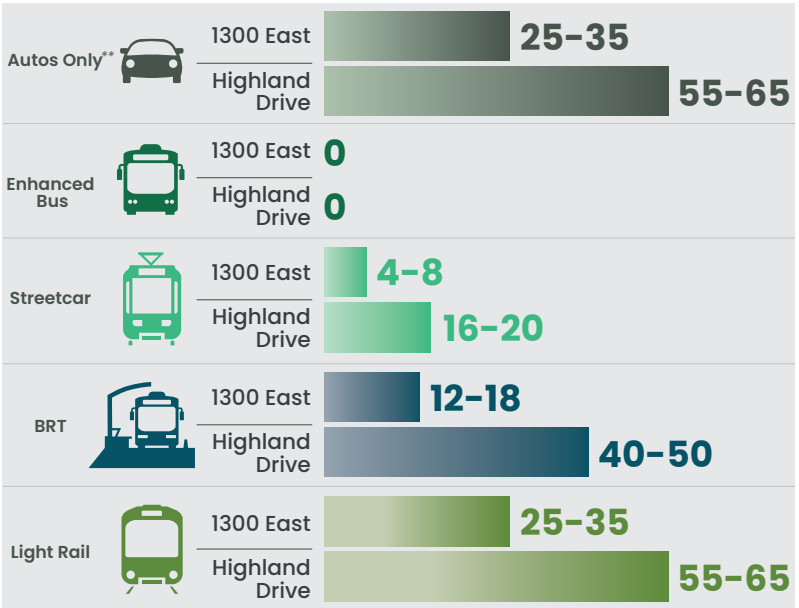
ENHANCED BUS

This option runs more frequently than existing bus routes, but with a limited number of stops. It is not separated from traffic, but can have some premium enhancements including traffic signal priority and off-board fare collection.

- Limited stops help make this transit service more frequent and faster than existing bus service
- No purchase of private property
- Enhancements can begin now, and expand to more premium transit solutions in the future
- Enhanced stations, with further enhancements possible
- Sharing a lane with cars can slow service
- Lowest cost

All four of these modes were analyzed for both corridors against each of the screening criteria to identify the benefits and drawbacks for each alternative. An analysis of property impacts indicated that most of the potential transit options would require more space than is already available along 1300 East and Highland Drive. Figure 9 shows the estimated ranges for full property acquisitions needed for each option. Highland Drive would see larger impacts across the board compared to 1300 East, with light rail having the largest

FIGURE 9. ESTIMATED PROPERTY IMPACTS

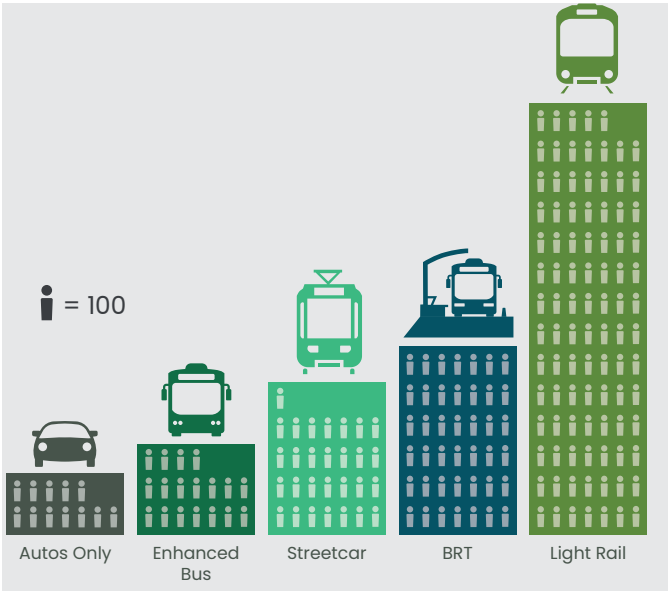


**This graphic shows estimated ranges for full property acquisitions needed for each option. Additional partial property acquisitions would be required for smaller impacts such as new sidewalks.*
***The Autos Only scenario assumes widening the road to support increased traffic*

impacts overall, followed by BRT. This is due to BRT and light rail requiring road widening, which would require extensive right-of-way impacts for long stretches of the roadway. The streetcar option would have a low impact compared to these modes. Enhanced bus would have no impacts, and this mode option fits within the existing footprint, although some easements may be needed for bus stop improvements such as shelters and benches. The impact from streetcar comes from spot widening for larger stations. The BRT and light rail impacts would include long stretches of widening along the larger corridor in addition to the station and transit signal priority needs.

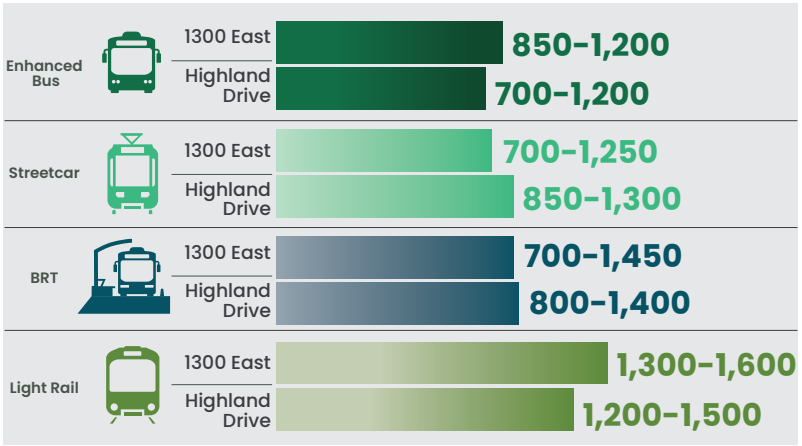
Additional evaluation factors looked at how effectively the alternatives would move people and transit riders by analyzing potential person capacity per lane by mode and ridership projections. The analysis demonstrated that light rail can move the most people, followed by BRT and streetcar, as shown in Figure 10.

FIGURE 10. PERSON CAPACITY PER LANE BY MODE



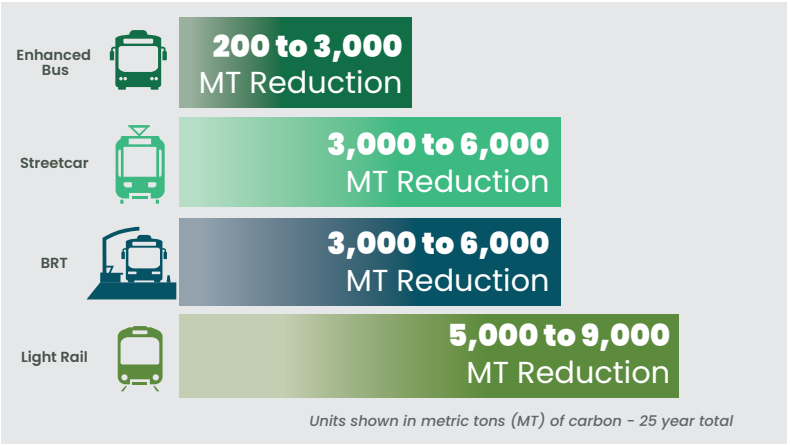
Ridership projections along the corridor echo the throughput ability to some extent. Figure 11 shows that in 2050 light rail would bring in the most riders on either 1300 East or Highland Drive, while streetcar would serve the fewest on 1300 East, and enhanced bus would serve the fewest on Highland Drive. For the low-end ridership estimates, the project was assumed to operate on top of existing transit with more stops. For the low-end estimates the streetcar, BRT, and the enhanced bus were assumed to extend north along the potential S-Line extension with fewer transfers.

FIGURE 11. RIDERSHIP PROJECTIONS



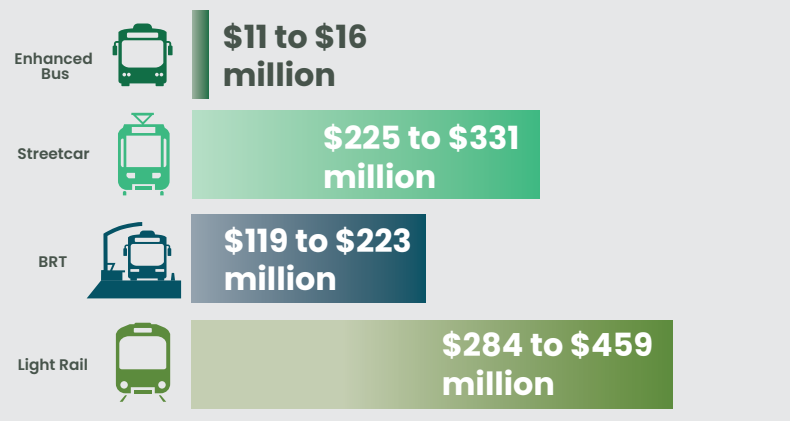
Greenhouse gases were also evaluated to identify the effects on air quality each mode would have in 2050. The alternatives would produce the same results regardless of alignment, so only the mode options were analyzed for this evaluation factor. Light rail would reduce carbon emissions at the highest rate, while streetcar and BRT would reduce carbon emissions at a slightly lower rate, and enhanced bus, if using the current fleet make up, would emit the most carbon of the alternatives. See Figure 12.

FIGURE 12. REDUCTION OF GREENHOUSE GASES



The final evaluation component for this study was implementation and operational costs for each mode. The study team gathered past project costs and future construction costs to come up with an estimated range that considers transit construction, road widening where needed, associated right-of-way costs, and operation costs for each option, as shown in Figure 13.

FIGURE 13. COST RANGES BY MODE



OVERALL SCREENING RESULTS

When comparing criteria across all four modes:

- Enhanced bus would be the cheapest and easiest mode to implement, but lacks in ridership and carbon emissions reduction potential compared to other modes (see Figure 14).
- The other modes increase in cost and complexity significantly compared to the enhanced bus, with light rail being the most expensive and complex, streetcar being the next most expensive and complex, and BRT following as the third most expensive and complex.
- Light rail and BRT have the most significant right-of-way and property implications, while streetcar and enhanced bus have lowest right-of-way impacts
- As cost and complexity increase, so do positive factors such as ridership and carbon emissions reductions.

When comparing criteria across the two corridors:

- Highland Drive and 1300 East see similar results, although costs on Highland Drive are typically higher, as are the estimated number of property acquisitions (total take counts).
- Ridership projections on Highland Drive and 1300 East vary by mode, with Highland Drive seeing higher ridership potential with the light rail and BRT options, and 1300 East seeing higher ridership potential with the streetcar and enhanced bus mode alternatives.

FIGURE 14. OVERALL SCREENING RESULTS

	STREETCAR		LIGHT RAIL		BUS RAPID TRANSIT		ENHANCED BUS	
	1300 E	Highland	1300 E	Highland	1300 E	Highland	1300 E	Highland
Low	$225 M	$236 M	$284 M	$328 M	$119 M	$159 M	$11 M	$11 M
High	$315 M	$331 M	$397 M	$459 M	$167 M	$223 M	$16 M	$16 M
2050 Avg. Weekday	700 - 1,250	850 - 1,300	1,300 - 1,600	1,200 - 1,500	700 - 1,450	800 - 1,400	850 - 1,200	700 - 1,200
Access	Simple	Simple	Complex	Complex	Medium	Medium	Simple	Simple
Utilities	Complex	Complex	Complex	Complex	Medium	Medium	Simple	Simple
System Compatibility	Simple	Simple	Complex	Complex	Simple	Simple	Simple	Simple
Residential Area (SF)	59,000	49,000	130,000	100,000	67,000	64,000	6,000	500
Commercial Area (SF)	141,000	204,000	112,000	247,000	82,000	152,000	6,000	13,000
Total Take Count	4 - 8	16 - 20	25 - 35	55 - 65	12 - 18	40 - 50	0	0
25-Year Reduction (MT)	3,000 - 6,000		5,000 - 9,000		3,000 - 6,000		200 - 3,000	

LOCALLY PREFERRED ALTERNATIVE

Based on screening results and public and steering/stakeholder committee input, the locally preferred alternative recommended through this study is **enhanced bus with a long-term transition to streetcar on Highland Drive.** See Figure 15.

Highland Drive was selected as the preferred route based on high ridership, simpler engineering feasibility, and stakeholder and public preference. The Highland Drive corridor has significant commercial storefronts, high-density housing, existing right-of-way, and facilities to support current traffic volumes and future transit integration. A new transit solution connecting partner cities on Highland Drive will provide more accessible and sustainable transportation options for all users in the future with less impact than would be needed on 1300 East.

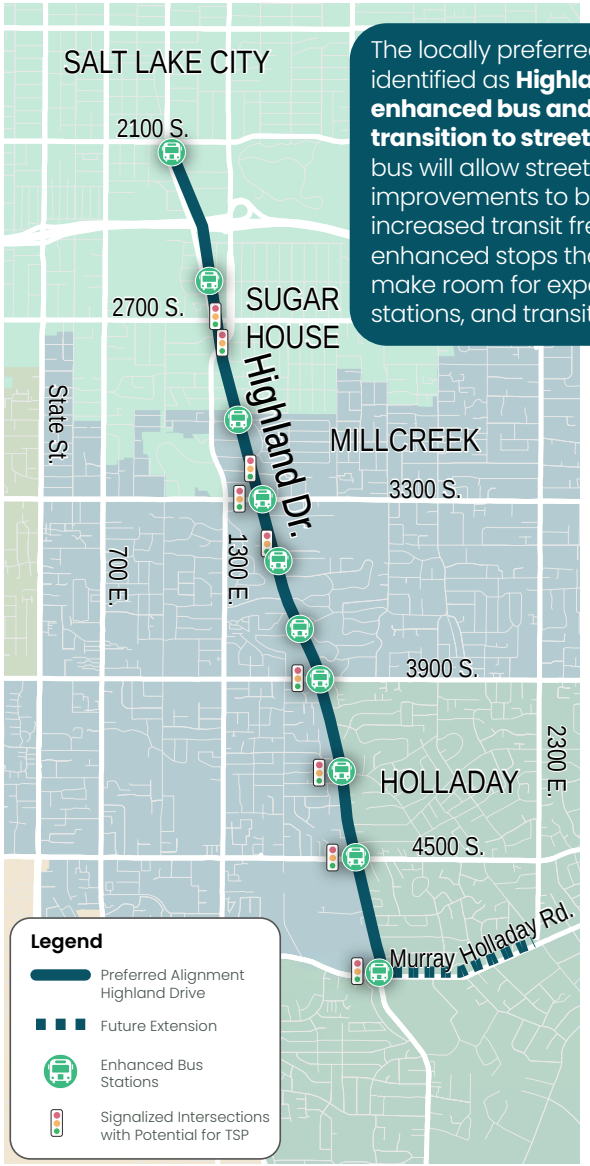
The screening criteria showed that streetcar and enhanced bus performed better than the other modes. Streetcar produces low carbon emissions, has the capacity for high ridership, fewer right-of-way impacts, and simpler engineering than light rail. Streetcar is the second most expensive of all modes.

Enhanced bus was the secondary favored mode based on the screening criteria. Enhanced bus reduces carbon emissions the least, has high ridership potential, shows the lowest right-of-way impacts with no property acquisitions, has the simplest engineering feasibility, and is least expensive.

Through the two phases of public involvement for the alternatives analysis, the majority of the community and steering and stakeholder committees indicated streetcar as the preferred mode and Highland Drive as the preferred route. Although this study indicates that the end-goal should be streetcar, it is important that transit begins serving this area as soon as possible due to the high levels of growth, current congestion, and projected congestion increase if nothing is done.

The best way to accomplish this is to begin with enhanced bus, and preserves space for the more intensive improvements needed for streetcar. A low-cost enhanced bus could accommodate today's transit demand while building ridership for a future streetcar as growth continues in the study area and greater capacity is needed.

FIGURE 15. LOCALLY PREFERRED ALTERNATIVE



The locally preferred alternative was identified as **Highland Drive with enhanced bus and a long-term transition to streetcar**. Enhanced bus will allow streetscape and transit improvements to begin, including increased transit frequency, and enhanced stops that begin to make room for expanded streetcar stations, and transit signal priority.

The corridor presents a growing trend of urban communities that exhibit a wide range of housing options, ample green space, and building marketplaces which can serve the present and future needs of a community. It is in this vision that Millcreek is developing a mixed-use City Center. Holladay is working through the approval process of a mixed-use redevelopment of the Cottonwood Mall. With direct access to these highly adaptive and dense urban space investments, Highland Drive is well situated to benefit from upcoming market growth and aligns with the public input.

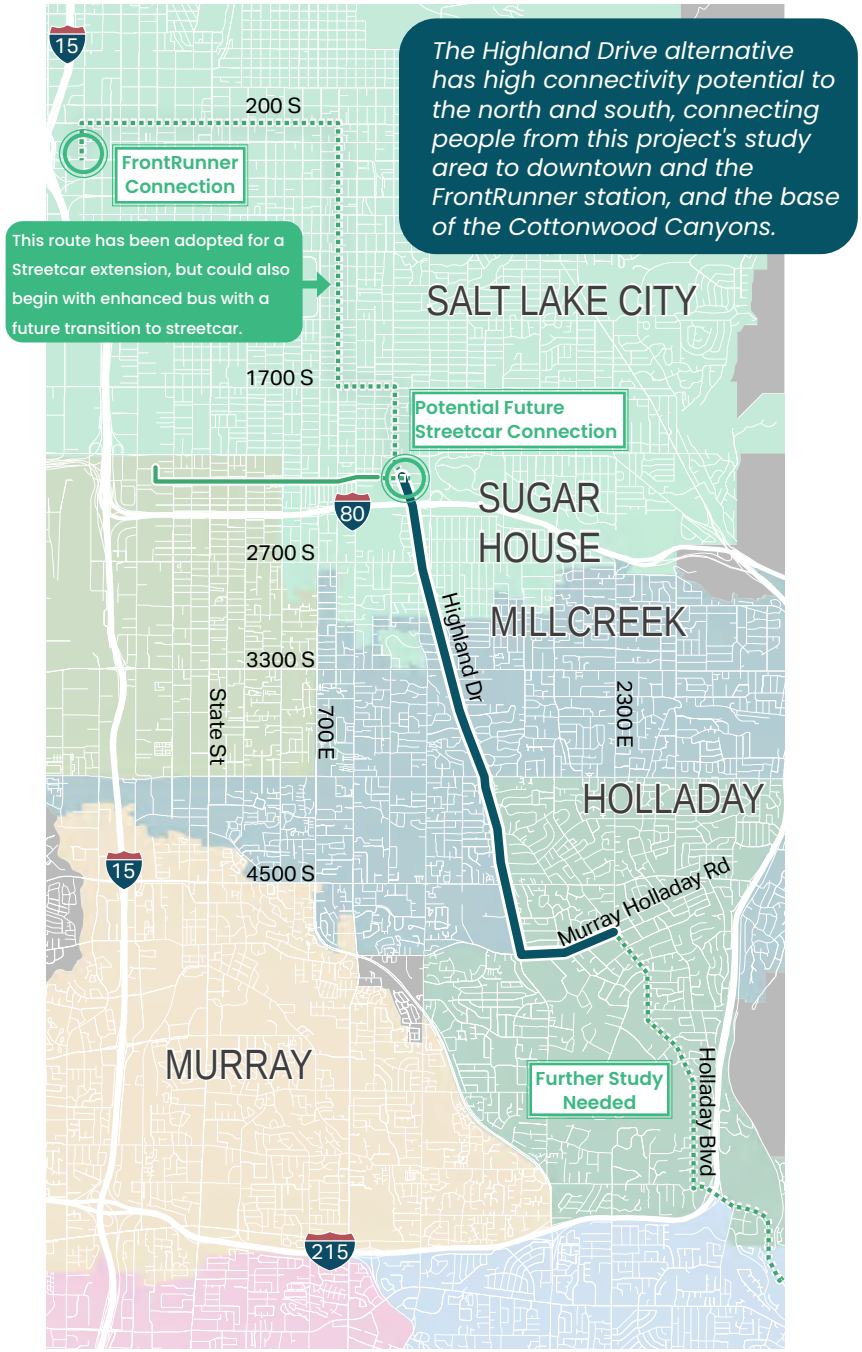
As the Salt Lake Region's population continues to grow, the economic activity and opportunities will rise to meet the needs for shopping, recreation, dining, and business. The Highland Drive corridor supports significantly higher levels of retail and commercial business adjacent to the roadway as compared to the alternative on 1300 East.

TRANSIT CONNECTIVITY TO DOWNTOWN

The Local Link transit solution is an important part of a larger transit network that will connect the communities of the Sugar House Business District and greater Millcreek to downtown Salt Lake City. The locally preferred alternative would provide enhanced bus service along Highland Drive into the heart of the Sugar House Business District. A connection of transit from the Sugar House Business District to downtown Salt Lake City is planned with the future extension of the S-Line streetcar from the Sugar House Business District to downtown Salt Lake City. It is assumed that transit ridership would increase with the downtown connection, due to connecting the corridor to areas with higher density and stronger transit demand, but this connection was not part of the Local Link Alternatives Analysis. The shorter alignment studied for this project (the dark blue alignment in Figure 16), with enhanced bus would be supported by the ridership projections from this study.

Until funding can be secured for future phases of the S-Line streetcar, advancing enhanced bus from the Local Link locally preferred alternative along the future S-Line alignment into downtown could be a viable option in connecting these important communities through transit.

FIGURE 16. FUTURE DOWNTOWN TRANSIT CONNECTIVITY



6 Public Involvement

Public involvement for the Local Link project was conducted for both the circulation study and alternatives analysis.

The circulation study public outreach efforts were conducted to get a greater look into the existing conditions of the Sugar House Business District. Existing conditions focused on learning from locals about where and why they travel around the study area, which was crucial information for the transit alternatives analysis.

Public involvement efforts for the alternatives analysis included opportunities to review and evaluate the importance of recommended modes and routes for Highland Drive and 1300 East. The project story map was available to the public and updated over the course of the study, and two surveys were conducted.

During the first survey, information regarding the project was delivered through the project and partner websites, email blasts, Facebook live events, social media posts from the cities, community council meetings in Millcreek and Sugar House, stickers on trails, and stakeholder content packages. Email blasts were sent out three times during the initial transit study survey.

The second round of public input opportunities involved more city council meetings, reminder email blasts and social media posts, under-served population outreach, decals on routes, and the social event "Yappy Hour." Yappy Hour was an event for dogs and their owners to enjoy live music, food, and beverages. During the event, the Local Link project team hosted a tent discussing the project details to the public, passing out surveys, and answering community questions.

The steering and stakeholder committees had separate opportunities to express preferences for the preferred route, transit mode, support for the Holladay extension, and screening criteria. The committees indicated notable support for Highland Drive as the preferred route with an extension to reach Holladay Village.

Public sentiment gathered during the public comment period favored streetcar followed by enhanced bus for mode and Highland Drive for the preferred route, with support for extending the route to reach Holladay Village. Public survey results also indicated ridership as the most important screening criterion followed by cost and air quality.

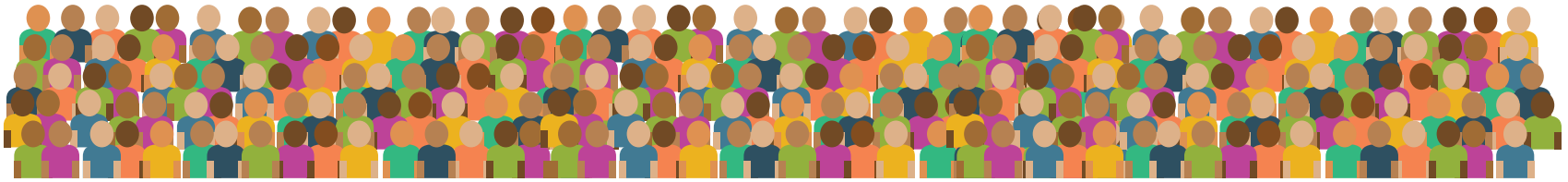
The public preferred the streetcar option on Highland Drive.

TIMELINE AND METHODS

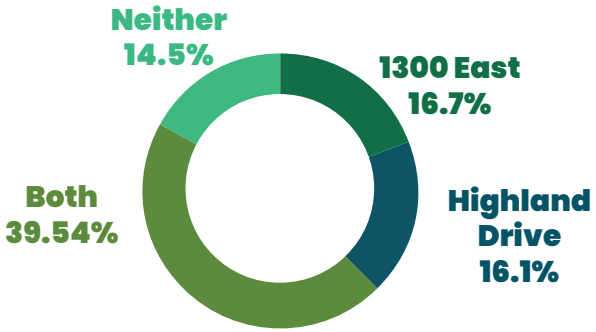
During September and October of 2020, initial surveys for the alternatives analysis were sent out to the project area community by social media posts, live website meetings, email blasts, mail, stakeholder content packages, and meetings with Sugar House community council. The comment period for the transit alternatives lasted from March through April 2021.

RESULTS FROM THE FIRST PUBLIC SURVEY

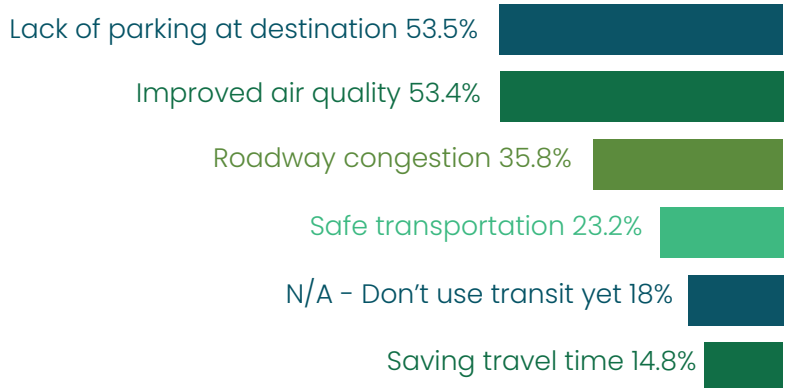
The public provided input on public transportation through two surveys conducted in **fall 2020** and the project alternatives in **spring 2021.** During the first survey, more than **600 public survey responses** were submitted with details regarding transit use, preferences, and important destinations within the study area. The majority of the population preferred to see both 1300 East and Highland Drive have transit improvements with the top destination for future travel as the Sugar House Business District. The top motivators for the public using transit instead of driving were lack of parking, improved air quality, and roadway congestion. The transit features were ranked from highest to lowest importance, with frequency as number one, which supports an enhanced bus system.



TRANSIT IMPROVEMENTS ARE PREFERRED ON BOTH 1300 EAST & HIGHLAND DRIVE



MOTIVATORS FOR USING TRANSIT INSTEAD OF DRIVING



TOP DESTINATIONS TO VISIT VIA TRANSPORTATION

MOST IMPORTANT FEATURES OF TRANSIT

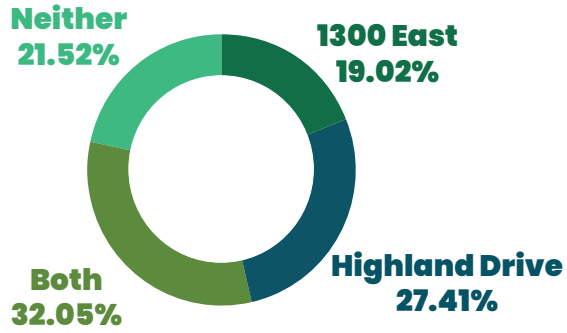
RESULTS FROM THE SECOND PUBLIC SURVEY

With more than **1,200 public survey responses**, the majority of the results were in favor of streetcar followed by BRT for mode and Highland Drive for the preferred route. The majority of the results also supported the extended route reaching Holladay Village.

The Yappy Hour event took place in July 2021, which provided an extra opportunity to show the project and meet with the community. The project team put together posters that show the differences between modes and visuals of the modes on streets similar to Highland Drive. Comment cards were available for the public to provide comments and questions.

Local Link project team members discussing the project priorities, goals, and future timeline with the local community.

BOTH 1300 EAST AND HIGHLAND DRIVE WERE PREFERRED FOR TRANSIT IMPROVEMENTS



STREETCAR WAS THE CLEAR PREFERRED MODE

WHEN ASKED WHICH SCREENING CRITERION WAS MOST IMPORTANT, THE COMMUNITY SAID RIDERSHIP

7 Next Steps

NEXT STEPS

The locally preferred alternative was presented to the project partner city councils in early 2022.

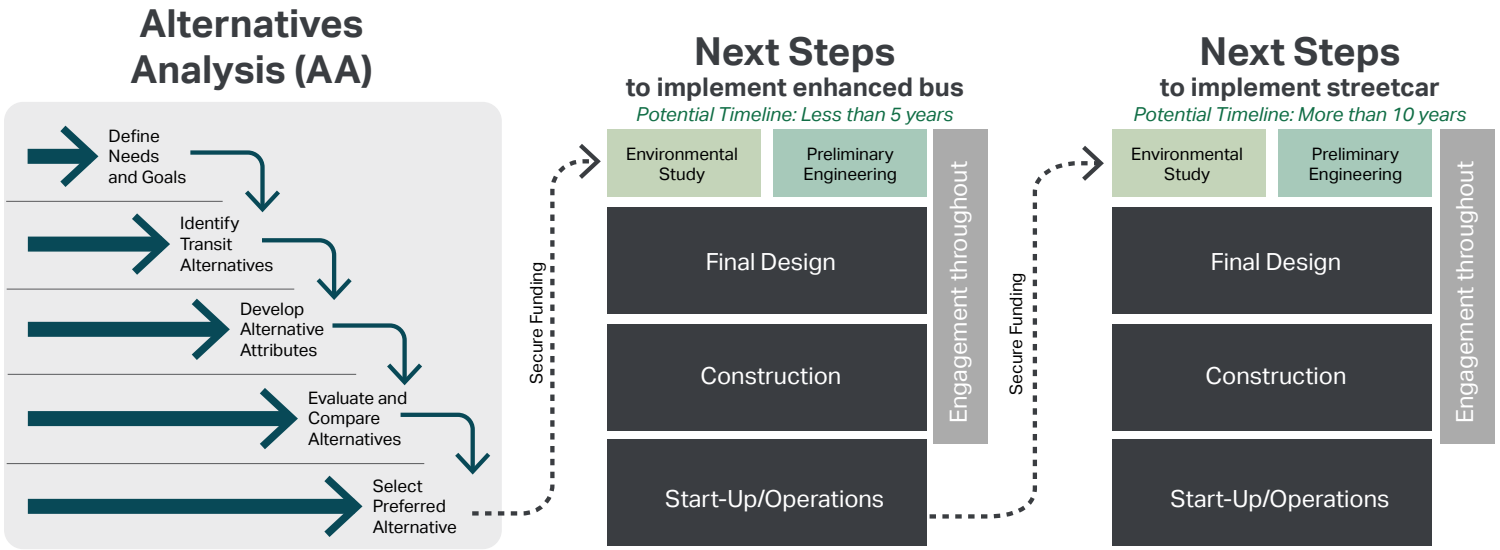
UTA will determine if an environmental study is needed for enhanced bus, and will determine the level of environmental document if one is needed. After this, funding will need to be identified for this project, which will lay the foundation for the environmental study and preliminary engineering. A key aspect of all these future phases will be a continuation of the public outreach that began during this study that will continue through construction.

Enhanced bus operations could be implemented in less than five years. Salt Lake City and Millcreek have active multimodal projects underway to improve bus stops along Highland Drive from Sugar House Business District to 3300 South. Enhanced bus service could be implemented once funding was prioritized for the increase in service along the locally preferred alternative and enhancements to bus stops from 3300 South to Holladay could be advanced as funding is available.

This process will repeat for the next phase of improvements to implement the streetcar alternative. While the steps are similar, the timeline to implement streetcar will be longer as the investment needed to construct and operate the streetcar alternative is substantially more. It is likely that a combination of local, state, and federal funding would be needed in order to fund the streetcar project. The Federal Transit Authority's Capital Investment Grants (CIG) program is a primary funding source for projects like the streetcar, but is competitive across transit projects for the entire country. Each project is given a rating based on numerous criteria including future project cost and ridership.

It is unlikely that the locally preferred alternative with streetcar would qualify for CIG federal funds based on current cost and ridership projections. Over time as land use continues to increase in density within Holladay, Millcreek, and the Sugar House Business District, and transit connections are strengthened with the implementation of enhanced bus, ridership is expected to increase and the pursuit of CIG funds for streetcar may become a viable option.

FIGURE 17. NEXT STEPS



FUNDING

Like most transit projects, there is a combination of several funding sources which could pay for the development, construction, and operation of a project. The following funding sources have been identified as possible options for the locally preferred alternative:

Local Funding: 4th quarter sales tax funds can be used for prioritized transit projects by local municipalities

State Funding: Transit Transportation Investment Fund is a state funding sources that can be used to fund capital transit projects as well as active transportation projects with a direct connection to a transit station. Projects are prioritized by the Utah Transportation Commission with UDOT, and the state's Metropolitan Planning Organizations (MPOs).

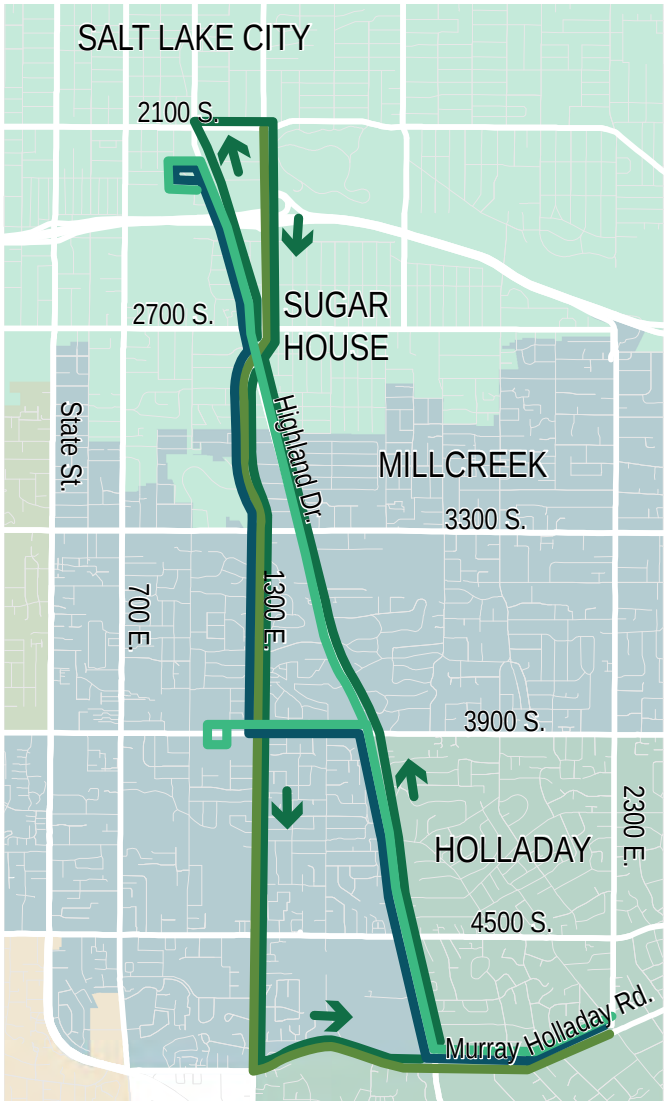
Federal Funding: RAISE Grants are the most likely candidate for mid-sized ($50-100M) projects which incorporate multiple modes. The Capital Investment Grant Program is a discretionary grant program which funds transit capital improvements including streetcars. The CIG program for this project could fall under the New Starts or Core Capacity programs. New Starts includes new or extension of existing corridor-based project and Core Capacity includes capacity improvement projects (increasing capacity by at least 10%) on an existing transit line. There is also an Expedited Project Delivery program which includes projects from the New Starts and Core Capacity program that utilize public-private partnerships, are maintained by employees of an existing public transportation provider, and have a federal share not exceeding 25 percent of the project cost.

APPENDIX A

Eliminated Alternatives

Eliminated Alternatives

FIGURE A1. ELIMINATED ALTERNATIVES



Alternative Description	Justification for Elimination
1300 East: From Wilmington Avenue in Sugar House over I-80 to Murray Holladay Road.	Removed due to the potential constraints of crossing UDOT's I-80/1300 East overpass. Terminus along 1300 East would be outside of the core Sugar House Business District and future planned transit connections from Sugar House to downtown.
A loop on Highland Drive to the north and turning around at 2100 South to go south on 1300 East.	Removed due to likely transit user confusion and potential out-of-direction travel with 'loop' routing.
Switching over from Highland Drive on the south, to 1300 East in the middle via 3900 South and back over to Highland Drive at 2700 South.	Removed due to likely transit user confusion and anticipated additional travel time with the out-of-direction travel between Highland Drive and 1300 East.
Only using Highland Drive, and adding a stop to the west at St. Mark's Hospital off 3900 South.	Removed due to anticipated additional travel time and out-of-direction routing to accommodate a new stop at St. Mark's Hospital.