COUNCIL STAFF REPORT

CITY COUNCIL *of* SALT LAKE CITY

TO: City Council

FROM: Russell Weeks, Senior Public Policy Analyst

DATE: September 11, 2015 3:53 PM

RE: South Davis Transit Study Update

Legislative Sponsor: **Council District 1 - James Rogers - Vice Chair**

PROJECT TIMELINE:
Briefing: 09/22/2015
SetDate:
Potential Action:

View the Administration's proposal

ISSUE AT-A-GLANCE

Goal of the briefing: To determine if the City Council is ready to calendar this item for formal action or wait until the *Transit Master Plan* is finished.

The City Council held a public hearing on this issue on September 30, 2014. The three people who spoke to the issue spoke against it. The City Council then unanimously adopted a motion to close the public hearing and refer the issue to a later date. The lone discussion point before the Council voted was, "Council Member Garrott said he did not want to consider the resolution until the City adopted the *Transit Master Plan*." According to the transmittal from Mayor Ralph Becker's Administration, a presentation made by the Utah Transit Authority during an earlier briefing included a discussion of potential transit connections to the University of Utah, although the Transportation Division understood that the proposed project would terminate at North Temple Street. The inclusion of potential connections to the university also raised concerns among the City Council.

Since the City Council's action, the Transportation Division has sought clarification from the Utah Transit Authority about the end point of the preferred locally preferred alternative in Salt Lake City. A letter from UTA attached to the transmittal from Mayor Ralph Becker's Administration says in part, "We would request the Council consider adopting the LPA to 400 West and North Temple. With evaluation in the SLC *Transit Master Plan* and in the next phase of the project, the final terminus can be

further evaluated and determined."

The actual resolution language says, "The City Council hereby endorses and approves the proposed construction of the high capacity fixed guideway system, along 400 West in Salt Lake City, North Salt Lake City, and Bountiful City, and Main Street to 500 South in Bountiful City as the Locally Preferred Alternative."

It might be noted that the UTA website says in part that, "The next phase, the environmental assessment, is anticipated to … kick-off summer 2015 and will take approximately 18 months to complete."

A final version of the *Davis-SLC Community Connector Study* is attached to this report.

POLICY QUESTIONS

1. Should the City Council calendar the resolution for formal consideration before the *Transit Master Plan* is finished?
2. If the City Council calendars the resolution for formal consideration, should the Council amend the resolution to clarify that the locally preferred alternative in Salt Lake City would terminate at North Temple Street?
3. The proposed locally preferred alternative will include fixed dedicated bus lanes along half the corridor, but not in Salt Lake City. Given that, would buses traveling on 400 West Street be the 60-foot-long, low-floor buses used for the dedicated bus lanes, or another kind?
4. Last year, UTA indicated that as the proposed project proceeds, "Local government would be asked to fund amenities such as bicycle and pedestrian improvements, sidewalks, etc." There also were indications that local matching funds for the project might be required. Is that still the case? Is it assumed that municipal government also will be expected to allocate money for operating costs?

ADDITIONAL & BACKGROUND INFORMATION

The proposed connector between towns in south Davis County and Salt Lake City might be considered a regional transit connection similar to UTA's Front Runner train service. As the *Alternatives Analysis* says, Salt Lake and Davis counties contain 48 percent of Utah's population. However, major travel connections between the two counties are limited to Front Runner, Interstate 15, and U.S. Highway 89. One challenge for mass transit is bridging the space between south Davis County and Salt Lake City to provide service between the two locations, and connecting to commuter rail stations, and the urban transit system in Salt Lake City.

The *Alternatives Analysis* uses the Wasatch Front Regional Council's travel demand model to project that within the study area, about 12 percent of all transportation trips - transit and vehicular - are destined for Salt Lake City, 6 percent of all transportation trips go to the University of Utah area, and 10 percent to Salt Lake County destinations outside Salt Lake City. However, one of the key issues is, "Within the Davis-SLC Community Connector study area … existing local bus service lacks adequate frequency and amenities to provide reliable transportation for households without access to an automobile." Except for express buses, the

area is largely served by a single bus route. The route has headways varying from 30 minutes to 1 hour and 55 minutes. Nevertheless, "despite inconsistent service frequencies associated with current operations" … the route "is the second highest bus ridership route in the UTA system."

The *Alternatives Analysis* proposes creating a system that provides Davis County residents with east-west connections to transit services there, and a "fixed-guideway" system (bus-rapid transit lanes) from southern Davis County to about where 400 West Street intersects U.S. Highway 89. From that intersection, buses would travel in existing lanes with stops at 600 North, 300 North, and North Temple streets. The *Alternatives Analysis* also contemplates a transit mall on 400 West Street somewhere between "200 South and 600 North."

The recommended locally preferred alternative was selected from among three potential routes. The other two routes were 300 West Street and Victory Road. The 300 West route contained issues because it is managed by the Utah Department of Transportation and "posed challenges for transit corridor development." Victory Road is closer to "a higher number of transit dependents than the other two downtown corridors," but provided fewer economic development opportunities.

However, the *Analysis* cautioned that 400 West Street "currently serves light rail and vehicular traffic. If a bus-technology alternative is selected for the … project, the addition of a third motorized mode could pose safety and access concerns for pedestrians in this busy downtown corridor. Special strategies to mitigate safety concerns or potential conversion of 400 West to a transit mall could be considered."

Issues like that may speak in favor of determining later how to weave a bus rapid transit system into the existing and future transit fabric. It might be noted that the *Alternatives Analysis* speaks in several places about terminating the bus rapid transit line "in downtown Salt Lake City near the area of 200 South and State Street … to afford connection opportunities to a future downtown streetcar." It should be noted that in January 2015, the Transportation Advisory Board voted to recommend 100 South Street as a potential location for a streetcar line instead of 200 South.

Cc: Cindy Gust-Jenson, David Everitt, Margaret Plane, Jennifer Bruno, Nichol Bourdeaux, Jill Love, Robin Hutcheson, Julianne Sabula, Cris Jones, Sean Murphy

File Location: Transportation, Transit

ATTACHMENTS:

- **Davis Salt Lake City Study**
- **Administrative Transmittal - South Davis Transit Study Update**
- **Admin Attachment_Clarification Letter from UTA**
- **Admin Attachment_Transmittal Dated June 20 2014**

Return to Staff Report

DAVIS-SLC COMMUNITY CONNECTOR STUDY

WHAT?

Utah Transit Authority (UTA) recently completed a planning study to better understand current and future transit needs in south Davis County. The study identified potential transit improvements to connect North Salt Lake, Bountiful, Woods Cross, and other areas of south Davis County to downtown Salt Lake City.

A **bus rapid transit (BRT)** solution was recommended, following an extensive public outreach effort, evaluation of impacts and costs, and close collaboration with cities and other regional agencies.

WHERE?

The general analysis area for the project included the northern portion of Salt Lake City and communities in southern Davis County, including Woods Cross, Bountiful, and North Salt Lake.

The proximity of the analysis area to downtown Salt Lake City, the region's dominant employment center, and the University of Utah, provides opportunities to improve transit connectivity to major employment and educational hubs and influenced the design of alternatives within the corridor.

WHY?

The goals of the Davis-Salt Lake City Community Connector Study are to increase mobility, access, and corridor revitalization. The project will support local and regional land-use initiatives while also promoting economic development.

Although FrontRunner provides express rail transit service between Woods Cross and downtown Salt Lake City, the community identified the need for improved transit connections to existing rail stations, and between communities in south Davis County not served by rail.

WHEN?

The next steps include an environmental impact study, design, and construction. In 2015, UTA will begin seeking funding for these phases.

WHAT IS BUS RAPID TRANSIT?

BRT is often referred to as light rail with rubber tires, offering dedicated lanes, limited stops, and traffic signal priority to improve on-time performance. Tickets for the route may be purchased at ticket vending machines, located at any BRT station, and passengers may board at any of the buses' three doors. Specially-branded vehicles, sheltered stations, signage and information set routes apart from the rest of the transit system.

UTA Route 35M - MAX-3500 South

ALTERNATIVES ANALYSIS

Representatives from stakeholders in the corridor worked with UTA to develop transit investment alternatives for southern Davis County. Seven initial corridors and four service technologies were screened to determine where transit investment would be most productive.

A project advisory committee chose two corridor and service alternatives for more detailed evaluation: an Enhanced Bus Alternative (Figure 1) and a Bus Rapid Transit Alternative (pictured on Page 5). The two alternatives were refined to allow development of planning-level capital and operating costs; results of this are presented in Table 1. Wasatch Front Regional Council provided future ridership forecasts for the study. A final screening was performed to help identify a Locally Preferred Alternative.

Table 1: Refined Analysis Results

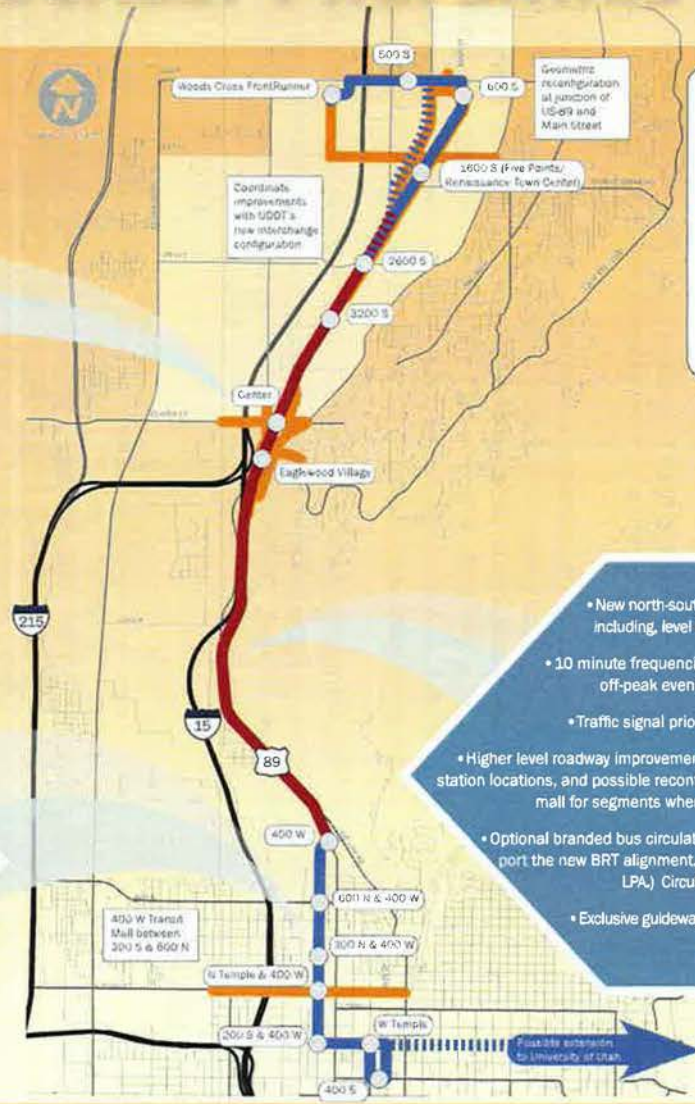
Feature	Alternative A: Enhanced Bus	Alternative B: Bus Rapid Transit
Frequent Service to Reduce Passenger Waiting Times	Service every 15 minutes in the peak	Service every 10 minutes in the peak
Transit Signal Priority to Give Priority to Buses at Intersections	Yes, allowing buses to travel 15% faster through the corridor	Yes, allowing buses to travel 25% faster through the corridor
Improved Buses	40' buses similar to the 35M Max buses	60' low-floor buses to hold more passengers and speed boarding times
Dedicated Bus Lanes	No, but some intersection bypass lanes are included	Yes, approximately half of the corridor will include median bus lanes, allowing bus service to function more like TRAX rail service
Stations and Stops	Limited stops with improved bus shelters and amenities	Limited stops with station amenities similar to TRAX stations
Corridor Improvements	Improved bicycle and pedestrian amenities at stations with additional improvements by local jurisdictions	Improved bicycle and pedestrian amenities at stations with greater opportunity for amenity improvements in cooperation with cities

Figure 1: Alternative A Enhanced Bus

LOCALLY PREFERRED ALTERNATIVE

- Bicycle network improvements in Bountiful, North Salt Lake and Downtown Salt Lake City (as identified in City plans) to connect surrounding neighborhoods to key stop locations. Pedestrian access improvements within a ¼ mile walk buffer of all stations.
- Land use policy changes to encourage TOD at select stations

- Passenger amenities at all stop locations such as:
  - Platforms with shelters and bike racks.
  - Informational and ticket purchase kiosks.
  - Real-time bus arrival information on electronic reader-boards.
  - Night-time platform lighting.
- Higher level of operational technology such as computer alignment of BRT vehicles at platforms to reduce boarding times and facilitate ADA access.
- Optional park and ride at 2600 S Bountiful / 1100 N North Salt Lake with enhanced amenities such as bike lockers, bike rentals. Potential co-location point for Vanpool, Zipcar and/or EV charging stations.



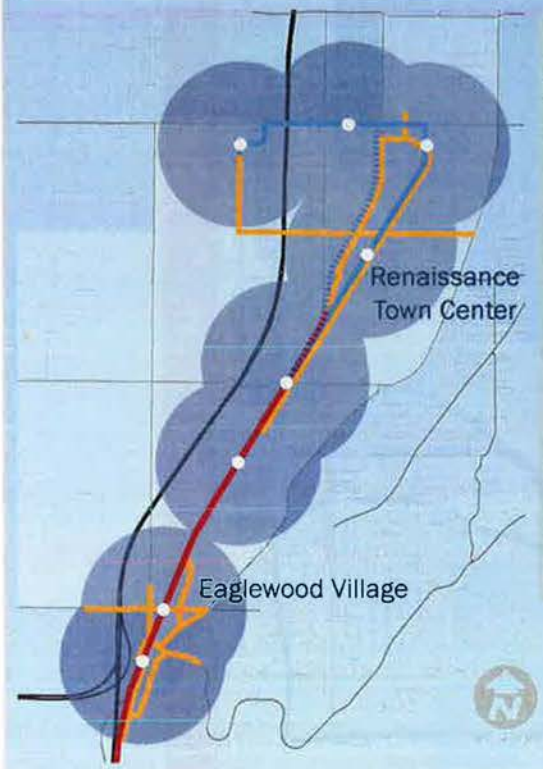
LEGEND

- Bus Rapid Transit
- Enhanced Bus
- Bike-Ped Access Improvement
- Station
- Potential Area for Davis Circulator (East/West)

- New north-south primary service using branded special vehicles including, level boarding and on-board bicycle accommodation.
- 10 minute frequencies during weekday peak hours; 15 minute headways off-peak evenings and Saturdays; 30 minutes on Sundays.
- Traffic signal priority to keep the light green for approaching buses.
- Higher level roadway improvements to improve bus travel time, such as roadway reconfiguration at station locations, and possible reconfiguration of US89/Main Street junction in Bountiful. Possible transit mall for segments where BRT may be combined with an existing LRT corridor.
- Optional branded bus circulator serving Bountiful, Woods Cross and North Salt Lake to support the new BRT alignment. (This option would be an enhancement to, and not part of, an LPA.) Circulator may add to or supplant existing service.
- Exclusive guideway through North Salt Lake; mixed traffic operations in Bountiful and Downtown SLC.

ECONOMIC ANALYSIS

National transportation studies show that every $1 that communities invest in public transportation generates approximately $6 in economic returns. Leveraging transit investments to not only support existing business and employment but also to spark new economic development requires a close partnership between UTA and the local governmental agencies responsible for land use policy. For the Davis-SLC study, UTA conducted an economic analysis, to assess the potential for revitalization near proposed BRT stations. These findings will help UTA's local agency partners maximize their potential return on transit investment in their communities.



BRT Station Impact Areas in South Davis County

In south Davis County, much of the proposed BRT corridor has commercial zoning and existing land uses are predominantly automobile-oriented. Recommendations for local land use agencies include re-evaluating zoning around planned station areas, to better balance commercial and residential uses.

Approximately 189 parcel acres of underutilized land have been identified within 1/4 mile of proposed BRT station areas in Davis County. (An "underutilized" parcel is one that is undeveloped or has existing improvements that are valued less than the land). The new BRT investment provides an opportunity for transit-oriented uses on these properties as they are developed, providing an incentive for developers, and a benefit for communities wishing to attract new development.

Recent development momentum in Bountiful and North Salt Lake, has been transit-supportive in character (for example Renaissance Town Center and Eaglewood Village). These recent investments provide a good foundation for additional transit-oriented development moving forward.

Eaglewood Village

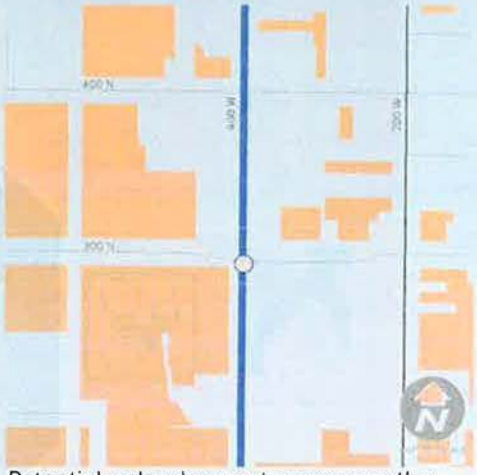
Renaissance Town Center

BRT Station Impact Areas in Salt Lake City

Salt Lake City Redevelopment Opportunities

Many proposed station areas in Salt Lake City already have mixed use zoning in place, providing a good land use policy framework for transit-oriented development on the BRT corridor.

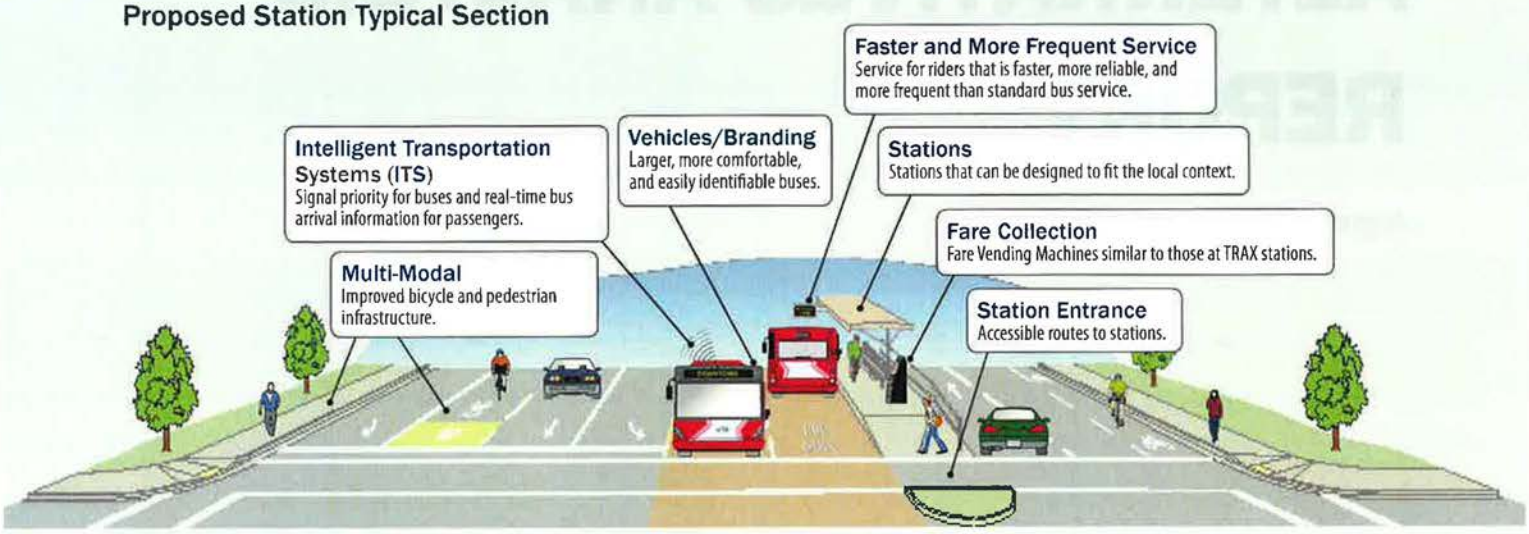
In terms of available acreage and allowable densities, station areas planned at 300 North and North Temple on 400 West in downtown Salt Lake have significant revitalization opportunity.



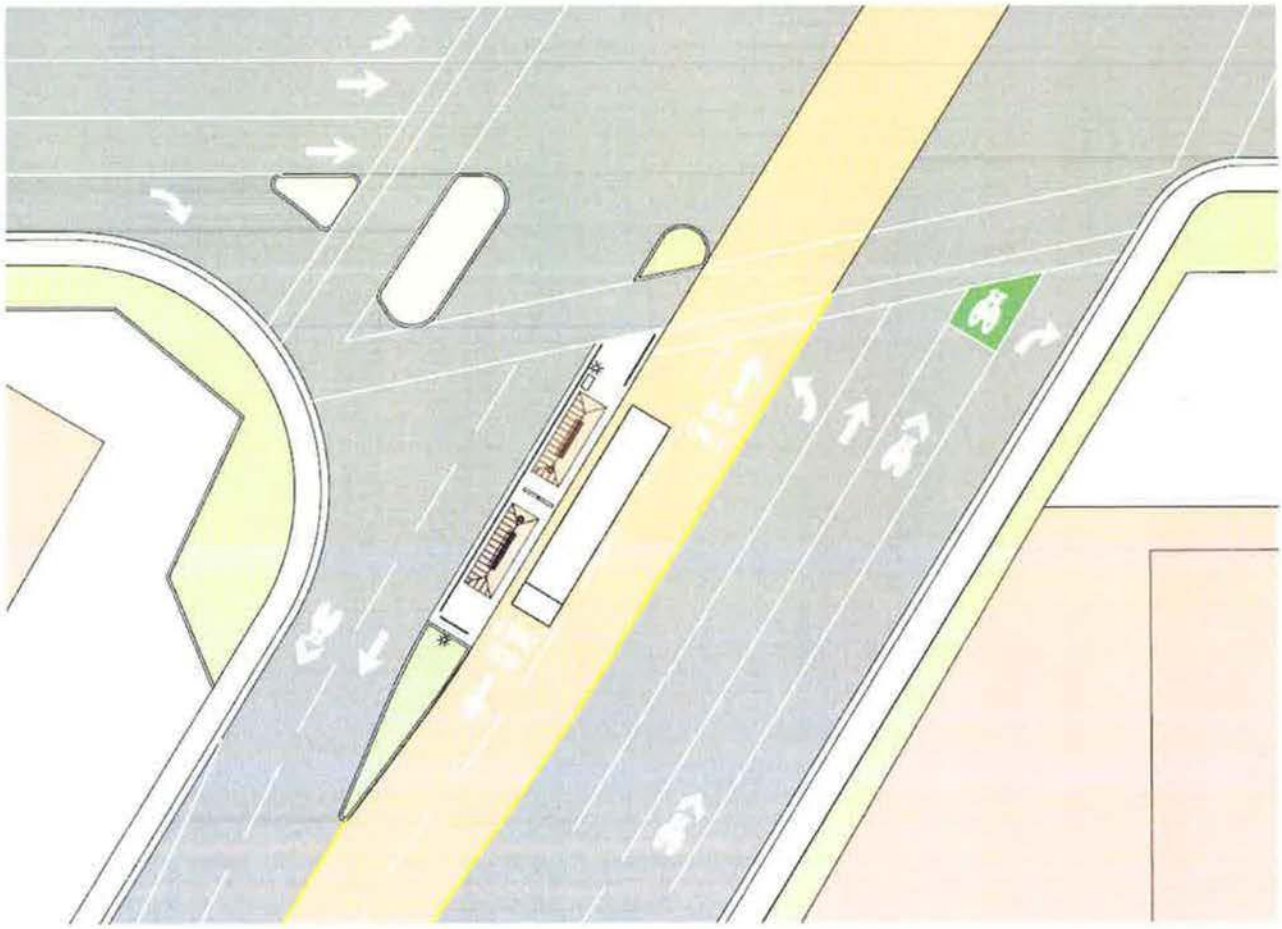
Potential redevelopment areas near the proposed 400W/300N BRT station.

DESIGN CONCEPTS

Proposed Station Typical Section



Proposed Road Improvements



Davis-SLC Community Connector Study

ALTERNATIVES ANALYSIS REPORT

August 2014

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1 EXECUTIVE SUMMARY

Utah Transit Authority (UTA), in partnership with Bountiful, North Salt Lake, Salt Lake City, Davis County, and WFRC conducted an analysis of transit investment alternatives to connect communities in south Davis County with downtown Salt Lake City. The "Davis-SLC Community Connector Study" was undertaken to identify potential transit solutions to:

- Increase mobility, connectivity and travel choices,
- Support local and regional land use initiatives, and
- Promote economic development.

A robust stakeholder and community engagement process was combined with technical analysis to establish goals and objectives for a new transit service corridor, and narrow the universe of alternatives down to two final alternatives – Enhanced Bus and Bus Rapid Transit (BRT).

The resulting Locally Preferred Alternative (LPA), BRT, will operate in mixed traffic through downtown Salt Lake City and Bountiful, and within an exclusive guideway section through North Salt Lake in the central portion of the study area. The LPA is depicted in Figure 1. Additional characteristics of the LPA include:

- Service frequencies and infrastructure designed to make travel by transit an attractive option of choice:
    - 10 minute weekday peak headways.
    - 15 minute headways off-peak, weekends and Saturdays.
    - 30 minute service on Sundays.
    - Signal priority for BRT vehicles.
- Passenger amenities to improve comfort, safety and convenience:
    - Platforms with shelters and bike racks at all station locations.
    - Informational and ticket purchase kiosks.
    - Real-time bus arrival information on electronic reader-boards.
    - Night-time platform lighting.
    - Modern operational technology (such as computer alignment of BRT vehicles at platforms to reduce boarding times).
- Strategies to leverage transit investment in the Davis-SLC Community Connector line for local and regional economic development:
    - Branding and special marketing program for new BRT service.
    - Land use policy changes to encourage transit-oriented development at new station locations.

With the completion of this Alternatives Analysis (AA), next steps for UTA will include securing funding for environmental and preliminary engineering phases of the project development process, and working with local land use jurisdictions on supportive zoning and policy changes.

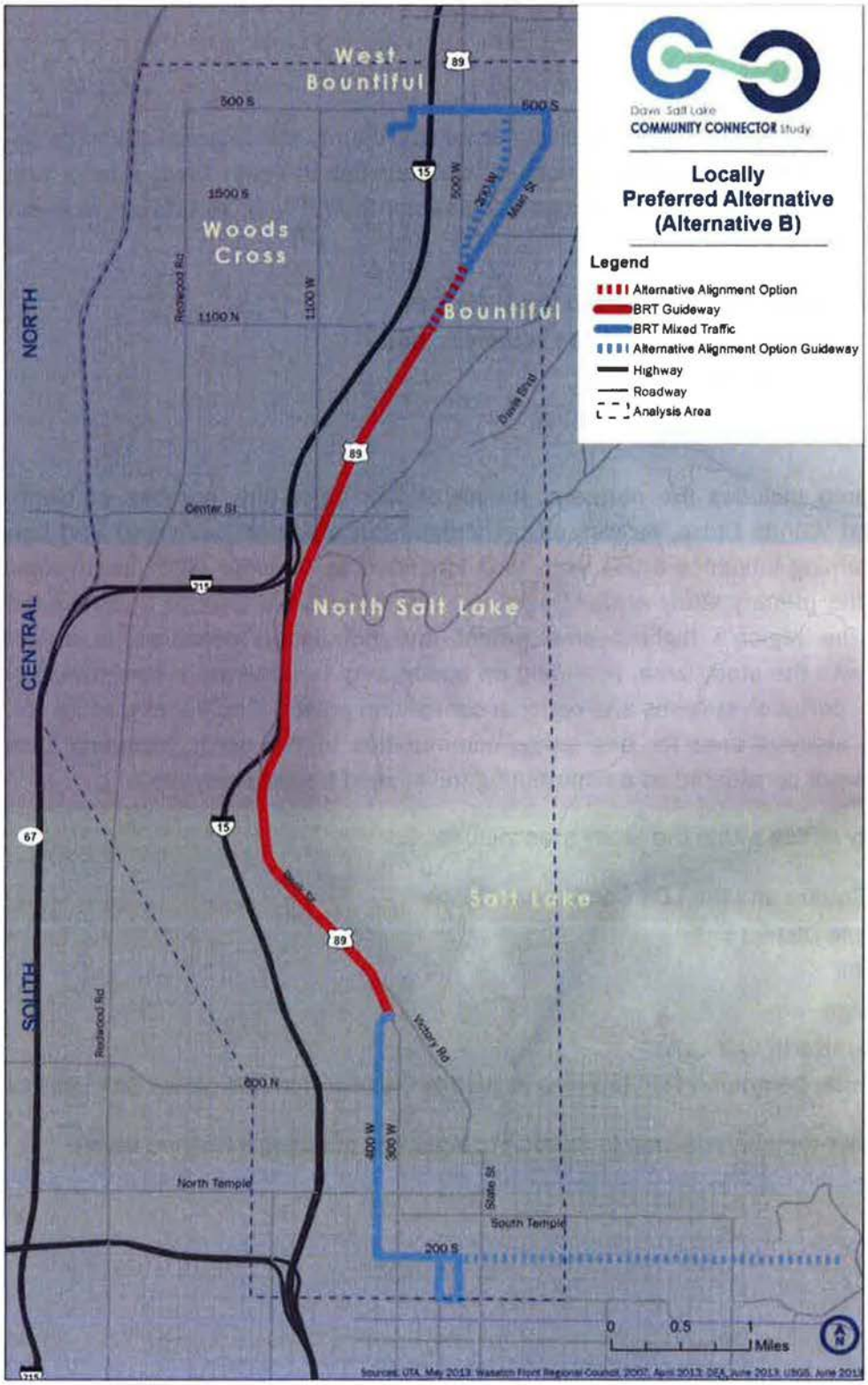

Figure 1. Locally Preferred Alternative

2 PROJECT HISTORY AND BACKGROUND

2.1 INTRODUCTION

Utah Transit Authority (UTA) partnered with other city, county and regional agencies on an analysis of transit investment alternatives to connect communities in south Davis County with downtown Salt Lake City. The "Davis-SLC Community Connector Study" was undertaken to identify potential transit solutions to:

- Increase mobility, connectivity and travel choices,
- Support local and regional land use initiatives, and
- Promote economic development.

2.2 DAVIS-SLC STUDY AREA

The study area includes the northern portion of Salt Lake City, portions of North Salt Lake, Bountiful and Woods Cross, as well as unincorporated areas of Davis and Salt Lake counties. Adjacent planning influence areas were also identified to consider north/south travel needs as they affect the primary study area. Downtown Salt Lake City's Central Business District (CBD), which has the region's highest employment and population densities, is adjacent to and contiguous with the study area, providing an opportunity to integrate a new transit corridor with existing transportation systems and regional connection points. Additionally, while not included in the specific analysis area for this study, communities to the north, including Centerville and Farmington were considered as a contributing travel shed for the study area.

Major activity nodes within the study area include:

- Temple Square and the LDS Conference Center
- Marmalade District
- Capitol Hill
- Eagle Ridge
- Downtown North Salt Lake
- FrontRunner Commuter Rail Stations at Woods Cross and in Downtown Salt Lake City

Figure 2 shows the analysis area in relation to adjoining planning influence areas.

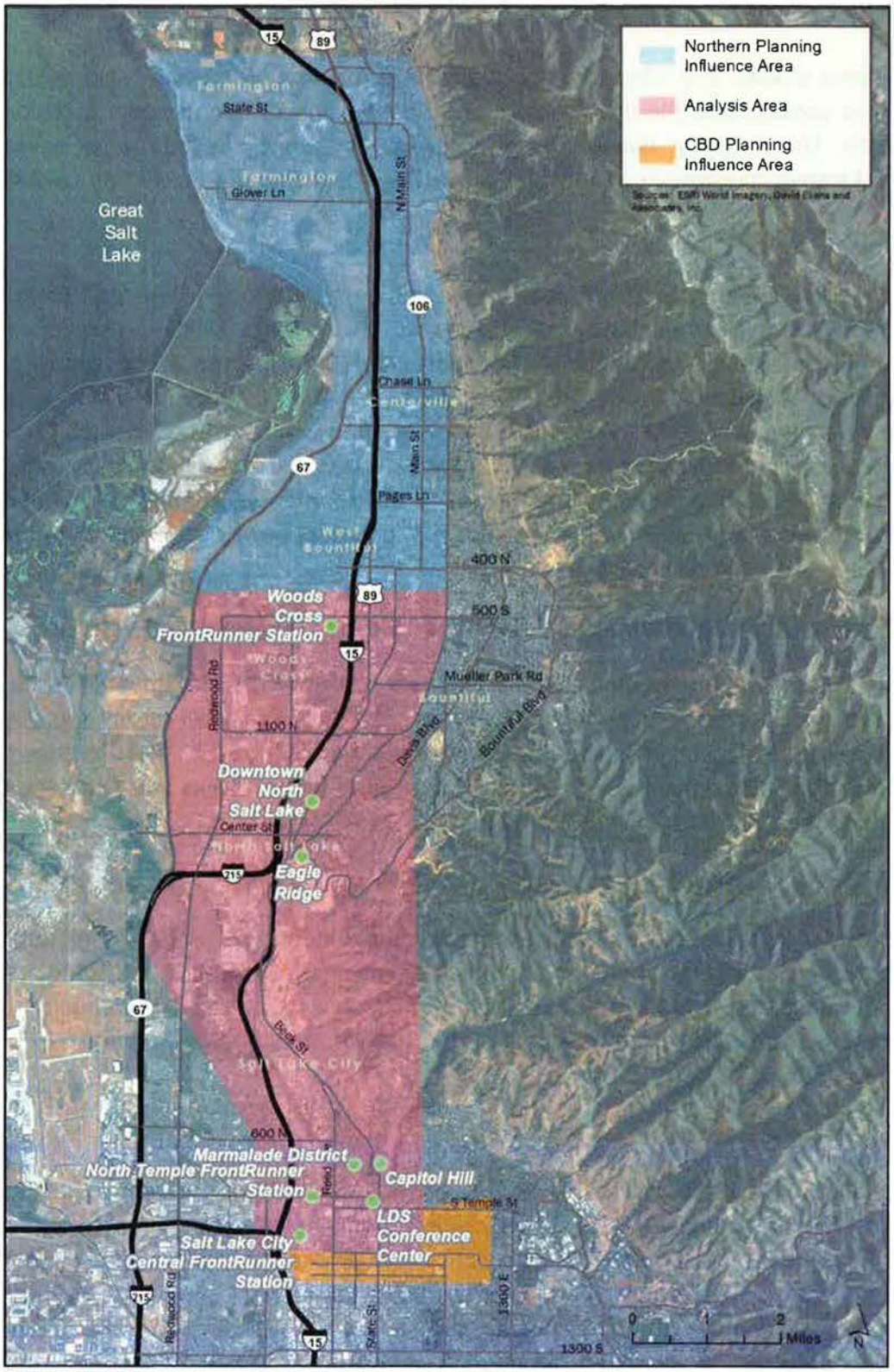

Figure 2. Davis-SLC Analysis Area and Planning Influence Areas

2.3 REGIONAL PLANNING FRAMEWORK

Recent regional studies and transportation plans have focused on mobility, accessibility to jobs and economic centers, and the development of a strong transportation system to accommodate future growth. The following documents provided guiding principles that were salient in the evaluation of transit investments connecting south Davis County to downtown Salt Lake City.

2.3.1 Wasatch Choices 2040

In 2004, the state's two largest metropolitan planning organizations – Wasatch Front Regional Council (WFRC) and Mountainland Association of Governments (MAG) – collaborated with Envision Utah, the Utah Department of Transportation (UDOT), and UTA to conduct a public process called "Wasatch Choices 2040" in order to find a more effective approach to transportation planning in Weber, Davis, Salt Lake and Utah Counties. The Wasatch Choice report showed a focus on redevelopment of older urban areas along heavily used transportation corridors and nodes as to introduce more mixed-use development in existing commercial centers. These concepts were considered in the evaluation of potential transit investment corridors in the Davis-SLC Community Connector study.

2.3.2 Wasatch Front Regional Council (WFRC) Regional Transportation Plan (RTP)

The Wasatch Front Urban Area Regional Transportation Plan (RTP) was adopted in May, 2011, providing a fiscally constrained plan for highway, transit, bicycle and other facility improvements to meet projected travel demand in the region over the next 30 years. RTP forecasts mobility deficiencies in the I-15 corridor along the Wasatch Front in Weber, Davis and Salt Lake Counties, which supports the need for transit investment in the Davis-SLC corridor.

2.3.3 WFRC Transportation Improvement Plan (TIP)

The TIP provides information on the transportation planning and programming process and commits specific funding for short range transportation improvement in the WFRC area. The background transportation system assumed for analysis of Davis-SLC Community Connector transit alternatives included those projects listed in the TIP which are funded and expected to be implemented by 2016.

2.3.4 Additional Studies

A previous alternatives analysis study (South Davis Transit Study Alternatives Analysis) was conducted by UTA in the spring of 2008, and a subsequent Draft Environmental Study Report was led by UDOT between 2008 and 2010. These prior efforts led to the re-evaluation of alternatives undertaken here in this study for the Davis-SLC Community Connector project. While recommendations from the prior alternatives analysis did not pre-determine the findings of this study, the previous efforts provided a foundation of data and experience that helped to identify solutions with the highest potential for success.

Additional regional studies reviewed as background for the Davis-SLC Community Connector Study included:

- Wasatch Mobility Management Study (February 2010)
- Legacy Parkway Supplemental Environmental Impact Statement/Reevaluation
- South Davis Transit Needs Assessment (2005)
- Utah's Unified Transportation Plan 2011 – 2040

These documents are further summarized in the Needs Assessment technical memorandum prepared for the project (Appendix A).

3 EXISTING AND FUTURE CONDITIONS

3.1 INTRODUCTION

Together, Salt Lake and Davis Counties represent over 48% of the population of the State of Utah. According to the Wasatch Front Regional Council, the population of the Wasatch Front will increase by approximately 65% within 30 years. The Davis-SLC Community Connector study area will be significantly impacted by this anticipated growth and the resulting increased travel demand. Population within the Davis-SLC Community Connector study area is projected to increase by 23% between 2007 and 2040, and employment is anticipated to increase by 33%. In addition, major developments are underway which may influence project priorities within the study area.

Extensive and relevant development activity in the region is described in the economic analysis findings for the study (Appendix E) and supports the region's anticipated growth projections. Lower growth projections for the entire region as compared to the Davis-SLC study area alone are indicative of largely built out neighborhoods that are in close proximity to the established core of the region rather than a lack of market trends. Redevelopment and infill activity will continue to increase demand for access, mobility and services.

This section provides an overview of existing conditions in the corridor and planning assumptions used during the study.

3.2 EXISTING TRANSPORTATION SYSTEM

The study area travel shed extends from downtown Salt Lake City north to approximately 500 South in Bountiful, and includes a major regional commute corridor into downtown Salt Lake City. Due to the limited number of local arterial facilities with continuity from one end of the study area to the other, existing travel through and within the study area relies heavily on three principal corridors: I-15, US89 and the FrontRunner commuter rail corridor. Legacy Parkway (State Route 67) located to the west of the study area provides a relief route for north-south travel in the region.

3.2.1 Roadway System

The region's historic approach to transportation system planning and development has provided many communities with a legacy of wide street rights of way that today offer an advantage for retrofitting of modern transit facilities.

3.2.1.1 North-South Connectivity

At the southern end of the study area, downtown Salt Lake City offers an extensive and efficient arterial network, including north-south corridors such as 400 West, 300 West, and the State Street/Victory Road corridor. In the central portion of the study area low land use densities has precluded development of a robust local street network, concentrating traffic into the I-15/US89

corridors. Through North Salt Lake, US89 has developed as a five-lane automobile-oriented commercial arterial, and in Bountiful, the portion of Main Street within the study area is three to five-lanes with a similar commercial character. Redwood Road, in the eastern portion of North Salt Lake and Woods Cross is growing in importance as a regional north-south facility, as the surrounding area attracts new residential development.

3.2.1.2 East-West Connectivity

The I-15 and FrontRunner corridors are both barriers to east-west connectivity in the study area and east-west travel tends to be concentrated at freeway under or overcrossings. Notable east-west street connectors are North Temple and 600 North in downtown Salt Lake City; Center Street in North Salt Lake; 2600 South, 1500 South and 500 South in Bountiful.

3.2.2 Transit System

3.2.2.1 FrontRunner

UTA's commuter rail line, FrontRunner, is a high-speed diesel locomotive system connecting Utah, Salt Lake, Davis and Weber Counties. FrontRunner station locations at Woods Cross and downtown Salt Lake City offer connection opportunities to UTA's bus system and park and ride lots. Commuter rail stations exist only at the northern and southern limits of the study area at Woods Cross and Salt Lake City. There are no intermediate stations, and a challenge of the Davis-SLC Community Connector study is to provide service between, and connecting to commuter rail stations and the urban transit system in Salt Lake City.

3.2.2.2 TRAX

UTA's flagship light rail system operates in downtown Salt Lake City at the southern end of the study area, but does not extend north into Davis County.

3.2.2.3 Background Bus Network

UTA's bus service typology includes five service types: frequent service routes, local routes, express or fast routes, inter-county (non-express) routes, and flex routes. Existing bus service within the study area consists of inter-county bus service. Several express routes operate through the study area without stopping, offering one-seat rides direct from Davis County communities north of the study area to downtown Salt Lake City.

Existing routes serving the study area are shown in Table 1. Currently, only route 470 operates in both directions through the study area (along US-89) during all major time periods; other routes supplement the route 470 frequency along US-89 during peak periods. Although US-89 serves as the primary alignment for most transit routes, each route has variations that provide service to different portions of the study area. Notably, Route 460 operates as a branch in Woods Cross west of I-15, while route 462 operates as a branch in North Salt Lake east of I-15.

Table 1. Inter-County Bus Routes in the Study Area

Route	Service Period	Peak Headway	Off-Peak Headway
455	Weekday	25-30m (a)	65m
460	Weekday	Two peak trips	No Service
461	Weekday	Three peak trips	No Service
462	Weekday	Three peak trips	No Service
463	Weekday	Two peak trips	No Service
470	Weekday, Saturday, Sunday	20m (a)	20-45m (irregular headway intervals)

3.2.3 Non-Motorized Facilities

Within the study area, limited bike routes exist on 200 South, South Temple, North Temple, 300 North, 200 West and Beck Street in Salt Lake City; Eagle Ridge Drive, Center Street and US89 in North Salt Lake, and on portion of 500 South in Woods Cross. The Utah Collaborative Active Transportation Study (UCATS, 2013) has established a list of the top 25 non-motorized facilities, which are targeted for construction in order to further the region's livability goals. Transit access was a primary consideration for the UCATS recommendations.

3.3 POPULATION AND DEMOGRAPHICS

Table 2. Growth Projections

Growth Projections									
Boundary	Present Year - Baseline (2007)			Future Forecast Year (2040)			Percent Change (2007 to 2040)		
	Population	Employment	Transit Dependent Households*	Population	Employment	Transit Dependent Households*	Population	Employment	Transit Dependent Households*
Study Area	66,003	96,482	3,459	90,664	114,601	8,164	37%	19%	136%
Study Area Plus Influence Areas	111,267	134,788	5,608	162,843	161,404	12,571	46%	20%	124%

**Defined as households with zero vehicles*

Sources: Wasatch Front Regional Council TAZ Data (TAZ Boundaries, 2007 and 2040: Population, Employment, Auto Ownership); DEA (Analysis Area Boundary, Planning Influence Area Boundaries)

3.4 CURRENT AND FUTURE TRAVEL DEMAND

A review of 2009 Data from WFRC's regional travel demand model indicated the following major travel findings related to the study area:

- Approximately half of all trips originating within the study area are destined to other locations within the study area (53%)
- Approximately 12% of trips originating with the study area are destined to Salt Lake City
- Moderate travel demand to the University District in Salt Lake City (6%)
- Moderate travel demand to other areas of Salt Lake County (outside of Salt Lake City) (10%)
- Moderate travel demand between the study area and the planning influence area to the north (7%)
- Minimal travel demand to areas north of Farmington (<1%)
- Minimal travel demand south to Utah County (<1%)

Figure 3 shows the anticipated increase in daily trips between 2009 and 2040. This includes trips for work, leisure, and business.

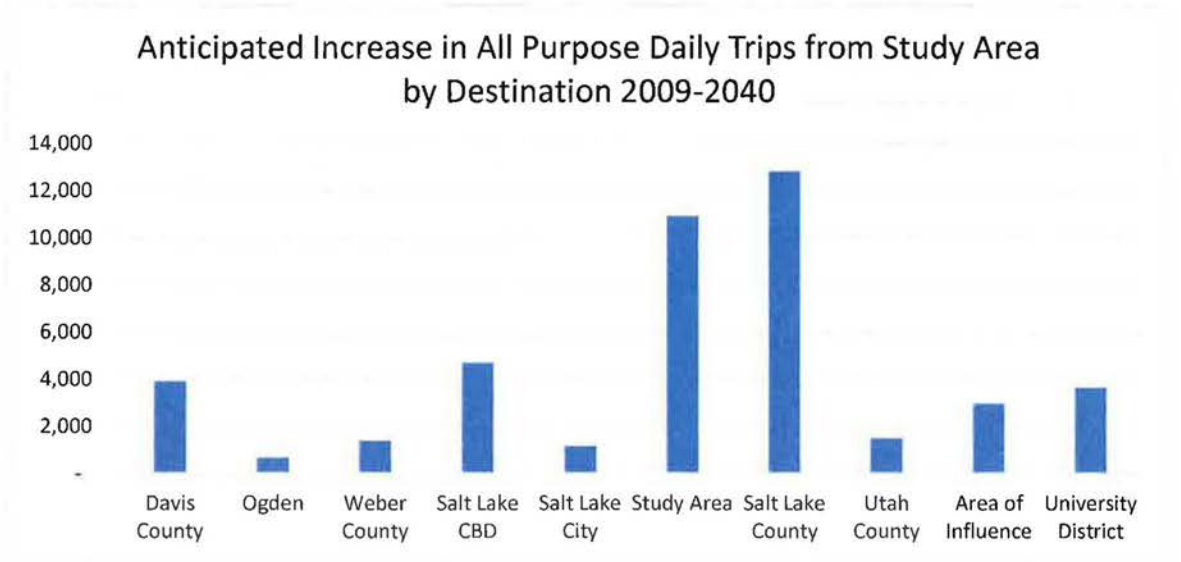

Figure 3. Anticipated Growth in Travel Demand

3.5 TRANSPORTATION EQUITY

The concept of equity refers to the distribution of transportation benefits and impacts across the socio-economic spectrum. Because transportation expenditures represent a major share of most household and business expenses, effective transit investments can help to reduce or eliminate

disparities in accessibility, mobility, and economic factors between transportation-disadvantaged populations and non-disadvantaged populations.

To successfully compete for federal funding within the Federal Transit Administration's (FTA) capital funding programs, transit projects must provide benefits for transit-dependent populations, which FTA defines as zero-vehicle households. When compared to peer metropolitan areas, the greater Salt Lake City metropolitan area ranks second in the nation for transit coverage and job accessibility for zero-vehicle households.[1] Within the Davis-SLC Community Connector study area, however, existing local bus service lacks adequate frequency and amenities to provide reliable transportation for households without access to an automobile.

Table 3. Transit Dependent Populations

Transit Dependent Populations			
	Present Year - Census Data (2011 ACS 5-Year Estimate)*		
Boundary	Zero-Vehicle Households	Age <18 or >65 (Individuals)	Low Income (Households)
Study Area	2,256	30,065	3,554
Study Area Plus Planning Influence Areas	3,892	87,269	5,592
Sources: US Census (2011 American Community Survey 5-Year Estimate); Census Tract Level			

[1] Adie Tomer, "Transit Access and Zero-Vehicle Households," Metropolitan Policy Program at Brookings (August, 2011).

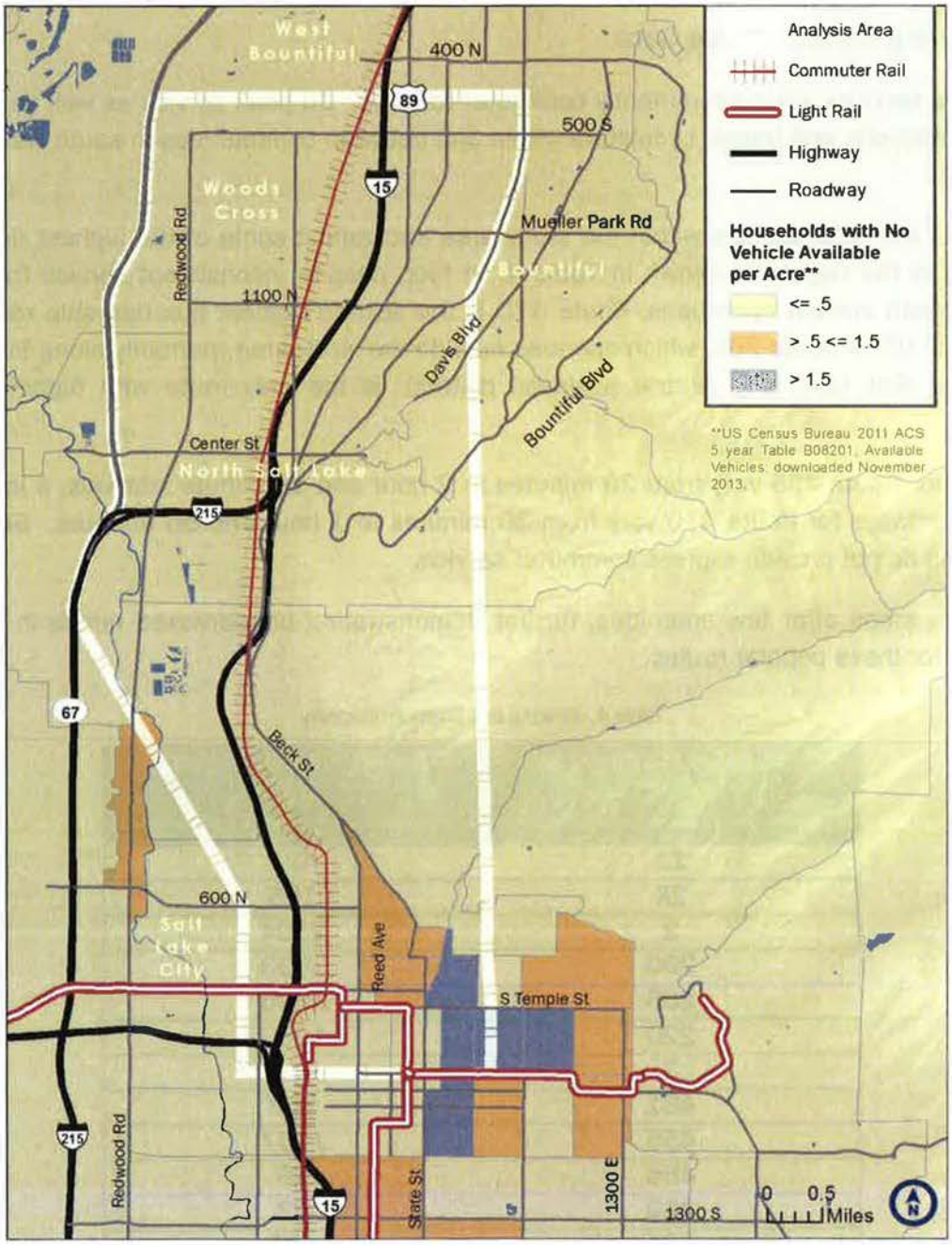

Figure 4. Densities of Transit-Dependent Populations

3.6 TRANSPORTATION DEFICIENCIES

3.6.1 Existing Transit Service Gaps

Existing bus services are predominantly commuter-focused. Off-peak service as well as east-west transit connections and transit circulators within and between communities in south Davis County are lacking.

Routes 470 and 455 operate within the study area and exhibit some of the highest ridership of any routes in the region as shown in Table 4. In fact, despite inconsistent service frequencies associated with current operations, Route 470 is the second highest bus ridership route in the UTA system. UTA's Route 200, which operates outside the study area (primarily along State Street through the Salt Lake City central business district), is the only route with higher weekday boardings.

Headways for Route 455 vary from 28 minutes to 2 hour and 15 minute intervals, a low level of service. Headways for Route 470 vary from 30 minutes to 1 hour and 55 minutes. Both routes are long and do not provide express commuter service.

Existing bus stops offer few amenities, further demonstrating unaddressed needs in the study area, even for these popular routes.

Table 4. Existing Bus Route Productivity

Bus Route	Average Weekday Bus Boardings (Jan 2013 – May 2013)
11	427
2X	166
2	2304
200	3963
205	2596
220	1962
3	615
451	366
455	1657
456	66
460	62
461	103
462	110
463	50
470	3973

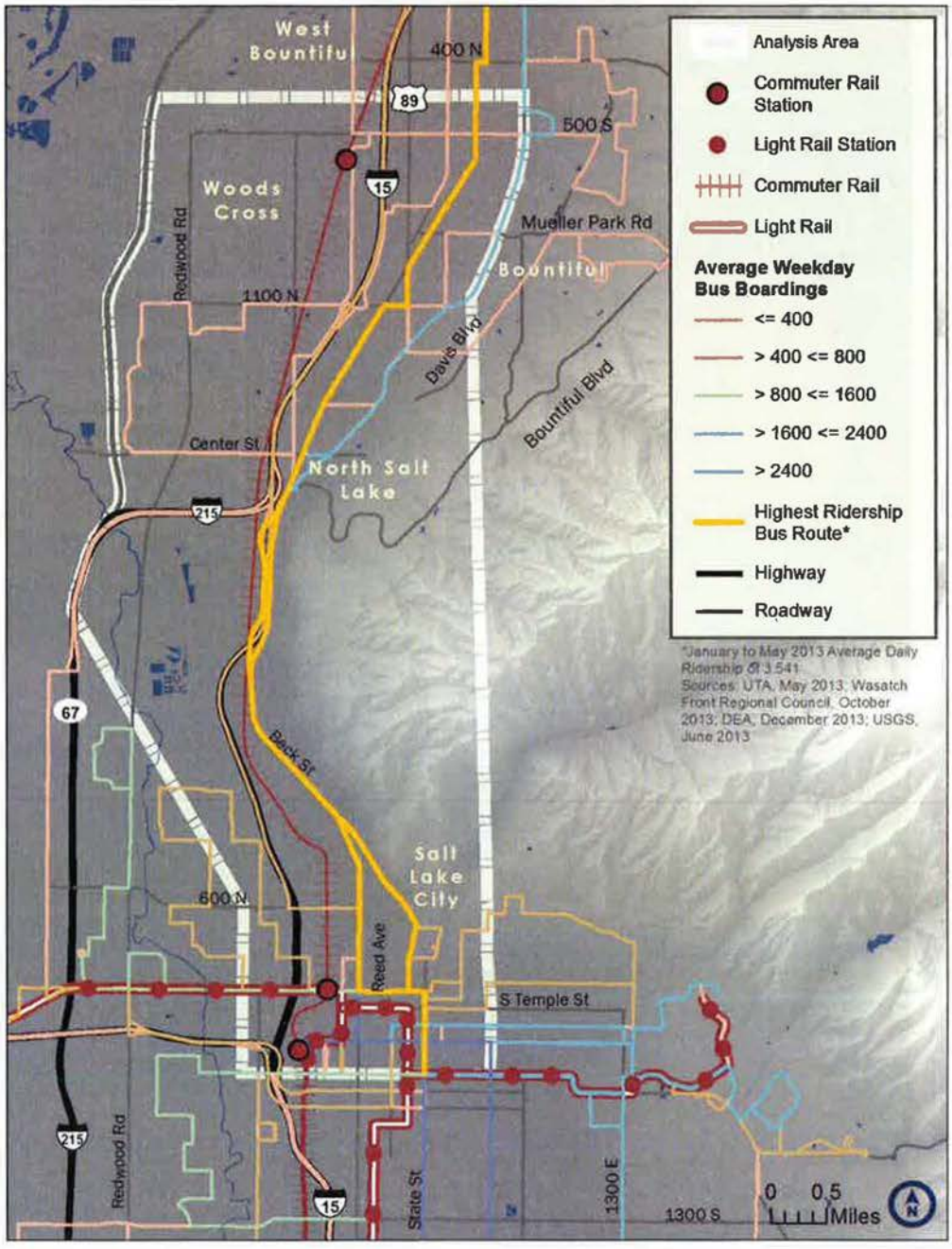

Figure 5. Existing Bus Routes and Ridership

Figure 5 shows the location of existing routes within the study area, and Figure 6 shows the relationship of pedestrian walk buffers to current routes and stops. Route coverage generally appears balanced for neighborhoods within the study area. Existing transit gaps, therefore, are primarily related to the level and consistency of existing services rather than the physical location of routes and stops.

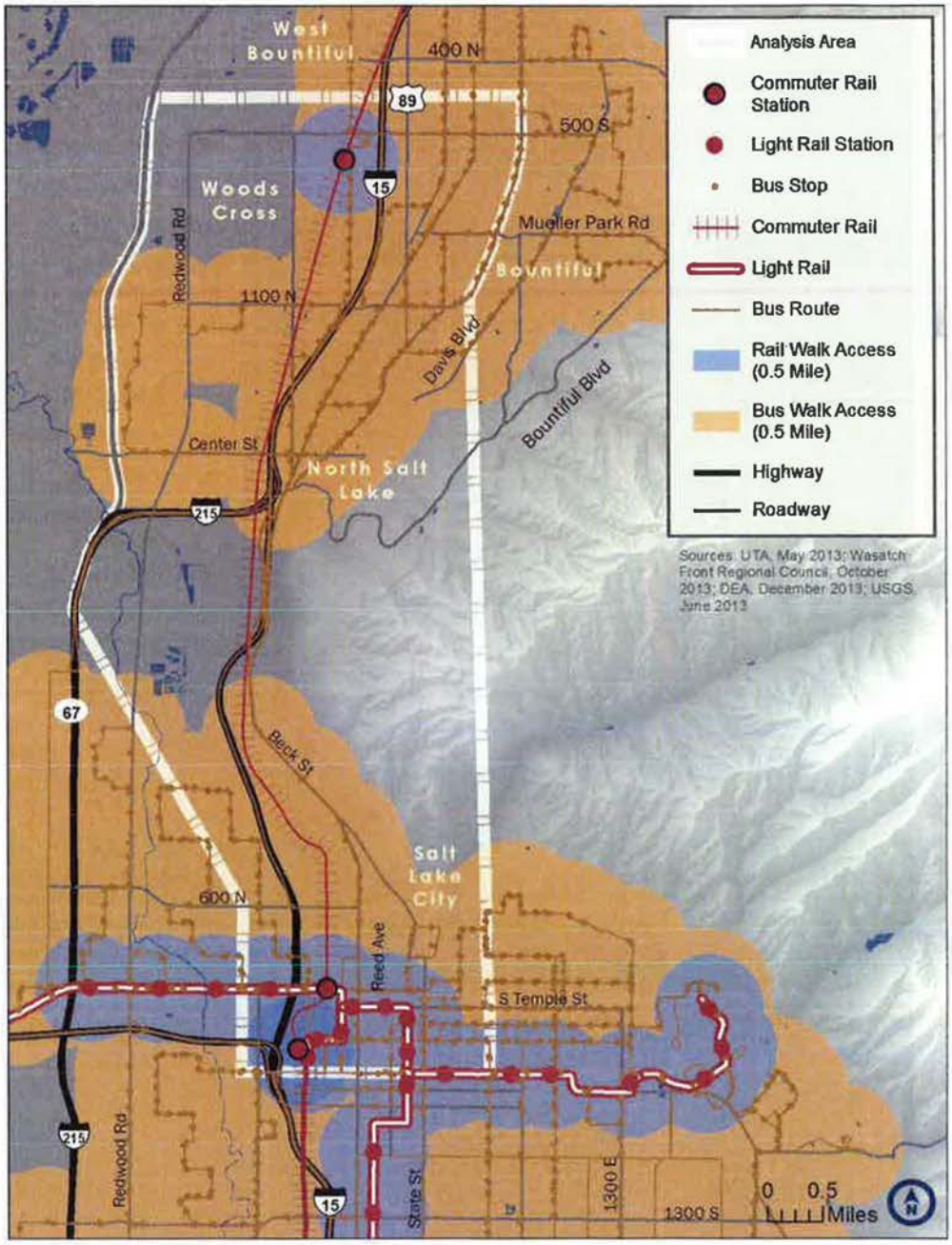

Figure 6. Pedestrian-Transit Access

3.6.2 Bicycle and Pedestrian Facilities

The study area lacks an effective network of non-motorized facilities. Two project areas on the 2013 Utah Collaborative Active Transportation Study (UCATS) Top 25 priority list for the Wasatch Front region are located within the study area:

- Bountiful/West Bountiful Active Transportation Feasibility Study
- US89/Main Street Intersection Improvements (North Salt Lake and UDOT)

The recent development of a bikeway from North Salt Lake to downtown Salt Lake created non-motorized travel and access opportunities, however the character of the corridor through industrial areas warrants an exploration of enhanced facilities. Efforts to create a more walkable environment along US89 with town centers and higher density development will require physical improvements. The proximity of the study area to a large urban core, with successful strides in mode shift suggests the potential for similar livability benefits within the study area. Over $1 billion of investments over the past decade have been focused on downtown Salt Lake City to increase the urban experience. This has included plazas, new developments, light rail systems, and bus enhancements. Salt Lake City continues to move forward in this arena, with the potential addition of a streetcar system and BRT services.

3.7 SUMMARY AND CONCLUSIONS

Anticipated growth along the Wasatch Front, the presence of transit-supportive markets, and growing travel demand within the Davis-SLC study area indicate the need for transit and other active transportation investments. Current commuter-oriented transit service lacks the frequencies, consistency and rider amenities necessary to meet the present needs.

4 PUBLIC AND STAKEHOLDER ENGAGEMENT

Meaningful public involvement is a key component of any planning process. Engaging the public and stakeholders has been fundamental to developing transit alternatives with the greatest likelihood of success within the Davis-SLC Community Connector study area.

The intent of UTA's public involvement program has been to provide affected residents, including traditionally under-represented populations, with opportunities to learn about potential alternatives and provide feedback to help inform agency decisions. Public involvement strategies for this study were designed to accomplish the following objectives:

- Foster open and honest communication
- Understand jurisdictional concerns and desires
- Manage expectations
- Reduce duplication of effort
- Identify and explain roles and responsibilities
- Share information with appropriate audiences at the appropriate times.

A robust community outreach effort was undertaken for the project which included a telephone survey, focus groups, two public open houses, and opportunities to provide comment via UTA's "Open UTA" website. In addition, UTA performed targeted outreach to business groups in the corridor. Public comments were carefully considered by UTA and study partners at each project decision stage.

A summary of public involvement activities and comments is provided in Appendix D.

4.1 FOCUS GROUPS

Focus groups were convened to assess the transportation needs within the target market and to gauge public perceptions of specific transportation modes. The target market for this project included individuals within 1) the study area (Salt Lake City, North Salt Lake, and Bountiful) and 2) influence areas (Woods Cross, Centerville, and Farmington). To accomplish the project objectives, participants were guided through a discussion that encompassed the following topics and themes:

4.1.1 Consumer Habits and Transit Perceptions

- Discovered if participants have used public transit in the last two years
- Determined the reasons participants have or have not used public transit in the last two years
- Discovered top-of-mind perceptions of public transit Identify the benefits and drawbacks of using public transit systems
- Determined the pros and cons of using various modes of transportation (i.e. SOV, Urban Rail, Commuter Rail, bus transit, walking, and biking)

4.1.2 Impact of Public Transit on Local Communities

- Identified the perceived transportation challenges facing Davis County in the future
- Discovered aspects of other transit systems that appeal to individuals
- Determined if participants perceive transit systems as a means for creating vitality in surrounding communities
- Identified transportation needs and expectations
- Identified the most important elements of a transit system, as perceived by participants
- Defined characteristics and attributes the ideal transit system would include
- Identified obstacles a transit system could potentially face and identify solutions for overcoming these challenges

4.1.3 Transit Mode Preferences

- Evaluated and compared the benefits of Bus Rapid Transit (BRT) and Urban Rail
- Discovered which form of transit is preferable to participants

Focus group participants also offered perceptions of existing transit services and suggestions on how to improve and promote public transit in the region. Considering the different technologies for this alignment, the Focus Group was mixed in their preferences. Though participants preferred rail transit, they considered BRT to be less intrusive and costly to implement. A complete report of on the Focus Group's findings is available in Appendix D-4.

4.2 TELEPHONE SURVEYS

A telephone survey of residents in Davis County and Salt Lake City was conducted to capture additional input on travel behaviors and preferences for the study area. Survey objectives included:

- Understand and confirm regional travel patterns, modes used and purpose for travel
- Discover whether respondents use public transportation to get to work, and if so, identify the modes of transit respondents typically use
- Evaluate respondents' satisfaction with current public transportation in Davis County
- Discover the likelihood of respondents increasing their ridership of public transit if public transit were improved
- Identify the greatest public transit needs in southern Davis County
- Identify perceived reasonable timeframes
- Determine whether respondents would be more likely to ride FrontRunner if there was increased frequency of shuttle or bus travel
- Determine the perceived impact of public transit on economic growth within communities

- Gather demographic information such as gender, age, education, annual household income, marital status, household size, and city of residence.

Survey findings, which are summarized in Appendix D-5 were shared with the Advisory and Policy committees for the study, to help inform the decision-making process.

4.3 BUSINESS COMMUNITY OUTREACH

UTA, through an independent consultant, conducted a comprehensive grass-roots business outreach program specifically to contact every business along the corridor(s) to create project ownership. Outreach strategies included visiting with and educating individual business/property owners on project options and processes while logging their input on opinions and concerns. In addition, UTA visited all businesses door-to-door to make sure no one was left out.

UTA and the outreach team contacted all area chambers of commerce as well as other civic organizations to provide presentation of the project including potential impacts from construction. Project partners were included, or given the opportunity to be included, in every outreach effort.

All coordination activities are summarized in Appendix D.

4.4 PUBLIC MEETINGS AND ON-LINE FORUMS

Following the previous alternatives analysis prepared in 2008, community dissention related to the prior study recommendation led to a decision to re-evaluate options. UTA therefore emphasized a broad public outreach campaign for the Davis-SLC Community Connector project, providing supplemental outreach activities with in-house staff as the project progressed, to ensure adequate opportunities for feedback and comment were made available. Two public open houses were held on December 10, 2013 and April 1, 2014 at the North Salt Lake City Hall. Additionally, UTA solicited public comments via "Open UTA", an on-line forum for information dissemination and public input. Comments received at each meeting and via Open UTA were reviewed, consolidated, summarized, and presented to project decision-makers prior to key decision points during the study. Approximately 577 members of the public at-large participated in open houses and on-line comment opportunities.

Appendix D-1 provides documentation of the public involvement process and comments received.

4.5 PROJECT ADVISORY AND POLICY COMMITTEES

A collaborative, multi-jurisdictional approach was used for the Davis-SLC Community Connector study, which allowed the project team to draw from the collective knowledge and expertise of staff members and elected officials representing affected cities, Davis County and the Wasatch Front Regional Council. Meetings of these groups coincided with key decision points including development of study goals and objectives, evaluation criteria, initial corridor and technology screening, review of detailed alternatives and recommendation of a LPA.

4.5.1 Advisory Committee Kickoff Meeting, Tuesday, April 9, 2013

After group introductions and an overview of the project, the consultant team introduced project branding options. The committee determined that "community connector" fit the project and was consistent with other current transit project themes. Federal Transit Administration (FTA) funding trends for capital improvement projects were explained at this meeting, as well as other FTA trends, including mobility improvements, economic development effects, environmental benefits, cost effectiveness, and land use. The meeting concluded with a broad discussion of project goals and objectives.

4.5.2 Advisory Committee Meeting, July 25, 2013

Project purpose and need elements were presented to committee members, along with supporting goals and objectives to guide development of a reasonable range of alternatives. Evaluation criteria to be used during the screening process, which were based on the project goals and objectives, were also reviewed by the Advisory Committee. A long list of candidate corridors was presented to the group, and feedback was solicited to help narrow the field so that initial corridor screening work could begin. Several members suggested extensions or modifications to potential corridors. The public involvement plan was also shared with the committee.

The initial study area did not extend into Bountiful. At this meeting, the Advisory Committee discussed whether the Study Area should be adjusted to encompass Bountiful's Main Street up to 500 South. (Note: After this meeting, UTA and the City of Bountiful agreed to expand the study area boundary so that routes using Main Street in Bountiful could be considered in the analysis.)

4.5.3 Advisory Committee Meeting, October 1, 2013

Results of public outreach activities, including results from focus group research and a telephone survey were shared with the Advisory Committee. The project team provided a status update on the evaluation process, including a preliminary review of initial corridors which were selected for screening analysis based on public input and one-on-one discussions with affected local agencies. The Advisory Committee was asked to confirm the list of corridors that were advancing into the screening process.

4.5.4 Advisory and Policy Committee Meetings, February 18, 2014

The project team provided an overview of findings from the initial corridor screening process as well as findings from initial technology review for the initial corridors. Alternatives recommended to be carried forward into detailed evaluation phase were presented. As this meeting represented a critical juncture in the evaluation process, the concurrence of both committees was sought before the project team began the work to develop and analyze detailed alternatives. Mapping exercises were facilitated with both committees, to provide an opportunity for input and to determine if any adjustments to proposed routes, stops/stations or preliminary service levels were needed.

4.5.5 Advisory and Policy Committee Meetings, May 29, 2014

Project team members provided an overview of the project accomplishments, including defined alternatives for detailed evaluation, technical analysis, and the draft Locally Preferred Alternative (LPA). The two final alternatives were presented and confirmed with the committees: Alternative A – Enhanced Bus and Alternative B – Bus Rapid Transit.

Based on public input and local agency desires, possible circulators may be developed for Davis County communities, but would be considered independent of the Davis-SLC LPA.

For both final alternatives, service levels, station locations, and an example of station design were presented and confirmed with each committee. There was discussion about the potential for a one-seat ride from south Davis County to the University of Utah. Planning-level costs associated with both final alternatives, including Total Cost per Ride (annualized capital and Operations & Maintenance), were presented and discussed.

A summary of key findings, both qualitative and quantitative, was presented including capital costs, operating and maintenance costs, transit ridership, property acquisition and right-of-way impacts, project effectiveness, land use, revitalization opportunities, and economic development considerations. Alternative B, the BRT alternative, exceeded the baseline thresholds for meeting the established criteria and emerged as the recommended option.

4.6 SUMMARY AND CONCLUSIONS

UTA's commitment to an extensive outreach program for the Davis-SLC Community Connector Study provided a strong foundation and the local buy-in necessary for a successful transit investment. Complete documentation of public involvement activities can be found in Appendix D.

5 PURPOSE AND NEED

5.1 INTRODUCTION

The following purpose and need elements were discussed with stakeholder groups early in the study process.

These elements were used as a guide to identify a range of reasonable alternatives, and ultimately select a LPA. The existing conditions analysis provided in Attachment A supports UTA's initial premise that transit investment is needed in the Davis-SLC study area. Further justification for this assertion was established through the following study components:

- Needs Assessment (See Appendix A for compilation & analysis of transportation and urban planning indicators)
- Goals and Objectives
- Confirmation of Purpose & Need elements with project Advisory and Policy Committees.

5.2 PROJECT GOALS AND OBJECTIVES

Project goals and objectives were derived from Advisory Committee discussions which occurred in April 2013 as well as from an initial review of regional plans, data and trends.

	**Improve Regional Connectivity** o Improve transit service/options between south Davis County communities and Salt Lake City (e.g., improve current bus service, provide more equitable transit service) o Better connections to regional transit services in the downtown Salt Lake core o Connections to FrontRunner
	**Match Transportation Solutions to Potential Markets** o Identify viable transportation user market segments o Serve markets not served by current transit services o Enhance service to existing markets o Fill in current gaps in transit service
	**Increase Bike and Pedestrian Mode Share** o Implement new bike and pedestrian amenities o Improve linkages to existing and new transit facilities o Create bike/pedestrian friendly environments
	**Balance East West & North South Travel Needs** o Solutions to serve regional and local travel patterns
	**Revitalize Corridors** o Improve land use opportunities o Enhance the urban environment
	**Create Jobs** o Attract and support business activity o Increase tax base through development/redevelopment of urban centers
	**Improve Travel through the Study Area** o Increase mobility options o Integrate with existing transportation facilities

	**Identify Viable Transit Solutions** o Garner significant stakeholder support o Create ability to obtain funding
Wasatch CHOICE for 2040	**Support Wasatch Choice 2040 Growth Principles** o Enable interconnection of transportation systems o Balance jobs and housing o Enhance regional economy o Enhance regional collaboration o Strengthen sense of community o Protect and enhance the environment

5.3 PURPOSE AND NEED STATEMENT

A preliminary statement of Purpose and Need can be valuable at the Alternatives Analysis stage to document the reasons for undertaking a project study, and to support advancement of investments once they are defined and evaluated. If the Davis-SLC Corridor moves forward for further development, a formal Purpose and Need statement will be an outcome of the environmental review process. The suggested statements below may therefore be refined or expanded to illuminate later findings in the environmental phase of the project development process.

Based on the original purpose and need elements that were confirmed with key stakeholders, evaluation of existing transportation services within the study area, and goals and objectives developed for the corridor, the following preliminary Purpose and Need statement is proposed for the Davis-SLC Community Connector project:

Purpose: The purpose of the Davis-SLC Community Connector project is to increase mobility, connectivity, and travel choices for communities in southern Davis County and neighborhoods in downtown and northern Salt Lake City. The project will support the region's active transportation goals, align transportation investments with local and regional land-use initiatives and promote economic development.

Need: Increased capacity, frequency and quality of transit service is necessary to improve connections between south Davis county communities and downtown Salt Lake City, address gaps in existing service, and support regional accessibility and mobility, including for improved mobility for off-peak travel and essential service for transit-dependent populations. Targeted transit investment is also needed to catalyze community revitalization initiatives.

6 ALTERNATIVES CONSIDERED

6.1 INTRODUCTION

The process shown in Figure 7 was used to progress from a universe of alternatives to selection of a LPA.

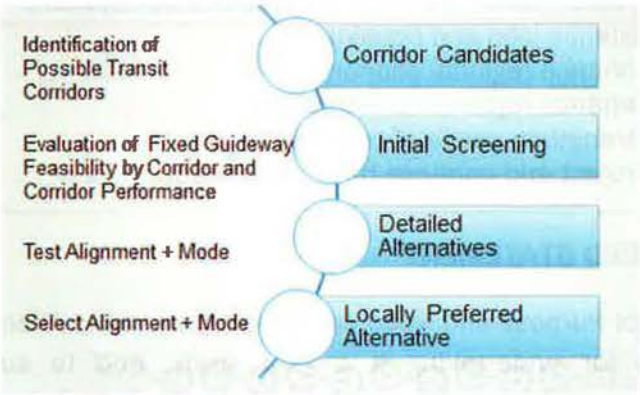

Figure 7. Study Evaluation Process

This section provides an overview of the alternative development and evaluation process, and summarizes key findings from the initial screening and detailed evaluation phases. The resulting LPA is also presented.

6.1.1 Alternative Development and Evaluation Process

Evaluation criteria were developed and applied at three phases of the project as shown in Table 5.

Candidate Corridors (universe of alternatives)
Initial Screening (7 initial corridors)
Detailed Screening (2 detailed alternatives)

Table 5. Alternative Development and Evaluation Phases

Phase	Evaluation Criteria Considered
Candidate Corridors	o High-level look at the universe of alternatives, considering project goals and potential fatal flaws
Initial Screening	o Regional Connectivity o Land Use Integration o Traffic Level of Service o Safety o Capital Cost Ranges o Modal Shift o Ridership o Public Perception o Travel Time o Major Environmental Features
Detailed Alternatives	o Capital Cost o Operations and Maintenance Cost o Life Cycle Cost o Reliability o Sustainability o Potential parcel impacts o Potential Natural Resource Impacts o Historic and Archeological Resources o Potential Community Impacts o 4f properties o Air quality impacts o Equity & Environmental Justice o Economic Development Potential

Qualitative considerations and quantitative metrics used for initial and detailed screening were intended to provide a holistic understanding of the challenges and benefits of potential corridors. Factors that distinguish between alternatives in a significant way provided a basis for advancing, dropping or refining corridor alternatives at each stage of the evaluation.

6.2 CANDIDATE CORRIDORS

Candidate corridor segments identified by the project team (Figure 8) were discussed with stakeholder agencies to confirm potential segments were feasible candidates for possible transit investment.

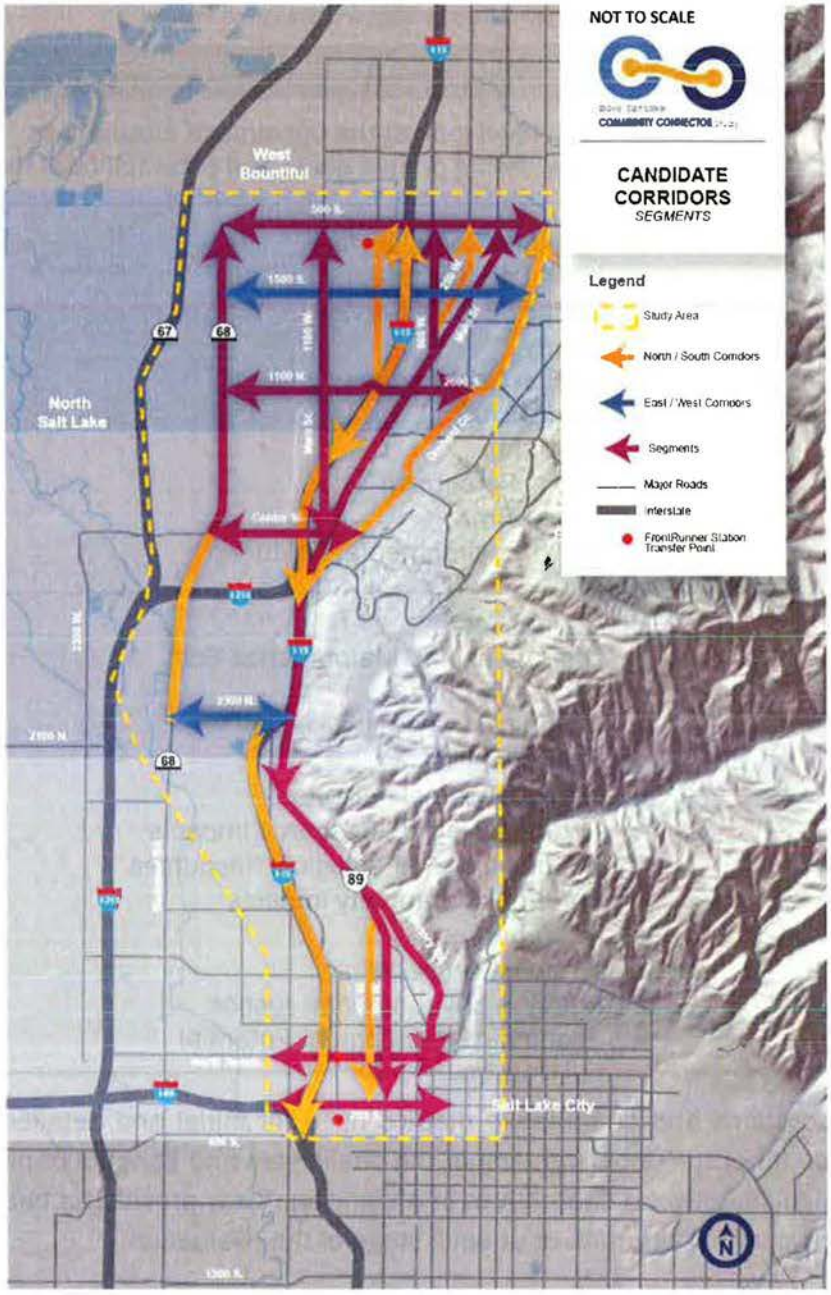

Figure 8. Candidate Corridors

Candidate corridor considerations offer a high-level fatal flaw analysis for the project, and included the following factors:

- **Regional Connectivity** – Did the candidate corridor improve or facilitate transit service/options between south Davis County communities and Salt Lake City (e.g., improve current bus service, provide more equitable transit service); better

connections to regional transit services in the downtown Salt Lake core; connections to FrontRunner rail service?

- **Ability to Serve Markets** – Did the candidate corridor serve markets not served by current transit services? Does it enhance service to existing markets? Did this candidate corridor serve the ridership potential in the study area?
- **Transit System Gaps** – Did the candidate corridor fill in current gaps in transit service?
- **Bike and Pedestrian Accommodation** – Did the candidate corridor make possible the implementation of new bike and pedestrian amenities? Does it improve linkages to existing and new transit facilities? Is this route part of the UCATS Top 25 Projects?
- **Revitalization** – Did the candidate corridor support local and regional land use goals or enhances the use of transit-supported land use, planning, and design strategies.
- **East West Travel Needs** – Did the candidate corridor primarily provide east/west connectivity in the south Davis County area?
- **North South Travel Needs** – Did the candidate corridor primarily provide north/south connectivity in the south Davis County area?

6.3 INITIAL ALTERNATIVES AND SCREENING

Initial screening criteria shown in Table 6 were established after considering prior needs assessment findings and project goals and objectives.

Table 6. Initial Screening Criteria

Metric or Criteria	Significance	Source
	Quantitative Metrics	
% of households and employment served by transit	Magnitude of jobs and employment served	2040 WFRC demographic data overlay with buffered alternatives
Connection to major activity centers	Provide service to a majority of desired nodes (existing and future)	20-minute accessibility to identified activity centers calculated using WFRC transit access script (number of jobs and households accessible within 20 minute in-vehicle and transfer time)
Connection to regional Transit Services	Link to/from expanding regional system	Connection opportunities at corridor limits based on UTA existing and future system maps
# of transit dependent populations served within the study area	Service to transit dependents weighed heavily in federal new/small starts processes	Assessment of GIS Census based data for 2007 and WFRC transit access script output
Ridership potential	System utilization is a major project justification	Transit load and linked trips from regional travel demand model runs

Metric or Criteria	Significance	Source
	Qualitative Considerations	
Potential access to transit for bicyclists and pedestrians	Need to serve alternative modes and feed transit system	Visual assessment of identified activity centers using GIS
Support of Wasatch Choices 2040 objectives	Principal element of regional planning within and outside the study area	Project team judgment of whether the corridor is consistent with high-level objectives
Revitalization opportunities	Key opportunity identified in the project goals. Can create jobs and offset costs.	Project team identification of potential revitalization opportunities
Markets served	Key opportunity identified in the project goals. Serving markets will enhance ridership, economic opportunities, and project justification.	Comparison of alternative to specific markets identified in the Purpose and Need document for the project
Potential expansion to area of influence	Identified as a consideration within the overall project and study area definition. The study area also serves as a major link to northern communities for which transit services should not be precluded	Team identification of expandability and capacity
Economic development opportunities	Ability to promote economic development	Based on project assessment
Capital Cost (order of magnitude)	Preliminary costs will be developed to compare options relative to each other	Based on similar project types and cost factors using information from the Regional Transportation Plan and UTA's network study
Environmental Fatal Flaws	Avoid major factors that are highly infeasible to mitigate	Utah Planning and Environmental Linkages (uPEL) tool, field review

6.3.1 Initial Screening Corridors

Based on candidate corridor discussions, seven corridor alignments were selected for initial screening, as shown in Figure 9.

Initial screening corridors were examined from a mode-neutral standpoint, focusing on service needs, connections, integration with existing and planned transportation systems in the region, and other community objectives. Sensitivity testing was also performed using WFRC's regional model, to help the project team understand relative differences in ridership that could be expected with different northern termini.

In the central portion of the study area (between the Victory Road/US89 junction and Center Street in North Salt Lake) all corridors followed US89. Corridor variations listed in Table 7 were examined in the northern and southern portions of the study area. All corridors considered traverse the area between downtown Salt Lake City and 500 South in Bountiful.

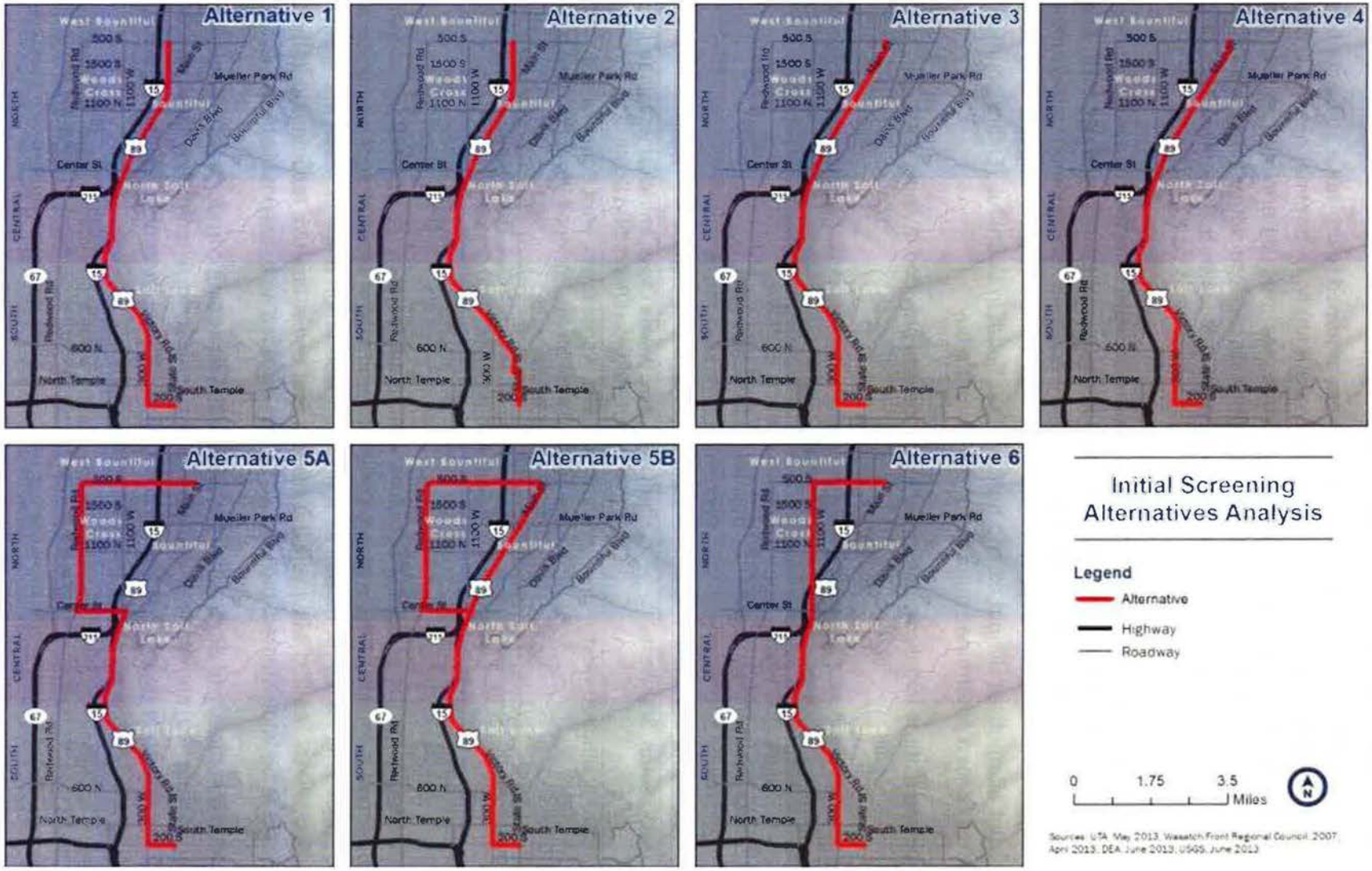

Figure 9. Initial Screening Corridors

At the southern end of the study area, initial corridors were assumed to provide a connection to a future Downtown Streetcar under development in a separate study. A terminal near 200 South and State Street for the Davis-SLC Community Connector was determined to be more advantageous than other potential southern termini after discussions with agency staff and a visual scan of land uses and economic development opportunities in the southern part of the study area.

In the northern portion of the study area, a variety of corridors were selected for screening based on discussions with the Advisory Committee, conversations with local agency land use staff, and a visual scan of existing land uses and assessment of future economic development opportunities. The area of influence extending north to Farmington was considered for impacts and future opportunities, but alternatives did not extend north of 500 South in Bountiful. Extension into the area of influence is not a determined outcome of the current study.

A complete summary of the initial corridor screening process is provided in Appendix C.

Table 7. Corridors

Corridor Number	Southern Segment	Northern Segment and Communities Served
1	200 South, 300 West	Bountiful: US89, 500 West
2	State Street, Victory Road	Bountiful: US89, 500 West
3	200 South, 300 West	Bountiful: US89, Main Street
4	200 South, 400 West	Bountiful: US89, Main Street
5A	200 South, 300 West	North Salt Lake, Woods Cross, and West Bountiful: Center Street, Redwood Road, 500 South
5B	200 South, 300 West	North Salt Lake, Woods Cross, West Bountiful and Bountiful: Center Street, Redwood Road, 500 South, US89 (Loop Route)
6	200 South, 300 West	North Salt Lake, Woods Cross, West Bountiful and Bountiful: 1100 West, 500 South

Information developed for the screening corridors was compared to a 2016 No Build scenario. WFRC has developed a version of the regional travel demand model which includes land use and demographic projections for 2016, as well as funded transportation projects which are expected to be complete by 2016. As 2016 is likely the earliest that any alternative recommended by this study could begin to be implemented, the year 2016 was selected as a reasonable baseline.

Table 8 provides a summary of advantages for each initial screening corridor when compared to the baseline. Figure 10 summarizes community input received when initial corridors were presented at a public open house in December, 2013. Additional screening results are included in the Screening and Technology Memo provided as Appendix C.

Table 8. Summary of Initial Screening Results

INITIAL CORRIDOR SCREENING SUMMARY							
CRITERIA	Summary of Advantage Ratinges						
	Alignment 1 300W, US89, 500W	**Alignment 2** Victory Rd; US89, 500 W	**Alignment 3** 300 W, US89, Main St	**Alignment 4** 400 W, US89, Main St	**Alignment 5A** 300 W, US89, Center, Redwood, 500 S	**Alternative 5B (Loop)** 300 W, US89, Center, Redwood, 500 S, Main St, US89	**Alignment 6** 300W, US89, Main/1100 W, 500S
Percent of current households served by transit	●	●	▲	●	●	★	●
Percent of future households served by transit	●	●	▲	●	▲	★	▲
Percent of current employment served by transit	▲	●	▲	●	▲	★	●
Percent of future employment served by transit	▲	●	▲	●	▲	★	▲
Per-mile combined households and employment served	★	▲	★	▲	●	●	▲
Transit-dependent populations served within the study area	▲	▲	▲	▲	▲	★	▲
Per-mile density of transit dependents served	▲	★	★	▲	●	●	●
Current ridership potential	●	●	●	●	●	▲	●
Future Ridership potential	●	●	●	●	●	▲	●
Connection to regional transit service	▲	●	▲	★	★	★	★
Potential access to transit for bicycles and pedestrians	●	●	▲	▲	▲	★	▲
Support of Wasatch Choices 2040 objectives	●	●	▲	▲	★	★	★
Revitalization opportunities	▲	●	▲	●	★	★	▲
Markets served	▲	▲	▲	▲	●	★	▲
Potential expansion to area of influence	▲	▲	★	★	★	—	★
Economic development opportunities	▲	●	▲	★	▲	▲	▲
KEY TO ADVANTAGE RATINGS:	★ *Best*	▲ *2nd*	● *3rd*	— *No significant advantage*		✖ *Potential fatal flaw*	

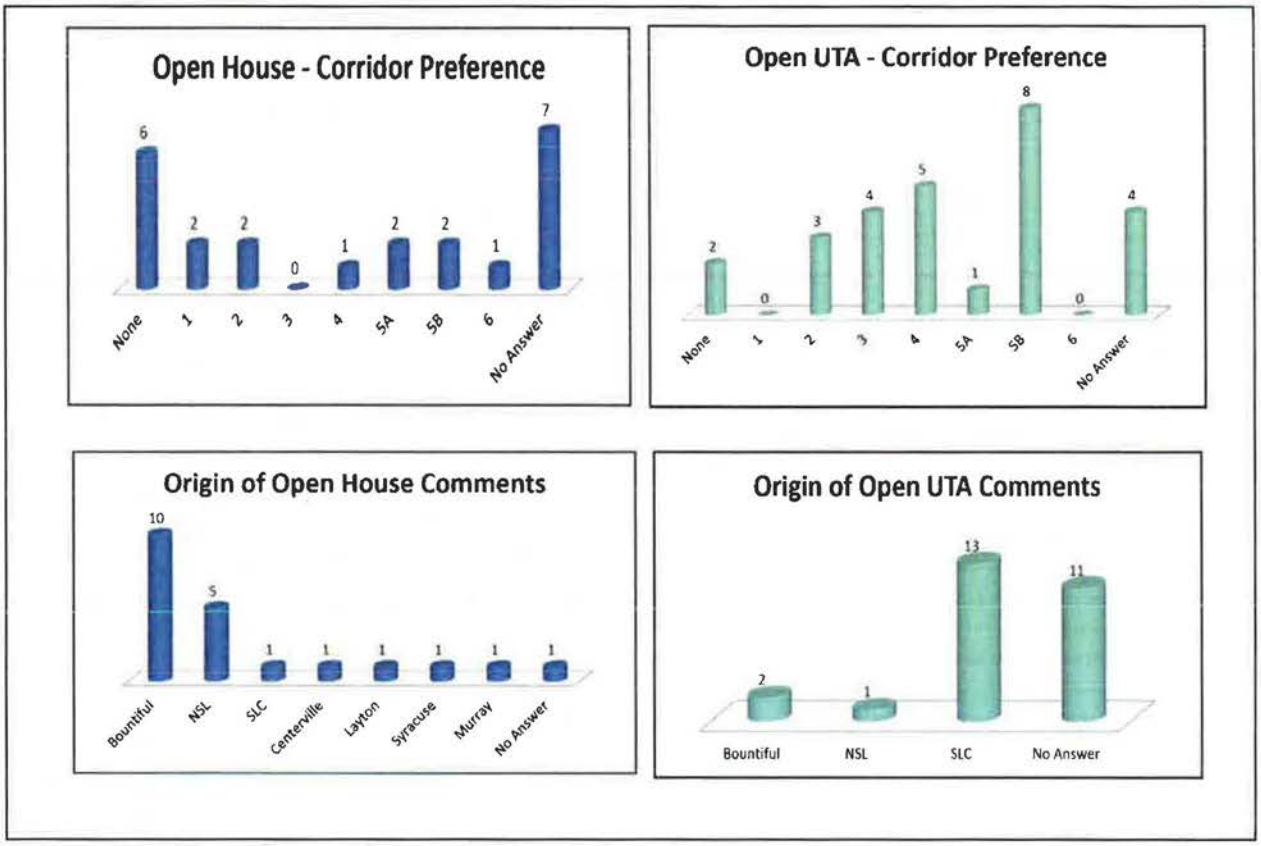

Figure 10. Public Input on Screening Corridors

6.3.2 Northern and Southern Segment Analysis

A closer examination and comparison of corridor sub-segments was performed to determine which routes performed the best in the northern and southern portions of the study area

6.3.2.1 Northern Segments

WFRC model runs were performed to compare the corridors shown in Figure 11 that terminated at 500 South and Main Street in Bountiful. An optional extension to the west, to terminate at the Woods Cross FrontRunner station was also modeled for the northern segments. Model output indicates that terminating the corridor at the Woods Cross FrontRunner station would increase boardings by 20%. This is an advantage in ridership capture for the corridor, so the FrontRunner station was recommended as the northern terminus for alternatives moving into the detailed evaluation phase.

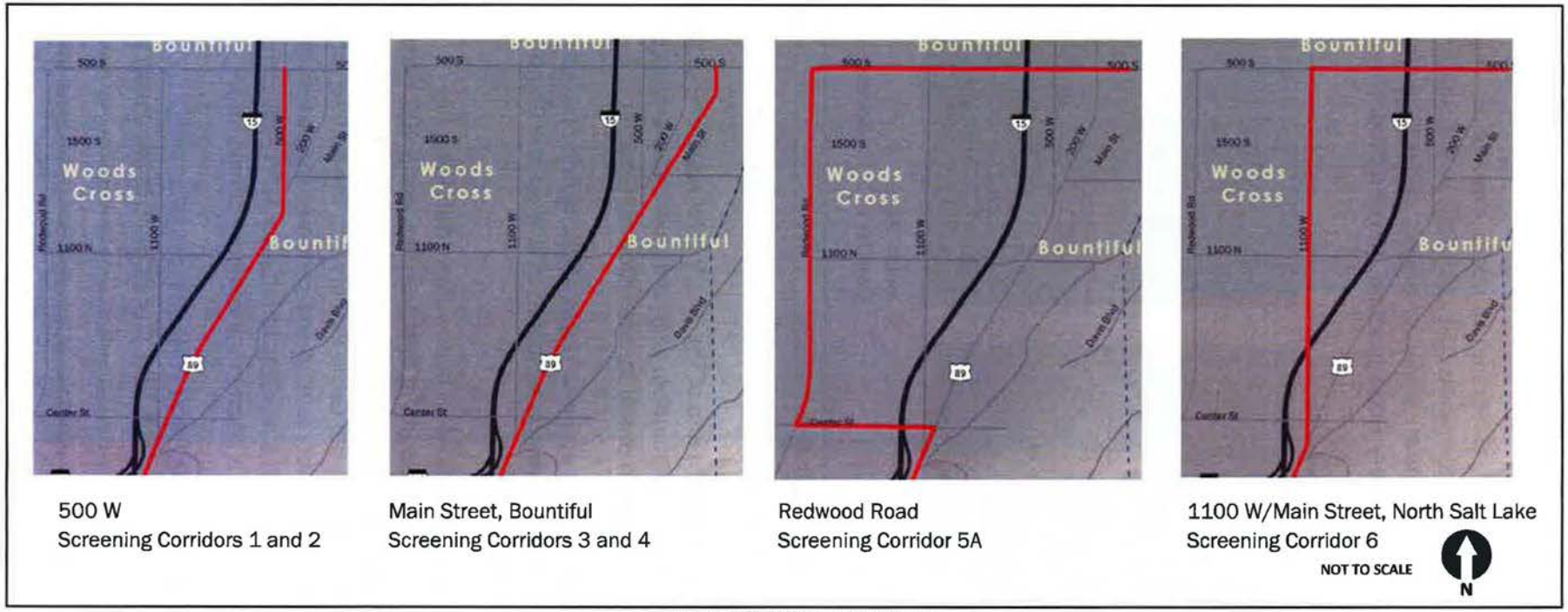

Figure 11. Northern Segments

6.3.2.2 Southern Segments

Figure 12 shows the southern segments of screening corridors examined. All alternatives terminated at State Street and 200 South in downtown Salt Lake City, in anticipation of a future connection in this vicinity with a future Downtown Streetcar project currently under evaluation. Between this point and the Beck Street/Victory Road junction, three different route variations were examined.

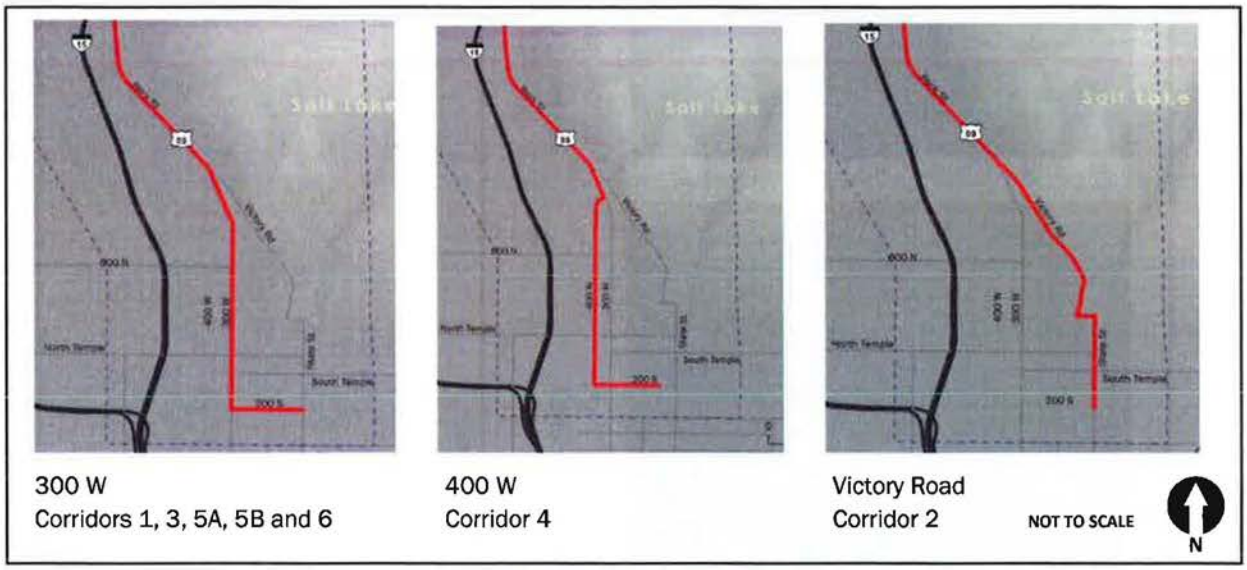

Figure 12. Southern Segments

The following key findings from the initial corridor screening process were noted:

- While the 300 West segment at the southern end of the study area appeared to have the best overall performance, the other two southern segments were also advanced for consideration during the detailed evaluation phase for the following reasons:
    - 300 West is under UDOT jurisdiction and also poses challenges for transit corridor development, including geometric factors at 300 West and South Temple, and bicycle accommodation.
    - During the screening process, stakeholders in downtown Salt Lake City expressed interest in economic development opportunities along 400 West. This corridor currently serves both light rail and vehicular traffic. If a bus-technology alternative is selected for the Davis-SLC project, the addition of a third motorized mode could pose safety and access concerns for pedestrians in this busy downtown corridor. Special strategies to mitigate safety concerns or potential conversion of 400 West to a transit mall could be considered.
    - Victory Road, while perhaps providing fewer economic development opportunities than the two downtown Salt Lake City corridor, is proximate to a higher number of transit dependents than the other two downtown corridors.

- Terminating in downtown Salt Lake City near the area of 200 South and State Street is recommended, to afford connection opportunities to a future downtown streetcar.
- Detailed alternatives should also consider links to FrontRunner at the south end of the study area.
- Bountiful's Main Street outperformed other northern segments in the initial screening process. Bountiful's Main Street has also been identified for transit investment in the City's general plan, so other segments at the north end are less desirable from an overall service and land use standpoint.
- Performance of corridors which connect to the Woods Cross FrontRunner station provide higher mobility benefits.
- While adding additional east-west circulation opportunities may help to bolster ridership, the north-south primary corridor does stand on its own. A supporting circulator concept could be included as an LPA element (which adds complexity to the Alternatives Analysis process), or explored by UTA outside this study process.

Based on the initial corridor screening results, Figure 13 and Figure 14 show northern and southern corridor segments respectively that are recommended for further study in the Detailed Alternatives phase.

Figure 13. Recommended Northern Segment for Detailed Evaluation

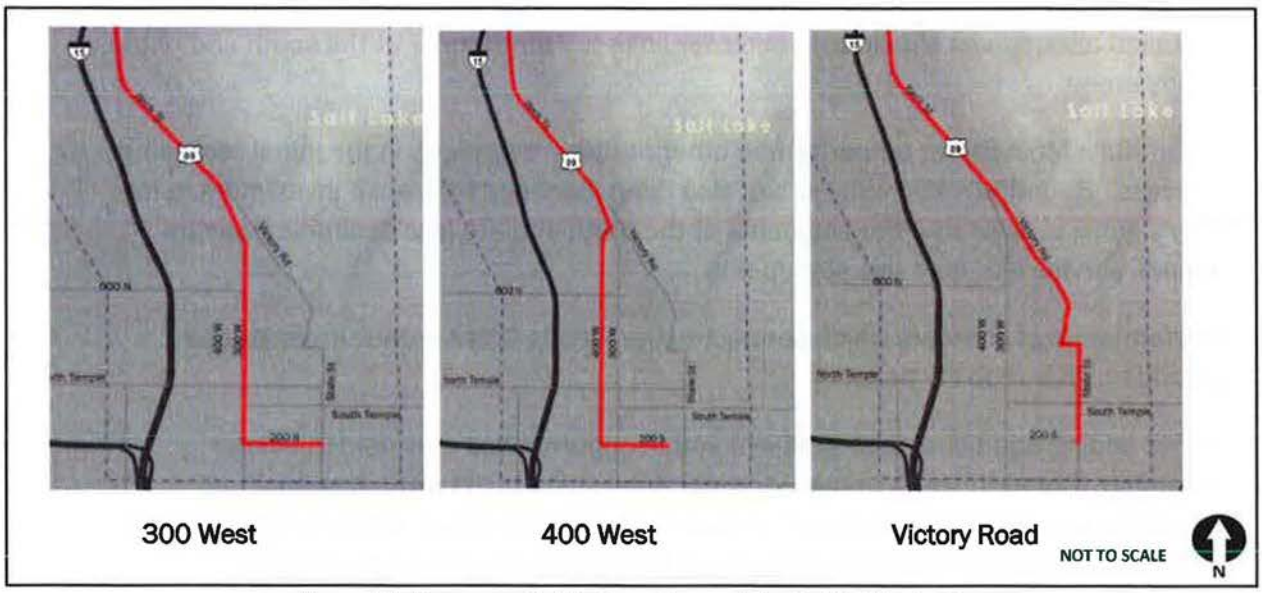

Figure 14. Recommended Southern Segments for Detailed Evaluation

6.3.3 Technology Screening

Four modal technologies were evaluated in prior Alternatives Analysis study efforts.

Streetcar;
Light Rail;
Enhanced Bus; and
Bus Rapid Transit

Figure 15. Technology/Mode Types

Commuter Rail already exists within the area and was not considered as an option to serve urban connectivity, however connections to FrontRunner services in the study area were considered to be key to the project objectives.

A low cost rail alternative was recommended in the earlier Alternatives Analysis performed in 2008; however, a subsequent decision to re-evaluate the recommendations of the earlier Alternatives Analysis provided insight into the community context for this study and helped UTA and the project team to select viable technologies. For the purposes of the Davis-SLC Community Connector study, streetcar and LRT technology/modes were consolidated. Nationally, definitions of streetcar versus LRT vary, depending on the vehicle selection, station spacing, and desired branding of the system, but are both similar or in some cases, the same rail technology.

6.3.3.1 Technology Relation to Purpose and Need Elements

The following tables illustrate findings based on factors that are specific to this study area and make a difference in terms of identified transit priorities and needs. Technology characteristics have been previously studied through earlier planning efforts in the study area. In order to provide a fresh look at needs, opportunities and desires, however, prior study findings were not used as a basis for selection of technology during this effort.

Table 9. Transit Technologies - Relation to Purpose Elements

	Potential to Increase mobility, connectivity, and travel choices?	Supports local and regional land use Initiatives?	Promotes Economic Development?	Improves Environmental Quality?
Streetcar or Light Rail	Yes	Possibly*	Yes	Possibly
Bus	Yes	Yes	Not Likely	Possibly
Bus Rapid Transit	Yes	Yes	Yes	Possibly

*Rail is not supported by Bountiful's land use goals for the Main Street corridor

Table 10. Transit Technologies - Relation to Need Elements

	Serves projected growth?	Serves identified service gaps in existing services?	Addresses access and mobility barriers?	Serves bike and pedestrian deficiencies?	Stimulates revitalization	Improves Air Quality?	Addresses markets not served?
Streetcar or Light Rail	Yes	Yes	Yes	Possibly	Yes	Possibly	Yes
Bus	Possibly	Possibly	Yes	Possibly	No	Possibly	Possibly
Bus Rapid Transit	Yes	Yes	Yes	Possibly	Yes	Possibly	Yes

6.3.3.2 *Technology Cost Considerations*

There are specific instances when LRT or Streetcar applications may offer a capital cost advantage over BRT – for example, where tunnels or elevated structures are involved. However, as shown in Table 11, projects across the nation indicate that rail installations typically cost almost 3 times more than comparative BRT solutions. Within the Salt Lake Region, trends are similar. This does not necessarily indicate that Light Rail/Streetcar are not warranted, however the choice for these modes has to be heavily justified by factors in addition to cost.

Table 11. Comparison of LRT and BRT Capital Costs

Project	Opened	Length (mi)	Capital Cost/Mile ($Millions in 2012 dollars)
ELECTRIC LRT PROJECTS			
Houston MetroRail	2004	7.5	$56.9
Memphis Madison Ave Medical Center Streetcar Extension	2004	2	$38.2
Portland MAX Yellow Line	2004	5.8	$73.5
Minneapolis Hiawatha LRT	2004	11.6	$79.1
San Diego Mission Valley East Extension	2005	5.9	$109.2
Denver Southeast LRT	2006	19.1	$54.8
Charlotte Lynx Green Line	2007	9.6	$52.8
Phoenix Metro	2008	19.6	$82.0
Seattle Link LRT South	2009	15.6	$182.6
Portland MAX Green Line	2009	8.3	$76.9
Los Angeles Gold Line	2009	5.9	$168.9

Project	Opened	Length (mi)	Capital Cost/Mile ($Millions in 2012 dollars)
Norfolk The Tide	2011	7.4	$44.5
LRT AVERAGE:			**$85.0**
BRT PROJECTS			
Los Angeles Orange Line Busway	2005	14	$29.4
Eugene Oregon Emerald Express	2007	2.5	$11.7
Cleveland HealthLine-Euclid Avenue	2008	4.4	$51.4
BRT AVERAGE:			**$30.8**

Source: Henry, Lyndon and Dobbs, Dave, "Comparative Examination of New Start Light Rail Transit, Light Railway and Bus Rapid Transit Services Opened from 2000", Transportation Research Circular Number E-C177, November 2013

6.3.3.3 Ridership Considerations

With higher capital costs, higher ridership is necessary for a successful high capacity transit project. Ridership estimates prepared during the initial screening process indicate approximately 4,800 weekday boardings could be anticipated on the Davis-SLC corridor with a rail alternative, or approximately 43 passengers per revenue hour. Table 12 shows the projected productivity for other streetcar and LRT projects around the country. Anticipated boardings per revenue hour on the Davis-SLC corridor are at the low end of the range typically needed for a successful LRT installation.

Table 12. Boardings Per Revenue Hour

Transit LRT and BRT Systems	City	Length of System	Passengers per Revenue Hour*
Denver RTD	Denver	70 miles	46
MetroLink	St. Louis	91.1 miles	64
MAX Light Rail	Portland	104.3 miles	80
Sacramento RT Light Rail	Sacramento	76.1 miles	38
Santa Clara VTA Light Rail	San Jose	81	53
* Calculated as annual unlinked trips (by mode) divided by annual vehicle revenue hours (by mode)			

Source: Derived from National Transit Database 2012 Data

6.3.3.4 Recommended Technologies

Although a rail solution was recommended in the prior study and rail solutions could generally meet Purpose and Need elements; LRT and Streetcar are not recommended for further evaluation based on the following findings:

- Existing and forecast ridership are low for a rail investment (Corridor boarding forecasts for LRT are approximately 4,800 boardings per weekday, or an estimated 43 riders per

weekday revenue hour. Peer systems indicate this is low for successful rail implementation.)

- A primary goal is to allow flexibility of service.
- Highly notable opposition to rail solutions in the corridor was evidenced after the previous study.
- Based on public comments received, and input from study partner agencies, support for rail solutions during the current study effort is not prevalent.
- Support for bus-based technologies has been expressed by partner agencies and stakeholders at the northern end of the corridor.
- Integration with regional services and connections to major activities is not dependent on a rail option for this corridor.
- Funding for a rail option could be secured for a rail solution with significant effort; however no funds are reasonably available at this stage to support rail investments.
- Finally, a large difference in alternatives, where higher costs or significant environmental impacts and public acceptance are not accompanied by higher benefits might suggest that the more expensive and/or impacting option be eliminated.

Recommended technologies to be carried forward for detailed evaluation therefore included:

Enhanced Bus; and
Bus Rapid Transit

6.4 FINAL ALTERNATIVES AND SCREENING

At the conclusion of the initial screening of alternatives, two final alternatives were recommended to be carried forward into advanced screening. The Initial Screening Corridors evaluated early in the process had a common central segment along US 89 between North Salt Lake and downtown Salt Lake City. Alignment alternatives varied in the northern end of the corridor and within downtown Salt Lake City to meet a range of identified needs in each of those areas, and alignment alternatives in the northern and southern portions of the corridor were independent of one another.

At the conclusion of the initial screening, Initial Screening Corridors 2 and 4 were selected as the base alternatives to carry forward, but these corridors were refined to better meet objectives identified in the public and stakeholder evaluation process.

6.4.1 Detailed Screening Criteria

The detailed screening stage offered an in-depth look at technical performance and the relative tradeoffs and advantages of two final mode/alignment combinations. Performance metrics and qualitative considerations for detailed screening are shown below.

Table 13. Detailed Alternative Screening Criteria

Metric or Criteria	Significance	Source
Costs, Funding, Revenue		
	Quantitative Metrics	
Capital Cost	Major factor in project approval and implementation	Developed for this project based on line item estimates derived from definition of alternatives
O&M Cost	Major factor in project approval and implementation	Developed for this project based on line item estimates derived from definition of alternatives
Life Cycle Cost	Major factor in project approval and implementation. Takes into account type of facilities and lifespan before replacement	Developed for this project based on line item estimates derived from definition of alternatives and using FTA factors for project elements
	Qualitative Considerations	
Comparison to federal funding trends	Federal funding may be a recommendation from this process	Based on a review of current/impending federal policy and programs
Engineering Constraints		
	Qualitative Considerations	
Physical constraints	Physical barriers may lead to cost, design and implementation barriers	Based on existing conditions in the corridor
Effectiveness		
	Quantitative Considerations	
Travel Time	Competitiveness with other modes	Results of travel demand forecast runs
Economic development opportunities	Ability to promote economic development	Findings from economic analysis
Increased ridership within corridor	Major project justification (well utilized)	Number of linked trips served by corridor alternative from travel demand model output
Increased System Ridership	Increased use of regional transit system	Regional transit linked trips added
Reliability	Improvement in travel time predictability	Length of exclusive guide-way segments and/or traffic priority

Metric or Criteria	Significance	Source
Environmental Factors		
Quantitative Metrics		
Air quality impacts	Non-attainment is a key factor. Starting vehicles and the first few minutes of driving generate higher emissions because emissions-control equipment has not yet reached its optimal operating temperature. Transit ridership reduces private vehicle cold starts.	Vehicle cold starts avoided based on forecasted linked transit trips
Qualitative Considerations		
Potential 4f impacts	Possible federally restricted impact areas need to be identified to avoid NEPA surprises later	Developed from prior study information
Preferences		
Qualitative Considerations		
Focus Group input	Market research based input to inform recommended strategies	Focus groups to be conducted as a project task
Public input	Input from public meeting may inform selection of publicly acceptable solutions	Public meeting to be conducted as a project task
Stakeholder input	Key to community acceptance of final recommendations	Stakeholder input solicited through project advisory and policy meetings
Land Use		
Qualitative Considerations		
Land use enhancements/TOD	Improvements to land use to encourage community improvements and facilities are anticipated for the types of investments under consideration	Economic development analysis prepared for the project

6.4.2 Description of Final Alternatives

6.4.2.1 Alternative A – Enhanced Bus

Alternative A is a 12.1 mile mixed traffic enhanced bus alternative based on the Initial Screening Corridor 2 alignment providing service along US 89 to Victory Road and into the core of downtown Salt Lake City. The corridor alignment for Alternative A is shown in Figure 16.

The northern portion of the corridor was relocated from 500 West to Main Street with continuing service on 500 South to the Woods Cross FrontRunner station. This modification allowed

improved bus service to serve downtown Bountiful, a major transit destination, and meet the community's objective of enhanced east-west service between existing commuter rail stations in the western portion of the corridor and major destinations in the eastern portion of the corridor. (Note that a desire was expressed by UTA and the City of Bountiful to retain alternate alignment options on 500 West and 200 West through the environmental and preliminary engineering phases of the project.)

Within downtown Salt Lake City, the alignment was refined to provide for a turnaround loop and direct transfers to TRAX light rail transit stations going east to the University of Utah, south to Sandy City and South Jordan City, and west to the airport.

These modifications to the alternative include a FrontRunner connection at the northern end of the corridor and connections to the major light rail transfer hub in downtown Salt Lake City. This alternative also provides direct service to the major employment destinations within downtown Salt Lake City.

ALTERNATIVE "A" – ENHANCED BUS

General Description

- New north-south primary service using branded 40' buses, similar to UTA's 35 MAX vehicles.
- 15 minute peak hour and mid-day headways; 20 minute weekday evenings; 30 minute Saturday; no Sunday service.
- Traffic signal priority to keep the light green for approaching buses.
- Optional branded bus circulator serving Bountiful, Woods Cross and North Salt Lake to support the new enhanced bus alignment. (This option would be an enhancement to, and not part of, an LPA.) Circulator may add to or supplant existing service.
- Less focus on economic development under this alternative.

Stop Configuration and Amenities

- Passenger amenities at all stop locations such as:
  - Shelters with night time lighting
  - Informational and ticket purchase kiosks at all stop locations.
  - Real-time bus arrival information on electronic reader-boards.
  - Bike racks
- No major roadway geometric improvements at stop locations under this alternative.

Non-Motorized Improvements and Other Assumed Strategies

- Bicycle network improvements in Bountiful, North Salt Lake and Downtown Salt Lake City (as identified in City plans) to connect surrounding neighborhoods to key stop locations.
- Pedestrian access improvements within a ¼ mile walk buffer of all stop locations.
- No land use policy changes. Limited transit-oriented development opportunities under this alternative.

Figure 16. Alternative A Enhanced Bus

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6.4.2.2 *Alternative B – Bus Rapid Transit (BRT)*

Alternative B is an 11.8 mile corridor with 5.6 miles of busway and is based on Initial Screening Corridor 4 alignment providing service along US 89 to 400 West along the western edge of downtown Salt Lake City.

The corridor alignment for Alternative B is shown in Figure 17.

An extension of the northern portion of the corridor was added along 500 South to the Woods Cross FrontRunner station. This modification met the community's objective of enhanced east-west service between existing commuter rail stations in the western portion of the corridor and major destinations in the eastern portion of the corridor.

Within downtown Salt Lake City, the alignment was refined to provide for a turnaround loop between 200 South and 400 South, allowing direct transfers to TRAX light rail transit stations going east to the University of Utah, South to Sandy and South Jordan, and west to the airport. An option to extend mixed-flow BRT service along 200 South to the University of Utah was retained as a temporary service option until the planned streetcar service is completed. Additionally, the assumed route for the BRT alternative was shifted slightly from 300 West to the 400 West corridor. This change was made based on a higher potential for economic development and transit-focused zoning in the 400 West corridor.

These modifications to the alternative include a FrontRunner connection at the northern end of the corridor and connections to the major light rail transfer hub in downtown Salt Lake City. Service to downtown FrontRunner stations is also in close proximity to downtown BRT stations provided in this alternative. The refined downtown alignments and stations for both alternatives are shown in Figure 18.

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ALTERNATIVE "B" – BUS RAPID TRANSIT

General Description

- New north-south primary service using branded 60' low floor BRT vehicles including level boarding and on-board bicycle accommodation.
- 10 minute weekday peak hour headways; 15 minute other times.
- Traffic signal priority to keep the light green for approaching buses and "queue jump" opportunities at congested intersections to allow the bus to move to the front of the line at red lights.
- Higher level roadway improvements to improve bus travel time, such as roadway reconfiguration at station locations, and possible reconfiguration of US89/Main Street junction in Bountiful.
- Optional branded bus circulator serving Bountiful, Woods Cross and North Salt Lake to support the new BRT alignment. (This option would be an enhancement to, and not included as part of, an LPA.) Circulator may add to or supplant existing service.
- Exclusive lanes in a portion of the corridor.

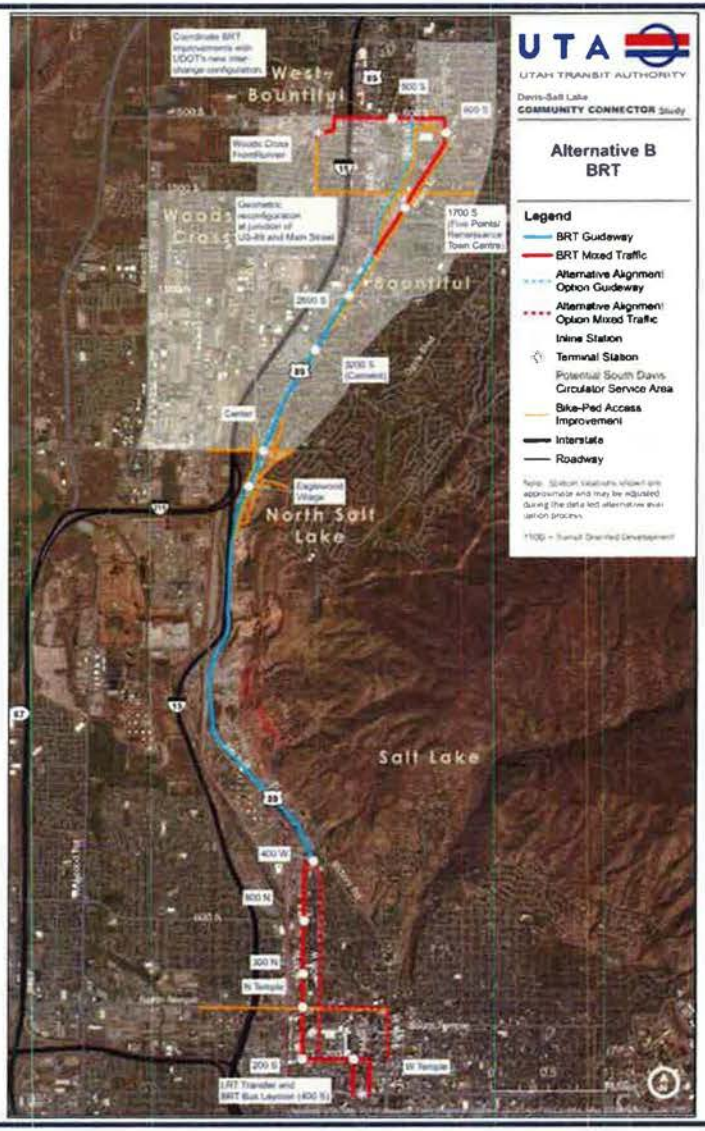
Station Configuration and Amenities

- Possible center platform station configuration in key locations, as suggested in North Salt Lake's Transportation Plan.
- Passenger amenities at all stop locations such as:
  - Platforms with shelters and bike racks at all station locations.
  - Informational and ticket purchase kiosks at all station locations.
  - Real-time bus arrival information on electronic reader-boards.
  - Night-time platform lighting.
- Higher level of operational technology such as computer alignment of BRT vehicles at platforms to reduce boarding times and facilitate ADA access.

Non-Motorized Improvements and Other Assumed Strategies

- Bicycle network improvements in Bountiful, North Salt Lake and Downtown Salt Lake City (as identified in City plans) to connect surrounding neighborhoods to key stop locations.
- Pedestrian access improvements within a ¼ mile walk buffer of all stations.
- Land use policy changes to encourage TOD at select stations.

Figure 17. Alternative B - Bus Rapid Transit



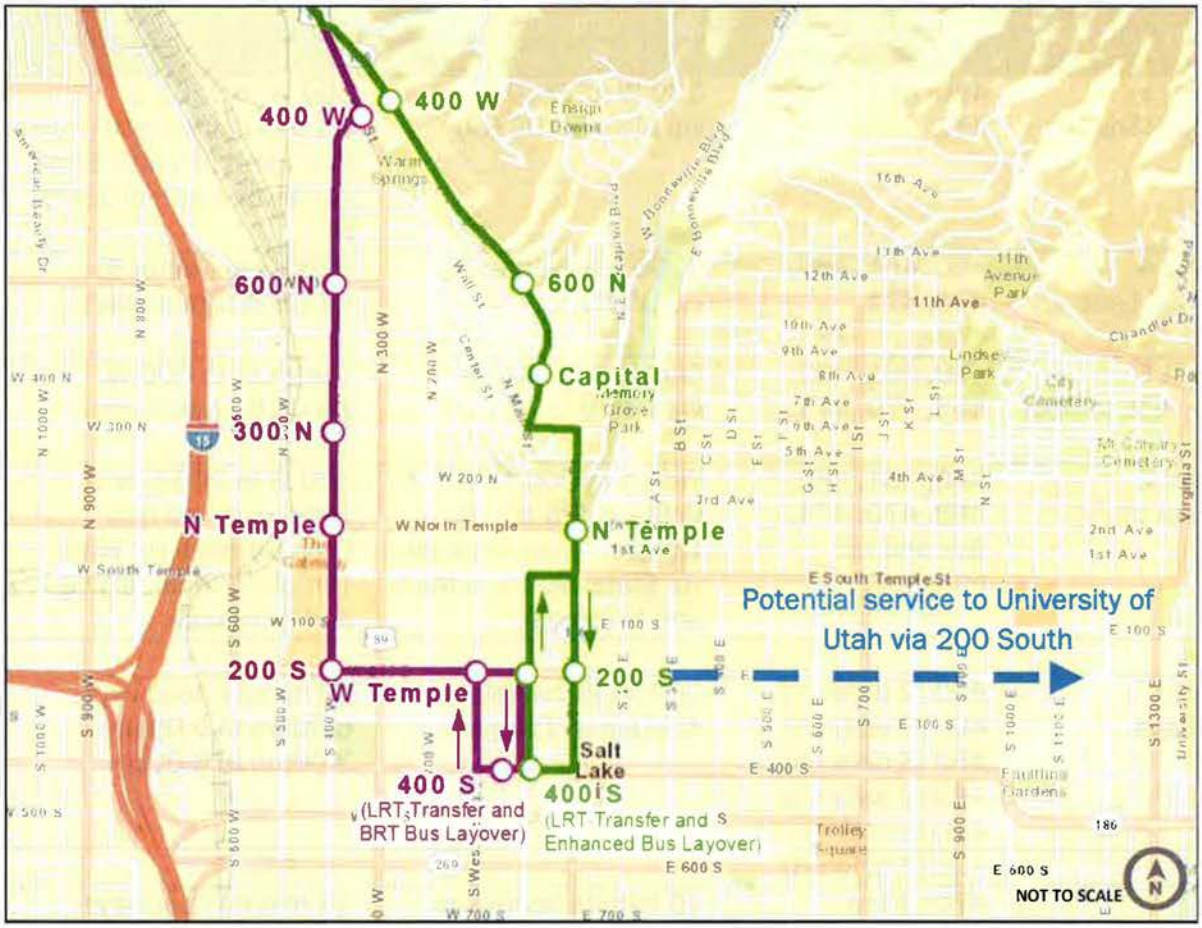


Figure 18. Downtown Salt Lake City Routes

6.4.2.3 Operating Characteristics

A summary of detailed operating assumptions used for analysis is provided in Table 14 (Corridor Service), Table 15 (Stops and Stations and Table 16 (Guideway).

Table 14. Final Alternatives - Corridor Service

Project Component	Baseline Network	Alternative A: Enhanced Bus	Alternative B: Bus Rapid Transit
Route Alignment			
Segment 1 West Bountiful	460, 461,463, 470 Rail transfer	Woods Cross Station to Main via 800 W/700 W and 500 S	Woods Cross Station to Main via 800 W/700 W and 500 S (mixed flow)
Segment 2 Bountiful (Central)	460, 461, 470, 471	500 S to 500 W (US 89) via Main Street	500 S to 500 W (US 89) via Main Street (mixed flow)

Project Component	Baseline Network	Alternative A: Enhanced Bus	Alternative B: Bus Rapid Transit
Segment 3 Bountiful (South)	460, 461, 470, 471	500 W to 3200 S via Main St (US 89)	500 W to 3200 S via Main St (US 89) (mixed flow north of 1500 S and guideway south of 1500 S)
Segment 4 North Salt Lake	460, 461, 462, 470, 471	3200 S to Center St via US 89	3200 S to Center St via US 89 (guideway)
Segment 5 Quarry (NSL to SLC)	460, 461, 462, 463, 470, 471	Center St to 400 W via US 89	Center St to 400 W via US 89 (guideway)
Segment 6 Salt Lake City	460, 461, 462, 463, 470, 471 Bus and rail transfers	Victory to 300 N, 300 N to State, State to N Temple. Loop terminal via State, 400 S, S Main, and N Temple.	400 W to 200 S to W Temple (mixed flow). Loop terminal via West Temple, S Main, 400 S, and W Temple.
Service			
Weekday Peak/Base	460 (2 daily r/t) 461 (3 daily r/t) 462 (3 daily r/t) 463 (2 daily r/t) 470 (20-30m) 471 (3 daily r/t)	15 minute headways 4:30am to 7:30pm	10 minute headways 6:00am to 9:00am 3:00pm to 6:00pm
Evening	470 (30m)	20 minute headways 7:30pm to 10:30pm	15 minute headways 4:30am to 10:30pm (except peak periods)
Saturday	470 (20-30m)	30 minute headways 7:00am to 10:30pm	15 minute headways 7:00am to 10:30pm
Sunday	470 (50-60m+)	No Service	30 minute headways 7:00am to 10:30pm

Note: 472 and 473 operate in Segment 6 in northbound, PM peak only service and are not identified as part of the base corridor service.

As indicated in Table 14, existing service in the corridor primarily serves peak commute periods, with the exception of route 470, one of UTA's highest ridership routes, which has inconsistent headways ranging from 20-30 minutes on weekdays. The demand evidenced on the 470 route despite relatively low and inconsistent service frequencies implies a need for higher transit service levels in the corridor.

Table 15. Final Alternatives - Stops and Stations

Project Component	Baseline Network	Alternative A: Enhanced Bus		Alternative B: Bus Rapid Transit
Stops and Stations				
Segment 1 West Bountiful	Standard local bus stops	Woods Cross FrontRunner *(terminal)* *500 S at 400 W (inline)*		Woods Cross FrontRunner *(terminal)* *500 S at 400 W (inline)*
Segment 2 Bountiful (Central)	Standard local bus stops	600 S *(inline)* 1700 S / Renaissance Town Centre *(inline)*		600 S *(inline)* 1700 S / Renaissance Town Centre *(inline)*
Segment 3 Bountiful (South)	Standard local bus stops	2600 S *(inline)* 3200 S / Camelot *(inline)*		2600 S *(inline)* 3200 S / Camelot *(inline)*
Segment 4 North Salt Lake	Standard local bus stops	Center *(inline)*		Center *(inline)*
Segment 5 Quarry (NSL to SLC)	Standard local bus stops	Eaglewood Village *(inline)*		Eaglewood Village *(inline)*
Segment 6 Salt Lake City	Standard local bus stops	400 W 600 N Capitol N Temple (SB on State) 200 S (SB on State) 400 S (LRT transfer and bus layover) 200 S (NB on Main) N Temple (NB on Main)		400 N 600 N 300 N N Temple 200 S W Temple 400 S (LRT transfer and BRT bus layover)
Inline Stations	Standard local bus stops	Shelters Fare vending equipment Real time bus information Distinct branding/signage Amenities (seating, lighting, trash, system information, etc.) Landscaping Safe access from intersections	Sidewalk and Median Side Platform BRT Station (stop pair)	Median bus lanes Side platforms with level boarding (2) Large shelters (2) Fare vending equipment Real time bus information Distinct branding/signage Amenities (seating, lighting, trash, system information, etc.) Landscaping Safe access from intersections

Project Component	Baseline Network	Alternative A: Enhanced Bus	Alternative B: Bus Rapid Transit	
Terminal Station	Single stop within a multimodal station or at station terminus	Amenities as described above. Space for revenue bus service and bus layover.	Single stop platform stop within a multimodal station or at station terminus	Amenities as described above. Space for revenue bus service and bus layover.

Stop and station locations shown in Table 15 were selected based on major activity and development nodes in the corridor and were confirmed with the Advisory and Policy Committees. Stop locations for Alternative A would allow placement of stop amenities largely within existing roadway rights of way, with only small areas of property acquisition needed. Station locations selected for Alternative B were predominantly located on the far side of intersections and were assumed to be located curb-side in areas where BRT operates in mixed traffic, and positioned between regular traffic lanes and the BRT lanes where BRT operates in an exclusive median lane alignment. Alternative B stations require a greater amount of right of way acquisition than Alternative A, especially in the center portion of the corridor where Alternative B offers exclusive bus lanes.

Table 16. Final Alternatives - Guideway

Project Component	Baseline Network	Alternative A: Enhanced Bus	Alternative B: Bus Rapid Transit
Busway / Bus Lanes			
Segment 1 West Bountiful	None (mixed traffic operation)	None (mixed traffic operation)	None (mixed traffic operation)
Segment 2 Bountiful (Central)	None (mixed traffic operation)	None (mixed traffic operation)	None (mixed traffic operation) north of 1500 S Median bus lanes south of 1500 S
Segment 3 Bountiful (South)	None (mixed traffic operation)	None (mixed traffic operation)	Median bus lanes
Segment 4 North Salt Lake	None (mixed traffic operation)	None (mixed traffic operation)	Median bus lanes
Segment 5 Quarry (NSL to SLC)	None (mixed traffic operation)	None (mixed traffic operation) (A)	Median bus lanes
Segment 6 Salt Lake City	None (mixed traffic operation)	None (mixed traffic operation)	None (mixed traffic operation)
Transit Priority			
Segment 1 West Bountiful	None	Transit Signal Priority (TSP) at all signalized intersections (# signals)	Transit Signal Priority (TSP) at all signalized intersections (# signals)
Segment 2 Bountiful (Central)	None	TSP at all signalized intersections (#	TSP at all signalized intersections (# signals)

Project Component	Baseline Network	Alternative A: Enhanced Bus	Alternative B: Bus Rapid Transit
		signals)	
Segment 3 Bountiful (South)	None	TSP at all signalized intersections (# signals Queue Jump Lane (QJL) at 2600 S	TSP at all signalized intersections (# signals)
Segment 4 North Salt Lake	None	TSP at all signalized intersections (# signals)	TSP at all signalized intersections (# signals)
Segment 5 Quarry (NSL to SLC)	None	TSP at all signalized intersections (# signals)	TSP at all signalized intersections (# signals)
Segment 6 Salt Lake City	None	TSP at all signalized intersections (# signals)	TSP at all signalized intersections (# signals)

Note A: Shoulder lane operation requires preliminary approval from UDOT and may require modest restriping and reconfiguration of US 89 with minimum infrastructure modifications. UDOT will specify allowable operational parameters for shoulder transit lanes.

As indicated in Table 16, transit signal priority was assumed at intersections for both Enhanced Bus and BRT alternatives. For BRT, median guideway design includes one exclusive bus lane in each direction with stations positioned for each direction of travel on the downstream side of the intersection. Turning lanes for regular traffic at intersections are separate from the exclusive bus lanes.

6.4.2.4 *Conceptual Design Elements*

Conceptual engineering was performed to develop typical stop/station concepts for each final alternative as shown in Figure 19 (Enhanced Bus) and Figure 20 (BRT). For the fixed guideway portions of the BRT alternative, conceptual engineering layouts were also prepared for the principal purpose of estimating general impacts and establishing preliminary cost estimating assumptions for the corridor. It is important to note that these concept plans do not represent a final design.

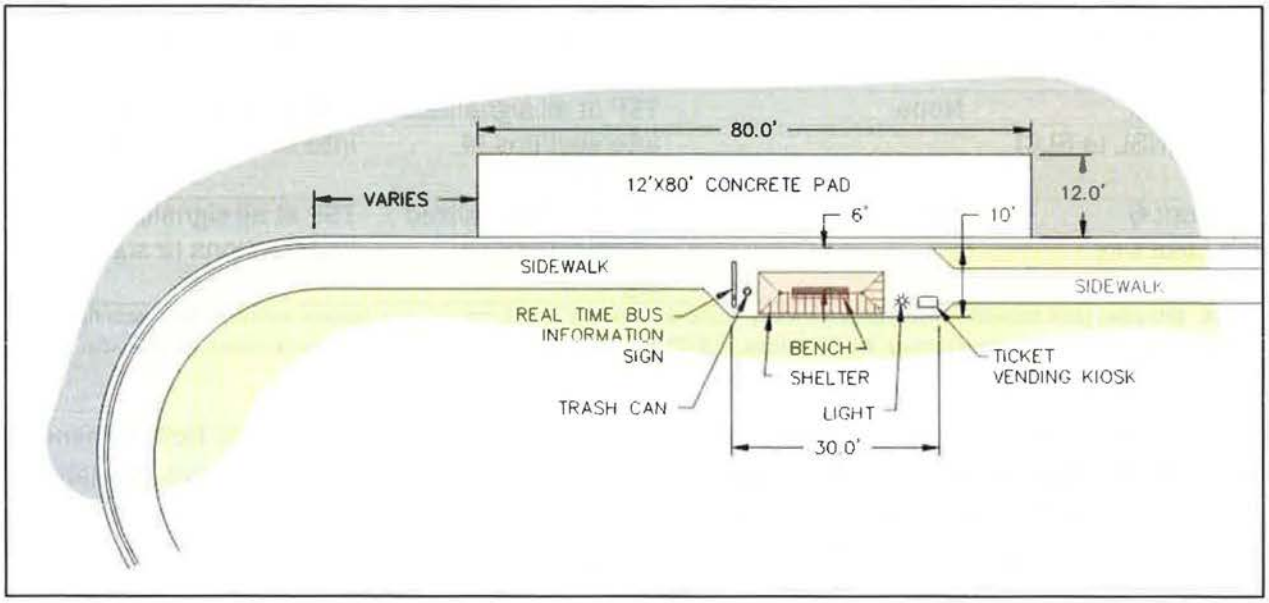


Figure 19. Stop Configuration: Alternative A - Enhanced Bus

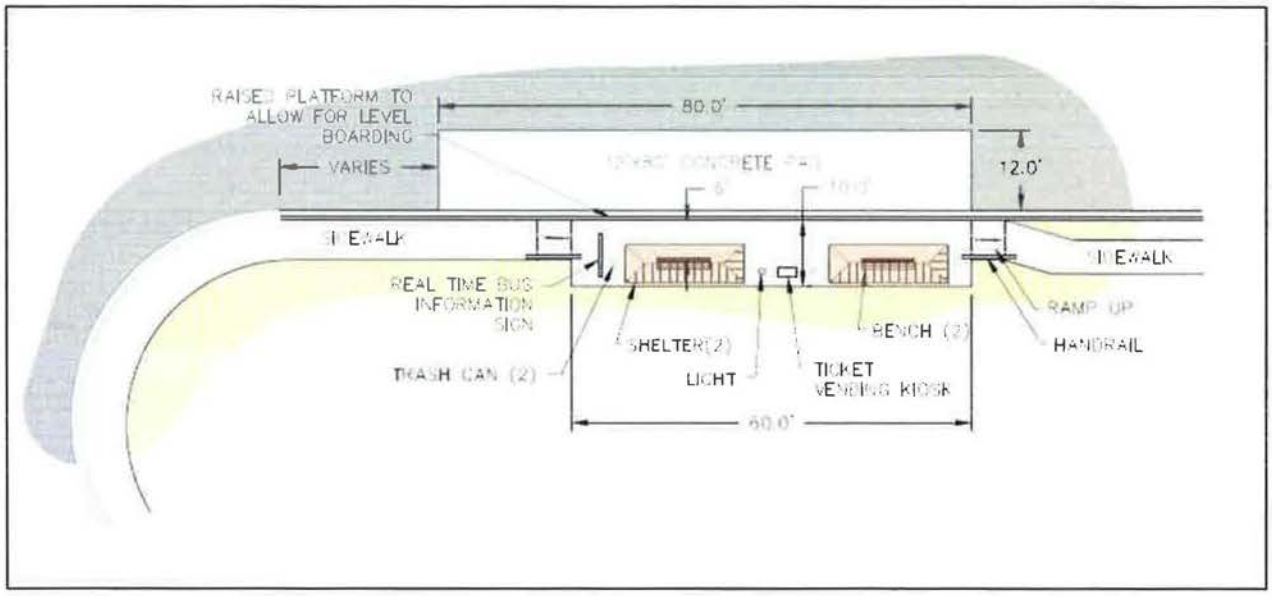
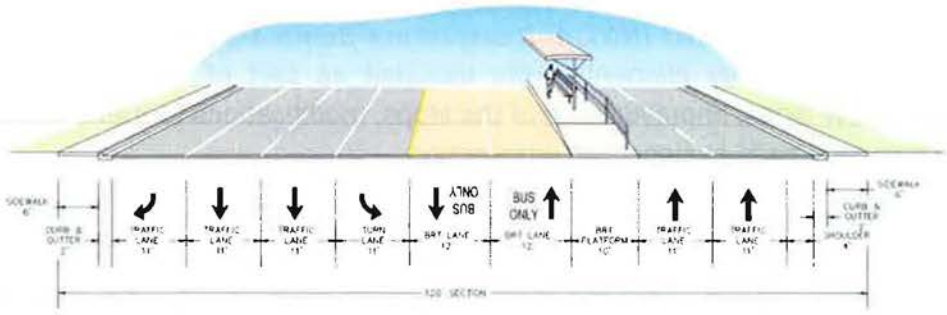


Figure 20. Station Configuration - : Alternative B - BRT

North Salt Lake's General Plan suggests a center median station concept for buses, with a cross-over. However, engineering analysis during the Davis-SLC Community Connector study determined that an alternate station configuration would reduce right of way impacts, improve pedestrian and bus safety, and improve bus travel times. (Figure 21.)

North Salt Lake Center Platform Concept



Alternative Design Option Reduces Impacts; Improves Safety and Operations

Figure 21. Conceptual Station Design Change for BRT

6.4.3 Cost Analysis

6.4.3.1 Infrastructure Costs

Conceptual level cost estimates were developed for each alternative in order to compare planning-level cost. Estimates are based on current-year (2014) material costs, and include a 30 percent construction contingency and a 25 percent design and engineering contingency.

Alternative A – Enhanced Bus Infrastructure Summary and Costs

There are a total of 14 new stop locations as part of Alternative A; 11 bi-directional stops and three one-directional stop totaling 25 new stop platforms. Each stop is 10' wide by approximately 30 feet long and includes the amenities summarized in Appendix G. The cost for the stops only is estimated to be:

Estimated Cost per Stop: $150,000
Estimated Total cost: $3,750,000

Alternative A also includes modifications to each signalized intersection to provide traffic signal priority to the buses. Additionally, removal of existing asphalt and replacement with a concrete stop pad is proposed for the outside lane at each signalized intersection. The cost for the intersection modifications is estimated to be:

Traffic Signal Priority (19 intersections): $350,000
Concrete approach slabs (2 per intersection): $1,300,000

The total estimated infrastructure cost for Alternative A – Enhanced Bus, excluding right-of-way cost, is estimated at **$5,430,000.**

Alternative B - Bus Rapid Transit (BRT) Infrastructure Summary and Costs

For Alternative B, four primary elements were included as part of the infrastructure costs; exclusive guideway BRT lanes, improvements of the stops, modifications to traffic signals, and the addition of concrete stop pads at signalized intersection.

BRT will operate in either mixed flow or in exclusive center guideway lanes. The center guideway portion of the BRT route was assumed to run from 1500 South to 400 West with the exception of in the area of US 89/Main Street where the route follows the existing ramp alignments from 1800 South to approximately 2300 South.

Where the BRT is operating in the mixed flow condition, limited infrastructure improvements are proposed. For the exclusive guideway sections of BRT, full curb to curb replacement is only proposed when the existing roadway is in poor condition. Since much of the route appears to be relatively new pavement, the 24' concrete exclusive BRT lanes would be cut into the existing roadway, and curb and sidewalk removed and replaced on one or both sides to allow for the necessary widening of the road section. The cost for the exclusive guideway BRT lanes and associated road widening is estimated to be:

Exclusive Guideway BRT Lanes
24' wide concrete lanes including road widening: $28,000,000

Two types of stations are proposed for Alternative B, center median platform stations and side running platform stations. While the location of the stations differs, the amenities for each are generally the same.

For the BRT alternative 17 new stations locations were assumed; 5 center median stations, 8 bi-directional side platform stations and a single one-directional platform station for a total of 27 new platform stations. Each station was assumed to be 10' wide by approximately 60 feet long and includes assumed amenities summarized in Appendix G.

Total Median Stations: 5
Cost per Station: $1,250,000 (includes both platforms)
Total cost: $6,250,000

Total Side Stations: 17 (8 bi-directional, 1 one way)
Cost per Station: $235,000 Each
Total cost: $4,000,000

As with Alternative A, modifications to each signalized intersection are proposed to provide traffic signal priority to the BRT buses and removal of existing asphalt and replacement with a concrete stop pad. The concrete stop pads would be installed at intersections where the BRT is running in mixed flow lanes. The cost for the intersection modifications is estimated to be:

Traffic Signal Priority (19 intersections): $350,000
Concrete approach slabs (14 intersections, 2 per intersection): $1,000,000

The total estimated infrastructure cost for Alternative B – Bus Rapid Transit (BRT), excluding right-of-way cost, is estimated at **$39,625,000.**

6.4.3.2 Right of Way

Each alternative was evaluated for potential property impacts and additional right of way needs. Estimated impacts were determined based on available GIS parcel and right of way data for the proposed corridors.

Alternative A – Enhanced Bus Right of Way Costs

For the majority of Enhanced Bus stop locations, it appears the proposed improvements may fit within existing right of way. In most locations, existing planter strips would be removed and the sidewalks widened to accommodate the shelters and stop amenities. Based on preliminary analysis, sliver takes of additional right of way may be needed at three stop locations, 400 West, 2600S, and Center Street.

Estimated Alternative A Right of Way Needed: 1,800 Square Feet

County Assessor land values per square foot have been used to estimate the potential cost impact for additional right of way. While assessor's estimates are intended to reflect market pricing, actual sales price could differ substantially.

Estimated Value of Alternative A Right of Way: $20,000*

**A $20,000 right of way impact was estimated for Enhanced Bus without queue jump lanes at intersections. However, UTA has assigned $500,000 in right of way acquisition costs for the*

Enhanced Bus alternative to include land purchase needed to include queue jump lanes at key intersections. The location of queue jump lanes would be determined later in the project development process, when intersection-level traffic analysis is available, if the Enhanced Bus alternatives moves forward for development.

Alternative B - Bus Rapid Transit (BRT) Right of Way Costs

Where BRT is operating in a mixed flow condition, there are minimal property impacts. As with the Enhanced Bus alternative, the majority of the BRT side running platforms will fit within existing right of way by removing the existing planter strips.

The majority of right of way impacts for BRT are a result of the additional width needed to accommodate exclusive BRT lanes and intersection station platforms. A detailed summary of assumed right of way impacts for Alternative B is included in the detailed cost analysis provided in Appendix G.

Using existing GIS data and proposed corridor configurations, it is estimated that approximate 96,000 square feet of additional right of way would be needed to accommodate the proposed improvements (includes 10,000 sf parcel at Eaglewood Station).

Estimated Alternative B Right of Way Needed: 96,000 sf

The total value of the right of way take needed has been determined based on the assessed land values at each of the take locations.

Estimated Value of Alternative B Right of Way: $700,000

6.4.3.3 Fleet

For the purposes of cost estimating, two different vehicle types were assumed for Alternatives A and B. The Alternative A vehicle type was assumed to be the same as the 35 M, the Van Hool Model A300L with a 2008 cost escalated to $443,750 in 2014 using the Consumer Price Index (CPI). The Regional Transportation Commission of Washoe County purchased these buses in 2010 for $979,602. Escalating the cost of the vehicles to May 2014 using the CPI would result in the buses costing approximately $1,068,700. The number of vehicles was increased by 20 percent to allow for break down needs (spares). Table 17 summarizes fleet cost assumptions used and Appendix F provides a full cost analysis.

Table 17. Fleet Needs and Estimated Costs

	Alternative A- Enhanced Bus	Alternative B- Bus Rapid Transit (BRT)
Operating Fleet (no spares)	7 buses	9 buses
Fleet (with 20% Spares)	9 buses	11 buses
Capital Cost	$3,994,000	$11,756,000

Note: Assumes Alternative A vehicle is the Van Hool A300L, the Alternative B vehicle is the New Flyer DE60LFA. Bus cost could vary based on amenities.

6.4.3.4 Operations and Maintenance Costs

Operations and maintenance costs for the two alternatives were estimated using a combination of modeled data, cost per revenue hour, and operations parameters for each alternative.

UTA and National Transit Database (NTD) data sets were used to estimate the cost per revenue hour for the Enhanced Bus, the BRT, and the circulator. Cost revenue per hour indicates the costs of operating an in-service vehicle for one hour. Appendix F provides 2012 cost per revenue hour ($128.91). Using the CPI to adjust to 2014 dollars, $133.11 was used to estimate operating costs.

Based on service assumptions for each alternative, the number of peak vehicles required and the number of service hours were calculated for weekday, Saturday and Sunday operations. The number of days with vehicles in operation at each level (248 for weekday, 64 for Saturday, and 53 for Sunday) was then used to estimate annual operating costs. Based on WFRC ridership estimates (annualized), the cost per ride was also estimated.

Service assumptions for Alternative A are included in Table 18.

Table 18. Alternative A - Enhanced Bus Operating Assumptions and Costs

Span of Service	Peak Frequency/Peak Duration	Off Peak Frequency/Off Peak Duration
Weekdays 4:30 to 10:00	15 min/ 6 hours	15 min/ 12 hours
Saturdays 7:00 to 10:30	30 min/ 6 hours	30 min/ 9.5 hours
Sunday no service	NA	NA

Service assumptions for Alternative B are included in Table 19.

Table 19. Alternative B - BRT Operating Assumptions and Costs

Span of Service	Peak Frequency/Peak Duration	Off Peak Frequency/Off Peak Duration
Weekdays 4:30 to 10:00	10 min/ 6 hours	15 min/ 12 hours
Saturdays 7:00 to 10:30	15 min/ 6 hours	15 min/ 9.5 hours
Sunday 7:00 to 10:30	30 min/ 6 hours	30 min/ 9.5 hours

A summary of operating and maintenance costs for both alternatives is provided in Table 20.

Table 20. Summary of Operating and Maintenance Costs

	Alt. A Enhanced Bus	Alt. B Bus Rapid Transit (BRT)
Annual Operating and Maintenance Costs	$2,725,000	$4,450,000
Fleet Capital Costs	$3,994,000 (9 buses)	$11,560,000 (11 buses)
O&M Cost per Ride	$4.30	$4.53

Note: Assumes Alternative A vehicle is the Van Hool A300L, the Alternative B vehicle is the New Flyer DE60LFA.

6.4.4 Comparison of Alternatives

The performance of each transit alternative was evaluated in the regional travel demand model by WFRC. Model runs incorporated the alignments previously identified, as well as a range of service and infrastructure characteristics indicated in the following tables.

6.4.4.1 Service Level Comparison

Service characteristics were developed for Alternative A (Enhanced Bus) based largely on the levels of service provided on UTA's 3500 South MAX service, while Alternative B (BRT) was based on a level of service that improves on existing TRAX light rail service (10-minute headways were adopted for peak period service to be consistent with long-term TRAX goals). Service levels are indicated in Table 21.

Table 21. Service Level Comparison

Service	Alternative A Enhanced Bus	Alternative B BRT
Weekday Peak/Base	15 minute headways 4:30am to 7:30pm	10 minute headways 6:00am to 9:00am 3:00pm to 6:00pm
Evening	20 minute headways 7:30pm to 10:30pm	15 minute headways 4:30am to 10:30pm (except peak periods)
Saturday	30 minute headways 7:00am to 10:30pm	15 minute headways 7:00am to 10:30pm

Service	Alternative A Enhanced Bus	Alternative B BRT
Sunday	No Service	30 minute headways 7:00am to 10:30pm

6.4.4.2 Cost Comparison

Major capital cost elements for the two alternatives are compared in Table 22.

Table 22. Comparison of Capital Costs

	Alternative A	Alternative B
Right-of-Way	$500,000 Bus Queue Jump Lanes at Major Intersections; minor station areas on sidewalks	$5,000,000 5.6 miles of median arterial busway with median platform stations
Buses	$3,994,000 Enhanced 40' multiple door buses based on Van Hool fleet used in 3500 South MAX service	$11,756,000 60' multiple door (one side) BRT buses based on recent New Flyer bus purchases in other cities
Stops and Stations	Enhanced bus shelters at stops, similar to those on the 3500 South MAX service	Enhanced stations similar to those on TRAX as modified side platform stations
Bicyclist and Pedestrian Enhancements	10% Enhanced pedestrian and bicyclist access at stations; bicycle parking	10% Enhanced pedestrian and bicyclist access at stations; bicycle parking, additional non-motorized facilities within ¼ miles of station locations to provide improved accessibility.

A comparison of annualized costs was also performed. For this analysis, bus life cycles were assumed to be 12 years; capital infrastructure improvements (roadway, guideway and stops/stations) were assumed to have a 20 year life; and a 3% annual rate of inflation was applied.

Table 23. Annualized Cost Comparison

	ALTERNATIVE A ENHANCED BUS	ALTERNATIVE B BRT
Annualized Capital Costs*	$1.1 M	$5 M
Annual O&M Costs	$2.7 M	$4.5 M
Total Davis-SLC Line Annual Costs	$3.8 M	$9.5 M
Total Local Share Annual Costs (50% capital, 100% operating)	$3.3 M	$6 M

**Assumes 12 year bus life, 20 year infrastructure life, 3% annual inflation rate.*

Using annualized costs and ridership projections from WFRC's 2016 travel demand model for each alternative, a cost per ride comparison was performed. Results are presented in Table 24. Because of the higher ridership anticipated for the BRT alternative, the annualized local share of costs per ride is competitive between the two alternatives. Enhanced Bus has a more advantageous cost differential of 31 cents per ride when total annualized costs are considered. When considering only operations and maintenance costs however, the BRT alternative provides a more advantageous cost differential of 14 cents per ride.

Table 24. Cost Per Ride Comparison

	ALTERNATIVE A ENHANCED BUS	ALTERNATIVE B BRT
TOTAL ANNUALIZED DAVIS-SLC LINE	$3.8 M	$9.5 M
AVERAGE ANNUAL BOARDINGS (From WFRC 2016 travel demand model output)	601,460	1,035,300
TOTAL COST PER RIDE (Annualized capital and O&M)	$6.31 **($5.49 local share)**	$9.18 **($5.80 local share)**
O&M COST PER RIDE (Annualized O&M only)	**$4.49**	**$4.35**

6.4.4.3 Comparison of Additional Project Effectiveness Factors

Figure 22 shows a comparison of anticipated ridership for each alternative based on information provided by WFRC from the region's 2016 travel demand model. In general, the addition of either

new Enhanced Bus or BRT service in the Davis-SLC corridor would increase total system-wide linked transit trips in the range of 1%. Focusing on ridership on the new corridor, however, the BRT Alternative is anticipated to capture 72% higher ridership than an Enhanced Bus alternative. Higher ridership for the BRT alternative can be attributed to faster travel times (Figure 23), and a higher level of corridor and service amenities, making travel by transit more attractive.

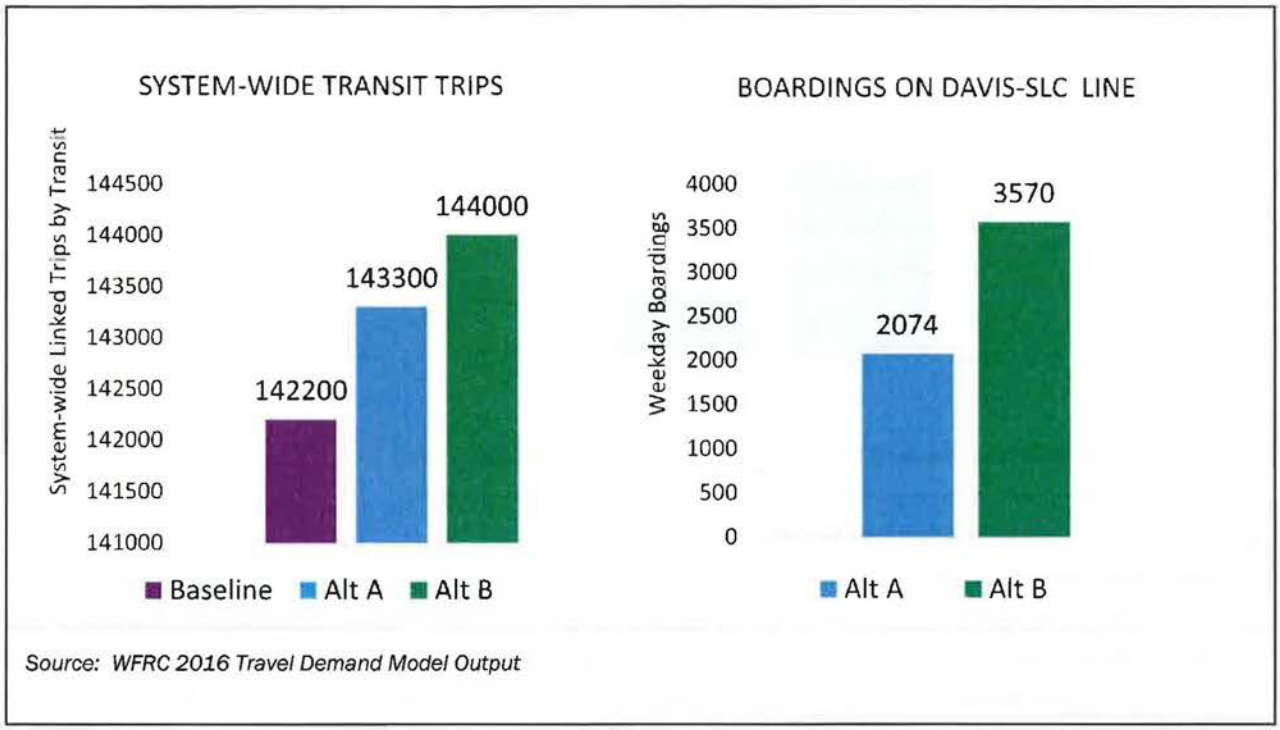


Figure 22. Ridership Comparison

For a comparison of transit travel times under each alternative, WFRC model link travel times were summed from the northern terminus to the southern terminus. Figure 23 shows anticipated travel times for each alternative from one end of the corridor to the other, averaged over both directions of travel. The BRT alternative (Alternative B) offers a 10% travel time savings over the Enhanced Bus alternative (Alternative A).

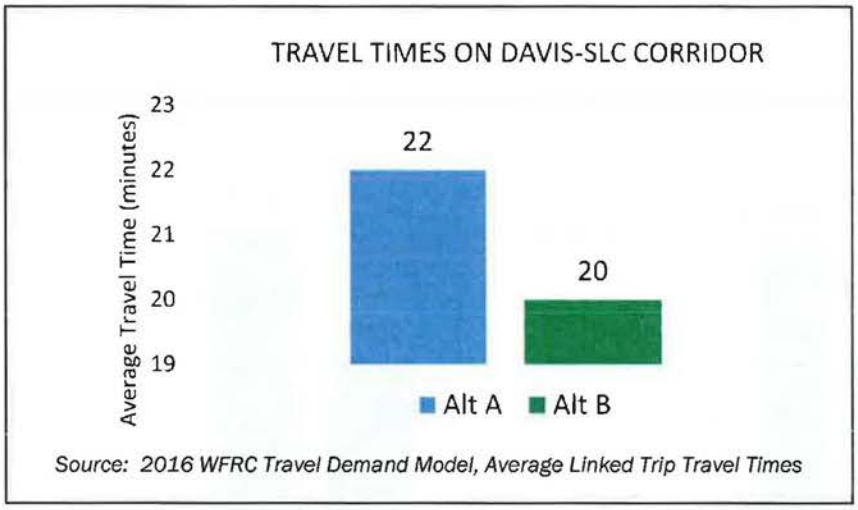


Figure 23. Travel Time Comparison

Potential environmental benefits for implementation of a new transit corridor include air quality benefits. An estimation of vehicle cold starts avoided under each alternative provides an indication of the relative air quality benefits that may be expected. Figure 24 indicates that 658 vehicle cold starts would be avoided each weekday (over 170,000 per year) with the Enhanced Bus Alternative. 1,078 estimated cold starts would be avoided each weekday (over 280,000 per year) with the BRT Alternative.

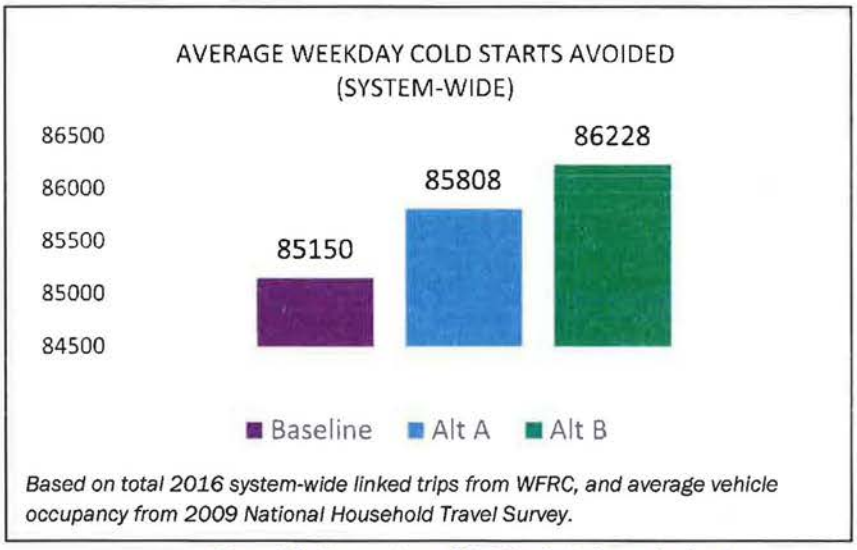


Figure 24. Comparison of Vehicle Cold Starts Avoided

Additional analysis was performed to compare potential benefits with respect to employment access by transit. WFRC applied a post-processing script to regional travel demand model output to determine the number of jobs accessible from each traffic analysis zone in the model within a 20-minute or a 40-minute linked transit trip. However, the change in employment access indicated for traffic analysis zones within the study area was 1% or less, indicating the regional model may not have the sensitivity needed to examine this indicator for a small sub-area study. If a Davis-SLC project moves forward, development of an alternate methodology is recommended for quantifying potential employment access benefits.

6.4.5 Economic Development Strategies

An economic analysis report (Appendix E) was prepared to evaluate the economic context and potential strategies for leveraging investment in the Davis-SLC corridor. The economic analysis review was geared towards assessing revitalization potential near stations along the proposed transit routes. Analysis was intended to evaluate opportunities to support local and regional land use goals or enhance the effectiveness of transit supportive land use, planning and design strategies along the corridor.

General corridor findings related to economic development strategies include:

- Leveraging transit investments to maximize the return on investment to communities in the Davis-SLC corridor will require strategic coordination between UTA and agencies with land use jurisdiction.
- The frequency and convenience of service and the quality of station amenities will directly influence the success of the new line.
- Transit-oriented zoning may help to better align transportation system capacity with regional growth projections by encouraging more efficient residential densities.
- Because Davis County portions of corridor have historically developed with automobile-oriented commercial uses, continued education and outreach with the business community to demonstrate the benefits of pedestrian-friendly zoning and transit investment will be important. Close coordination between UTA, regional planning bodies and prospective transit-oriented development sponsors will be needed.
- Recent development momentum, particularly in Bountiful and North Salt Lake, has been transit-supportive in character (for example Renaissance Town Center and Eaglewood Village). These recent private investments provide a good foundation for more coordinated transit-oriented development moving forward.

The complete economic development analysis report, including case studies and station-by-station findings, is included as Appendix E.

6.5 SELECTION OF THE LOCALLY-PREFERRED ALTERNATIVE

WFRC model results indicated that Alternative A would carry 2,074 weekday boardings (601,460 annual boardings), while Alternative B would carry 3,570 weekday boardings (1,035,300 annual boardings). Planning level ridership and costs were then evaluated in total and on a local share basis (assuming 50% Federal funding), as shown in Table 25.

Table 25. Summary of Planning Level Costs for LPA Selection

	ALTERNATIVE A ENHANCED BUS	ALTERNATIVE B BRT
Annualized Capital Costs	$1.1 M	$5 M
Annual O&M Costs	$2.7 M	$4.5 M
TOTAL ANNUALIZED DAVIS-SLC LINE	$3.8 M	$9.5 M
TOTAL LOCAL (50% capital, 100% operating)	$3.3 M	$6 M
TOTAL COST PER RIDE (Annualized capital and O&M)	$6.31 **($5.49 local share)**	$9.18 **($5.80 local share)**
O&M COST PER RIDE (Annualized O&M only)	**$4.49**	**$4.35**

On May 29, 2014, cost and technical findings from the Alternatives Analysis process were presented to the project's Advisory and Policy Committees. The Advisory Committee considered the project findings and evaluated each alternative against the project's goals and objectives, as indicated in Table 26. Alternative B (BRT) was recommended as the LPA.

Table 26. Summary of Technical Advisory Committee Ratings

Criteria Category	No-Build Baseline	Alt A Enhanced Bus	Alt B BRT
Service Gaps	⊘	△	★
Markets Not Served	⊘	△	★
Access & Mobility Barriers	⊘	△	★
Revitalization	⊘	⊘	★
Air Quality Mitigation	△	△	★
Projected Growth	⊘	△	★
Bicycle & Pedestrian Facilities	⊘	△	★
LPA Recommendation	⊘	△	★
★ Exceeds Criteria	△ Meets Criteria	⊘ Does Not Meet Criteria	

Before being recognized as the LPA, the Advisory and Policy Committees' recommendations must be adopted by the WFRC Board of Directors, by the City Councils of Bountiful, North Salt Lake, and Salt Lake City, and by the UTA Board of Directors.

Once adopted as the LPA, UTA will work with local partner agencies to identify funding, initiate the environmental evaluation process under the National Environmental Policy Act (NEPA), and initiate the Small Starts or Very Small Starts funding process with the Federal Transit Administration (FTA).

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Return to Staff Report

SALT LAKE CITY CORPORATION

RALPH BECKER
MAYOR

DEPARTMENT OF COMMUNITY & ECONOMIC DEVELOPMENT
OFFICE OF THE DIRECTOR

CITY COUNCIL TRANSMITTAL

David Everitt, Chief of Staff

Date Received: 6/2/2015

Date sent to Council: 6/8/2015

TO: Salt Lake City Council
Luke Garrott, Chair

DATE: May 8, 2015

FROM: Jill Love, CED Director

SUBJECT: Follow Up Information - South Davis Transit Study

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

COUNCIL SPONSOR: James Rogers

DOCUMENT TYPE: Resolution

RECOMMENDATION: Adopt Resolution of Support for South Davis Transit Locally Preferred Alternative

BACKGROUND/DISCUSSION:

This transmittal has been prepared to provide follow up information to the original South Davis Transit Study information provided in June, 2015. Salt Lake City has been participating in a study of transit options to connect Downtown and South Davis County. The Davis-SLC Community Connector Alternatives Analysis (AA) is a transit study being pursued by a joint partnership that includes Salt Lake City, the City of North Salt Lake, Bountiful City, Davis County, Wasatch Front Regional Council (WFRC), and UTA. The study has been led by the Utah Transit Authority.

In a Council briefing on this topic, Council members expressed some confusion over the extent of the project, and where the preferred alternative was proposed to terminate. A presentation made by UTA included a discussion of connections to the University of Utah; however Transportation staff understood the project to terminate at North Temple. The Transportation Division has followed up with UTA and asked for clarification. The attached letter clarifies that the Council is being asked to support a Locally Preferred Alternative extending from Bountiful to Salt Lake City, utilitize S.R. 89 and 400 West, and terminating at North Temple. The letter notes that additional study may be completed to examine connections to the University of Utah.

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P.O. BOX 145486, SALT LAKE CITY, UTAH 84114-5486

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TEL 801-535-6230 FAX 801-535-6005

Attachments:
Clarification Letter from UTA
Updated Resolution
Transmittal Dated June 20, 2014

Return to Staff Report

UTAH TRANSIT AUTHORITY

UTA
669 West 200 South
Salt Lake City, UT 84101

March 18, 2015

Robin Hutcheson, AICP
Director
Transportation Division
349 South 200 East, Suite 450
P.O. Box 145502
Salt Lake City, UT 84114-5476

Subject: Clarification of the South Davis project LPA

Dear Robin,

The Alternatives Analysis for Davis-SLC Community Connector was completed in August, 2014. The project is strongly supported by Davis County, the Davis County Chamber, Salt Lake County, Woods Cross, Bountiful, North Salt Lake, Salt Lake County, and UDOT; a locally preferred alternative (LPA) has been formally adopted by Davis County, Bountiful and North Salt Lake. Recent coordination with these entities shows support to move forward with an environmental study and conceptual engineering which would allow us to get appropriate National Environmental Policy Act clearances to implement the project. I presented a proposed LPA to the Salt Lake City Council for the project on September 2, 2014. The LPA identified an additional connection from a downtown terminus of the project to the University of Utah. The element of the project from downtown to the University of Utah was anticipated to not be developed as a fixed guideway.

The Alternatives Analysis estimates that the project would carry over 5,100 riders daily; helping reduce traffic congestion on city streets as well as I-15. The project would also have the following additional benefits:

- Improved transit service from Davis County to attract more ridership and reduce cars entering city from the north
    - Increased transit frequency and span of service in both Salt Lake and Davis County
    - Shorter travel times
    - Improved stations and amenities
- Help support potential redevelopment areas near the proposed 400 West, 300 North BRT station
- Help support potential for revitalization and/or redevelopment along Beck Street

We would request that the council consider adopting the LPA to 400 West and North Temple. With evaluation in the SLC Transit master plan and in the next phase of the project the final terminus can be further evaluated and determined. I would be happy present to the Council again.

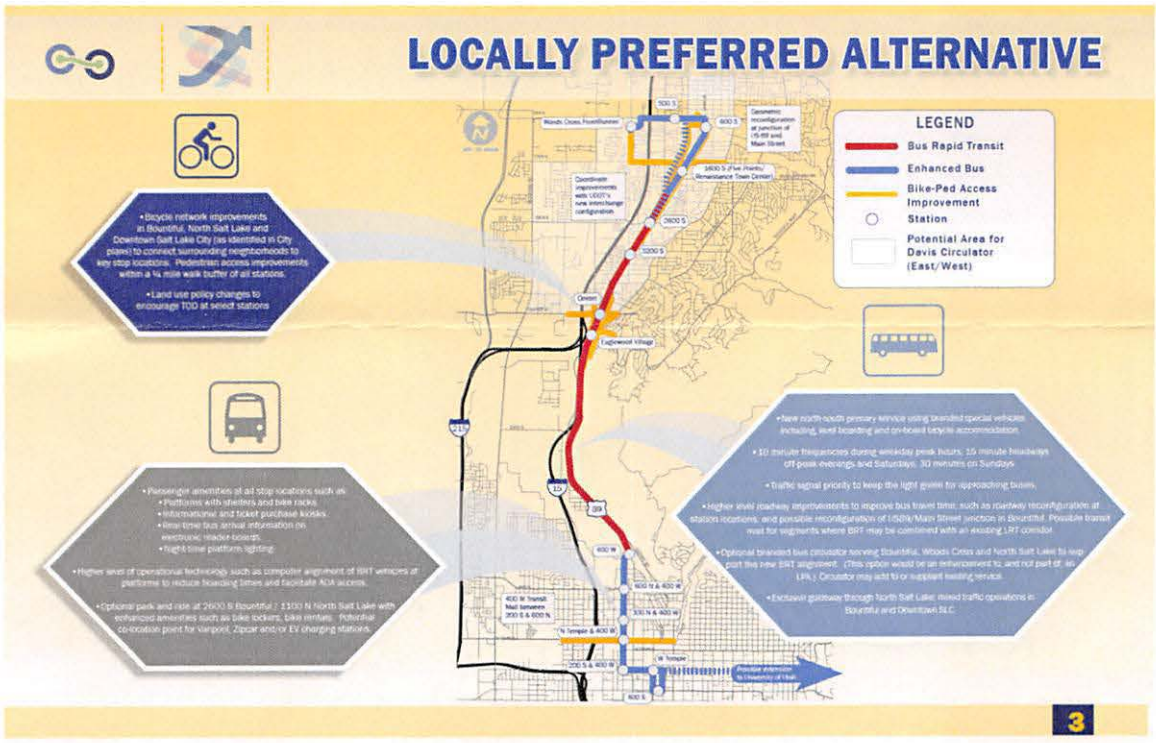
Best Regards,

Hal Ryan Johnson, AICP CTP, PTP

Manager of Project Development

UTAH TRANSIT AUTHORITY

UTA
669 West 200 South
Salt Lake City, UT 84101



RESOLUTION NO. _____ of 2015

A Resolution Adopting a Locally Preferred Alternative for Utah Transit Authority to Extend Transit Options within the Davis-Salt Lake Community Connector Transit Study Corridor

WHEREAS, the Utah Transit Authority ("UTA") is a public transit district and authorized under Utah law to construct, own, operate and maintain mass transit systems;

WHEREAS, Salt Lake City, North Salt Lake City, Bountiful City, Davis County, and the Wasatch Front Regional Council ("WFRC") together with UTA performed a study and an alternatives analysis ("Alternatives Analysis") to evaluate transit alternatives in south Davis County and north Salt Lake County, specifically from Salt Lake City's central business district through North Salt Lake City, Bountiful City, and Woods Cross City to the Woods Cross FrontRunner commuter rail station (the "Davis – Salt Lake Community Connector Transit Study Corridor").

WHEREAS, during the Alternatives Analysis, Bountiful City, North Salt Lake City, Salt Lake City, and Davis County (collectively the "City/County Sponsors"), together with community committees, agreed upon a list of goals to determine the proper public transportation alternative to operate within the Davis – Salt Lake Community Connector Transit Study Corridor; and

WHEREAS, the goals include: (1) increase mobility, connectivity, and travel choices; (2) support local and regional land use initiatives; (3) promote economic development; and (4) improve environmental quality; and

WHEREAS, UTA proposes to expand fixed guideway systems to include, among other things, an extension of the system through the Davis – Salt Lake Community Connector Transit Study Corridor; and

WHEREAS, UTA proposes to include in the Davis – Salt Lake Community Connector Transit Study project a revision of the background local bus network to provide more east/west service that connects to existing and future fixed guideway systems, and

WHEREAS, construction of a fixed guideway system within the Davis – Salt Lake Community Connector Transit Study Corridor would substantially benefit the residents of the City/County Sponsors by increasing access to a fixed guideway public transit system to more residents and job sites; and

WHEREAS, construction and operation of a fixed guideway transit system in the Davis – Salt Lake Community Connector Transit Study Corridor will reduce reliance on the private automobile, improve air quality, reduce the growth of vehicle miles traveled, and support the objectives of the WFRC's Long Range Transportation Plan; and

WHEREAS, the City/County Sponsors desire to promote transit supportive land use within and around the corridor and encourage the use of transit for a greater number of mass-transit riders; and

WHEREAS, the City/County Sponsors understand that more specific mitigation measures related to specific impacts will be reviewed, evaluated, and addressed during subsequent environmental, design and engineering phases of the project; and

WHEREAS, the City/County Sponsors find that their communities' long term economic well being and viability would be negatively affected by increased congestion and decreased mobility; and

WHEREAS, the City/County Sponsors find that this proposed project best meets the needs of the City/County Sponsors as a whole, and is in the best interest of the public health, safety, and welfare of the City/County Sponsors,

NOW, THEREFORE, be it resolved by the Salt Lake City Council as follows:

1. The City Council hereby endorses and approves the proposed construction of the high capacity fixed guideway system, along 400 West in Salt Lake City, along US 89 in Salt Lake City, North Salt Lake City, and Bountiful City, and Main Street to 500 South in Bountiful City as the Locally Preferred Alternative.

2. The Salt Lake City Council hereby authorizes City staff to work with UTA to proceed with and complete the preparation of all additional documentation and take all necessary actions to implement the Locally Preferred Alternative.

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

SALT LAKE CITY COUNCIL:

_____
Luke Garrott, Chairman

ATTEST:

_____
CITY RECORDER

APPROVED AS TO FORM:

_____
Salt Lake City Attorney's Office

HB_ATTY-#39397-v2-Resolution_re_Locally_Preferred_Alternative_

Return to Staff Report

ERIC D. SHAW
DIRECTOR

MARY DE LA MARE-SCHAEFER
DEPUTY DIRECTOR

SALT LAKE CITY CORPORATION

DEPARTMENT OF COMMUNITY & ECONOMIC DEVELOPMENT
OFFICE OF THE DIRECTOR

RALPH BECKER
MAYOR

CITY COUNCIL TRANSMITTAL

Date Received: _____

David Everitt, Chief of Staff **Date sent to Council:** _____

TO: Salt Lake City Council
Charlie Luke, Chair

DATE: June 20, 2014

FROM: Eric D. Shaw, CED Director

SUBJECT: South Davis Transit Study

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

COUNCIL SPONSOR: James Rogers

DOCUMENT TYPE: Resolution

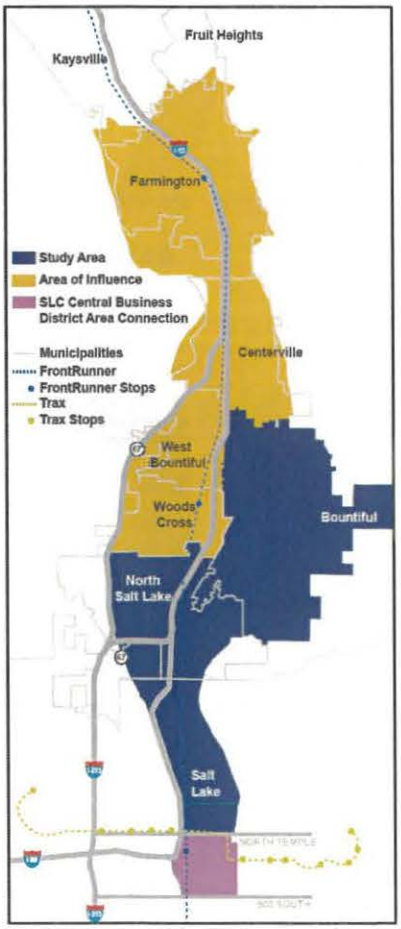
RECOMMENDATION: Adopt Resolution

BACKGROUND/DISCUSSION:

The purpose of this transmittal is to present the recommended Locally Preferred Alternative for the South Davis Community Connector Study.

Salt Lake City has been participating on a study of transit options to connect Downtown and South Davis County. The Davis-SLC Community Connector Alternatives Analysis (AA) is a transit study being pursued by a joint partnership that includes Salt Lake City, the City of North Salt Lake, Bountiful City, Davis County, Wasatch Front Regional Council (WFRC), and UTA. The study has been led by the Utah Transit Authority.

Each of the project partners contributed local match funding for the project; 80% of project funds came from an FTA Alternatives Analysis grant. The focus of the AA is to better understand current and future transit needs in southern Davis County and Salt Lake City through the planning horizon of 2040. The study area is from the northern edge of Downtown Salt Lake City on the south, through Bountiful City on the north.



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TELEPHONE: 801-535-6230 FAX: 801-535-6005
WWW.SLCGOV.COM/CED

The purpose of the study is to:

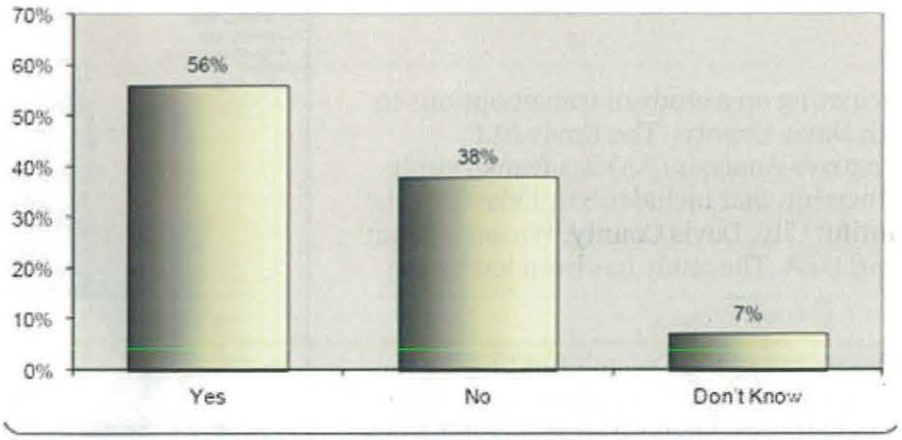
- Understand the transit travel market and provide transit options that will ultimately better serve the market.
- Gather public input to assess transit needs and desires of the community.
- Recommend land use changes needed to encourage transit-friendly economic development.
- Recommend a preferred alignment and mode based on stakeholder consensus.
- Provide the following deliverable: final report recommending a locally-preferred transit alternative that will qualify for future federal funding.

Given the previous controversy around the South Davis Transit Project, UTA undertook a comprehensive public involvement approach to the new South Davis Project. Public input was gathered through a variety of mechanisms including focus groups, statistically-valid phone polling, open UTA digital input, Facebook, open houses, meeting with community councils and one-on-one meetings with businesses throughout the corridor.

Salt Lake City residents were well represented in the focus groups. Some of the specific polling questions from residents show strong support for transit and the desire for more service.

UTA representatives met with the Capital Hill Community Council in November of 2013. The Community Council was supportive of the project. Two open houses were held. The open houses were promoted through the media, social media and advertised widely. A total of 93 people attended the open houses. The attached document provides a summary of the project public involvement effort.

Figure 13
Do you feel additional public transportation services need to be added to Salt Lake City?
Salt Lake City Respondents



UTA has prepared several pieces of information to support this transmittal, as follows:

- Summary Fact Sheet for the Study – this document provides an overview of the purpose of the study, as well as a summary of public comment.

- Locally Preferred Alternative Presentation – this presentation was used to brief the Policy Committee on final alternatives and the recommended Locally Preferred Alternative. For Salt Lake City, the Locally Preferred Alternative includes a recommendation that Bus Rapid Transit (BRT) be developed on 400 West to serve redevelopment, the commuter rail station, and Downtown. The BRT would run in exclusive lanes, adding to travel time benefits and appeal. Further study is needed on the connections made in Downtown. The attached presentation describes the elements of BRT, as well as reasons why the alignment was chosen. The Locally Preferred Alternative has been reviewed by staff and staff concurs with the recommendation.

- UTA Response to Council Questions – This document was prepared by UTA to answer preliminary questions asked by Council Members.

Also attached to this transmittal is a draft resolution adopting the Locally Preferred Alternative for the South Davis Transit Study.

Attachments:
Resolution
Summary fact sheet
Public involvement summary sheet
Presentation entitled Policy Committee Meeting, May 29,2014 (describing the LPA)
UTA response to Council questions

RESOLUTION NO. _____ of 2014

A Resolution Adopting a Locally Preferred Alternative for Utah Transit Authority to Extend Transit Options within the Davis-Salt Lake Community Connector Transit Study Corridor

WHEREAS, the Utah Transit Authority ("UTA") is a public transit district and authorized under Utah law to construct, own, operate and maintain mass transit systems;

WHEREAS, Salt Lake City, North Salt Lake City, Bountiful City, Davis County, and the Wasatch Front Regional Council ("WFRC") together with UTA performed a study and an alternatives analysis ("Alternatives Analysis") to evaluate transit alternatives in south Davis County and north Salt Lake County, specifically from Salt Lake City's central business district through North Salt Lake City, Bountiful City, and Woods Cross City to the Woods Cross FrontRunner commuter rail station (the "Davis – Salt Lake Community Connector Transit Study Corridor").

WHEREAS, during the Alternatives Analysis, Bountiful City, North Salt Lake City, Salt Lake City, and Davis County (collectively the "City/County Sponsors"), together with community committees, agreed upon a list of goals to determine the proper public transportation alternative to operate within the Davis – Salt Lake Community Connector Transit Study Corridor; and

WHEREAS, the goals include: (1) increase mobility, connectivity, and travel choices; (2) support local and regional land use initiatives; (3) promote economic development; and (4) improve environmental quality; and

WHEREAS, UTA proposes to expand fixed guideway systems to include, among other things, an extension of the system through the Davis – Salt Lake Community Connector Transit Study Corridor; and

WHEREAS, UTA proposes to include in the Davis – Salt Lake Community Connector Transit Study project a revision of the background local bus network to provide more east/west service that connects to existing and future fixed guideway systems, and

WHEREAS, construction of a fixed guideway system within the Davis – Salt Lake Community Connector Transit Study Corridor would substantially benefit the residents of the City/County Sponsors by increasing access to a fixed guideway public transit system to more residents and job sites; and

WHEREAS, construction and operation of a fixed guideway transit system in the Davis – Salt Lake Community Connector Transit Study Corridor will reduce reliance on the private automobile, improve air quality, reduce the growth of vehicle miles traveled, and support the objectives of the WFRC's Long Range Transportation Plan; and

WHEREAS, the City/County Sponsors desire to promote transit supportive land use within and around the corridor and encourage the use of transit for a greater number of mass-transit riders; and

WHEREAS, the City/County Sponsors understand that more specific mitigation measures related to specific impacts will be reviewed, evaluated, and addressed during subsequent environmental, design and engineering phases of the project; and

WHEREAS, the City/County Sponsors find that their communities' long term economic well being and viability would be negatively affected by increased congestion and decreased mobility; and

WHEREAS, the City/County Sponsors find that this proposed project best meets the needs of the City/County Sponsors as a whole, and is in the best interest of the public health, safety, and welfare of the City/County Sponsors,

NOW, THEREFORE, be it resolved by the Salt Lake City Council as follows:

1. The City Council hereby endorses and approves the proposed construction of the high capacity fixed guideway system, along 400 West in Salt Lake City, along US 89 in Salt Lake City, North Salt Lake City, and Bountiful City, and Main Street to 500 South in Bountiful City as the Locally Preferred Alternative.

2. The Salt Lake City Council hereby authorizes City staff to work with UTA to proceed with and complete the preparation of all additional documentation and take all necessary actions to implement the Locally Preferred Alternative.

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

SALT LAKE CITY COUNCIL:

_____
Charlie Luke, Chairman

ATTEST:

_____
CITY RECORDER

APPROVED AS TO FORM:

_____
Salt Lake City Attorney's Office

HB_ATTY-#39397-v1-Resolution_re_Locally_Preferred_Alternative_

Davis-SLC Community Connector Study

Study Overview

The Utah Transit Authority (UTA) is partnering with Bountiful, North Salt Lake, Salt Lake City, Davis County, the Wasatch Front Regional Council and Utah Department of Transportation (UDOT) to conduct an Alternatives Analysis (AA). The focus of the AA is to better understand current and future transit needs of residents in southern Davis County through the planning horizon of 2040.

The study area includes Bountiful, North Salt Lake, downtown Salt Lake City and connections to the Woods Cross FrontRunner station. Considering the nature of the corridor and extended potential transit needs further north of the study area, the cities of Woods Cross, West Bountiful, Centerville and Farmington are included as a planning influence area. The area of influence reflects regional considerations in the analysis and selection of future transit options for the study area.

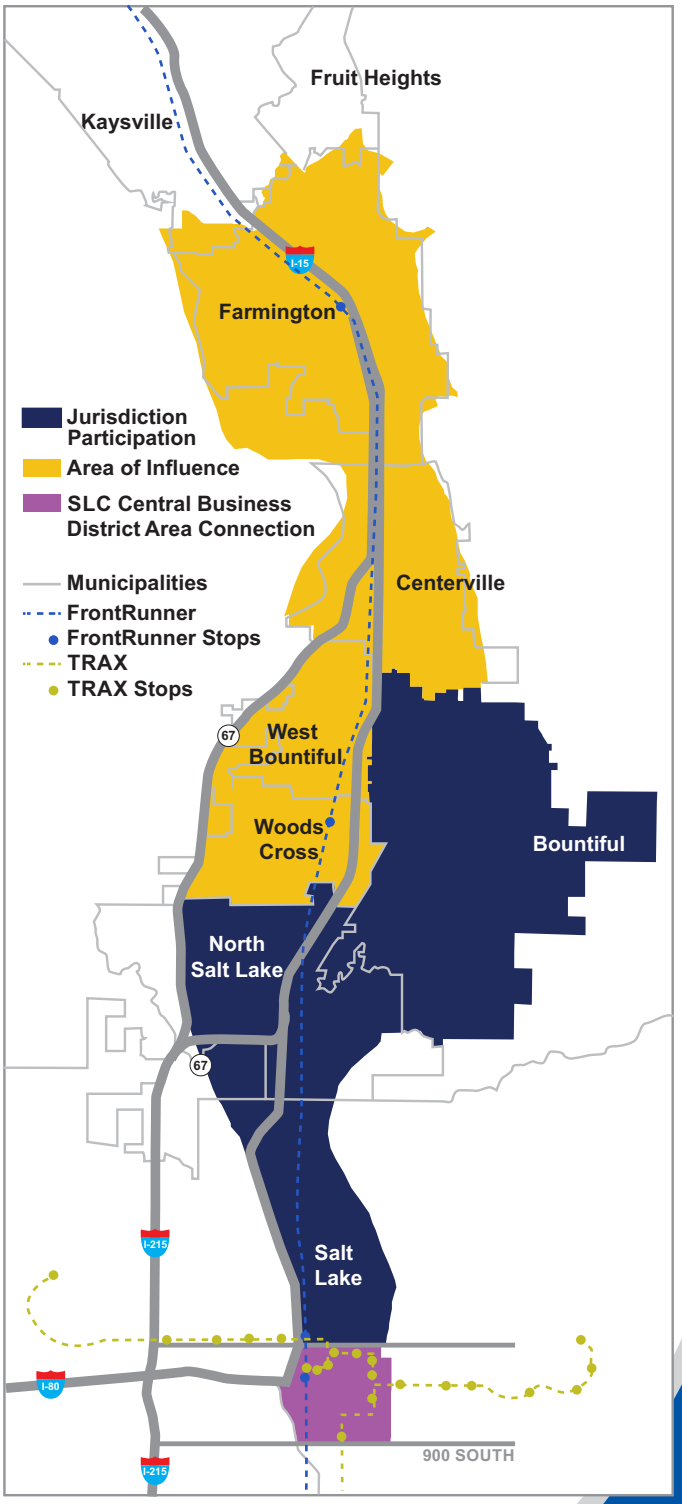
Public Involvement

UTA has gathered extensive public input during previous studies and is considering comments received as it moves into the current study. Expanded opportunities for public involvement are part of the current study, including regular advisory committee meetings with local government representatives, updates to elected officials, a series of community focus groups, meeting with and feedback from the local business community, presentations to interest groups and public and online open houses.

Study Timeline

Study completion is anticipated by spring 2014.

Jurisdiction Participation



Project Development Process

CURRENT PHASE

Vision	Systems Planning	Pre-NEPA (Feasibility Study)	Project Development/ NEPA	Engineering/ Design	Construction	Operations
• Long range and strategic planning • Political • Existing transit service • Local master plans • Utah Department of Transportation / municipal plans • Land use plans	• Bus versus rail • Local bus service • Travel demand • Mode • Alignment • Identify project corridors	Evaluation criteria inc.: • Transit markets • Ridership • Land use • Preliminary costs • Available funds • Prioritization • Partnerships • Feasibility study • Alternatives • Public involvement • Select Locally Preferred Alternative	• Public involvement • Metropolitan Planning Organization action • Select mode • Conceptual engineering • Complete National Environmental Policy Act process and decision document • Capital and O&M costs • Funding scenarios	• Refine financial plan • Communication • Commitment of non-federal funding • Construction plans, right-of-way acquisition • Before/after data collection plan • Federal Transit Adminis-tration evaluation for Full Funding Grant Agreement • Begin negotiations		
		12 - 18 months	1 - 2 Years	1 - 2 Years	2 Years	

Frequently Asked Questions

1. What was the cost of the previous study? What were the results of the study?

- Total Cost: $2.4 million
- Deliverables: 2008 Alternatives Analysis Final Report, 2010 Draft Environmental Study Report (DESR), and travel demand data
- Under the 2010 DESR there was no stakeholder consensus on alignment and streetcar was the selected mode. Based on these outcomes, a future project was not eligible for federal funding.

2. How is this study different from the previous study?

- Total Cost: $450,000
- The transit market has changed. Completion of the 2015 projects provide improved access to the overall transit system.

3. What are the expected outcomes of the new study?

- To understand the transit travel market and provide transit options, which will ultimately better serve the market.
- To gather public input to assess transit needs and desires of the community.
- To recommend land use changes needed to encourage transit-friendly economic development.
- To select a preferred alignment and mode based on stakeholder consensus.
- To provide the following deliverable: final report recommending a locally preferred transit alternative that will qualify for future federal funding.

Project contact information
Phone: 801-236-4798
Email: davis-slc@rideuta.com
Website: www.rideuta.com

Davis–Salt Lake
COMMUNITY CONNECTOR

PUBLIC INVOLVEMENT UPDATE

Public involvement has been a key component of the Davis-SLC Community Connector transit study since day one. The project team has reached out to the public through a mix of extensive grassroots outreach and innovative social media techniques. Here's what we've heard so far:

FOCUS GROUPS

4 Groups of 6 People
Ages 20 - 70

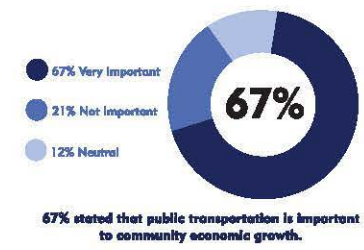
Themes that emerged from the focus groups:

- **Desire for more east-west transit routes**
- **Need for increased frequency of existing transit service**
- **Need for better connections to FrontRunner**

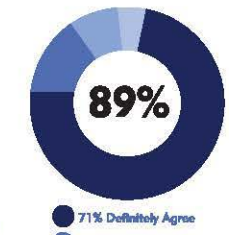
TELEPHONE SURVEY

This is what we heard from a phone survey of 400 respondents from the study area and area of influence:

- 8% Not Enough Options
- 8% Location Isn't Convenient
- 9% Transit Service Is Good
- 10% Don't Know/Don't Use
- 10% Scheduling Inconvenient
- 11% Location Inconvenient



67% stated that public transportation is important to community economic growth.



89% agreed that public transportation is part of the solution to Utah's air quality problem.

OPEN HOUSE

December 2013 & April 2014

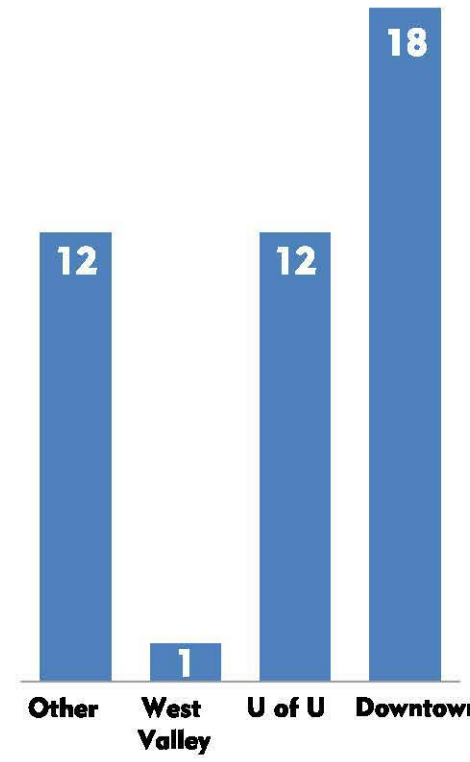
North SaltLake City Hall
93 Attendees

These themes were the most prevalent:

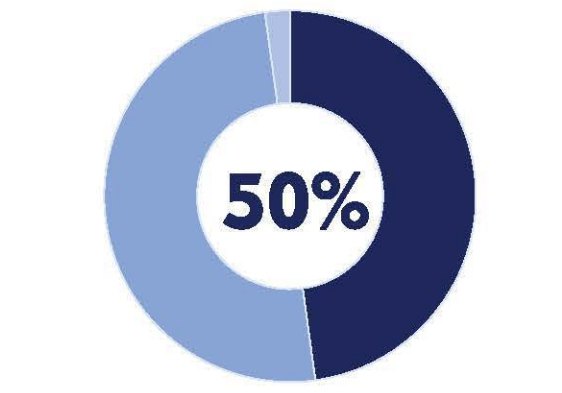
- **People wanted east/west service to support the north/south alignment**
- **People wanted connections to FrontRunner**
- **People supported enhanced bus in the area**
- **People who had concerns about changing the character of Main St.**

OPEN UTA

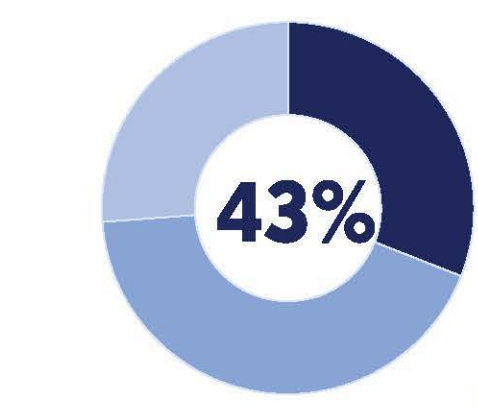
FUTURE DESTINATIONS



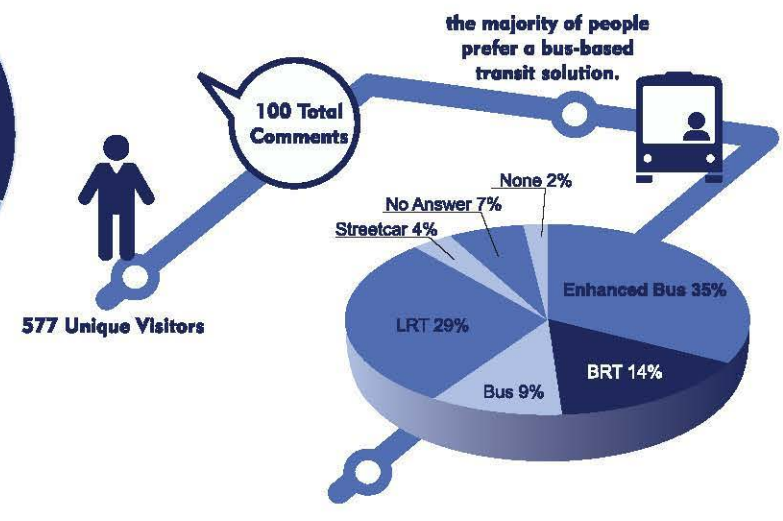
NORTHERN ALIGNMENTS



SOUTHERN ALIGNMENTS



CONCLUSIONS



UTA

Davis-Salt Lake

COMMUNITY CONNECTOR Study

POLICY COMMITTEE MEETING

May 29, 2014

Hal Johnson UTA

WELCOME & INTRODUCTIONS

TODAY'S AGENDA

1. Project Achievements
2. Public Outreach
3. Alternatives Considered
4. Discussion: Locally Preferred Alternative
5. Technical Findings
    - Costs, Engineering & Design
    - Project Effectiveness
    - Environmental Factors
    - Economic Development Potential

Brett Coulam, UTA

PROJECT ACHIEVEMENTS

Davis–Salt Lake
COMMUNITY CONNECTOR Study

ACCOMPLISHMENTS SINCE LAST UPDATE

- ✓ Key Public Outreach
- ✓ Defined Alternatives for Detailed Evaluation
- ✓ Technical Analysis
- ✓ Ready for Discussion of Draft LPA

Purpose & Need

- Mobility
- Access & Choice
- Development
- Revitalization
- Growth
- Serve Markets

Mark Bowman, UTA

KEY PUBLIC OUTREACH

Davis-Salt Lake
COMMUNITY CONNECTOR Study

KEY PUBLIC OUTREACH

- Telephone Survey
- Focus Groups
- Two Open Houses
- Open UTA Outreach
- One-on-One Business Group Meetings

Lori Labrum, JUB

ALTERNATIVES CONSIDERED

ALTERNATIVE A

ENHANCED BUS

Length of Corridor = 12.1 miles

(Possible circulator is independent of the LPA)

Davis-Salt Lake
COMMUNITY CONNECTOR Study

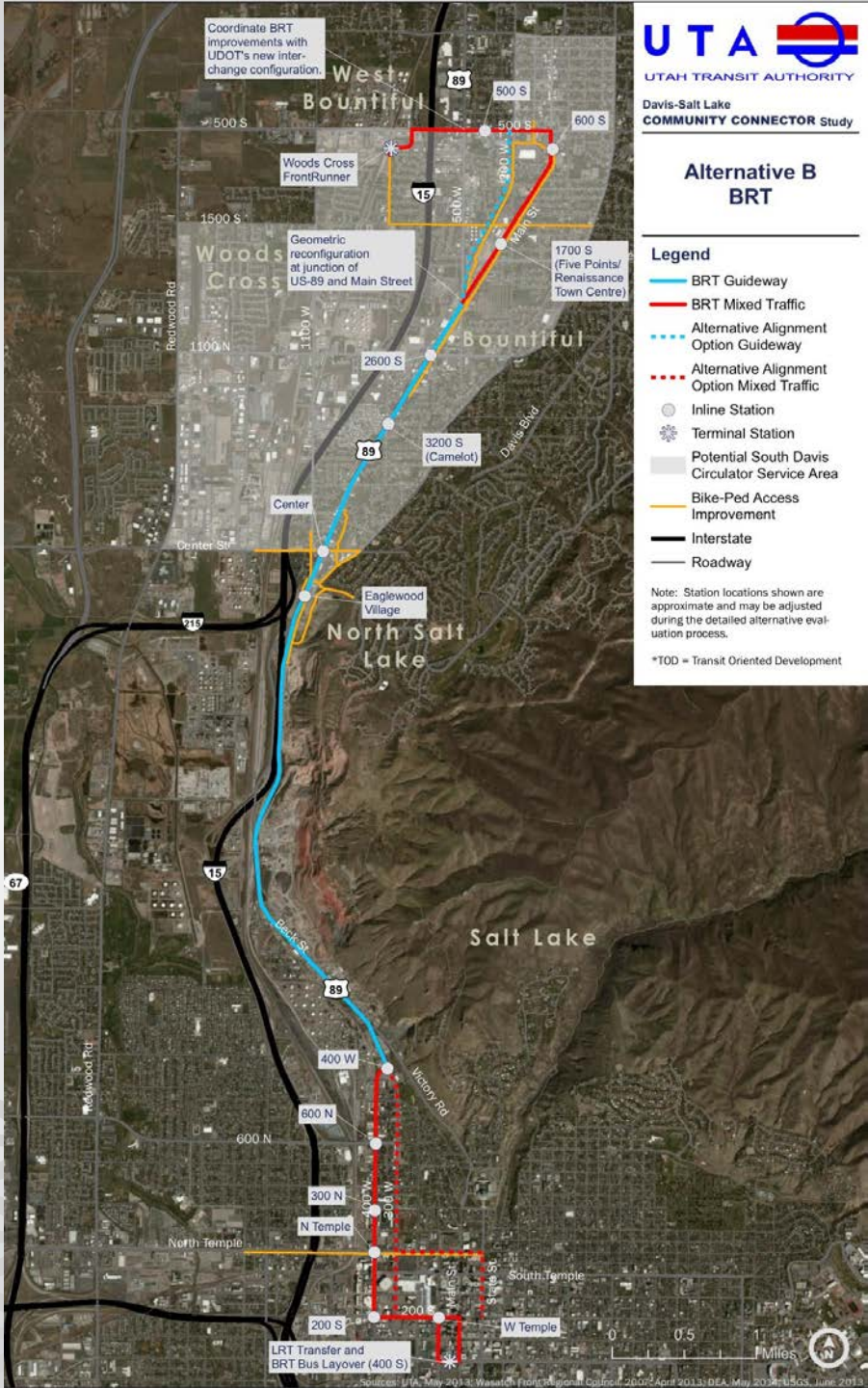
ALTERNATIVE B

BRT

Corridor Length = 11.8 miles

Miles of Guideway = 5.6

(Possible circulator is independent of the LPA.)



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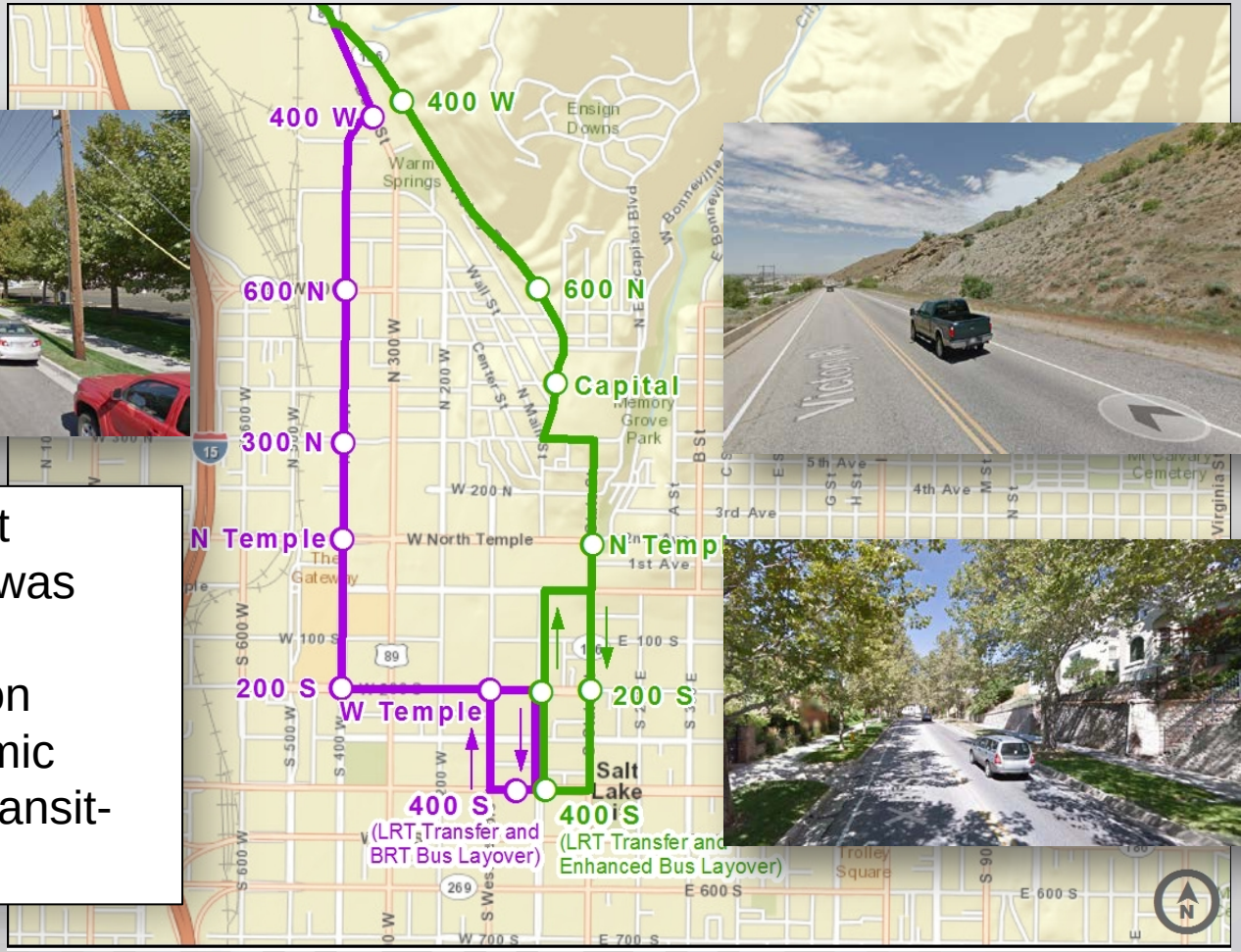
DOWNTOWN SLC ROUTES



400 West alignment through downtown was selected for BRT alternative, based on potential for economic development and transit-focused zoning.

Davis–Salt Lake
COMMUNITY CONNECTOR Study

SERVICE LEVELS

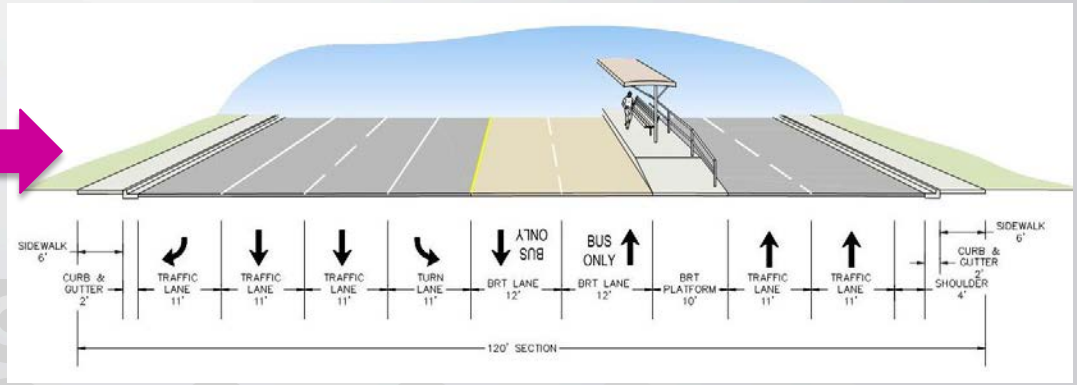
Service	Alternative A Enhanced Bus	Alternative B BRT
Weekday Peak/Base	15 minute headways 4:30am to 7:30pm	10 minute headways 6:00am to 9:00am 3:00pm to 6:00pm
Evening	20 minute headways 7:30pm to 10:30pm	15 minute headways 4:30am to 10:30pm (except peak periods)
Saturday	30 minute headways 7:00am to 10:30pm	15 minute headways 7:00am to 10:30pm
Sunday	No Service	30 minute headways 7:00am to 10:30pm

STATION LOCATIONS

Stops/ Stations	Alternative A	Alternative B
West Bountiful	Woods Cross FrontRunner (terminal) 500 S at 400 W	Woods Cross FrontRunner (terminal) 500 S at 400 W
Bountiful (Central)	600 S 1700 S / Renaissance Town Centre	600 S) 1700 S / Renaissance Town Centre
Bountiful (South)	2600 S (inline) 3200 S / Camelot	2600 S 3200 S / Camelot
North Salt Lake	Center	Center
Quarry (NSL to SLC)	Eaglewood Village	Eaglewood Village
Salt Lake City	**400 W** **600 N** **Capitol** **N Temple (SB on State)** **200 S (SB on State)** **400 S (LRT transfer and bus layover)** **200 S (NB on Main)** **N Temple (NB on Main)**	**400 W** **600 N** **300 N** **N Temple** **200 S** **W Temple** **400 S (LRT transfer and BRT bus layover)**

STATION DESIGN

- Crossover stations modified to:
  - Reduce right of way impact
  - Improve pedestrian and bus safety, operations (travel time)



Davis–Salt Lake
COMMUNITY CONNECTOR Study

PLANNING-LEVEL COSTS

	ALTERNATIVE A ENHANCED BUS	ALTERNATIVE B BRT
Infrastructure	$5.4 M	$39.6 M
Fleet	$4.8 M (9 buses)	$11.6 M (11 buses)
Right of Way	$500,000	$5 M
CAPITAL COSTS	**$10.7 M**	**$56.2 M**
Contingency	$2.1 M	$11.3 M
Engineering	$1.1 M	$7.5 M
TOTAL CAPITAL COSTS	$13.9 M	$75 M
Capital Costs per mile	$1.2 M	$6.5 M
LOCAL SHARE (Federal 50/50 Match)	**$7 M**	**$37.5 M**
County by County Share To Be Determined		
***Assumes 12 year bus life, 20 year infrastructure life, 3% annual inflation rate.**		

PLANNING-LEVEL COSTS

	ALTERNATIVE A ENHANCED BUS	ALTERNATIVE B BRT
ANNUALIZED COSTS		
Annualized Capital Costs*	$1.1 M	$5 M
Annual O&M Costs	$2.7 M	$4.5 M
TOTAL DAVIS-SLC LINE	**$3.8 M**	**$9.5 M**
TOTAL LOCAL (50% capital, 100% operating)	**$3.3 M**	**$6 M**
Additional Circulator	$2.2 M	$2.2 M
TOTAL WITH CIRCULATOR	**$6 M**	**$11.7 M**

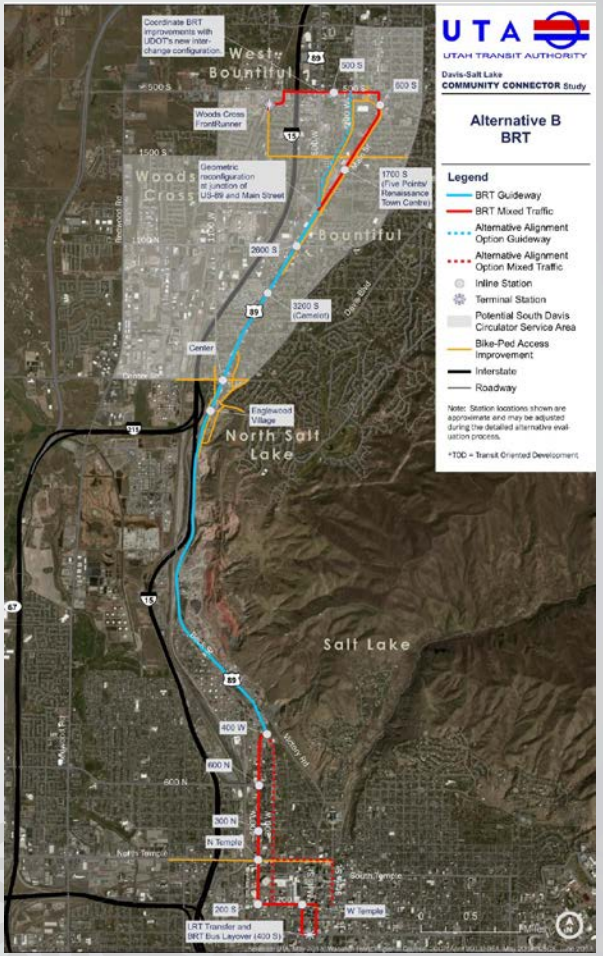
***Assumes 12 year bus life, 20 year infrastructure life, 3% annual inflation rate.**

PLANNING-LEVEL COSTS

	ALTERNATIVE A ENHANCED BUS	ALTERNATIVE B BRT
TOTAL ANNUALIZED DAVIS-SLC LINE (Without circulator)	**$3.8 M**	**$9.5 M**
AVERAGE ANNUAL BOARDINGS*	**601,460**	**1,035,300**
TOTAL COST PER RIDE (Annualized capital and O&M)	**$6.31**	**$9.18**
O&M COST PER RIDE (Annualized O&M only)	**$4.49**	**$4.35**

Recommended Project

- BRT
- Main Street
- 400 West
- Fixed guideway where possible
- Mixed running connection to U of U
- Circulators in South Davis communities



Davis-Salt Lake
COMMUNITY CONNECTOR Study

SUMMARY OF KEY FINDINGS

Criteria Category	No-Build Baseline	Alt A Enhanced Bus	Alt B BRT
Service Gaps	⊘	▲	★
Markets Not Served	⊘	▲	★
Access & Mobility Barriers	⊘	▲	★
Revitalization	⊘	⊘	★
Air Quality Mitigation	▲	▲	★
Projected Growth	⊘	▲	★
Bicycle & Pedestrian Facilities	⊘	▲	★
LPA Recommendation	⊘	▲	★

★ Exceeds Criteria ▲ Meets Criteria ⊘ Does Not Meet Criteria

Next Steps

- Formal City Council approval of recommended LPA
- WFRC Approval
- UTA Board Approval
- Enter into Environmental Process
- Seek FTA Small/Very Small Starts Funding
- Local Funding?

Salt Lake City Council Questions – South Davis
(prepared by UTA)

How does the Salt Lake to Davis County Connector relate to Front-Runner?

This project serves a unique market separate from Commuter Rail. Residents between Bountiful and SLC have a short commute time and would benefit from a one-seat ride between the two cities, whereas Commuter Rail currently requires multiple transfers. Though some ridership from current Commuter Rail and local bus ridership is expected, the benefits far outweigh the costs, as detailed below:

Net New Riders: Alt. A (Enhanced Bus) – 2100; Alt. B (Bus Rapid Transit) – 3600
Riders lost from commuter rail: 100
Riders lost from local bus: 400-600

Is the connector as important as it used to be?

Land Use & Community Benefits
Salt Lake City, and specifically the West Capitol Hill Neighborhood, has historically been a region that is well served by public transportation, and the Davis-SLC Community Connector would add to this benefit. The City has a vision of encouraging new medium- and high-density residential developments in appropriate locations within the West Capitol Hill Neighborhood. Quality public transportation would be attractive to the neighborhood by providing access to more goods and services. Transit improvements would allow for increased mobility within Downtown Salt Lake City and the surrounding regions with access to 4 transit modes -- commuter rail, light rail, streetcar, and bus service -- within two miles of the neighborhood.

The West Capitol Hill neighborhood has historically been characterized by conflicting patterns of industrial, commercial and residential land uses. The development of an Enhanced Bus or Bus Rapid Transit system would support Salt Lake City's efforts to reshape the land use and character of the community by encouraging compatible retail, commercial and residential uses. The City would benefit from the location of bus service on 300 West or 400 West, both of which have been identified as commuter streets in the Capitol Hill Master Plan. Approximately 50,000 people commute from the South Davis & Capitol Hill areas to downtown Salt Lake and the University of Utah on a daily basis; improved bus service would improve circulation between Davis County and Salt Lake City.

The Davis-SLC Community Connector has the potential to offer economic benefits to Salt Lake City, including redevelopment of the Marmalade District and access to employment, entertainment, and recreation opportunities in downtown. In addition, a potential enhanced bus or BRT could provide improved travel time to the University of Utah that would gain an

estimated 2,000 net new riders[1]. The Davis-SLC corridor will also provide improved access to the Airport TRAX line and the regional light rail and commuter rail service.

Salt Lake City is in the process of completing an Alternatives Analysis for a future downtown streetcar which will provide improved mobility and access for short trips within the downtown area. The Davis-SLC Community Connector AA is exploring opportunities to connect to the downtown streetcar in the vicinity of 200 South and State Street. This would provide an opportunity for South Davis County residents to access sites within the Central Business District, thus alleviating the demand for parking in the downtown area, especially when Salt Lake City's daytime population is at its peak.

How much money, if any, would the City have to appropriate if the project moves forward?

The majority of the project costs would be for capital and operations & maintenance costs. Funding for these costs would come from a full cent of County sales tax dedicated to public transportation. Local government would be asked to fund amenities such as bicycle & pedestrian improvements, sidewalks, etc. The estimated cost for these improvements would be _____.

[1] WFRC Travel Demand Model estimates