



2022 RAISE Grant Application

Westside Express





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Supporting documentation footnoted in this RAISE grant application can be found at www.rideuta.com/2022raiseWSE



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1.0 Executive Summary

Utah is one of the top five fastest growing states in the nation: by 2050 the population is projected to double. Eighty percent of this growth is in the Utah Transit Authority's (UTA) service area. In the Salt Lake City metropolitan area, UTA's rail and bus service is concentrated on the eastside of the Wasatch Front, the historic core of the region. However, recent—and future—growth is occurring on the west side of Salt Lake County, including the municipalities of West Valley, West Jordan, and Kearns. The Westside Express bus service proposed as the subject of this RAISE grant application constitutes the first significant transit investment in this growing area (*Figure 2-1*). The Westside Express will provide—for the first time—a one-seat transit ride for residents that live along 5600 West to Salt Lake City International Airport, downtown Salt Lake City, and other regional job centers.

Westside Express service will be delivered by a fleet of 20 new electric buses, and will include queue-jumps, shoulder operation, and other tools

to improve travel time, reliability, and efficiency. Passengers will also benefit from enhanced stops with shelters, benches, and lighting. Six stations will include park and ride lots, two of which already exist at 3500 S and at the Old Bingham Highway TRAX light rail transit (LRT) station at the southern terminus of the Westside Express route.¹ All stations will include bicycle facilities to encourage sustainable first/last mile travel. Headways will be 15 minutes during peak periods, 30 minutes off-peak, and 60 minutes at night.²

Westside Express service strongly promotes equity by serving low income and minority populations. The population within a half mile of proposed station areas has 1.5 times as many individuals identifying as minorities and 1.4 times as many individuals living in poverty as surrounding Salt Lake County as a whole. There are also higher proportions of people with limited English proficiency and without access to a private vehicle. Compared to Salt Lake County, residents living along the corridor are twice

1 UTA and UDOT. Amended and Restated Agreement between UTA and UDOT for the MVC Project Implementation for Phase 1 Transit.

2 https://mountainview.udot.utah.gov/wp-content/uploads/2019/09/MVC_TransitReevaluation_FINAL.pdf

as likely to depend on transit because they do not have access to an automobile.

Moreover, 64 percent of the population living within a half mile of the Westside Express route hold essential jobs, while almost half (47 percent) of the jobs within a half mile of the route are considered essential.³ Currently, many of the commutes along the proposed route would require between one and three transfers on existing UTA services. Because the Westside Express is a relatively long route that connects 14 major employment areas in the region (see *Table 5-3* of this application), many of these essential workers will enjoy one-seat rides to work upon implementation of this service.

This project represents a unique environmental partnership between UTA, the project sponsor, and the Utah Department of Transportation (UDOT). The Westside Express is the transit component for the multimodal Mountain View Corridor (MVC), a limited access freeway sponsored – and entirely funded, with no federal revenue support – by UDOT and located just west of the Westside Express transit corridor. During the project’s planning process, environmental advocacy groups voiced their desire for a balanced solution with investments in transit and active transportation in conjunction with roadway improvements. Per the terms of the MVC environmental Record of Decision, further construction of the highway project cannot proceed until transit service is implemented.⁴ UDOT therefore has a strong vested interest in the success of the Westside Express because it allows UDOT to advance its freeway construction. To that end, UDOT is contributing over \$20 million of the match towards this RAISE grant application.



3 Calculated per the following recommendations and guidelines: DHS CISA.

Identifying Critical Infrastructure During COVID-19. CA Essential Critical Infrastructure Workers. <https://www.cisa.gov/identifying-critical-infrastructure-during-covid-19>

4 <https://mountainview.udot.utah.gov/feis/>

https://mountainview.udot.utah.gov/wp-content/uploads/2020/04/13149_MVCTransit_RevisedROD_Signed011520.pdf

2.0 Project Description

2.1 OVERVIEW

Utah is one of the top five fastest growing states in the nation: by 2050 the population is projected to double. Eighty percent of this growth is in UTA's service area, which spans 1,400 square miles of the Wasatch Front region, covering seven counties and 77 municipalities. UTA's 2019 system ridership was over 44.2 million passengers across services that include commuter rail, light rail, streetcar, fixed route bus (96 routes including one bus rapid transit [BRT]), deviated fixed route bus, paratransit, and vanpool.

In the Salt Lake City metropolitan area, UTA's rail and bus service is concentrated on the eastside of the Wasatch Front, the historic core of the region. However, recent—and future—growth is occurring on the west side of Salt Lake County, including the municipalities of West Valley, West Jordan, and Kearns. The Westside Express bus service proposed as the subject of this RAISE grant application constitutes the first significant transit investment in this growing area (*Figure 2-1*).

The Westside Express will provide—for the first time—a one-seat transit ride for residents that live along 5600 West to Salt Lake City International Airport, downtown Salt Lake City, and other regional job centers. Westside Express also connects to UTA's TRAX LRT system at the Old Bingham Highway Red Line station at the route's southern end and five Green Line TRAX stations to the north and west. Westside Express service will include queue-jumps, shoulder operation, and other tools to improve the travel time, reliability, and efficiency of the bus service.

In addition to travel time and reliability benefits, passengers will also benefit from enhanced stops with shelters, benches, and lighting. Six stations

will include park and ride lots, two of which already exist at 3500 S and at the Old Bingham Highway TRAX light rail transit (LRT) station at the southern terminus of the Westside Express route.⁵

Headways are expected to be 15 minutes during peak periods, 30 minutes in the off-peak, and 60 minutes at night.⁶

Consistent with UTA's commitment to the global fight against climate change, the Westside Express project scope includes the procurement of 20 new battery electric buses (BEBs) and required charging stations.

This project has already undergone a full environmental analysis in compliance with the National Environmental Policy Act (NEPA), and the Federal Highway Administration (FHWA) has executed a Record of Decision (ROD).⁷ UTA has already discussed updating the NEPA finding with FTA Region 8; *Section 6.1* Environmental Risk provides more detail on project readiness and the ability to begin revenue service in 2025.

2.2 PROJECT HISTORY

Westside Express came out of a multimodal planning effort with a focus on overall mobility. The need for this project was originally identified as part of the planning process for UDOT's MVC congestion relief project,⁸ which itself was spurred by the considerable growth on the westside of the Wasatch Front region. The MVC project, when complete, will be a 35-mile freeway connecting I-80 in Salt Lake City to I-15 at 2100 N in Lehi. The freeway component is being constructed in phases starting with two lanes in each direction with signalized intersections (Phase 1), followed by later upgrades to a limited access freeway with grade-separated interchanges (Phase 2). Ongoing growth

5 UTA and UDOT. Amended and Restated Agreement between UTA and UDOT for the MVC Project Implementation for Phase 1 Transit.

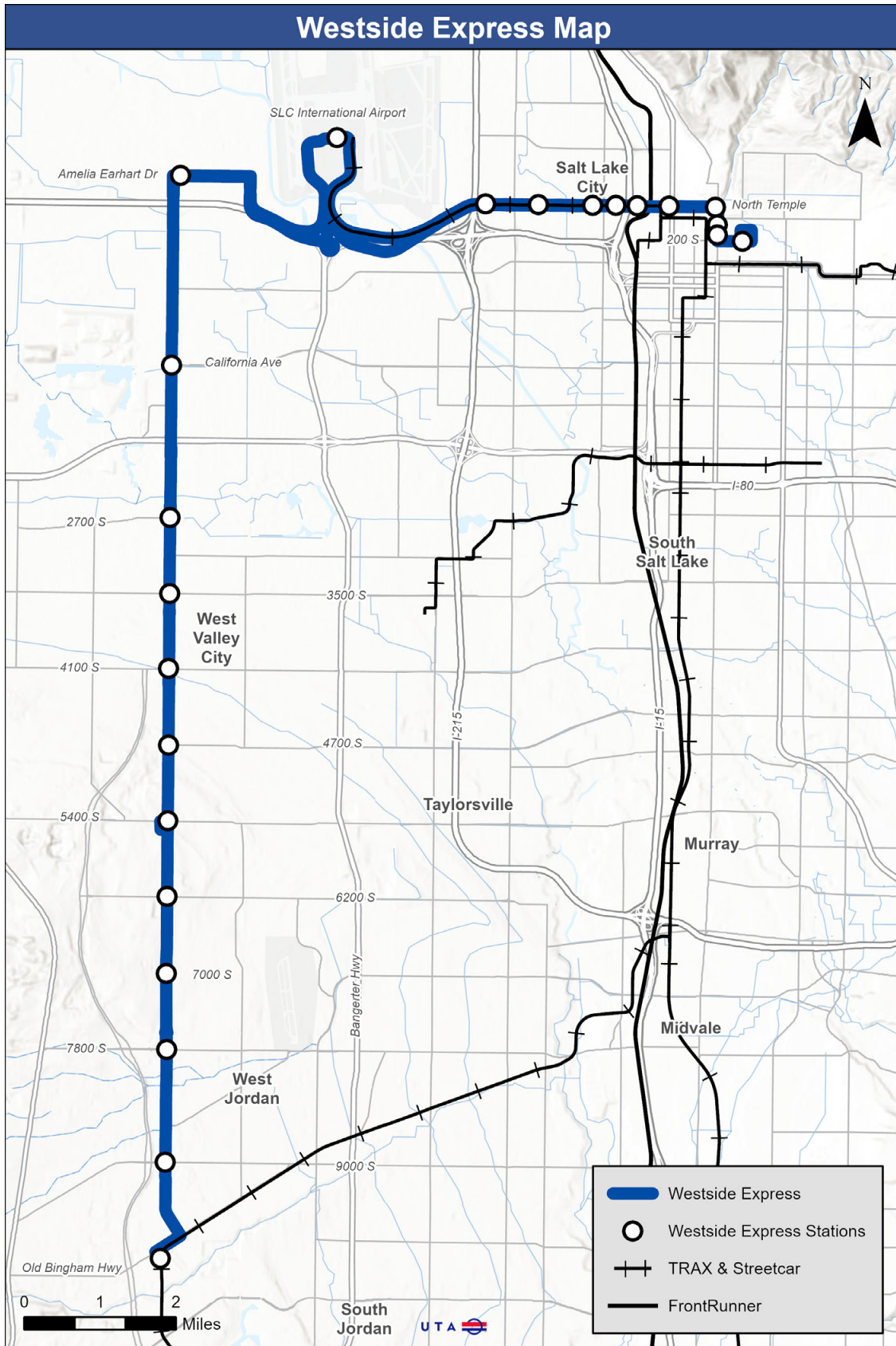
6 https://mountainview.udot.utah.gov/wp-content/uploads/2019/09/MVC_TransitReevaluation_FINAL.pdf

7 <https://mountainview.udot.utah.gov/feis/>

https://mountainview.udot.utah.gov/wp-content/uploads/2020/04/13149_MVCTransit_RevisedROD_Signed011520.pdf

8 <https://mountainview.udot.utah.gov/>

Figure 2-1. Westside Express route map.



and limited funding necessitated the development of a phased implementation strategy featuring a series of multimodal transportation improvements to serve corridor residents in an equitable and environmentally sound manner. This includes new transit service and a walking/biking trail system that is the subject of this grant application.

The original transit component was codified in the 2008 ROD⁹ as a mitigation for the freeway component of the MVC congestion relief project. Per the terms of the ROD, Phase 2 of the MVC highway project cannot proceed until Phase 1 transit service is implemented. At the time, the transit mitigation was specified as a five-mile BRT line along 5600 West, with potential future conversion to LRT. However, the impacts of the 2008 recession dramatically reduced UTA's expected revenues and it was unable to implement the BRT service.

Because of the funding constraints encountered, and a shared desire to benefit an even larger segment of the MVC, UDOT and UTA agreed to re-evaluate and refine the planned transit service, termed the Refined Selected Alternative in the 2019 Revised ROD.¹⁰ The outcome of this evaluation was the development of a 29-mile express bus route. This service is considerably longer and will attract much higher ridership at a lower cost than the originally specified five-mile BRT route. Ridership is expected to be over 3,000 passengers per day compared to 600 BRT passengers per day. Importantly, this ridership is expected to be primarily new transit riders because of the very limited service which currently exists along the proposed route.¹¹

2.3 TRANSPORTATION CHALLENGES AND SOLUTIONS

Two primary objectives were identified for the MVC project in its Purpose and Need statement:¹²

- Improve regional mobility by reducing roadway congestion.
- Improve regional mobility by supporting increased transit availability.

Westside Express will address the first objective by inducing mode shift to transit, reducing the volume of private vehicles on the 29-mile route as drivers become passengers. The Westside Express will address the second objective by providing new transit service that is significant in both route distance (29 miles) and frequency (15-minute peak headways).

One of the secondary objectives identified in the MVC Purpose and Need is to “Increase roadway safety,” to which the Westside Express will also contribute because transit is a safer mode of travel than private vehicles.¹³

Beyond these objectives, a more recent need for transit has emerged as warehousing and distribution employment opportunities have grown considerably in the areas near Salt Lake City International Airport, along the northern portion of the Westside Express route. Further south along 5600 W, retail employment has grown to serve the booming residential population of the area. As noted in *Section 2.1* Overview, transit service is concentrated on the eastside of the metropolitan area and additional service is needed on the westside both in terms of coverage and frequency. The Westside Express serves this need.

9 <https://mountainview.udot.utah.gov/feis/>

10 https://mountainview.udot.utah.gov/wp-content/uploads/2020/04/13149_MVCTransit_RevisedROD_Signed011520.pdf

11 https://mountainview.udot.utah.gov/wp-content/uploads/2019/09/MVC_TransitReevaluation_FINAL.pdf

12 https://mountainview.udot.utah.gov/wp-content/uploads/2019/08/01-Purpose_and_Need.pdf

13 Ibid

3.0 Project Location

The Westside Express route is located within the Urbanized Area of Salt Lake City to the west of the central business district (CBD). The route is completely contained within Salt Lake County and travels through Utah’s Second and Fourth

Congressional Districts. The Global Positioning System (GPS) limits for the project termini are 40°46’17.5”N 111°53’24.3”W to the north and 40°33’57.5”N 112°01’39.6”W to the south. The project location is depicted in *Figure 3-1*.

Figure 3-1. Project location.



The project is located in four Census Tracts designated as Areas of Persistent Poverty and in 14 Census Tracts designated as Historically Disadvantaged Communities. In addition, the route runs through seven Utah Qualified Opportunity Zones (QOZs), economically distressed communities where new investments may be eligible for preferential tax treatment.¹⁴ The Westside Express service is intended to assist these and other low-income and transportation-disadvantaged populations along the corridor to access major employment centers in the region, including the top three employers in Salt Lake County:

- Salt Lake City International Airport: 32,000 full time jobs and expected to grow once the entirely new and expanded airport is operational.¹⁵
- State of Utah: 20,000 jobs in various department offices in downtown Salt Lake City.
- Intermountain Healthcare: 20,000 jobs, some of which are located at corporate headquarters in downtown Salt Lake City.

Westside Express will also serve other major employers and employment centers in Salt Lake County including:

- Downtown Salt Lake City: 70,000 jobs¹⁶
- Walmart (5th largest employer in the County): 7-10,000 jobs¹⁷
- International Center:¹⁸
 - UPS (15th largest employer): 3-4,000 jobs
 - Amazon (16th largest employer): 3-4,000 jobs
- Retail in West Valley City at 3100 S and 6200 S

Because the route for Westside Express is 29 miles long, it connects with a considerable number of existing UTA transit services, which further increases the usefulness of both the proposed and existing services. *Table 3-1* summarizes Westside Express connections with existing UTA services, and *Figure 3-2* (on the following page) presents a map of these connections.

*Table 3-1. Existing UTA services connecting to Westside Express.*¹⁹

Mode	Route	Description
East/West Fixed route bus 15-30 min headways	35	Westside Express will stop at 3500 S.
	41	Westside Express will stop at 4100 S.
	47	Westside Express will stop at 4700 S.
	54	Westside Express will stop at 5400 S.
	62	Westside Express will stop at 6200 S.
LRT (TRAX) 15 min headways	Red Line	Westside Express will stop at Old Bingham Highway station (southern terminus of Westside Express).
	Green Line	Westside Express will stop at Airport station. Westside Express will stop at 1940 W. North Temple station. Westside Express will stop at Power station. Westside Express will stop at Jackson/Euclid station. Westside Express will stop at North Temple Bridge/ Guadalupe station.
Commuter Rail (FrontRunner)		Westside Express will stop near North Temple station in downtown Salt Lake City.

14 <https://data.wfrc.org/datasets/utah-qualified-opportunity-zones/explore?location=39.350659%2C-111.614123%2C7.75>

15 <https://slcairport.com/assets/pdfDocuments/Economic-Impact-Study/Economic-Impact-of-Salt-Lake-City-International-Airport.pdf>

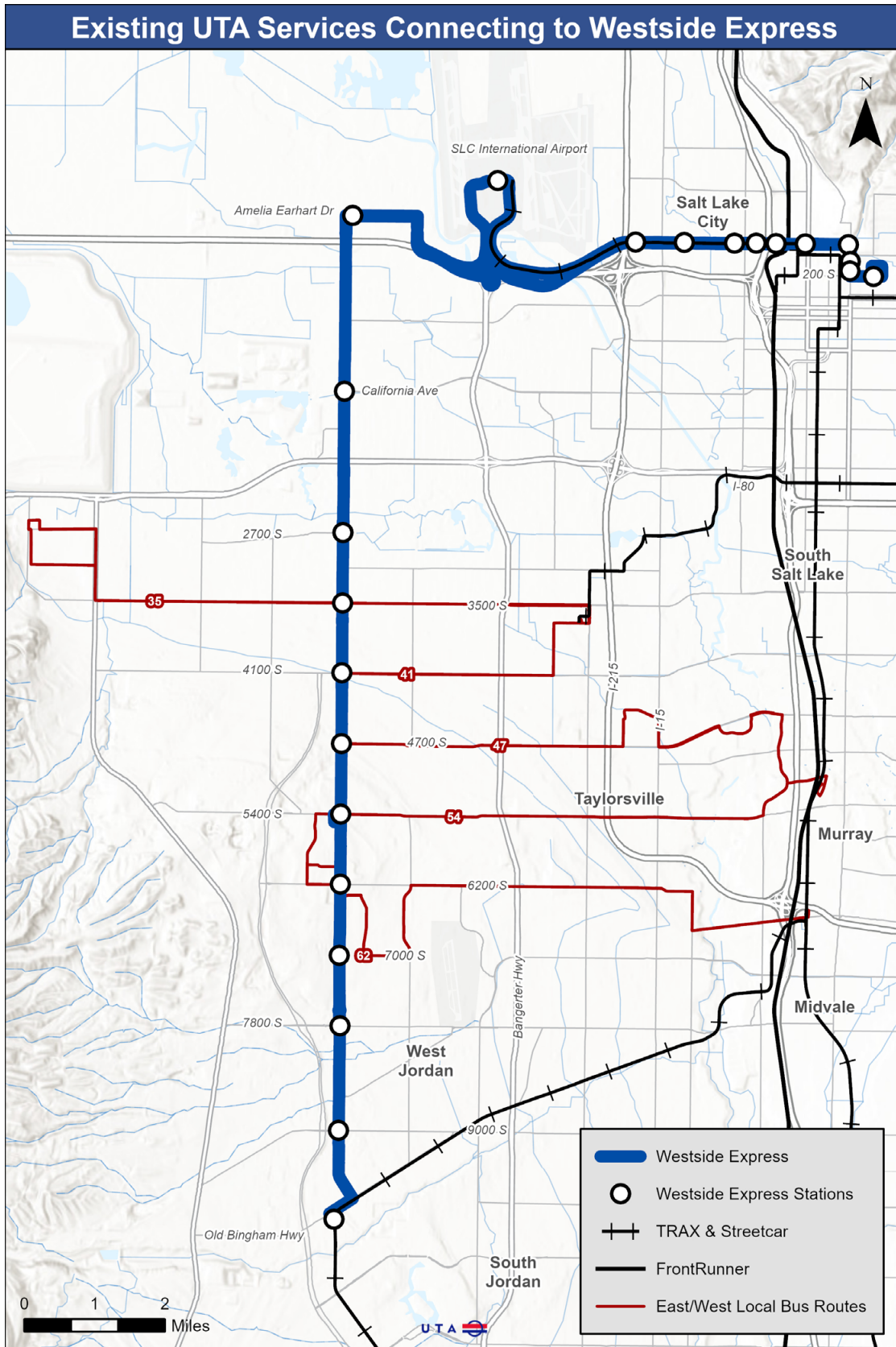
16 <https://slchamber.com/the-downtown-alliance-fostering-prosperity-in-the-central-business-district/>

17 <https://jobs.utah.gov/wi/data/library/firm/majoremployers.html>

18 Ibid

19 https://www.rideuta.com/-/media/Files/System-Maps/2020/AUG_2020_SL_System_Map.ashx

Figure 3-2. Existing UTA services connecting to Westside Express.



4.0 Grant Funds, Sources and Uses of Project Funds

The project is estimated to cost \$75.79 million in year-of-expenditure dollars. The capital cost estimate was developed based upon the scope outlined in the 2019 EIS re-evaluation. Based upon the scope of work and tables included in the Agreement by UDOT, UTA employed the services of professional cost estimators to develop detailed quantity takeoffs and cost estimates for the outlined construction work. UTA also worked with UDOT to verify property acquisitions required and access County Assessor records to verify property values; some still to be purchased, some UDOT owns and will be transferred to UTA, and other property that UDOT has already transferred to UTA for the project. The costs were then escalated at 8 percent for anticipated inflation to the planned 2023 YOE for construction. Since the previous year’s application, costs have been escalated an additional 4 percent to account for one year of project delay. The costs also include allocated contingency for risk associated with design scope changes, construction quantity changes, scope creep, and other impacts as the project development advances. It also includes unallocated contingency for project reserves to address unforeseen conditions and change orders.

Funding to cover this amount is made up of a mix of sources, as shown in *Table 4-1*. All funding and ROW is committed as of the date of this RAISE grant application.

Table 4-1. Westside Express capital finance plan.

	Funding Source	Amount	%
State/ Local	UTA Sales Tax	\$ 12,650,127	53.2%
	UTA Right-of-Way	\$ 5,282,298	
	UDOT Right-of-Way	\$ 1,975,019	
	UDOT TTIF	\$ 20,521,821	
Other	Volkswagen Settlement	\$ 17,105,108	22.5%
Federal	CMAQ	\$ 2,100,000	24.3%
	RAISE	\$ 16,407,823	
TOTAL		\$ 76,042,196	100%

Table 4-2 on the following page presents the detailed project budget and associated revenue

sources (applicable 424 forms are uploaded to grants.gov).

Investment in the MVC corridor to date has totaled \$1.5 billion, all of which has been funded entirely by UDOT. Completion of the Westside Express project with \$16.4 million in RAISE funding will unlock \$2.2 billion in additional state funding to enable Phase II of the MVC to move forward. Put in this way, RAISE funding represents a less than one percent share of total MVC costs.

UTA estimates Westside Express annual operations and maintenance costs at \$8.4 million which UTA will program in its operating budget upon award of a RAISE grant.



Table 4-2. Detailed sources and uses.

Capital Cost Estimate (\$M)		Funding Plan (\$M)						
		State/Local				Other	Federal	
		UTA Sales Tax	UTA ROW	UDOT ROW	UDOT TTIF	VW Settlement	CMAQ	RAISE
Guideway Elements	\$ 5.87							
Stations, Stops	\$ 16.23							
Support Facilities	\$ -							
Sitework, Special Conditions	\$ 5.12	\$ 0			\$ 20.52		\$ 2.10	\$ 16.41
Systems	\$ -							
Professional Services	\$ 7.17							
Unallocated Contingency	\$ 4.63							
ROW (and contingency)	\$ 7.26		\$ 5.28	\$ 1.98				
Electric Buses, Charging Equipment (and contingency)	\$ 29.76	\$ 12.65				\$ 17.11		
TOTAL	\$ 76.04	\$ 12.65	\$ 5.28	\$ 1.98	\$ 20.52	\$ 17.11	\$ 2.10	\$ 16.41
PERCENTAGE OF COSTS		16.6%	6.9%	2.6%	27.0%	22.5%	2.8%	21.6%



5.0 Merit Criteria

5.1 SAFETY

Safety in the corridor is an issue. UDOT’s safety index uses a 10-point scale to indicate the safety of roadway segments, where values between 7.1 and 10 represent the least safe segments. The score consists of four equally weighted sub-scores: crash rate, severe crash rate, crashes per mile, and severe crashes per mile. A considerable portion of the corridor is rated between 7.1 and 10, with crashes per mile and severe crashes per mile contributing the most to this poor performance.²⁰ Segments with the worst performance are listed from south to north on 5600 W:

- From New Bingham Highway to 7800 S
- From 7000 S to 5400 S
- From 4700 S to 4100 S
- From 3500 S to SR 201

With so little transit service in the corridor today, providing Westside Express service that will shift private automobile traffic to transit will improve safety conditions because transit is a safer mode. Specifically, the anticipated reduction of over 14.4 million vehicle miles traveled per year would be expected to prevent approximately 11 crashes resulting in injury and 36 crashes causing property damage (see benefit-cost analysis uploaded to grants.gov).

The buses being procured for Westside Express will be equipped with cameras for operator and passenger safety. Pedestrian crossings near stations will be designed with additional safety treatments as needed, including high-visibility signage and crosswalks, curb extensions, and pedestrian hybrid beacons.

UTA’s commitment to safety is documented in its Transit Agency Safety Plan (TASP) which focuses on “integrating safety into all aspects of UTA.” It also lays out quantitative targets for a set of eight

safety objectives such as total employee industrial injuries, safety events, and avoidable accident rates. For fatalities per 100,000 miles, the TASP states “UTA’s goal is zero fatalities” and establishes a quantitative target of 0.0 fatalities for all modes.

As much of the Westside Express will operate on a State roadway, and with UDOT a project partner, (see *Section 5.7* Partnership and Collaboration), UDOT’s commitment to safety is also important. The agency’s Strategic Direction includes three Strategic Goals, and one is:

“Zero Crashes, Injuries and Fatalities. UDOT is committed to safety, and we won’t rest until we achieve zero crashes, zero injuries and zero fatalities. Zero is the only acceptable goal.”²¹

Salt Lake City is likewise committed to Vision Zero, stating the “only acceptable goal for traffic fatalities and serious injuries is zero.”



5.2 ENVIRONMENTAL SUSTAINABILITY

Salt Lake County is a nonattainment area for ozone and particulate matter (PM_{2.5}) and a maintenance area for particulate matter (PM₁₀). Salt Lake City is a carbon monoxide (CO) maintenance area.²² Because the urbanized area of Salt Lake City lies in a valley between the Wasatch and Oquirrh

20 <https://uplan.maps.arcgis.com/apps/MapSeries/index.html?appid=78d9711f9af341d9a21c327164d18a44>

21 <https://www.slc.gov/transportation/transportation-safety/>

22 <https://www3.epa.gov/airquality/greenbook/rbtc.html>

mountains (Figure 5-1), pollution is often trapped and causes air quality issues, a process known as inversion.

Figure 5-1. Salt Lake City and surrounding mountains under normal (left) and inverted conditions (right).



Transportation emissions contribute to poor air quality in the region; on the route that will be served by the Westside Express, less than five percent of work trips are currently taken on transit. By contributing to the completion of UTA's transit network, it is expected that the project will help increase system ridership by over 3,000 riders by 2040, most of which are new rather than attracted from other transit services. Therefore, vehicle miles traveled (VMT) and the resulting greenhouse gas emissions will be reduced as individuals shift from private vehicles to the new transit service. Avoided CO₂ emissions from this mode shift total 43 metric tons per year. To further promote transportation emissions reductions, all Westside Express stations will include bicycle storage facilities to encourage first/last mile travel by bicycle.

While transit is a more efficient and less polluting transportation option than travel by private automobile, there are still improvements that can be made to transit itself to make it even more sustainable. UTA will use battery electric buses (BEBs) to provide Westside Express service. This

means that no pollutants or emissions will be produced along the route. Overall GHG emissions will be reduced; for example, for each BEB operated by the Port Authority of New York and New Jersey, almost 45 tons of GHG emissions are avoided annually.²³ So far, UTA has three BEBs in service which have operated over 75,000 miles and carried over 180,000 passengers. An additional 33 BEBs have been procured. UTA has been awarded two Low-No grants from the Federal Transit Administration that have contributed to BEB and charging infrastructure purchases.

The Westside Express is a mitigation for the MVC which currently consists of a one-way frontage road system with 44 existing and planned signalized intersections. Currently, all traffic is required to stop at these intersections, contributing to increased emissions that are a result of vehicles idling while stopped. The future freeway buildout includes a new facility to be located in between the existing frontage road system with grade separated bridge structures over all cross streets. The construction of the freeway system will eliminate idling at intersections, resulting in reduced overall emissions.

UTA is constructing a new bus garage in Salt Lake City called the Depot District Clean Fuels Tech Center. This new garage will replace UTA's Central Bus Garage which is nearing the end of its useful life and is no longer large enough. When complete in 2023, the new LEED-certified Tech Center will provide capacity for 150 buses, 25 of which will be BEBs and 47 of which will be CNG.²⁴ Over 40 years, the facility is estimated to result in \$5.7 million worth of reduced carbon dioxide (CO₂) emissions and \$13 million worth of reduced Criteria Air Pollutants, as monetized in a benefit-cost analysis performed by Zions Public Finance for the UTA. The BCA resulted in a return on investment of \$1.88 per dollar of project cost.²⁵

23 <https://blogs.constellation.com/sustainability/blog-series-how-energy-technology-reduces-consumption-and-spend-a-look-at-fleet-electrification/>

24 <https://www.rideuta.com/Current-Projects/Depot-District-Clean-Fuels-Tech-Center>

25 https://rideuta.com/-/media/Files/About-UTA/Projects/Depot-District/Depot_District_Clean_Fuels_Tech_Center_WEB.ashx

UTA has shifted to renewable sources of electricity in other areas, including the S-Line streetcar which is believed to be the only streetcar system in the US powered entirely by electricity generated by wind and solar. Over 350,000 kWh are sourced from solar and over 430,000 kWh are sourced from wind through Rocky Mountain Power. Together, operating the streetcar on renewable sources of electricity saves over 1.4 million tons of CO₂ emissions annually.²⁶

Four TRAX Green Line light rail stations have been equipped with rooftop solar that will generate 90,000 kWh annually (*Figure 5-2*). Each station's solar system provides enough power to operate all station needs, including lighting, ticket machines, and outlets.²⁷

*Figure 5-2. Green Line TRAX station with rooftop solar.*²⁸



The Utah Transit Authority is committed to addressing the growing environmental threat caused by climate change. From 2018 to 2019 alone, the agency has:²⁹

- Reduced nitrogen oxides (NO_x) and PM fleet emissions by 21 percent.
- Deployed 3 BEBs and procured 33 more.

- Upgraded FrontRunner commuter rail locomotive to Tier II emission standards, resulting in a 29 percent reduction in air pollution emissions.
- Reduced hazardous waste generation by 33 percent through more efficient use of paint and other materials.

UTA's partners similarly acknowledge their environmental responsibilities, and the Westside Express will contribute to City and State climate commitments. Salt Lake City's commitment is called Climate Positive SLC, which commits to 100 percent renewable energy for electricity by 2030 and an 80 percent reduction in greenhouse gas emissions from 2009 levels by 2040. It specifically notes that "[r]educing emissions from other sources, including on-road transportation...will also be critical to achieving the...goal."³⁰ The Westside Express directly reduces on-road transportation emissions by providing a more sustainable travel option that is expected to attract over 3,000 passengers daily.

At the State level, the Utah Roadmap³¹ contains a set of recommendations to reduce greenhouse gas emissions and improve air quality established by a technical committee consisting of the Salt Lake City Department of Sustainability, Salt Lake County, WFRC, UDOT, and UTA. Recommendations include:

1. Reduce criteria pollutant air emissions below 2017 levels by 50 percent by 2050.
2. Reduce CO₂ emissions 25 percent below 2005 levels by 2025, 50 percent by 2030, and 80 percent by 2050.
3. Accelerate quality growth, which includes more transportation choices and linking economic development with transportation and housing decisions.

26 Rocky Mountain Power. 2021. Adding renewable energy to UTA's S-Line.

27 <https://www.businesswire.com/news/home/20130530006065/en/Enphase-Energy-Powers-Utah-Transit-Authority-Airport>

28 Ibid

29 UTA. June 20, 2020. 2019 Sustainability Summary.

30 <https://www.slc.gov/sustainability/climate-positive/#:~:text=Climate%20Positive%20SLC%20is%20the,Community%20Electricity%20Supply%20by%202030>

31 <https://gardner.utah.edu/wp-content/uploads/TheUtahRoadmap-Feb2020.pdf>

The Westside Express will provide a more sustainable transportation choice using BEB buses, directly contributing to the third goal. By using BEBs, the service will significantly contribute to the emissions reductions stated in goals one and two.

5.3 QUALITY OF LIFE

During planning for the MVC project, specific outreach was conducted to environmental justice (EJ) populations in the affected area.³² This outreach included:³³

- During project scoping, a meeting was held in Spanish at a Hispanic community center Centro de la Familia.
- Hispanic-oriented publications and broadcast stations were contacted and provided with a media kit.
- 7500 flyers were delivered door to door.

- Flyers in Spanish distributed to Utah Department of Workforce Services and the Salt Lake-Tooele Applied Technology College and emailed to almost 100 Hispanic contacts including community leaders, business owners, and various organizations.
- Public meetings in West Valley City and Magna had materials available in Spanish and translators present.
- Website in English and Spanish.

The MVC environmental impact statement (EIS) documented EJ populations by area, though at the time of analysis the transit component was a shorter BRT route. *Table 5-1* summarizes locations of minority and low-income populations near this route and specifies how the longer Westside Express route will serve them.

*Table 5-1. Westside Express stations in relation to EJ populations.*³⁴

EJ population	Category	Location	How Westside Express serves the population
Minority	Population	West Valley City and Kearns south of SR 201 and north of 5400 S.	Will be a station at 5400 S.
		Along 5600 W between 4100 S and 6200 S and between SR 201 and 4100 S.	Will be stations at 4100 S, 4700 S, 5400 S, and 6200 S.
	Service providers	Utah Department of Workforce Services and Salt Lake-Tooele Applied Technology College at 5600 W and 2750 S.	Will be a station at 2700 S.
	Schools	Hunter High located at 5600 W 4200 S has 29.5 percent minority students (above County average of 23 percent).	Will be a station at 4100 S.
Low income	Population	Magna, West Valley City, and Kearns between SR 201 and 7000 S and between 4800 W and 8000 W.	Will be stations at 2700 S, 3500 S, 4100 S, 4700 S, 5400 S, 6200 S, and 7000 S.
		Along 5600 W between about 4100 S and 4700 S.	Will be stations at 4100 S and 4700 S.
	Service providers	Ellis R. Shipp Public Health Center at 4535 S 5600 W.	Will be a station at 4700 S.
		Salt Lake–Tooele Applied Technology College at 2750 S 5600 W.	Will be a station at 2700 S.
		Utah Department of Workforce Services at 2750 S 5600 W.	Will be a station at 2700 S.
	Schools	Thomas Jefferson Junior High located at 5600 W 5850 S has 43 percent of students qualifying for free or reduced-price lunch.	

*Note: EJ populations as documented by the MVC EIS (ROD signed in 2008) using 2000 decennial Census data.*³⁵

³² https://mountainview.udot.utah.gov/wp-content/uploads/2019/08/07-Environmental_Justice.pdf

https://mountainview.udot.utah.gov/wp-content/uploads/2019/08/figure_chapter7.pdf

³³ https://mountainview.udot.utah.gov/wp-content/uploads/2019/08/07-Environmental_Justice.pdf

³⁴ https://mountainview.udot.utah.gov/wp-content/uploads/2019/08/07-Environmental_Justice.pdf

https://mountainview.udot.utah.gov/wp-content/uploads/2019/08/figure_chapter7.pdf

https://mountainview.udot.utah.gov/wp-content/uploads/2019/09/MVC_TransitReevaluation_FINAL.pdf

³⁵ Ibid



During meetings with low-income and minority service providers, it was noted that the 5600 West Transit Alternative (now expanded and called the Westside Express, as described in *Section 2.2* Project History) would benefit environmental justice populations. Specifically, these populations would benefit from increased access to affordable transportation along a corridor that includes shopping and other services. A station near the Salt Lake–Tooele Applied Technology College and the Utah Department of Workforce Services (2750 S 5600 W) would benefit environmental justice populations that currently do not have adequate public transportation to these destinations. In concluding, the EJ analysis found that transit service will improve economic conditions by providing more employment opportunities near transit, result in less congestion than existing conditions, likely require no relocations considering use of the shoulder of the existing roadway, and cause no disproportionately high impacts on minority or low-income communities.³⁶

Because planning for the MVC project is dated, analysis of current data for the longer Westside Express route was conducted. Over 60,000 people live within a half mile from stations along the 29-mile route. This population, compared to Salt Lake County as a whole, has a higher proportion of individuals:

- With limited English proficiency;
- Living in poverty;
- Identifying as minorities, most of which are Hispanic or Latino and some of which are Asian and Native Hawaiian or other Pacific Islander; and
- Without access to a private vehicle (twice as many as Salt Lake County).³⁷

The population along the Westside Express route was also compared to the population within a half mile of all other UTA services. Compared to those near existing UTA services, the population served by this new transit service has a greater proportion of people:

- With limited English proficiency;
- Living in poverty;
- Identifying as minorities; and
- Without access to a private vehicle.³⁸

Table 5-2 summarizes demographic data around Westside Express stations compared to all UTA services and Salt Lake County as a whole. From both analyses, it becomes clear the Westside Express will provide a needed, affordable, and sustainable transportation service to a considerable number of equity individuals and families, redressing disparities in this corridor.

*Table 5-2. Demographics within ½ mile of Westside Express stations compared to all UTA services and Salt Lake County.*³⁹

Population	All UTA services	County	Westside Express
Limited English proficiency	6%	7%	12%
Living in poverty (200%)	29%	26%	37%
Identifying as minority	27%	28%	43%
Without access to a private vehicle	5%	5%	10%

³⁶ https://mountainview.udot.utah.gov/wp-content/uploads/2019/08/07-Environmental_Justice.pdf

https://mountainview.udot.utah.gov/wp-content/uploads/2019/08/figure_chapter7.pdf

³⁷ American Community Survey (ACS) 5-Year Estimates (2010-2014 and 2015-2019 used)

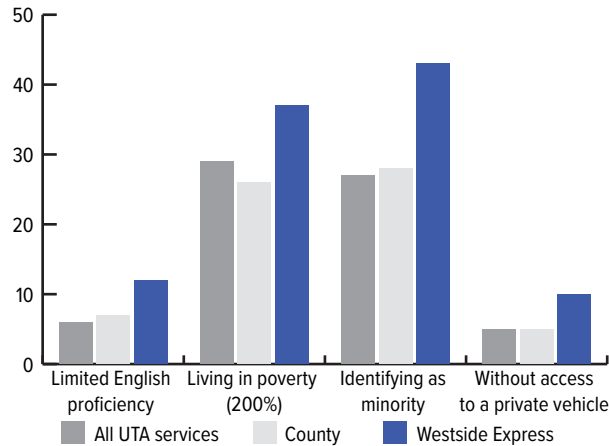
Longitudinal Employer-Household Dynamics (LEHD) Jobs Data

Census Transportation Planning Products Program (CTPP) 2016 Jobs Data

³⁸ Ibid

³⁹ Ibid

Figure 5-3. Demographics within ½ mile of Westside Express stations.



UTA’s planning processes incorporate equity in a number of ways, including through the Transit Propensity Index it uses to understand the potential and need for transit. The Index considers seven factors, but weights two of them (low-income population and minority population) a total of 30 percent. Another 40 percent is given to jobs. By weighting in this way, UTA ensures EJ populations are prioritized for transit service.

Figure 5-4. Hub of Opportunity TOD including affordable units.



UTA also promotes affordable housing in transit-oriented development (TOD). As the agency expands service, it has the opportunity to reserve land around stops and stations for immediate use as park and rides, which has the added benefit of

land banking for future TOD. This practice manages risk for UTA’s development partners.⁴⁰

One successful example of TOD including affordable housing is the Hub of Opportunity located adjacent to the Meadowbrook TRAX light rail station. The development includes 157 residences, of which 110 are affordable. UTA owns the 2.4 acre site and partnered with developers via a ground lease. Feedback has been so positive that the same team is looking for a second location to develop a similar project.

To prioritize stop and station areas for TOD, UTA conducts an annual TOD System Analysis in collaboration with WFRC and municipal partners.⁴¹ This analysis determines which stops and stations fall into particular station typologies that indicate what type of development could then be anticipated. A final ranking is based on TOD readiness, catalytic potential, and the ability to improve housing affordability.

Station area planning is conducted after the TOD System Analysis, also in collaboration with the WFRC and municipalities. UTA is required to evaluate affordable housing needs within the station area and if a station area plan recommends residential use for UTA property, the developer must meet with the Affordable Housing Group—consisting of representatives from state, regional, and/or local housing organizations and the community—to discuss how to incorporate affordable housing into the plan.⁴²

UTA has also signed the Utah Compact on Racial Equity, Diversity, and Inclusion that lays out five principles and actions to create equal opportunity:⁴³

1. **Acknowledgement and action**—We acknowledge that racism exists, and our actions make a difference. We call out racism wherever we see it and take purposeful steps to stop it.

40 https://www.rideuta.com/-/media/Files/Doing-Business/TOD/2019/TOD_Policy_and_Procedures2019xx.ashx

41 <https://www.rideuta.com/Doing-Business/Transit-Oriented-Development/TOD-System-Analysis>

42 https://www.rideuta.com/-/media/Files/Board-of-Trustees/Policies/UTA_Board_Policies_2019_0731new.ashx?la=en

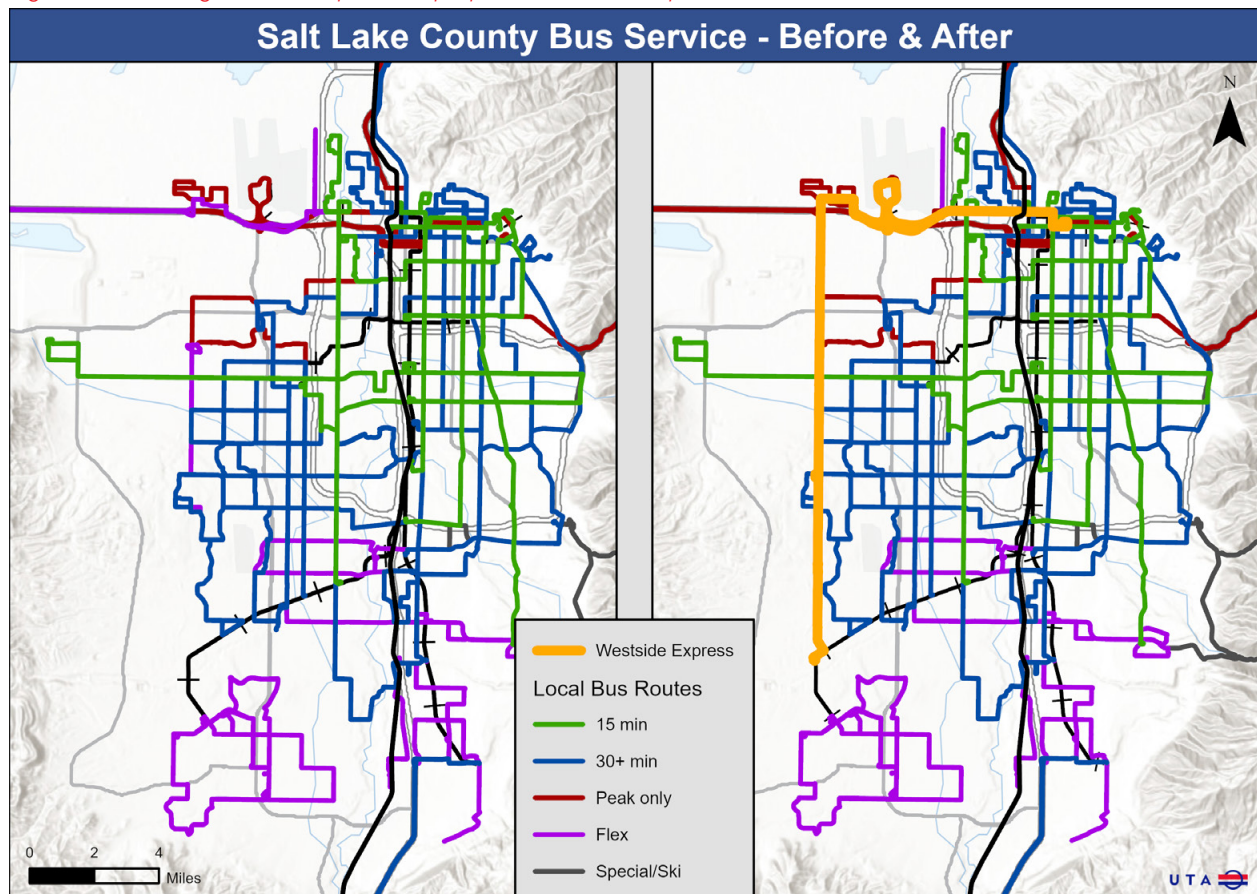
43 <https://www.rideuta.com/news/2021/02/Utah-Compact>
<https://slchamber.com/public-policy/utah-compact/>

2. **Investment**—We invest our time and resources to create greater opportunity for people of color. Eliminating racial and ethnic disparities requires our significant effort and investment.
3. **Public policies and listening**—We advance solutions to racial ills by listening and creating policies that provide equal opportunity and access to education, employment, housing, and healthcare.
4. **Engagement**—We engage to effect change. Broader engagement, equitable representation, and deeper connection across social, cultural, and racial lines will uphold the principle—“nothing about us, without us.”
5. **Movement, not a moment**—Utahns unite behind a common goal to create equal opportunity. We affirm our commitment will not just be a passing moment, but a legacy movement of social, racial and economic justice.

5.4 MOBILITY AND COMMUNITY CONNECTIVITY

Very limited transit service is currently provided within the project corridor. Service is only available on 5600 W—the north-south alignment for the Westside Express—from 2700 S to 6200 S, whereas the Westside Express will provide service from 100 S to 9580 S and continue east-west to downtown Salt Lake City (Figure 5-5). The only currently available transit service is a Flex route (F556) that operates every 30 minutes on weekdays, every 60 minutes on Saturdays, and does not operate at all on Sundays. Flex routes are route-deviation services that operate with scheduled stops, but allow deviations up to $\frac{3}{4}$ mile from the route upon request. All deviations must be requested at least two hours in advance and cost \$1.25 each in addition to the base fare. While the F556 Flex route provides flexibility to passengers, it does not

Figure 5-5. Existing transit compared to proposed Westside Express.



provide the frequency and connectivity needed to reach key areas in the region.

The Westside Express will address these issues by providing direct transit service from the Old Bingham Highway TRAX station, continuing to the airport before terminating in downtown Salt Lake City. By extending the route to downtown, this service will offer a one-seat ride from a large area of the westside to key employment areas in the region (see [Section 3.0](#) Project Location) whereas current services require one or two transfers to access downtown. Furthermore, the Westside Express will operate on 15-minute headways, doubling the peak period frequency compared to current service and thus significantly reducing wait times for passengers.

Sixty thousand (60,000) residents live within a half mile of stations along the Westside Express route. This population is 43 percent minority compared to the population of Salt Lake County which is 28 percent minority. Many of these individuals are Hispanic or Latino, with 30 percent of those living near the route identifying with this group compared to 18 percent in the County. The population that will be served by Westside Express has more limited English proficiency than the population of Salt Lake County, with 12 percent of those living along the route having limited English proficiency compared to 7 percent in the County as a whole. This route will therefore address equity issues around access to transportation that in turn provides access to employment, recreation, healthcare, and other destinations.⁴⁴

The population living along the route is also more likely to be living in poverty compared to Salt Lake County. Using the threshold of 200 percent of the federal poverty line, 37 percent of the population that will be served by Westside Express is living in poverty, compared to one quarter (26 percent) of County residents.⁴⁵ Additional demographic data is discussed in [Section 5.3](#) Quality of Life.

Affordable housing serves multiple purposes. Firstly, it provides much-needed housing for those that cannot afford market rates. Directly related to this project, affordable housing located near high-quality transit like the Westside Express provides these individuals with affordable transportation. For UTA, these passengers are particularly important.

There is a number of affordable housing units and developments located along the route. Most new affordable housing is planned or is being constructed near downtown Salt Lake City or near North Temple west of I-15 and east of I-80.⁴⁶ Below is a list of medium to large developments, both open and under construction, that contain a large number of affordable units:

- Cornell Street Apartments, 211 N Cornell Street, 84116⁴⁷
- Rendon Terrace, 158 N 600 W, 84116⁴⁸
- Planned 1500 W North Temple, 84116⁴⁹
- Freedom Landing, 1900 W North Temple, 84116⁵⁰
- North Temple Flats, 1999 W North Temple, 84116⁵¹
- North Six, 72 N 600 W, Salt Lake City, UT 84116⁵²
- Rendon Terrace, 158 N 600 W, Salt Lake City, UT 84116⁵³

44 American Community Survey (ACS) 5-Year Estimates (2010-2014 and 2015-2019 used)
Longitudinal Employer-Household Dynamics (LEHD) Jobs Data
Census Transportation Planning Products Program (CTPP) 2016 Jobs Data

45 Ibid

46 <https://www.buildingsaltlake.com/where-affordable-housing-is-and-isnt-being-built-in-salt-lake-city/>

47 <https://www.buildingsaltlake.com/where-affordable-housing-is-and-isnt-being-built-in-salt-lake-city/>

48 <https://preservationdatabase.org/>

49 Ibid

50 Ibid

51 Ibid

52 <https://preservationdatabase.org/>

53 <https://resources.hud.gov/#>

Table 5-3. Key destinations served by the Westside Express.

Area	Number served by route	Description
Metropolitan Centers	1	Downtown Salt Lake City, center of the region and largest employment center.
City Centers	3	Localized services to tens of thousands of people within 2-3 mile radius; 1-3 story buildings; 10-50 housing units/acre; streets typically include high-capacity transit and bicycle facilities.
Neighborhood Centers	6	Revolves around stores or civic buildings like a library; 1-3 story buildings; small apartments, townhouses, small lot single family houses; walkable streets often with frequent bus and bicycle facilities.
Industrial Districts	2	Light and heavy industry and warehousing with some office and retail; freight-oriented; served by bus, shuttle, vanpool, or transportation network company.
Employment Districts	1	Classified by employee count; offices or light industrial; attracts from region; major roads/highways/high-capacity transit.
Special Districts	1	Regionally significant area serving a specific purpose apart from residential, retail, office, and industrial; airports, educational campuses, research centers; regional attracters.

- Citifront Apartments, 641 West North Temple, Salt Lake City, UT 84116⁵⁴
- Bodhi Salt Lake City, 750 West South Temple, Salt Lake City, UT 84104⁵⁵
- Liberty Commons Apartments, 2785 SO, Winsted Way, West Valley City, UT 84120⁵⁶
- Magna Academy Park and Hunter, 4024 S Rosemary Circle, West Valley City, UT 84120⁵⁷
- Sunset Ridge Apartments, 5503 West 9000 South, West Jordan, UT 84081⁵⁸

While it is important to consider the individuals living near the route, it is also critical to consider what destinations are served to ensure that those individuals can access employment, community services, and other important destinations. Compared to Salt Lake County, residents living along the corridor are twice as likely to depend on transit because they do not have access to an automobile. The Westside Express route provides access to 14 major employment areas in the city as designated by the Wasatch Front Regional

Council (WFRC; the region’s metropolitan planning organization [MPO]) in its 2019-2050 Regional Transportation Plan (Wasatch Choice 2050).⁵⁹ *Table 5-3* defines the characteristics of these centers, which are presented spatially in *Figure 5-6* (on the following page).

Of residents living in the corridor, 64 percent hold essential jobs. These individuals serve critical roles in the area’s society and economy and most must commute to work; improving transit will directly benefit these residents. In addition, 52 percent of the jobs along the corridor are essential and providing increased access to these jobs for residents elsewhere is also a critical function of Westside Express.⁶⁰ University of Utah Health is constructing a \$400 million facility directly on the Westside Express route at 3750 S. 5600 West in West Valley City. The new West Valley Health and Community Center and will bring 2,000 jobs to the corridor, adding significant employment

54 Ibid

55 Ibid

56 Ibid

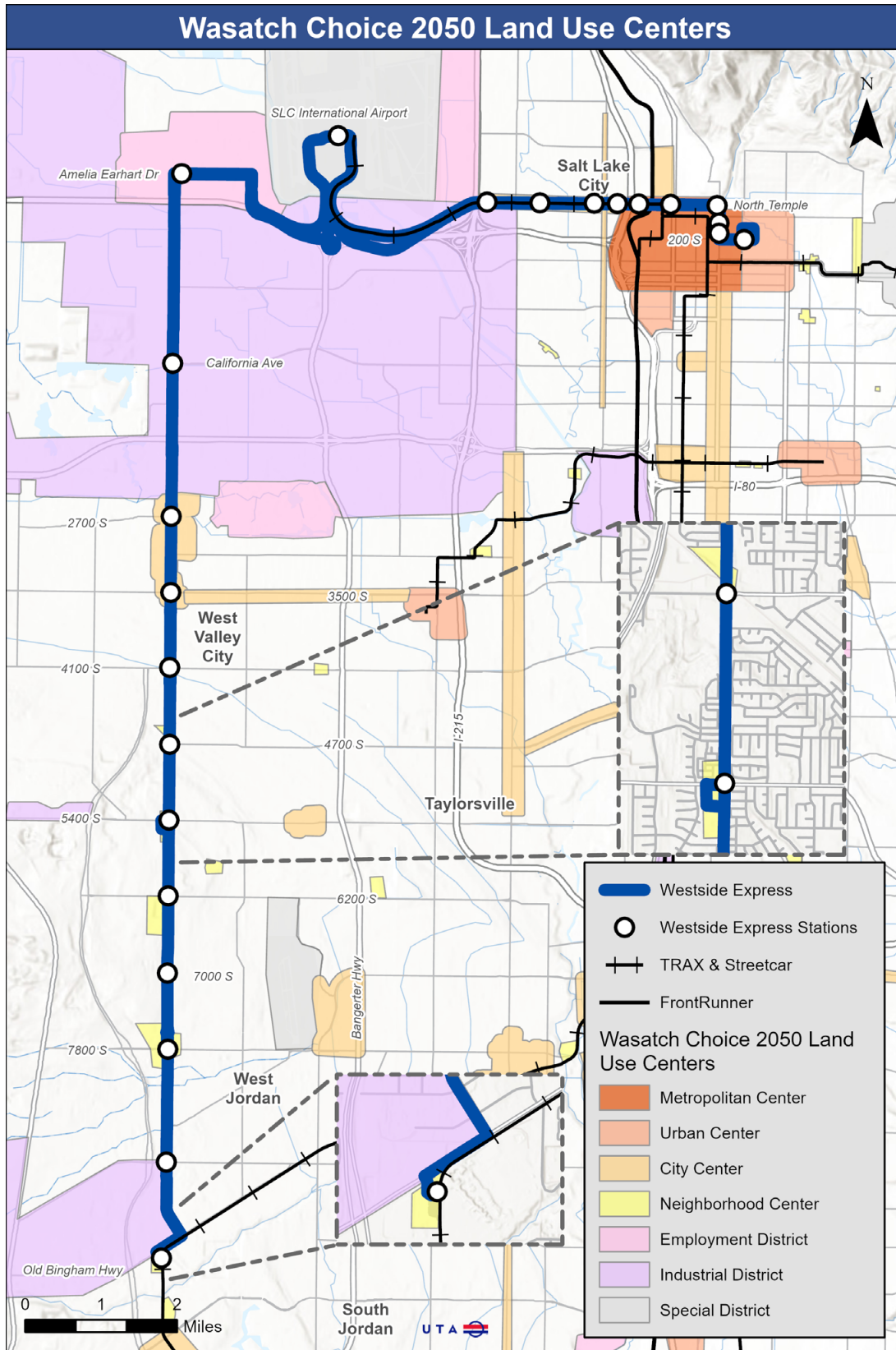
57 <https://preservationdatabase.org/>

58 <https://resources.hud.gov/#>

59 https://wfrc.org/VisionPlans/RegionalTransportationPlan/Adopted2019_2050Plan/RTP_2019_2050_ADOPTED.pdf

60 Calculated per the following recommendations and guidelines: DHS CISA. Identifying Critical Infrastructure During COVID-19. CA Essential Critical Infrastructure Workers. <https://www.cisa.gov/identifying-critical-infrastructure-during-covid-19>

Figure 5-6. Key destinations served by the Westside Express.



opportunities directly accessible from the Westside Express.⁶¹ The new facility also makes access to healthcare to transit riders living within the corridor. The West Valley Health and Community Center highlights the benefits that increased economic activity brings to equity populations living along the corridor both in terms of employment and community services.

In addition to employment opportunities, the Westside Express will provide access to 27 childcare centers and K-12 educational facilities and to recreational destinations in downtown Salt Lake City including the Vivint Smart Home Arena (a 20,000 seat sports and music venue and home to the National Basketball Association's Utah Jazz); historic Temple Square; and the 700,000 square foot Salt Palace Convention Center.

5.5 ECONOMIC COMPETITIVENESS AND OPPORTUNITY

The Westside Express is expected to attract over 3,000 passengers per day. Most of these riders will be new to transit because the service is a new offering in this corridor, providing one-seat rides to major destinations in the region.

Another attractive feature of this service is the use of transit priority elements that will reduce travel time and increase reliability for passengers. These priority elements include dedicated bus operation on the shoulder of the existing roadway, reducing delay from general traffic in the corridor. Queue jumps will be located at key intersections to allow buses to avoid general traffic queues and stations along the route will be limited, reducing dwell time delay.

In addition to travel time savings directly benefiting passengers using the service, there is an indirect

benefit to implementing the Westside Express: when the service is operational, further work can begin on the MVC Phase 2 freeway component, unlocking even greater travel time savings for a wider segment of the region's population.

The 2008 MVC EIS estimated the value of travel time savings for the freeway and transit component in Salt Lake County, and while the transit component was a shorter BRT route at the time, considerable savings were found. In 2030 alone, \$121 million in time congestion cost savings were estimated. Over the period 2016 to 2030, these savings were estimated to be \$930 million.⁶²

There will likely be travel time savings benefits to freight operators as well. The International Center is a hub for major carriers including UPS and Amazon and is located directly on the Westside Express route. By shifting drivers of private vehicles to transit, congestion will be reduced and produce time savings for freight movement in and out of warehouses and distribution centers in this area.

It is important to note that the majority (64 percent) of the population living within a half mile of the Westside Express route hold essential jobs. Moreover, almost half (47 percent) of the jobs within a half mile of the route are essential.⁶³ Currently, many of these commutes require between one and three transfers on existing UTA services. Because the Westside Express is a long route that connects major employment areas in the region, many of these essential workers will experience a one-seat ride to work.

Construction activities associated with Westside Express are expected to generate 334 jobs.⁶⁴ For UTA to operate and maintain the buses and facilities, approximately 32 union jobs will be created.

61 <https://www.sltrib.com/news/health/2022/03/09/big-hospital-complex-is/>

62 <https://mountainview.udot.utah.gov/wp-content/uploads/2019/08/09-Economics.pdf>

63 Calculated per the following recommendations and guidelines: DHS CISA. Identifying Critical Infrastructure During COVID-19. CA Essential Critical Infrastructure Workers. <https://www.cisa.gov/identifying-critical-infrastructure-during-covid-19>

64 <https://www.apta.com/wp-content/uploads/APTA-Economic-Impact-Public-Transit-2020.pdf>

For construction work, UTA will adhere to its disadvantaged business enterprise (DBE) program that requires a portion of the contract value to be awarded to companies that are at least 51 percent owned and controlled by minorities, women, or other disadvantaged groups. In addition, owner net worth cannot exceed \$1.32 million; therefore, the DBE program doubles as a small business program because it meets the Small Business Administration definition. The program is also compliant with 49 CFR Part 26.⁶⁵

5.6 STATE OF GOOD REPAIR

UTA has a robust asset management system to ensure transit infrastructure is maintained in a state of good repair. All assets and their condition are tracked in UTA’s integrated JD Edwards asset management system, and costs to keep them in good repair are estimated. These costs and projects are evaluated and rolled into UTA’s five-year budget plan, which is updated at least annually. The assets associated with Westside Express service will be included in this tracking system.

UTA will use BEBs to provide Westside Express service. The agency’s asset management system tracks cost per mile of the various bus types operated; average values by bus type are shown in *Table 5-4* for the calendar years 2013 to 2020. BEBs are the most efficient bus that UTA operates, providing both environmental and financial benefits to the agency and community at large. This aligns with research that has found electric vehicles 2.5 times cheaper to power than diesel vehicles, with the added benefit of greater price stability in the electricity market compared to diesel.⁶⁶ Operating cost savings allow UTA to fund state of good repair projects to adequately maintain the fleet to ensure the safest and most efficient possible service.

Table 5-4. Cost per mile by bus type.

Bus type	Cost per mile
Diesel	\$ 0.75
Hybrid	\$ 0.73
CNG	\$ 0.61
BEB	\$ 0.60

UTA’s five-year capital plan for 2022 to 2026 specifies that projects are prioritized for funding in part based on the objectives of “Assuring a Safe System” and “Maintaining a State of Good Repair.” UTA Board policy also requires a capital replacement reserve equal to one percent of property, facilities, and equipment costs as reported in the comprehensive annual financial report that is to be used for capital repair or replacement costs due to extraordinary circumstances. This allows the agency to continue to address state of good repair needs even in the case of major revenue shortages such as that caused by the pandemic. Board policy also requires that the five-year capital plan be fiscally constrained and adequate to maintain all assets in a state of good repair.

5.7 PARTNERSHIP AND COLLABORATION

UTA is the project sponsor and applicant for this RAISE grant. However, UDOT is a uniquely strong and committed partner because the success of the Westside Express allows UDOT to continue work on Phase 2 of the MVC. Without the Westside Express in revenue service, no additional work can occur on MVC. In the MVC agreement between UTA and UDOT, the two agencies “agree to work together and support each other’s efforts to secure necessary funding.”

Per the terms of the Revised ROD, UDOT is responsible for acquiring Right-Of-Way (ROW), promoting the service to the public, and partly funding operating expenses. UDOT is contributing three parcels to be used as

⁶⁵ <https://www.rideuta.com/Doing-Business/Disadvantaged-Enterprises>

https://www.rideuta.com/-/media/Files/Doing-Business/DBE/1_1_20_Disadvantaged_Business_Enterprise.ashx?la=en

⁶⁶ <https://www.eesi.org/papers/view/fact-sheet-electric-buses-benefits-outweigh-costs>

park and rides and because the Westside Express will run primarily along a state road (5600 W), UDOT has contributed the property rights necessary to build and operate the service.

Municipalities along the route are also key partners able to support the success of Westside Express through land use planning. West Valley City is anticipating transit service by planning for the redevelopment of Hunter Town Center directly adjacent to the route at 5600 W and 3500 S. This will be a transit-rich location with UTA's existing route 35 service operating on 3500 S and the Westside Express connecting to it at this location.

The Westside Express project also benefits from a partnership agreement between UTA and Rocky Mountain Power. While UTA has control over their facilities and bus procurements, much of the infrastructure needed to support BEBs has been upgraded by Rocky Mountain Power. A strong partnership exists here as UTA has been a renewable energy subscriber with Rocky Mountain Power since 2012 and powers the S-Line streetcar via wind and solar through this provider.

The following agencies and public officials have submitted letters of support at the time of UTA's RAISE grant application:

- Utah Department of Transportation
- Governor Cox
- Salt Lake City
- Wasatch Front Regional Council
- Senator Lee
- Senator Romney
- Congressman Curtis
- Congressman Moore
- Congressman Owens
- Congressman Stewart
- Utah Clean Air Partnership (UCAIR)

5.8 INNOVATION

5.8.1 Innovative Technologies

As discussed in [Section 5.2](#) Environmental Sustainability, UTA is constructing the Depot District Clean Fuels Tech Center. This new garage

will meet LEED standards and provide capacity for 150 buses, 25 of which will be BEBs and 47 of which will be CNG.

UTA has shifted to renewable sources of electricity in other areas, including the S-Line streetcar which is now powered entirely by electricity generated by wind and solar. Operating the streetcar on renewable sources of electricity saves over 1.4 million tons of CO₂ emissions annually.

Four Green Line light rail stations have been equipped with rooftop solar that will generate enough power to operate all station needs, including lighting, ticket machines, and outlets.

UTA has recently established an Office of Innovative Mobility Solutions (IMS) to pursue new services and technologies. IMS identifies opportunities and tests promising ideas that can improve transit service while increasing efficiency and cost-effectiveness. With rapid changes to transportation, IMS is dedicated to help shape this evolving mobility landscape for UTA riders and communities.

UTA has partnered with UDOT on an autonomous vehicle (AV) pilot project to explore how AVs could be used to provide transit in the region, most likely as a first/last mile connection to transit.

In partnership with Via, UTA launched a microtransit pilot service that operates in the cities of Bluffdale, Draper, Herriman, Riverton, and South Jordan in Salt Lake County. The service area includes seven TRAX light rail and FrontRunner commuter rail stations and UTA/Via's evaluation of the service will determine if it effectively serves as a first/last mile connector to these stations to warrant permanent investment.

5.8.2 Innovative Project Delivery

The Westside Express transit service is unique in that it serves as a mitigation measure for the freeway component of the MVC congestion relief project. Requiring the deployment of new transit service prior to full build-out of the highway component ensures the implementation of a

more balanced—and equitable—transportation investment in the corridor.

5.8.3 Innovative Project Financing

UTA is leveraging over \$17.1 million in funding from the Volkswagen Diesel Emissions Environmental Mitigation Trust Fund to purchase the 20 buses and charging facilities necessary to operate the Westside Express service. These funds were

made available to UTA by the Utah Department of Environmental Quality pursuant to the \$2.7 billion settlement reached by Volkswagen and the US Environmental Protection Agency in January 2018 for violations of the Clean Air Act. UTA matched the settlement funding with \$12 million of its own sales tax revenue.

6.0 Project Readiness

6.1 ENVIRONMENTAL RISK

6.1.1 Project Schedule

This project is relatively unique among RAISE grant applications in that it has already undergone a full environmental analysis in compliance with the National Environmental Policy Act (NEPA) of 1969. An EIS was completed with the original ROD executed in 2008, with a re-evaluation of the transit mitigation measure performed in 2019 and a revised ROD signed on January 9, 2020. FTA has advised UTA that it must subject the project to its own environmental clearance and UTA has already initiated that process.

Procurement of the BEB vehicles is already underway. UTA is also preparing procurement documents for design services of the stations and park and rides. UTA estimates this design work will require approximately one year to complete, with construction able to begin in Spring 2024 and revenue service operational by Fall 2025, as shown in *Figure 6-1*.

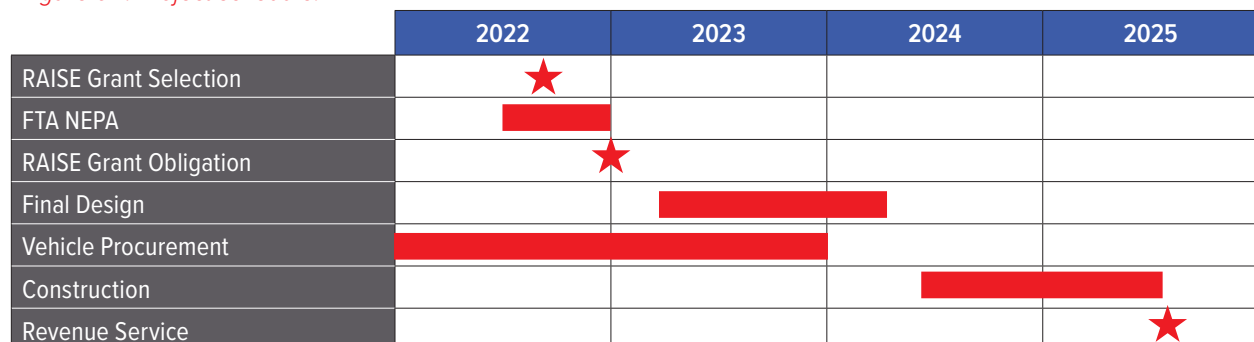
UTA has extensive experience delivering federally-funded transit improvements to the Salt Lake metropolitan area. The agency received one of the most prestigious awards in the public transportation industry for its service and effectiveness. The American Public Transportation Association (APTA) named UTA the 2014 Outstanding Public Transportation System. UTA can successfully implement the construction contracts and projects needed to construct the Westside Express

improvements. Many of UTA’s current project management and consulting team worked on its five year, \$2.3 billion, 70-mile FrontLines 2015 program and will be involved with implementing Westside Express. Frontlines 2015 projects were originally planned to be built over seven years, but were completed and operating two years early, and significantly under budget. Since then UTA’s team has successfully delivered the large 10.5-mile Utah Valley Express (UVX; aka Provo-Orem BRT) and the Sugarhouse Streetcar double-tracking project, and will complete a 2016 TIGER-funded pedestrian and bike improvements program of projects in 2022. This project has successfully navigated changes in budget and schedule due to construction inflation and challenges resulting from the COVID-19 pandemic.

Moreover, as verified in its 2019 FTA triennial review, UTA has the technical, legal, and financial capability to successfully complete the Westside Express. UTA is a designated recipient in the State of Utah and is eligible and authorized under state and local law to request, receive, and dispense FTA funds, and to execute and administer FTA funded projects. The authority to take all necessary action and responsibility on behalf of UTA is properly delegated and executed. UTA has demonstrated the ability to:

- Match and manage FTA/USDOT grant funds.
- Cover cost increases and operating deficits.
- Finance, maintain, and operate federally funded facilities and equipment.
- Conduct and respond to applicable audits.

Figure 6-1. Project schedule.



UTA will implement FTA/USDOT-funded projects in accordance with grant requirements, master agreements, and all applicable laws and regulations using sound management practices.

6.1.2 Required Approvals

Environmental Approvals/Coordination

As noted in the previous section, the EIS was completed with the signing of the original ROD on November 17, 2008.⁶⁷ Since then, an EIS Re-evaluation⁶⁸ has been undertaken and approved on August 26, 2019, with a revised ROD issued on January 9, 2020.⁶⁹ UTA is working with FTA to facilitate its own environmental review.

Public Comments & Commitments

Public comments received on the Westside Express (then known as the transit component of the Revised Selected Alternative) were positive, including requests for additional stops and additional transit improvements. Comments also stated support for the change from BRT to a longer express bus route, as it served more corridor residents at a lower cost.⁷⁰

Uniquely, the Westside Express is itself a commitment as mitigation for the MVC freeway. This transit service must be operational prior to further work on the MVC freeway.

State and Local Approvals

UDOT is the owner of the state route the majority of this project runs on. Their letter regarding this application states that they are a partner in the development of the project, and that they will work diligently with UTA to realize the implementation of the project. UDOT permitting is the main state permit that will be required—having them as a partner will help speed the project through their processes. UTA and UDOT will develop a project agreement that will specifically address this state permit.

Local entities that will require permits are Salt Lake City for the portion of the alignment on North Temple, and the other localities where park and ride stations are located. All these local municipalities are strong advocates and partners for the project. An agreement similar to the UDOT process described above will also be developed, and the building permits with other cities will be obtained through the usual project development and implementation processes.

Federal Transportation Requirements Affecting State and Local Planning

The Westside Express is included in WFRC's and UDOT's financially constrained 2040 Long Range Transportation Plans. WFRC has programmed \$2.1 million in CMAQ funding for BRT on 5600 W—the original transit component of the MVC. WFRC intends to revise its Transportation Improvement Program (TIP)—and UDOT its Statewide TIP—to reflect the revised project scope in its next planned TIP/STIP update, or immediately upon USDOT selection of the project for a RAISE grant award.

6.1.3 Assessment of Project Risks and Mitigation Strategies

Delivery of Westside Express service involves very little risk. The project already has one environmental Record of Decision. Most of the ROW is already owned by UTA and UDOT. The project is not complex, with vehicle procurement already under way, and the construction of at-grade transit stations and park and rides are the only major capital expenses. UTA and UDOT have partnered previously on TSP and other transit operational enhancements on UDOT facilities. Nevertheless, any capital investment carries some risk, and the highest risks and identified mitigation strategies are presented in *Table 6-1* on the following page.

67 <https://mountainview.udot.utah.gov/feis/>

68 https://mountainview.udot.utah.gov/wp-content/uploads/2019/09/MVC_TransitReevaluation_FINAL.pdf

69 https://mountainview.udot.utah.gov/wp-content/uploads/2020/04/13149_MVCTransit_RevisedROD_Signed011520.pdf

70 https://mountainview.udot.utah.gov/wp-content/uploads/2020/04/13149_MVCTransit_RevisedROD_Signed011520.pdf
https://mountainview.udot.utah.gov/wp-content/uploads/2019/09/MVC_TransitReevaluation_FINAL.pdf

Table 6-1. Project delivery risks and mitigation strategies.

Risk	Mitigation Strategies
Electric Grid Capacity	UTA and Rocky Mountain Power have a master agreement in place and the Utility has guaranteed sufficient grid capacity is available where BEBs will be charged.
Project Capital Cost Increases	The basis of the project’s cost estimate is presented in Section 4.0. While an increase in the cost estimate is unlikely, UTA has the discretion and financial capacity to temporarily allocate funding from future programmed capital projects to ensure the timely completion of Westside Express.
Operating Costs Exceed Estimate	<p>UTA board policy specifies that the agency must maintain an operating/risk reserve of 12 percent of budgeted operating expenses. Similarly, the agency must maintain a service stabilization reserve of three percent of budgeted operating expenses. Both of these funds allow UTA to mitigate the risk of funding shortfalls or operating cost increases. If funding does fall below expected levels due to a recession, pandemic, or other unforeseen cause, or costs increase, the agency can use these reserved funds to maintain services for their passengers.</p> <p>In addition, UDOT, as a key project partner, is obligated to partially fund operations and maintenance of the Westside Express per terms of the Revised ROD signed in 2020. As a binding document, the Revised ROD ensures a sustainable source of funding.⁷¹</p>
Request for Betterments	UTA is setting expectations now with all project partners and within UTA departments to understand and accept the project scope as defined in this RAISE application.



71 https://mountainview.udot.utah.gov/wp-content/uploads/2020/04/13149_MVCTransit_RevisedROD_Signed011520.pdf

7.0 Benefit-Cost Analysis

A Benefit-Cost Analysis (BCA) was conducted in conformance with USDOT 2022 Benefit Cost Analysis Guidance for Discretionary Grant Programs⁷² for identifying, quantifying, and comparing expected benefits to assess the impacts of the Project. The methodology, assumptions, data sources, and detailed calculations of the BCA are documented in the Project’s BCA Technical Memorandum and uploaded to grants.gov.

7.1 PRESENT VALUE ESTIMATES

Overall, the present value estimates of the Project’s benefits and costs relative to a no-build baseline produce a benefit-cost ratio of 1.29, indicating that the benefits to society exceed the Project’s cost. All elements are discounted to constant 2019 dollars using a real discount rate of 7 percent per year except for carbon-related benefits which are discounted at a rate of 3 percent. Starting with the opening of revenue service in 2025, a 25-year analysis period is assumed, and project elements are assumed to have a useful life of 25 years.

7.2 ECONOMIC BENEFITS

The primary quantified benefit stems from vehicle operating cost savings as drivers become Westside

Express riders. The analysis conservatively estimated zero growth in ridership over time—unlikely considering the growth of the region—suggesting that benefits will in fact increase over time.

Other quantified benefits include transit amenities, avoided crashes, roadway maintenance cost savings, travel time savings, and emissions cost savings.

Unquantified benefits include:

- Increased access to transit for low income and minority individuals along the corridor
- Connection to a growing warehouse and distribution area that provides increasing employment opportunities
- Creation of new opportunities for TOD around stations

Table 7-1. Summary of discounted benefits and costs.

Factor	Value
Net Benefits	\$ 65.35
Capital Cost	\$ 50.64
Benefit/Cost Ratio	1.29
Net Present Value	\$ 14.71



⁷² USDOT 2022 BCA Guidance. March 2022. <https://www.transportation.gov/office-policy/transportation-policy/benefit-cost-analysis-guidance-discretionary-grant-programs-0>