Utah Transit Authority
Presentation to the
Transportation Interim Committee
of the
Utah State Legislature

22 October 2020

UTA FAQs
Service, Costs, Efficiency and Effectiveness

UTA Fast Facts

- 6 counties
- 77 municipalities
- 1,400 sq miles
- Serves 80% of the state's population

- 2,500+ employees

- 44.2 million trips in 2018
- 152,826 average boardings per day in 2018

- 398 vanpool vehicles
- 126 shared park and ride lots

- Fleet 100% accessible to riders with disabilities

UTA Fast Facts

- 713 buses
- 96 regular bus routes
- 14 FLEX routes
- 6,346 bus stops

- 117 TRAX/streetcar vehicles
- 47.2 light rail/streetcar miles
- 52 light rail/streetcar stations

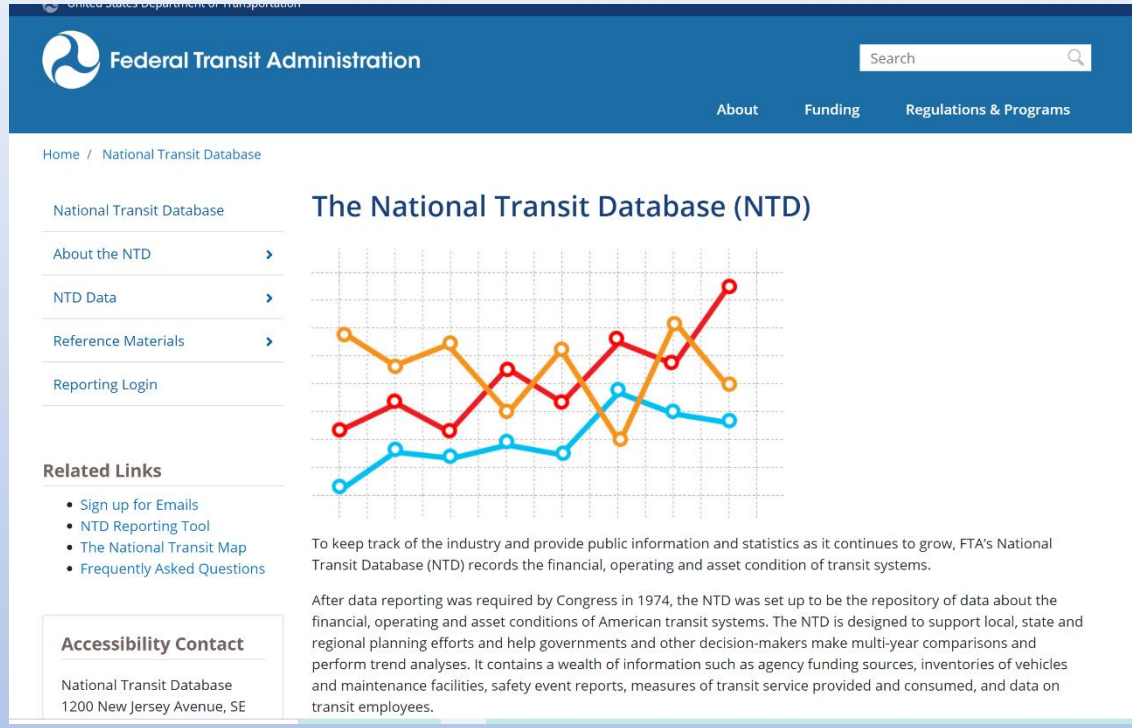
- 18 FrontRunner locomotives
- 52 passenger cars
- 83 commuter rail miles
- 15 stations

UTA FAQs:

How much do taxpayers spend on transit, and where does it go?

National Transit Database

- Data reporting on public transit systems was required by Congress in 1974.
- Established to be the repository of data about the financial, operating and asset conditions of American transit systems.
- Designed to support local, state and regional planning efforts and help governments and other decision-makers make multi-year comparisons and perform trend analyses.



www.transit.dot.gov/ntd

1. **NTD Data**
2. **Transit Agency Profiles**
3. **Utah Transit Authority**

UTA – Transit Agency Profile 2018

http://www.rideuta.com/
669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

2018 Annual Agency Profile

General Information

Urbanized Area Statistics - 2010 Census

Salt Lake City-West Valley City, UT
278 **Square Miles**
1,021,243 **Population**
42 **Pop. Rank out of 498 UZAs**

Other UZAs Served

77 Ogden-Layton, UT, 82 Provo-Orem, UT, 0 Utah Non-UZA

Service Area Statistics

737 **Square Miles**
1,883,504 **Population**

Service Consumption

358,146,681 **Annual Passenger Miles (PMT)**
44,176,331 **Annual Unlinked Trips (UPT)**
151,901 **Average Weekday Unlinked Trips**
75,207 **Average Saturday Unlinked Trips**
29,911 **Average Sunday Unlinked Trips**

Service Supplied

39,149,927 **Annual Vehicle Revenue Miles (VRM)**
2,160,581 **Annual Vehicle Revenue Hours (VRH)**
1,113 **Vehicles Operated in Maximum Service (VOMS)**
1,388 **Vehicles Available for Maximum Service (VAMS)**

Database Information

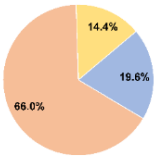
NTDID: 80001
Reporter Type: Full Reporter

Financial Information

Sources of Operating Funds Expended

Fares and Directly Generated	$84,206,427	19.6%
Local Funds	$283,418,933	66.0%
State Funds	$0	0.0%
Federal Assistance	$61,759,422	14.4%
Total Operating Funds Expended	$429,384,782	100.0%

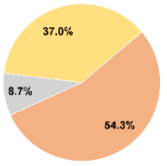
Operating Funding Sources



Sources of Capital Funds Expended

Fares and Directly Generated	$0	0.0%
Local Funds	$46,753,477	54.3%
State Funds	$7,479,676	8.7%
Federal Assistance	$31,806,236	37.0%
Total Capital Funds Expended	$86,039,389	100.0%

Capital Funding Sources



Summary of Operating Expenses (OE)

Labor	$210,617,778	70.0%
Materials and Supplies	$49,475,245	16.4%
Purchased Transportation	$4,725,168	1.6%
Other Operating Expenses	$36,135,860	12.0%
Total Operating Expenses	$300,954,051	100.0%
Reconciling OE Cash Expenditures	$128,430,731	
Purchased Transportation (Reported Separately)	$0	

Modal Characteristics

Modal Overview

Mode	Vehicles Operated in Maximum Service: Directly Operated	Vehicles Operated in Maximum Service: Purchased Transportation	Uses of Capital Funds: Revenue Vehicles	Uses of Capital Funds: Systems and Guideways	Uses of Capital Funds: Facilities and Stations	Uses of Capital Funds: Other	Uses of Capital Funds: Total
Commuter Bus	43	-	$0	$14,777	$13,468	$19,269	$47,514
Commuter Rail	50	-	$0	$9,023,656	$84,673	$99,256	$9,207,585
Demand Response	67	45	$3,534,540	$37,536	$68,374	$49,876	$3,690,326
Light Rail	92	-	$0	$12,002,130	$626,659	$163,734	$12,792,523
Bus	412	6	$19,675,338	$2,157,049	$6,063,861	$326,885	$28,223,133
Vanpool	398	-	$1,149,248	$85,204	$30,099	$113,214	$1,377,765
Total	1,062	51	$24,359,126	$23,320,352	$6,887,134	$772,234	$55,338,846

Operation Characteristics

Mode	Operating Expenses	Fare Revenues	Uses of Capital Funds	Annual Passenger Miles	Annual Unlinked Trips	Annual Vehicle Revenue Miles	Annual Vehicle Revenue Hours	Fixed Guideway Directional Route Miles	Vehicles Available for Maximum Service	Vehicles Operated in Maximum Service	Percent Spare Vehicles	Average Fleet Age in Years[a]
Commuter Bus	$8,635,671	$521,819	$47,514	12,395,920	563,563	1,066,181	41,128	0.0	47	43	8.5%	12.6
Commuter Rail	$43,421,951	$7,375,985	$9,207,585	129,673,508	5,082,168	5,429,232	164,930	174.5	69	50	27.5%	17.2
Demand Response	$18,695,571	$400,466	$3,690,326	4,567,676	394,816	2,798,928	180,342	0.0	142	112	21.1%	4.3
Light Rail	$71,414,293	$18,089,935	$12,792,523	89,112,550	17,899,716	6,655,535	362,257	93.9	114	92	19.3%	11.3
Bus	$140,001,661	$17,788,256	$28,223,133	79,344,438	19,061,372	16,845,223	1,243,058	0.0	531	418	21.3%	7.9
Vanpool	$18,784,904	$3,946,125	$1,377,765	43,052,589	1,174,696	6,354,828	168,866	0.0	485	398	17.9%	5.4
Total	$300,954,061	$48,122,586	$55,338,846	358,146,681	44,176,331	39,149,927	2,160,581	268.4	1,388	1,113	19.8%	

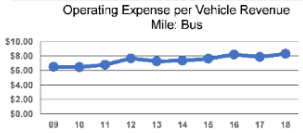
Performance Measures

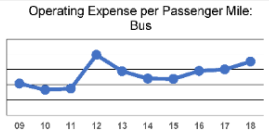
Service Efficiency

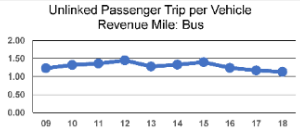
Mode	Operating Expenses per Vehicle Revenue Mile	Operating Expenses per Vehicle Revenue Hour
Commuter Bus	$8.10	$209.97
Commuter Rail	$8.00	$263.28
Demand Response	$6.68	$103.67
Light Rail	$10.73	$197.14
Bus	$8.31	$112.63
Vanpool	$2.96	$111.24
Total	$7.69	$139.29

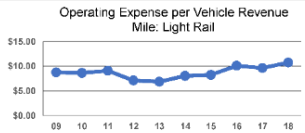
Service Effectiveness

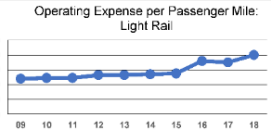
Mode	Operating Expenses per Passenger Mile	Operating Expenses per Unlinked Passenger Trip	Unlinked Trips per Vehicle Revenue Mile	Unlinked Trips per Vehicle Revenue Hour
Commuter Bus	$0.70	$15.32	0.5	13.7
Commuter Rail	$0.33	$8.54	0.9	30.8
Demand Response	$4.09	$47.35	0.1	2.2
Light Rail	$0.80	$3.99	2.7	49.4
Bus	$1.76	$7.34	1.1	15.3
Vanpool	$0.44	$15.99	0.2	7.0
Total	$0.84	$6.81	1.1	20.4

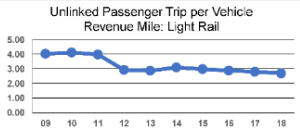












Notes:

[a]Demand Response - Taxi (DT) and non-dedicated fleets do not report fleet age data.

Local taxes comprise 66% of UTA's annual operating funds expended, and 54% of UTA's capital funds expended.

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Sources of Operating Funds Expended

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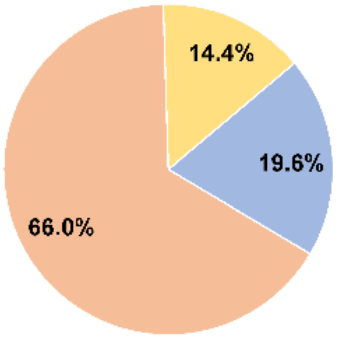
Operating Funding Sources



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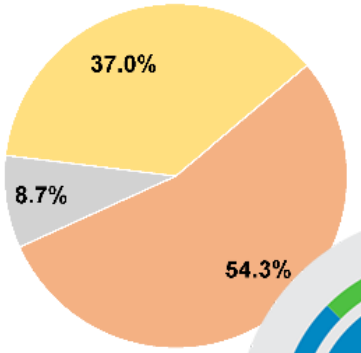

UTA – 2018 Use of Capital Funds (NTD reporting)

Modal Overview	Uses of Capital Funds				
Mode	Revenue Vehicles	Systems and Guideways	Facilities and Stations	Other	Total
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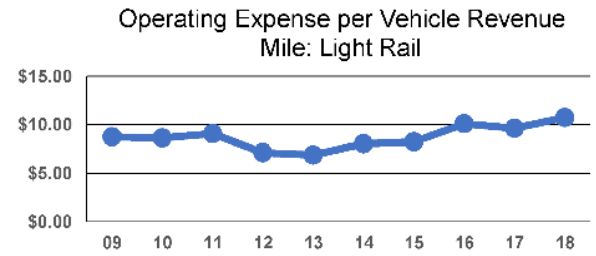
Total	$24,359,126	$23,320,352	$6,887,134	$772,234	$55,338,846

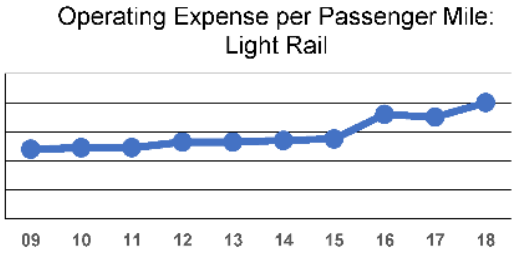
- Average useful life of bus is approximately 12-15 years.
- UTA has FrontRunner cars in operation that are nearly 50 years old.
- Major capital expenses such a new track or rail cars can be annualized across the life of the system.
- Any major transit capital project will have larger State of Good Repair or capital maintenance costs than bus.

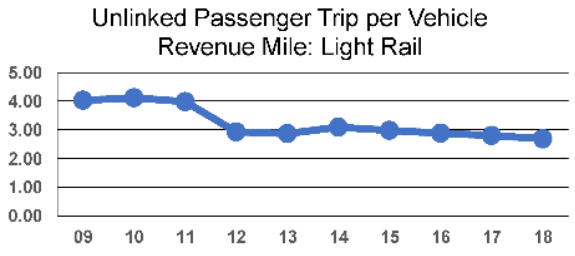
UTA FAQs:
What transit mode is cheaper?

It depends on what you are measuring: Revenue Mile or Passenger Mile?

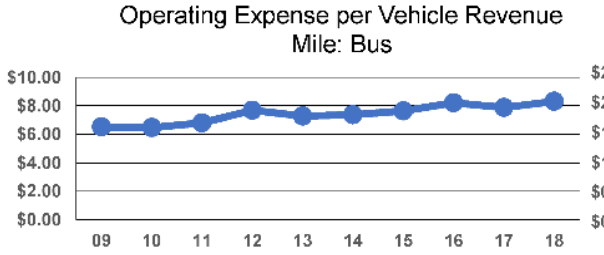
Light Rail: ↑ Higher $ per revenue mile ↓ Lower $ per passenger mile

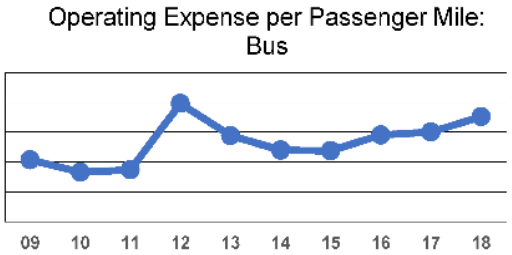


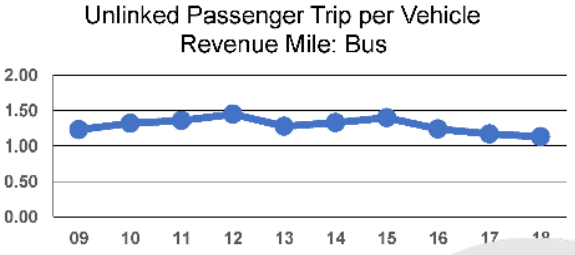




Bus: ↓ Lower $ per revenue mile ↑ Higher $ per passenger mile







It depends on what you are measuring: Efficiency or Effectiveness?

Service Cost Efficiency – The actual costs of providing service miles and hours

Bus	$8.31 per revenue mile	$112.63 per revenue hour
Light Rail	$10.73 per revenue mile	$197.14 per revenue hour
Commuter Rail	$8.00 per revenue mile	$263.28 per revenue hour

Performance Measures

Mode	Service Efficiency: Operating Expenses per Vehicle Revenue Mile	Service Efficiency: Operating Expenses per Vehicle Revenue Hour
Commuter Bus	$8.10	$209.97
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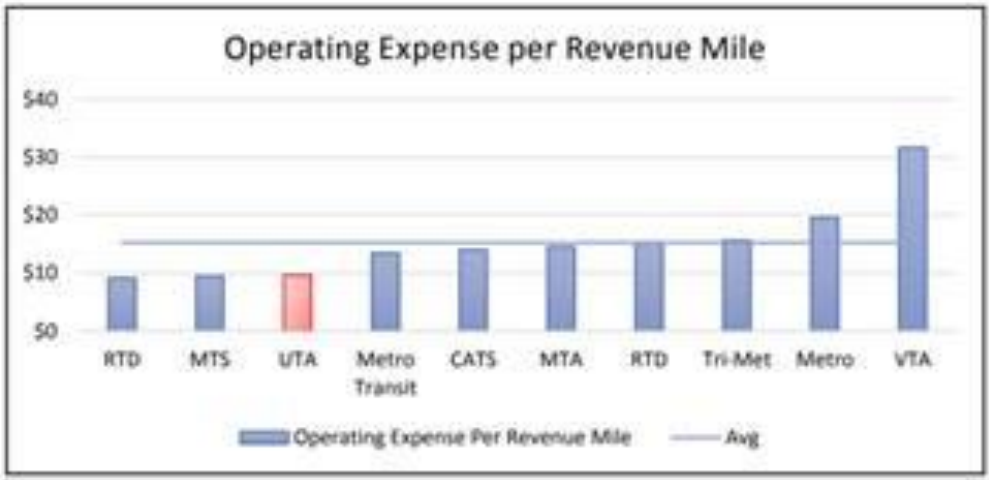
Total	$7.69	$139.29

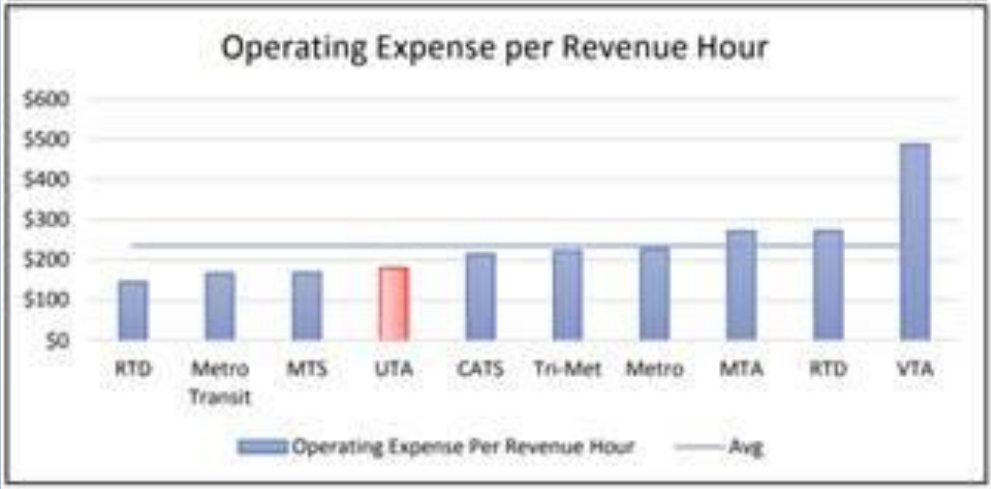
Because of lower overall capital expenses and operating expenses, bus service is considered more efficient than light rail.

UTA is among the most efficient transit agencies in its peer group.

Bus

Light Rail





https://www.rideuta.com/-/media/Files/About-UTA/Reports/2019CAFRx.ashx?la=en

It depends on what you are measuring: Efficiency or Effectiveness?

Service Effectiveness – The net costs of providing service per transit trip

Bus	$1.76 per passenger mile,	$7.34 per passenger trip
Light Rail	$0.80 per passenger mile,	$3.99 per passenger trip
Commuter Rail	$0.33 per passenger mile,	$8.54 per passenger trip

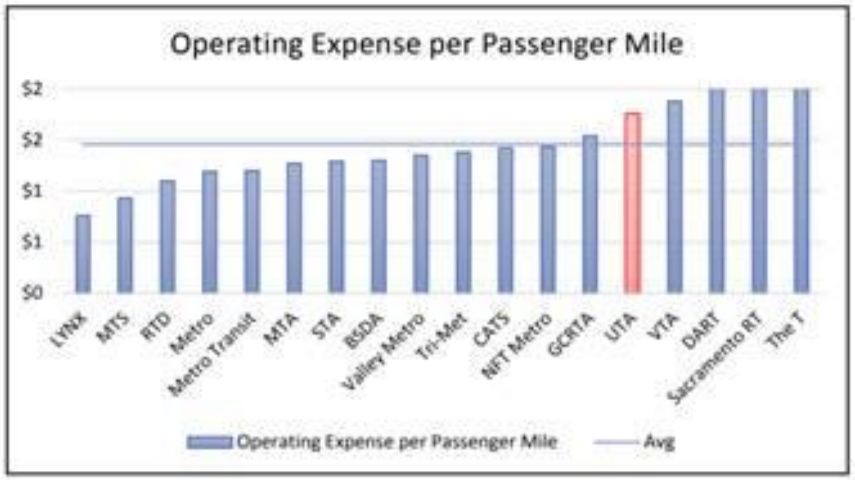
Service Effectiveness

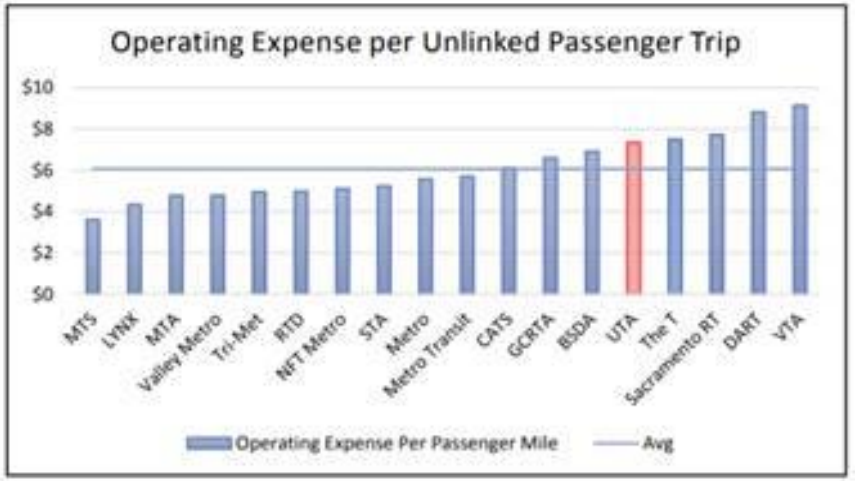
Mode	Operating Expenses per Passenger Mile	Operating Expenses per Unlinked Passenger Trip	Unlinked Trips per Vehicle Revenue Mile	Unlinked Trips per Vehicle Revenue Hour
Commuter Bus	$0.70	$15.32	0.5	13.7
Commuter Rail	$0.33	$8.54	0.9	30.8
Demand Response	$4.09	$47.35	0.1	2.2
Light Rail	$0.80	$3.99	2.7	49.4
Bus	$1.76	$7.34	1.1	15.3
Vanpool	$0.44	$15.99	0.2	7.0
Total	$0.84	$6.81	1.1	20.4

Because light rail carries more passengers than bus, light rail is considered a more effective service. More riders overall would increase UTA's service effectiveness.

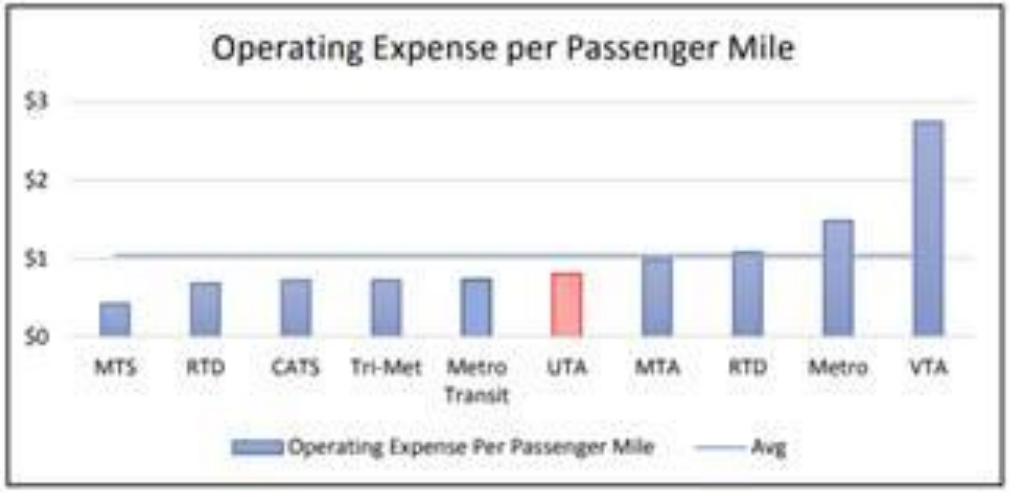
UTA's light rail service is among the most effective transit agencies

Bus





Light Rail



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UTA FAQs:

How does the cost of transit compare to the cost of roads?

The Wasatch Front's four regional transportation planning agencies are partnering on a "*Roads and Transit Costs*" analysis to provide an objective comparison of the costs and effectiveness of different modes of transportation.

UTA

UDOT
Keeping Utah Moving

WASATCH FRONT REGIONAL COUNCIL

MAG
Expert Resources. Enriching Lives.

UTA

Roads and Transit Cost Analysis

Literature Review
Identify and quantify previous research on the topic of transit subsidies and comparison between roadway and transit transportation system modes.

Data Collection
Gather Utah-specific data for local roads, state roads, and transit including the perceived and real breakdowns of funding sources, personal investment, and benefits of roads and transit.

Analysis
Determine what portion of costs are covered by various funding sources, such as user fees, tax dollars, and direct personal investments, and how this compares between roads and transit, and per user.

Final Product
Summarize and compile key findings into a report to be used in informing elected, appointed, and community leaders in decision-making, policy development, and interest balancing.

UTA FAQs:
How does UTA determine which mode to use?

Different Modes for Different Needs

The mode selected is based on both need and ridership potential.

Commuter Rail (FrontRunner) – Serves long-distance, inter-region trips. Works best with infrequent stops and long stretches of high speed.

Light Rail (TRAX) – Serves medium distance, inter-community trips. Works best when lots of people are going the same place at the same time.

Streetcar (S-Line) – Serves short distance, intra-community trips. Works best for quick trips like errands.

Bus Rapid Transit (e.g. UVX) – Serves medium distance, intra-community trips. Works best with smaller markets.

Commuter bus (e.g. PC Connect) – Serves long-distance, intra-region trips. Works best with small groups of people going the same place at the same time.

Local bus – Serves short distance, intra-community trips. Works best for accommodating individuals with a range of trip types and destinations.

Foundations of Transit Projects

- **Comprehensive Planning**
  - UTA long-range plans
  - Regional Transportation Plan development
  - Local service planning
  - Transit feasibility studies
  - Bus stop improvement prioritization and implementation process

- **Transit Corridor Planning Process**
  - Alternatives Analysis: exploration of multiple feasible options, including type of transit and ridership, with public and stakeholder input
  - Environmental Assessment: study and consideration of potential effects on the natural and built environments, which improves project design and guides decision-making

Planning Example:
Point of the Mountain Transit Study

- Study area with multiple existing and future major trip generators
- Connection considerations to FrontRunner and TRAX
- Congested highway corridor
- Travel Patterns from north and south
- Other planned transit corridor/project improvements interrelated

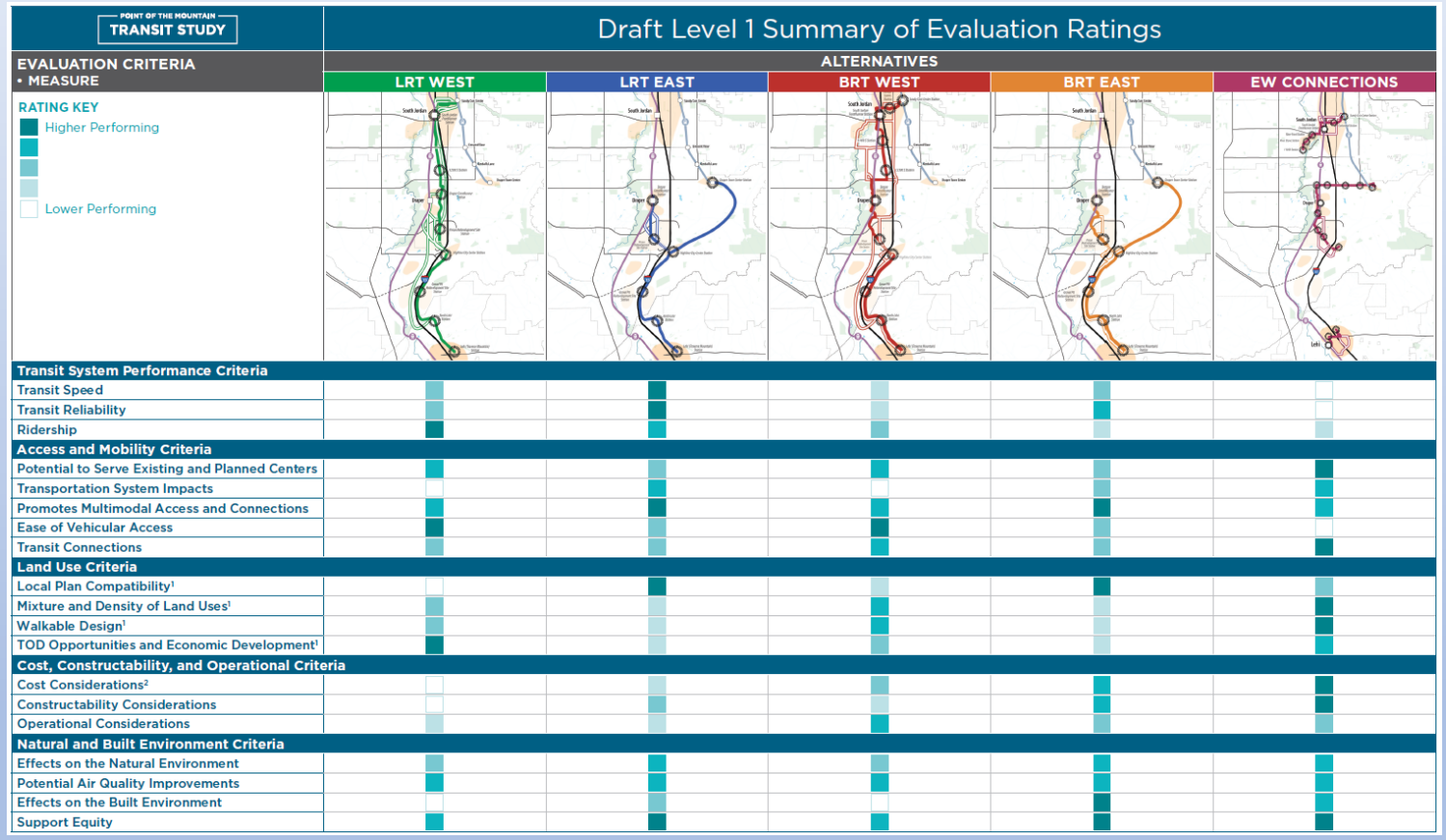
What transit mode(s) best serve this area?

What should the alignment be?

Point of the Mountain Study Process

Factors to Consider

POM Evaluation Process Summary



POM Evaluative Criteria

Level 1 Alternative Evaluation

Feb-April 2020

Purpose:

High level screening to determine best performing alternatives

Alternatives Evaluated:

LRT West
LRT East
BRT West
BRT East
EW Connections

Level 1b Alternative Evaluation

April-Jul 2020

Purpose:

Testing to see if hybrid modes or design refinements can improve performance

Options Evaluated:

LRT West - 2 options
LRT East - 2 options
BRT East - one option
EW Connections - one option

Level 2 Alternative Evaluation

Jul-Nov 2020

Purpose:

Refine and enhance best performing alternatives evaluating land use sensitivity, performing additional modeling, and other detailed analysis

Recommended Alternative for Evaluation:

Common Ground Segment
BRT & LRT

Preferred Alternative

Dec 2020

Purpose:

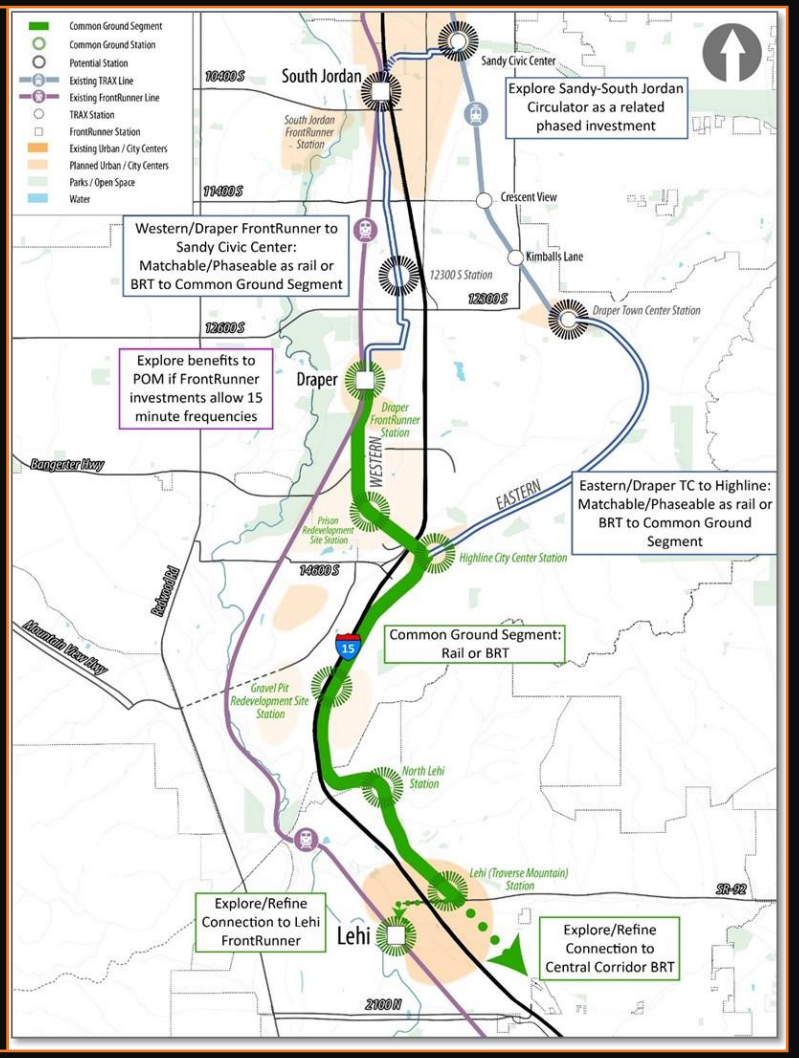
Further refinement of Preferred Alternative (if needed) Development of phasing, operations, and funding plans

Bus Rapid Transit

or

Rail Transit

Point of the Mountain Corridor

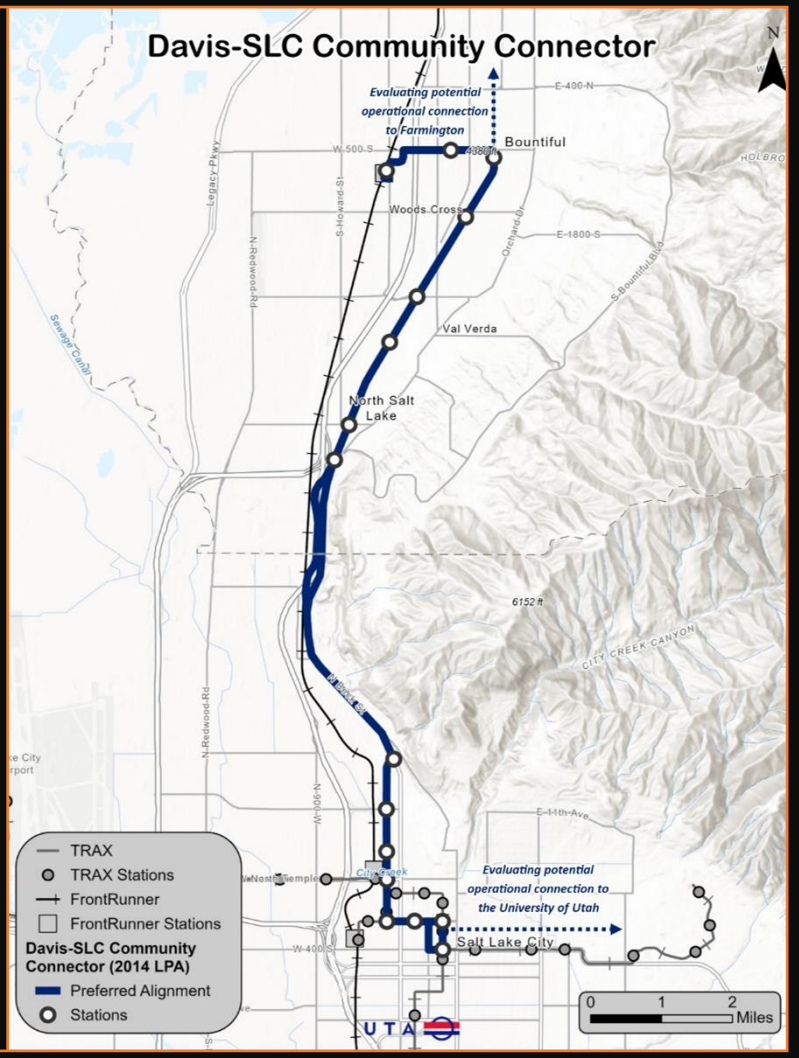


Bus Rapid Transit
(proposed)

Utah County's US 89/ State Street Corridor

Bus Rapid Transit
or
Enhanced Bus

US 89 Corridor
Davis County – Salt Lake City

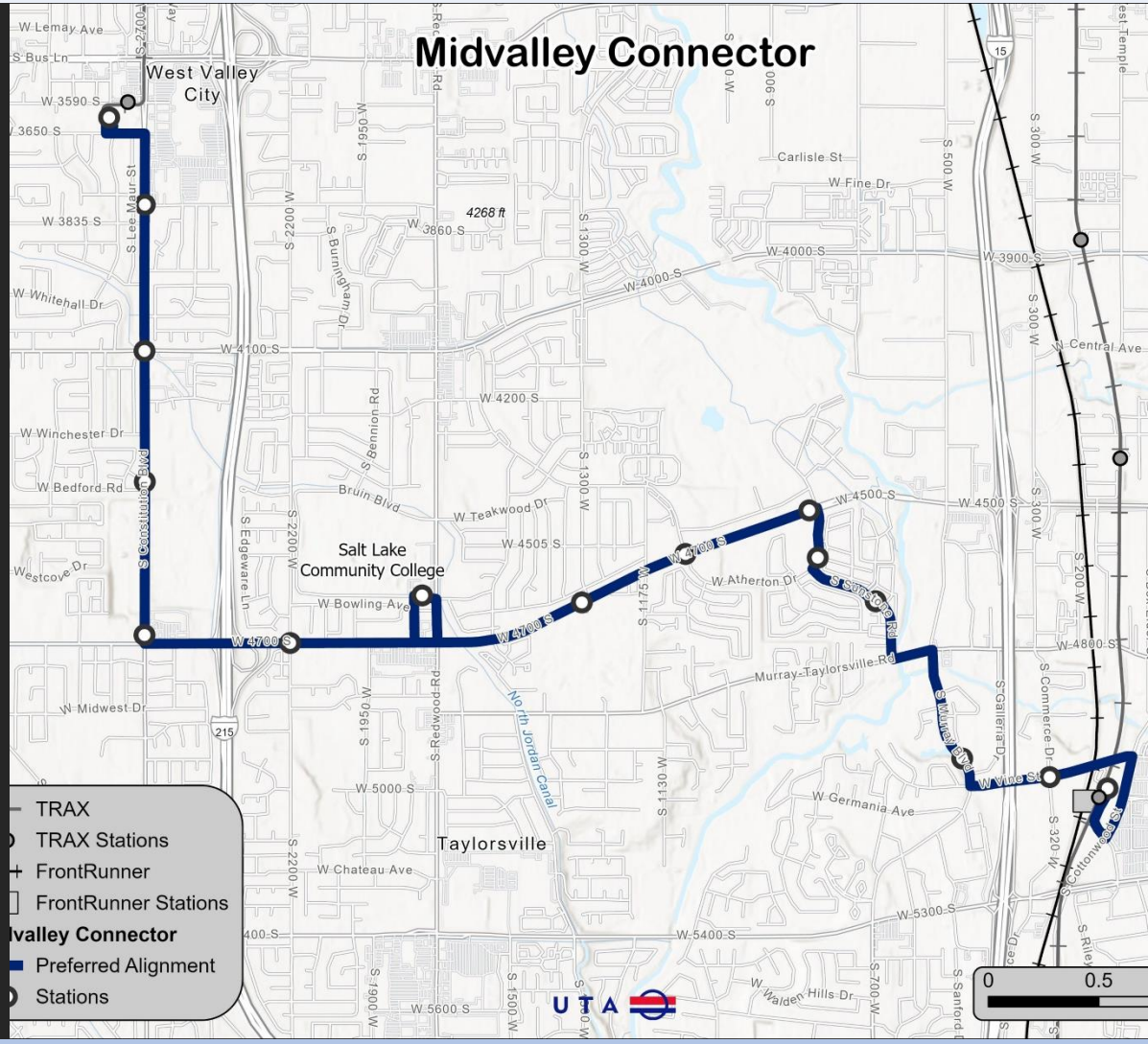


Bus Rapid Transit

Ogden – Weber State

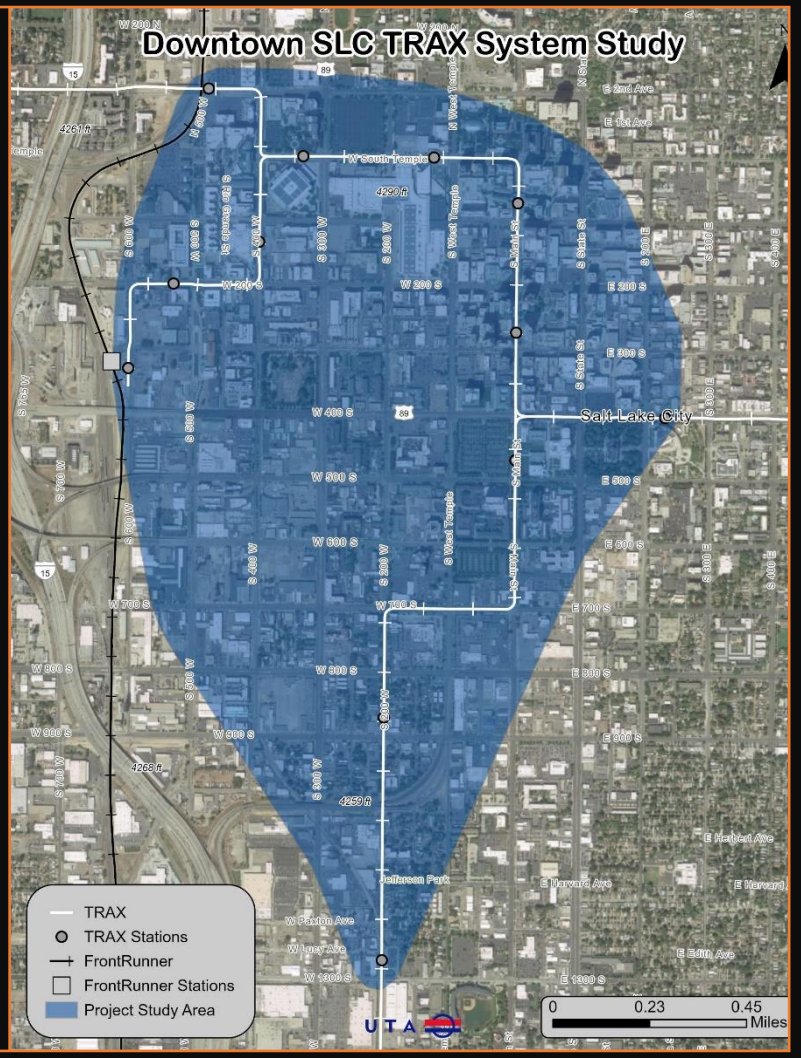
Bus Rapid Transit

East-West Midvalley Link



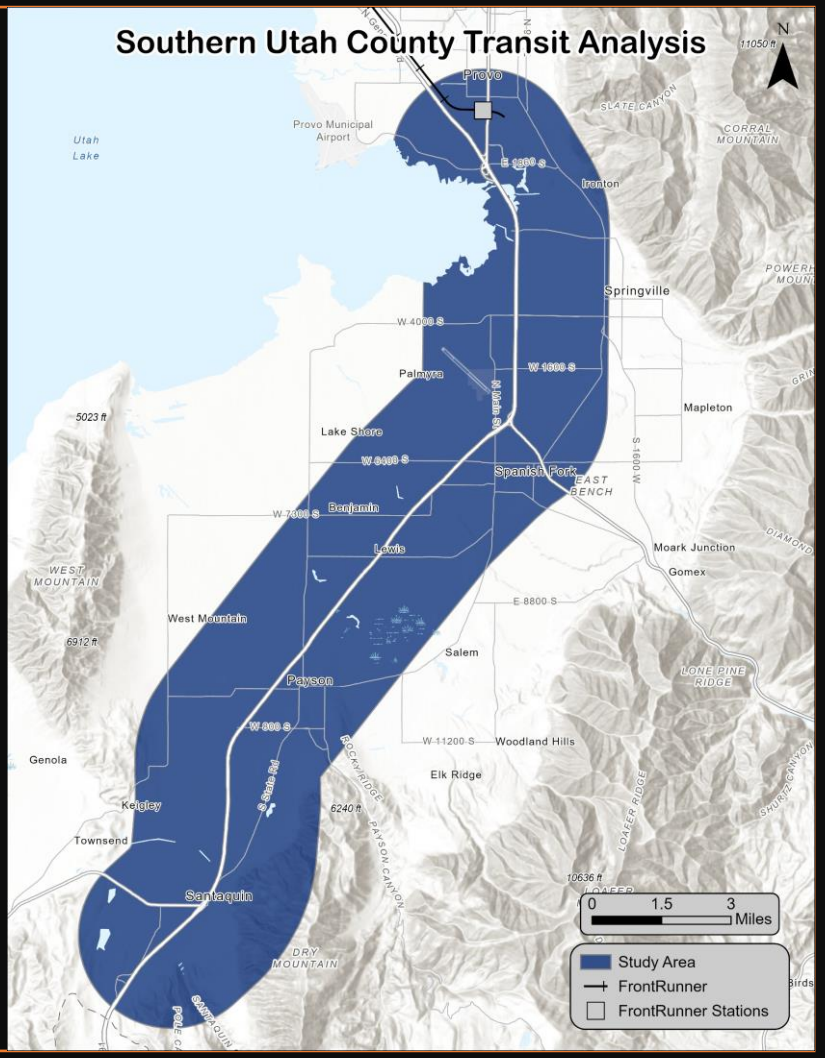
TRAX Light Rail Connectivity and Operations Study

Downtown Salt Lake City



South Valley Transit Study

Southern Utah County



New FrontRunner Station

Northern Utah County

Growing FrontRunner Capacity and Efficiency

FrontRunner Business Plan

Growing FrontRunner Capacity

Background

- Vital transportation backbone for the Wasatch Front and alternative to the Interstate 15 freeway
- Additional investment contemplated in plans by the MPOs and previously studied
- Supports economic development and access to opportunity
- UTA's service area is forecast to double in population by 2065

Service Objectives for FrontRunner

Faster trains

Adding trains during peak periods

Frequent service

Allow skip-stop operations

Increase capacity

Regional Objectives for FrontRunner Service

Provide additional options to connect jobs and employees

Increase ridership of Frontrunner and overall transit system

Support real estate and economic development

Reduce congestion on the I-15 corridor

Improve air quality

Enhance safety at grade crossings

Consider as backbone to future passenger rail

FrontRunner Business Plan

- **A Service Vision**
  What is the vision for FrontRunner service over the next 5, 10, 20, 30 years and beyond?

- **The Business Case for Investment**
  How can we maximize the value of our current and future investments in the corridor, both to the FrontRunner system and the region's and state's economy as a whole?

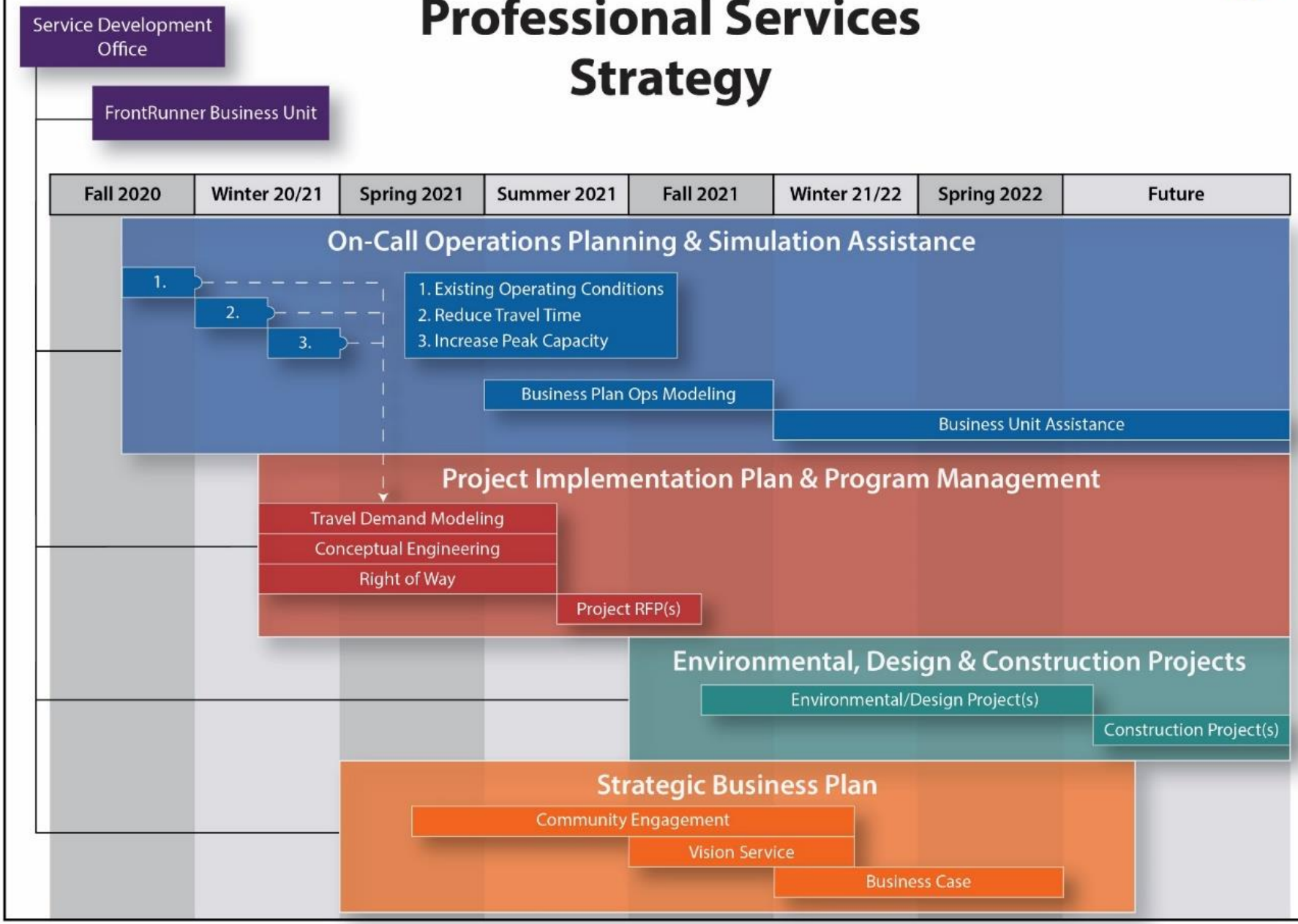
- **A Framework for Community Interface**
  How can we work together to develop a plan that balances corridor communities' priorities and goals with the service demand?

- **Technical Analysis**
  Underlying will be a robust technical analysis of operational feasibility, conceptual engineering of infrastructure needs, benefit-cost analyses, travel times and ridership modeling, etc.

Frontrunner Business Plan Objectives

- Describes service to be provided and implemented in phases
- Outlines financial scenarios based on service type and delivery timing
- Forecasts ridership; capital costs; operations and maintenance costs; and expected revenues by sources
- Transparently discloses and assesses potential risks and uncertainties
- Informs the business case and investment decisions
- Calculates potential economic and fiscal impacts/benefits
- Evaluation of strategies to finance, deliver and operate an improved, regional and statewide passenger rail service (i.e., P3)

FrontRunner Next Steps Professional Services Strategy



Best Practices and Lessons Learned

- **Expertise:** Highly qualified and innovative professional services, coupled with UTA's operations know-how
- **Case Studies:** Examine similar systems to understand successes and challenges
- **Creativity:** Identify approaches and methods to rapidly and effectively implement the business plan in harmony with communities
- **Partnerships:** Work to advance business plan, along with land use integration and mindfulness to promote access to opportunity
- **Communication:** Listen to stakeholders and be transparent about how to deliver the business plan

Discussion & Questions