669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

Board of Trustees

REGULAR MEETING AGENDA

Wednesday, January 14, 2026 | 9:00 AM | FrontLines Headquarters

The UTA Board of Trustees will meet in person at UTA FrontLines Headquarters (FLHQ) - 669 W. 200 S., Salt Lake City, Utah.

For remote viewing, public comment, and special accommodations instructions, please see the meeting information following this agenda.

1.	**Call to Order and Opening Remarks**	Chair Carlton Christensen
2.	**Pledge of Allegiance**	Chair Carlton Christensen
3.	**Safety First Minute**	Jay Fox
4.	**Public Comment**	Chair Carlton Christensen
5.	**Consent**	Chair Carlton Christensen
	a. Approval of the December 17, 2025 Board of Trustees Meeting Minutes	
6.	**Reports**	
	a. Executive Director Report - UTA Recognition - Video Security Team | UTAPD - Continuous Improvement Excellence Award - Fares Strategy Team	Jay Fox
	b. Strategic Plan Minute: Quality of Life - Finalize & Deploy UTA Sustainability Plan	Jay Fox
	c. Financial Report - November 2025	Viola Miller Brad Armstrong
	d. Discretionary Grants Report	Tracy Young
7.	**Resolutions**	
	a. R2026-01-01 - Resolution Approving Amendment Four to the Terms and Conditions of Employment for Executive Director Jay Fox	Carlton Christensen

8. Contracts, Disbursements and Grants

a. Contract: Real Estate Purchase Contract for Box Elder County Right of Way Parcel BOX-1001 (Woodland Zito, LLC) — Spencer Burgoyne, Ethan Ray

b. Contract: Maintenance Uniforms and Facilities Essentials (ALSCO, Inc.) — Kayleigh Hammerschmid

c. Change Order: On-Call Systems Services Contract Task Order #26-005 - Training Yard Construction (Rocky Mountain Systems Services) — Jared Scarbrough

d. Pre-Procurements — Todd Mills
- Reloadable FAREPAY Cards
- Municipal Financial Advisor

9. Service and Fare Approvals

a. Complimentary Fare: Passes for Utah Legislative Session Volunteers — Brian Reeves, Monica Howe

10. Discussion Items

a. Fare Rate Analysis — Brian Reeves, Monica Howe

b. 2024 Sustainability Report and Sustainability Plan — Patti Garver, Sarah Ross

11. Other Business — Chair Carlton Christensen

a. Next Meeting: Wednesday, January 28, 2026 at 9:00 a.m.

12. Adjourn — Chair Carlton Christensen

Meeting Information:

- Special Accommodation: Information related to this meeting is available in alternate formats upon request by contacting adacompliance@rideuta.com or (801) 287-3536. Requests for accommodations should be made at least two business days in advance of the scheduled meeting.
- Meeting proceedings may be viewed remotely by following the meeting video link on the UTA Public Meeting Portal - https://rideuta.legistar.com/Calendar.aspx
- In the event of technical difficulties with the remote connection or live-stream, the meeting will proceed in person and in compliance with the Open and Public Meetings Act.
- Public Comment may be given live during the meeting by attending in person at the meeting location OR by joining the remote Zoom meeting.
    - Comments are limited to 3 minutes per commenter.
    - One person's time may not be combined with another person's time.
    - Distribution of handouts or other materials to meeting participants or attendees is not allowed.
    - To support a respectful meeting environment, actions or words that disrupt the meeting, intimidate other participants, obstruct the view or hearing of others, or may cause safety concerns are not allowed.
    - To join by Zoom:
        - Use this link: https://bit.ly/UTA_BOT_01-14-26 and follow the instructions to register for the meeting.
        - Use the "raise hand" function in Zoom to indicate you would like to make a comment.
- Public Comment may also be given through alternate means. See instructions below.
    - Comment online at https://www.rideuta.com/Board-of-Trustees
    - Comment via email at boardoftrustees@rideuta.com
    - Comment by telephone at 801-743-3882 option 5 (801-RideUTA option 5) – please specify that your comment is for the upcoming Board of Trustees meeting.
    - Comments submitted before 2:00 p.m. on Tuesday, January 13th will be distributed to board members prior to the meeting and added to the public record.
- Meetings are audio and video recorded and live-streamed.
- Motions, including final actions, may be taken in relation to any topic listed on the agenda.

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 1/14/2026

TO:	Board of Trustees
FROM:	Curtis Haring, Board Manager
PRESENTER(S):	Chair Carlton Christensen

TITLE:

Approval of the December 17, 2025 Board of Trustees Meeting Minutes

AGENDA ITEM TYPE:
Minutes

RECOMMENDATION:
Approve the minutes of the December 17, 2025 Board of Trustees meeting.

BACKGROUND:
A meeting of the UTA Board of Trustees was held in person at UTA Frontlines Headquarters and broadcast live via the UTA Public Meeting Web Portal on Wednesday, December 17, 2025 at 9:00 a.m.

Minutes from the meeting document the actions of the Board and summarize the discussion that took place in the meeting. A full audio recording of the meeting is available on the Utah Public Notice Website <https://www.utah.gov/pmn/sitemap/notice/1046039.html> video feed is available through the UTA Public Meeting Portal <https://rideuta.legistar.com/MeetingDetail.aspx?ID=1243581&GUID=E1DC6622-4B43-4136-8B98-21C1C49EE214>.

ATTACHMENTS:
- 2025-12-17_BOT_Minutes_Unapproved

Utah Transit Authority
Board of Trustees
MEETING MINUTES - Draft

669 West 200 South
Salt Lake City, UT 84101

Wednesday, December 17, 2025 9:00 AM FrontLines Headquarters

Present: Chair Carlton Christensen
Trustee Jeff Acerson
Trustee Beth Holbrook

Also attending were UTA staff and interested community members.

1. Call to Order and Opening Remarks

Chair Carlton Christensen welcomed attendees and called the meeting to order at 9:02 a.m.

2. Pledge of Allegiance

Attendees recited the Pledge of Allegiance.

3. Safety First Minute

Jon Larsen, UTA Chief Capital Services Officer, delivered a brief safety message.

4. Public Comment

In Person/Virtual Comment
No in person or virtual comment was given.

Online Comment
No online comment was received.

5. Consent

a. Approval of December 3, 2025, Board Meeting Minutes

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, to approve the consent agenda. The motion carried by a unanimous vote.

6. Reports

a. Executive Director Report

- **UTA Employee Memorials - Brandon Farnsworth and Matthew Keykhosravi**

Jay Fox, UTA Executive Director, memorialized Brandon Farnsworth and Matthew Keykhosravi, who recently passed away.

b. Financial Report - October 2025

Viola Miller, UTA Chief Financial Officer, was joined by Brad Armstrong, UTA Director of Budget & Financial Strategy, and Ann Green-Barton, UTA Chief People Officer.

Staff reviewed the following:

- Financial dashboard
- Sales tax revenue
- Sales tax collections by county
- Passenger revenues
- Full-time equivalent (FTE) staffing
- Operating financial results
- Capital spending by chief office
- Actual versus forecast spend year-to-date on capital expenses
- Capital funding sources
- Accounts payable, procurement, and fares metrics

Miller noted an error on the FTE report chart under the "Admin Depts" vacancy rate. The percentage is not -95.0%, but rather 66.0%.

Discussion ensued. Questions on overtime, ridership, sales tax revenue trends, FTE vacancy rates, federal revenues, and capital spenddown were posed by the board and answered by staff.

c. Discretionary Grants Report

Tracy Young, UTA Grants Director, delivered the discretionary grants report, which included proposed grant applications, grant applications awaiting selection, and a highlight on the National Railroad Partnership Program/Federal-State Partnership for Intercity Passenger Rail (FSP) Grant Program.

Discussion ensued. A question on the timing of the FSP grant submission was posed by the board and answered by Young.

7. Resolutions

a. 2026 Budget Public Engagement Report AND R2025-12-03 - Resolution Adopting the Authority's Final 2026 Budget

Viola Miller was joined by Nichol Bourdeaux, UTA Chief Planning & Engagement Officer.

Bourdeaux reviewed public engagement efforts associated with the 2026 budget.

Miller summarized the resolution, which adopts UTA's final 2026 budget, and presented a high-level overview of the operating and capital budgets.

Discussion ensued. Questions on passenger and sales tax revenue projections and potential budget amendments to accommodate service additions in Utah County were posed by the board and answered by staff.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this resolution be approved. The motion carried by the following vote:

Aye: Chair Christensen, Trustee Acerson, and Trustee Holbrook

b. R2025-12-04 - Resolution Granting 2026 Expenditure and Disbursement Authority for Non-Inventory Vendors

Rob Lamph, UTA Comptroller, summarized the resolution, which grants 2026 expenditure and disbursement authority for a specified list of non-inventory vendors, including payroll, government, or utility vendors.

Discussion ensued. Clarifying questions were posed by the board and answered by Lamph.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this resolution be approved. The motion carried by the following vote:

Aye: Chair Christensen, Trustee Acerson, and Trustee Holbrook

c. R2025-12-05 - Resolution Granting 2026 Expenditure and Disbursement Authority for Vehicle Parts Inventory Purchases

Todd Mills, UTA Director of Supply Chain, summarized the resolution, which grants 2026 expenditure and disbursement authority for vehicle parts inventory purchases for bus, light rail, and commuter rail vehicles.

Discussion ensued. A question on cost increase projections was posed by the board and answered by Mills.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this resolution be approved. The motion carried by the following vote:

Aye: Chair Christensen, Trustee Acerson, and Trustee Holbrook

d. R2025-12-06 - Resolution Extending Authorization for Zero Fare on the Ogden Express (OGX) Through April 2028

Monica Howe, UTA Fares Director, was joined by Tracy Young.

Howe summarized the resolution, which authorizes an extension of zero fare on the OGX service through April Change Day 2028. The authorization is contingent on the receipt of additional grant funds.

Discussion ensued. A question on the timeline to receive a response to the grant was

posed by the board and
answered by Young.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this resolution be approved. The motion carried by the following vote:

Aye: Chair Christensen, Trustee Acerson, and Trustee Holbrook

e. R2025-12-07 - Resolution Authorizing Zero Fare on the Midvalley Express (MVX) From April Change Day 2026 through April Change Day 2029

Monica Howe was joined by Tracy Young.

Howe summarized the resolution, which authorizes zero fare on the MVX service from April Change Day 2026 through April Change Day 2029.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this Resolution be approved. The motion carried by the following vote:

Aye: Chair Christensen, Trustee Acerson, and Trustee Holbrook

8. Contracts, Disbursements and Grants

a. Revenue Contract: Transit Transportation Investment Program Funds (TTIF) Cooperative Funding Agreement for Davis-Salt Lake City Community Connector Project (Utah Department of Transportation)

Tracy Young was joined by Patti Garver, UTA Manager of Environmental Compliance & Sustainability.

Staff requested the board approve a revenue contract with the Utah Department of Transportation (UDOT) for TTIF funding for the Davis-Salt Lake Community Connector. The total contract value is $18,000,000.

Discussion ensued. Questions on overall project funding, grant approval timeline, and construction start time were posed by the board and answered by staff.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this revenue contract be approved. The motion carried by a unanimous vote.

b. Revenue Change Order: Fourth Amendment to the Microtransit Cooperative Agreement (Salt Lake City Corporation)

Hal Johnson, UTA Director of Innovative Mobility Solutions, was joined by Shaina Quinn, UTA Program Manager - Innovative Mobility Solutions.

Staff requested the board approve an amendment to the microtransit cooperative agreement with Salt Lake City Corporation to continue On Demand service in the Salt Lake City west side zone through December 31, 2026. The amendment value is $3,364,615, and the total agreement value is $13,464,615.

Discussion ensued. Questions on Salt Lake City's funding and contract terms with the service provider were posed by the board and answered by staff.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this amendment be approved. The motion carried by a unanimous vote.

c. Contract: External Financial Audit Services (Crowe, LLP)

Rob Lamph requested the board approve a $657,820 contract with Crowe, LLP for external financial auditing services.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this contract be approved. The motion carried by a unanimous vote.

d. Contract: Oracle Support (Mythics, LLC)

Kyle Brimley, UTA IT Director, requested the board approve a not-to-exceed $1,200,061.14 contract with Mythics, LLC for Oracle software support. The contract has a three-year base term with two additional one-year options.

Discussion ensued. A question on integration with other software platforms was posed by the board and answered by Brimley.

Prior to starting discussion on item 8.q. Alisha Garrett, UTA Chief Enterprise Strategy Officer, clarified the Oracle support is for the JD Edwards system.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this contract be approved. The motion carried by a unanimous vote.

e. Contract: Repetitive Inventory Parts (The Aftermarket Parts)

Todd Mills requested the board approve a contract with The Aftermarket Parts for highly used, repetitively purchased inventory parts. The contract has a five-year term with an estimated value of $497,000.

Discussion ensued. Questions on parts supply management for retiring vehicles were posed by the board and answered by Mills.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this contract be approved. The motion carried by a unanimous vote.

f. Contract: Repetitive Inventory Parts (Factory Motor Parts)

Todd Mills requested the board approve a contract with Factory Motor Parts for highly used, repetitively purchased inventory parts. The contract has a five-year term with an estimated value of $440,000.

Discussion ensued. A question on the age range of UTA's bus fleet was posed by the board and answered by Mills.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this contract be approved. The motion carried by a unanimous vote.

g. Contract: Repetitive Inventory Parts (Gillig, LLC)

Todd Mills requested the board approve a contract with Gillig, LLC for highly used, repetitively purchased inventory parts. The contract has a five-year term with an estimated value of $1,420,000.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this contract be approved. The motion carried by a unanimous vote.

h. Contract: Repetitive Inventory Parts (Mohawk Mfg. Supply Co.)

Todd Mills requested the board approve a contract with Mohawk Mfg. Supply Co. for highly used, repetitively purchased inventory parts. The contract has a five-year term with an estimated value of $1,420,000.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this contract be approved. The motion carried by a unanimous vote.

i. Contract: Repetitive Inventory Parts (Muncie Transit Supply)

Todd Mills requested the board approve a contract with Muncie Transit Supply for highly used, repetitively purchased inventory parts. The contract has a five-year term with an estimated value of $2,700,000.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this contract be approved. The motion carried by a unanimous vote.

j. Contract: Repetitive Inventory Parts (Neopart Transit)

Todd Mills requested the board approve a contract with Neopart Transit for highly used, repetitively purchased inventory parts. The contract has a five-year term with an estimated value of $386,500.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this contract be approved. The motion carried by a unanimous vote.

k. Contract: Repetitive Inventory Parts (Vehicle Maintenance Program)

Todd Mills requested the board approve a contract with Vehicle Maintenance Program for highly used, repetitively purchased inventory parts. The contract has a five-year term with an estimated value of $845,400.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this contract be approved. The motion carried by a unanimous vote.

l.

Ann Green-Barton, UTA Chief People Officer, was joined by JD Tazoi, UTA Director of Total Rewards.

Staff requested the board approve a not-to-exceed $278,300 contract with Milliman for actuarial services related to the UTA retirement plan pension. The contract has a three-year base term with two additional one-year options.

Discussion ensued. Questions on employee support in retirement planning and the contract term were posed by the board and answered by staff.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this contract be approved. The motion carried by a unanimous vote.

m. Contract: Ratification of Purchase Order for Emergency Replacement of Meadowbrook Building 3 Flood Damaged Equipment (CVE Technologies Group, Inc.)

Kyle Brimley requested the board ratify a $439,419.22 purchase order with CVE Technologies Group, Inc. for the procurement of technology equipment damaged in the January 31, 2025, flood at Meadowbrook Building 3.

Discussion ensued. Questions on the current location of the equipment and flood risks in the new location were posed by the board and answered by Brimley.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this purchase order be ratified. The motion carried by a unanimous vote.

n. Change Order: Ratification of On-Call Infrastructure Maintenance Contract Task Order #25-039 - 1300 South Emergency Water Line Repair (Stacy and Witbeck, Inc.)

Jared Scarbrough, UTA Director of Capital Design & Construction, requested the board ratify a $262,147 task order with Stacy and Witbeck, Inc. for an emergency repair of the rail and water line located at 1300 South in Salt Lake City. The total contract value, including the ratified task order, is $23,338,238. Scarbrough indicated Salt Lake City will pay for a portion of the repair.

Discussion ensued during which the board recommended proactively assessing and remediating other at-risk locations as well as coordinating with local governments during utility upgrades.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this task order be ratified. The motion carried by a unanimous vote.

o. Change Order: On-Call Systems Maintenance and Professional Services Contract Task Order #26-003 - Key Personnel for 2026 (Rocky Mountain Systems Services)

Jared Scarbrough requested the board approve a $923,420 change order to the on-call contract with Rocky Mountain Systems Services for professional services in 2026.

Discussion ensued. Questions on cost forecasts and rate changes were posed by the board and answered by Scarbrough.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this change order be approved. The motion carried by a unanimous vote.

p. Change Order: On-Call Systems Maintenance Contract Task Order #26-002 - General Engineering & Network Maintenance 2026 (Rocky Mountain Systems Services)

Jared Scarbrough requested the board approve an $800,000 change order to the on-call contract with Rocky Mountain Systems Services for general engineering and network maintenance in 2026.

The total contract value, including both change orders discussed in this meeting, is $17,163,659.57.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this change order be approved. The motion carried by a unanimous vote.

q. Change Order: Operations Work Assignment and Tracking System Modification 6 - Workforce Management License Expansion (Trapeze Software Group)

Alisha Garrett was joined by Marci Warren, UTA Senior IT Project Manager.

Garrett requested the board approve a $2,983,505 modification to the contract with Trapeze Software Group for a software license expansion to include non-operator bargaining unit employees. The total contract value, including the change order, is $24,383,700.

Discussion ensued. Questions on the implementation timeline and improvements resulting from the change were posed by the board and answered by staff.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this modification be approved. The motion carried by a unanimous vote.

r. Change Order: Onsite Wellness Clinic Services Amendment No. 5 - Contract Extension and Increase to Not-to-Exceed (CareATC, Inc.)

Ann Green-Barton was joined by JD Tazoi.

Staff requested the board approve a not-to-exceed $320,000 amendment to the contract with CareATC, Inc. to extend onsite wellness clinic services through February 28, 2026. The total contract value, including the amendment, is $12,678,967.86.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this amendment be approved. The motion carried by a unanimous vote.

s. Pre-Procurements

- **Mt. Ogden Administration Building Construction**
- **Consultant Services For Long Range Transit Plan**

Todd Mills was joined by Jaron Robertson, UTA Director of Planning.

Mills indicated the agency intends to procure the goods and/or services outlined on the meeting agenda.

Discussion ensued. Questions on the bid type for the Mt. Ogden building construction, the approach to the long-range transit plan (LRTP), and LRTP timeline were posed by the board and answered by staff. Mills noted that the LRTP item had a typo and should have stated that the plan was due in 2027.

Chair Christensen called for a recess at 10:34 a.m.

The meeting reconvened at 10:42 a.m.

9. Service and Fare Approvals

a. Fare Agreement: 2025/26 Ski Bus Pass Agreement (Solitude Mountain Ski Area, LLC)

Monica Howe requested the board approve a 2025-2026 ski bus pass agreement with Solitude Mountain Ski Area, LLC. The agreement has an estimated revenue value of $190,000.

Discussion ensued. A question on financial responsibility if there is low ridership due to lack of snow was posed by the board and answered by staff.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this fare agreement be approved. The motion carried by a unanimous vote.

b. Fare Agreement: 2025/26 Ski Bus Pass Agreement (Brighton Resort)

Monica Howe requested the board approve a 2025-2026 ski bus pass agreement with Brighton Resort. The agreement has an estimated revenue value of $288,500.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this fare agreement be approved. The motion carried by a unanimous vote.

c. Fare Agreement: 2025/26 Ski Bus Pass Agreement (Snowbasin Resort LLC)

Monica Howe requested the board approve a 2025-2026 ski bus pass agreement with Snowbasin Resort LLC. The agreement has an estimated revenue value of $86,516.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this fare agreement be approved. The motion carried by a unanimous vote.

d. Fare Agreement: 2025/26 Ski Bus Pass Agreement (Davis County)

Monica Howe requested the board approve a 2025-2026 ski bus pass agreement with Davis County. The agreement has a revenue value of $49,213.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this fare agreement be approved. The motion carried by a unanimous vote.

e. Fare Agreement: Special Events Agreement for Kilby Block Party (Sartain and Saunders, LLC)

Monica Howe requested the board approve a $20,295 special events agreement with Sartain and Saunders, LLC for ticket-as-fare to the Kilby Block Party concert series.

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, that this fare agreement be approved. The motion carried by a unanimous vote.

f. Promotional Fare Request: 2026 UTA On Demand Service Multi-Rider Fare

Brian Reeves, UTA Associate Chief Financial Officer, was joined by Monica Howe, Hal Johnson, and Shaina Quinn.

Staff requested the board extend the multi-rider fare promotion for On Demand service through December 31, 2026.

Discussion ensued. Questions on trip aggregation, trip purchasing software, data collection and utilization, number of aggregated trips, and data ownership were posed by the board and answered by staff.

A motion was made by Trustee Acerson, and seconded by Trustee Holbrook, that this promotional fare (option 4 in the meeting packet) be approved. The motion carried by a unanimous vote.

10. Discussion Items

a. Facility Strategic Assessment and Implementation Plan

Paul Drake, UTA Director of Real Estate & Transit-Oriented Development, discussed the facility strategic assessment and implementation plan, including:

- Facility strategic plan objectives and timeline
- Condition assessment
- Implementation plan coordination and resources
- Total project costs
- Implementation timeline

Discussion ensued on the following topics:

- Coordination between the facilities planning and facilities maintenance functions
- How the facilities plan informs the capital planning process
- Analysis of timing and funding for potential projects
- Flexibility for the plan to accommodate changing direction and constraints

Chair Christensen recommended presenting the facilities plan to the UTA Local Advisory Council. He also suggested the board formally adopt the plan and its subsequent updates.

11. Other Business

a. Next Meeting: Wednesday, January 14, 2026 at 9:00 a.m.

12. Closed Session

a. Strategy Session to Discuss Topics as Defined in Utah Code 52-4-205 (1):

- **Character, Professional Competence, or Physical or Mental Health of an Individual**
- **Pending or Reasonably Imminent Litigation**

Chair Christensen indicated there were matters to be discussed in closed session related to the character, professional competence, or physical or mental health of an individual and pending or reasonably imminent litigation. A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, for a closed session. The motion carried by a unanimous vote, and closed session convened at 11:36 a.m.

13. Open Session

A motion was made by Trustee Acerson and seconded by Trustee Holbrook to return to open session. The motion carried by a unanimous vote, and the meeting reconvened in open session at 12:26 p.m.

14. Adjourn

A motion was made by Trustee Holbrook, and seconded by Trustee Acerson, to adjourn the meeting. The motion carried by a unanimous vote, and the meeting adjourned at 12:26 p.m.

Transcribed by Cathie Griffiths
Board Administration Manager
Utah Transit Authority

This document is not intended to serve as a full transcript as additional discussion may have taken place; please refer to the meeting materials or audio located at https://www.utah.gov/pmn/sitemap/notice/1046039.html for entire content. Meeting materials, along with a time-stamped video recording, are also accessible at https://rideuta.granicus.com/player/clip/423.

This document along with the digital recording constitute the official minutes of this meeting.

Approved Date:

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Carlton J. Christensen
Chair, Board of Trustees

Utah Transit Authority

MEETING MEMO

669 West 200 South
Salt Lake City, UT 84101

Board of Trustees **Date:** 1/14/2026

TO: Board of Trustees
FROM: Jay Fox, Executive Director
PRESENTER(S): Jay Fox, Executive Director

TITLE:

Executive Director Report

- **UTA Recognition - Video Security Team | UTAPD**
- **Continuous Improvement Excellence Award - Fares Strategy Team**

AGENDA ITEM TYPE:
Report

RECOMMENDATION:
Informational report for discussion

DISCUSSION:
Jay Fox, Executive Director, will provide the following:

- UTA Recognition - Video Security | UTAPD (Travis King, Dalan Taylor, Cody Steffenson, Dayve Huapaya, Officer Anna Moleni, Officer Matt Flinders, Sergeant Jeff Duval)
- CI Excellence Award - Fares Strategy Team (Alisha Garrett)

669 West 200 South
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Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 1/14/2026

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Jay Fox, Executive Director
PRESENTER(S):	Jay Fox, Executive Director

TITLE:

Strategic Plan Minute: Quality of Life - Finalize & Deploy UTA Sustainability Plan

AGENDA ITEM TYPE:
Report

RECOMMENDATION:
Informational report for discussion

BACKGROUND:
At the end of 2022, UTA adopted its 2022-2030 Strategic Goals and Objectives. The strategic minute provides an update on one of the five UTA strategic priorities - Quality of Life, Customer Experience, Organizational Excellence, Community Support, and Economic Return.

DISCUSSION:
This strategic minute highlights our Quality of Life strategic priority. Environmental Compliance & Sustainability, a department within the Capital Services Office, owns this strategic initiative of implementing the UTA Sustainability Plan. The report will highlight key milestones achieved thus far in 2025.

ALTERNATIVES:
N/A

FISCAL IMPACT:

N/A

ATTACHMENTS:
None

669 West 200 South
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Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 1/14/2026

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Viola Miller, Chief Financial Officer
PRESENTER(S):	Viola Miller, Chief Financial Officer Brad Armstrong, Director Budget & Financial Strategy

TITLE:

Financial Report - November 2025

AGENDA ITEM TYPE:
Report

RECOMMENDATION:
Informational report for discussion

BACKGROUND:
The Board of Trustees Policy No. 2.1, Financial Management, directs the Chief Financial Officer to present monthly financial statements stating the Authority's financial position, revenues, and expenses to the Board of Trustees as soon as practical with monthly and year-to-date budget versus actual reports to be included in the monthly financial report. The November 2025 Monthly Financial Statements have been prepared in accordance with the Financial Management Policy and will be presented to the Board. Also provided is the monthly Board Dashboard which summarizes key information from the November 2025 Monthly Financial Statements.

DISCUSSION:
At the January 14, 2026, meeting, the Chief Financial Officer will review the Board Dashboard key items, passenger revenues, sales tax collections, operating expense variances, and capital budget status. The Chief Financial Officer will also present key metrics in Accounting, Supply Chain, and Fares and receive questions from the Board of Trustees.

ALTERNATIVES:
N/A

FISCAL IMPACT:
N/A

ATTACHMENTS:
- November 2025 Board Dashboard
- November 2025 Monthly Financial Statements

Utah Transit Authority

Board Dashboard: Nov 30, 2025

Financial Metrics	Nov Actual	Nov Budget	*Fav / (Unfav)*	*%*	YTD Actual	YTD Budget	*Fav / (Unfav)*	*%*
Sales Tax (Oct '25 mm $)	$ 40.7	$ 40.2	*$ 0.51*	*1.3%*	$ 419.0	$ 412.3	*$ 6.66*	*1.6%*
Fare Revenue (mm)	$ 2.9	$ 3.3	*$ (0.46)*	*-13.7%*	$ 35.3	$ 35.2	*$ 0.03*	*0.1%*
Operating Exp (mm)	$ 35.8	$ 38.7	*$ 2.85*	*7.4%*	$ 396.1	$ 423.7	*$ 27.62*	*6.5%*
Subsidy Per Rider (SPR)	$ 10.33	$ 10.21	*$ (0.12)*	*-1.2%*	$ 9.70	$ 10.21	*$ 0.51*	*5.0%*
UTA Diesel Price ($/gal)	$ 2.72	$ 3.60	*$ 0.88*	*24.4%*	$ 2.49	$ 3.60	*$ 1.11*	*30.8%*

Operating Metrics	Nov Actual	Nov-24	*F / (UF)*	*%*	YTD Actual	YTD 2024	*F / (UF)*	*%*
Ridership (mm)	3.19	3.37	*(0.19)*	*-5.5%*	37.19	37.40	*(0.21)*	*-0.6%*

Energy Cost by Type (Monthly Avg YTD)

Diesel Bus (Cost per Mile)	$ 0.53
Diesel CR (Cost per Mile)	$ 4.22
Unleaded Gas (Cost per Mile)	$ 0.45
CNG (Cost per Mile)	$ 0.38
Bus Propulsion Power (Cost per Mile)	$ 0.55
TRAX Propulsion Power (Cost per Mile)	$ 0.92

"Sales Tax" lists the amount of sales tax revenue received for the month listed in bold. All other data reflects the month listed in the table title.

Utah Transit Authority

Financial Statement

(Unaudited)

November 30, 2025

KEY ITEM REPORT EXHIBIT 1-1
(UNAUDITED)
As of November 30, 2025

		2025 YTD ACTUAL	2025 YTD BUDGET	VARIANCE FAVORABLE (UNFAVORABLE)	% FAVORABLE (UNFAVORABLE)
1	Operating Revenue	$ (37,239,531)	$ (37,383,231)	$ (143,700)	0%
2	Operating Expenses	396,058,546	423,722,838	27,664,292	7%
3	**Net Operating Income (Loss)**	**(358,819,015)**	**(386,339,607)**	**27,520,592**	**7%**
4	Capital Revenue	(189,734,613)	(275,840,583)	(86,105,970)	-31%
5	Capital Expenses	239,567,843	364,128,417	124,560,574	34%
6	**Net Capital Income (Loss)**	**(49,833,230)**	**(88,287,833)**	**38,454,604**	**44%**
7	Sales Tax	(463,524,167)	(457,370,574)	6,153,593	1%
8	Other Revenue	(141,639,438)	(84,627,750)	57,011,688	67%
9	Debt Service	74,926,367	71,262,074	(3,664,293)	-5%
10	Sale of Assets	(1,868,505)	-	1,868,505	
11	**Net Non-Operating Income (Loss)**	**532,105,743**	**470,736,250**	**61,369,493**	**13%**
12	**Contribution to Cash Balance**	**$ 123,453,498**	**$ (3,891,191)**	**$ 127,344,689**	3273%
13	Amortization	9,081,409			
14	Depreciation	162,499,984			
15	**Total Non-cash Items**	**$ 171,581,393**			

STATISTICS

RIDERSHIP

	2024 YE Actual	Nov 2025	Nov 2024	Difference	2025 YTD	2024 YTD	Difference
16	40,478,945	3,185,351	3,371,628	(186,277)	37,186,459	37,398,901	(212,442)

OPERATING SUBSIDY PER RIDER -

			SPR
17	Net Operating Expense		$ 396,058,546
18	Less: Passenger Revenue	-	(35,253,800)
19	Subtotal		360,804,747
20	Divided by: Ridership	÷	37,186,459
21	Subsidy per Rider		$ 9.70

SUMMARY FINANCIAL DATA EXHIBIT 1-2
(UNAUDITED)
As of November 30, 2025

BALANCE SHEET

		11/30/2025	11/30/2024
	CURRENT ASSETS		
1	Cash	$ 24,634,228	$ 21,825,289
2	Investments (Unrestricted)	350,715,902	335,946,722
3	Investments (Restricted)	250,064,109	177,872,112
4	Receivables	97,466,208	118,567,514
5	Receivables - Federal Grants	318,932	796,305
6	Inventories	53,507,266	46,425,174
7	Prepaid Expenses	8,547,619	3,026,088
8	**TOTAL CURRENT ASSETS**	**$ 785,254,265**	**$ 704,459,204**
9	Property, Plant & Equipment (Net)	2,981,981,001	2,934,735,007
10	Other Assets	134,130,570	125,053,681
11	**TOTAL ASSETS**	**$ 3,901,365,836**	**$ 3,764,247,892**
12	Current Liabilities	124,288,249	115,135,333
14	Net Pension Liability	133,377,587	142,283,669
15	Outstanding Debt	2,356,257,527	2,342,807,182
16	Net Investment in Capital Assets	815,900,436	760,838,201
17	Restricted Net Position	153,363,877	114,904,813
18	Unrestricted Net Position	318,178,160	288,278,693
19	**TOTAL LIABILITIES & EQUITY**	**$ 3,901,365,836**	**$ 3,764,247,892**

RESTRICTED AND DESIGNATED CASH AND CASH EQUIVALENTS RECONCILIATION

	RESTRICTED RESERVES		
20	2018 Bond Proceeds	-	$ 66
21	2019 Bond Proceeds	10	4,640
22	2025 Bond Proceeds	111,981,120	
23	Debt Service Interest Payable	75,070,249	81,568,810
24	Risk Contingency Fund	8,256,150	8,394,248
25	Catastrophic Risk Reserve Fund	1,201,084	1,163,236
26	Box Elder County ROW (sales tax)	4,661,009	-
27	Utah County 4th Qtr (sales tax)	32,536,508	23,967,492
28	Amounts held in escrow	16,357,980	62,765,671
29	**TOTAL RESTRICTED RESERVES**	**$ 250,064,109**	**$ 177,864,164**
	DESIGNATED GENERAL AND CAPITAL RESERVES		
30	General Reserves	$ 80,300,000	72,100,000
31	Service Sustainability Reserves	13,400,000	12,017,000
32	Capital Reserve	66,900,000	46,541,000
33	Debt Reduction Reserve	30,000,000	30,000,000
34	**TOTAL DESIGNATED GENERAL AND CAPITAL RESERVES**	**$ 190,600,000**	**$ 160,658,000**
35	**TOTAL RESTRICTED AND DESIGNATED CASH AND EQUIVALENTS**	**$ 440,664,109**	**$ 338,522,164**

SUMMARY FINANCIAL DATA EXHIBIT 1-3
(UNAUDITED)
As of November 30, 2025

REVENUE & EXPENSES

		ACTUAL Nov-25	ACTUAL Nov-24	YTD 2025	YTD 2024
	OPERATING REVENUE				
1	Passenger Revenue	$ (2,883,793)	$ (2,160,485)	$ (35,253,800)	$ (35,450,464)
2	Advertising Revenue	(181,250)	-	(1,985,732)	(1,733,667)
3	**TOTAL OPERATING REVENUE**	**$ (3,065,043)**	**$ (2,160,485)**	**$ (37,239,531)**	**$ (37,184,131)**
	OPERATING EXPENSE				
4	Bus Service	$ 12,398,110	$ 12,475,802	$ 141,221,737	$ 133,277,220
5	Commuter Rail	2,418,136	2,637,649	26,907,334	27,523,681
6	Light Rail	4,275,348	4,261,328	46,896,373	43,261,402
7	Maintenance of Way	1,732,457	1,813,543	19,402,624	19,658,011
8	Paratransit Service	3,111,965	2,427,599	28,592,387	28,096,678
9	RideShare/Van Pool Services	236,462	336,531	3,112,929	2,950,599
10	Microtransit	1,296,347	1,069,552	14,663,592	9,087,629
11	Operations Support	4,886,884	5,218,517	57,651,238	59,936,984
12	Administration	5,424,201	5,992,672	58,430,800	50,874,220
13	Non-Departmental			(820,468)	5,557,291
14	**TOTAL OPERATING EXPENSE**	**$ 35,779,909**	**$ 36,233,194**	**$ 396,058,546**	**$ 380,223,716**
15	**NET OPERATING (INCOME) LOSS**	**$ 32,714,866**	**$ 34,072,709**	**$ 358,819,015**	**$ 343,039,585**
	NON-OPERATING EXPENSE (REVENUE)				
16	Investment Revenue	(4,019,366)	(1,649,700)	(18,202,133)	(23,958,948)
17	Sales Tax Revenue[1]	(41,092,009)	(39,737,340)	(463,524,167)	(447,094,951)
18	Other Revenue	(583,349)	(893,821)	(13,498,008)	(11,747,680)
19	Fed Operations/Preventative Maint. Revenue	-	(584,856)	(109,939,297)	(38,574,909)
20	Bond Interest	6,218,651	4,611,081	68,385,476	69,737,534
21	Bond Interest UTCT	139,793	148,357	1,563,413	1,631,928
22	Bond Cost of Issuance/Fees	-		2,358,784	2,523,917
23	Lease Interest	707,507		2,618,694	2,967,952
24	Sale of Assets	(166,100)	219,016	(1,868,505)	(508,350)
25	**TOTAL NON-OPERATING EXPENSE (REVENUE)**	**$ (38,794,873)**	**$ (37,887,263)**	**$ (532,105,743)**	**$ (445,023,508)**
26	**CONTRIBUTION TO RESERVES**	**$ 6,080,007**	**$ 3,814,555**	**$ 173,286,728**	**$ 101,983,923**
	OTHER EXPENSES (NON-CASH)				
27	Bond Premium/Discount Amortization	(344,047)	(334,645)	(3,784,514)	(3,741,577)
28	Bond Refunding Cost Amortization	1,102,053	1,242,598	12,122,585	26,668,583
29	Future Revenue Cost Amortization	67,576	67,576	743,338	743,338
30	Depreciation	13,821,185	12,393,671	162,499,984	127,997,701
31	**NET OTHER EXPENSES (NON-CASH)**	**$ 14,646,768**	**$ 13,369,200**	**$ 171,581,393**	**$ 151,668,046**

[1] Current Year Sales Taxes YTD Include Actuals Plus Two Prior Month Accruals

BUDGET TO ACTUAL REPORT
(UNAUDITED)
As of November 30, 2025

EXHIBIT 1-4

CURRENT MONTH

		ACTUAL Nov-25	BUDGET Nov-25	VARIANCE FAVORABLE (UNFAVORABLE)	% FAVORABLE (UNFAVORABLE)
	OPERATING REVENUE				
1	Passenger Revenue	$ (2,883,793)	$ (3,340,804)	$ (457,011)	-14%
2	Advertising Revenue	(181,250)	(195,917)	(14,667)	-7%
3	**TOTAL OPERATING REVENUE**	**$ (3,065,043)**	**$ (3,536,721)**	**$ (471,678)**	-13%
	OPERATING EXPENSE				
4	Bus Service	$ 12,398,110	12,705,428	$ 307,318	-2%
5	Commuter Rail	2,418,136	2,736,357	318,221	-12%
6	Light Rail	4,275,348	4,329,037	53,689	-1%
7	Maintenance of Way	1,732,457	1,951,592	219,135	-11%
8	Paratransit Service	3,111,965	2,468,191	(643,774)	26%
9	RideShare/Van Pool Services	236,462	336,139	99,677	-30%
10	Microtransit	1,296,347	1,400,877	104,530	-7%
11	Operations Support	4,886,884	5,658,273	771,389	-14%
12	Administration	5,424,201	7,068,663	1,644,462	-23%
13	Non-Departmental	-	-	-	
14	**TOTAL OPERATING EXPENSE**	**$ 35,779,909**	**$ 38,654,556**	**$ 2,874,647**	-7%
15	**NET OPERATING (INCOME) LOSS**	**$ 32,714,866**	**$ 35,117,836**	**$ 2,402,969**	-7%
	NON-OPERATING EXPENSE (REVENUE)				
16	Investment Revenue	$ (4,019,366)	$ (423,750)	$ 3,595,616	849%
17	Sales Tax Revenue	(41,092,009)	(45,055,334)	(3,963,326)	-9%
18	Other Revenue	(583,349)	(1,235,500)	(652,151)	-53%
19	Fed Operations/Preventative Maint. Revenue	-	(6,034,000)	(6,034,000)	-100%
20	Bond Interest	6,218,651	6,049,457	(169,195)	3%
21	Bond Interest UTCT	139,793	139,793	0	0%
22	Bond Cost of Issuance/Fees	-	7,500	7,500	-100%
23	Lease Interest	707,507	283,303	(424,204)	150%
24	Sale of Assets	(166,100)	-	166,100	
25	**TOTAL NON-OPERATING EXPENSE (REVENUE)**	**$ (38,794,873)**	**$ (46,268,532)**	**$ (7,473,659)**	-16%
26	**CONTRIBUTION TO RESERVES**	**$ 6,080,007**	**$ 11,150,696**		

BUDGET TO ACTUAL REPORT BY CHIEF
(UNAUDITED)
As of November 30, 2025

EXHIBIT 1-4A

CURRENT MONTH

		ACTUAL Nov-25	BUDGET Nov-25	ORIGINAL BUDGET TOTAL	AMENDED BUDGET TOTAL	VARIANCE FAVORABLE (UNFAVORABLE)	% FAVORABLE (UNFAVORABLE)
	OPERATING EXPENSE						
1	Board of Trustees	$ 235,179	$ 314,069	$ 3,768,864	$ 3,768,864	$ 314,101	100%
2	Executive Director	475,239	628,222	$ 7,538,842	7,538,842	$ 628,388	100%
3	Chief Communication Officer	208,693	403,498	$ 4,842,106	4,842,106	$ 403,619	100%
4	Chief Planning and Engagement Of	1,978,637	2,275,405	$ 27,396,584	27,396,584	$ 2,287,277	100%
5	Chief Finance Officer	1,390,608	1,682,518	$ 19,667,986	19,076,098	$ 1,572,052	100%
6	Chief Operating Officer	27,333,412	28,425,982	$347,117,591	347,709,480	$ 29,820,499	100%
7	Chief People Officer	908,977	1,157,342	$ 13,868,057	13,868,057	$ 1,157,472	100%
8	Chief Development Officer	627,762	677,787	$ 8,183,427	8,183,427	$ 690,272	100%
9	Chief Enterprise Strategy Officer	2,621,404	3,089,733	$ 31,267,370	31,267,370	$ 3,697,822	100%
10	Non-Departmental		-	$ 858,014	858,014	$ 214,502	
11	**TOTAL OPERATING EXPENSE**	**$ 35,779,909**	**$ 38,654,556**	**$464,508,841**	**$464,508,842**	**$ 40,786,004**	**106%**

YEAR TO DATE

		ACTUAL Nov-24	BUDGET Nov-24	VARIANCE FAVORABLE (UNFAVORABLE)	% FAVORABLE (UNFAVORABLE)
	OPERATING EXPENSE				
12	Board of Trustees	$ 2,810,556	$ 3,454,763	$ 958,308	25%
13	Executive Director	6,440,411	6,910,454	$ 1,098,431	15%
14	Chief Communication Officer	3,146,630	4,438,487	$ 1,695,476	35%
15	Chief Planning and Engagement Of	23,253,384	25,109,307	$ 4,143,199	15%
16	Chief Finance Officer	14,684,306	17,504,046	$ 4,391,792	23%
17	Chief Operating Officer	302,570,205	317,888,981	$ 45,139,275	13%
18	Chief People Officer	10,111,103	12,710,585	$ 3,756,954	27%
19	Chief Devlopment Officer	7,009,987	7,493,155	$ 1,173,440	14%
20	Chief Enterprise Strategy Officer	26,852,433	27,569,548	$ 4,414,937	14%
21	Non-Departmental	(820,468)	643,512	$ 1,678,482	196%
22	**TOTAL OPERATING EXPENSE**	**$396,058,548**	**$423,722,838**	**$ 68,450,294**	**16%**

BUDGET TO ACTUAL REPORT EXHIBIT 1-5
(UNAUDITED)
As of November 30, 2025

YEAR TO DATE

		ACTUAL Nov-25	BUDGET Nov-25	VARIANCE FAVORABLE (UNFAVORABLE)	% FAVORABLE (UNFAVORABLE)
	OPERATING REVENUE				
1	Passenger Revenue	$ (35,253,800)	$ (35,228,148)	$ 25,652	0%
2	Advertising Revenue	(1,985,732)	(2,155,083)	(169,352)	-8%
3	**TOTAL OPERATING REVENUE**	**$ (37,239,531)**	**$ (37,383,231)**	**$ (143,700)**	**0%**
	OPERATING EXPENSE				
4	Bus Service	$ 141,221,737	$ 146,463,533	$ 5,241,796	4%
5	Commuter Rail	26,907,334	30,008,014	3,100,680	10%
6	Light Rail	46,896,373	47,370,310	473,937	1%
7	Maintenance of Way	19,402,624	21,236,466	1,833,842	9%
8	Paratransit Service	28,592,387	27,478,235	(1,114,151)	-4%
9	RideShare/Van Pool Services	3,112,929	3,697,536	584,607	16%
10	Microtransit	14,663,592	15,409,695	746,103	5%
11	Operations Support	57,651,238	61,189,718	3,538,480	6%
12	Administration	58,430,800	70,225,819	11,795,019	17%
13	Non-Departmental	(820,468)	643,512	1,463,980	227%
14	**TOTAL OPERATING EXPENSE**	**$ 396,058,546**	**$ 423,722,838**	**$ 27,664,292**	**7%**
15	**NET OPERATING (INCOME) LOSS**	**$ 358,819,015**	**$ 386,339,607**	**$ 27,520,592**	**7%**
	NON-OPERATING EXPENSE (REVENUE)				
16	Investment Revenue	$ (18,202,133)	$ (4,661,250)	$ 13,540,883	290%
17	Sales Tax Revenue	(463,524,167)	(457,370,574)	6,153,593	1%
18	Other Revenue	(13,498,008)	(13,590,500)	(92,492)	-1%
19	Fed Operations/Preventative Maint. Revenue	(109,939,297)	(66,376,000)	43,563,297	66%
20	Bond Interest	68,385,476	66,544,022	(1,841,454)	-3%
21	Bond Interest UTCT	1,563,413	1,537,720	(25,693)	-2%
22	Bond Cost of Issuance/Fees	2,358,784	64,000	(2,294,784)	-3586%
23	Lease Interest	2,618,694	3,116,332	497,638	16%
24	Sale of Assets	(1,868,505)	-	1,868,505	
25	**TOTAL NON-OPERATING EXPENSE (REVENUE)**	**$ (532,105,743)**	**$ (470,736,250)**	**$ 61,369,493**	**13%**
26	**CONTRIBUTION TO RESERVES**	**$ 173,286,728**	**$ 84,396,643**		

CAPITAL PROJECTS
(UNAUDITED)
As of November 30, 2025

EXHIBIT 1-6

		2025 ACTUAL	ANNUAL BUDGET	PERCENT
	EXPENSES			
1	Capital Services	$ 213,155,596	$ 338,486,000	63.0%
2	Enterprise Strategy	8,213,595	19,320,000	42.5%
3	Executive Director (Safety)	722,426	1,360,000	53.1%
4	Finance	9,614,824	22,345,000	43.0%
5	Operations	4,687,956	10,490,000	44.7%
6	People	2,029,069	2,795,000	72.6%
7	Planning & Engagement	1,144,378	2,435,000	47.0%
9	**TOTAL**	**$ 239,567,843**	**$ 397,231,000**	**60.3%**
	REVENUES			
10	GRANT	$ 131,490,295	$ 127,571,000	103.1%
11	STATE CONTRIBUTION	11,927,515	45,619,000	26.1%
12	LEASES (PAID TO DATE)	18,622,731	32,652,000	57.0%
13	BONDS	16,948,262	90,055,000	18.8%
14	LOCAL PARTNERS	10,745,811	5,020,000	214.1%
15	UTA FUNDING	49,833,230	96,314,000	51.7%
16	**TOTAL**	**$ 239,567,843**	**$ 397,231,000**	**60.3%**

FAREBOX RECOVERY & SPR
(UNAUDITED)
As of November 30, 2025

BY SERVICE

	CURRENT MONTH		YEAR TO DATE	
	Nov-25	**Nov-24**	**2025**	**2024**
UTA				
Fully Allocated Costs	35,779,909	36,233,194	396,058,546	380,223,716
Passenger Farebox Revenue	2,883,793	2,160,485	35,253,800	35,450,464
Passengers	3,185,351	3,371,628	37,186,459	37,398,901
Farebox Recovery Ratio	8.1%	6.0%	8.9%	9.3%
Actual Subsidy per Rider	$10.33	$10.11	$9.70	$9.22
BUS SERVICE				
Fully Allocated Costs	17,442,041	17,962,597	197,481,277	189,966,951
Passenger Farebox Revenue	1,285,121	1,364,341	15,064,923	15,057,758
Passengers	1,557,197	1,622,947	18,495,032	18,215,410
Farebox Recovery Ratio	7.4%	7.6%	7.6%	7.9%
Actual Subsidy per Rider	$10.38	$10.23	$9.86	$9.60
LIGHT RAIL SERVICE				
Fully Allocated Costs	8,518,970	8,848,127	94,305,356	91,343,124
Passenger Farebox Revenue	611,214	722,509	7,278,928	7,814,903
Passengers	1,112,053	1,184,908	12,206,696	12,887,038
Farebox Recovery Ratio	7.2%	8.2%	7.7%	8.6%
Actual Subsidy per Rider	$7.11	$6.86	$7.13	$6.48
COMMUTER RAIL SERVICE				
Fully Allocated Costs	4,248,170	4,586,554	47,463,984	48,085,739
Passenger Farebox Revenue	464,189	430,332	5,117,053	5,134,637
Passengers	289,545	337,192	3,785,830	3,827,632
Farebox Recovery Ratio	10.9%	9.4%	10.8%	10.7%
Actual Subsidy per Rider	$13.07	$12.33	$11.19	$11.22
MICROTRANSIT				
Fully Allocated Costs	1,430,066	1,214,790	16,140,945	10,607,114
Passenger Farebox Revenue	50,971	57,071	613,616	542,343
Passengers	48,270	48,662	593,998	520,572
Farebox Recovery Ratio	3.6%	4.7%	3.8%	5.1%
Actual Subsidy per Rider	$28.57	$23.79	$26.14	$19.33
PARATRANSIT				
Fully Allocated Costs	3,516,907	2,900,040	33,477,892	33,204,034
Passenger Farebox Revenue	210,644	(689,499)	3,320,048	3,379,586
Passengers	73,335	78,054	885,772	914,411
Farebox Recovery Ratio	6.0%	-23.8%	9.9%	10.2%
Actual Subsidy per Rider	$45.08	$45.99	$34.05	$32.62
RIDESHARE				
Fully Allocated Costs	623,755	721,086	7,189,092	7,016,755
Passenger Farebox Revenue	261,655	275,730	3,859,231	3,521,237
Passengers	104,951	99,865	1,219,131	1,033,838
Farebox Recovery Ratio	41.9%	38.2%	53.7%	50.2%
Actual Subsidy per Rider	$3.45	$4.46	$2.73	$3.38

FAREBOX RECOVERY & SPR
(UNAUDITED)
As of November 30, 2025

EXHIBIT 1-8

BY TYPE

	CURRENT MONTH		YEAR TO DATE	
	Nov-25	**Nov-24**	**2025**	**2024**
FULLY ALLOCATED COSTS				
Bus Service	$17,442,041	$17,962,597	$197,481,277	$189,966,951
Light Rail Service	$8,518,970	$8,848,127	$94,305,356	$91,343,124
Commuter Rail Service	$4,248,170	$4,586,554	$47,463,984	$48,085,739
Microtransit	$1,430,066	$1,214,790	$16,140,945	$10,607,114
Paratransit	$3,516,907	$2,900,040	$33,477,892	$33,204,034
Rideshare	$623,755	$721,086	$7,189,092	$7,016,755
UTA	**$35,779,909**	**$36,233,194**	**$396,058,546**	**$380,223,716**
PASSENGER FAREBOX REVENUE				
Bus Service	$1,285,121	$1,364,341	$15,064,923	$15,057,758
Light Rail Service	$611,214	$722,509	$7,278,928	$7,814,903
Commuter Rail Service	$464,189	$430,332	$5,117,053	$5,134,637
Microtransit	$50,971	$57,071	$613,616	$542,343
Paratransit	$210,644	($689,499)	$3,320,048	$3,379,586
Rideshare	$261,655	$275,730	$3,859,231	$3,521,237
UTA	**$2,883,793**	**$2,160,485**	**$35,253,800**	**$35,450,464**
PASSENGERS				
Bus Service	1,557,197	1,622,947	18,495,032	18,215,410
Light Rail Service	1,112,053	1,184,908	12,206,696	12,887,038
Commuter Rail Service	289,545	337,192	3,785,830	3,827,632
Microtransit	48,270	48,662	593,998	520,572
Paratransit	73,335	78,054	885,772	914,411
Rideshare	104,951	99,865	1,219,131	1,033,838
UTA	**3,185,351**	**3,371,628**	**37,186,459**	**37,398,901**
FAREBOX RECOVERY RATIO				
Bus Service	7.4%	7.6%	7.6%	7.9%
Light Rail Service	7.2%	8.2%	7.7%	8.6%
Commuter Rail Service	10.9%	9.4%	10.8%	10.7%
Microtransit	3.6%	4.7%	3.8%	5.1%
Paratransit	6.0%	-23.8%	9.9%	10.2%
Rideshare	41.9%	38.2%	53.7%	50.2%
UTA	8.1%	6.0%	8.9%	9.3%
ACTUAL SUBSIDY PER RIDER				
Bus Service	$10.38	$10.23	$9.86	$9.60
Light Rail Service	$7.11	$6.86	$7.13	$6.48
Commuter Rail Service	$13.07	$12.33	$11.19	$11.22
Microtransit	$28.57	$23.79	$26.14	$19.33
Paratransit	$45.08	$45.99	$34.05	$32.62
Rideshare	$3.45	$4.46	$2.73	$3.38
UTA	$10.33	$10.11	$9.70	$9.22

SUMMARY OF ACCOUNTS RECEIVABLE EXHIBIT 1-9
(UNAUDITED)
As of November 30, 2025

	Classification	Total	Current	31-60 Days	61-90 Days	90-120 Days	Over 120 Days
1	Federal Grants Government [1]	$ 318,932	$ 318,932	-	-	-	-
2	Sales Tax Contributions	77,596,421	45,534,383	$ 32,062,038	-	-	-
3	Warranty Recovery	2,259,816	2,259,816	-	-	-	-
4	Build America Bond Subsidies	-	-	-	-	-	-
5	Product Sales and Development	2,113,192	377,505	7,917	5,713	11,785	1,710,273
6	Pass Sales	125,161	206,853	38,815	(11,178)	43	(109,372)
7	Property Management	218,781	28,652	103,710	8,365	800	77,253
8	Vanpool/Rideshare	151,555	93,285	5,225	900	2,736	49,409
9	Salt Lake City Agreement	508,421	508,471	-	(50)	-	-
10	Planning	-	-	-	-	-	-
11	Capital Development Agreements	2,889,107	2,623,933	260,763	-	4,410	0
12	Other	14,423,995	296,388	-	24,672	-	371,649
13	**Total**	**$ 100,605,381**	**$ 52,248,218**	**$ 32,478,469**	**$ 28,423**	**$ 19,773**	**$ 2,099,212**

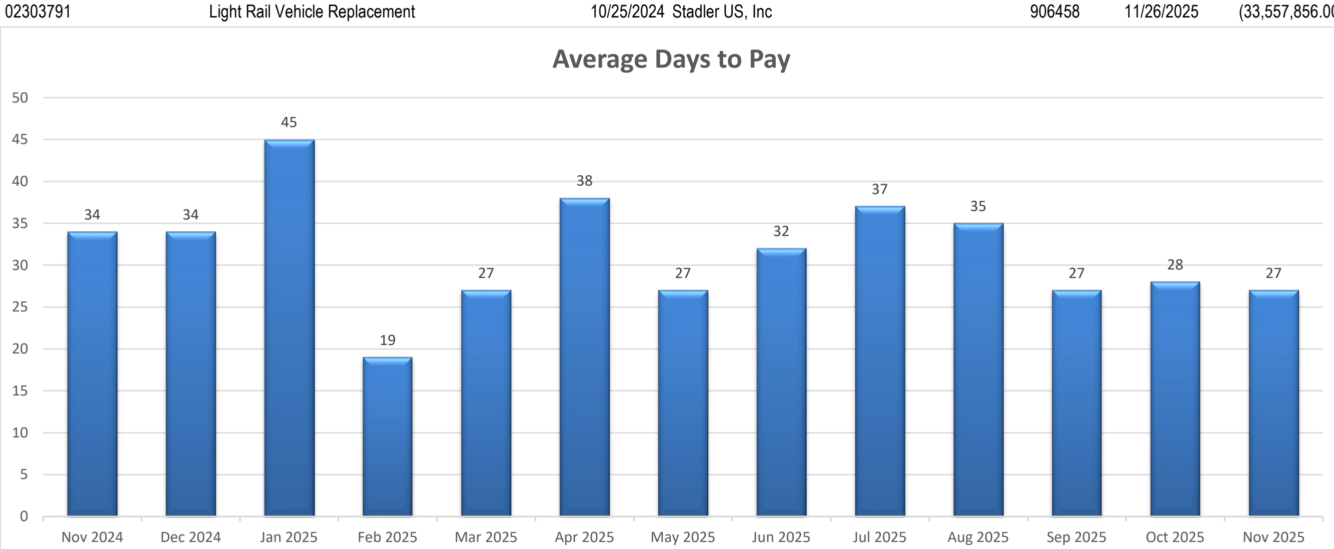
	Percentage Due by Aging	Current	31-60 Days	61-90 Days	90-120 Days	Over 120 Days
14	Federal Grants Government [1]	100.0%	0.0%	0.0%	0.0%	0.0%
15	Sales Tax Contributions	58.7%	41.3%	0.0%	0.0%	0.0%
16	Warranty Recovery	100.0%	0.0%	0.0%	0.0%	0.0%
17	Build America Bond Subsidies	0.0%	0.0%	0.0%	0.0%	0.0%
18	Product Sales and Development	17.9%	0.4%	0.3%	0.6%	80.9%
19	Pass Sales	165.3%	31.0%	-8.9%	0.0%	-87.4%
20	Property Management	13.1%	47.4%	3.8%	0.4%	35.3%
21	Vanpool/Rideshare	61.6%	3.4%	0.6%	1.8%	32.6%
22	Salt Lake City Agreement	100.0%	0.0%	0.0%	0.0%	0.0%
23	Planning					
24	Capital Development Agreements	90.8%	9.0%	0.0%	0.2%	0.0%
25	Other	2.1%	0.0%	0.2%	0.0%	2.6%
26	**Total**	**51.9%**	**32.3%**	**0.0%**	**0.0%**	**2.1%**

[1] Federal preventive maintenance funds and federal RideShare funds

SUMMARY OF APPROVED DISBURSEMENTS OVER $200,000
FROM Oct 1, 2025 THROUGH Oct 31, 2025
(UNAUDITED)

EXHIBIT 1-10

Contract # and Description		Contract Date	Vendor	Check #	Date	Check Total
00243830	Clearfiield Trail Project	6/27/2024	ACME CONSTRUCTION, INC.	906168	11/5/2025	(321,026.00)
02403915	Shop Floor refinish	5/14/2025	CDC Restoration & Construction	906167	11/5/2025	(263,157.95)
00213530	Insurance	4/17/2025	PEHP (Use for Admin)	906186	11/5/2025	(289,348.16)
00213531	HEALTH INSURANCE	4/17/2025	SELECT HEALTH	906187	11/5/2025	(1,032,687.70)
01138852	ON-CALL MAINTENANCE	4/9/2025	Stacy and Witbeck, Inc.	906169	11/5/2025	(533,082.00)
02033993	ON DEMAND MOBILITY	4/23/2025	VIA TRANSPORTATION INC	906171	11/5/2025	(591,399.37)
02033993	ON DEMAND MOBILITY	4/23/2025	VIA TRANSPORTATION INC	906171	11/5/2025	(271,216.64)
00223675	High Power Chargers	6/7/2023	Cache Valley Electric Company	906258	11/12/2025	(243,032.96)
00253929	Transit Ed Center	7/7/2025	Eckman Construction LLC	906257	11/12/2025	(246,880.86)
02403849	S-Line PDB Phase 1	10/28/2024	Kiewit Infrastructure West Co.	906259	11/12/2025	(261,491.21)
02003243	PARA SERVICE NORTH	4/30/2025	MV PUBLIC TRANSPORTATION	906262	11/12/2025	(310,648.06)
02403900	Wheel Truing	5/20/2025	NSH USA Corporation	906260	11/12/2025	(264,103.70)
00243813	TRAX Platform in South Jordan	4/30/2025	PAULSEN CONSTRUCTION, INC.	906261	11/12/2025	(461,002.12)
R2024-10-03	UTILITIES	4/2/2025	ROCKY MOUNTAIN POWER	394326	11/12/2025	(463,217.51)
00233786	ON-CALL MAINTENANCE	4/9/2025	Stacy and Witbeck, Inc.	906266	11/12/2025	(316,956.36)
01903143	PARA SERVICE SOUTH	4/23/2025	UNITED WAY COMMUNITY SERV	906256	11/12/2025	(217,447.21)
00017579	JR Furniture	7/15/2025	WorkSpace Elements	394325	11/12/2025	(237,986.28)
R2025-04-01	Pension Contribution	4/18/2025	Cambridge Associates, LLC.	394420	11/14/2025	(1,310,721.36)
R2025-01-02	INCOME TAX	4/18/2025	UTAH ST TAX (WITHHOLDING ONLY)	394449	11/14/2025	(344,563.51)
02003267	Bus Purchase	8/15/2024	GILLIG CORPORATION	906344	11/19/2025	(598,799.92)
01140027	ON-CALL MAINTENANCE	4/9/2025	Stacy and Witbeck, Inc.	906345	11/19/2025	(715,022.17)
01139971	ON-CALL MAINTENANCE	4/9/2025	Stacy and Witbeck, Inc.	906345	11/19/2025	(464,013.00)
24384312	SUPPLIMENTAL SERVICE	4/30/2025	The Driver Provider	906342	11/19/2025	(317,447.29)
02403847	APC hardware	11/20/2024	URBAN TRANSPORTATION ASSOC. IN	906341	11/19/2025	(297,167.25)
00172455	LOCOMOTIVE REMANUFACTURER	8/30/2018	MotivePower LLC	906456	11/26/2025	(388,824.00)
00243813	TRAX Platform in South Jordan	4/30/2025	PAULSEN CONSTRUCTION, INC.	906454	11/26/2025	(214,525.77)
02203566	MKV20-System	6/3/2020	SCHEIDT & BACHMANN USA, INC.	906457	11/26/2025	(510,179.70)
02303791	Light Rail Vehicle Replacement	10/25/2024	Stadler US, Inc	906458	11/26/2025	(33,557,856.00)



669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 1/14/2026

TO: Board of Trustees
THROUGH: Jay Fox, Executive Director
FROM: Viola Miller, Chief Financial Officer
PRESENTER(S): Tracy Young, Grants Director

TITLE:

Discretionary Grants Report

AGENDA ITEM TYPE:
Report

RECOMMENDATION:
Informational report for discussion

BACKGROUND:
Board Policy 2.2 Contract Authority, Procurement and Grants states that any discretionary grant pursued by the Authority will be consistent with the Authority's mission and strategic priorities. The policy also requires that the Executive Director notify the Board of Trustees if a discretionary grant of $250,000 or more is being sought. This report on upcoming and in-process discretionary grant applications provides the Board an opportunity to be informed and give input on proposed grant applications.

The discretionary grant update provides information on:

- Grants not selected for award
- Grant applications proposed
- Grant applications submitted waiting selection; and
- Grants that have been selected for award but have not yet been obligated in a grant agreement

DISCUSSION:
A grants update will be provided to inform that 5 grants are yet to be submitted. 14 Grants are awaiting

selection (previously reported) and 0 grants have been selected for award.

ALTERNATIVES:

N/A

FISCAL IMPACT:

The proposed match for the new FRA grant proposal will be provided through UTA land in-kind funds. The Community Project Funding projects are funded by UTA local funds and all projects are included in the 5-year capital plan.

ATTACHMENTS:

N/A

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 1/14/2026

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Ann Green-Barton, Chief People Officer
PRESENTER(S):	Carlton Christensen, Board Chair

TITLE:

R2026-01-01 - Resolution Approving Amendment Four to the Terms and Conditions of Employment for Executive Director Jay Fox

AGENDA ITEM TYPE:
Resolution

RECOMMENDATION:
Adopt Resolution R2026-01-01 to approve Amendment Four to the Executive Director Employment Agreement and approve an exception to UTA Policy UTA.05.02 as presented.

BACKGROUND:
On November 19, 2021 UTA's Board of Trustees authorized in Resolution R2021-11-03 an employment agreement that established a period of employment and compensation for Jay Fox as Executive Director of the Authority (UTA Contract 21-P00137). Amendment One increased the authorized amount for relocation expenses. Amendment Two exercised the extension year options from the initial base period of employment and authorized a merit increase of 4% for the 2022 performance year. Amendment 3 authorized a merit increase percentage of 4% for the 2023 performance year.

DISCUSSION:
Amendment Four establishes a new period of employment consisting of a base period and an option period. The base term employment period shall be from January 1, 2026 through December 31, 2028, with a two-year option available at UTA's sole discretion, from January 1, 2029 through December 31, 2030.

Amendment Four authorizes a merit increase of 3% for the 2026 performance year. Beginning in 2027, the employee's base pay will increase to $310,000 or follow the administrative merit increase percentage approved for the year, whichever results in a higher annual salary. For subsequent contract years (2028-2030), the employee’s base pay will follow the administrative merit increase percentage approved for each respective year.

Amendment Four also authorizes supplemental benefits offerings: an increased 457 Plan Employer Match of 5% beginning in January 2027, provided an authorizing 457 plan amendment is approved by the Board; three additional executive vacation days per year requiring the Board’s approval of an exception to UTA Policy UTA.05.02;and a one-time signing bonus of $5,000.

ALTERNATIVES:
If not adopted, the current contract terms which are in place through January 9, 2027 will remain intact.

FISCAL IMPACT:
The base pay merit increases and supplemental benefits provided are included in UTA’s 2026 approved Operating Budget and will be budgeted in subsequent yearly Operating Budgets.

ATTACHMENTS:
- Resolution R2026-01-01

RESOLUTION OF THE BOARD OF TRUSTEES OF THE UTAH TRANSIT AUTHORITY APPROVING AMENDMENT FOUR TO THE TERMS AND CONDITIONS OF EMPLOYMENT FOR EXECUTIVE DIRECTOR JAY FOX

R2026-01-01 January 14, 2026

WHEREAS, the Utah Transit Authority (the "Authority") is a large public transit district organized under the laws of the State of Utah and created to transact and exercise all of the powers provided for in the Utah Limited Purpose Local Government Entities – Special Districts Act and the Utah Public Transit District Act; and

WHEREAS, the Act provides that the Authority's Board of Trustees ("Board") shall hire, set the salary, and develop performance targets and evaluations for its executive director pursuant to UTAH CODE §17B-2a-808.1(2)(j); and

WHEREAS, the Board approved in Resolution R2021-11-03 the terms and conditions of employment for Executive Director Jay Fox; and

WHEREAS, Jay Fox was sworn under oath of office to act as the executive director ("Executive Director") of Authority on January 12, 2022; and

WHEREAS, the Executive Director has rendered exemplary service to the Authority in the performance of his duties; and

WHEREAS, the terms and conditions of the Executive Director's employment are governed by UTA Contract No. 21-P00137 ("Agreement"); and

WHEREAS, the terms and conditions of the Executive Director's employment were amended in a contract amendment on February 23, 2022, Resolution R2023-05-01 on May 10, 2023, and in Resolution R2024-03-06 on March 13, 2024; and

WHEREAS, the Board finds it is in the best interests of the Authority to further amend the Agreement as reflected in Amendment Four to the Executive Director Employment Agreement attached hereto as Exhibit A.

NOW, THEREFORE, BE IT RESOLVED by the Board of Trustees of the Utah Transit Authority:

1. That the Board of Trustees hereby approves Amendment Four to the Executive Director Employment Agreement, attached as Exhibit A.

2. That the Board of Trustees hereby approves an exception to UTA Policy UTA.05.02 Paid Time Off – Administrative Employees to authorize the award of three additional executive vacation days per year to Jay Fox as reflected in Amendment Four.

Approved and adopted this 14th day of January 2026.

____
Carlton Christensen, Chair
Board of Trustees

ATTEST:

____
Secretary of the Authority

(Corporate Seal)

Approved As To Form:

Signed by:
David M. Wilkins
0E6E046DE4724A2
Legal Counsel

Exhibit A

Amendment Four to Executive Director Employment Agreement

AMENDMENT FOUR TO EXECUTIVE DIRECTOR EMPLOYMENT AGREEMENT

WHEREAS, Utah Transit Authority (UTA) and Jay Fox (Employee) entered into an Executive Director Employment Agreement (Agreement) as UTA Contract No. 21-P00137 with an effective date of January 10, 2022; and

WHEREAS, Amendment One increased the authorized amount for relocation expenses from $20,000 to $30,000; and

WHEREAS, Amendment Two exercised the extension options, establishing the period of performance end date as January 9, 2027; established a minimum 3% salary increase for years two through the end of the performance period, authorized a merit increase of 4% for the employee's 2022 performance year consisting of the minimum 3% plus an additional 1% performance award; set the date for future salary increases to be effective on the same date in January as other administrative employees; and set a 2023 base salary of $275,600; and

WHEREAS, Amendment Three awarded a merit increase of 4% for the 2023 performance year consisting of the minimum 3% plus a performance-based increase of 1%, bringing the 2024 base salary up to $286,624.00;

WHEREAS, employee was awarded a 3% merit increase for the 2024 performance year in accordance with Amendment Two, bringing his annual 2025 salary up to $295,222.72.

NOW THEREFORE, FOR JUST AND VALUABLE CONSIDERATION, THE PARTIES AGREE TO AMEND AGREEMENT AS FOLLOWS:

If a conflict or overlap exists between the provisions of this Amendment four and the provisions of the 2022 Employment Agreement as amended, the provisions of this Amendment Four shall supersede and control. Any provision of the 2022 Employment Agreement as amended that is not superseded by this Amendment Four, or prior amendments, shall remain unaffected and in full force and effect.

1. **Duties and Reporting Relationship**. Authority hereby employs, engages, and hires Jay Fox as the Authority's Executive Director. Employee accepts and agrees to said hiring and employment by Authority. Employee agrees to perform and assume any and all duties and responsibilities appropriate to the position of Executive Director as set forth in section 17B-2a-811.1 and other relevant sections of the Utah State Code. Unless otherwise authorized by the Board of Trustees, Employee will devote his full-time energy and skill to the performance of his duties for the Authority and for the

benefit of Authority, reasonable vacations and absences because of illness excepted. Furthermore, Employee will exercise due diligence and care in the performance of his duties under this Agreement and Utah law.

2. **Period of Employment**. Effective with execution of this Amendment, a new employment period will be established consisting of a base period and a two year option shall be established. The base term employment period shall be from January 1, 2026 – December 31, 2028, with a two year option, to be exercised in UTA's sole discretion, from January 1, 2029 to December 31, 2030. There will be no automatic renewals.

3. **Compensation.** For 2026, the employee's salary will increase by 3% for the 2025 performance year as previously established in Amendment Two. Beginning in 2027, the employee's base pay will increase to $310,000 or follow the administrative merit increase percentage approved for that year, whichever results in a higher annual salary. For subsequent contract years (2028-2030), the employee's base pay will follow the administrative merit increase percentage approved for each respective year. Merit increases will be applied at the same time and in the same manner as increases applied to administrative personnel. No separate or supplemental cost-of-living adjustments are included beyond the approved administrative merit percentage.

4. **Supplemental Benefits**

A. 457 Plan Employer Match
Provided an authorizing 457 plan amendment is approved by the Board, beginning in January 2027, UTA will provide a 5% employer match to the employee's 457 Deferred Compensation Plan contribution per calendar year, representing a 3% increase to the current employer match. Combined with the employee's contribution, this results in eligibility for a 10% total annual contribution (5% employee, 5% employer) to the 457 Plan.

B. Executive Vacation Allotment
Beginning in 2026, the employee will receive 3 additional executive vacation days per year, for a total of 10 executive vacation days per calendar year. The executive vacation days will be frontloaded at the beginning of each calendar year.

5. **Other Provisions**

A. Signing Bonus
Upon full approval and execution of Amendment Four, the employee will receive a one-time signing bonus of $5,000. Payment will be issued in the next regular payroll cycle following contract signature unless otherwise mutually agreed to.

IN WITNESS WHEREOF, the Parties have executed this Amendment No. 4 as of the date of the last signature below.

UTAH TRANSIT AUTHORITY	EMPLOYEE
______________________________	______________________________
Carlton Christensen	Jay Fox
Chair, Board of Trustees	
Date: ________________________	Date: ________________________

____
Beth Holbrook
Trustee
Date: ________________________

____
Jeff Acerson
Trustee
Date: ________________________

Approved as to form:

____
Assistant Attorney General
UTA Legal Counsel

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 1/14/2026

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Jon Larsen, Chief Capital Services Officer
PRESENTER(S):	Spencer Burgoyne, Manager of Property Administration Ethan Ray, Project Manager

TITLE:

Contract: Real Estate Purchase Contract for Box Elder County Right of Way Parcel BOX-1001 (Woodland Zito, LLC)

AGENDA ITEM TYPE:
Non-Procurement Agreement

RECOMMENDATION:
Approve and authorize the Executive Director to execute the real estate purchase contract and associated disbursements with Woodland Zito, LLC ("Seller") to purchase Parcel Box-1001 for a purchase price of $489,300 plus $2,900 for closing costs for a total of $492,200.

BACKGROUND:
UTA has received Box Elder County tax funds to purchase and preserve critical right of way. In 2007, Box Elder County passed a second-quarter sales tax to support the future extension of commuter rail service to Brigham City. Subsequently, in 2024 Box Elder County cities repealed the second-quarter sales tax and replaced it with the fourth-quarter sales tax.

Additionally, the 2019-2050 Regional Transportation Plan (RTP) identified the need to preserve right of way for the future transit project between Ogden and Brigham City. For the past six years, UTA has been working to advance corridor preservation efforts in Box Elder and Weber Counties.

DISCUSSION:
Project Parcel Box-1001 has been identified as necessary for corridor preservation. The subject parcel contains 130,462 square feet (2.995 acres) of raw land located at roughly 850 West 8850 South in Unincorporated area of Box Elder County just outside of Willard City. An appraisal commissioned by UTA valued the parcel at $489,300 (based on $3.75 per square foot), and the sellers have agreed to accept this amount as the purchase

price. While UTA requires a 50 foot wide strip of the subject property, the sellers indicated that the remaining land would be significantly diminished and therefore would only sell if UTA purchased the entire parcel east of the Union Pacific corridor. Until the project advances, UTA plans to either lease out the property for agricultural uses to offset the ongoing maintenance costs or dispose of the remainder parcel roughly 2.65 acres.

Purchasing the subject property meets Box Elder County's objectives to preserve right of way for future transit expansion, helping to avoid potential future acquisition and relocation costs.

CONTRACT SUMMARY:

Contractor Name:	Woodland Zito, LLC
Contract Number:	25-P00516
Base Contract Effective Dates:	Upon execution
Extended Contract Dates:	N/A
Existing Contract Value:	N/A
Amendment Amount:	N/A
New/Total Contract Value:	$492,200 (including estimated closing costs)
Procurement Method:	N/A
Budget Authority:	2026 Approved Capital Budget

ALTERNATIVES:
Deny approval. Waiting to purchase the property could result in increased future costs or loss of opportunity. Delaying action may affect coordination with Box Elder County and Brigham City, which have allocated funding and identified corridor preservation as a priority.

FISCAL IMPACT:
The cost to acquire the property is $492,200 including standard title closing costs. This amount falls within the MSP140 budget allocation designated for land acquisition to preserve the transit corridor's right-of-way. Purchasing the property now will save the agency acquisition costs in the future. Ongoing property maintenance costs will be offset by leasing the property. In addition, the MSP140 Box Elder County funds can be used to maintain the preserved corridor.

ATTACHMENTS:
1) 2025-P00516 Real Estate Purchase Contract with Deed
2) Maps (4)

REAL ESTATE PURCHASE CONTRACT

Project No.: MSP140 Parcel No(s): BOX-1001
Job/Proj/Auth. No.:
Project Location: Weber-Box Elder Counties Pin No.: 880051
County of Property: Box Elder
Tax Id./Sidwell No.: 01-047-0052
Property Address: Approx. 850 West 8850 South, Willard, UT 84340
Seller(s): Woodland Zito, LLC
Seller's Address: 8920 South Highway 89, Willard, Utah 84340

IN CONSIDERATION of the mutual promises herein Woodland Zito, LLC ("Seller") agrees to sell to the Utah Transit Authority (UTA) the Sale Property described below for preservation of a utility corridor. UTA and Sellers agree as follows:

1. **SALE PROPERTY.** The Sale Property referred to in this Contract is an acquisition of Box Elder County Tax ID number 01-047-0052 identified on project maps and deeds as parcel BOX-1001, more particularly described in Exhibit A, which is attached hereto and incorporated herein, together with all structures and appurtenances.

1.1. This is a voluntary sale to UTA and is not subject to condemnation. As this is a voluntary sale, the Seller waives any "right of first refusal" on any surplus property not used for the proposed utility corridor.

2. **PURCHASE PRICE.** The Purchase Price for the Sale Property is **$489,300.00.**

3. **SETTLEMENT AND CLOSING.**

3.1. **Settlement.** "Settlement" shall mean that Seller and UTA have signed and delivered to each other or to the escrow/closing office all documents required by this Contract or by the escrow/closing office, and that all monies required to be paid by Seller or UTA under this Contract have been delivered to the escrow/closing office, in the form of cash, wire transfer, cashier's check, or other form acceptable to the escrow/closing office.

3.2. **Closing**. "Closing" shall mean that: (a) Settlement has been completed; (b) the amounts owing to Seller for the sale of the Sale Property have been paid to Seller, and (c) the applicable Closing documents have been recorded in the office of the county recorder ("Recording"). Settlement and Closing shall be completed at the earliest time convenient to the parties and the closing office.

3.3. **Possession**. Upon signing of this Contract by Seller and UTA, Seller grants UTA, its employees and contractors, including utility service providers and their contractors, the right to immediately occupy the Sale Property. Any contracted rental of the Sale Property prior to or after Closing, between Seller and UTA shall be by separate written agreement. Seller agrees to deliver the Sale Property free of any debris and personal belongings, except as outlined under separate agreement. The provisions of this Section 3.3 shall survive Closing.

3.4. **Scrivener's Errors**. Parties agree that it is their intent that the Sale Property boundaries and easement boundaries close. In the event of any scrivener's errors in the deeds or survey, the parties shall cooperate in promptly executing a corrected instrument.

4. **PRORATIONS / ASSESSMENTS / OTHER PAYMENT OBLIGATIONS.**

4.1. **Prorations.** All prorations, including, but not limited to, homeowner's association dues, property taxes for the current year and rents shall be made as of the time of Settlement. Greenbelt rollback taxes owing on Sale Property, if any, shall be the responsibility of Seller.

4.2. **Fees/Costs.**

4.2.1. **Escrow Fees.** UTA agrees to pay the fees charged by the escrow/closing office for its services in the settlement/closing process.

Initial
LZT
Seller's Initials

4.2.2. **Title Insurance.** If UTA elects to purchase title insurance, UTA will pay the cost thereof.

5. **TITLE TO SALE PROPERTY**. Seller represents and warrants that Seller has fee title to the Sale Property. Seller shall indemnify and hold UTA harmless from all claims, demands and actions from lien holders, lessees, or other third parties claiming an interest in the Sale Property or the Purchase Price paid hereunder. Seller will convey marketable title to the Sale Property to UTA at Closing by warranty deed. The provisions of this Section 5 shall survive Closing.

6. **SELLER DISCLOSURES CONCERNING ENVIRONMENTAL HAZARDS.** Seller represents and warrants that there are no claims and/or conditions known to Seller relating to environmental hazards, contamination or related problems affecting the Sale Property. Seller agrees to transfer the Sale Property free of all hazardous materials including paint, oil and chemicals. The provisions of this Section 6 shall survive Closing.

7. **CONDITION OF SALE PROPERTY AND CHANGES DURING TRANSACTION.** Seller agrees to deliver the Sale Property to UTA in substantially the same general condition as it was on the date that Seller signed this Contract.

8. **AUTHORITY OF SIGNERS.** If Seller is a corporation, partnership, trust, estate, limited liability company or other entity, the person signing this Contract on its behalf warrants his or her authority to do so and to bind Seller.

9. **COMPLETE CONTRACT.** This Contract, together with any attached addenda and exhibits, (collectively referred to as the "Contract"), constitutes the entire contract between the parties and supersedes and replaces any and all prior negotiations, representations, warranties, understandings or contracts between the parties whether verbal or otherwise. The Contract cannot be changed except by written agreement of the parties. This Contract may be executed in counterparts.

10. **ELECTRONIC TRANSMISSION AND COUNTERPARTS.** This Contract may be executed in counterparts. Signatures on any of the documents, executed physically, shall be deemed original signatures and shall have the same legal effect as original signatures.

11. **ADDITIONAL TERMS:** UTA agrees to purchase only the property in tax id # 01-047-0052 which is located on the eastern side of the existing Union Pacific rail corridor and contains 130,462 sq. ft.

Initial
LET

Seller's Initials

SELLER:

Signed by:
Linda, Zito, Trustee
905C8D634D504D6...

10/1/2025 | 9:12 AM MDT

Woodland Zito, LLC
Limited Liability Company

Date

By: Linda, Zito, Trustee
Managing Partner

UTAH TRANSIT AUTHORITY

By: Spencer Burgoyne
Manager of Property Administration

Date

By: Janelle Robertson
Project Manager

Date

By: Jared Scarbrough
Chief Capital Services Officer

Date

APPROVED AS TO FORM:

Signed by:
Tim Merrill
56A03BC7C491482...

Tim Merrill
Assistant Attorney General

Initial
LZT

Seller's Initials

Exhibit A

Warranty Deed depicting Subject Property to be Purchased for Parcel Box-1001

Initial

LET

WHEN RECORDED, MAIL TO:
Utah Transit Authority
C/O Property Management
669 West 200 South
Salt Lake City, Utah 84101

Warranty Deed

(Limited Liability Company)

Box Elder County	Tax ID No.	01-047-0052
	UTA Project No.	MSP-140
	UDOT PIN No.	880051
	Parcel No.	BOX-1001

WOODLAND ZITO, L.L.C., a Utah Limited Liability Company Grantor(s), hereby CONVEYS AND WARRANTS to the Utah Transit Authority, a large public transit district organized and existing pursuant to Utah law, Grantee, at 669 West 200 South, Salt Lake City, Utah 84101, for the sum of TEN ($10.00) Dollars, and other good and valuable considerations, the following described parcel of land in Box Elder County, State of Utah, to-wit:

A parcel of land in fee for corridor preservation known as Project No. MSP-140, being part of an entire tract of property situate, in the NE1/4 NW1/4 of Section 14, T.7N., R.2W., S.L.B. & M. The boundary of said parcel of land is described as follows:

Beginning at a northwest corner of said entire tract in the existing easterly right of way line of the Union Pacific Railroad, said corner 1978.59 feet South 89°12’28” East along the section line and 148.51 feet South from the Northwest Corner of said Section 14; and running thence; South 89°12’28” East 291.47 feet to a point on the existing westerly right of way line of southbound US-89 and the beginning of a 2,914.93 foot radius non-tangent curve to the left (Note: center bears S.88°56'26"E.); thence southeasterly along the arc of said curve and said westerly right of way line 661.54 feet through a delta of 13°00'11" (Note: chord to said curve bears S.05°26'31"E. for a distance of 660.12 feet) to a point on the southerly boundary line of said entire tract, said point identified as Engineer Station 236+00.7 per UDOT project number SP-1344:U.I.C.R.R; thence South 64°08’35” West 95.00 feet along said southerly boundary line to said existing easterly right of way line; thence along said existing easterly right of way line of the Union Pacific Railroad the following four (4) courses and distances; (1) North 26°08'59" West 291.98 feet to the beginning of a 5,679.65 foot radius curve to the right; (2) thence northwesterly along the arc of said curve 162.23 feet through a delta of 01°38'12" (Note: chord to said curve bears N.25°19'53"W. for a distance of 162.23 feet); (3) South 89°12’30” East 55.36 feet to the beginning of a 5,629.65 foot radius curve to the right; (4) thence northwesterly along the arc of said curve 320.43 feet through a delta of 03°15'40" (Note: chord to said curve bears N.23°07'25"W. for a distance of 320.38 feet) to the point of beginning as shown on the official map of said project on file in the office of the Utah Transit Authority.

The above described parcel of land contains 130,462 square feet in area or 2.995 acres.

Continued on Page 2

Initial
UZT 51

Seller's Initials

(Note: Basis of bearing South 89°12'28" East between the Northwest Corner and the Northeast Corner of Section 14, Township 7 North, Range 2 West, Salt Lake Base and Meridian.)

STATE OF ____________________)
) ss.
)
COUNTY OF __________________)

WOODLAND ZITO, L.L.C.
Limited Liability Company

By ____

On this _____ day of _______________, in the year 20_____, before me personally appeared ____, whose identity is personally known to me (or proven on the basis of satisfactory evidence) and who by me being duly sworn/affirmed, did say that he/she is the ______________________________ of WOODLAND ZITO, L.L.C., a Utah Limited Liability Company that said document was signed by him/her on behalf of said WOODLAND ZITO, L.L.C., by Authority of its ____.

____
Notary Public

WOODLAND ZITO BOUNDARY EXHIBIT

TAX ID NO. 01-047-0052
LYING WITHIN THE NORTHWEST QUARTER (NW 1/4) OF
SECTION 14, TOWNSHIP 7 NORTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN
BOX ELDER COUNTY

SURVEYOR'S CERTIFICATE

I BRYAN YATES DO HEREBY CERTIFY THAT I AM A PROFESSIONAL LAND SURVEYOR, AND THAT I HOLD CERTIFICATE NO. 8589857 AS PRESCRIBED BY THE LAWS OF THE STATE OF UTAH. I FURTHER CERTIFY THAT BY THE DIRECTION OF UTAH TRANSIT AUTHORITY, I HAVE MADE A SURVEY OF THE TRACT OF LAND SHOWN ON THIS BOUNDARY EXHIBIT AND DESCRIBED HEREWITH.

PROFESSIONAL LAND SURVEYOR
2025-06-27
BRYAN YATES
No. 8589857
STATE OF UTAH

LEGAL DESCRIPTION

A PARCEL OF LAND IN FEE FOR CORRIDOR PRESERVATION KNOWN AS PROJECT NO. MSP-140, BEING PART OF AN ENTIRE TRACT OF PROPERTY SITUATE, IN THE NE1/4 NW1/4 OF SECTION 14, T.7N., R.2W., S.L.B. & M. THE BOUNDARY OF SAID PARCEL OF LAND IS DESCRIBED AS FOLLOWS:

BEGINNING AT A NORTHWEST CORNER OF SAID ENTIRE TRACT IN THE EXISTING EASTERLY RIGHT OF WAY LINE OF THE UNION PACIFIC RAILROAD, SAID CORNER 1978.59 FEET SOUTH 89°12'28" EAST ALONG THE SECTION LINE AND 148.51 FEET SOUTH FROM THE NORTHWEST CORNER OF SAID SECTION 14; AND RUNNING THENCE; SOUTH 89°12'28" EAST 291.47 FEET TO A POINT ON THE EXISTING WESTERLY RIGHT OF WAY LINE OF SOUTHBOUND US-89 AND THE BEGINNING OF A 2,914.93 FOOT RADIUS NON-TANGENT CURVE TO THE LEFT (NOTE: CENTER BEARS S.88°56'26"E.); THENCE SOUTHEASTERLY ALONG THE ARC OF SAID CURVE AND SAID WESTERLY RIGHT OF WAY LINE 661.54 FEET THROUGH A DELTA OF 13°00'11" (NOTE: CHORD TO SAID CURVE BEARS S.05°26'31"E. FOR A DISTANCE OF 660.12 FEET) TO A POINT ON THE SOUTHERLY BOUNDARY LINE OF SAID ENTIRE TRACT, SAID POINT IDENTIFIED AS ENGINEER STATION 236+00.7 PER UDOT PROJECT NUMBER SP-1344:U.I.C.R.R; THENCE SOUTH 64°08'35" WEST 95.00 FEET ALONG SAID SOUTHERLY BOUNDARY LINE TO SAID EXISTING EASTERLY RIGHT OF WAY LINE; THENCE ALONG SAID EXISTING EASTERLY RIGHT OF WAY LINE OF THE UNION PACIFIC RAILROAD THE FOLLOWING FOUR (4) COURSES AND DISTANCES; (1) NORTH 26°08'59" WEST 291.98 FEET TO THE BEGINNING OF A 5,679.65 FOOT RADIUS CURVE TO THE RIGHT; (2) THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE 162.23 FEET THROUGH A DELTA OF 01°38'12" (NOTE: CHORD TO SAID CURVE BEARS N.25°19'53"W. FOR A DISTANCE OF 162.23 FEET); (3) SOUTH 89°12'30" EAST 55.36 FEET TO THE BEGINNING OF A 5,629.65 FOOT RADIUS CURVE TO THE RIGHT; (4) THENCE NORTHWESTERLY ALONG THE ARC OF SAID CURVE 320.43 FEET THROUGH A DELTA OF 03°15'40" (NOTE: CHORD TO SAID CURVE BEARS N.23°07'25"W. FOR A DISTANCE OF 320.38 FEET) TO THE POINT OF BEGINNING AS SHOWN ON THE OFFICIAL MAP OF SAID PROJECT ON FILE IN THE OFFICE OF THE UTAH TRANSIT AUTHORITY.
THE ABOVE DESCRIBED PARCEL OF LAND CONTAINS 130,462 SQUARE FEET IN AREA OR 2.995 ACRES.

BASIS OF BEARING

SOUTH 89°12'28" EAST BETWEEN THE NORTHWEST CORNER AND THE NORTHEAST CORNER OF SECTION 14, TOWNSHIP 7 NORTH, RANGE 2 WEST, SALT LAKE BASE AND MERIDIAN.

SURVEYOR'S NARRATIVE

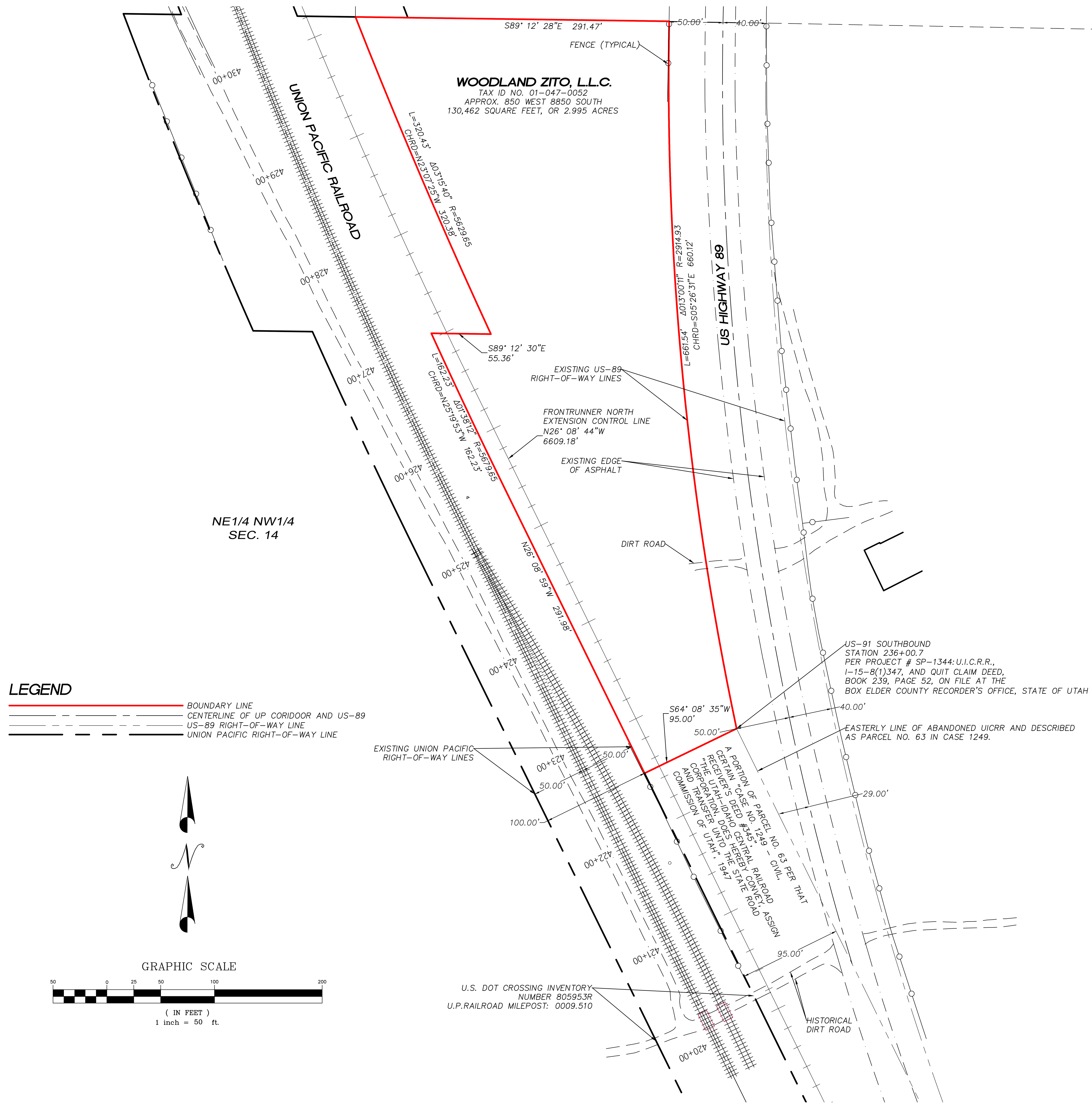
THE PURPOSE OF THIS BOUNDARY EXHIBIT IS TO ESTABLISH A BOUNDARY LINE FOR A PORTION OF TAX ID NO. 01-047-0052 THAT LIES EASTERLY OF THE UNION PACIFIC RAILROAD CORRIDOR, AND WESTERLY OF US HIGHWAY 89.

THE WESTERLY BOUNDARY LINE IS COINCIDENT WITH THE EASTERLY RIGHT-OF-WAY LINE OF UNION PACIFIC RAILROAD.

THE EASTERLY BOUNDARY LINE IS COINCIDENT WITH THE WESTERLY RIGHT-OF-WAY LINE OF US HIGHWAY 89.

THE SOUTHERLY BOUNDARY LINE ESTABLISHED AS SHOWN HEREON IS BASED ON THE FOLLOWING:

- ON JULY 18, 1947 THE DISTRICT COURT OF NORTHERN UTAH, IN CASE 1249, ORDERED THE UIC (UTAH IDAHO CENTRAL) TO SELL ITS REAL ESTATE. THE STATE ROAD COMMISSION PURCHASED PORTION OF THE UIC RIGHT-OF-WAY. THE LEGAL DESCRIPTION FOR PARCEL NO. 63 CONTAINED IN SAID CASE 1249 DESCRIBES A STRIP OF LAND 95 WIDE AND 1268 FEET LONG. SAID PARCEL 63 CONTINUES SOUTHERLY OF THE SOUTHERLY BOUNDARY LINE OF THE WOODLAND ZITO PARCEL AS SHOWN HEREON.
- ON MARCH 27, 1972 THE STATE ROAD COMMISSION OF UTAH CONVEYED TO BOX ELDER COUNTY (QUIT CLAIM DEED, BOOK 239, PAGE 52) "PART OF PARCEL NO. 63" AND MULTIPLE OTHER PARCELS TO ALLOW THE COUNTY TO BUILD FRONTAGE ROADS TO SUPPORT TRAVEL DURING THE CONSTRUCTION OF I-15. SAID QUIT CLAIM DEED DESCRIBES THE SOUTHERLY BOUNDARY LINE OF THE WOODLAND ZITO PARCEL AS SHOWN HEREON AS ENGINEER STATION 236+00.7. SAID STATION ALSO SHOWN AND DESCRIBED ON STATE ROAD COMMISSION RIGHT-OF-WAY DRAWINGS WITH PROJECT NO. SP-1344:UICRR.
- IN 1974, THE STATE ROAD COMMISSION ISSUED BOX ELDER COUNTY AN AFFIDAVIT OF REVERTER TO TAKE BACK THE PROPERTY FROM THE COUNTY WHERE ROADS WERE NOT BUILT.
- ON NOVEMBER 13, 1987 THE UTAH DEPARTMENT OF TRANSPORTATION CONVEYED (QUIT CLAIM DEED, BOOK 450, PAGE 412) TO FRANK D. WOODLAND AND RAE K. WOODLAND KNOWN AS A PORTION OF PARCEL 63 AND DESCRIBED AS PARCEL NO. 15-8:19B:Q, PROJECT NO. I-15-8(1)347, AND REF. PROJECT NO. UICRR.
- THE WOODLAND ZITO PARCEL HAS LONG USED A HISTORICAL DIRT DIRT ROAD TO ACCESS A PORTION OF TAX ID NO. 01-047-0052 THAT LIES WESTERLY OF THE UNION PACIFIC RAILROAD CORRIDOR. SAID RIGHT-OF-WAY DRAWINGS WITH PROJECT NO. SP-1344:UICRR DESCRIBES A GATE 6'LT AT ENGINEER STATION 233+85, OR 215.7 FEET SOUTH OF STATION 236+00.7 (THE SOUTHERLY BOUNDARY OF THE WOODLAND ZITO PARCEL). AS MEASURED BY SURVEY, THE HISTORICAL DIRT ROAD AS SHOWN HEREON IS ±225 SOUTH OF SAID SOUTHERLY BOUNDARY LINE. SAID HISTORICAL DIRT ROAD LIES WITHIN A PORTION OF PARCEL 63 AS CONVEYED TO THE STATE ROAD COMMISSION FROM THE UIC IN 1947. PRESCRIPTIVE RIGHTS MAY EXIST FOR SAID HISTORICAL DIRT ROAD.



UTA
UTAH TRANSIT AUTHORITY

SCALE (H): 1" = 50'
DRAWN BY: B. YATES
CHECKED BY: B. YATES
TAX ID NO. 01-047-0052

WOODLAND ZITO BOUNDARY EXHIBIT
UTAH TRANSIT AUTHORITY
FRONTRUNNER NORTH EXTENSION
UTA PROJECT NUMBER MSP-140

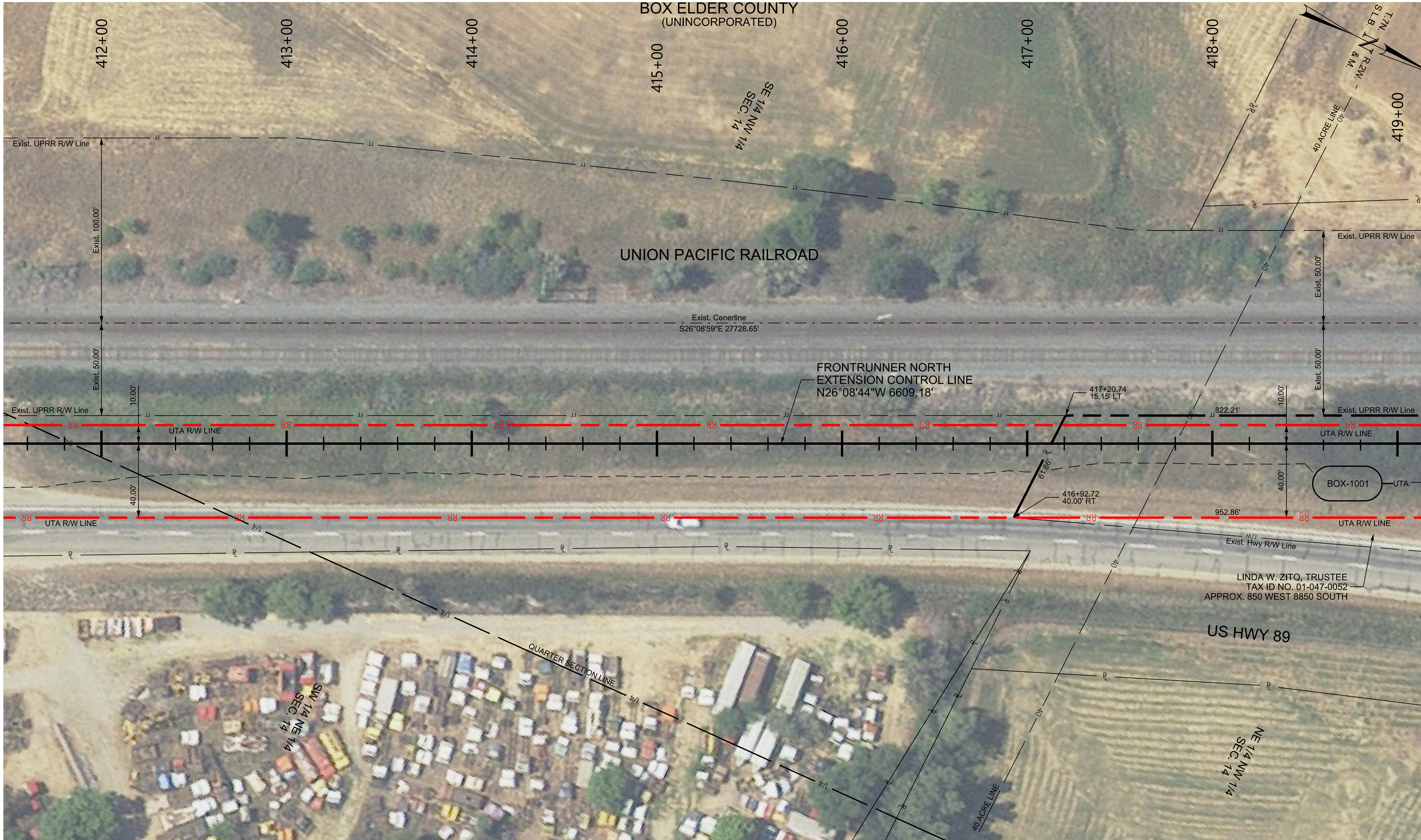
UTAH
BOX ELDER COUNTY
WILLARD

REDCON, INC.
LAND SURVEYING
25 SOUTH MAIN STREET, SUITE 200
CENTERVILLE, UTAH 84014
(801) 298-2401 FAX (801) 298-2024
REDCON.COM

JOB NUMBER
425004

DWG: 425004 WZ EX
DATE: 6/27/2025

SHEET 1 OF 1



PARCEL NO.	OWNER	SQ. FEET	ACRES	EXIST. R/W SQ. FT. IN DEED	NOTE
SEG2: BOX-1001	LINDA W. ZITO, TRUSTEE	54,634	1.254	NONE	WARRANTY

14:45
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Gustove Denham
8/24/2021

25 0 25 50
SCALE IN FEET

MERIDIAN ENGINEERING, INC
MEI NO.: 18077 SUBMITTAL: 39P

UTA
UTA PROJECT NO.: MSP-140 PIN NO.: 880051

FRONTRUNNER NORTH EXTENSION
RIGHT OF WAY PLAN
SEGMENT 2

SUBMITTAL DATE 08/24/2021
SHEET No.: R1057

CURVE TABLE

CURVE	RADIUS	DELTA	LENGTH	CHORD LENGTH	CHORD BEARING
C1	5729.65'	08°19'52"	833.13'	832.40'	N21°59'03"W
C2	5679.65'	01°38'12"	162.23'	162.23'	N25°19'53"W
C3	5645.00'	02°23'08"	235.03'	235.01'	N24°57'10"W

PARCEL NO.	OWNER	SQ. FEET	ACRES	EXIST. R/W SQ. FT. IN DEED	NOTE
SEG2: BOX-1001	LINDA W. ZITO, TRUSTEE	54,634	1.254	NONE	WARRANTY

14:46
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Gustove Denham
8/24/2021

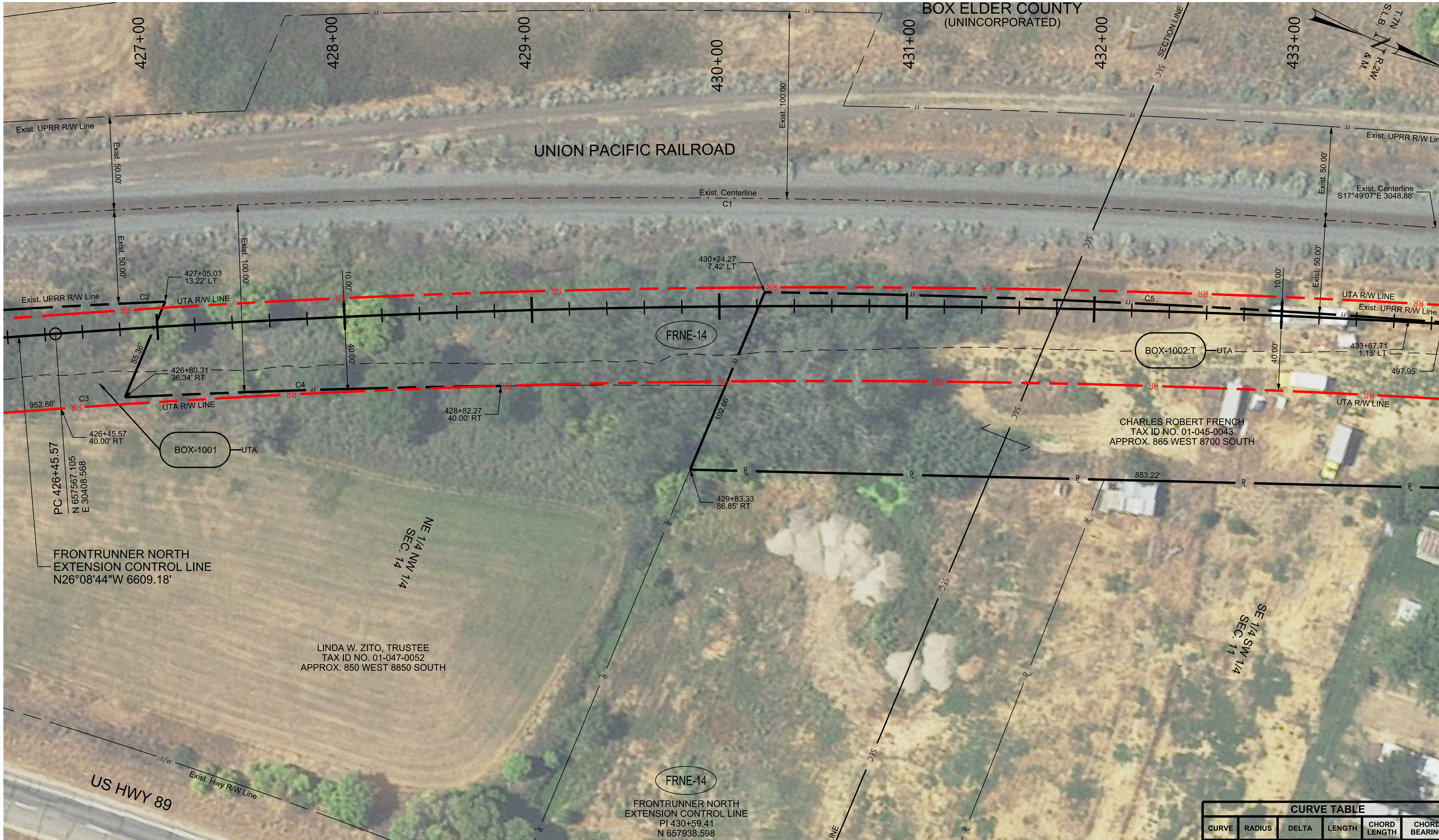
25 0 25 50
SCALE IN FEET

MERIDIAN ENGINEERING, INC
MEI NO.: 18077 SUBMITTAL: 39P

UTA
UTA PROJECT NO.: MSP-140 PIN NO.: 880051

FRONTRUNNER NORTH EXTENSION
RIGHT OF WAY PLAN
SEGMENT 2

SUBMITTAL DATE 08/24/2021
SHEET No.: R1058



PARCEL NO.	OWNER	SQ. FEET	ACRES	EXIST. R/W SQ. FT. IN DEED	NOTE
SEG2: BOX-1001	LINDA W. ZITO, TRUSTEE	54,634	1.254	NONE	WARRANTY
SEG2: BOX-1002:T	CHARLES ROBERT FRENCH	71,613	1.644	NONE	WARRANTY

CURVE TABLE

CURVE	RADIUS	DELTA	LENGTH	CHORD LENGTH	CHORD BEARING
C1	5729.65'	08°19'52"	833.13'	832.40'	N21°59'03"W
C2	5679.65'	01°38'12"	162.23'	162.23'	N25°19'53"W
C3	5645.00'	02°23'08"	235.03'	235.01'	N24°57'10"W
C4	5629.65'	02°02'31"	200.64'	200.63'	N23°43'59"W
C5	5679.65'	03°28'04"	343.76'	343.71'	N19°33'09"W

14:46
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Gustove Denham
8/24/2021

25 0 25 50
SCALE IN FEET

MERIDIAN ENGINEERING, INC

MEI NO.: 18077 SUBMITTAL: 39P

UTA

UTA PROJECT NO.: MSP-140 PIN NO.: 880051

FRONTRUNNER NORTH EXTENSION
RIGHT OF WAY PLAN
SEGMENT 3

SUBMITTAL DATE
08/24/2021

SHEET No.:
R1059

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 1/14/2026

TO: Board of Trustees
THROUGH: Jay Fox, Executive Director
FROM: Andres Colman, Chief Operations Officer
PRESENTER(S): Kayleigh Hammerschmid, Manager Light Rail Operations

TITLE:

Contract: Maintenance Uniforms and Facilities Essentials (ALSCO, Inc.)

AGENDA ITEM TYPE:
Procurement Contract/Change Order

RECOMMENDATION:
Authorize the Executive Director to approve Purchase Order 25-04005 and associated disbursements under Utah State Contract MA4901 with Alsco, Inc. for maintenance uniforms and facility essentials in the estimated amount of $1,650,000.

BACKGROUND:
The Utah Transit Authority (UTA) requires a contract for maintenance uniforms and facilities' essentials for maintenance personnel in all service units. This includes monitoring inventory levels, supplying and leasing uniforms and essentials from the approved uniform and essentials list, delivering and stocking uniforms, and essentials to fulfill UTA's requirements.

In accordance with the Collective Bargaining Agreement between the Amalgamated Transit Union Local 382 and the UTA, maintenance employees are entitled to uniforms and facility essentials to properly complete their jobs. Uniform and facility essentials are charged to the service unit and expended from the corresponding uniform and tool allowance budget.

DISCUSSION:
UTA has completed a comprehensive evaluation regarding the potential transition to the ALSCO, Inc. state contract for linen and related services. As part of this process, UTA considered initiating competitive procurement through a Request for Proposal (RFP). However, UTA's staff analyzed financial performance data, service quality, and operational efficiency associated with both current and prospective vendors. This review

demonstrated that transitioning to the ALSCO state contract offers the most cost-effective and operationally efficient solution, providing continuity of service while optimizing resource allocation.

Based on these findings, UTA's staff recommends utilizing State Contract MA 4901 and awarding a five (5) year contract with ALSCO, Inc. The end date of this contract is July 13, 2030, which aligns with the State contract expiration date. UTA staff used the State contract pricing, historical uniform spend information, future increases in demand, market inflation, and turnover rates to estimate the value of this contract at $1,650,000 over five years.

UTA staff respectfully requests the Board's approval to proceed with the issuance of this purchase order. Due to the complexity of multiple divisions utilizing this contract, monthly invoices will be paid by the respective divisions using P-cards.

The estimated value of the purchase order will not be centrally tracked; instead, monthly ALSCO P-card charges will be administered within the approved budget by the P-Card holder and their respective manager. Administering billing in this manner aligns with the Authority's commitment to fiscal responsibility and service excellence.

CONTRACT SUMMARY:

Contractor Name:	ALSCO, Inc.
Contract Number:	State Contract: MA4901
	UTA Purchase Order: 25-04005
Base Contract Effective Dates:	January 14, 2026 - July 13, 2030
Extended Contract Dates:	N/A
Existing Contract Value:	N/A
Amendment Amount:	N/A
New/Total Contract Value:	Estimated $1,650,000
Procurement Method:	State Contract
Budget Authority:	Approved 2026 Operating Budget

ALTERNATIVES:

If the proposed vendor is not approved, we will need to issue a new Request for Proposals.

FISCAL IMPACT:

The proposed five-year state contract for maintenance uniforms and facilities essentials carries an estimated contractual value of $1,650,000. Funding for this contract will be managed through the Uniform and Tool Allowance Budget, with monthly invoicing to each service unit based on actual usage and paid via P-card.

The approved 2026 budget allocates $360,000 for maintenance uniforms and associated facilities essentials, with future annual funding requests estimated at $360,000 to maintain ongoing requirements.

The projected budgetary commitments over the contract term are as follows:

- 2026 Estimated spend: $360,000
- 2027 Estimated spend: $360,000
- 2028 Estimated spend: $360,000
- 2029 Estimated spend: $360,000
- 2030 Estimated spend: $210,000 (first seven months)

The total estimated value: $1,650,000.

ATTACHMENTS:

- Contract: Maintenance Uniforms and Facilities Essentials (ALSCO, Inc.)
- State Contract MA4901 (<https://bit.ly/USC_MA4901>)

ALSCO, INC **PO Box 2317** **SALT LAKE CITY UT 84110**		**UTA** **Utah Transit Authority**	PURCHASE ORDER NUMBER **OB** / **2504005** **PO Number Must Appear On All Invoices And Shipments**
			VENDOR NUMBER: 1462815 / **PO DATE**: 12/22/2025
SEND INVOICE TO:	**SHIP TO:**	*An Equal Opportunity Employer*	**ORDER TAKEN BY**: / **FOB**: *
AP@RIDEUTA.COM	**ATTENTION: RECEIVING**		
669 W 200 S	**3600 S 700 W**	**801-287-3008**	**BUYER** / **PAGE NUMBER**
SLC, UT 84101	**Salt Lake City UT 84119**	**www.rideuta.com**	Ball, Mei Jung / 1 of 1

Confirmation: Do not Duplicate — Ship as soon as possible. Early Shipments Allowed

Utah Transit Authority Is Tax Exempt — Total PO Value: 1,650,000.00 — Ball, Mei Jung

LINE #	REQ #	CONFIRMED DELIVERY DATE	QUANTITY	PART NUMBER ACCOUNT CODE	DESCRIPTION	UNIT PRICE	TOTAL PRICE
0	00203561	7/13/30	EA	9300.50353.92	Maintenance Uniform Rentals	1650000.0000	1,650,000.00

This order is subject to pricing under the state contract MA 4901.expires on 7/13/2030.
https://statecontracts.utah.gov/Contract/Details/Ma4901-Apparel%7C1dde8554-baca-4765-8976-d3890c107409
Per the state contract, this was modified to UTA's pricing, and UTA will be billed at 50% of the inventory rate instead of 100%.

Please see the attached Alsco price sheet.

DocuSigned by:
Mike Bell 12/22/2025
70E33A415BA44F6...

UTA Legal Counsel

Unless otherwise expressly agreed in a written document executed by Utah Transit Authority ("UTA"), this Purchase Order is subject to UTA's standard terms and conditions revision date: September 2020, effective as of the date of this Purchase Order. UTA's standard terms and conditions are found at https://rideuta.com/-/media/Files/Home/Terms_Conditions_UTAGeneralStandard7821.ashx. Vendor's acceptance of this Purchase Order is limited to the express terms of UTA's standard terms and conditions, without modification. Vendor's delivery of the Goods or commencement of performance of Services identified in this Purchase Order are effective modes of acceptance. Any proposal for additional or different terms or any attempt by Vendor to vary in any degree any of the terms of the Contract, are hereby objected to and rejected (and this Purchase Oder shall be deemed accepted by Vendor without the additional or different terms).

If this Purchase order is purchased using a State Contract, then terms and conditions are pursuant to that State Contract.

Price Sheet (2026 to 2030)

ALSCO
Linen and Uniform Rental Services

Item Description	Contract Price Weekly	Contract Price Every Other Week	Replacement Price
Wet Mop	$ 0.48	$ 0.66	$ 15.00
24" Dust Mop	$ 0.30	$ 0.41	$ 12.00
3x10 Mat Any Color	$ 3.24	$ 2.95	$ 90.00
3x5 Mat Any Color	$ 1.04	$ 0.95	$ 50.00
4x6 Mat Any Color	$ 2.14	$ 1.95	$ 75.00
3x5 Safety Mat	$ 2.14	$ 1.95	$ 60.00
3x5 Scaper Mat	$ 1.37	$ 1.25	$ 60.00
42" Mop	$ 0.52	$ 0.71	$ 15.00
Fender Cover	$ 0.42	$ 0.58	$ 2.50
Red Shop Towels	$ 0.07	$ 0.08	$ 0.45
Stripe Glass Towel	$ 0.12	$ 0.15	$ 0.65
Terry Towels Blue	$ 0.12		$ 0.50
100% Cotton Coveralls	$ 0.88		$ 34.35
Cotton Blend Coverall	$ 0.68		$ 28.00
Cargo Pants	$ 0.62		$ 22.54
Cotton Blend Shirt	$ 0.40		$ 18.00
Cotton Blend Work Pant	$ 0.26		$ 18.00
100% Cotton Pants	$ 0.64		$ 26.00
100% Cotton Shirt	$ 0.40		$ 25.00
Denim Jean	$ 0.55		$ 17.00
Dress Pant	$ 0.66		$ 26.00
Shop Lab Coat	$ 0.55		$ 25.00
Oxford Shirt	$ 0.60		$ 26.00
Polo Blend	$ 0.44		$ 20.17

UTA will be billed at 50% of the inventory rate

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 1/14/2026

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Jon Larsen, Chief Capital Services Office
PRESENTER(S):	Jared Scarbrough, Director of Capital Design and Construction

TITLE:

Change Order: On-Call Systems Services Contract Task Order #26-005 - Training Yard Construction (Rocky Mountain Systems Services)

AGENDA ITEM TYPE:
Procurement Contract/Change Order

RECOMMENDATION:
Approve and authorize the Executive Director to execute Task Order 26-005 and associated disbursements on contract 24-03814 with Rocky Mountain Systems Services (RMSS) in the amount of $2,248,411.84 for the signal construction of the Maintenance of Way Training Yard.

BACKGROUND:
UTA executed contract 24-03814 with Rocky Mountain Systems Services (RMSS) for on-call systems maintenance. The term of this contract is for three years with two one-year term options. RMSS was selected based on best value procurement methodology. The UTA Board of Trustees approved the contract on June 12, 2024, and it was fully executed on June 14, 2024. The original contract value is not-to-exceed $40,000,000.

Typical task orders under this contract include:

- Support for rail and maintenance of way systems
- Upgrades, repairs, analysis, and training of train control systems
- Repair, maintenance, and training of overhead contact systems and traction power substations

DISCUSSION:
This task order is for the approval of the Maintenance of Way Training Yard Signal Construction.

UTA has developed a comprehensive, full-scale training yard that will provide real-life training scenarios on actual equipment utilized on the UTA rail systems (FrontRunner Commuter Rail and TRAX Light Rail Transit). UTA is currently developing an apprenticeship program for UTA rail maintenance employees. The curriculum for this program will integrate the training yard infrastructure and functionality to train employees on how to maintain, operate, inspect, and troubleshoot the UTA rail systems. This facility will have a detailed signal system including a signalized double crossover, switch heaters, crossing with Exit Gate Management System (EGMS) exit gate, and four working switches on a separate switch pad for training purposes. It will also include a simulated back-office control and indication system workstation located in the signal house.

This training yard will allow UTA Maintenance of Way MOW employees to become proficient in the systems they maintain in a safe and controlled environment that does not affect revenue trains.

Rocky Mountain Systems Services will procure, install, test, and commission the complete signal, communications, and electrical systems in accordance with the approved UTA design, including:

- Design engineering across Hardware, software, communications, and Track Driver Extra (TDX)
- Procurement of materials
- Installation of Signal Systems
- Communications Fiber
- Electrical Utility
- TDX configuration
- Testing and Commissioning
- Deliverables

CONTRACT SUMMARY:

Contractor Name:	Rocky Mountain Systems Services
Contract Number:	24-03814-26-005
Base Contract Effective Dates:	6/14/2024 through 7/1/2029
Task Order Effective Dates	Effective after last signature received through 12/13/2026
Extended Contract Dates:	N/A
Existing Contract Value:	$17,190,725.57
Amendment Amount:	$2,248,411.84
New/Total Contract Value:	$19,439,137.41
Procurement Method:	RFP Best Value
Budget Authority:	Approved 2026 Capital Budget

ALTERNATIVES:

Disapprove Task Order resulting in an unbuilt training yard. All training and apprenticeship development will be required to take place on active rail systems.

FISCAL IMPACT:
The 2025-2029 Five Year Capital Plan includes $2,248,411.84 for Training Yard Construction This work is anticipated to occur in 2026 under the MOW Project (MSP271).

- 2026 Task Order Total: $2,248,411.84

The overall not-to-exceed value for this contract is $40,000,000 if both option years are exercised.

Master Task Order Agreement Value to Date: $19,439,137.41

ATTACHMENTS:
- Change Order: On-Call Systems Services Contract Trask Order #26-005 - Training Yard Construction (Rocky Mountain Systems Services)

Task Order Request #26-005 - 26-005 Training Yard Construction

Origin	Task Order Request #26-005 - 26-005 Training Yard Construction		
Status	Draft	**Assignees**	Dean Hansen
Created Date	Nov 20, 2025	**Issued Date**	
Task Order Request	#26-005 26-005 Training Yard Construction		

TASK ORDER IDENTIFICATION

Contract No	24-03814		
Contractor Name ("Contractor")	ROCKY MOUNTAIN SYSTEMS SERVICES	**Contract Start Date**	01/15/26
Account Code(s)	**$1,719,064.75 -Yard and Yard Track - 40-3271.63000.3005** **$384,962.09 -Construction Admin and Management 40-3271.68000.8003** **$144,385.00 -Engineering 40-3271.68000.8002**		

1.0 SCOPE OF SERVICES

The contractor's scope letter and price estimate is hereby attached and incorporated into this Task Order	26-005 Training Yard Construction_Proposal.pdf, 26-005 Training Yard Construction_Scope.pdf

2.0 SCHEDULE

The Substantial Completion Date for this Task is	09/14/26	**The Final Acceptance Date for this Task is**	12/13/26

3.0 PRICING

The pricing agreement for this item is one of the following:	Lump Sum	**Invoices will be billed on a monthly basis for completed work to date. The price for this item is in the amount of**	$2,248,411.84
Provisional Sum Amount (if applicable). Note: Any unused amount of this provisional sum amount will be deducted from the contract upon closeout of the task order.		**Independent Cost Estimate (ICE) link, if applicable**	26-005 Training Yard Construction_ICE.pdf

4.0 APPLICABILITY OF FEDERAL CLAUSES

Does this Task Order or Change	No	**If federal assistance funds are**	N/A

Order include federal assistance funds which requires the application of the Federal Clauses appended as Exhibit D to the Contract?	**anticipated, the UTA Civil Rights group has set a Disadvantaged Business Enterprises (DBE) participation goal for this Task Order of**

UTAH TRANSIT AUTHORITY:

Required Signatures Explanation

Project Manager $0 - 24,999
Legal Review $10k or greater
Dir. of Capital Projects $25k - 74,999
Chief Service Dev. Ofcr. $75k - 199,999
Executive Director $200,000+
Procurement/Contracts (for all)

Signature (Legal)

DocuSigned by:
Mike Bell
70E33A415BA44F6...
Name: Mike Bell
Date: 11/21/2025

PM Approval

The costs associated with this item have been measured against the standard schedule of rates and the agreed contract pricing, (where applicable) and have been deemed consistent and appropriate for the proposed scope of work.

Signature (Project Manager)

Signed by:
Dean Hansen
25AB79CEE8F4497...
Name: Dean Hansen
Date: 11/20/2025

Director Approval

I have evaluated the content of this task order and the scope of work described in the task ordering agreement and have made the determination that this Task Order is within the scope of work contemplated and described by the contracting parties when they executed the original task ordering agreement.

Signature (Director)

Signed by:
91ABD751A0BD4BE...
Name: Jared Scarbrough
Date: 11/20/2025

Signature (Procurement)

By: ____________________
Name: ____________________
Date: ____________________

Signature (Chief Service Development Officer)

By: ____________________
Name: ____________________
Date: ____________________

Signature (Executive Director)

By: ____________________
Jay Fox, Executive Director
Date: ____________________

COMPANY:

COMPANY:	ROCKY MOUNTAIN SYSTEMS SERVICES
RMSS Required Signature Explanation	• <$500K – Josh Lafleur (jlafleur@modrailsystems.com) • $500K - $5M – Anthony Ortolani (aortolani@modrailsystems.com) • >$5M - Shon Tulik (stulik@modrailsystems.com)
Signature (Contractor)	Signed by: B Anthony Ortlani 1587B142E149430... Name: Anthony Ortlani Date: 11/21/2025

November 14th, 2025 RMSS-52720-013

Mr. Dean Hansen
Manager of Systems Engineering
2264 South 900 West
Salt Lake City, UT 84119

Reference: Utah Transit Authority – Systems On-Call Services

Subject: PTO 013 - MOW Training Facility – Signal Procurement & Construction

Dean,

Rocky Mountain Systems Services (RMSS) is pleased to submit this proposal for construction, installation, testing, and commissioning of the signal, communications, and electrical systems for the UTA MOW Rail Training Yard

Our lump sum price for this proposal is **$2,248,411.84**

As designed under TO#022-037 (MOW Training Facility Design), RMSS will procure, install, test, and commission the complete signal, communications, and electrical systems in accordance with approved UTA design. The training yard includes one signal bungalow supporting a control point and grade crossing, one TRAX double crossover, one FrontRunner mainline track, one switch training pad (two power-operated and two hand-throw switches), and one TDX station for C&I integration.

Design Summary

RMSS will provide design services across Hardware, Software, Communications, and TDX Head-End engineering teams:

- **Hardware Engineering:** Update AIS plans, circuit designs, and wiring diagrams.
- **Software Engineering:** Develop and verify VHLC, ElectroLogIXS, and GCP logic updates.
- **Communications Engineering:** Produce fiber layouts, FAT tables, and network configuration files.
- **TDX Head-End Engineering:** Update TDX software, databases, and configuration files with full QA/QC review**.**

Procurement Summary

RMSS will procure materials provided in the attached MOW Training Facility - RMSS and UTA Provided Parts dated November 14th 2025, which have been based upon and identified in approved design documents and the UTA-provided procurement list. Materials that are to be provided by UTA are specifically identified as “UTA-provided” and are included in the attached detailed line-item “MOW Training Facility - RMSS and UTA Provided Parts”.

Key procurement categories include:

- **Signal System:** Signal house (14’x30’), coupler cases, power-operated switch machines w/heaters, LED signal heads, VHLC/IXS processors, grade crossing equipment (GCP), local control panels, network switches, backup power, cabling, and in-house components.
- **TDX Station:** Workstation hardware, TDX software, licensing.
- **Electrical / Utility:** Lighting, foundations, conduit, cable, distribution panels, transformers, service disconnects, surge protection, grounding, and labeling.
- **Communications / Fiber:** Pullbox, conduit, MD7 and micro-duct, terminations, rack enclosures, high-density patch panels, adapter plates, splice trays, and SC/ST patch cords.

<u>Installation – Signal System</u>

RMSS will install and test all signal and communications components required for the TRAX and FrontRunner integration. Work includes the following:

- Install TRAX interlocking with the following POSMs:
    - Nortrak CSV-24
    - Alstom 5F
    - Two (2) Hitachi M23A (1-LH, 1-RH)
- Install POSMs on the Electric Lock Switch Pad:
    - H&K HWE-61
    - T-21 w/ SL-21A E/L
    - Model 10A
    - CTS-2 (if available from UTA as the unit no longer procurable).
- Install and wire four (4) LED signal heads for TRAX aspects.
- Install grade crossing equipment including gates, predictors, EGMS, and GCP-4000.
- Install spare conduit from signal house to switch pad for future gate mechanism.
- Install switch heaters (gas-fired blower and cal-rods) per design.
- Wire and equip the signal house including ElectroLogIXS/VHLC processors, cabling, circuits, utilities, and network equipment.
- Install one (1) Siemens Phase Shift Overlay (PSO) on the embedded straight track.
- Install cab generator and track interface equipment on FrontRunner section per design.
- Install managed RuggedComm switches in the house, fully cabled, configured, and tested per the approved network topology drawings.

<u>Communications (Fiber)</u>

- Intercept conduit going to WV2 Substation and install new pullbox.
- Route MD7 to TRAX Comm Box 219+63 to PB43 and install micro-duct (~1,650 ft).
- Pull/blow UTA-provided 144-strand fiber (~2,000 ft total) to TTEC Building and Yard Signal House.
- Tie into designated buffer tubes (Yellow, Rose, Violet, Aqua).
- Complete all splicing, routing, and terminations per UTA standard.
- Provide tagged/labeled slack loops at each termination point per UTA fiber standard.
- Perform OTDR and continuity testing and furnish results in UTA-approved reporting format.
- Update UTA fiber spreadsheets to reflect final routing and tube assignments.

Electrical Utility

- Procure and install electrical systems from meter to distribution pad.
- Install and wire signal house lighting, distribution panels, transformers, service disconnects, and protective devices.
- Perform bonding, grounding, and circuit labeling.
- Perform insulation resistance and continuity testing.
- Provide as-built documentation.

TDX Configuration

RMSS will configure a local TDX workstation in the signal house with the following enabled:

- Analog Values
- E-ATC (MD/TSR)
- Forms-Based Dispatch (including Crossing Repair Form)
- Provide user screens reflecting the Training Facility layout with all point mappings.
- Provide C&I reporting to both LCP and the TDX workstation.
- Status points include at minimum:
    - Crossing enable/disable
    - Crossing health
    - EGMS loop detector
    - Communications link
    - Gate status (GDR/GPR/XR)
    - Faults
    - MD / TSR
    - AC/DC power loss
    - Track occupancy
    - Switch heater status
    - POSM control and indication

Testing & Commissioning

RMSS will perform full testing, validation, and commissioning required to place the system into revenue-capable service, including the following:

- Test and validate AFTAC circuits, PSO, and GCP predictors including calibration and scenario testing.
- Pre-test all vital application software packages.
- Test and validate all vital controllers (ElectroLogIXS, VHLC, predictors, cab signal, gate logic).
- Verify track circuits, switch logic/indication, EGMS functionality, fiber terminations, and AC/DC power.
- Test TDX station command paths and local/remote indications.
- Perform continuity, functionality, performance, and burn-in testing on all systems.
- Coordinate energization with UTA and applicable utilities.
- Document all test results and QC verifications.

Deliverables

RMSS will provide UTA with a simplified system-level familiarization plan (route & aspects, control lines, single line diagrams, and crossing approach plans) for training purposes. RMSS will also provide the following project closeout deliverables:

- Product submittal packages.

- As-built drawings and AIS plan sets (hard copy & digital).
- VHLC, ElectroLogIXS, and GCP AIS logic files.
- GCP and EGMS configuration files.
- Fiber layout plans and FAT tables.
- TDX software and configuration files.
- Network switch and RuggedComm configuration files.
- Final test reports (hard copy & digital).
- Asset inventory list (PN, SN, equipment type, manufacturer).

Clarifications

1. UTA will provide utility power to the meter.
2. UTA is providing the 144-strand SMF lateral fiber.
3. UTA will need to provide one (1) CTS-2 switch machine if available (unit no longer commercially procurable).
4. UTA will need to provide one (1) SWCC U-5 SCC if available (unit no longer commercially procurable).
5. UTA will provide one (1) H&K HWE-61 switch machine from MOW.
6. UTA will furnish gate mechanisms from PTO-42: Siemens S-80, WCH 3593-E, and WCH 3597-FC-301.
7. UTA will furnish select VHLC components from PTO-48 due to difficulty procuring and significant lead times.
8. Any materials sourced from other task orders may impact the project schedule if they are not available when required
9. RMSS is responsible for verification of all wiring, conduit, and fiber runs.
10. RMSS will utilize all new duct banks, conduits, and pullboxes installed by others (unless otherwise noted).
11. RMSS will utilize key personnel testers to perform all required testing.
12. RMSS will return any UTA-provided parts that are found to be non-functional, incompatible, or not suitable for use.
13. The switch pad and switch layouts remain unclear due to the reuse of existing track, RMSS reserves the right to revise this proposal if there are changes to the switch layout design.
14. This proposal does not include any material escalation or additional charges due to tariffs. Furthermore, all vendor pricing is assumed to be expired at the time of task order execution. RMSS reserves the right to seek recovery for changes in material pricing.

Assumptions

1. UTA-provided materials are assumed to be in good working condition and to have the required features.
2. RMSS has made reasonable efforts to confirm compatibility; however, RMSS cannot guarantee full functionality, interoperability, or compatibility of UTA-provided equipment until installation and field testing occurs.
3. All pricing in this proposal is based upon the provided owner scope documentation, as well as the following owner provided drawings:
    a. “UTA Estimate – UTA Training Facility BOM (cleaned up 20230814) (1)” dated January 4, 2024
    b. “MOW Training Yard Conduit_Duct Bank Layout” dated October 9, 2023

c. "MOW Electrical 100% Review Set_02-03-25_comments" dated February 21, 2025
d. "MOW Training Yard Conduit schedule" dated April 16, 2025
e. "Power Feed Responsibility Mark-Up" dated May 13, 2025
f. "UTA-MOW 100% Electrical Design_Final" dated April 24, 2025
g. "EC102_ LEVEL 2 – TELECOM Rev.1 markup" dated September 9, 2025
h. "AE132_ LEVEL 2 DIMENSION PLAN Rev.0 markup" dated September 9, 2025

Exclusions

1. Any equipment or furniture not listed in UTA procurement documents.
2. Future expansion items not installed under this scope:
   a. Additional Gate Mech (future)
   b. TPSS integration (future)
   c. OCS integration (future)
3. No spare parts will be included in this proposal.
4. Although RMSS's scope originally included sawcutting concrete and installing a 2-inch conduit for fiber from the pull box to the TTEC communications room (as shown on the duct bank drawing), with one 2-inch spare conduit, this work has already been completed by another contractor and will therefore be excluded from RMSS's scope of work.

This proposal is valid for 60 days, unless extended in writing by RMSS.

If you need any additional information, please don't hesitate to contact us.

Sincerely,

Skylar Baxter
Field Engineer
Rocky Mountain Systems Services

cc:
Marshall Wilson – RMSS
Anthony Ortolani – RMSS
Josh LaFleur – RMSS

Our pricing is in U.S. Dollars, F.O.B. Salt Lake City UT, and excludes all allowances, taxes, tariffs, licenses, and permits

UPDATED: 11/14/25 **MOW Training Facility - RMSS and UTA Provided Parts**

BLACK - RMSS TO ORDER | RED - UTA PROVIDED | RED/YELLOW - DISCONTUINED | BLUE - SIEMENS GIFTED TO UTA

MANUFACTURER	PART NUMBER#	PART/DESCRIPTION	UNIT	QTY.	UTA PROVIDED PARTS	RMSS QTY TO ORDER	LEAD TIME	NOTES:
ALSTOM	013986-000	NUT INSULATED HARMON	EA	140		140	17 Weeks	
ALSTOM	122272-002	Bar for relay mounting 19" GRS W/GRY PNT	EA	16		16	18 Weeks	
ALSTOM	122325-001	PLATE GROUND 12POS	EA	2		2	12 Weeks	
ALSTOM	123160-003	Tie bar 19" W/GRY PNT.	EA	10		10	18 Weeks	
ALSTOM	123729-003	PNL B2 BSA-4/BSA-6 MTG GRY	EA	3		3		
ALSTOM	124422-000	DIN RAIL 35X7.5 FOR 19	EA	15		15	16 Weeks	
ALSTOM	132167-001	STRAP BUSS 1" HOLE CTR 35.7"LG	EA	15		15	15 Weeks	
ALSTOM	202080-102	ASSY 19" RACK 7'-0" DBLTAP RL GRAY	EA	7		7	8 Weeks	
ALSTOM	202216-001	Air Gap Arrester AGA-1	EA	150		150	7 Weeks	
ALSTOM	202217-000	Air Gap Equalizer AGE-1	EA	38	38	0	0	
ALSTOM	203032-000	Terminal Block 4 Post	EA	270		270	7 Weeks	
ALSTOM	250094-300	2x6 12 post AAR Term Block w/HDWR	EA	36		36	10 Weeks	
ALSTOM	250581-000	Cab Signal Coupler ASSY CSC-100 W/PAR TRAP 300HZ	EA	1		1	49 Weeks	
ALSTOM	250756-000	Assy Switch Control Rectifier 120VDC B2 Mount	EA	3		3	28 Weeks	
ALSTOM	300601-1320	Switch Controller Dual 110V DC	EA	3	1	2	62 Weeks	UTA provided 1, RMSS to order 2
ALSTOM	800-086010-000	FINAL ASSY CAB 101 CSG 100 HZ	EA	1	1	0	0	
ALSTOM	225756-000A	AFTAC Chassis	EA	2	2	0	0	
ALSTOM	226354-020B	IST - 8.3KHz TX no Coupler	EA	1	1	0	0	
ALSTOM	226354-072B	IST - 4.0KHz TX no Coupler	EA	1		1	61 Weeks	
ALSTOM	227049-212	ISR - 4.0KHz RX w/ Coupler	EA	1	1	0	0	
ALSTOM	227049-220	ISR - 8.3KHz RX w/ Coupler	EA	1	1	0	0	
ALSTOM	227118-006	STC - 45Hz	EA	1		1	58 Weeks	
ALSTOM	227118-009	STC - 73Hz	EA	1	1	0	0	
ALSTOM	250029-012	RAIL to LINE COUPLER 1190B-1 4.0KHz	EA	1	1	0	0	
ALSTOM	250029-020	RAIL to LINE COUPLER 1190B-1 8.3KHz	EA	1	0	1	59 Weeks	
ALSTOM	250597-000	BSA-4 (Battery Surge Arrester)	EA	1		1	7 Weeks	
ALSTOM	250597-100	BSA-6 (Battery Surge Arrester)	EA	4	3	1	7 Weeks	UTA provided 3, RMSS to order 1
ALSTOM	300752-000	Electrologixs 9-Slot Chassis	EA	3		3	7 Weeks	
ALSTOM	227539-000	ELX Personality Module VLD-R16S	EA	1		1	7 Weeks	
ALSTOM	251381-000	ELX I/O Module VLD-R16S	EA	1		1	7 Weeks	
ALSTOM	227442-000	ELX Personality Module VTI-2S	EA	3	1	2	7 Weeks	UTA provided 1, RMSS to order 2
ALSTOM	251123-000	ELX I/O Module VTI-2S	EA	3	3	0	0	
ALSTOM	227537-000	ELX VIO-86S Personality Module	EA	6	4	2	7 Weeks	UTA provided 4, RMSS to order 2
ALSTOM	251380-000	ELX I/O Module VIO-86S	EA	6	4	2	7 Weeks	UTA provided 4, RMSS to order 2
ALSTOM	251456-000	ELX System Module CPS-3	EA	3	3	0	0	UTA provided
ALSTOM	251432-100	ELX Module VPM-3	EA	3	3	0	0	UTA provided
ALSTOM	251333-000	ELX Module GFD-1	EA	1		1	7 Weeks	
ALSTOM	251329-100	ELX System Module CIO-CLA	EA	1	1	0	0	UTA provided
ALSTOM	251330-000	ELX System Module CIO-2A	EA	3	3	0	0	UTA provided
ALSTOM	251124-100	ELX Module CDU-2	EA	3	3	0	0	UTA provided
ALSTOM	251495-000	ELX Module UCI-3	EA	3	3	0	0	UTA provided
ALSTOM	032773-107	CONN 7FEM .2CN CBLMT HC LUB - VTI Connector	EA	2		2	16 Weeks	
ALSTOM	075113-010	ASSY CABLE CIO-CLA CARD TO LCP 10FT	EA	1		1	13 Weeks	
ALSTOM	201876-010	LCP 6ft Cable	EA	1		1	26 Weeks	
ALSTOM	226607-XXX	VHLC Chassis	EA	1	1	0	0	UTA provided
ALSTOM	226610-700	ASSY VHLC VLP ALT5 FPVP (4-Term w/DB9 port)	EA	1	1	0	0	UTA provided (Parts will be pulled from PTO-48)
ALSTOM	226611-300A	ACP-3	EA	1	1	0	0	UTA provided
ALSTOM	226612-003	SSM	EA	1	1	0	0	UTA provided
ALSTOM	226955-000	12 VDC Power Supply 40 W (+5 V)	EA	1	1	0	0	UTA provided (Parts will be pulled from PTO-48)
ALSTOM	226650-000	RS-232 Interface Module	EA	2	2	0	0	UTA provided
ALSTOM	226859-000	VHLC Current Loop Adapter (for LCP)	EA	1	1	0	0	UTA provided (Parts will be pulled from PTO-48)
ALSTOM	226802-001	CCI (Coded Circuit Interface Module)	EA	1	1	0	0	UTA provided
ALSTOM	200123-001	Cable CCI with 1 ECTCI	EA	1	1	0	0	UTA provided (Parts will be pulled from PTO-48)
ALSTOM	227209-012	VGPIO	EA	3	3	0	0	UTA provided
ALSTOM	200124-210	CABLE VGPIO #16AWG	EA	3	3	0	0	UTA provided (Parts will be pulled from PTO-48)
ALSTOM	226614-100A	NVI 32	EA	1	1	0	0	UTA provided
ALSTOM	200660-210	Cable NVI32 #16 AWG	EA	1	1	0	0	UTA provided (Parts will be pulled from PTO-48)
ALSTOM	800-088031-001	E2 Chassis	EA	2	2	0	0	UTA provided
ALSTOM	810-088031-017	600 Receiver Module (4-Terminal)	EA	2	1	1	57 Weeks	UTA provided 1, RMSS to order 1
ALSTOM	810-088031-019	610 Amplifier	EA	2	2	0	0	UTA provided
ALSTOM	810-088031-022	620 Coupler Module	EA	2	2	0	0	UTA provided
ALSTOM	810-088031-025	630 Band Pass Filter	EA	2	2	0	0	UTA provided
ALSTOM	812-085007-206	ECTCI Chassis	EA	1	1	0	0	UTA provided
ALSTOM	810-002000-051	7K Receiver	EA	1	1	0	0	UTA provided
ALSTOM	810-083004-017	214 Track Filter	EA	1	1	0	0	UTA provided
ALSTOM	810-083900-001	2R Track Converter	EA	1	1	0	0	UTA provided
ALSTOM	800-096000-011	Track Interface Panel (TIP-2)	EA	1		1	7 Weeks	
ALSTOM	814-096000-017	Track Interface Panel Cable, 8'	EA	1		1	7 Weeks	
ALSTOM	54529-015-17	5F LH Switch Machine (110VDC, LH, Left Point Normally Closed)	EA	1	1	0	0	UTA provided
ALSTOM	N/A	CTS-2	EA	1	1	0	0	Discontinued. Does not matter if LH or RH since will be on pad. (UTA to provide if available)
US&S		SWCC U5 Switch Circuit Controller	EA	1	1	0	0	Discontinued. UTA to provide if available (6-7 in UTA stock)
ALSTOM (G&B Wabtec)	58800-006-02	Model 10A Electric Switch Lock	EA	1		1	12 Weeks	
Cembre	2834015	AR60D COMPLETE FIXING KIT	EA	8		8	TBD	
Cembre	2508480	2A60-M12 COPPER TERMINAL (500-MCM)	EA	20		20	TBD	
Cembre	8500162	CCQ 3/4-7/8 CARBIDE TIPPED CUTTER	EA	1		1	TBD	
FS	FHD-1UFCE#70361	1U Rack Mount Enclosure Unloaded, Sliding Drawer	EA	3		3	0	
FS	FHD-4UFCE	High Density 4U Rack Mount Enclosure Unloaded	EA	1		1	0	
FS	FHD-FAP6SCDXSMF	Fiber Adapter Panel, 12 Fibers OS2 Single Mode, 6 x SC UPC Duplex (Blue) Adapter	EA	4		4	0	
FS	FHD-FAP12LCDXSMF	Fiber Adapter Panel, 24 Fibers OS2 Single Mode, 12 x LC UPC Duplex (Blue) Adapter	EA	4		4	0	
FS	FHD-FAPB#193007	Blanking Fiber Adapter Panel (5pcs/Pack)	EA	2		2	0	
FS	FHD-FOSMF-24F#64246	24 Fibers Optical Splice Tray for FHD Fiber Enclosure	EA	6		6	0	
FS	SMSCDX#40234	1m (3ft) SC UPC to SC UPC Duplex OS2 Single Mode PVC (OFNR) 2.0mm Tight-Buffered Fiber Optic Patch Cable	EA	6		6	0	
FS	SMSCSTDX#40408	1m (3ft) SC UPC to ST UPC Duplex OS2 Single Mode PVC (OFNR) 2.0mm Tight-Buffered Fiber Optic Patch Cable	EA	6		6	0	
Grainger	FAZ-C30/1-NA-SP	Eaton - 30 A Amps, 48V DC, 10kA at 277/480V AC	EA	2		2	10 Days	
Grainger	5PZV1	Ethernet cables (RJ45 Cable) 3 Foot	EA	4		4	10 Days	
Grainger	5VYZ5	Ethernet cables (RJ45 Cable) 10 Foot	EA	4		4	10 Days	
Grainger	5VZG5 (5VZF6)	Ethernet cables (RJ45 Cable) 75 Foot	EA	2		2	10 Days	
Grainger	QO120	Square D - Breaker 20A 1 Pole DIN/Flush mount	EA	1		1	10 Days	Hotel Amenity for Signal House
Grainger	SDSA-1175	Square D - Breaker Box Surge Protector	EA	2		2	10 Days	Hotel Amenity for Signal House
Hammond	PH50PG	Hammond Mfg - Transformer 110/120VAC to 12V (used for PO XFMR)	EA	1		1	5 Weeks	
Hanning & Kahl	HWE61	H&K Hand Throw	EA	1	1	0	0	UTA provided
Hitachi	N4511601211	M-23A Switch Machine (110VDC LH, Left Point Normally Closed)	EA	1		1		
Hitachi	N4511601212	M-23A Switch Machine (110VDC RH, Right Point Normally Closed)	EA	1		1		
Hitachi	SL-21A E/L	T-21 Hand Operated Switch Machine (AnsaldoSTS)	EA	1		1		
Home Depot	N/A	Wood Panel 6"x 20"	EA	1		1	0	
L&W	9A1110-10D	10 Ohm Adjustable Resistor	EA	1		1	6 Weeks	
L&W	9A1110-4	2.88 Ohm Adjustable Resistor	EA	1		1	1 Week	
Major Custom Cable	N/A	Comms cables (RS-232 DB25(F) to DB9(M) Serial Cable) - 10ft	EA	2		2	0	
Major Custom Cable	N/A	Comms cables (RS-232 DB25(M) to DB9(F) Serial Cable) - 20ft	EA	1		1	0	
Major Custom Cable	N/A	Comms cables (RS-232 DB25(M) to Pigtail Serial Cable) - 20ft	EA	2		2	0	
MOXA	NPORT5150A-T	Serial to Ethernet Media Converter (Office Comms)	EA	1	1	0	0	UTA provided
MOXA	TCF-142-S-SC-T	Serial to Fiber Media Converter (Vital Remote Comms)	EA	2		2	2 Weeks	
NASS	Custom	3B LATCH RESET PANEL W/PB 2.5 X 9.375, Black Powder Coat, Engraved, Red 16mm Pushbutton (no wiring)	EA	1		1	N/A	
National Railway Supply	012-04-02DAX1100	Battery Charger 20A 12/40 HF-MAX (12V, 4 slot chassis, 2 IPM (40A), Display for voltage/current, AAR terminals, 10Ft temp probe, 10Ft remote voltage cable)	EA	6		6	13 Weeks	
National Railway Supply	DDR 50-09	PowerSafe Battery 200AH DDR 50-09	EA	14		14	13 Weeks	
National Railway Supply	DDR 50-17	PowerSafe Battery 400AH DDR 50-17	EA	24		24	13 Weeks	
Nortrack	115RE LH NC	CSV-24 (Left Point Normally Closed 110VAC)	EA	1		1	24 Weeks	
POTTER&BRUMFIELD	20C176	HOLD DOWN SPRING, F/TYPE POTTER & BRUMFIELD KRP& KRPA RELAYS	EA	7		7	1 Week	
POTTER&BRUMFIELD	27E891	Socket for Non-Vital Relay, 8-Pin Octal Screw DIN Mount	EA	7		7	1 Week	
POTTER&BRUMFIELD	KRPA-11AN-120	Relay Non Vital 120VAC	EA	3	3	0	0	UTA provided
POTTER&BRUMFIELD	KRPA-11DN-12	Relay Non Vital 12VDC	EA	4	4	0	0	UTA provided
Progress Rail	9441MRW001CC	"5" x 15'-0" Aluminum Close Clearance MLP Assembly, 1-Platform (Signal Head Mast)	EA	4		4	4 Weeks	
Progress Rail	9445020006-5KIT	Close Clearance MLP D-Bracket, with 5" Mounting Kit	EA	4		4	4 Weeks	
Progress Rail	94CLR3GYR1-LED	3 Aspect signal head (with visors)	EA	4		4	4 Weeks	
Progress Rail	N/A	Custom Local Control Panel (TRAX) Hardpanel	EA	1		1	4 Weeks	
Progress Rail	N/A	Custom Local Control Panel (Front Runner) Hardpanel	EA	1		1	4 Weeks	
PTMW	80200323	20x52x20 Aluminum Coupler Case	EA	2		2	5-7 Weeks	
PTMW	CUSTOM N/A	UTA 14'x30' Signal House	EA	1		1	28 Weeks	
RECO	922-210102-060A	ELECTRIC HEATER CONTROL, ELECTRIC PANEL, 240 VAC 1PH, 1 OUTPUT, NO 1/2 WAVE	EA	1		1		
RECO	950N46963M	Switch Heater GHAB	EA	1		1		
RECO	9810-0200A	FREE STANDING BLOWER, NEW HIGH POWER RADIO,WIFI ANTENNA SECONDARY W/O MAST	EA	3		3		
RECO	92296A	HEATER ROD, 240V, 4500W, 16', FLAT	EA	2		2		
SIEMENS	Safetran S-80	Gate Flasher Assemblies (Unassembled) WO/ Galv. Foundations	EA	1	1	0	0	UTA provided (Spare from PTO42 Project)
SIEMENS	400000	Relay Vital 500 ohm 6FB A62-0262/400000	EA	11	11	0	0	UTA provided
SIEMENS	400020	Relay B1 500Ohm 4FB-2F-1B A62-0310/400020	EA	5	3	2	4 Weeks	UTA provided 3, RMSS to order 2
SIEMENS	400023	Relay Vital B 500 ohm Neutral 6FB HD A62-0580/400023	EA	3	3	0	0	UTA provided
SIEMENS	400500	Relay Vital 500 ohm 6FB A62-0125/400500	EA	3		3	4 Weeks	

SIEMENS	400520	Relay Vital 500 ohm 2F-2B (EHD) A62-0429/400520	EA	2		2	7 Weeks	
SIEMENS	NYK:6000627750790	Narrowband Shunt 790HZ	EA	1		1	4 Weeks	
SIEMENS	9000911700001	Lighting Surge Panel - Safetran 91170-1	EA	2	2	0	0	UTA provided
SIEMENS	010806-3AX	Safetran SP19-2A (Surge Protection)	EA	1		1	4 Weeks	
SIEMENS	023839-2	1 inch strap	EA	176		176	4 Weeks	
SIEMENS	024620-19X	Test Link	EA	402		402	7 Weeks	
SIEMENS	4000-44811-5AX	Safetran SP24-2A	EA	1		1	4 Weeks	
SIEMENS	420000-75X	Relay Plugboard	EA	24		24	4 Weeks	
SIEMENS	7000-7A377-2630	PSO 4000: 7A377 Line to Rail Coupler 2630 Hz	EA	1		1	4 Weeks	
SIEMENS	7000-7A388-0001	PSO 4000: 7A388 Line to Receiver Coupler 2630 Hz	EA	1		1	4 Weeks	
SIEMENS	7000-7A475-0001	PSO 4000: Transceiver	EA	1	1	0	0	UTA provided
SIEMENS	A80440	GCP: Basic Crossing Chassis	EA	1		1	5 Weeks	
SIEMENS	A80403	GCP: CPU Module	EA	1	1	0	0	UTA provided
SIEMENS	A80418	GCP: Track Module	EA	1	1	0	0	UTA provided
SIEMENS	A80405	GCP: SSCC III Module	EA	2	2	0	0	UTA provided
SIEMENS	NYK:8000804100001	GCP: SEAR IIi Module (A80410)	EA	1		1	7 Weeks	
SIEMENS	NYK:8000804850001	GCP: Display Module (A80407-03)	EA	1		1	7 Weeks	
SIEMENS	NYK:8K008K0040001	GCP: Ferrite Bead Kit	EA	2		2	4 Weeks	
SIEMENS	A53457	GCP: Wayside Access Gateway (WAG)	EA	1	1	0	0	UTA provided
SIEMENS	A80078	GCP: Echelon Termination Unit	EA	2		2	10 Weeks	
SIEMENS	NYK:004-101-0001X	EGMS Chassis (We have the WAGO's, Loop panel, and connectors)	EA	1	1	0	0	UTA provided
SIEMENS	E-1400S (4)	A44102: E-1400S - Inductive Loop Processor Module (4 Channels)	EA	1		1	4 Weeks	
SIEMENS	NYK:010-101-0006	A44104: Isolated Power Supply	EA	1	1	0	0	UTA provided
SIEMENS	NYK:010-101-0002	A44107: Display Module	EA	1	1	0	0	UTA provided
SIEMENS	NYK:010-101-0003	A44108: CPU Module	EA	1	1	0	0	UTA provided
SIEMENS	NYK:010-101-0004	A44105: Vital Input Module	EA	1	1	0	0	UTA provided
SIEMENS	NYK:010-101-0009	A44106: Vital Input/Output Module	EA	1	1	0	0	UTA provided
SIEMENS	NYK:010-101-0008	A44103: System Communications Module	EA	1	1	0	0	UTA provided
SIEMENS	NYK:PLC-24-50	EGMS Detector Loop Cable 24' long x 50' wide	EA	2		2	TBD	
SIEMENS COMMS	6GK6000-8FE60-0AA0	SFP1131-1FX10A Ruggedcomm 10/100 SFP	EA	3		3	0	Siemens Gifted to UTA
SIEMENS COMMS	6GK6000-8FG52-0AA0	SFP1132-1LX10 Ruggedcomm 1G SFP	EA	2		2	0	Siemens Gifted to UTA
SIEMENS COMMS	6GK6015-0CM23-.DC0-Z A01+B36+C26+D01+E01	RX1524-L3-RM-7-3-.-L3SEL3HW-FG50-6FX50-6TX01-6TX01-XX-.-.-.	EA	2		2	16 Days	
SIEMENS COMMS	6GK6040-0AT21-0DA0-Z A12+B02+C00	RS400-24-R-T2T2-3D-XX-XX-.	EA	4		4	0	Siemens Gifted to UTA
SIEMENS COMMS	6GK6090-0GS21-0BA0-Z A01	RS900G-24-D-2SFP-XX-.	EA	2		2	0	Siemens Gifted to UTA
SIEMENS COMMS	RS400-24-R-T2T2-3D	Ethernet Switch, 4 - Port RS232, 19in Rack Mount	EA	2		2	26 Days	
TWINCO	N/A	Impedance Bonds	EA	2		2	0	
WAGO	249-117	TERMACC END STP GRY 249-117	EA	22		22	2 Weeks	
WAGO	281-326	TERMACC END PLT FOR 281 ORANGE	EA	15		15	2 Weeks	
WAGO	281-402	WAGO Jumper Adjacent 281 Terminals	EA	75		75	2 Weeks	
WAGO	281-681	WAGO Terminal 3-Conductor 28-12 AWG Grey	EA	300		300	2 Weeks	
WAGO	282-325	TERMACC END PLT FOR 282 GRAY	EA	31		31	2 Weeks	
WAGO	282-402	WAGO Jumper Adjacent 282 Terminals	EA	155		155	2 Weeks	
WAGO	282-901	WAGO Terminal 2-Conductor 24-10 AWG Grey	EA	225		225	2 Weeks	
WAGO	793-4507	TERMACC MRKR #51-100 HORZ (2 per sleeve, 5 sleeves)	EA	4		4	2 Weeks	
WAGO	793-5566	TERMACC MRKR #1-50 HORZ (2 sets of 1-50 per sleeve)	EA	4		4	2 Weeks	
Western Cullen Hayes	WCH 3597-FC-301	Gate Flasher Assemblies (Unassembled) WO/ Galv. Foundations	EA	1	1	0	0	UTA provided (Parts will be pulled from PTO-42)
Western Cullen Hayes	WCH 3593-E	Gate Flasher Assemblies (Unassembled) WO/ Galv. Foundations	EA	1	1	0	0	UTA provided (Parts will be pulled from PTO-42)
WILMORE	1675-12-24-8	B24 Power supply/Converter	EA	1		1	4-6 Weeks	
WILMORE	1675-12-48-4	12 VDC- 48 VDC voltage converter 1675-12-48-4	EA	1		1	4-6 Weeks	
TDX Station	TDX Station	Software	EA	1		1		
TDX Station	TDX Station	Server License - For any Server(DB, APP, FEP,etc)	EA	1		1		
TDX Station	TDX Station	Work Station License - For controller style workstations only	EA	1		1		
TDX Station	TDX Station	Train Tracking - Identification, Color based on Route or Destination, ability to assign route codes, consist info, driver info all which are reportable.	EA	1		1		
TDX Station	TDX Station	Playback - Enterprise for the network	EA	1		1		
TDX Station	TDX Station	Playback Workstation - Per workstation when a workstation is used for playback.	EA	1		1		
TDX Station	TDX Station	Reporting tool	EA	1		1		
BEST BUY	UN55U8000FFXZA	55" TV (Signal House)	EA	1		1	0	
BEST BUY	BE-MLFM	Wall Mount for TV (Signal House)	EA	1		1	0	
Misc	*Misc*	*House materials, wire, labels, panduit, etc.*	*EA*	*1*		*1*		

Electrical Utility								
Oak Hollow	37SSD16	37.5 kVA, Dry-type, 480Δ–120/240V Wye, 150°C, 1.5% Impedance, K=1, NEMA 3R	EA	2		2		All Material provided by Oak Hollow
Oak Hollow	Main Switchboard	277/480V 3Ø 4W, 1000A main breaker, 65kA AIC, Electronic LSIG trip, NEMA 3R	EA	1		1		
Oak Hollow	Panel Board (MDP-MOW)	480Y/277V 3Ø 4W, 400A MCB, 400A Bus, NEMA 3R	EA	1		1		
Oak Hollow	1P1	240/120V, 1-phase, 3-wire, 200A MCB, NEMA 3R, Recessed Mount, Copper Bus, 10kA AIC, Bolt-On CBs	EA	1		1		
Oak Hollow	1P2	240/120V, 1-phase, 3-wire, 200A MCB, NEMA 3R, Recessed Mount, Copper Bus, 10kA AIC, Bolt-On CBs	EA	1		1		
Oak Hollow	3/4X10	¾" x 10' copper-clad rods	EA	30		30		
Oak Hollow	BARE6SDSOLBULK	500' #6 CU Bare	FT	500		500		
Oak Hollow	GALV3	3" Sch. 40 Galv. Pipe uprights 3x11'	EA			0		
Oak Hollow	DPSLOTPG	1-3/4" Galv. Unistrut, SS hardware 4x14'	EA			0		
Oak Hollow	CP34	¾" Bronze Ground Rod Clamp	EA	46		46		
Oak Hollow	25-75732-1	30' Steel Pole, Lithonia DSX2 LED, 20,670 lm, 120/277V, Type T5W (A15)	EA	6		6		
Oak Hollow	25-75732-1	20' Steel Pole, Lithonia DSX1 LED, 5,524 lm, 120/277V, Type BLC3 (A12)	EA	2		2		
Oak Hollow		Light Pole Foundations	EA	8		8		
Oak Hollow	11524	1C. #8 (19X), PVC/SIMPULL THHN-THWN-2, BLACK	FT	6136		6136		
Oak Hollow	12165	1C. #8 (19X), PVC/SIMPULL THHN-THWN-2, GREEN	FT	3832		3832		
Oak Hollow	10879	1C. #4 (19X), PVC/SIMPULL THHN-THWN-2, BLACK	FT	178		178		
Oak Hollow	10030	1C. #2 (19X), PVC/SIMPULL THHN-THWN 2, BLACK	FT	1870		1870		
Oak Hollow	12711	1C. #1 (19X), PVC/SIMPULL THHN-THWN-2, BLACK	FT	183		183		
Oak Hollow	10714	1C. 3/0 (19X), PVC/SIMPULL THHN-2, BLACK	FT	239		239		
Oak Hollow	12180	1C. 3/0 (19X), PVC/SIMPULL THHN-2, GREEN	FT	1825		1825		
Oak Hollow	10717	500 KCMIL (37X), PVC/SIMPULL THHN-2, BLACK	FT	7300		7300		

Communications (Fiber)								
CommScope	TBD	Fiber Strand (48-strand) (WV Line to TTEC Building)	FT	1500		1500		UTA provided
CommScope	TBD	Fiber Strand (24-strand) (TTEC Building to Signal House)	FT	500		500		UTA provided
ROCKY MOUNTAIN FIBER	Line #1	MOBILIZATION	EA	1		1		
ROCKY MOUNTAIN FIBER	Line #2	PROVIDE MD7 IN JOINT TRENCH	EA	85		85		
ROCKY MOUNTAIN FIBER	Line #3	PROVIDE VAULT FOR CONDUIT INTERCEPTION POINT	EA	1		1		
ROCKY MOUNTAIN FIBER	Line #4	PROVIDE AND PLACE MICRODUCT WITH TRACER WIRE INSIDE NEW CONDUIT	EA	1500		1500		
ROCKY MOUNTAIN FIBER	Line #5	PROVIDE AND INSTALL FIBER DISTRIBITION UNITS, PIGTAILS WITH SPLICE CASETTES, HEAT SHRINKS	EA	1		1		
ROCKY MOUNTAIN FIBER	Line #6	PROVIDE AND PLACE 1 TYCO D ENCLOSURE AND TRAY	EA	1		1		
ROCKY MOUNTAIN FIBER	Line #7	FUSION SPLICE FIBER	EA	240		240		
ROCKY MOUNTAIN FIBER	Line #8	TESTING AND DOCUMENTATION	EA	216		216		

Signal Cable								
Okonite Cable	TBD	3-TWPR #14	FT	4300		4300		
Okonite Cable	TBD	2C#6TW	FT	4800		4800		
Okonite Cable	TBD	7C#6	FT	5600		5600		
Okonite Cable	TBD	12C#14	FT	2600		2600		
Okonite Cable	TBD	1C#6 THWN	FT	1700		1700		
Okonite Cable	TBD	7C#14	FT	1400		1400		
Okonite Cable	TBD	4C#14 TWPR	FT	1000		1000		
Impedance Bond Cable	TBD	500 KCMIL (37X), PVC/SIMPULL THHN-2, BLACK	FT	220		220		

Switch Machine Layouts								
G&B	N/A	Hitachi M-23 Layout with JB	EA	2		2		
G&B	N/A	Alstom 5F layout with JB	EA	1		1		
G&B	N/A	Junction Box	EA	4		4		
	N/A	Switch Pad Materials	EA	1		1		

Updated 2/10/25

UTA PARTS IN RMSS INVENTORY

Part#	Vendor	Description	UTA Transfer	RMSS Inventory	REV Version	Comments/Compatibility
251123-000	ALSTOM	VTI-2S	3	3		
227442-000	ALSTOM	VTI-2S Personality Module	3	1	REV B00	Will also need connectors - Missing 2 or never got - Connectors come with.
251432-100	ALSTOM	VPM3	3	3		P/N for Blank VPM3 with no app/exec software loaded - We can load them
251495-000	ALSTOM	UCI-3	3	3		
251329-100	ALSTOM	CIO-CLA	1	1		
251330-000	ALSTOM	CIO-2A	3	3	REV B01	To be determined with network design
251456-000	ALSTOM	CPS-3	3	4	REV B	Do we need a CPS 1, 2 or 3. (Reference page 1-29 Elogix Vol. 1)
251380-000	ALSTOM	VIO-86S	4	4		
227537-000	ALSTOM	VIO-86S Personality Module	5	4	REV AA3	Will also need connectors - Missing 1 or never got - Connectors come with
251381-000	ALSTOM	VLD-R16S	2	0		
227539-000	ALSTOM	VLD-R16S Personality Module	2	0		Will also need connectors - Connectors come with
251124-000	ALSTOM	CDU-1	3	3		We have CDU1's - These will work
226607-XXX	ALSTOM	VHLC Chassis	1	1		
226610-XXX	ALSTOM	VLP	1	1	REV VB0	Needs to be an updated version with DB9 port - The one we have has no DBP port
226611-300	ALSTOM	ACP-3	1	1	REV CA7	
226612-003	ALSTOM	SSM	1	1		
226802-001	ALSTOM	CCI	1	1	REV BB0	
227209-012	ALSTOM	VGPIO	3	3	REV CA3,CA8,CA7	For the EGMS
226614-100A	ALSTOM	NVI 32	1	1	REV AA0	For the EGMS
226650-000	ALSTOM	RS-232 Interface Module	2	2		
800-088031-001	ALSTOM	E2 Chassis	2	2		This part number might cover all components. E2 Chassis 800-088031-001 comes with the 600,610,620 & 630 Modules
810-088031-017	ALSTOM	600 Receiver Module	2	1	1-REV C, 4-REV B (3 TERMINAL)	This module needs to have 4 terminals - We have 1 REV C with 4 Terminals
810-088031-019	ALSTOM	610 Amplifier	2	2	1-REV A, 1-REV B, 2-REV A	
810-088031-022	ALSTOM	620 Coupler Module	2	2	4-REV A	
810-088031-025	ALSTOM	630 Band Pass Filter	2	2	4-REV 0	
812-085007-206	ALSTOM	ECTCI Chassis	1	1		
810-002000-051	ALSTOM	7K Receiver	1	1	REV JQ8	
810-083004-017	ALSTOM	214 Track Filter	1	1	REV F00	
810-083900-001	ALSTOM	2R Track Converter	1	1	REV K00	
60981-B 225756-000A	ALSTOM	AFTAC Chassis	2	2		
227049-212	ALSTOM	ISR - 4.0KHz RX w/ Coupler	1	1	REV BB1	Frequency (5.4 KHZ & 7.1 KHz)
227118-009	ALSTOM	STC - 73Hz	1	1	REV C1	Frequency (5.4 KHZ & 7.1 KHz)
226354-020B	ALSTOM	IST - 8.3KHz TX no Coupler	1	1	REV BA3	
227049-220	ALSTOM	ISR - 8.3KHz RX w/ Coupler	1	1	REV BA3	
227118-006	ALSTOM	STC - 45Hz	1	0		Missing or never got
250029-012	ALSTOM	RAIL to LINE COUPLER 1190B-1 4.0KHz	1	1	REV BA0	
250029-020	ALSTOM	RAIL to LINE COUPLER 1190B-1 8.3KHz	1	0		Missing or never got
300601-1320	ALSTOM	110V, 3 wire, Dual Switch Controller	1	1		For M23A and 5F & CTS-2 (110VDC SC) - Plans/BOM show using DUAL switch controllers for each one
300601-1310	ALSTOM	110V, 3 wire, Single Switch Controller	1	2		For 5F - Plans/BOM show using DUAL switch controllers for each one
	ALSTOM	5F Switch Machine	1	N/A		Interlocking - Outside of JRSC
800-086010-000	ALSTOM	Cab 101	1	2		
250597-100	ALSTOM	BSA-6	3	3		Type and quantity to be determined by final design - Design is showing BSA-6
202217-000	ALSTOM	Air Gap Equalizer AGE-1	38	38		
	Hitachi	M-23A	2	N/A		For the Interlocking - Never got
5150A-T	Moxa	Moxa Nport Serial Device Terminal Server	2	2		
HF Max 12/40-D	National Railway Supply	Battery Charger 40A 12/40 HF-MAX	5	5		Need to return to UTA, unable to get parts for
KRPA-11DN-12	Potter Brumfeld	Relay Non Vital 12VDC	4	3		Missing 1
KRPA-11AN-120	Potter Brumfeld	Relay Non Vital 120VAC	4	3		Missing 1 *1 Used at 9800S*
A80403	SIEMENS	CPU Module	1	1		Add various crossing relays as needed to BOM. -Seems they are all accounted for in the design
A80418	SIEMENS	Track Module	1	1		
A80405	SIEMENS	SSCC III Module	2	2		3 gates - Do we need another for the 3rd gate? - NO
9000911700001	SIEMENS	Lighting Surge Panel - Safetran 91170-1	1	2	PN# 91181-1	We have a different PN#, confirm this will work? - Yes, we have 2 in stock but don't know if UTA gave us 1-2
A53457	SIEMENS	Wayside Access Gateway (WAG)	1	1		
NYK:525-0202-01	SIEMENS	EGMS Chassis	1	1		4 Loop Assembly - With communications Module **(Need 4 loop assembly and Comms module. We have the chassis and power supply)**
A44103	SIEMENS	Systems Comm Module	1	1		NYK: 010-101-0008 -See comment above^ is there another Comms module besides this? We have 1 Comms module
A44104	SIEMENS	Isolated Power Supply	1	2		NYK: 010-101-0006
A44105	SIEMENS	Input Module	1	2		NYK: 017-101-0004
A44106	SIEMENS	Input/Output Module	1	1		NYK: 010-101-0009
A44107	SIEMENS	Graphics Touch-Screen (Display Module)	1	1		NYK: 010-101-0002
A44108	SIEMENS	CPU (Main Processor Module)	1	1		NYK: 010-101-0003
7000-7A475-0001	SIEMENS	PSO 4000 Transceiver	1	1		
RS400-24-R-T2T2-2	SIEMENS	RS400	2	0		Missing 2 - *Extras used for Fiber Project*
400023	SIEMENS	Relay Vital B 500 ohm Neutral 6FB HD A62-0580/400023	2	2		
400023	SIEMENS or Alstom equiv	Relay Vital B 500 ohm Neutral 6FB HD A62-0580/400023	1	1		
400020	SIEMENS	Relay B1 500Ohm 4FB-2F-1B A62-0310/400020	2	2		
400020	SIEMENS or Alstom equiv	Relay B1 500Ohm 4FB-2F-1B A62-0310/400020	2	1		HD switch control relay - Missing 1
400000	SIEMENS or Alstom equiv	Relay Vital 500 ohm 6FB A62-0125/400000	12	12		

UTA - On Call

PTO 013- MOW Training Yard

Task Order Estimate Summary

11/14/2025

Subcontractors	**$**	**332,714.00**
Materials	**$**	**1,043,914.75**
Administrative	**$**	**108,517.00**
Design/Engineering	**$**	**140,385.00**
Construction/Testing	**$**	**327,436.00**
Travel & Perdiem	**$**	**4,000.00**
Other Costs and Fee	**$**	**291,445.09**
Total:	**$**	**2,248,411.84**

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 1/14/2026

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Viola Miller, Chief Financial Officer
PRESENTER(S):	Todd Mills, Director of Supply Chain

TITLE:

Pre-Procurements
- **Reloadable FAREPAY Cards**
- **Municipal Financial Advisor**

AGENDA ITEM TYPE:
Pre-Procurement

RECOMMENDATION:
Informational report for discussion

BACKGROUND:
Utah's Public Transit District Act requires all contracts valued at $250,000 or greater be approved by the UTA Board of Trustees. This informational report on upcoming procurements allows Trustees to be informed and provide input on upcoming procurement projects. Following the bid solicitation and contract negotiation process, final contracts for these projects will come before the board for approval.

DISCUSSION:
- ***Reloadable FAREPAY Cards***

  The Fares Department seeks a contractor to produce fare media for the FAREPAY card program. The selected firm will be responsible for card production, encoding, printing, packaging, data file delivery, and meeting UTA's required delivery timelines to support vending and retail distribution. UTA's FAREPAY card is a long-standing reloadable fare media product currently distributed through UTA Customer Service, and a network of retail merchants. As part of UTA's Next Generation Fare Collection System, FAREPAY cards will expand into new distribution channels, including vending from ticket vending machines (TVMs) beginning June 2026.

This procurement will be conducted as a Request for Proposal (RFP), where technical criteria will be evaluated and scored in addition to price. The contract will be valid for three (3) years with two (2) 1-year options to renew. Funding for this project is included in the approved 2026 Operating Expense budget, and the approved 2026 Capital projects budget. It will be partially funded by ICI 222 (Capital) and partially funded by 5200 EFC Operations Supplies. (16371, Tiffany Conners; Kensey Kunkel; Monica Howe)

- ***Municipal Financial Advisor***

The Finance Department is seeking to contract with a firm to retain the services of a qualified finance professional to serve as its full-service financial advisor.

The selected firm will provide financial advice, primarily regarding the issuance of municipal securities and related financial strategies. The Municipal Advisor brings specialized expertise in municipal markets, ensuring UTA achieves lowest possible borrowing costs and avoids costly missteps.

Unlike Bond Underwriters, who act as principals and have no fiduciary duty, Municipal Advisors are legally obligated under Municipal Services Rulemaking Board (MSRB) Rule G-42 to act in UTA's best interest. They provide unbiased recommendations on method of sale (such as competitive vs. negotiated).

This procurement will be conducted as a Request for Proposal. The contract will be valid for one (1) year. Funding for this procurement will be from bond issuance proceeds. (16299, Brian Reeves)

ATTACHMENTS:

N/A

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 1/14/2026

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Viola Miller, Chief Financial Officer
PRESENTER(S):	Brian Reeves, Associate Chief Financial Officer Monica Howe, Fares Director

TITLE:

Complimentary Fare: Passes for Utah Legislative Session Volunteers

AGENDA ITEM TYPE:
Service or Fare Approval

RECOMMENDATION:
Approve the request to issue twenty (20) Complementary Passes for legislative volunteers to use during the Utah Legislative Session.

BACKGROUND:
The Utah Legislative Session ("the Session") will commence January 20, 2026 and run through March 6, 2026. UTA has historically provided Complimentary Passes for legislative volunteers that are promoting transit and UTA initiatives throughout the Session.

Under the Board of Trustees Policy 4.1 and UTA Fare Policy, Complimentary Passes may be provided for transit related collaboration with partners and stakeholders.

DISCUSSION:
Complimentary Passes are once again being requested for the 2026 Session. The passes will be issued to volunteers for travel to and from the State Capitol during the Session, as well as the week before and after the Session.

The full premium face value of the passes was used in determining the total complementary value of the request as follows:

60 days x $10.00 per day x 20 passes = $12,000

ALTERNATIVES:
Do not provide Complimentary Passes to legislative volunteers and require them to pay their own fare while attending the Session.

FISCAL IMPACT:
UTA will forego a maximum potential value of $12,000 in fare revenue.

ATTACHMENTS:
N/A

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 1/14/2026

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Viola Miller, Chief Financial Officer
PRESENTER(S):	Brian Reeves, Associate Chief Financial Officer
	Monica Howe, Fares Director

TITLE:

Fare Rate Analysis

AGENDA ITEM TYPE:
Discussion

RECOMMENDATION:
Informational report for discussion

BACKGROUND:
The Utah Transit Authority (UTA) fare structure has remained unchanged since April 2013, with a base fare of $2.50 for local bus, TRAX, BRT, and streetcar services. Express bus and ski routes are currently priced at $5.00 per one-way trip, while FrontRunner commuter rail fares begin at $2.50 with additional charges for additional stops. These fare levels remained unchanged for more than a decade, despite significant changes in economic conditions and practices among peer agencies.

Governance of fare rates is established under the Utah Public Transit District Act and UTA Board Policy 4.1 which, as of 2025, require board approval and consultation with the Local Advisory Council for setting fares. Resolution R2024-08-01 established the current fare rate and fare media types approved by the board. Any adjustments to the fare rate must include financial analysis, fare elasticity studies, and public input before implementation.

DISCUSSION:
This discussion will provide a comprehensive review of the Fare Rate Analysis including:

- Governance of fare rates

- Elements of UTA fare rates
- Peer agencies comparison group
- Fare change recommendation

ALTERNATIVES:
N/A

FISCAL IMPACT:
N/A

ATTACHMENTS:
None

669 West 200 South
Salt Lake City, UT 84101

Utah Transit Authority

MEETING MEMO

Board of Trustees **Date:** 1/14/2026

TO:	Board of Trustees
THROUGH:	Jay Fox, Executive Director
FROM:	Jon Larsen, Chief Capital Services Officer
PRESENTER(S):	Patti Garver, Manager of Environmental Compliance & Sustainability Sarah Ross, Environmental Stewardship Sustainability Specialist

TITLE:

2024 Sustainability Report and Sustainability Plan

AGENDA ITEM TYPE:
Discussion

RECOMMENDATION:
Informational report for discussion.

BACKGROUND:
From early 2024 to mid-2025, UTA conducted and completed a sustainability audit of the agency to quantify 2023 greenhouse gas (GHG) emissions and footprint, to quantify water use and footprint, to evaluate waste and recycling, and to compare UTA's practices to peer agencies. The 2023 quantities serve as the base year from which we are reducing our carbon footprint and water use and demonstrating improved recycling. More recently, UTA completed a sustainability plan to implement recommendations made in the sustainability audit.

DISCUSSION:
Sustainability Audit

The audit found that UTA has many ways of storing and accessing data - some is tracked and stored manually, other data is automated. Streamlining environmental data into one system can increase processing speed and improve data quality & transparency.

The audit recommended the following:

- UTA should consolidate and automate GHG, water, and waste data collection into one platform for realtime visibility and reduce manual invoice tracking.

- UTA should foster supplier engagement through sustainability questionnaires and performance metrics.
- Integrate with procurement, asset management, and sustainability tracking.

The audit recommended setting goals for the following:

- Energy consumption and procurement
- Water conservation
- Waste reduction

<u>Sustainability Plan</u>

UTA has completed a sustainability plan to incorporate the recommendations of the sustainability audit. Implementation of the recommendations includes more near-term goals for 2030 and longer-term goals for 2050.

<u>2024 Sustainability Annual Report</u>

One of the agency goals is to reduce UTA's carbon footprint by 30% by 2030. We compared our 2023 base year emissions to the 2024 emissions to track our progress. We also tracked emissions per passenger mile traveled to demonstrate how we are reducing emissions on a per-person basis. In addition to carbon footprint, our annual report includes total water use, energy use efficiency, and total ridership.

<u>2025 Sustainability Implementation Activities</u>

As the sustainability audit and plan were being finalized, sustainability priorities for UTA in 2025 have focused on the following initiatives:

- Warm Springs energy efficiency
- New recycling program at FLHQ
- Reducing water consumption at facilities through system & irrigation improvements and landscaping changes

---

ALTERNATIVES:
N/A

FISCAL IMPACT:
Sustainability funding is included in the 5-year Capital Budget

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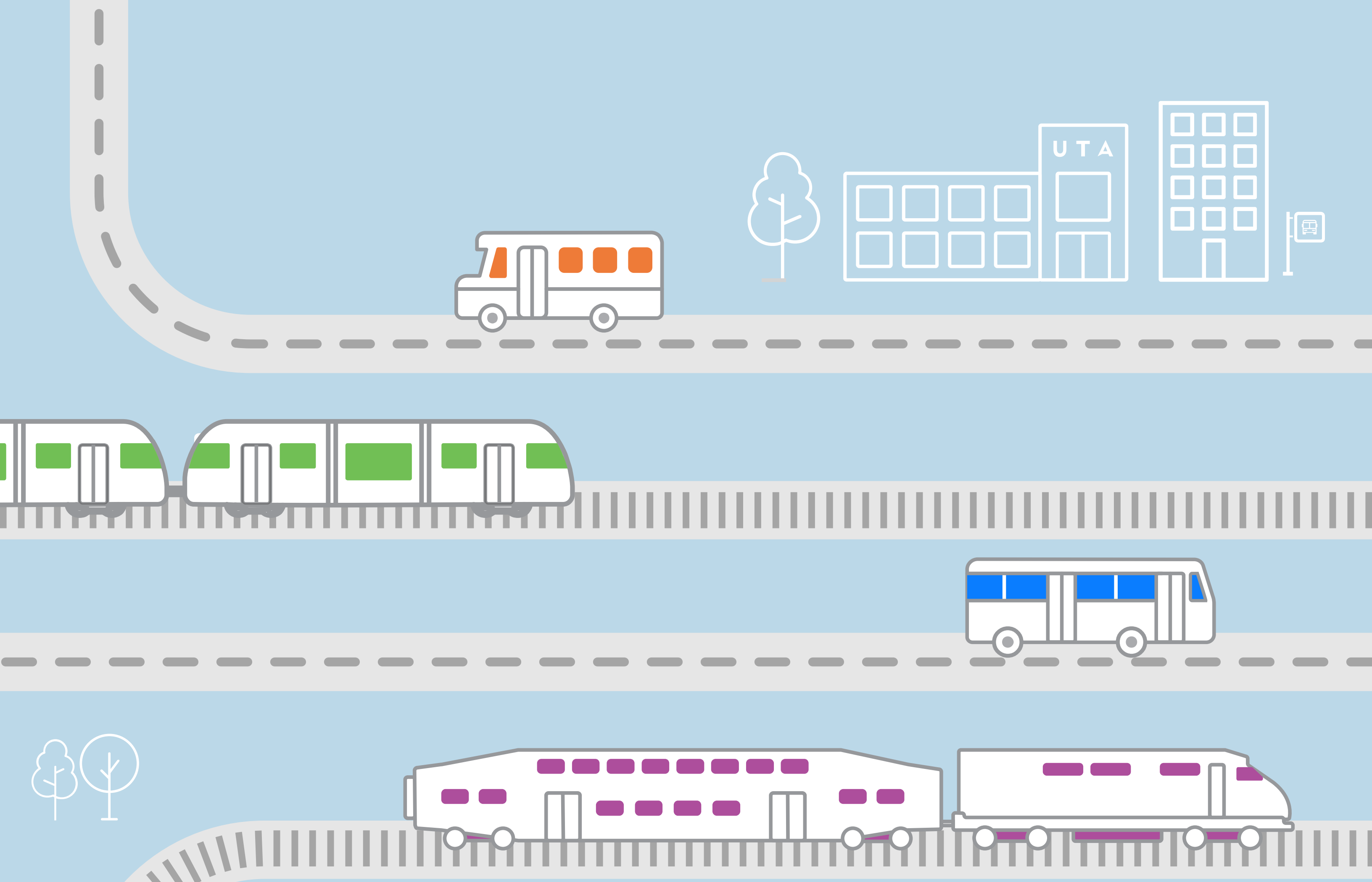
ATTACHMENTS:

UTA Sustainability Audit

UTA Sustainability Plan

2024 Sustainability Report

UTA



UTA Sustainability Audit Final Report

July 2025

Sustainability Audit Final Report

Client Name:	Utah Transit Authority		
Project Name:	UTA: Sustainability Audit		
Document No:	250311055716_9fc84e52	**Project No:**	UTASA001
Version:	Draft	**Project Manager:**	**Moha Parikh,**Veronika Vazhnik
Date:	July 2025	**Prepared By:**	Jacobs Team
File Name:	UTA Sustainability Audit Final Report		

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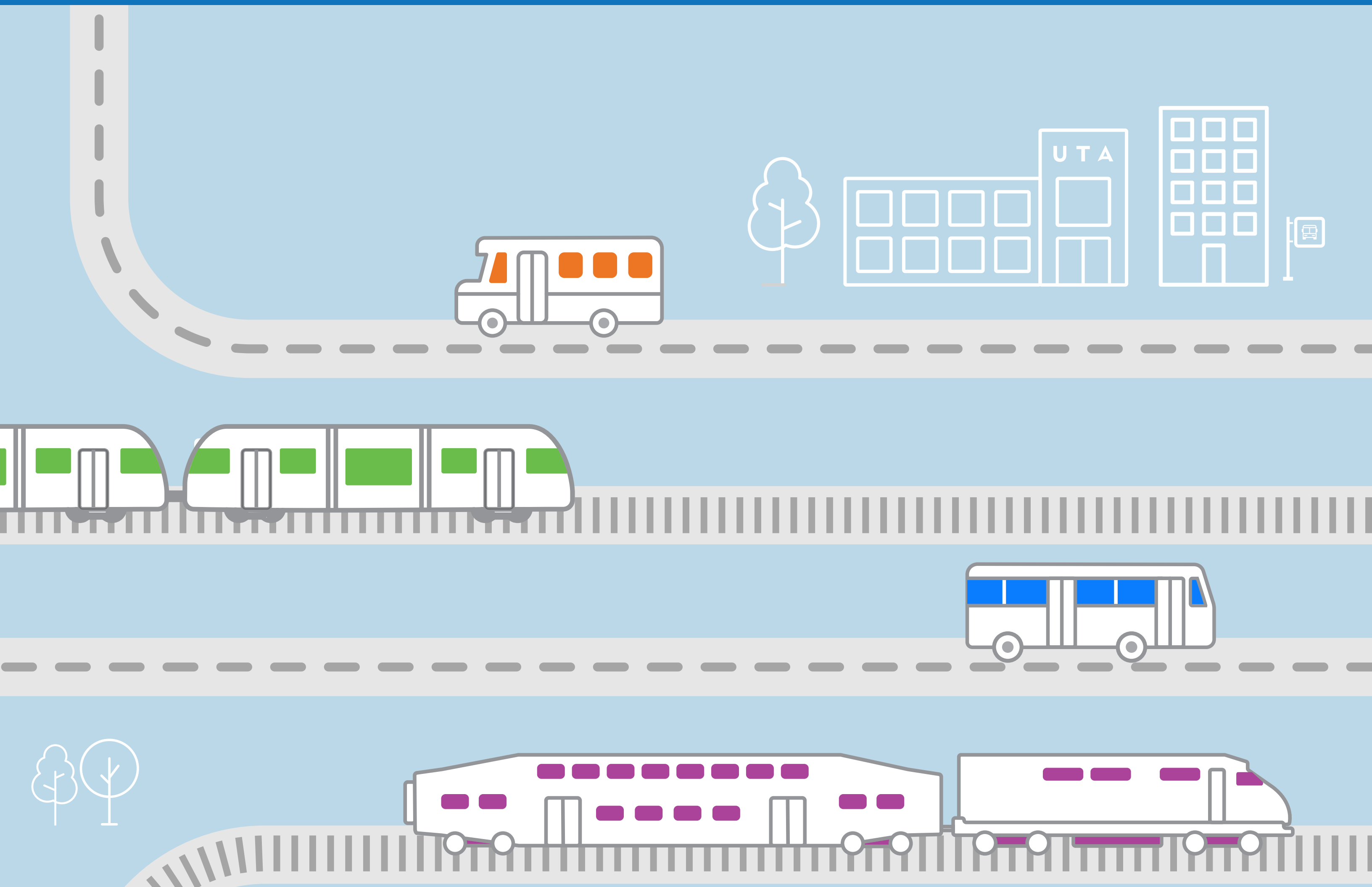


UTA Sustainability Audit

EXECUTIVE SUMMARY

Value That Sustainability Provides

UTA

WHY SUSTAINABILITY MATTERS: STRATEGIC VALUE FOR UTA

Supports UTA's 2020-2030 strategy:
Enhances quality of life, builds community support, drives economic returns, etc.

Builds stakeholder confidence:
Demonstrates leadership to the board, customers, and Salt Lake Valley communities

Paves way for funding and grants:
Strong metrics can unlock additional state and federal investment opportunities

GOAL
Moving Utahns to a Better Quality of Life

- FEWER EMISSIONS AND POLLUTANTS
- REDUCED BURDEN ON RESPIRATORY HEALTH

OBJECTIVE
Cleaner air, healthier communities

- MORE RESILIENT WATER SUPPLY
- FUTURE-PROOFING FOR DROUGHT-PRONE REGIONS

OBJECTIVE
Less waste, cleaner neighborhoods

- STANDARDIZED BIN INFRASTRUCTURE, HIGHER RECYCLING RATES
- REDUCED LANDFILL BURDEN, STRONGER LOCAL RESOURCE RECOVERY

OBJECTIVE
Safeguarding water resources

GOAL
Achieve Organizational Excellence

- BUILDS PUBLIC TRUST IN UTA AS A SUSTAINABILITY CHAMPION
- DEMONSTRATES UTA'S PROACTIVE STEWARDSHIP OF NATURE AND RESOURCES

OBJECTIVE
Leading by example

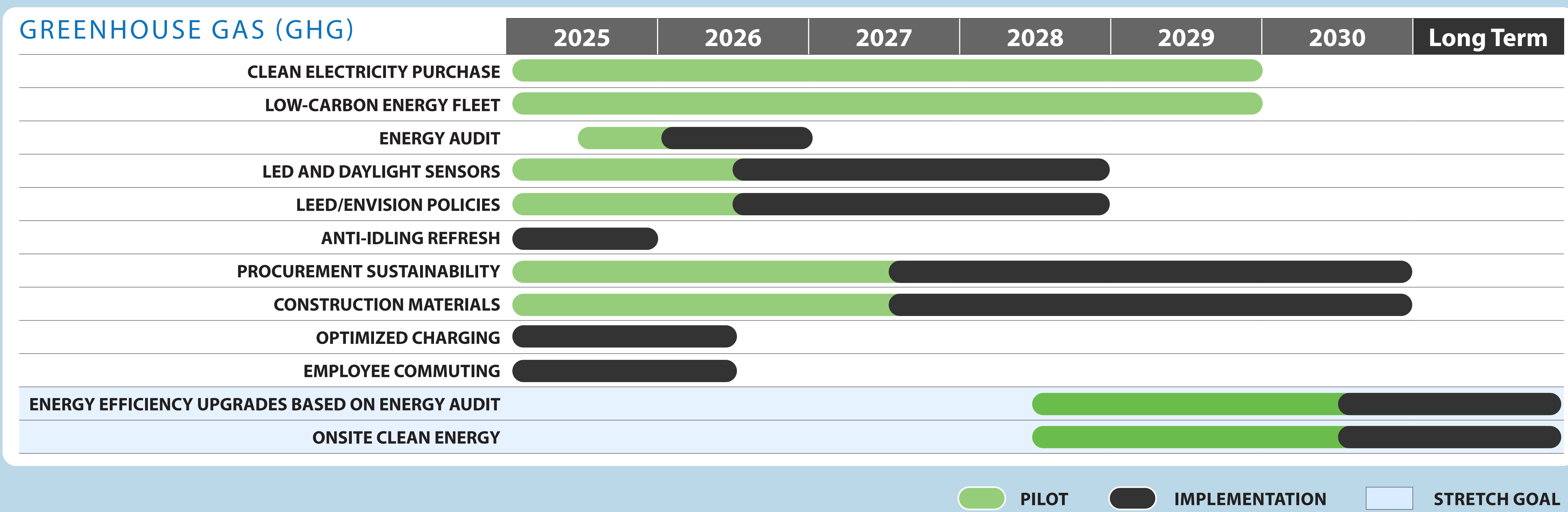
GOAL
Build Community Support

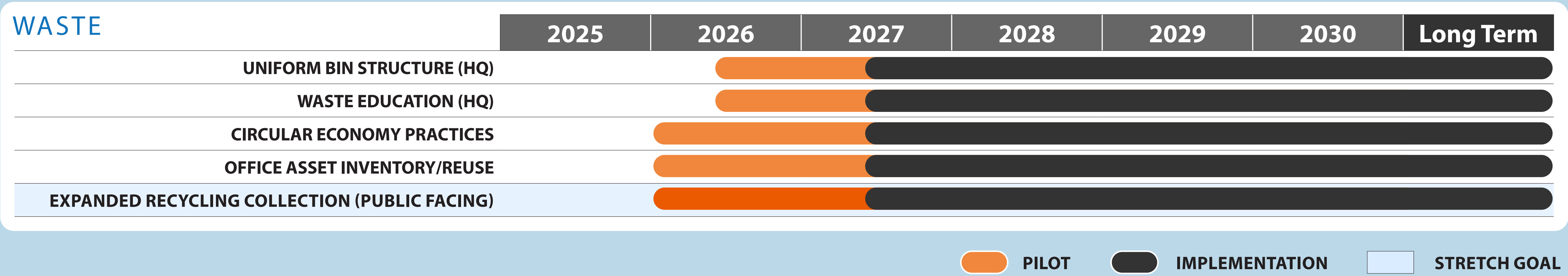
- AUTOMATED DATA COLLECTION IMPROVES DATA QUALITY AND COMPLETENESS
- ALLOWS UTA TO PROVIDE USEFUL INFORMATION TO THE COMMUNITY

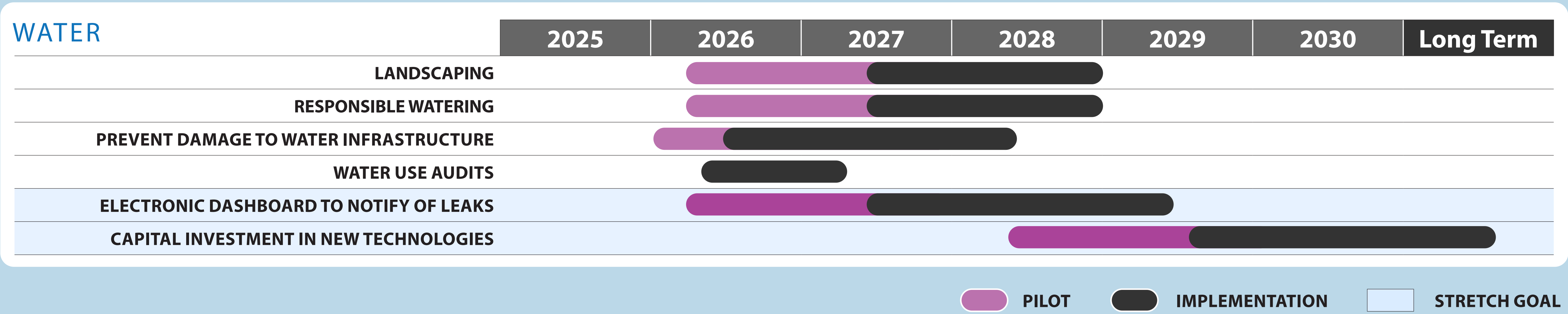
OBJECTIVE
Engaging the community in UTA's sustainability journey by providing more accurate information about successes and opportunities

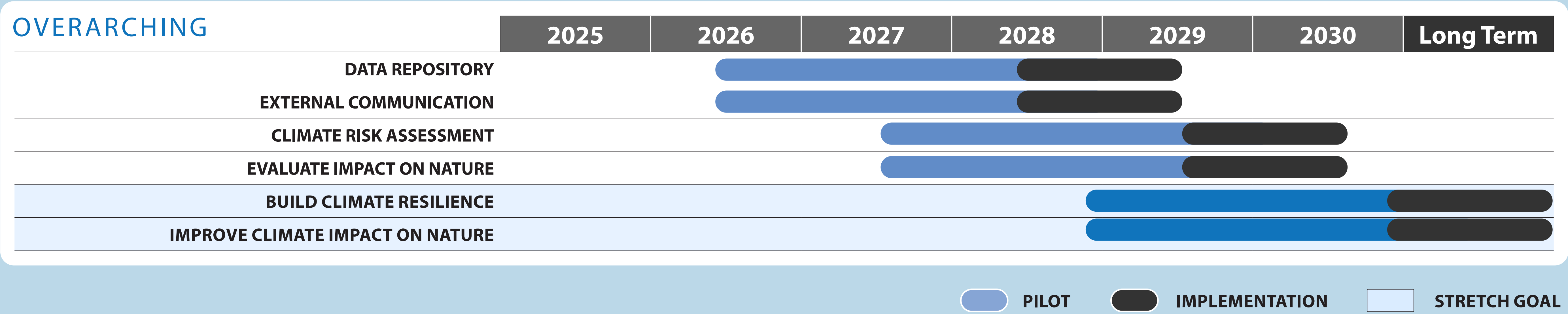
The identified goals focus on realistic, near-to-mid-term initiatives that align with current organizational priorities but move UTA beyond current business-as-usual. Additional Stretch Goals represent a suite of high-impact, often more ambitious measures that can significantly accelerate UTA's progress. Together, these goals provide a balanced and transformative roadmap for UTA's sustainability journey.

Below are the sustainability actions Jacobs identified, that can support UTA's progress toward sustainability leadership.







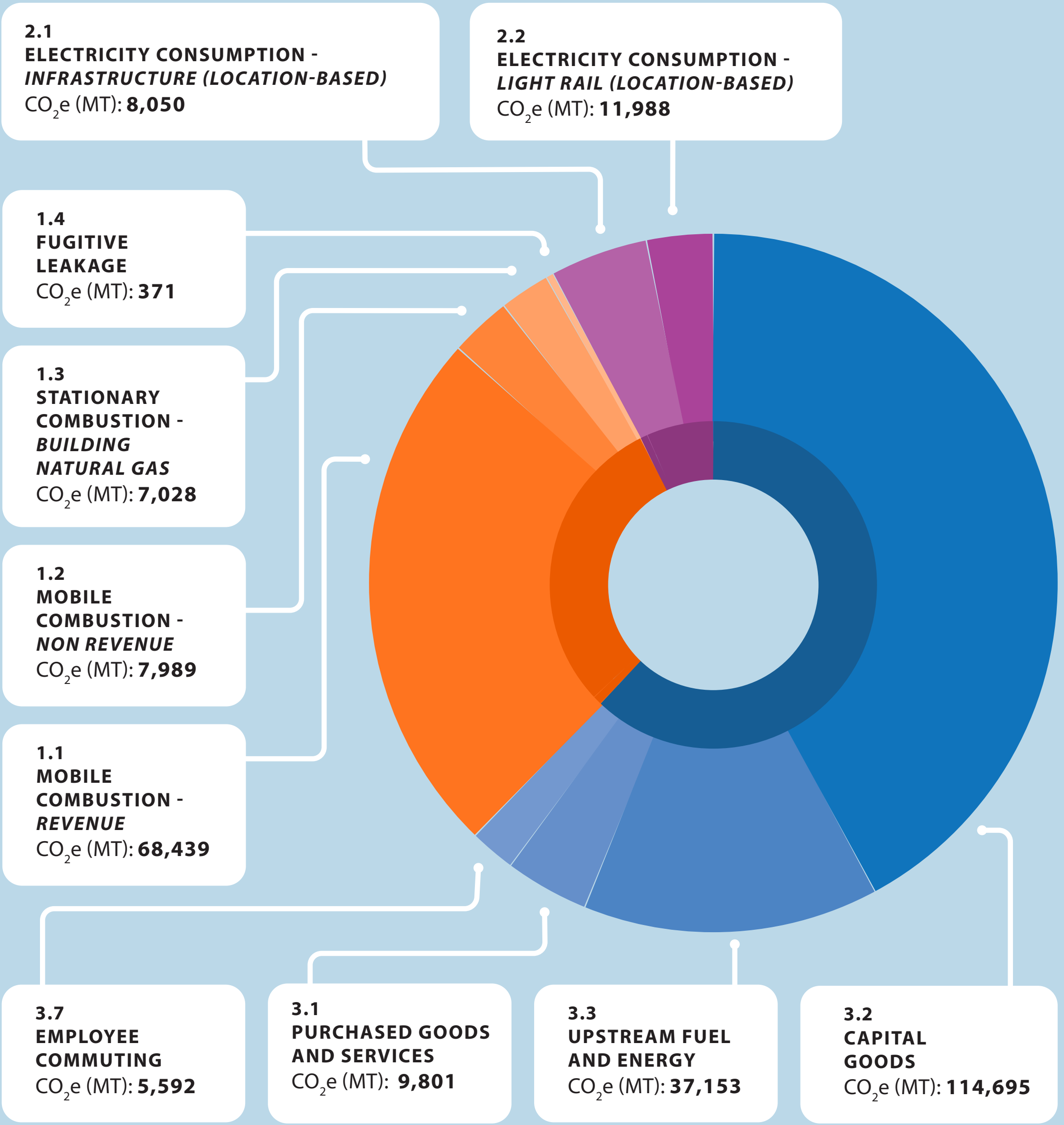


NOTE: Headquarters (HQ)

GREENHOUSE GAS

FINDINGS

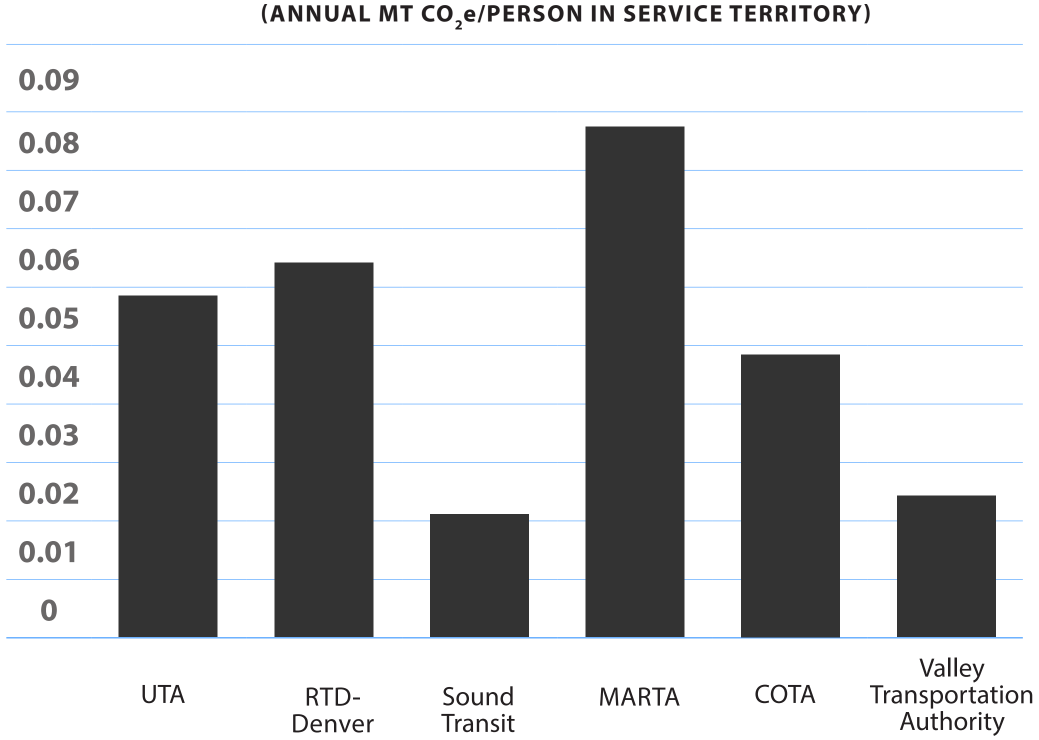
- Total **Scopes 1 and 2 footprint** for 2023 was 103,866 metric tons (MT) of carbon dioxide emissions (CO_2e). If **Scope 3** emissions are included, the total footprint was **271,288** metric tons of CO_2e.
- **Fleet operations** account for 30% of total emissions, and **77% of Scopes 1 and 2** GHG emissions. These emissions include fuel use by buses, light rail, paratransit, and vanpools.
- **Buildings and facilities** show moderate energy use contributing to 6% of total emissions, and **15%** of **Scopes 1 and 2 emissions**, with opportunities for greater efficiency.
- Value chain (Scope 3) emissions are an emerging focus area.



SCOPE 1 TOTAL	
CO_2e (MT):	**83,828**
% of Total:	**31%**
SCOPE 2 TOTAL	
CO_2e (MT):	**20,038**
% of Total:	**7.4%**
SCOPE 3 TOTAL	
CO_2e (MT):	**167,621**
% of Total:	**62%**
GHG TOTAL	
CO_2e (MT):	**271,288**
% of Total:	**100%**

PEER COMPARISON

GHGS/PERSON
(ANNUAL MT CO_2e/PERSON IN SERVICE TERRITORY)



POTENTIAL ACTIONS

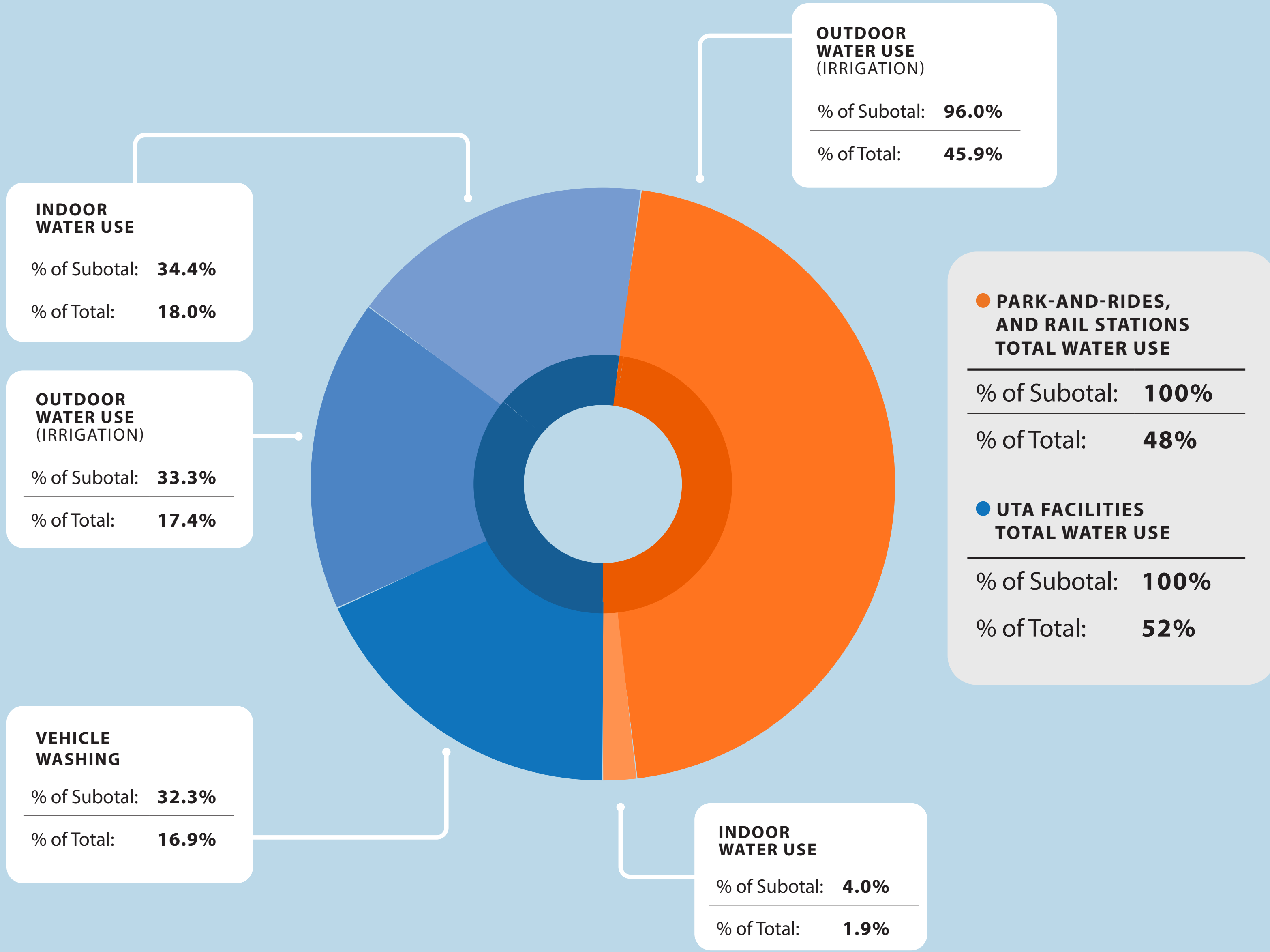
- Transition revenue fleet to **low-/zero-emission options** (electric, hydrogen, renewable or biodiesel)
- Purchase **zero-carbon electricity** (e.g., through Subscriber Solar program)
- Consider Power Purchase Agreements (PPAs); explore onsite generation where feasible
- Refresh and enforce **anti-idling policy**; optimize bus charging strategies
- Apply **LEED/Envision principles** in new builds and renovations
- Conduct **energy audits** and carry out energy efficiency updates
- Establish **procurement sustainability and emissions requirements,** including for construction materials

NOTE: Regional Transportation District (RTD-Denver); The Metropolitan Atlanta Rapid Transit Authority (MARTA); Central Ohio Transit Authority (COTA)

WATER FOOTPRINT

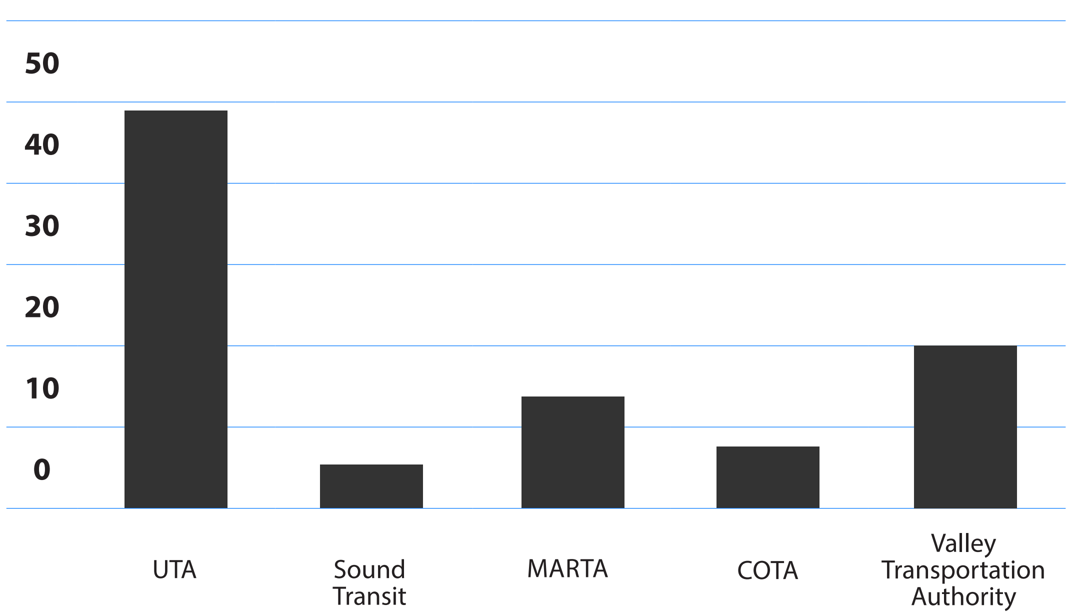
FINDINGS

- Total water use by UTA in 2023 was **78 million gallons**.
- **Irrigation water use constitutes 63%** of UTA's water use and is an opportunity for immediate reductions.
- Annual water loss from infrastructure damage can exceed 1 million gallon and **protective barriers** can prevent the inefficiency.



PEER COMPARISON

ANNUAL WATER USE PER PERSON
(GALLON/PERSON IN SERVICE AREA)



POTENTIAL ACTIONS

- Update to **drought-resistant landscaping**
- Upgrade **irrigation hardware** (e.g., efficient sprinkler heads, timed watering)
- Adopt **responsible watering** approaches and software
- Add **protective barriers** to reduce vehicle collisions with water lines
- Install **real-time dashboards** to spot water leaks early
- Conduct **facility-level water use audits**; target high-consumption sites first
- **Reuse water** in vehicle washing (e.g., reverse osmosis systems)

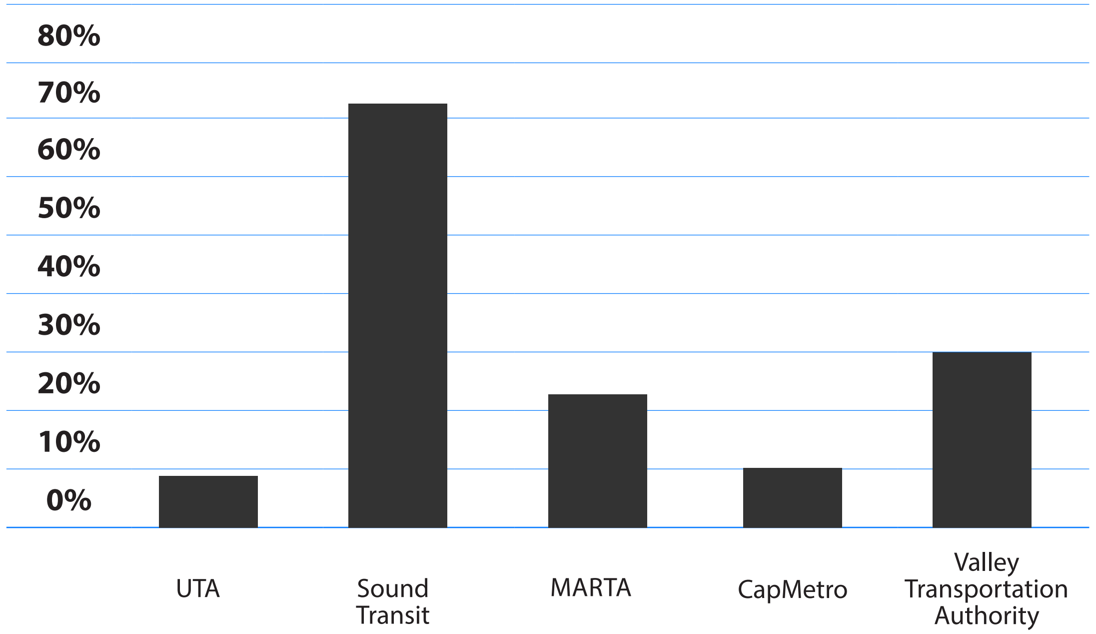
WASTE MANAGEMENT

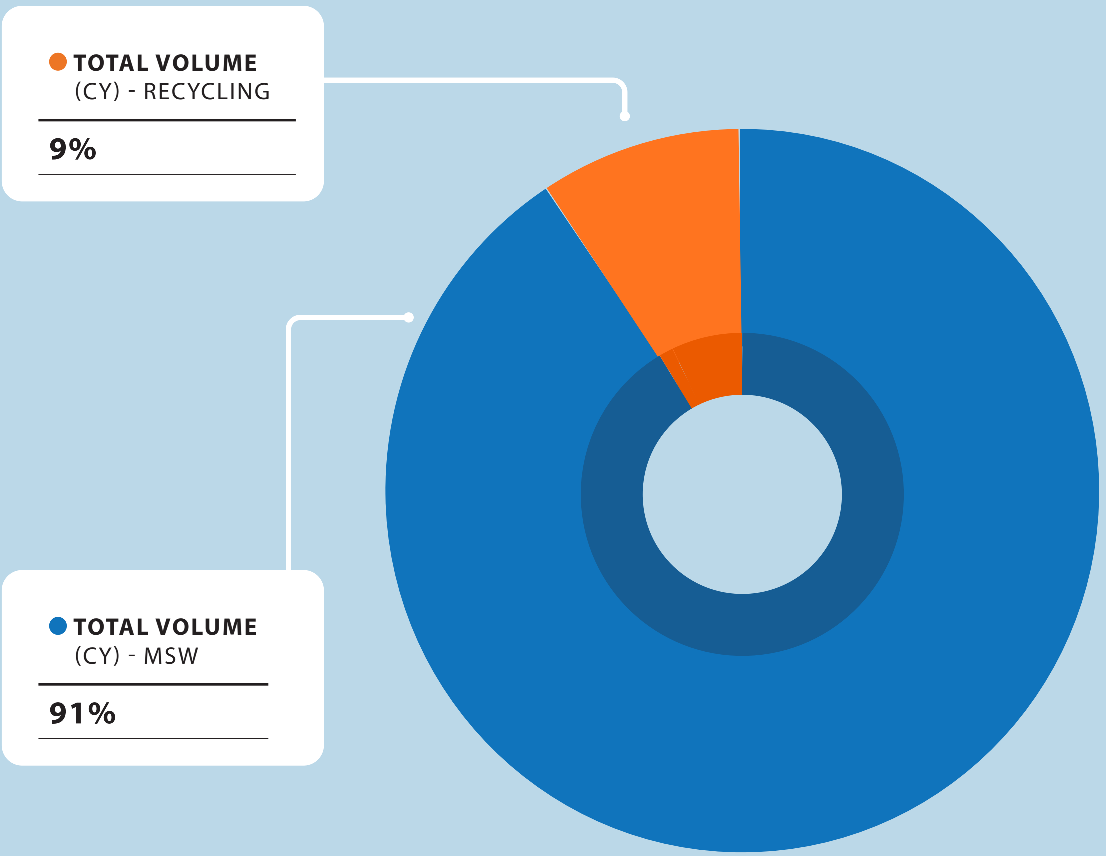
FINDINGS

- Currently there are limited data on waste management, and **quantifying garage waste diversion can help refine the total volume** of landfilled, recycled, and reused waste.
- Current data show that **91% of materials is landfilled**, with a monthly average of 640 cubic yards (CY) of waste and 63 cubic yards sent for recycling.
- The **trash and recycling bin colors and design are inconsistent**, leading to user confusion.

PEER COMPARISON

ANNUAL WASTE DIVERSION RATE
(GALLON/PERSON IN SERVICE AREA)





MSW VERSUS RECYCLING SERVICE LEVELS

TOTAL VOLUME (CY) - MSW	91%
TOTAL VOLUME (CY) - RECYCLING	9%

POTENTIAL ACTIONS

- Introduce **uniform, color-coded bins in offices, garages**, and pilot public-facing sites
- **Train staff and janitorial teams to reduce contamination** and increase diversion rates
- Implement a **waste tracking dashboard** (in garages and offices) to identify and address hot spots
- Encourage **deconstruction over demolition** to salvage and reuse materials
- Establish an **office equipment inventory tool** for efficient reuse

NOTE: Municipal Solid Waste (MSW)

DATA ARCHITECTURE

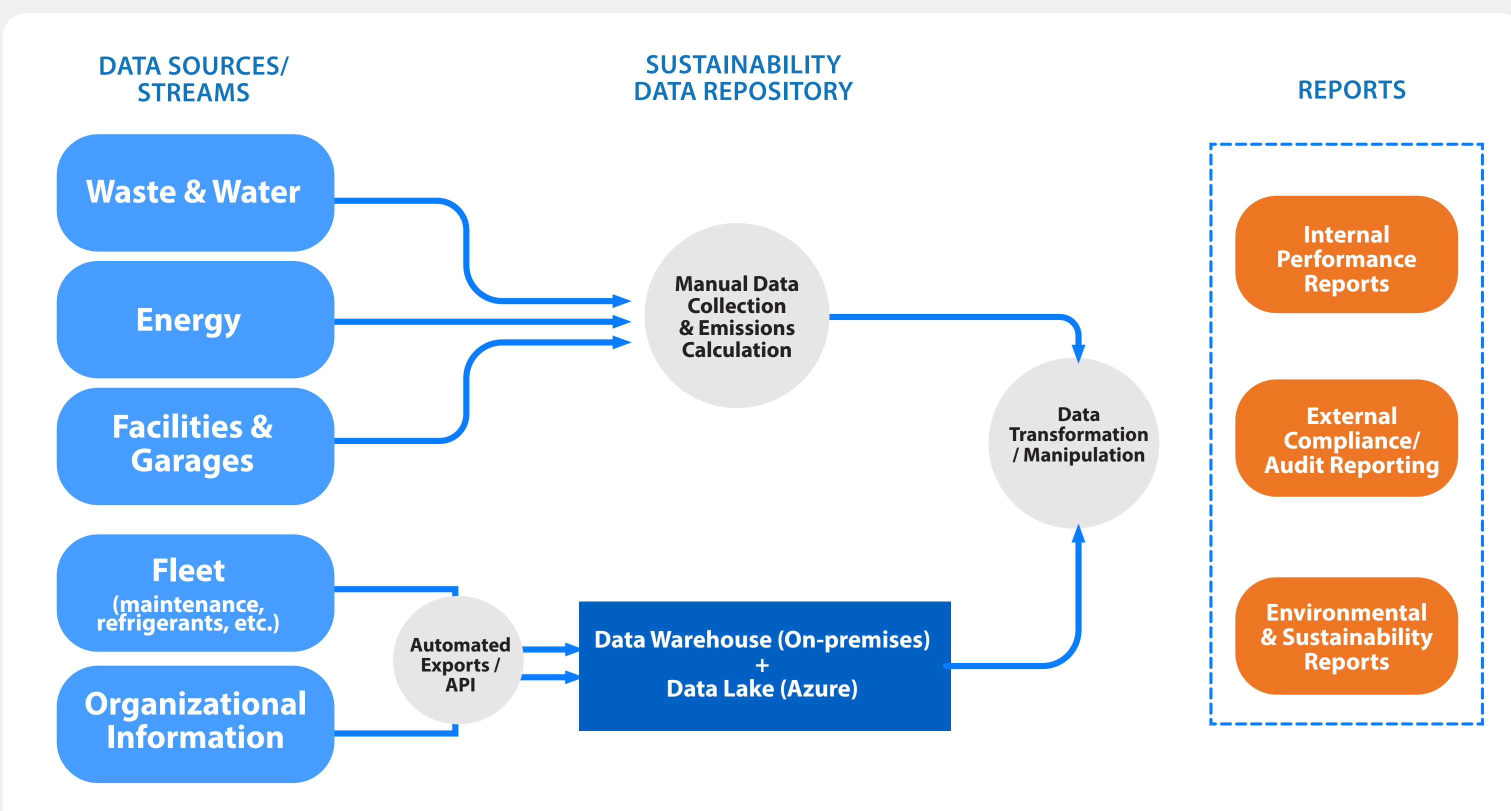
KEY FINDINGS

- Data **storage and access uses a variety of systems and approaches**: some are collected and stored manually, other systems are automated. **Streamlining** environmental data into one system **can increase data processing speed and improve data quality** and transparency.

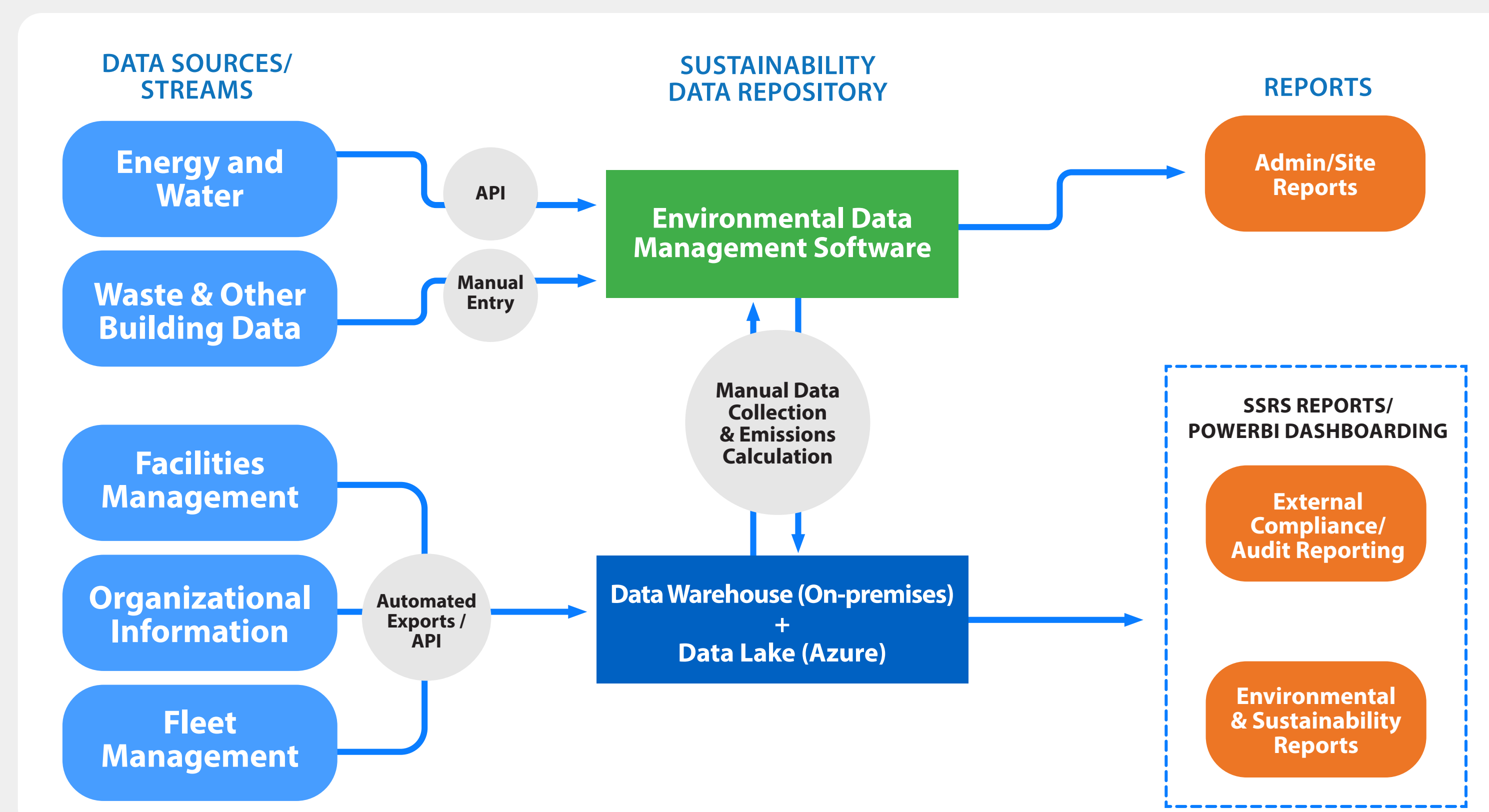
POTENTIAL ACTIONS

- **Consolidate and automate** GHG, water, and waste **data collection** into one platform for real-time visibility; reduce manual invoice tracking
- Foster **supplier engagement** through sustainability questionnaires and performance metrics
- **Integrate with procurement**, asset management, and sustainability tracking

CURRENT SUSTAINABILITY DATA ARCHITECTURE



FUTURE SUSTAINABILITY DATA ARCHITECTURE



NOTE: Application Programming Interface (API)

Next Steps and Future Vision

UTA

Elevate UTA's long-term vision:

In 2034, when the world's eyes turn to the Wasatch Front for the Winter Olympics, what do you want them to see?

- What about in 2040?
- And 2050?

Set bold targets:

What are UTA's goals for

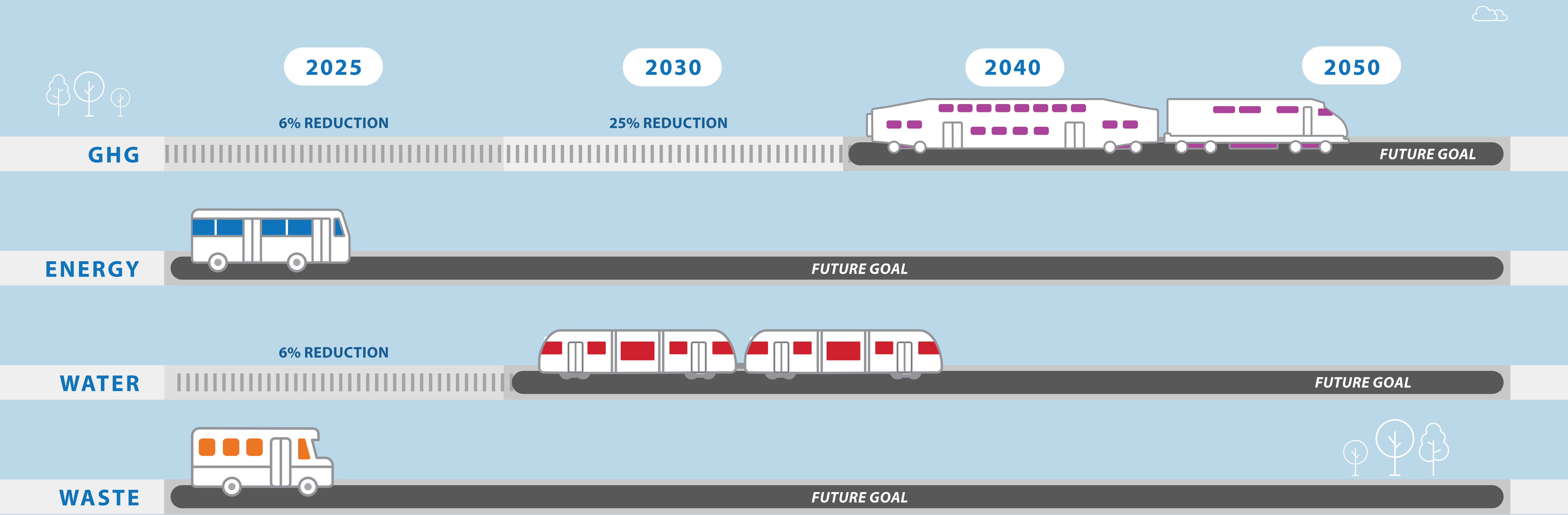
- Energy consumption and procurement
- Water conservation
- Waste reduction

Account for future growth:

UTA will continue to expand to meet population needs. Today's ambitious 2030 goals might not suffice if the system grows linearly. How can UTA plan for scalability?

Influence supply chain:

How can UTA harness its potential to influence the value chain, including suppliers and riders? What partnerships can help engage the broader region in sustainable transit?



Contents

Appendices

Tables

Figures

Abbreviations and Acronyms

Abbreviation	Definition
AI	artificial intelligence
API	Application Programming Interface
APTA	American Public Transportation Association
BCA	benefit-cost analysis
BENEFIT	Building Energy Efficiency Frontiers & Innovation Technologies
BRIC	Building Resilient Infrastructure and Communities
CAP	Capital Metro
CH_4	methane
CIG	capital investment grant
CIP	capital improvement project
CMAQ	Congestion Mitigation and Air Quality
CNG	compressed natural gas
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
COTA	Central Ohio Transit Authority
C-SITE	Communities Sparking Investments in Transformative Energy
DBE	Disadvantaged Business Enterprise
DEQ	Department of Environmental Quality
DOE	U.S. Department of Energy
EDA	U.S. Economic Development Administration
EDI	equity, diversity, and inclusion
EMS	Environmental Management System
EPA	U.S. Environmental Protection Agency

Abbreviation	Definition
ESG	environmental, social, and governance
ETOD	Equitable Transit-Oriented Development
FEMA	Federal Emergency Management Agency
FTA	Federal Transit Administration
FY	fiscal year
GHG	greenhouse gas
GWP	global warming potential
H&S	health and safety
HFC	hydrofluorocarbon
HVAC	heating, ventilation, and air conditioning
IEA	International Energy Agency
IIJA	Infrastructure Investment and Jobs Act
IMP	Inventory Management Plan
IPCS	Integrated Project Control Systems
IRA	Inflation Reduction Act
ITS	Intelligent Transportation System
KPI	key performance indicator
kWh	kilowatt hours
LED	light-emitting diode
LEED	Leadership in Energy and Environmental Design
Lo-No	Low or No Emission Grant Program
MAG	Mountainland Association of Governments
MARTA	Metropolitan Atlanta Rapid Transit Authority
MPO	metropolitan planning organization
MT	metric ton

Abbreviation	Definition
MWh	megawatt-hour(s)
N_2O	nitrous oxide
NA	not applicable
NCMM	National Center for Mobility Management
NOFO	Notice of Funding Opportunity
ORD	Office of Research and Development
PFC	perfluorocarbon
PWEAA	Public Works and Economic Adjustment Assistance
QA	quality assurance
QC	quality control
REC	Renewable Energy Certificate
RTD	Regional Transportation District
SWIFR	Solid Waste Infrastructure for Recycling
TCP	Thriving Communities Program
TCR	The Climate Registry
TIFIA	Transportation Infrastructure Finance and Innovation Act
TM	technical memorandum
TOC	transit-oriented community
TOD	transit-oriented development
UDOT	Utah Department of Transportation
UITP	Union Internationale des Transports Publics
USDOT	U.S. Department of Transportation
UTA	Utah Transit Authority
VMT	vehicle miles traveled
VRF	variable refrigerant flow

Abbreviation	Definition
VRM	vehicle revenue mile(s)
VTA	Valley Transportation Authority
WFRC	Wasatch Front Regional Council
WRI	World Resources Institute
WSU	Weber State University
yd^3	cubic yard(s)

1. Data Collection and Structure

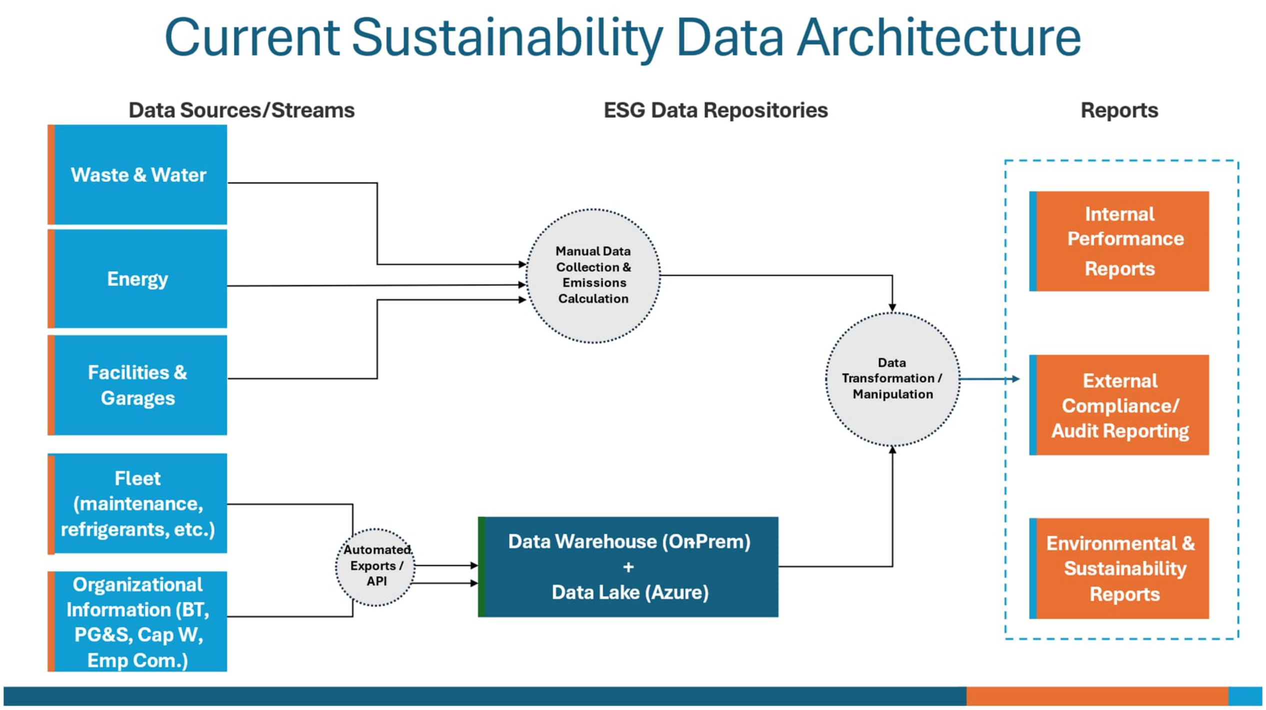
1.1 Introduction

As part of the Sustainability Audit study, Jacobs has developed a data review memo that summarizes the information provided by Utah Transit Authority (UTA) for accurate and complete greenhouse gas (GHG), water, and waste footprints. This assessment includes the evaluation of UTA's current data collection process and existing practices, the current state of data available, and identification of data gaps. Furthermore, Jacobs reviewed other sustainability-related policies and procedures common within the organization.

1.2 Data Collection

To collect and review data, Jacobs submitted a detailed Request for Information to Edison Pascascio, UTA's data warehousing manager, and additional data owners (for example, Catherine Bhaskar – UTA's Senior Financial Modeling Analyst - to access financial data, and Gregg Larsen – UTA's Manager of Grant Services – to access grants data). Data requests were supplemented by additional input from Daniel Locke, UTA's Facilities Utilities and Project Administrator. Table 1-1 provides the complete data request and notes on the data received. Following our review of the original data request, Jacobs obtained additional data directly from data owners or the corresponding departments to supplement data accessible through Data Warehousing. Figure 1-1 illustrates the types of data collected in the centralized database (for example, fleet operations information or people management data) compared to other types of data that are maintained across departments and had to be requested from data owners (for example, any data from facilities, including water and energy data). Some data requested, including waste volume or weight data, was not collected or aggregated. Currently, a variety of data are tracked and recorded but different departments and parts of the organization use different systems and approaches to access data, contributing to complexity of data ownership. Pursuing dedicated environmental data management software may help simplify data tracking and collection in the future.

Figure 1-1. Data Architecture Based on Current Data Flows



The following sections describe in depth the types of data provided, data gaps, and recommendations for future data collection and quality.

Table 1-1. Data Request Details and Data Availability

Category	Subcategory	Data Details	Data Availability
Organizational documents	Management policies	Existing resource management (energy, refrigerants, water, waste and recycling, land) policies if available	Available and provided
	Targets and goals	Existing energy, waste, water reduction goals and plans	Available and provided
	Organizational leaders	UTA employees that hold responsibility for sustainability performance (energy, water, GHG, waste, suppliers/procurement). List of staff responsible for the day-to-day resource management (waste management, energy management, water management)	Available and provided
	Existing educational or training materials	Posters, flyers, pictures of signage, training manuals or any other documentation used to guide campus occupants and contractors resource management	Partial availability
	Capital spending plans	Plans for major capital projects scheduled for the next 10 to 15 years	Partial availability
	Land	Land used for transit agency use (current and planned)	Partial availability
	Passenger	Average passengers by vehicle service type	Not provided, but available from public documents
	Ridership	Detailed and time-specific ridership by route, including fixed routes and on-demand services.	Not provided, but available from public documents
	Service hours	Total hours of service by vehicle service type	
	Vehicle miles	Total miles of service by vehicle service type (reported as passenger trip miles, revenue miles, dead service miles and other relevant metrics)	Available and provided
	Supplier requirements	Existing supplier policies	None available

Category		Subcategory	Data Details	Data Availability
GHG emissions	Previous Inventories	Existing GHG data	Previous GHG inventories and independent verification statements	Available and provided
	Fleet	Fleet fuels	Fuels use by fuel blend, vehicle service type, and vehicle ownership	Available and provided
		Fleet electricity	Electricity use for electric fleet	Available and provided
		Fleet purchases	Purchase logs for fleet with vehicle service type	Available and provided
		Fleet refrigerants	Quantity of refrigerant purchased and added to equipment, by type, or HVAC contractor service logs	Not provided
		Fleet transition	Fleet transition plan (planned timing and rate of electrification)	Partial availability
		Leased fleet fuel use	For leased paratransit vehicles, fuel use and maintenance logs is available	Available and provided
	Facilities (including garages, offices, stations)	Facilities inventory	List of buildings with types of use, ownership or lease status of the building, square footage, key equipment inventory (for example, types of generators or HVAC)	Available and provided
		Facilities natural gas	Natural gas use by facility	Available and provided
		Other fuels	Other fuel use by fuel type and facility (for example, diesel in generators, propane, acetylene for welding, fuel for heavy machinery used for railroad track maintenance)	Not provided
		Building refrigerants	Quantity of refrigerant purchased and added to equipment by type or HVAC contractor service logs	Not provided
		Building electricity	Electricity use by facility	Available and provided
		Renewable energy	Report participation in any renewable/green power programs; electricity generated onsite if applicable	None available

Category		Subcategory	Data Details	Data Availability
GHG emissions (continued)	Organization	Employee commute	Average employee commute distance, annual commute days, mode(s) of travel, average fuel economy for passenger vehicles, and number of the employees	Partial availability
		Solid waste disposal	Short tons of mixed solid waste disposal and destination landfill.	Partial availability
		Business travel	Passenger miles or dollars spent on air travel.	Available and provided
		Purchased goods and services	UTA-wide accounting on purchases (total dollar spend)	Available and provided
		Capital works	Dollars spent during inventory year on construction projects and contractor services (materials, services, and equipment), weight or volume of material use (such as yards of concrete, tons of ACP), contractor fuel use and type	Partial availability
Waste		Waste contracts and facility locations	List of what companies or contractors handle each type of solid waste (trash, recycling, organics/compost, special waste), documents or contracts that describe how solid waste (trash, recycling, compost) are collected and where material is taken and via what method (truck, train, barge)	Not provided
		Waste Invoices or other monthly tracking	Monthly invoices or other monthly tracking describing how much waste (preferably in tons) is being collected, what types (trash, recycling, organics/compost), and where it is going (picked up by a hauler, brought to a specific facility, other)	Partial availability
		Monthly waste and recycling quantities	Monthly data showing the quantity of waste and recycling and yard debris/green waste/organics (if applicable), along with types of waste if available (for example, paper, wood, pallets, yard waste, food waste, cardboard, cans and bottles, e-waste, glass, and metals)	None available
		Waste infrastructure maps	Maps showing locations of waste equipment (compactors, bailers, dumpster)	None available

Category	Subcategory	Data Details	Data Availability
Waste (continued)	Waste, recycling, compost, and disposal locations and hazard assessment	Reports, surveys, or plans that discuss climate hazards/risks associated with the waste and recycling infrastructure that manages waste (including any information on vehicle and parts handling at the end of useful life)	Partial availability
	Railroad waste	Amounts of waste that may be generated through railroad maintenance process,	None available
Water	Water usage	Monthly water utility bills by location and water use by activity type if available (in landscaping, office use, fleet wash, railroad tracks if applicable).	Partial availability
Grants	Sustainability grants	List of grants recently applied for, in particular any Lo-No, electrification or other sustainability grants	Available and provided

HVAC = heating, ventilation, and air conditioning
Lo-No = Low- or No-Emission Grant Program

1.3 Summary of Provided Information

This section summarizes the data that has been received across the organization. Information listed in bold text will be used for sustainability data calculations and was therefore also reviewed for data quality.

1.3.1 Greenhouse Gas Data

The following lists the specific information collected from across the organization:

- Organizational information
  - List of UTA contacts and data owners
  - List of UTA sustainability leaders, both through sustainability policy and stakeholder lists
  - Fiscal year (FY) 2024 Fleet Management Plan, which details the existing service system, recent and future projects, and planned fleet replacement.
  - FY 2024 Zero Emissions Plan, which complies with the Federal Transportation Administration's requirements for grant applications and integrates with the long-term fleet management plan
  - UTA 2030 Strategic Goals
  - Route/Service information: 2019 UTA Onboard Survey (April 30, 2020), which provides a comprehensive overview of travel patterns
  - Grant applications: A detailed spreadsheet export (from the Integrated Project Control Systems [IPCS]) of all UTA grant application names, project codes, required matches, and funding amounts and previous grant applications documents, including Beehive Electric Bus and Microgrid and FY 2024 Low- or No-Emission Grant Program
  - Corporate policy documents, including Active Transportation, Environmental Protection, Vehicle Engine Idling, Battery Recycling, Title VI Compliance, Sustainability, and Capital Assets
  - Previous GHG emissions data, including 2015 Emissions Report and performance metrics, associated 2015 disclosure documents and verification report, total emissions calculations by year from 2008 to 2023, and 2008 inventory management plan (IMP; provided by Locke)
- Buildings/Infrastructure details
  - UTA facilities overview, which provides a list of all UTA facilities and their current condition score
  - 2023 property state of values
  - 2023 electricity use
    - Tracking spreadsheets prorated to the calendar year for fixed facilities, bus route infrastructure, commuter rail (non-propulsion support systems), light rail (non-propulsion support systems). The spreadsheet format was a template provided by The Climate Registry to calculate total annual usage, prorating utility bills that do not align with calendar year dates
  - Water use details
    - Consumption data for UTA facilities, park-and-rides, and rail stations. Water usage tracked through monthly meter readings. UTA facility square footage provided will help determine water intensity metrics

- Fleet details:
  - Fleet replacement details, which evaluate the cost of maintenance, fuel, and labor, versus the miles traveled by vehicle to understand cost per mile of vehicle maintenance
  - 2019 and 2023 Fueling Data tracking spreadsheet (provided by Locke)
    - Nonrevenue fuel use
      - Monthly gallons of diesel, gasoline, and compressed natural gas (CNG) consumed by facility and meter
    - Revenue fuel use
      - Electricity use tracking spreadsheet prorated to the calendar year for Light Rail Propulsion
      - Monthly gallons of fuel use by business unit or depot (Meadowbrook, Timpanogos, Ogden, Central, Riverside, and Commuter Rail)
      - Warm Springs fuel quantity dispensed by hose and vehicle type, including vehicle odometer reading at time of fueling
- Scope 3 Value Chain information
  - UTA finance details and high-level finances spreadsheets for 2019 to 2023
  - Calendar year 2019 and 2023 Vehicle Requisitions lists, which outline UTA's vehicle purchases
  - A detailed spreadsheet of UTA employee ridership on UTA transport modes between 2019 and 2023

1.3.2 Water Data

- Water usage 2023 tracking spreadsheet
  - Water use consumption data for UTA facilities, park-and-rides, and rail stations. The spreadsheet provides gallons of water used at each building/facility tracked through monthly meter readings. UTA facility square footage provided will help determine water intensity metrics. No differentiation was provided for types of water use (including bus or train washes)

Details on the average water discharged daily to the sewer system at one of the three Depot District discharge points where bus washing is performed. Insight on water discharged at the bus washing site will help to determine water recycling efforts.

1.3.3 Waste Data

- Waste hauler invoices
  - Invoices from 2023 were received from Republic Services for Municipal Solid Waste and Recycling across UTA facilities. The invoices included bin sizes and frequency of pickup. The information from the invoices was compiled in a summary spreadsheet that allows for some comparison between volume of material disposed of versus material recycled
  - Weights were provided in the waste invoices for roll-off containers that exceeded 1 ton at pick up.
- Recycling quantities
  - A partial (incomplete) list of recyclable materials collected at eight garage sites was provided along with the names of haulers for these materials. The types of materials reportedly recycled include:
    - Mixed metals
    - Copper

    - Tires
    - Antifreeze
    - Oil
    - Batteries
    - Batteries for buses
    - LED lighting
  - A log of recycled paper and cardboard quantities was provided for 2015 to 2024. Based on this information, approximately 45 tons of cardboard and 32 tons of paper were recycled during this period. It is unclear where these quantities were collected or how representative they are of recyclable collection across UTA facilities
- Site visit notes and photos
  - Notes and photos from the site visit documenting current waste management activities, including separation of recyclable materials using various bin types (Figure 1-2)

Figure 1-2. Example Images Collected During Site Visit of Current Waste Collection Practices

Used filters, office break room bins

1.4 Summary of Data Gaps

Following Jacobs' completeness review, data gaps (summarized in Table 1-2) were identified that could result in refinement of the calculation of a complete GHG inventory, water footprint, and waste audit.

Table 1-2. Summary of Key Data Gaps for Sustainability Metric Calculations

Data Category	Gap
Facility details	Lease, own, rent details, and UTA's operational role for each facility to define UTA's control of each activity or asset and determine completeness of the inventory boundary

Data Category	Gap
Fleet Details	▪ Revenue vehicles: Fuel and vehicle type associated with the quantity of gallons consumed at each facility each month. Annual miles traveled by vehicle type ▪ Nonrevenue vehicles: Equipment or vehicle type where fuel is consumed. Annual miles traveled or hours of operation by equipment or vehicle type (for example, generator runtime logs)
Refrigerant details	Type and quantity of refrigerant purchased or added to building systems and vehicles
Employee commuting	Number of employees that commute to work by mode of travel and frequency (in-office policy, annual office closures)
Water Details	▪ Specifics related to data collection procedures and access to water meters ▪ Specifics related to vehicle washing procedures ▪ More information on instances of "no meter" and "meter not in use" ▪ More information on instances of negative water use Estimated percentages of water used indoors, for washing vehicles, and irrigation
Waste details	▪ Detailed map of waste collection infrastructure, including placement of bins and balers across UTA Facilities ▪ Tonnage data for all materials disposed of, recycled, or reused ▪ Hauler contracts for waste and recycling services across UTA facilities ▪ Waste, recycling, compost, and disposal locations ▪ Documentation of employee policies or training related to solid waste management ▪ Waste characterization study information to identify materials disposed of that could be recycled or reused

1.5 Data Quality Improvement Recommendations

Current procedures allow for extensive data collection, but additional clear protocols and schedules for data collection, review, and analysis can support a streamlined process for ongoing tracking of sustainability data. Advanced data analysis software may be used to process and interpret data, identify trends, and monitor progress toward sustainability—but only after appropriate data are being tracked, stored, and collected accurately and efficiently. These platforms provide advanced capabilities for monitoring sustainability performance and key performance indicators in real time.

1.5.1 Data Quality Review

After reviewing the information provided for completeness, Jacobs reviewed the quality of the data needed to complete sustainability-related metric calculations. Tables 1-3 through 1-5 provide recommendations for improving data quality to streamline calculations and improve the accuracy of ongoing sustainability reporting. Data quality improvements may happen iteratively as new data tracking systems are implemented, beginning with the "better" data quality recommendations that may involve less effort to achieve before achieving the "best" data quality recommendations. Based on the data review, Jacobs recommends ensuring units are consistently tracked with quantitative inputs because calculations can be affected by incorrect units assumed or provided.

Table 1-3. Summary of Data Quality Improvement Recommendations – Greenhouse Gas

GHG Data				Recommendations for Improvement	
Emission Scopes	Emissions Activities	Emissions Source Description	Data Provided	Better	Best
Scopes 1 and 2: Operational	Vehicle Fleet	Fuel combustion	▪ Gallons of fuel consumed by facility for revenue fleets ▪ Gallons of fuel consumed by vehicle type at Warm Springs ▪ Total fuel use by fuel type at each facility for non-revenue use	▪ Annual fuel consumption quantities by specific vehicle, fuel type, and revenue or non-revenue indication ▪ Separate tracking of vehicle fuel use and other support equipment (or clear delineation of mobile vehicle fuel use versus stationary fuel use)	▪ Fuel purchase transaction tracking by vehicle, fuel type and odometer reading ▪ Separate fuel purchase tracking by equipment, fuel type and run-hour reading for support equipment
		Electricity Consumption	Monthly electricity use for light rail propulsion by facility	Clear indication and tracking of vehicle type and light rail vehicle miles traveled alongside electricity use	
		Refrigerant leakage from air-conditioner systems	None	Annual quantity of refrigerant purchased by type of refrigerant	Annual inventory of quantity of refrigerant purchases, additions to vehicles, recovery, or disposal by type of refrigerant
		Miles traveled by mode of transport	None	Annual odometer reading or annual miles traveled from each revenue and non-revenue vehicle	Coordinated tracking of annual fuel consumption and odometer readings or miles traveled

GHG Data				Recommendations for Improvement	
Emission Scopes	**Emissions Activities**	**Emissions Source Description**	**Data Provided**	**Better**	**Best**
Scopes 1 and 2: Operational (continued)	Facility Operations	Electricity Consumption	Tracking spreadsheet of monthly electricity use by facility and meter	Simplified electricity use tracking in a single spreadsheet or dashboard with automated QA/QC and clear indication of utility provider	
		Natural gas combustion	Tracking spreadsheet of monthly electricity use by facility	Simplified natural gas tracking in a single spreadsheet or dashboard with automated QA/QC	
		Other fuel combustion	None	Separate tracking of fuel use for stationary support equipment by type of equipment	Separate fuel purchase tracking by equipment, fuel type and run-hour reading for support equipment
		Refrigerant use	None	Annual quantity of refrigerant purchases by type of refrigerant	Annual inventory of quantity of refrigerant purchases, additions to vehicles, recovery, or disposal by type of refrigerant
Scope 3: Value Chain	Purchased goods and services	Embodied carbon associated with purchases of goods and services from tier 1, direct suppliers	Annual finance details, including a pivot table of spend by category	Centralized tracking of quantity of materials, goods or services purchased (number of items, volumes, mass)	Scopes 1 and 2 emissions from tier 1 suppliers

GHG Data				Recommendations for Improvement	
Emission Scopes	**Emissions Activities**	**Emissions Source Description**	**Data Provided**	**Better**	**Best**
Scope 3: Value Chain (continued)	Capital Goods	Embodied carbon associated with purchases of capital goods, like vehicles, facilities, or equipment	Annual high-level finances by spend category	▪ Centralized tracking of quantity of vehicles purchased by vehicle type ▪ Centralized tracking of construction project-related spend or budgets	Construction subcontractor Scopes 1 and 2 emissions or activity data
	Upstream fuel and energy	Well-to-tank emissions from natural gas, electricity, and other fuel use	Fuel use reports and monthly electricity calculation spreadsheets	Centralized tracking of all energy consumption (volumes, mass, energy) at UTA-controlled activities by fuel type and utility provider	
	Employee Transport	Air travel, hotel night stays, car rentals	Annual finance details, including a pivot table of spend by category	▪ Centralized tracking of number of hotel night stays, price per night, location ▪ Centralized tracking of travel distances (mileage) and mode of travel (trains, taxis)	▪ Scopes 1 and 2 emissions or customer-focused ▪ Scope 3 emissions from travel provider (hotel, airline)
		Employee travel to/from office locations	UTA ridership by employee	Survey of modes of travel, travel distances, and frequency of office/site visits per year, beyond UTA ridership	Centralized tracking of actual trips taken by mode of travel, distance, and fuel use

QA = quality assurance
QC = quality control

Table 1-4. Summary of Data Quality Improvement Recommendations - Water

Water Data				Recommendations for Improvement	
Water Consumption	**Water Use Activities**	**Water Use Description**	**Data Provided**	**Better**	**Best**
Water Consumption	Facility operations	Indoor water use	Tracking spreadsheet of monthly water use by facility	Centralized tracking of water consumption organized by water use activities (by submeter)	Coordinated tracking of water withdrawal avoided because of water efficiency/conservation efforts at UTA facilities
		Outdoor water use (irrigation)			
	Vehicle fleet	Washing vehicles	Details on the average water discharged daily to the sewer system at one of the three Depot District discharge points where bus washing is performed	Coordinated tracking of water consumed versus reused daily at vehicle wash sites and the type/number of vehicles washed per day	Coordinated tracking of water withdrawal avoided because of water reuse efforts during vehicle washing procedures

Table 1-5. Summary of Data Quality Improvement Recommendations - Waste

Waste Data			Recommendations for Improvement	
Category	**Material Types**	**Data Provided**	**Better**	**Best**
Municipal solid waste	General waste going to landfill	Invoices from Republic Services, including limited tonnages	▪ Invoices or other tracking records from any other haulers that collect general waste ▪ Default density factors could be applied to service levels to convert data to weights	Actual weights for material collected by Republic Services and any other haulers operating at UTA along with waste characterization data
Recyclable materials	Paper, old corrugated containers, glass, plastics, mixed metals, oil, batteries, LED lighting	Invoices from Republic Services for general recycling collection Log of paper and cardboard quantities from various UTA locations Information tables from garages indicating types of materials recycled	▪ Invoices or other tracking records from all haulers that collect recyclables ▪ Default density factors could be applied to service levels to convert data to weights ▪ Source data for summary logs indicating which locations the information came from.	Actual weights for recyclables collected by all haulers across UTA, along with waste characterization study data to allow for more accurate allocation of materials
Hazardous waste	Miscellaneous nonrecyclable items, including oils, solvents, cleaning agents, lubricants	Not provided	List of locations where hazardous waste is collected and by whom and how often	Recorded weights of different types of hazardous waste by location over time
Electronic waste	Miscellaneous	Not provided	List of locations where electronic waste is collected and by whom and how often	Recorded weights of electronic waste over time
Special waste	Miscellaneous	Not provided	List of locations where special waste is collected and by whom and how often	Recorded weights of special waste over time

Waste Data			Recommendations for Improvement	
Category	**Material Types**	**Data Provided**	**Better**	**Best**
Reused materials	Pallets, tires	Information tables from garages indicating pallets are recycled or reused at some locations	Estimate of quantity of pallets recycled or reused and number of tires retreaded over a period	Quantities of pallets disposed and quantities reused over time
	Vehicle seats, parts	Not provided	List of locations where vehicle parts are collected for reuse	Quantities of vehicle parts reused over time

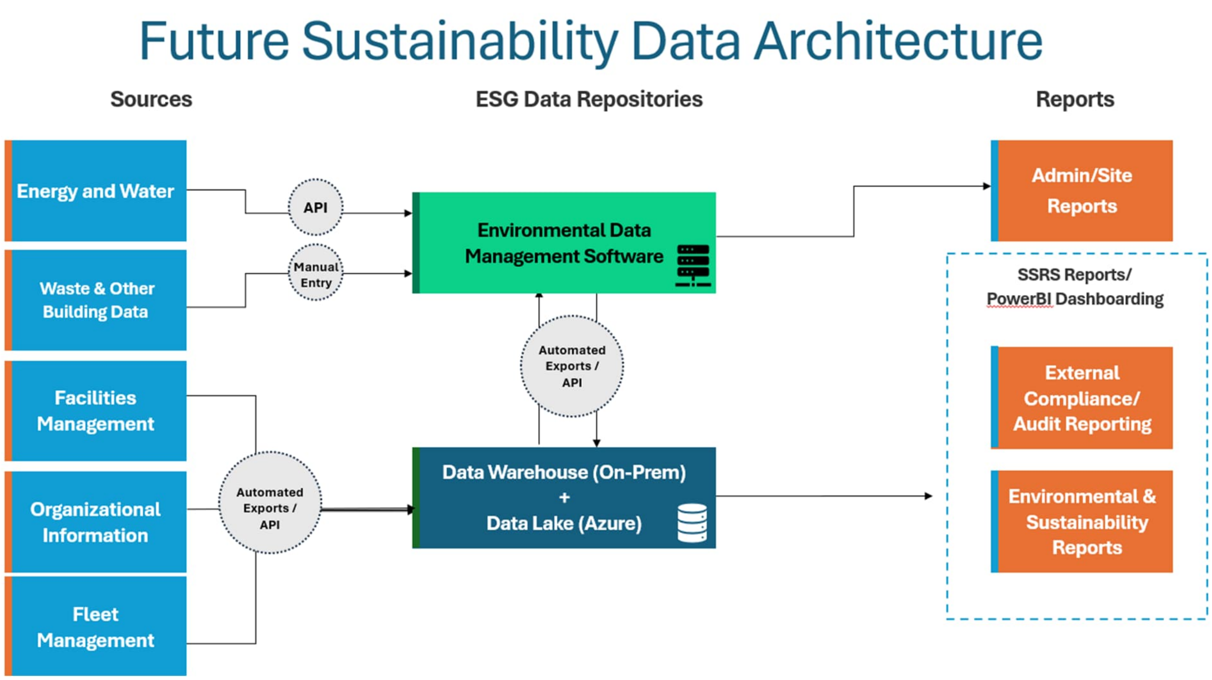
LED = light-emitting diode

1.5.2 Summary of Findings and Recommendations

UTA has been collecting an extensive amount of data to support the organizations' environmental and financial reporting. The availability of GHG inventory data dating back to 2008 makes UTA unique and provides the organization with unique ability to track the change of emissions based on the organizational transformation over 16 years.

Some of Jacobs' recommendations are aimed at simplifying the data collection process for UTA. For example, it is apparent that each garage makes substantial effort in reducing waste and maximizing recycling. To amplify that story and to help UTA be recognized in its leadership, tracking the amounts of materials collected would be helpful. As UTA collects and captures more data that relate to sustainability performance, the agency can automate data collection for progress tracking. An environmental data management tool can support such journey, and be paired with sustainability dashboards, as illustrated on Figure 1-3. More details on the potential environmental data management software tool selection will be explored as part of the Sustainability Initiatives task.

Figure 1-3. Potential Data Architecture with Automated Data Collection



API = application programming interface

Furthermore, Jacobs recommends developing the materials or data that currently do not exist. That includes, for example, additional sustainability-related policies that span beyond battery recycling and idling, such as educational materials both for existing staff and for onboarding. More details for such materials or other possible solutions will be outlined as part of the sustainability initiatives task.

2. Peer Review

2.1 Introduction

To inform sustainability priorities and initiatives for UTA, Jacobs conducted a peer review of six organizations and their respective approaches to sustainability. The organizations comprise five (5) transit authorities and one (1) university based on the request from UTA. Key considerations for selecting these organizations were similar geographies of operation and scale, and recognition in the industry. The following criteria were researched and considered during the peer review: sustainability priorities, goals, and actions, and measures to track the progress of those priorities, goals, and actions.

This technical memorandum (TM) provides a summary of peer and industry sustainability priorities, describes the organizations that were evaluated, and analyzes publicly available information about their performance on the three most common sustainability and environmental priorities – greenhouse gas (GHG) emissions, water footprint, and waste generation or diversion.

2.2 Peer Sustainability Priorities

Jacobs conducted this analysis based on the publicly available sustainability reports from Denver Regional Transportation District (RTD), Weber State University, Sound Transit, Valley Transit Authority, Capital (CAP) Metro (Austin, Texas), and Central Ohio Transit Authority (COTA). In addition to the six peers identified, focus areas identified by two industry organizations, the American Public Transportation Association (APTA) and Union Internationale des Transports Publics (UITP), are represented in this analysis. APTA is a nonprofit group composed of public and private sector member organizations who promote and advocate for the interests of the public transportation industry (all modes of public transportation) in the United States. APTA has provided guidelines for approaching sustainability and an overview of best practices. UTA is a member of APTA. UITP, or the International Association of Public Transport, champions sustainable urban mobility. It is the only worldwide network to bring together public transport stakeholders and sustainable transport modes. UITP’s aim is to enhance quality of life and economic well-being by supporting and promoting sustainable transport in urban areas worldwide. UTA is a signatory of the UITP Sustainability Charter.

2.3 University and Transit Authority Peer Description

This section describes the peers analyzed in this technical memorandum. For detailed information about the sustainability priorities of each peer analyzed, refer to the Detailed Peer Priorities matrix in Appendix A.

2.3.1 Peer 1 – RTD-Denver

RTD-Denver was selected based on a similar climate to UTA.

The RTD in Denver has a sustainability plan focused on conserving energy, reducing emissions, and utilizing sustainable practices in operations and maintenance. Their key performance indicators (KPIs) include energy efficiency, GHG emission reduction, and promotion of recycling and other environmentally beneficial practices. RTD's Boulder Operating Division was recognized by the "Business Partners for a Clean Environment" as a leader in pollution prevention. The Division was recognized for implementing procedures and measures to reduce waste, increase safety, and cut costs. RTD’s environmental programs are aimed at reducing emissions, conserving resources, and improving air quality, which are part of its broader strategy to support sustainable development throughout the Denver metro area. Their sustainability policy underlines commitment to embedding environmental considerations into their day-to-day operations and capital projects district wide. This includes developing and adopting best practices for sustainable planning, design, construction, and operations and maintenance activities.

2.3.2 Peer 2 – Weber State University (UTA Requested)

Weber State University (WSU) was selected based on UTA's request.

WSU outlines goals and objectives for reducing commuting-related GHG emissions by 50% by 2030. The University provides full-time staff, faculty, and students with free UTA passes on all UTA buses and FrontRunner. WSU is working with UTA, Ogden City, and other partners to install a new electric Bus Rapid Transit system, which will increase alternative transportation ridership.

WSU's sustainability plan is focused on achieving carbon neutrality by 2040 and encompasses a wide range of initiatives aimed at reducing environmental impact. The KPIs of their sustainability are structured around several strategic goals. Their KPIs outline a comprehensive approach to sustainability that involves Academics, Engagement, Operations, Planning and Administration.

2.3.3 Peer 3 – Sound Transit (UTA Requested)

Sound Transit was selected based on UTA's request.

Sound Transit's (or Central Puget Sound Regional Transit Authority) sustainability plan emphasizes reducing environmental impact through several key strategies and initiatives, supported by specific KPIs. Their focus areas are equity, diversity, and inclusion (EDI), all staff champion sustainability, carbon-free electricity by 2030, enhancing ecosystem functions, building resilience to climate change and natural or humanmade disasters, and maximizing operational efficiency. Their KPIs are designed to guide efforts in planning, construction, and operating transit to foster a sustainable and environmentally friendly public transportation system. The plan includes detailed actions and expected outcomes to ensure the sustainability goals are achieved as the region continues to grow and evolve.

2.3.4 Peer 4 – Valley Transportation Authority

Valley Transportation Authority (VTA) was selected based on UTA's preference.

VTA is a founding signatory of the APTA Sustainability Commitment and has achieved Gold Level Recognition for its sustainability efforts. Sustainability is a key component of VTAs Mission and Strategic Plan. VTA provides yearly sustainability reports with background information related to VTA and its sustainability metrics. Their KPIs include: GHG, CAPs, Energy Use (Building and Fleet), Water, and Waste. Their performance is compared to a 2009 baseline, short-term (2025 goals), and future (2040 targets). VTA also touts sustainability activities that include stormwater management and antilitter initiatives. Their programs and initiatives are meant to evolve over time and include collaborations, projects, and programs.

2.3.5 Peer 5 – CAP Metro (Austin, TX)

CAP Metro was selected based on the Federal Transit Administration's (FTA's) awards for sustainable programs in transit.

Cap Metro has adopted a comprehensive sustainability vision plan focused on transforming their transit system to be more sustainable and environmentally friendly. They were identified by FTA Sustainable Transit in a Healthy Planet Earth Day Webinar for standing out in efforts to reduce GHG. Their action areas include energy conservation, efficiency, and renewable sources; sustainable and zero-emission fleets; zero waste and natural resource management; water and natural world; active transportation, green building and infrastructure; and environmental and sustainability management.

Cap Metro's KPIs include carbon neutral by 2040, consistent with the Austin Climate Equity Plan; zero waste: 90% reduction of waste to landfills by 2040, consistent with City of Austin Zero Waste Strategic Plan, sustainably manage water resources and enhance nature and natural systems through conservation and green infrastructure, leverage transit resources to enhance sustainability, connectivity, and access to opportunities, create livable places, especially in historically disinvested communities, and use sustainable guidelines and rating systems (Envision, Austin Energy Green Building, Leadership in Energy and Environmental Design [LEED]) to guide all capital projects.

2.3.6 Peer 6 – Central Ohio Transit Authority

Central Ohio Transit Authority (COTA) was selected based on FTA's awards for sustainable programs in transit.

COTA's sustainability plan uses a baseline year of 2013 and is meant to align with the City of Columbus Climate Action Plan. The plan's framework constitutes performance categories, goals, and management areas meant to serve as a living document and evolve over time. The sustainability plan focuses on EDI, GHG reduction, Ridership, Waste, Water, and Resiliency and Business Continuity. COTA was identified by FTA Sustainable Transit in a Healthy Planet Earth Day Webinar for standing out in efforts to reduce GHG. COTA has a goal of achieving net zero by 2045.

2.4 Summary of Peer Priorities

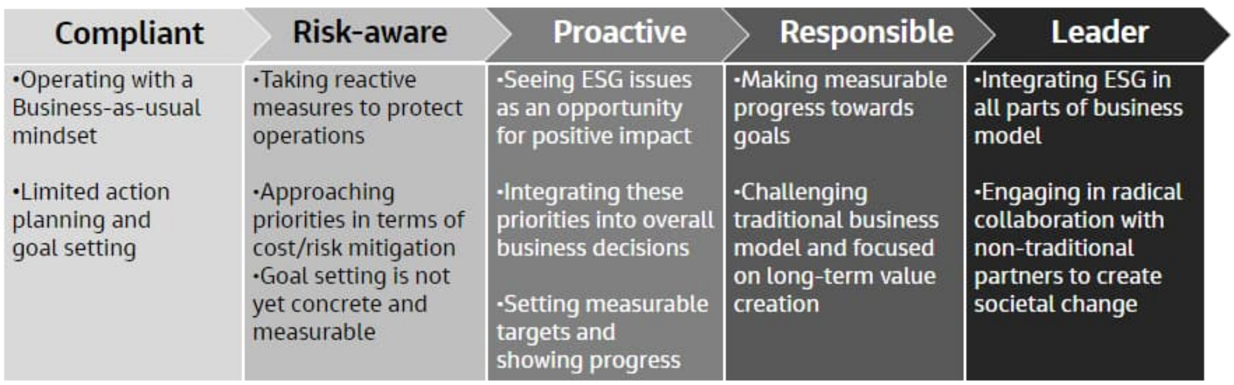
Figure 2-1 shows the environmental, social, and governance (ESG) topics that six peers and two industry organizations have prioritized. The task of mapping peer priorities reveals sustainability topics that are consistently relevant across the industry. These priorities are based on the key topics that could be found in public documents and have specific goals and actions that go beyond regulatory compliance. When formalizing an organization's priorities, a materiality analysis is common as it is a stakeholder-inclusive way to establish the most important ESG issues; however, the public documents reviewed suggest that peers have not conducted such materiality analyses. Figure 2-1 also includes the priorities that UTA communicates to the public across its webpages and publications and is provided for comparison to peers. This list of priorities does not reflect the internal initiatives that may be pursued but not communicated externally.

Figure 2-1. Summary of Peer and Industry Priorities

Categories	Utah Transit Authority (UTA)	Denver Regional Transportation District (RTD)	Weber State University	Sound Transit	Valley Transit Authority (VTA)	Capital Metro (CapMetro)	Central Ohio Transit Authority (COTA)	American Public Transportation Association (APTA)	International Association of Public Transport (UITP)
Environmental									
GHG Emissions Reduction	Priority	Priority	Priority	Priority	Priority	Priority	Priority	Priority	Priority
Water Stewardship			Priority	Priority	Priority	Priority	Priority	Priority	Priority
Waste Management			Priority	Priority	Priority	Priority	Priority	Priority	
Sustainable Buildings and Infrastructure		Priority	Priority	Priority	Priority	Priority	Priority		
Air Quality		Priority	Priority	Priority	Priority	Priority	Priority		
Climate Resilience				Priority	Priority	Priority	Priority		
Biodiversity & Land Use		Priority		Priority		Priority			
Food Sustainability and Security			Priority						
Social									
Health, Safety & Wellbeing	Priority	Priority	Priority	Priority	Priority	Priority		Priority	Priority
Increasing Ridership	Priority	Priority	Priority	Priority	Priority	Priority	Priority	Priority	
Community Engagement	Priority		Priority		Priority		Priority	Priority	Priority
Diversity, Equity & Inclusion	Priority		Priority	Priority		Priority	Priority	Priority	Priority
Sustainability Engagement			Priority	Priority					
Governance									
Environmental Compliance		Priority	Priority	Priority	Priority				
Supply Chain Sustainability			Priority	Priority			Priority	Priority	
Sustainability Governance			Priority	Priority		Priority		Priority	
Data Protection & Privacy				Priority	Priority				
Asset Management				Priority				Priority	
Risk Management				Priority					
Technology & Innovation	Priority			Priority					Priority
Environmental Management System				Priority		Priority	Priority		

For all of the priorities and peers, the analysts determined their maturity within ESG groupings relative to their peers. Those priority mappings can be found on Figures 2-3 through 2-6. The maturity spectrum is a tool Jacobs developed to communicate where an organization is on their sustainability journey. The purpose of the maturity spectrum is to assess which stage peers are at in integrating ESG topics into their overall strategy. As topics move to the right along the spectrum, environmental and social benefits increase. The stages build on each other; being a leader means you are also responsible, proactive, risk-aware, and compliant.

Figure 2-2. ESG Maturity Spectrum



Each stage on the maturity spectrum is described as follows:

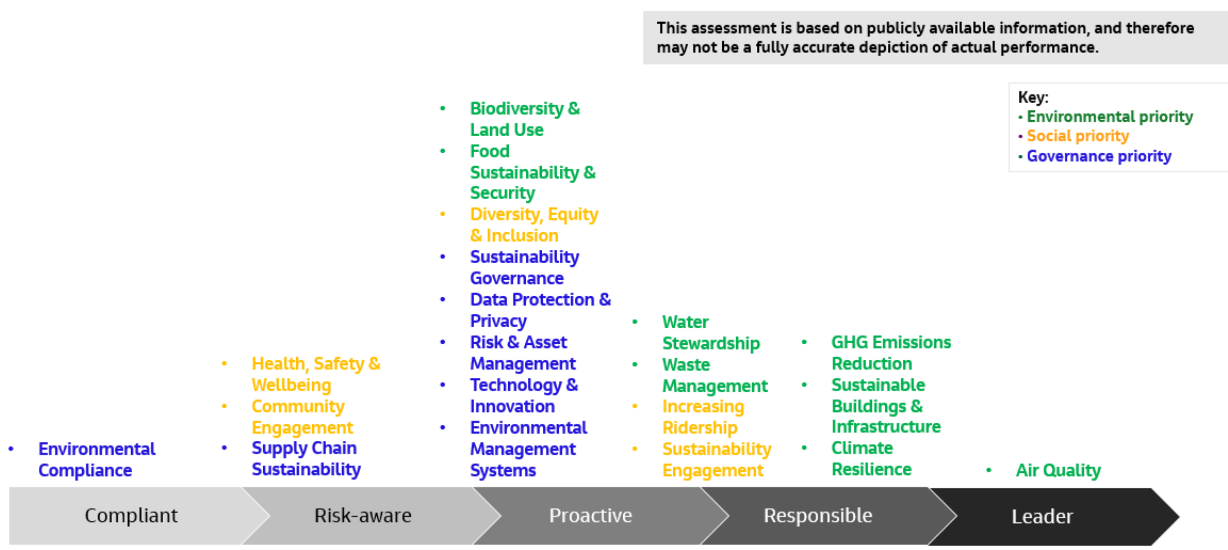
- **Compliant:** If a topic is “compliant,” it means the organization has a ‘business-as-usual’ mindset for that ESG priority and is meeting regulated and mainstream reporting standards. They may have listed the topic as important, but they have not developed a formal action plan for this priority. They could be in the data-gathering process to calculate their baseline. Example: “We know this priority is important to our stakeholders, but we have not yet decided how best to advance our sustainability goals around it because we are still determining our baseline.”
- **Risk-Aware:** The organization is aware that this ESG topic is a risk. At this stage, the organization is more concerned about ‘doing less bad’ instead of doing good; they are taking reactive measures to protect their operations. They approach these priorities in terms of cost/risk mitigation instead of seeing them as an opportunity. In this stage, the organization is still primarily focused on the bottom-line and strong return-on-investment (ROI) for any sustainability initiatives. The organization might have a vague goal for this priority but not a concrete plan of how to achieve that goal. For example, if “emissions” is in this stage, clients might have a goal to reduce their environmental footprint, but do not have targets or KPIs and the third-party indices rated them low in this category.
- **Proactive:** In this stage, organizations begin to look at topics as an opportunity as opposed to mitigating possible risks. The organization is still focused on good financial outcomes but with a broader lens about what is best for their overall business impacts. The organization starts to go beyond thinking that sustainability and financial outcomes have major tradeoffs and starts to achieve efficiencies in business operations. The organization starts to integrate this priority into their overall business decisions. For example, if the topic of “human rights” is in this stage, the organization makes sure any new suppliers or vendors have human rights policies in place before doing business.
- **Responsible:** In this stage, organizations start to balance these ESG priorities equally with financial business objectives in the decision-making process. The organization understands that integrating this priority into their business can give them a competitive advantage over their peers. The organization has identified these priorities as material, has set a strategy with targets/KPIs, and has made

measurable progress toward achieving these goals. The organization is challenging the traditional business model and is focused on long-term value creation. They start to tailor the products/services they provide to incorporate higher standards because of their focus on ESG. For example, if a retail company has "sustainable supply chain" in this stage, they might be transitioning to making their clothes with only sustainable materials.

- **Leader:** The organization integrates this priority into all parts of their business model. The client is finding new ways of doing business to set the standard on ESG. Clients know that in doing this they have an inherent competitive advantage over their peers. The company engages in radical collaboration with nontraditional partners to create positive societal change (like their competitors).

Figure 2-3 shows the average peer performance for these priority topics. In general, peers are furthest along on environmental topics. For example, all six peers are making measurable progress toward GHG emissions reduction goals and are in the Responsible stage for this topic. Some peers, like RTD and CAP Metro, are leaders in air quality; RTD pioneered the use of electronically controlled engines and transmissions in order to reduce exhaust emissions and CAP Metro reduced bus particulate matter emissions by 96%. On the social side, peers are generally in the risk-aware or proactive stages. The analysis shows that peers are in the risk-aware stage for health, safety, and well-being because they are aware that this this is an issue and are conducting studies, developing work plans, and leveraging resources to improve their performance in this category, but have not yet disclosed measurable targets or tracked improvements. Peers are generally proactive about governance issues and see these topics as an opportunity for positive impact.

Figure 2-3. Maturity of Peer Priority Topics



Figures 2-4 through 2-6 show the average performance for each peer on ESG topics. COTA, Capital Metro, and Valley Transportation Authority are furthest along on their environmental and social sustainability journey. For governance topics, peer performance trended toward compliant (RTD), risk-aware (Sound Transit, Valley Transportation Authority, and Weber State University), and proactive (Capital Metro).

Figure 2-4. Maturity of Peer Environmental Topics

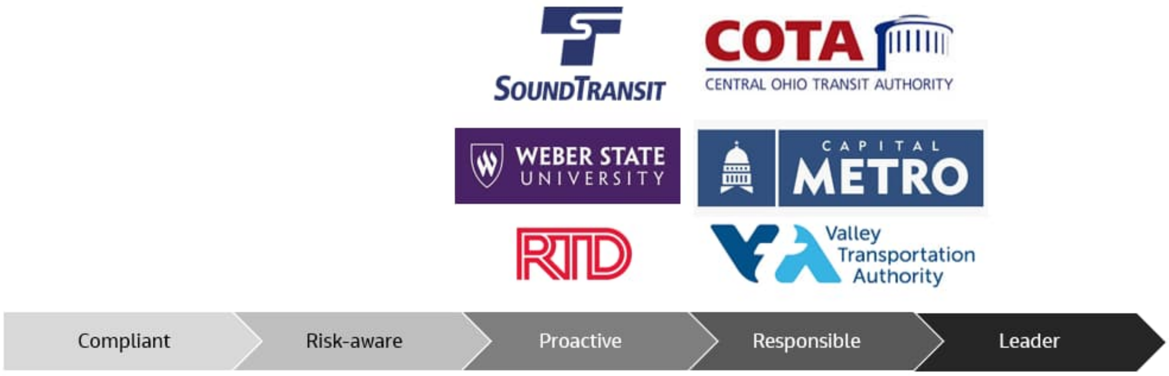


Figure 2-5. Maturity of Peer Social Topics

Figure 2-6. Maturity of Peer Governance Topics

The priorities most common among peers were GHG emissions, water footprint, and waste generation/diversion. Table 2-1 provides an assessment of peer environmental performance.

This peer review comparison will serve as the basis for establishing key sustainability priorities and initiatives that UTA can conduct. UTA's focus on GHG, water, and waste (as illustrated by the sustainability audit's focus on these environmental variables) is consistent with the industry's priorities. Nevertheless, this assessment identified additional key priorities that are relevant to UTA and can be explored further to drive institution-wide improvements, like health, safety, and well-being; community engagement; and diversity, equity, and inclusion. To further inform which sustainability priorities are most relevant to UTA, an internal materiality process could be useful because it will include the perspectives and views of various stakeholders across the organization. Such analysis could also identify sustainability priorities and initiatives that are not common among peers, but might still be important to UTA because of the unique local context of its organizational culture.

Based on this peer assessment, UTA baselining will be conducted in future tasks.

Table 2-1. Environmental Performance of Six Peers

Peer	Location	Vehicle Revenue Miles	GHG Footprint (Scope 1, 2; Most Recent)	Avoided Emissions from Transit	Water	Waste
RTD-Denver[a]	Denver	49.7 million	184,587 tons CO_2e	240,000 tons CO_2e		
Weber State University	Ogden City	NA	37,432 tons CO_2e[b]		159,447,598 gallons[c]	39% diversion; 514 tons landfilled[d]
Sound Transit[e]	Central Puget Sound Seattle	19.8 million	50,200 tons CO_2e	193,655 tons CO_2e	24,100 hundred cubic feet	35% diversion
Valley Transportation Authority[f]	Santa Clara	18.8 million	46,648 tons CO_2e	10,554 tons CO_2e	37,398,372 gallons	29% diversion; 1,596 tons landfilled
CapMetro	Austin	24.1 million	-	-	-	-
Central Ohio Transit Authority[g]	Columbus	13.7 million	45,000 tons CO_2e	-	10,448 hundred cubic feet	-

[a] RTD-Denver Quality of Life Study Sustainability Report 2020 https://cdn.rtd-denver.com/image/upload/v1696451445/Quality-of-Life_Sustainability-Report_2020_0_mqeto4.pdf

[b] Sustainability Indicator Management & analysis Platform Emissions Reports – Weber State University https://unhsimap.org/public/emissions?page=10

[c] Weber State University Water Action Plan https://www.weber.edu/wsuimages/sustainability/Fall%202020/FinalWSUWaterActionPlan.docx.pdf

[d] Weber State University Climate Action Plan – Progress Report for FY2022 https://apps.weber.edu/wsuimages/sustainability/Plans%20and%20Reports/WSUFY2022SustReport.pdf

[e] Sound Transit 2022 Sustainability Progress Report Appendices https://www.soundtransit.org/sites/default/files/documents/2022-sustainability-progress-report-appendices.pdf

[f] Valley Transportation Authority Sustainability Annual Report 2022 https://www.vta.org/sites/default/files/2024-03/FY22-SustainabilityReport.pdf

[g] COTA Sustainability Report 2022 https://www.cota.com/static/144003608087d56b030b75ba82b1556d/cota-sustainability-report-2022.pdf

CO_2e = carbon dioxide equivalent
NA = Not applicable

3. GHG Emissions

3.1 GHG Footprint 2023

Jacobs calculated the GHG inventory for 2023 using operational control approach. All Scopes 1 and 2 emissions were included in the calculation, and a high-level Scope 3 footprint screening was conducted using spend data. Analysis results are presented in Table 3-1 and on Figures 3-1 and 3-2. For the details of how the calculations were conducted, refer to Section 3.3, Inventory Management Plan. Given that one of the greatest contributors to Scopes 1 and 2 emissions is revenue fleet, the emissions breakdown by the transportation mode is summarized in Table 3-2. UTA has been calculating Scopes 1 and 2 emissions for 15 years, and the emissions change over that time frame is presented in Table 3-3 and on Figure 3-3.

Figure 3-1. GHG Emissions Footprint for 2023, including Scopes 1, 2, and 3

Figure 3-2. Scopes 1 and 2 GHG Emissions for 2023

Table 3-1. Total GHG Emissions Summary for 2023

Emissions Source	CO_2 (MT)	CH_4 (MT)	N_2O (MT)	CO_2e (MT)	% of Total – Location-based	% of Total – Market-based
1.1 Mobile Combustion - Revenue	67,883	7.00	1.36	68,439	25%	23%
1.2 Mobile Combustion - Nonrevenue	7,968	0.16	0.06	7,989	2.9%	3%
1.3 Stationary Combustion - Building Natural Gas	7,021	0.13	0.01	7,028	2.6%	2%
1.4 Fugitive Leakage	-	-	-	371	0.14%	0.13%
Scope 1 Subtotal	**82,871**	**7.29**	**1.44**	**83,828**	**31%**	**29%**
2.1 Electricity Consumption - Infrastructure (Location-based)	8,001	0.74	0.11	8,050	3.0%	-
2.1 Electricity Consumption - Infrastructure (Market-based)	1,039	0.09	0.01	15,825	-	5.4%
2.2 Electricity Consumption - Light Rail (Location-based)	11,915	1.11	0.16	11,988	4.4%	-
2.2 Electricity Consumption - Light Rail (Market-based)	-	-	-	24,998	-	8.6%
Scope 2 Subtotal (Location-based)	**19,916**	**1.85**	**0.26**	**20,038**	**7.4%**	
Scope 2 Subtotal (Market-based)	**1,039**	**0.09**	**0.01**	**40,823**		**14.0%**
Total Operational Scopes 1 + 2 Emissions (Location-Based)	**102,788**	**9.14**	**1.70**	**103,866**	**38.3%**	
Total Operational Scopes 1 + 2 Emissions (Market-Based)	**83,911**	**7.38**	**1.45**	**124,651**		**42.6%**
3.1 Purchased Goods and Services	-	-	-	9,801	3.6%	3.4%
3.2 Capital Goods	-	-	-	114,695	42.2%	39.2%
3.3 Upstream Fuel and Energy	-	-	-	37,153	13.7%	12.7%
3.5 Waste Generated in Operations	-	-	-	258	0.10%	0.1%
3.6 Business Travel	-	-	-	122	0.04%	0.0%
3.7 Employee Commuting	5,559	0.16	0.11	5,592	2.1%	1.9%
Scope 3 Subtotal	**5,559**	**0.16**	**0.11**	**167,621**	**62%**	**57%**

Emissions Source	CO_2 (MT)	CH_4 (MT)	N_2O (MT)	CO_2e (MT)	% of Total – Location-based	% of Total – Market-based
Scopes 1 - 3 Total (Location)	**108,347**	**9**	**2**	**271,488**	**100%**	**-**
Scopes 1 - 3 Total (Market)	**89,470**	**8**	**2**	**292,273**	**-**	**100%**

MT = metric ton

Table 3-2. Revenue Fleet Propulsion Emissions Summary

Mode	Hubo Miles (VMT)	Revenue Miles (VRM)	Hubo Miles (VMT)	Revenue Miles (VRM)	Hubo Miles (VMT)	Revenue Miles (VRM)
	Miles		Emissions (MT CO_2e)[a]		MT CO_2e/Mile	
Bus	18,496,523	16,027,140	37,004	36,959	0.002	0.002
Commuter Rail	3,848,784	3,848,784	23,687	23,687	0.006	0.006
Light Rail	6,262,545	6,262,545	11,988	11,988	0.002	0.002
Paratransit	3,144,706	2,845,960	4,000	3,999	0.001	0.001
Vanpool	7,454,630	7,454,630	3,748	3,748	0.001	0.001
All Modes	39,207,188	36,439,059	80,427	80,382	0.002	0.002

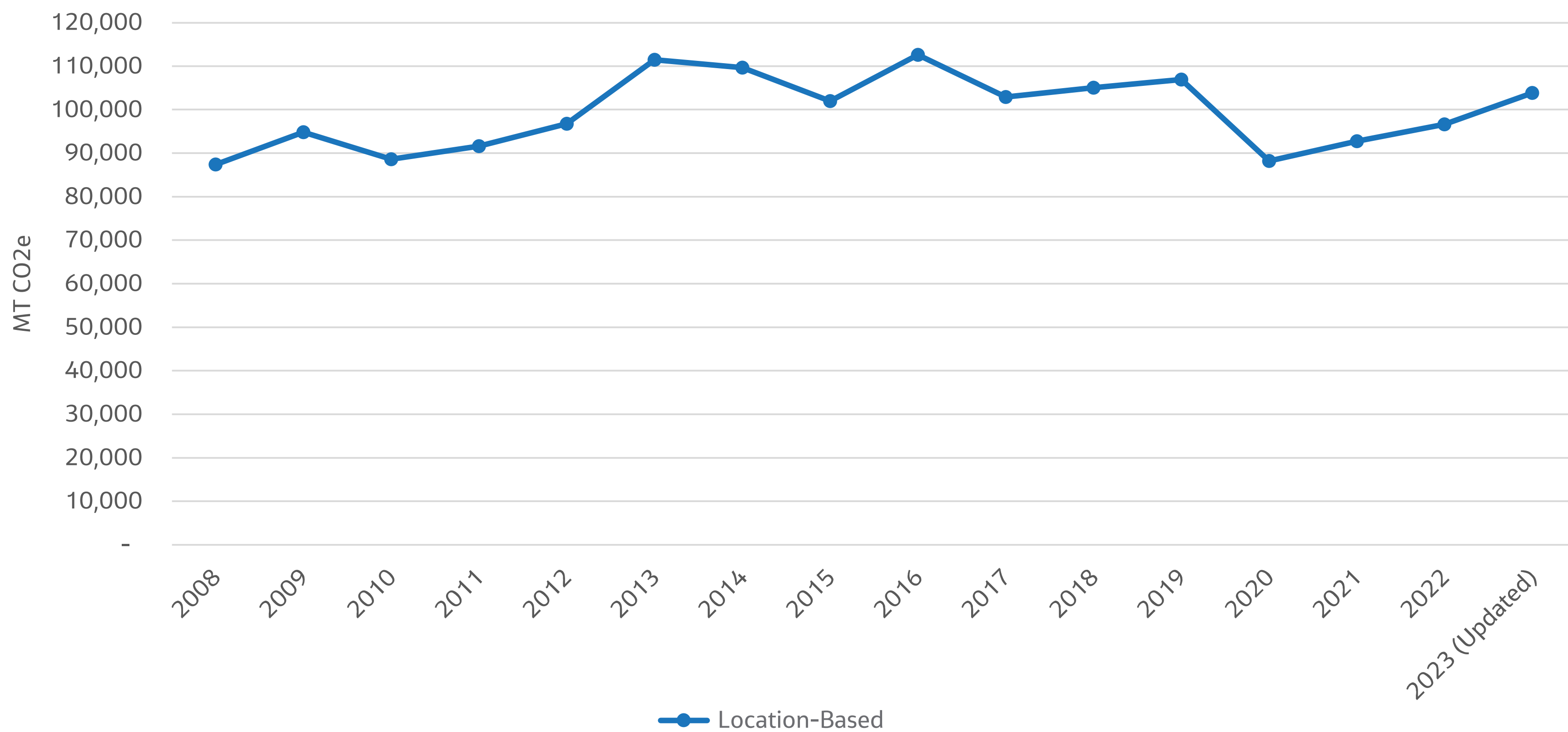
[a] Location-based emissions

VMT = vehicle miles traveled
VRM = vehicle revenue mile(s)

Table 3-3. Scopes 1 and 2 Emissions Tracking Over Time

Year	Location-Based		Market-Based	
	Metric Tons (MT) CO_2e	% Change	Metric Tons (MT) CO2e	% Change
2008	87,414	-	87,414	-
2009	94,826	8.5%	94,826	8.5%
2010	88,583	-6.6%	88,583	-6.6%
2011	91,580	3.4%	91,580	3.4%
2012	96,738	5.6%	96,738	5.6%
2013	111,488	15.2%	111,488	15.2%
2014	109,653	-1.6%	109,653	-1.6%
2015	101,957	-7.0%	101,957	-7.0%
2016	112,619	10.5%	112,619	10.5%
2017	102,871	-8.7%	102,871	-8.7%
2018	105,056	2.1%	105,056	2.1%
2019	106,919	1.8%	106,919	1.8%
2020	88,217	-17.5%	88,217	-17.5%
2021	92,720	5.1%	92,720	5.1%
2022	96,594	4.2%	96,594	4.2%
2023 (Updated)	103,866	7.5%	124,651	29.0%
Total Change Since 2008	**-**	**18.8%**	**-**	**42.6%**

Figure 3-3. Historical Change of UTA Annual Operational Emissions (Scopes 1 and 2)



3.2 Peer Comparison

To understand UTA's sustainability performance relative to peers in the public transit sector, publicly available data from peer sustainability reports and the national transit database (NTD) were collected and normalized to population served or ridership details:

- Vehicle revenue miles sourced from NTD (total annual 2023 data)
- Population served and sustainability metrics sourced from agency specific websites and sustainability reports
- Most recent publicly available data were used. In some cases, the most recent data available was for 2021 or 2022, rather than 2023, which may skew transit agency results due to COVID implications.

GHG inventory data focused on operational Scopes 1 and 2 emissions, which are most commonly reported by transit agencies. Tables 3-4 and 3-5 and Figures 3-4 through 3-8 list the differences between peer agencies based on their size and GHG footprint.

Table 3-4. Key Peer Agency Characteristics

Peer Characteristic	UTA	RTD-Denver	Sound Transit	MARTA	CapMetro	COTA	VTA
State	UT	CO	WA	GA	TX	OH	CA
Service Area Size (square miles)	1,400	2,342	1,080	936	535	562	346
Service Area Population (million people)	2.7	3	3.3	1.7	1.36	1.2	1.9
Full-time Equivalent	2,555	3,457	1,128	4,400	1,000	1,081	2,100
Annual UPT (million unlinked passenger trips)	35	64	37	64	25	11.5	25
Annual VRM (million vehicle revenue miles)	36	50	20	49	24	14	19

MARTA = Metropolitan Atlanta Rapid Transit Authority

Figure 3-4. Peer Agency Size Characterization

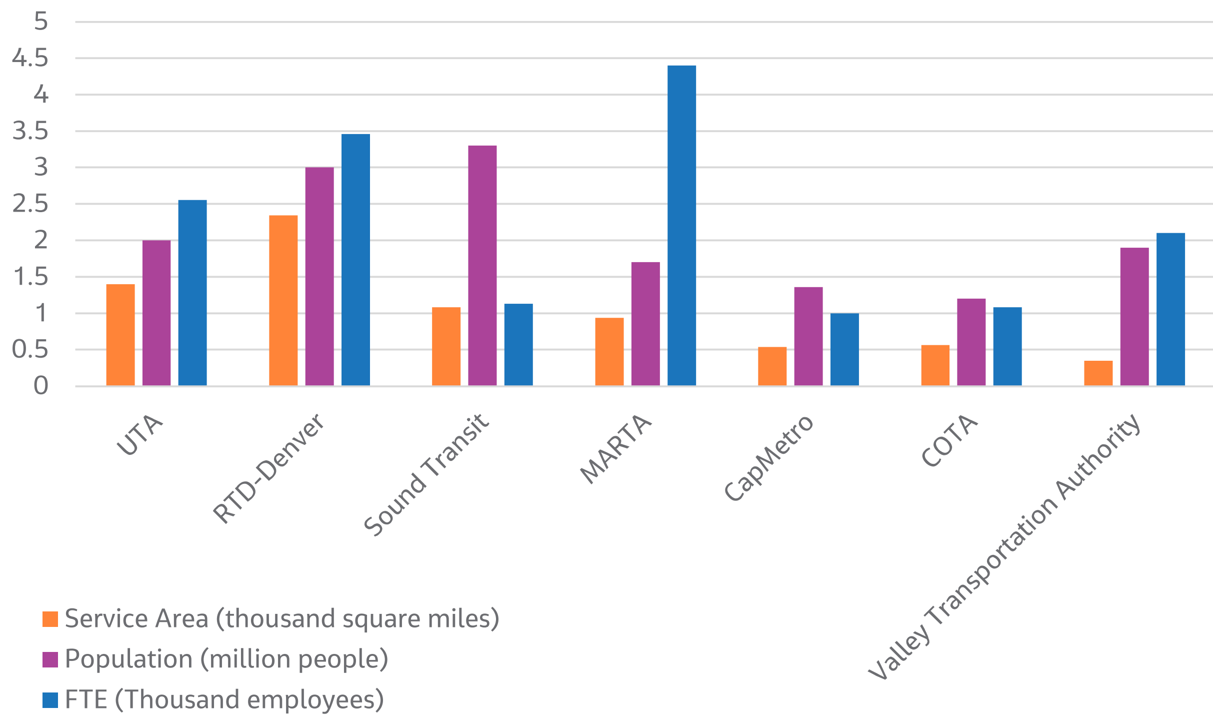


Figure 3-5. Peer Agency Annual Ridership and Mileage

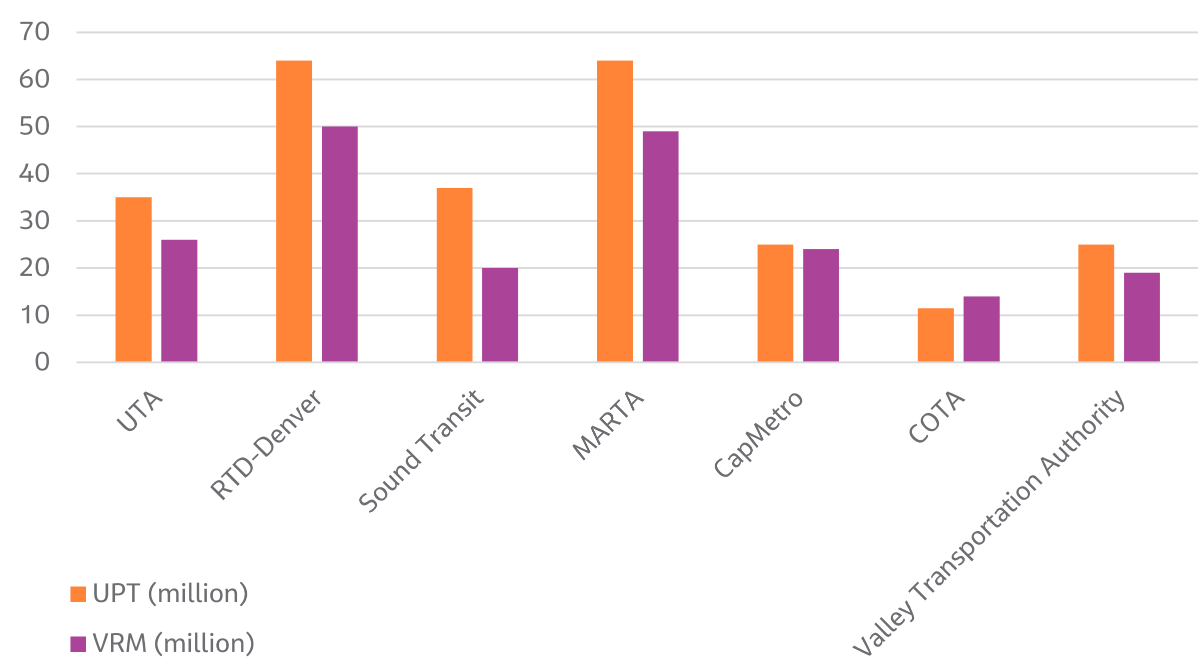


Table 3-5. Peer Agency Annual Ridership and Mileage

GHG Value	UTA	RTD-Denver	Sound Transit	MARTA	CapMetro	COTA	VTA
Total Emissions MT CO_2e (Scopes 1 & 2)/ year	103,866	184,587	45,900	140,727	Not Disclosed	55,764	46,648
GHG/VRM MT CO_2e/mile/year	0.003	0.004	0.002	0.003		0.004	0.002
GHG/person in service area MT CO_2e/person/year	0.052	0.062	0.014	0.083		0.0465	0.0245
GHG/Full-time equivalent MT CO_2e/employee/year	40.7	53.4	40.7	32		51.6	22.2

Figure 3-6. GHG Emissions per Person Comparison Between Peer Agencies

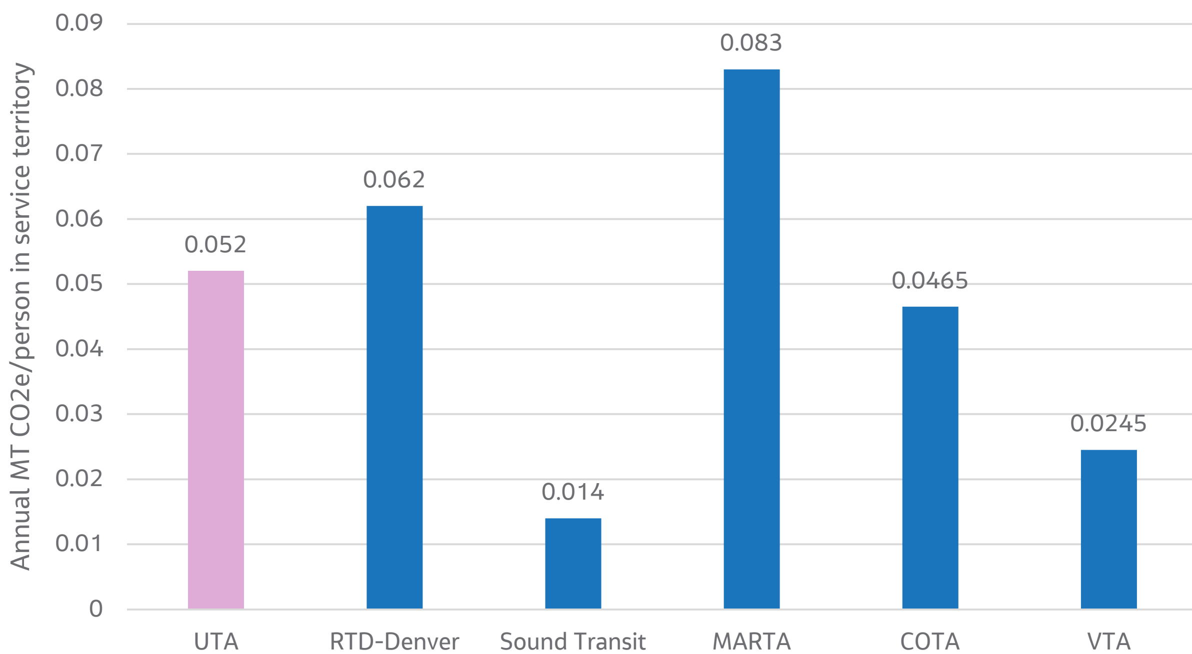


Figure 3-7. Total Scopes 1 and 2 Emissions of UTA Peers

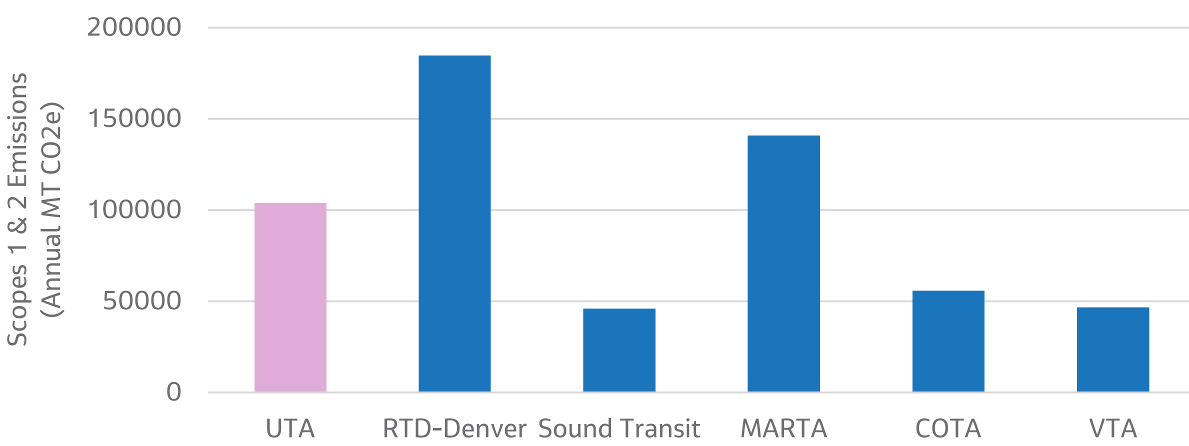
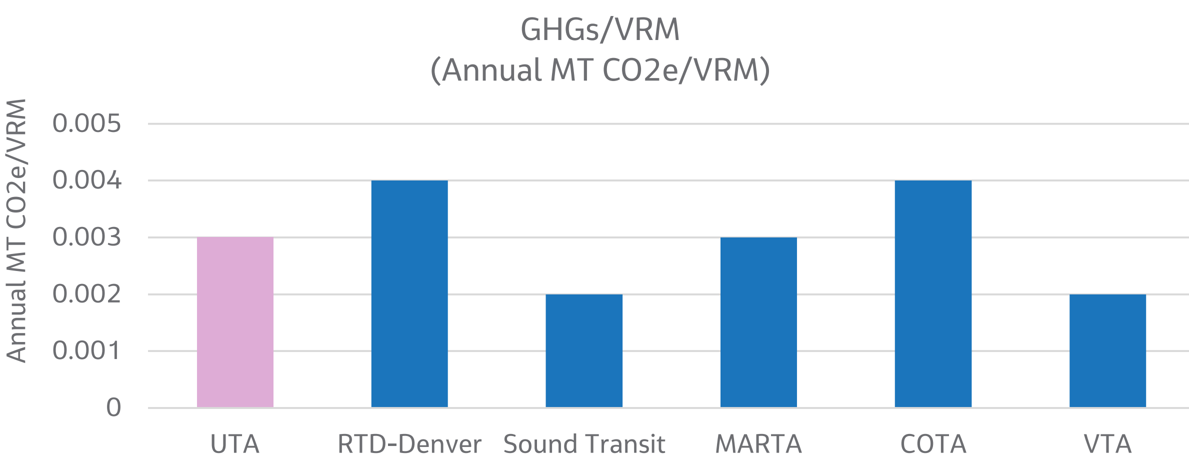


Figure 3-8. Scopes 1 and 2 Footprints Averaged by Vehicle Revenue Mile



UTA's emissions, normalized to population served and vehicle revenue mile, are keeping pace with its peers and meet current GHG tracking expectations, but do not yet establish UTA as a leader in GHG emissions management.

One area that UTA now excels is in Scope 3 measurement, given that few public transit agencies measure, report, or manage Scope 3 emissions. Based on the peer assessment, our recommendation is that alongside future annual inventories, measure and estimate avoided emissions from transit.

3.3 Inventory Management Plan

3.3.1 Introduction

The objective of the GHG inventory is to appropriately reflect the annual GHG emissions associated with UTA's business activities, by accurately quantifying GHG emissions resulting from all sources that fall within UTA's organizational and operational boundaries over the course of a given year. This IMP provides transparency on the boundaries, quantification methods, data sources, and the process used to develop the GHG emissions inventory and enable reproducibility. The IMP is also expected to help improve efficiency of the inventory process through streamlined accountability. This IMP may be updated or modified to reflect changes in regulatory context, business activities or assets, and inventory development standards or metrics to maintain consistency with the latest approach.

Like any high-quality element of an effective environmental management system, the IMP reduces error and inefficiency by documenting data collection and quality assurance procedures as well as the methodologies used to prepare the GHG Inventory.

3.3.1.1 History

As a founding member of The Climate Registry (TCR) in 2008, UTA has a long history of GHG emissions tracking. Between 2008 and 2016, UTA reported its GHG emissions inventory to TCR's voluntary reporting program according to the requirements outlined in TCR's General Reporting Protocol. These annual emissions inventories were further verified by a third-party, TCR-approved verification body. Since 2016, UTA has continued internal tracking of its GHG emissions inventory, but has not reported those emissions publicly or undergone third-party verification.

In 2024, UTA selected Jacobs to conduct a sustainability audit and review the GHG tracking procedures that had continued internally since reporting to TCR. Jacobs worked with UTA to develop a comprehensive GHG inventory for calendar year 2023 in line with the expectations of the GHG Protocol by World Resources Institute and World Business Council for Sustainable Development to prepare UTA for undergoing verification of its GHG inventory again in the future. Details regarding this change in standard, from TCR's General Reporting Protocol to the GHG Protocol, and expansion of GHG reporting boundaries are provided throughout this IMP.

3.3.2 Company Information

Company Name:	Utah Transit Authority (UTA)
Corporate Address:	3600 South 700 West P.O. Box 30810 Salt Lake City, Utah 84130
Inventory Contact:	Sarah Ross Environmental Steward and Sustainability Specialist
Contact Information:	Phone: 801.287.1919 (Office)
Email:	sross@rideuta.com

3.3.2.1 Company Overview

Since 1970, UTA has been providing public transportation services to six counties and multiple municipalities in the Wasatch Front region of Utah, covering an extensive area of 1,600 square miles. UTA moves Utah to a stronger economy, a cleaner environment, increased mobility, greater access to opportunity, and a better quality of life—all driven by safe, reliable transportation.

UTA is committed to moving Utahns to a better quality of life by improving air quality, reducing wasteful energy consumption, and advancing the agency's electrified fleet plan by investing in cleaner energy sources. UTA has demonstrated its commitment to environmental stewardship by introducing a 45-mile light rail system and a fleet of clean diesel, electric, and CNG buses. To significantly improve regional air quality, UTA aims to power one-third of its fleet with alternative technologies in the future. By 2040, UTA intends to replace approximately 40% diesel-powered buses with battery electric buses, two of which have been successfully operating in Salt Lake City since 2019. UTA is also working on plans to electrify UTA on-demand vehicles, paratransit buses, vanpool vans, white fleet vehicles, and eventually FrontRunner.

UTA provides the following transit options:

- Bus and ski bus
- Bus rapid transit
- Paratransit
- Commuter rail (FrontRunner)
- Light rail (TRAX)
- Vanpool/rideshare

3.4 Protocols and Methods

Beginning in 2024, the GHG Protocol suite of guidance documents and standards were the primary resources used to guide the development of UTA's inventory boundaries and quantification methods. GHG Protocol documents are created in partnership between the World Resources Institute and World Business Council for Sustainable Development. This partnership has produced the most widely used set of GHG inventory standards and guidance documents globally, including the following:

- The Greenhouse Gas Protocol: A Corporate Accounting and Reporting Standard (2004)
- Scope 2 Guidance – An amendment to the GHG Protocol Corporate Standard (2015)
- Corporate Value Chain (Scope 3) Accounting and Reporting Standard (2011)

Prior to 2024, TCR's General Reporting Protocol and General Verification Protocol were the primary documents used to guide the development of UTA's 2008 – 2023 inventories. The primary change resulting from the adoption of the GHG Protocol was the incorporation of indirect, Scope 3 value chain reporting. Further details regarding Scope 3 boundaries, quantification methods and data are provided in the sections that follow.

In addition to these globally accepted standards for voluntary corporate emissions accounting, the following standards and guidance documents specific to the public transportation sector were also referenced for specific sources and boundary-setting expectations:

- APTA SUDS CC-RP-001-09, Rev. 1, 2018. Quantifying Greenhouse Gas Emissions from Transit.
- Transit Cooperative Research Program Research Report 226, 2021. An Update on Public Transportation's Impacts on Greenhouse Gas Emissions.

3.4.1 GHG Accounting Principles

Virtually all GHG accounting standards use the five principles of relevance, completeness, consistency, transparency, and accuracy as a foundation. These overarching accounting and reporting principles provide the framework to support a faithful, true, and fair account of GHG emissions. The following descriptions of each principle are adapted from the GHG Protocol and were used to guide the GHG assessment:

- Relevance—The GHG inventory will appropriately reflect UTA's material GHG emissions and will be organized to reflect the areas over which UTA exerts control and holds responsibility, to serve the decision-making needs of users.
- Completeness—All GHG emission sources and emissions-causing activities within the inventory boundary are accounted for. Specific known exclusions are justified and disclosed.
- Consistency—Consistent methodologies will be used in the identification of boundaries, analyses of data, and quantification of emissions to enable meaningful analysis of performance trends over time, demonstration of reductions, and comparisons of emissions to peers or other actors. Changes to data, inventory boundary, methods, or relevant factors in subsequent inventories will be disclosed.
- Transparency—Relevant issues are addressed and documented factually and coherently to provide a trail for review and replication. Relevant data sources and assumptions are disclosed, along with specific descriptions of methodologies and data sources used.
- Accuracy—UTA's GHG emissions are quantified systematically with the aim of neither overestimating nor underestimating actual emissions as much as can be judged, and uncertainties are reduced as much as practicable, to enable users to make decisions with reasonable assurance as to the integrity of the reported information.

3.4.2 GHGs Included

GHGs are gases that trap heat in the atmosphere and can result from human activities or natural processes. The Kyoto Protocol is an international agreement that "operationalizes the United Nations Framework Convention on Climate Change by committing industrialized countries and economies in transition to limit and reduce greenhouse gases (GHG) emissions in accordance with agreed individual targets." The agreement focuses on reducing the following seven GHGs: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons (HFCs), nitrogen trifluoride, perfluorocarbons (PFCs), and sulfur hexafluoride. In addition to national commitments from countries to address these emissions, many global organizations develop their own GHG inventories and reduction targets to address these same seven GHGs.

UTA's GHG emissions inventory includes the following four GHGs:

- Carbon dioxide (CO_2)—Carbon dioxide accounts for approximately 79% of global GHG emissions and is emitted during the combustion of fossil fuels (coal, natural gas, and oil), biological (biomass) materials, or waste, and during chemical reactions (cement manufacturing).
- Methane (CH_4)—Methane accounts for approximately 11% of global GHG emissions and is emitted during agricultural activities, combustion of fuels, and the decay of organic waste in landfills or wastewater.
- Nitrous oxide (N_2O)—Nitrous oxide accounts for approximately 7% of global GHG emissions and is emitted primarily during agricultural activities (fertilizer use) and during the combustion of fuel.
- Fluorinated gases—HFCs are manufactured gases that are used in a variety of industrial processes and as refrigerants. These gases are typically emitted in relatively small quantities but have a significantly higher ability to trap heat in the atmosphere.

Additional fluorinated gases regulated under the Kyoto Protocol, nitrogen trifluoride, PFCs, and sulfur hexafluoride, are not included in the inventory because these gases do not result from UTA's operations or projects. Note that PFCs could be used in some HVAC systems. However, where data were lacking, the 2023 inventory assumed any HVAC system with unknown refrigerant to use the HFC R410A, which is commonly used in building HVAC systems, and any vehicle AC system with unknown refrigerant to use R134a.

3.4.3 Global Warming Potentials

GHGs have different capacities to contribute to global warming. The global warming potential (GWP) index was developed to compare the warming impact of different GHGs on a common basis, over 100-, 50-, and 20-year time horizons. The relative potency of each GHG, as measured against CO_2, is estimated, and reported as its GWP. The GWP is thus a multiplier expressing the overall impact of each GHG on a mass basis compared to CO_2 over a given time horizon. GHG emissions are commonly reported as carbon dioxide equivalents (CO_2e; for example, MT CO_2e), and CO_2e is determined by multiplying total emissions of each specific GHG by its corresponding GWP. The CO_2e for each gas is then summed to determine the total annual CO_2e emissions.

The United States primarily uses the 100-year GWP as a measure of the relative impact of different GHGs, and it is best practice for organizations without significant short-lived climate pollutants, like Ryan, to rely on 100-year GWPs because 20- and 50-year GWPs do not consider the impact of emissions beyond the 20- or 50-year time horizon.

The GWP values used to calculate UTA's CO2e emissions are based on 100-year GWPs from the Intergovernmental Panel on Climate Change (IPCC) Fifth Assessment Report (AR5 2014) in line with the U.S. Environmental Protection Agency's (EPA's) 2024 Emission Factor hub. GWP values are occasionally updated by the IPCC to reflect the latest scientific estimates of the energy absorption or lifetime of the gases or in response to changing atmospheric concentrations of each GHG. It is best practice to use GWP values from the most recent Assessment Report, and base-year emissions will need to be recalculated using the latest GWPs to enable apples-to-apples comparison of annual emissions totals when tracking emissions over time. A new set of GWPs from the Sixth Assessment Report (AR6) was released in 2021 and should be integrated into UTA's inventory reporting in the future in line with the expectations set by standard-setting bodies and global GHG reporting programs like the EPA Emission Factor hub.

The GWP values used to calculate UTA's GHG inventory (AR5) are provided in Table 3-6 alongside their corresponding values from AR6. To develop future inventories, additional GWP values may be required to reflect additional HFC or PFC emissions from HVAC systems as more data becomes available. For the GWP values that were used in inventory calculation, refer to Appendix B.

Table 3-6. Scopes 1 and 2 Footprint Averaged by Vehicle Revenue Mile

Gas	GWP (100-year time horizon) (AR5)	GWP (100-year time horizon) (AR6)
CO_2	1	1
CH_4	28	28
N_2O	265	273

3.4.4 Emissions Factor Approach

UTA has no GHG emissions sources that are equipped with continuous emission monitors, unlike electric power plants, for example, so GHG emissions cannot be directly measured or monitored. Like most organizations, UTA uses calculation methods to quantify GHG emissions with activity data and GHG emission factors. Emissions factors represent the amount of a given GHG that typically result from a specific activity, or its GHG intensity. For example, the amount of GHG that results from burning a gallon of gasoline is almost identical no matter where it occurs. Thus, the amount of fuel combusted or product purchased is tracked as activity data, and the corresponding emission factor then allows estimation of the GHG emissions that result from the product or fuel use per unit quantity.

Emission factors were gathered from several different resources to provide estimates for each emissions source identified within UTA's GHG inventory boundaries, and to align with the data that were provided. Fuel- and technology-specific factors where utilized where appropriate for stationary combustion, and region-specific electricity emission factors were applied, given the variability in emissions intensity of grid electricity across regions. Vehicle emissions factors varied by the vehicle age and type of fuel consumed and were provided on a per-gallon basis (CO_2) or a per-mile-traveled basis (CH_4 and N_2O). Scope 3 emissions from purchased goods and services, capital goods, and business travel were each estimated with emissions factors based on dollars spent on the product or service. The complete list of emissions factors used in the most recent (calendar year 2023) GHG inventory calculations is provided in Appendix A.

Default emission factors may be updated when the attributes of energy (electricity, fuel, and so on) change and as emission factor quantification methods are refined. **Emission factor sources (specifically electricity) should be reviewed prior to completing future GHG assessments so that calculations are completed with the most up-to-date and appropriate information.**

3.4.5 Boundary Conditions

3.4.5.1 Organizational Boundaries

In establishing organizational boundaries and for corporate-wide reporting of GHG emissions UTA uses the Operational Control Approach. Under this approach, UTA accounts for 100% of the GHG emissions from sources over which it has operational control. Operational Control means that UTA has the full authority to introduce and implement its operating policies at the operation of a facility or activity. For leased or partially owned facilities, Operational Control means that UTA has the ability to track energy use and/or emissions from the facility (that is, UTA has access to utility bills and energy purchases for vehicles, generators, and/or maintenance equipment that can be accurately allocated to UTA).

Based on a detailed review of peer sustainability priorities and experience working in the transit sector, Jacobs recommended that the following Scope 3 categories be included as relevant to UTA's Scope 3 boundary at minimum:

- Purchased Goods and Services, including capital projects carried out by contractors
- Capital Goods, including upstream emissions vehicle manufacturing and disposal
- Upstream Fuel & Energy-Related Emissions from fuel extraction, refining and transportation
- Waste Generated in Operations
- Business Travel
- Employee Commuting

UTA's Capital Development Group has several facilities, including properties, which are considered Construction in Progress that have not been placed in service. Facilities that are recognized only as Construction in Progress are not considered to be under the operational control of UTA and, therefore, are reported as Scope 3 emissions.

3.4.5.2 Facilities List

In the United States, UTA owns or otherwise has operational control over facilities located in Utah. To reduce the burden associated with numerous properties for bus park-and-rides and rail stations, UTA uses the option of aggregating these facilities by type. The full list of facilities is provided in Table 3-7. In addition to properties, UTA aggregates the emissions for buses by type and year, as well as for locomotives. This enables UTA to use the GHG emissions data to set reduction targets and identify necessary resources to achieve those targets.

Table 3-7. Facilities Information

Facility	Address	City	Type
Beck Street	1819 North Beck Street	Salt Lake City 84116	Commuter Rail (FrontRunner)
Blue House			Support Services
Bus Route Infrastructure	9400 S 2000 E	Sandy City	Bus Park-and-Rides
Central Facility	612 West 200 South	Salt Lake City 84101	Bus Division
Central Point	221 West 2100 South	South Salt Lake 84115	Bus
Commuter Rail Infrastructure (Non-Propulsion)	2502 Stephens Ave	Ogden	Commuter Rail (FrontRunner)
Depot District	669 South 200 West	Salt Lake City 84101	Bus
Frontline Headquarters	669 West 200 South	Salt Lake City 84101	Support Services
Intermodal Hub			Bus & Greyhound
Jordan River Rail Service Center (Including II and Firehouse Fire Station)	2264 South 900 West 2340 South 900 West 2350 South 900 West	Salt Lake City 84119	Light Rail (TRAX)
Light Rail Infrastructure – Non-Propulsion	10 North Medical Dr	Clearfield	TRAX Stations
Light Rail – Propulsion	150 E 9900 S	Sandy City	TRAX Power
Lovendahl (Midvale Rail Service Center)	6850 South 550 West	Midvale 84047	Light Rail (TRAX)
Meadowbrook	3600 South 700 West	Salt Lake City 84119	Bus Division
Mobility Center	4384 South 50 West	Murray 84123	Paratransit (Special Services)
Mt. Ogden	135 West 17th Street	Ogden 84404	Bus Division
Ogden Intermodal Hub	2393 Wall Avenue	Ogden 84401	Intermodal hub

Facility	Address	City	Type
Parking Garage	8643 S Norris View Lane 8620 South 3255 West	West Jordan 84088	
Orem House			Support Services
Public Safety (Police station)	151 West Vine Street	Murray 84107	Support Services (Security)
Riverside	3610 South 900 West	Salt Lake City 84119	Paratransit (Special Services)
RWM Rental	6417 S. and 6419 S. Cottonwood St.	Murray 84107	Road crew facility's road house
Road Crew – Facility's Roadhouse			Support Services
Semi Service	823 W. Davis Rd.	West Valley 84119	All Modes
SFR House	463 W 200 S.	American Fork 84003	
SFR House (Orem House)	1348 W 800 S.	Orem 84058	
SFR House (Blue House)	928 East 400 South	Salt Lake City 84102	
Salt Lake City Intermodal Hub	300 South 600 West	Salt Lake City 84101	Intermodal Hub (Planned redevelopment)
Timpanogos	1100 S Geneva Road	Orem 84058	Bus Division
Tooele Bus Depot	90 S Garnet St. (Bldg. 659)	Tooele	Bus
Vehicle Maintenance (Light Rail Service Center)	6960 South 613 West	Midvale	Light Rail (TRAX)
UP Diesel Shop (Warm Springs Rail Service)	900 North 500 West	Salt Lake City 84116	Commuter Rail (FrontRunner)

3.4.5.3 Emission Source Identification Procedure

Setting operational boundaries involves identifying the emissions associated with UTA's operations, and categorizing them as Scope 1, Scope 2, or Scope 3.

3.4.5.4 Scope 1

Scope 1: Direct GHG emissions are from sources that are owned or controlled by UTA. These emissions can be subdivided into stationary combustion, mobile combustion, and fugitive sources. The operational boundaries for Scope 1 emissions are presented in Table 3-8.

Table 3-8. Scope 1 Emissions Sources

Emissions Activity	Direct Emission	Source	GHG
Stationary Combustion	Facility Heating – Natural Gas	Stationary Boilers, Water Heaters, HVAC	CO_2, CH_4, N_2O
	Onsite Electricity Generation – Diesel Fuel, Natural Gas	Emergency Generators	CO_2, CH_4, N_2O
Fugitive	Refrigerant Emissions	Chillers, Coolers, HVAC	HFCs
Mobile Combustion	Mobile Combustion – Gasoline, Diesel, CNG use in vehicles	Owned or Leased Vehicles	CO_2, CH_4, N_2O

3.4.5.5 Scope 2

Scope 2: Indirect GHG emissions are a consequence of activities that take place within UTA's operational boundaries but occur at sources owned or controlled by another company. The operational boundaries for Scope 2 emissions are presented in Table 3-9.

Table 3-9. Scope 2 Emissions Sources

Indirect Emission	Source	GHG
Purchased Electricity	Facility Lighting and Equipment, Light Rail Propulsion	CO_2, CH_4, N_2O

3.4.5.6 Scope 3

Scope 3: All Other Indirect GHG emissions are those not covered by Scope 2. These include upstream and downstream emissions, transport-related activities not owned or controlled by UTA, use of sold products and services, outsourced activities, recycling of used materials, waste disposal, etc. The following Scope 3 emissions categories are included in UTA's inventory boundary:

- 3.1 Purchased Goods and Services
- 3.2 Capital Goods
- 3.3 Upstream Fuel & Energy
- 3.5 Waste Generated in Operations
- 3.6 Business Travel
- 3.7 Employee Commuting

Note that current Scope 3 calculations do not include On-Demand Transit services. When data becomes available for those services, they should be evaluated as part of UTA GHG footprint.

3.4.6 Emissions Quantification

3.4.6.1 Quantification Method

The following methods were used to quantify GHG emissions from all sources within UTA's inventory boundary:

- Direct emissions from facility heating via natural gas is quantified by compiling natural gas bills issued to each facility that is operationally controlled by UTA (Electricity Calculation Spreadsheet – DTH). UTA uses Tier C, calculation based on fuel use, by applying EPA Emission Factor Hub default emission factors for natural gas.
- Direct fugitive emissions from the use of refrigeration and air conditioning equipment were quantified based on limited data of refrigerant purchases (Refrigerant Order Info Spreadsheet). Default emission factors from The EPA Emission Factor Hub for refrigerants will be used to convert emissions to CO_2 equivalents.
- Direct emissions from owned or leased vehicles will be based on fuel use tracked under UTA's corporate fleet program. UTA will use default emission factors from the EPA to determine CO_2 emissions for revenue and nonrevenue vehicles by model year and fuel type. Emissions factors based on the vehicle type will be combined with the miles traveled to determine emissions of CH_4 and N_2O; with the exception of locomotive which use the quantity of diesel fuel consumed to determine emissions of CH_4 and N_2O. Data were sourced from the following documents:
  - 2023 Fluid Reports by Month for Revenue and Non-Revenue Vehicles
    - Revenue fuel use: Monthly gallons of fuel use by business unit or depot (Meadowbrook, Timpanogos, Ogden, Central, Riverside, and Commuter Rail). Warm Springs fuel quantity dispensed by hose and vehicle type, including vehicle odometer reading at time of fueling
    - Non-revenue fuel use: Monthly gallons of diesel, gasoline, and compressed natural gas (CNG) consumed by facility and meter
  - 2023 Bus Miles by Month
  - 2023 Non-Revenue Vehicle (NRV) Inventory
- Indirect emissions from purchased electricity will be quantified by compiling Electricity Calculation Tool Spreadsheets, which prorated total electricity use to the calendar year for fixed facilities, bus route infrastructure, commuter rail (non-propulsion support systems), light rail non-propulsion support systems, and light rail propulsion. The spreadsheet format was a template provided by The Climate Registry to calculate total annual usage, prorating utility bills that do not align with calendar year dates. UTA will use emission factors associated with the electric grid subregion defined by eGRID for location-based emissions. To calculate market-based emissions, utility-specific emissions factor was used for locations and electricity uses where PacifiCorp(Rocky Mountain Power) is the main electric utility. For locations where utility providers were Lehi City Corporation, Murray City Corporation, Provo City Utilities, Kaysville City, or the utility provider was unknown, the Green-e residual mix emission rates were applied.
- Indirect Scope 3 Emissions were calculated under several categories as shown in Table 3-10.

Table 3-10. Indirect Scope 3 Emissions Quantification

Scope 3 Category	Emission Source	Data Source	Calculation Detail
3.1 Purchased Goods and Services	Supply chain emissions associated with UTA project and corporate purchases	Spend report provided by UTA titled Finance Details 2019-2023_24.06.11	Quantified by compiling UTA spend data and assigning a high-level spend category and NAICS emission factor based on the product or service. NAICS code will be assigned by hand based on the financial code and description provided in the financial report titled Finance Details 2019-2023_24.06.11. Spend associated with wages, fringe benefits, insurance, fees, allocations, financing, leases, and accounting were excluded from the emission boundary for purchased goods and services
3.2 Capital Goods	Supply chain emissions associated with UTA capital assets	High-Level UTA Finances (Capital Uses category, including Total Capital Projects and the Total State of Good Repair)	Quantified by analyzing high-level UTA financial insights and assigning a high-level spend category and NAICS emission factor code by hand based on the capital use category and insights from UTA's financial team. Capital assets, other than infrastructure and intangible software, are defined by UTA policy as asset with an initial, individual cost of $5,000 or more. Infrastructure capital assets are defined as assets with an initial, individual cost of $50,000 or more. Intangible software capital assets are defined as assets with an initial, individual software license cost of $10,000 or more, or $100,000 or more per software license.

Scope 3 Category	Emission Source	Data Source	Calculation Detail
3.3 Upstream Fuel and Energy	Upstream emissions and energy losses from fuel and energy-related activities (diesel, propane, gasoline, natural gas, electricity).	▪ UTA 2023 Month by Month Revenue Vehicle Fluid Reports ▪ 2023 Nonrevenue Usage Account Breakdown ▪ 2023 Month by Month "Fluid Reports Greenhouse" spreadsheets, and Net Realizable Value (NRV) Inventory ▪ 2023 Bus Miles by Month Totals 1 ▪ Electricity Calculation Tool 3800 Fixed Facilities DTH ▪ Bus Route Infrastructure, Commuter Rail Non-propulsion, Light Rail Non-Propulsion ▪ Electricity Calculation Tool UTA Light Rail Propulsion	Estimated by compiling natural gas bills and electric bills issued to each facility that is operationally controlled by UTA. Default emission factors from IEA will be used to determine the transmission and distribution losses associated with UTA's energy use. Fuel use was tracked under UTA's corporate fleet program. Default emission factors from the DOE will be used to determine the upstream well-to-tank fuel emissions.
3.5 Waste Generated in Operations	Third-party waste disposal in landfill, incineration, recycling, waste-to-energy, and wastewater from operations.	UTA provided 'Summary Waste Invoices from Edison'	Quantified through the collection of UTA Waste invoices between January and November 2023 and assigning a high-level spend category and NAICS emission factor by hand based on code and description provided by UTA in 'Summary Waste Invoices from Edison.'
3.6 Business Travel	Emissions from the transportation of employees for business-related activities in vehicles owned or operated by third parties, such as aircraft, trains, buses, and passenger cars.	Spend report provided by UTA titled ''Finance Details 2019-2023_24.06.11'	Quantified by analyzing high-level UTA financial insights and assigning a high-level spend category and NAICS emission factor code by hand based on the travel activity category and the description provided by UTA in 'Finance Details 2019-2023_24.06.11'.

Scope 3 Category	Emission Source	Data Source	Calculation Detail
3.7 Employee Commuting	Emissions from transportation of employees to and from work	Commuting modes and ridership data provided by UTA in Excel file titled, 'EFC UTA Employee Aggregate Ridership 2019-2023'.	Quantified by determining the ratio of commuting modes by UTA employees and the average distance traveled to and from work. The ratio of commuting modes was determined using the Bureau of Transportation Statistics for commuting modes in the state of Utah for 2022. Default EPA emission factors will be used determine emissions by transportation mode and distance per employee. Annual emissions will be calculated assuming 365 commuting days per year[1].

DOE = Department of Energy

IEA = International Energy Agency

[1] Because the breakdown of commuting patterns of employees is not available, a conservative estimate was made based on 365 commuting days per year assuming that garage worker and bus driver schedules differ from regular office work schedules and are outside of 5 workdays per week.

3.4.7 Data Management

3.4.7.1 Activity Data

Sources for corporate-wide electricity and natural gas usage come from utility bills for each facility, as provided on issued utility bills and/or available on the utility's website. Invoices for electricity and natural gas are reviewed for payment by the financial staff. Upon request utility use data are provided to the Safety and Environmental Protection Department for incorporation into The Climate Registry Information System (CRIS).

Fossil fuel consumption for emergency generators, mobile fleet and mobile equipment is tracked under UTA's corporate fleet program, J.D. Edward's database system.

3.4.7.2 Data Collection and Management

The Safety and Environmental Protection Department coordinates the assigning of roles and responsibilities for GHG inventory data management. Each year, the Safety and Environmental Protection Department collects the activity data. The Manager of Safety and Environmental Protection supervises the review of the completeness of the data sources and the use of the data to calculate and complete the annual GHG inventory.

More information on the data collection and review process conducted by Jacobs in 2024 is available Data Review Memo provided in Chapter 1.

3.4.7.3 Prorated Process

Because UTA's electricity and natural gas bills do not begin on January 1 and end on December 31, the data for January and December are prorated to account for the full year. As an example of the prorated process, a bill ends on December 28. The total kilowatt hours (kWh) for that billing cycle is divided by the number of days in the billing cycle. That value is multiplied by 3 to account for the remaining days in December. The prorated amount is added to the year-to-date kWh amount to determine the annual kWh total.

3.4.7.4 Quality Assurance

To ensure that the data collected is accurate, the following measures will be taken at a minimum annually:

- The Safety and Environmental Protection Department contacts the Finance Department to identify newly owned or leased facilities where UTA has operational control have been added during the year and to confirm the status of existing facilities. In addition, the status of existing operational facilities that may have been closed or otherwise divested is confirmed.
- Inquiries to UTA's operational facilities staffs are conducted to identify new sources at facilities, including new or changed utilities, emergency generators, changes in owned or mobile fleet, etc.
- The Manager of Safety and Environmental Protection oversees the review of quantification methodologies and emission factors as part of the annual GHG reporting process.
- The Safety and Environmental Protection Department requests to the extent possible that data used in the calculation of the GHG Inventory is provided in a form that allows an "actual" calculation to reduce or eliminate estimations.

By following these measures, UTA assures reduction in error and maintains accuracy of GHG emission calculations. For optimal quality of the calculations, two rounds of peer review are conducted with one round of senior expert review.

3.4.7.5 Data Collection System Security

Information compiled for the purposes of UTA's GHG Inventory for reporting to The Climate Registry are both hardcopy and electronic. Hardcopy information is maintained and stored by the Safety and Environmental Protection Department. Electronic information is maintained and stored in UTA's Information Systems (IS) database on servers. To ensure protection and prevent loss of data UTA's IS Department routinely performs a backup to a dedicated server.

3.4.7.6 Integrated Tools

UTA currently uses an inventory management system where information for direct sources for GHG emissions is directly inputted into the J.D. Edwards database. UTA continues to integrate utility and mobile source data into systems employed to the tracking and reporting of GHG inventory emissions.

3.4.7.7 Reporting Frequency

Facility data will be reported to UTA's Operations Performance Office, Safety and Environmental Protection Department on an annual basis.

3.4.8 Base Year

For reporting to The Climate Registry, UTA's base year was 2008. UTA's updated base year is calendar year 2023. The recalculation of base year emissions may be required as the result of significant structural changes to UTA's facilities or sources, or significant changes to the GHG estimation methodologies used to calculate base year emissions. The Climate Registry defines "significant" as a cumulative change of 5% or larger in an entity's total base year Scope 1 and 2 emissions. The GHG Protocol allows organizations to establish their own defensible "significance threshold" which will be applied to determine whether historic emissions recalculation is necessary.

3.4.8.1 Structural Changes

To compare emissions over time the base-year emissions must closely reflect UTA's organizational structure. Significant structural changes that could require UTA to adjust its base-year emissions include mergers, acquisitions, and divestments and/or outsourcing or in-sourcing of activities. The Climate Registry defines "significant" as a cumulative change of 5% or larger in an entity's total base-year emissions.

Base-year emissions are <u>not</u> to be recalculated for the following structural changes:

- Acquisition of new facilities that did not exist in the base year
- Outsourcing/in-sourcing reported under Scope 2: Indirect Emissions
- Organic growth or decline

3.4.8.2 Methodology Changes

Base year emissions are adjusted when UTA's calculation methodologies triggers a significant cumulative change. In the event there is a change in a published emission factor that leads to a significant cumulative change, previous year emissions, as well as the current year and the base year are adjusted. Corrections are made to the base year, when errors are identified during subsequent year inventory reporting that trigger a significant cumulative change.

3.4.9 Management Tools

UTA uses an Environmental Management System in conformance with the International Standards Organization (ISO) 14001:2004. UTA has developed written policies and procedures that details UTA's Environmental Management System (EMS). The following sections in this IMP summarize specific procedures from UTA's EMS.

3.4.9.1 Roles and Responsibilities

UTA's management ensures the availability or resources essential to establish, implement, maintain and improve the EMS. Resources include human resources and specialized skills, organizational infrastructure, technology and financial resources. UTA's top management has appointed the Manager of Safety and Environmental Protection to have defined roles, responsibilities and authorities in order to facilitate effective environmental management.

The Manager of Safety and Environmental Protection leads the initiative with the support of UTA's top management.

3.4.9.2 Training

UTA has identified training needs associated with its environmental aspects and its Environmental Management System. UTA provide training or takes other action to meet these need and retains associated records. UTA has established, implemented and maintains procedures as part of UTA's EMS to make people working for or on its behalf aware of:

- The importance of conformity with the environmental policy and with the requirements of the EMS;
- The significant environmental aspects and related actual or potential impacts associated with their work, and the environmental benefits gained by using the EMS;
- Their roles and responsibilities in achieving conformity with the requirements of the EMS; and
- The potential consequences of departure from specified procedures.

Awareness of UTA's participation in The Climate Registry is provided via UTA's Management Review at the General Manager's Safety Committee meeting to UTA's top management. Meeting notes and comments are posted on the company's intranet for all UTA's employees.

3.4.9.3 Document Retention and Control

There are written procedures in UTA's EMS that specify the method to ensure control of documents, including retention times. Environmental documents may include records, procedures, registration documents, permits and permit exclusions, certificates and licenses. The Manager of Safety and Environmental Protection is responsible for managing documentation associated with EMS, and for ensuring compliance with procedures as they apply to the EMS.

Records used to calculate and document the GHG inventory from the base year through the end of the reporting period are maintained by the Safety and Environmental Protection Department.

3.4.10 Auditing and Verification

3.4.10.1 Internal Auditing

UTA conducts internal audits of its Quality Management System (QMS) and EMS as required by ISO 9001 and 14001 standards. Internal audits determine whether its implemented systems:

- Conform to planned arrangements;
- Conform to requirements of ISO 9001;
- Conform to requirements of ISO 14001;
- Are effectively implemented and maintained; and
- Provide information the results of audits to management.

UTA's Internal Audit procedure defines the program for:

- Planning and conducting audits;
- Reporting results;
- Retaining associated records; and
- Determining the audit criteria, scope, frequency and methods.

The selection of auditors and the conducting of audits are designed to ensure objectivity and impartiality of the audit process. Auditors are not allowed to audit their own facilities or operations.

The Manager of Safety and Environmental Protection supervises a desktop review of the corporate GHG Inventory activity data, calculations, emission factors and any other tool used to gather information or determine CO_2 and CO_2 equivalent emissions prior to submission to The Climate Registry. All facilities are internally reviewed for verification of GHG emissions and tracking within the reporting period.

3.4.10.2 External Verification

UTA completed verification according to The Climate Registry's requirements between 2008 and 2016.

The Climate Registry requires that each year the annual emissions report must be third-party verified. A list of certified Registry-approved Verification Bodies is available on The Climate Registry's website (www.theclimateregistry.org). The Climate Registry requires all Verification Bodies to submit a case specific Conflict of Interest (COI) Assessment to evaluate the potential conflicts between UTA and the Verification Body. Verification contracts may not be finalized until The Climate Registry authorizes a Verification Body to proceed.

The Climate Registry allows a Verification Body to streamline verification activities, following a successful comprehensive verification process, in order to minimize costs. The Climate Registry allows for a 5 year verification cycle, which upon completion the Reporter must obtain a new Verification Body and begin a new 5 year verification cycle, beginning with a comprehensive verification.

Similar procedures may be followed, less the required submissions made to The Climate Registry, if verification of the 2023 base-year inventory is verified.

3.4.10.3 Management Review

Top management reviews UTA's EMS approximately twice per year in the General Manager's Safety Committee to ensure its continuing suitability, adequacy and effectiveness. Reviews include assessing opportunities for improvement and the need for changes to the Environmental Management System, including the environmental policy and environmental objectives and targets. Records of the management reviews are retained.

Input to management reviews include:

- Results of internal audits and evaluations of compliance with legal requirements and with other requirements;
- Communication from external interested parties, including complaints;
- The environmental performance of the organization;
- The extent to which objectives and targets have been met;
- Status of corrective and preventive actions;
- Follow-up actions from previous management reviews;
- Changing circumstances, including developments in legal and other requirements related to its environmental aspects; and
- Recommendations for improvement.

The outputs from management reviews include any decisions and actions related to possible changes to environmental policy, objectives, targets and other elements of the Environmental Management System, consistent with the commitment to continuous improvement.

The Manager of Safety and Environmental Protection reviews in the General Manager's Safety Committee on an annual basis the status of UTA's GHG Inventory that is reported to The Climate Registry. Based on the annual review, UTA's top management ascertains how The Climate Registry program is being implemented and ensures that necessary resources are available to set GHG reduction targets and to successfully achieve those targets.

3.4.10.4 Corrective Action

UTA has established, implemented and maintains procedures for dealing with actual and potential nonconformity and for taking corrective action and preventive action. The procedures define requirements for:

- Identifying and correcting nonconformities and taking action to mitigate their environmental impacts;
- Investigating nonconformities, determining their causes and taking actions in order to avoid their recurrence;
- Evaluating the need for action to prevent nonconformities and implementing appropriate actions designed to avoid their occurrence;
- Recording the results of corrective actions and preventive actions taken; and
- Reviewing the effectiveness of corrective actions and preventive actions taken.

Actions taken will be appropriate to the magnitude of the problems and the environmental impacts encountered. Necessary changes will be made the Environmental Management System documentation.

Corrective actions will be implemented at the direction of the Manager of Safety and Environmental Protection in response to a desktop review and/or internal audit or third-party verification, identifying a significant error or a number of cumulative errors that are collectively significant. Such corrective actions are documented through revisions of the IMP and/or changes to GHG Inventories.

3.5 Sustainability Strategies

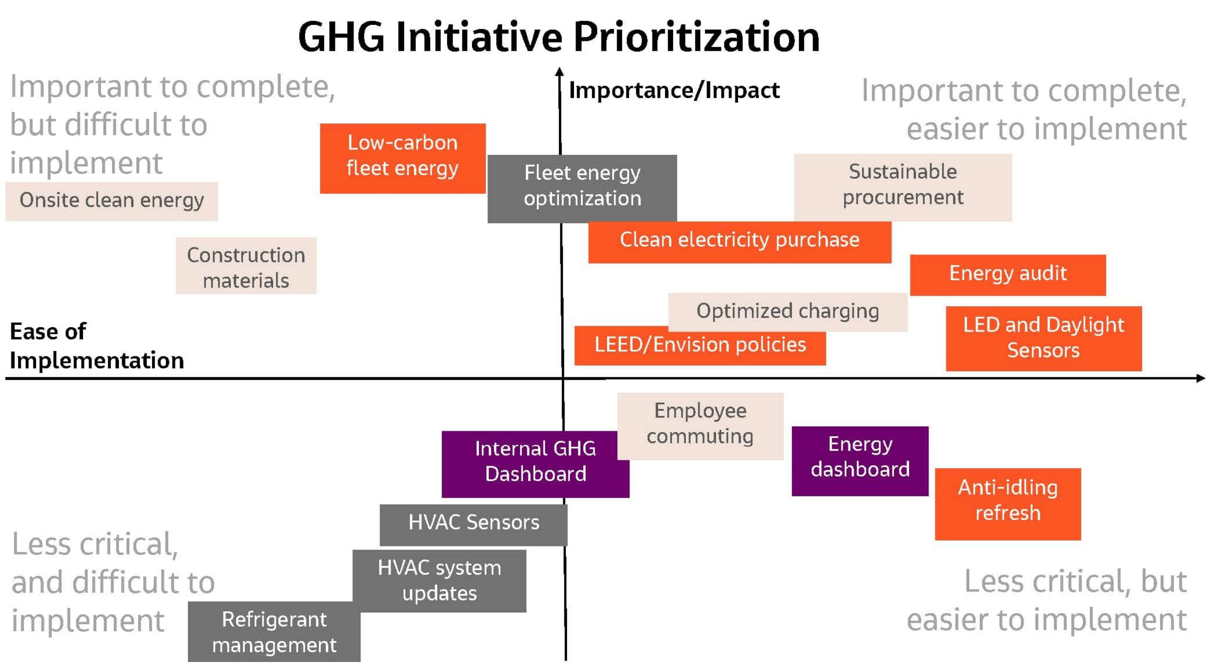
To identify suitable sustainability initiatives, Jacobs solicited ideas and input from UTA teams and engaged internal subject matter experts across disciplines to brainstorm solutions for the greatest contributors to UTA's footprint. Furthermore, Jacobs reviewed the variety of initiatives that other transit agencies pursue and considered the sustainability actions that are often taken within the Salt Lake City region.

A variety of themes emerged from the sustainability initiatives assessment aligned with the GHG, water, and waste footprints. The category titled "Other" captures additional ideas that may not have been addressed by the environmental data collection and baselining but can be beneficial for UTA's sustainability journey. In particular, that section includes initiatives around data management, community engagement, climate resilience, and positive impacts on nature. Sustainability initiatives are summarized throughout this memorandum and are not listed in any particular order of importance or priority.

One of the most material sustainability contributions that UTA makes is providing the community in the region mobility services that replace single-occupancy vehicle trips. That service reduces regional GHG emissions and creates resource efficiency. Given that continuing the increase ridership is one of UTA's fundamental goals, it is not listed as a specific sustainability initiative, but rather is assumed as the basis for all operations. Actions like promoting transit-friendly development, educational campaigns and legislative initiatives can support the accessibility and growth of the transit system.

Figure 3-9 illustrates the priority of specific initiatives based on ease of implementation and organizational importance or impact on emissions.

Figure 3-9. Greenhouse Gas Sustainability Prioritization



The initiative descriptions include the following: (1) an overview of the initiative, potential goals, and objectives of the initiative and high-level cost if available; (2) possible features and benefits of the initiative; and (3) anticipated challenges. The foundation for seeing progress from the initiatives is data tracking and continuing to improve data quality. For more details about how to improve data quality, refer to a previous technical memorandum, provided here in Chapter 1. Note that the descriptions of key initiatives/opportunities may not encompass every single benefit and challenge possible because the information presented is based on publicly available resources. Further studies may be needed to establish more detailed co-benefits or tradeoffs and cost of implementation.

Cost estimates are provided on a low, medium, and high scale. The specific dollar values in those categories range by the category of solutions, meaning that a medium-cost energy solution may not be of the same cost as a medium-cost waste solution, and these are provided for relative comparison of the solutions. Where data are available, actual dollar values are provided for the implementation of the initiative. Minimal costs signify that the solution may not require external resources but can be conducted by UTA's existing employees.

3.5.1 System-Wide Strategies

3.5.1.1 Internal Greenhouse Gas Dashboard

The GHG Dashboard is an internal interactive tool for the purposes of tracking, analyzing, and reporting GHGs. It is designed to depict complex data in a user-friendly format from emission sources, trends over time, and compliance with regulations or targets. The dashboard could enable UTA to review key data from their environmental impact to reduce their GHG carbon footprint. This dashboard can be part of the Central Repository for Environmental Data as one of the stages of Repository development.

Goals and Objectives: Monitoring progress of UTAs GHG carbon footprint.

High-Level Cost: $25K to $50K for initial setup and $25K to 50K per year for Software as a Service (SaaS) fees, depending on scope of data and full workflow.

Key Features and Benefits: The dashboard can offer a comprehensive view of emissions, breaking them down by source and comparing them to targets set by UTA or mandated by regulations. It could use historical data to identify trends and measure the effectiveness of mitigation strategies. Sector analysis could provide insights into emissions from different operations, helping to prioritize reduction actions. Reporting functions could facilitate the generation of reports for various stakeholders, and forecasting could use predictive analytics to estimate future emissions based on current trends and planned actions.

Potential Challenges: Challenges may include obtaining accurate and consistent emission data from various sources more frequently than monthly billing cycles, and integrating multiple tracking systems into a cohesive dashboard. This effort should also include training and support to create user engagement and comprehension to help staff interpret data correctly and avoid flawed decision-making. Additional resources could be needed to prepare and maintain the dashboard, which could potentially pose a challenge.

3.5.1.2 Employee Commuting Incentive

The purpose of employee commuting support is to encourage employees to consider alternative methods of transportation that will ultimately lower their transportation carbon footprint. UTA could conduct regular surveys to understand employee commuting patterns or needs. Based on this data, incentives programs could be offered to encourage use of UTA's transit, biking, or micro-transit options and track how much of that incentive contributes to alternative ways of commuting to UTA.

Goals and Objectives: Reduce employee commuting footprint and serve as an example to the community of using alternative transportation.

High-Level Cost: $10K to 40K, depending on the incentives provided.

Key Features and Benefits: UTA could implement various initiatives to encourage sustainable commuting among employees. These include providing incentives for using public transportation, offering electric vehicles (EVs) for employees traveling outside transit schedules, and promoting carpooling with preferred parking spots. Additionally, UTA could create accessible walking and bike paths, support flexible work arrangements and telecommuting technology, and provide biking facilities such as racks, changing rooms, and showers. EV incentivization could involve installing charging stations and offering rebates or similar for EV purchases. Awareness and education campaigns, such as workshops for employees on sustainability and carbon footprint calculators, could also be part of the initiative.

Potential Challenges: Challenges may include infrastructure limitations, such as inadequate bike lanes or long travel distances. Communication and awareness issues, logistical challenges with carpooling, and health and safety concerns, especially during flu seasons, may also arise. Providing incentives or subsidies may have tax implications, limiting commute support measures.

3.5.1.3 Refrigerant Management

Refrigerant management and leak detection can help mitigate GHG emissions. Examples of refrigerant management can include detailed tracking of refrigerant loss in facilities and fleet. Pre-2010 refrigeration systems can be prone to leaks and may no longer be compliant; therefore, they are the first candidate for evaluation for leaks.

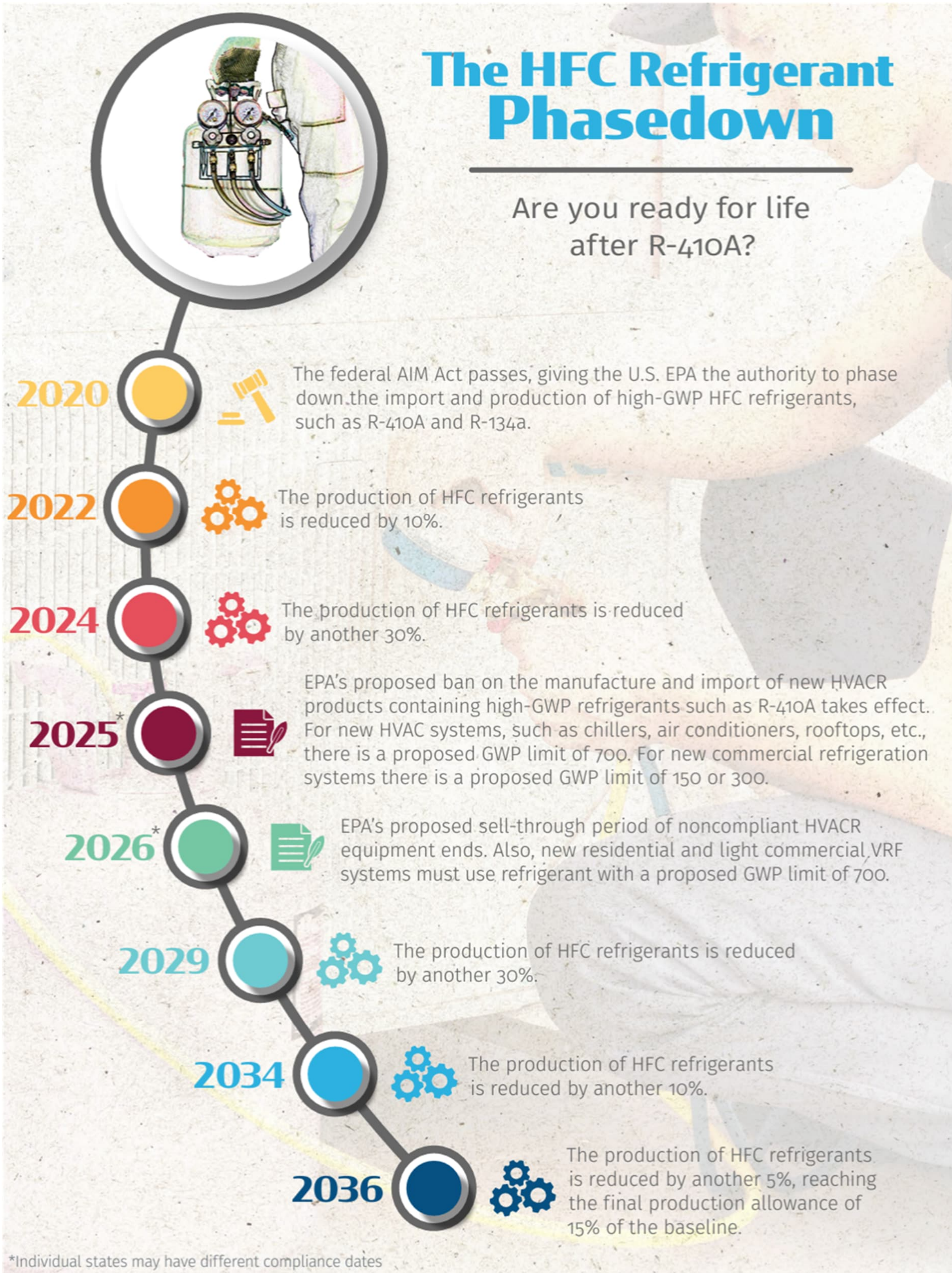
Goals and Objectives: Lower GHG emissions by monitoring fleet and facility leaks. Audit existing refrigeration system and identify either drop-in refrigerant replacement or full turnkey replacement with compliant systems.

High-Level Cost: Medium to high, depending on volume of existing refrigerants handled and pending results from a detailed energy audit assessing scope of work and implementation complexity of transitioning to new refrigerants.

Key Features and Benefits: UTA could implement a comprehensive refrigerant inventory, tracking all refrigeration and air conditioning systems by type and quantity. The initiative can address refrigerant emissions, both direct from leaks and indirect from energy consumption. Regular leak detection and prompt repair protocols could be established. With the phasing out of older high GWP or high ozone depleting potential refrigerants by EPA, it will be harder to maintain legacy refrigeration systems and more expensive to procure obsolete non-compliant refrigerants in the future. Having a path to transition minimizes future risk to operations. Training on best practices for refrigerant handling, leak detection, and system maintenance could be provided, along with awareness campaigns. End-of-life management plans could ensure proper disposal of refrigerants and compliance with regulations. Record keeping and reporting could track refrigerant purchases, usage, leak repairs, and emissions. Energy efficiency improvements can be pursued through regular assessments and retrofitting existing systems. UTA could engage with suppliers to source low GWP refrigerants and promote sustainability across supply chains. Retrofitting existing systems could enhance efficiency and reduce refrigerant charges and associated emissions.

The federal American Innovation and Manufacturing Act passed in 2020, gives the EPA authority to phase down the import and production of high-GWP HFC refrigerants. Figure 3-10 is an infographic of how the EPA is implementing its HFC refrigeration phasedown.

Figure 3-10. U.S. Environmental Protection Agency Refrigerant Phaseout Timeline



Potential Challenges: Maintaining an accurate inventory and tracking system may be intensive. There may be knowledge and training gaps, as a lack of trained technicians familiar with low GWP refrigerants could necessitate consistent and continuous training. Transitioning to low GWP refrigerants can present technical challenges with system compatibility and performance, and the cost of replacement can be high. Financial constraints may limit UTA's ability to invest in new technologies, training, and improvements. Limited supplier options and the need for consistent employee engagement in refrigerant management may also pose challenges.

3.5.1.4 Policies/Capital Design Criteria (LEED, Envision)

Incorporating policies and technical requirements such as LEED and Envision into UTA's capital design criteria can help UTA achieve measurable environmental benefits. While pursuing official LEED or Envision certification can be costly, following the principles of those frameworks may be beneficial for reviewing sustainable design checklists and policies in new buildings, retrofitting existing buildings, and designing any new infrastructure.

Goals and Objectives: Leverage various policies, standards, and technical requirements that provide frameworks for sustainability and environmental responsibility.

High-Level Cost: Varies from internal labor to certification costs.

Key Features and Benefits: UTA can incorporate LEED or Envision criteria in new construction or when updating existing facilities. Criteria includes optimizing energy performance, using renewable sources, reducing water use, supporting alternative transportation, using sustainable materials, and minimizing waste during construction and operation. Furthermore, projects can be evaluated for their contribution to the well-being of communities and ecosystems, integrating natural systems and biodiversity into project planning and design.

Potential Challenges: Challenges may include the complexity of standards, with detailed and extensive documentation required for certification if that is pursued (note that certification is optional, and the LEED/Envision criteria can be followed without pursuing official certification). Costs and budget constraints may arise because sustainable design could require up-front investment in specific materials, technologies, and practices, along with long-term financial commitments to maintain compliance. Limited expertise and training may be an issue because there could be a lack of qualified professionals in green building practices, necessitating employee training. Integrating new sustainable practices into existing operations without disruptions may be challenging, requiring a balance with other operational priorities. Limited availability of sustainable materials and low-impact technologies may affect the ability to meet certification requirements, and existing infrastructure may not support sustainable practices. Evolving standards like LEED and Envision may require UTA to stay updated on new requirements, necessitating further investments to remain compliant.

3.5.2 Energy: Facilities

3.5.2.1 Clean Energy Purchase

Clean energy can be acquired from energy generated from renewable sources such as solar, wind, hydro, and geothermal. Partnering with Rocky Mountain Power to take advantage of programs like the "Subscriber Solar" program could provide support for regional renewable energy projects and reduce UTA's Scope 2 footprint. UTA has the opportunity to reduce their carbon footprint, enhance sustainability credentials, and contribute to broader climate goals through clean energy acquisition. Clean energy purchases and integrating clean energy into carbon footprint planning is an essential strategy for reducing

GHG emissions. This effort will be streamlined in the long term, given a Salt Lake City (SLC)-wide target of providing 100% renewable electricity for community by 2032.

Goals and Objectives: Transition to clean energy sources and reduce Scope 2 emissions.

High-Level Cost: Varies depending on the purchase amount and project.

Key Features and Benefits: UTA could form partnerships with energy companies like Rocky Mountain Power to use various types of clean energy, such as Renewable Energy Certificates (RECs) and Power Purchase Agreements (PPAs). Purchasing RECs will allow UTA to claim the use of renewable energy in their operations, while PPAs could ensure a fixed price for electricity over a specified period, supporting the development of renewable projects.

Potential Challenges: Challenges may include the up-front costs of setting up renewable energy systems or entering PPAs. The complexity of agreements may require specialized legal and financial expertise. Regulatory uncertainty could impact the economics of clean energy purchasing, and the intermittency of renewable energy sources may necessitate energy storage solutions or backup systems. Long-term commitment requirements for contracts may also pose challenges.

3.5.2.2 Onsite Clean Energy Generation and Storage

Onsite clean energy generation could allow UTA and its facilities to reduce reliance on fossil fuels, lower GHG emissions, and enhance energy independence. Onsite clean energy can supplement the existing used energy. Onsite clean energy can be obtained from solar photovoltaic, thermal and electric energy storage, ground mount systems, and ground source heat pumps. Opportunities to use waste heat from neighboring industrial facilities may be available. This strategy aligns with the statewide efforts to reduce GHG emissions, and the SLC Climate Positive 2040 focus of growing rooftop solar.

Goals and Objectives: Lower GHG emissions by generating clean electricity onsite, reduce reliance on fossil fuels, and enhance energy independence.

High-Level Cost: Cost can vary depending on technology.

Key Features and Benefits: UTA could implement rooftop solar installations on garages and take advantage of Rocky Mountain Power incentives for battery storage (such as "Wattsmart Batteries") using lithium-ion or other battery technologies to store excess energy for later use. Various energy storage solutions, including batteries, could be employed onsite. These initiatives could significantly reduce the carbon footprint by replacing electricity used from the grid with clean electricity, enhance energy independence by reducing reliance on external energy sources, and provide cost savings through reduced electricity bills and avoidance of peak charges. Onsite generation and storage can also improve resilience by providing backup power during outages, enhancing the reliability of the energy supply.

Potential Challenges: Challenges may include the substantial costs of purchasing and installing renewable energy systems and storage solutions. UTA may face space limitations for solar panels or other energy storage systems. The technical complexity of designing, installing, and maintaining onsite energy systems may be significant. Renewable energy sources can be intermittent, affecting reliability. Regulatory and permitting processes for onsite energy can be complex. Integrating new systems with existing energy infrastructure may be challenging, especially if current systems are outdated or incompatible. Maintenance and operation may require additional staff or third-party services. Market and technology risks can result in investments in technologies that may become obsolete or less competitive over time.

3.5.2.3 Building Energy Use Reduction

Strategies and practices aimed at minimizing the amount of energy consumed by a facility can still maintain comfort and operational efficiency. A comprehensive strategy can successfully reduce energy use and contribute to lowering UTAs carbon footprint. Such strategies may include reducing lighting, be HVAC-related, depend on other energy consumption, or involve measures to reduce load on HVAC systems, such as improvements to building envelope. Those strategies are described in more detail in the following subsections.

3.5.2.4 Detailed Energy Audit

A detailed energy audit is valuable for facilities to effectively manage their energy consumption and identify opportunities for emission reductions. The audit could provide insights that drive energy efficiency and reduction initiatives.

Goals and Objectives: Identify energy use patterns and select energy-efficient alternatives.

High-Level Cost: Costs can vary depending on the number of facilities.

Key Features and Benefits: UTA could conduct baseline measurements of current energy consumption and emissions to set realistic reduction goals. Identifying energy use patterns can highlight peak consumption times, seasonal variations, and areas of inefficiency. Benchmarking against industry standards or similar transit authorities can motivate improvements and identify best practices. Targeting specific systems or processes that significantly contribute to energy use and emissions can enable upgrades to HVAC systems, improved insulation, and energy-efficient lighting. Tracking progress through updated energy reports can help UTA facilities monitor energy efficiency and carbon reduction goals. Comprehensive energy reports could engage stakeholders by communicating UTA's energy performance and sustainability efforts, fostering transparency and accountability. Energy efficiency investments in the long run can contribute to lower operational costs.

Potential Challenges: Challenges may include the time-consuming nature of collecting accurate and comprehensive data on energy use, which may require specific metering and monitoring systems. The complexity of UTA's multiple energy-consuming systems can complicate data aggregation and analysis. Fluctuations in energy prices or changes in energy supply sources may impact energy consumption patterns and complicate planning. Technological limitations, such as outdated or inadequate technology for monitoring and reporting energy use, may hinder the ability to generate detailed and timely reports.

3.5.2.5 LED and Dimming Lights

Implementing highly efficient lighting technology consumes less energy, increases life spans, and produces less heat. Dimming light technology can reduce energy consumption by allowing facilities to use only the necessary amount of light based on occupancy or natural light availability. This is an effective strategy for reducing energy consumption in facilities.

Goals and Objectives: To offset operational costs while reducing GHG emissions and upgrading equipment.

High-Level Cost: $0.4M to $0.9M depending on the condition of existing lighting systems and controls. Low to medium depending on condition of existing lighting fixtures.

Key Features and Benefits: UTA could install energy-efficient LED lighting, which can consume up to 75% less energy than traditional lighting and last 25 times longer. LEDs produce less heat, reducing the load on cooling systems, and their long lifespan will reduce the frequency of replacements. Dimming capabilities will optimize energy use based on actual lighting needs. LEDs can provide high-quality and consistent light and easily integrate with smart building technologies and automation systems. Many programs offer incentives for upgrading to energy-efficient lighting systems, ensuring compliance and additional benefits.

Potential Challenges: Challenges may include the initial up-front costs of implementing LED lighting. Advanced dimming systems and controls may require specialized technical knowledge. Quality concerns may arise, but choosing high-quality LEDs can mitigate these issues. Failures in the dimming system controls may require specialized maintenance. Integration with existing systems may require special planning and execution.

3.5.2.6 Heating, Ventilation, and Air Conditioning System Updates

HVAC systems are significant energy consumers, and reducing HVAC energy use can be achieved through various strategies. By implementing energy-efficient technologies, optimizing system performance, and engaging occupants, UTA can achieve significant reductions in energy consumptions and emissions. The actions can include upgrading packaged units serving cooling-only areas to higher seasonal energy efficiency ratio (SEER) efficiency units, upgrade packaged units serving fully air-conditioned areas to variable refrigerant flow (VRF) heat pump systems, upgrade existing thermostat controls to programmable thermostats, and centralize all HVAC control systems to Building Automation Systems.

Goals and Objectives: To offset operational costs while reducing GHG emissions and upgrading equipment.

High-Level Cost:

- Upgrading packaged units serving cooling-only areas to higher SEER efficiency units: $1.25M to $1.5M depending on condition of existing equipment and existing maintenance expenses.
- Upgrading packaged units servicing fully air-conditioned areas to VRF heat pump systems: Medium to high depending on results of detailed energy audit assessing scope and size of areas suites to VRF conversions and condition of existing air-distribution infrastructure.
- Upgrading existing thermostat controls to programmable thermostats: Low to medium depending on condition of existing wiring and network infrastructure.
- Centralizing all HVAC control systems to Building Automation System: $2.5M to $4M depending on condition of existing wiring, control hardware, and networking infrastructure.

Key Features and Benefits: UTA can implement energy efficiency upgrades to high-efficiency equipment and smart thermostats. Reducing HVAC energy use can provide several benefits beyond energy savings. It can improve cooling and heating with thermal comfort performance and enable more control the thermal comfort, reducing the need for space heaters or fans. Furthermore, the up-front investment could be offset by reducing operational costs.

Potential Challenges: Challenges may include the initial up-front costs of implementing energy-efficient HVAC solutions. Upgrades and maintenance may require downtime or disruptions to operations. The technical complexity of designing and implementing these solutions may require specialized knowledge and expertise. Retrofitting existing systems can be challenging, and accurately measuring and verifying savings may be difficult. Local regulations and codes related to HVAC systems can be complex, and market variability may affect the availability and options for energy-efficient technologies.

3.5.2.7 Sensors

Sensors can monitor various parameters related to energy consumption, environmental conditions, and equipment performance, providing real-time data that can be used to optimize energy use and reduce GHGs. Solutions particularly relevant for UTA include light occupancy sensors to ensure lights are not used when the building is not occupied. Other sensors that may be suitable for UTA can be temperature sensors to ensure proper function of HVAC system.

Goals and Objectives: Optimize energy use and reduce GHGs.

High-Level Cost: Low to medium depending on the type of sensor used.

Key Features and Benefits: UTA can enhance energy efficiency by using sensors to provide real-time data, enabling optimization of energy use, reducing waste, and improving efficiency. Data collected from sensors will inform maintenance schedules, operational adjustments, and long-term planning, leading to cost savings. Sensors can help maintain optimal environmental conditions for temperature, lighting, and air quality, improving comfort and productivity. Predictive maintenance could be facilitated by sensors monitoring equipment performance and alerting facility managers to potential issues. Integration with smart technologies can allow sensors to be incorporated into Building Management Systems, enabling automated adjustments and control over energy use.

Potential Challenges: Challenges may include the initial up-front costs of implementing sensors. The complexity of integrating sensors into existing systems may be technically challenging. Managing the volume of data generated by sensors may require advanced data management and analysis tools. Sensors will require regular maintenance and calibration to ensure reliability. Increased use of sensors may pose cybersecurity risks related to data security and privacy. Interoperability issues may arise because of different manufacturers using various communication protocols. Limited awareness and understanding of sensor technology may lead to underutilization.

3.5.3 Energy: Fleet

3.5.3.1 Low-Carbon Energy for the Fleet

Transitioning transit fleets to clean fuels using alternative fuels such as electric, hydrogen, biofuels, and other low-emission technologies instead of traditional diesel or gasoline can reduce direct emissions that UTA produces, in particular in Scope 1 emissions. Selecting specific routes for alternative fuels (for example, a renewable electricity route or a biodiesel route) can serve as the initial steps for transitioning to clean energy sources in fleet.

Goals and Objectives: Transition revenue fleet to zero or low emission.

High-Level Cost: Varies significantly based on technology and fuel supply availability.

Key Features and Benefits: Transitioning the fleet to clean fuel will reduce emissions and improve air quality. This initiative may also provide fuel cost stability, contributing to more predictable and manageable operating expenses.

Potential Challenges: Infrastructure development could be a significant barrier, and high initial costs might pose financial difficulties. Additionally, the maturity of the technology could influence the effectiveness and reliability of the transition.

3.5.3.2 Optimized Bus Charging

For UTA's electric transit fleet, optimized bus charging would ensure that buses are charged efficiently, taking into account factors such as demand, grid load, energy prices, and operational schedules. Such initiatives would focus on ensuring bus charging is optimized to prolong battery life and access electricity during times when more renewable power is available on the grid. The optimized bus charging could be supported through consistent procedures, such as charging batteries to 80% to maintain optimal battery performance or, in cold weather, pre-warming batteries for faster charging.

Goals and Objectives: Reduction in energy costs and increasing longevity of bus batteries.

High-Level Cost: Minimal.

Key Features and Benefits: Optimizing bus charging can lead to significant cost savings and enhanced range management. This initiative may also provide grid support, contributing to a more stable and efficient energy system.

Potential Challenges: The complexity of battery charging scheduling could pose difficulties, or limited number of bus charges might restrict implementation. Additionally, dependence on grid reliability could influence the effectiveness of the charging optimization.

3.5.3.3 Fleet Energy Use Optimization

Similar to facilities, installing sensors in revenue fleet can help to reduce energy consumption. For example, installing occupancy sensors can help regulate HVAC system use based on the presence of passengers in or train cars, or similarly feed into lighting controls. Such solutions are usually built into the buses, but such technology could be added to train cars.

Goals and Objectives: Reduce energy consumption in fleet and reduce cost of operation.

High-Level Cost: Low to medium depending on the type of sensor used.

Key Features and Benefits: UTA can enhance energy efficiency by using sensors to provide real-time data, enabling optimization of energy use and improving efficiency. Data collected from sensors could inform maintenance schedules, operational adjustments, and long-term planning, leading to cost savings. Sensors can maintain optimal environmental conditions for temperature and lighting, improving comfort and efficiency.

Potential Challenges: Challenges may include the initial up-front costs of implementing sensors. The complexity of integrating sensors into existing systems may be technically challenging. Managing the volume of data generated by sensors may require advanced data management and analysis tools. Sensors will require regular maintenance and calibration to ensure reliability. Increased use of sensors may pose cybersecurity risks related to data security and privacy. Interoperability issues may arise because of different manufacturers using various communication protocols.

3.5.3.4 Refresh of Anti-Idling Policy Implementation

Restrict UTA vehicles and fleet from idling for extended periods of time while waiting or parked, encouraging drivers to turn off engines. The implementation of the policy can improve public health and be a long-term benefit for a cleaner, more efficient fleet.

Goals and Objectives: Reduce fuel use and GHG emissions by limiting idling.

High-Level Cost: Minimal.

Key Features and Benefits: Refreshing UTA's anti-idling policy will reduce emissions and lead to fuel savings. This initiative may also improve engine life, contributing to better vehicle performance and longevity.

Potential Challenges: Enforcement could be a significant barrier, and ensuring driver compliance might pose difficulties. Additionally, education and training will be necessary to effectively implement and maintain the policy.

3.5.4 Energy: Data

3.5.4.1 Energy Vendor Automated Data Dashboard

An energy vendor automated data dashboard is a digital platform that can aggregate and depict energy consumption and performance data from various sources. This dashboard provides real-time insights into energy usage, costs, emissions, and other relevant metrics, allowing UTA to track their carbon footprint and make informed decisions about energy consumption. This dashboard can be part of the Central Repository for Environmental Data as one of the stages of Repository development.

Goals and Objectives: Remove manual steps related to energy data collection by excel or invoices and reduce human error.

High-Level Cost: $1K to $5K per endpoint (for single energy vendor: Rocky Mountain Power).

Key Features and Benefits: Facilities are more likely to adjust behaviors when presented with timely, accurate data showing performance. Additionally, creating a dashboard for automatic energy data tracking can change behaviors faster than if it is communicated once per quarter or year. UTA could implement real-time monitoring to provide data on energy consumption, demand, and costs from multiple sources. Data visualization tools, such as graphs, charts, and maps, could present this data clearly for quick analysis and decision-making. The system could integrate with various energy management systems for comprehensive analysis and allow users to analyze historical energy use and compare it against benchmarks and targets. Automated reporting tools could generate reports on energy emissions, cost savings, and compliance, allowing the system to send alerts and notifications to be sent for anomalies in energy use, such as spikes in consumption or system failures. Access to real-time and historical data can enhance decision-making about energy management and carbon reduction strategies at a building or department level. UTA could improve energy efficiency by pinpointing inefficiencies and implementing targeted energy-saving measures. Cost savings could be achieved through the identification of inefficiencies and optimization of energy use.

Potential Challenges: Challenges may include the complexity of integrating data from various sources. Initial costs for software, hardware, and integration may be substantial. Ensuring data accuracy and quality may be difficult, and user training will be necessary. Ongoing maintenance will be required to keep the dashboard functional, and there may be cybersecurity risks related to data breaches or unauthorized access to sensitive energy data.

3.5.5 Value Chain

3.5.5.1 Construction Materials Policy/Standards

Construction materials policies or standards outline the criteria and guidelines for selecting and using materials in construction projects to minimize environmental impact and carbon emissions.

Goals and Objectives: include specifications for sustainable sourcing, material efficiency, recyclability, and lifecycle management.

High-Level Cost: Minimal, potentially higher costs for more sustainable materials.

Key Features and Benefits: UTA can prioritize sustainable materials to lower the carbon footprint of its construction projects. Establishing standards could encourage the use of more efficient materials, ultimately reducing waste and optimizing resource consumption. Sustainable materials will contribute to better building performance, including energy efficiency, durability, and indoor air quality.

Potential Challenges: Challenges may include the initial up-front costs of sustainable materials, which can be more expensive. Access to sustainable materials may be limited, and developing and implementing standards can be complex and require expertise. Ensuring all stakeholders in the supply chain adhere to the material policy may also pose coordination challenges.

3.5.5.2 Sustainability Tracking and Requirements for Procurement

To assess and manage the sustainability of products and services purchased, in particular their embodied GHG footprint, UTA can establish processes and criteria for procurement. Given that majority of UTA's footprint is because of capital projects, construction materials and revenue fleet suppliers can have the greatest impact on UTA's emissions. Engaging them early through GHG or sustainability questionnaires, partnerships, and policies/standards and requirements can be transformational across industries.

Goals and Objectives: Evaluate suppliers based on environmental performance, sustainability certifications, and other policies that UTA establishes. Embed supplier sustainability and social performance into procurement decisions. Establish expectations for suppliers, gather data on supplier sustainability performance to inform procurement decisions, and hold suppliers accountable to UTA's sustainability objectives.

High-Level Cost: $50K to $300K if a software solution is added to policies and procedures for managing sustainable supply chain and full scope of engagement with suppliers.

Key Features and Benefits: UTA can enhance transparency by tracking metrics in procurement, providing a clearer view of the supply chain and the environmental impact of purchases. Engaging with suppliers on sustainability criteria could foster stronger relationships and encourage continuous improvement. Assessing suppliers for sustainability can help identify risks related to environmental/social compliance and supply chain disruptions. Sustainable procurement practices may lead to operational efficiencies and cost savings.

Potential Challenges: Challenges may include the difficulty of gathering reliable data from suppliers. Implementing sustainability tracking and procurement requirements may be resource-intensive. Ensuring that all suppliers comply with sustainability criteria can be difficult in complex supply chains. Balancing cost-effectiveness with sustainability goals may pose challenges. Additionally, training and education will be necessary to ensure understanding of sustainability criteria.

3.6 Actions Recommended for Implementation

To determine which sustainability strategies and initiatives are most suitable for UTA's goals, a prioritization process was applied to all sustainability solutions.

3.6.1 Prioritization Process

Jacobs conducted GHG, water, and waste assessments based on the data available from UTA and industry standards. The assessments serve as the basis to determine what actions UTA could take to improve its footprint and establish a baseline against which performance can be monitored. Referencing the data and industry knowledge, Jacobs has identified a variety of sustainability initiatives ranging from "low-hanging fruit" to aspirational activities that UTA can pursue. To refine the list of the sustainability initiatives into implementation steps, a prioritization process was conducted.

The prioritization was based on the economic, environmental, and social variables (also called decision variables) described in the following subsections.

3.6.1.1 Economic

By reducing expenditures and generating a greater local economic return for Utah, these decision variables support the 2022 to 2030 UTA strategic priority: **Generating Critical Economic Return**.

3.6.1.1.1 Cost of Implementation

This decision variable was based on the estimated capital and operational costs, which was translated into a 1 to 5 scale for the purposes of the decision analysis. Table 3-11 lists the scores associated with each cost.

Table 3-11. Cost of Implementation Scoring Definition

Score	Value	Assigned weight
1	Up to \$4M capital cost or over \$250K operating annual cost; or over \$150/ton CO_2e	20%
2	\$0.5M-2M capital cost or \$100 to \$250K operating cost; or \$50 to \$150/ton CO_2e	
3	\$50k to \$0.5M capital cost or \$50K to \$100K operating cost; or \$10 to \$50/ton CO_2e	
4	\$1K to \$50K capital cost or operating cost or \$2 to \$10/ton CO_2e	
5	Minimal cost or \$1/ton CO_2e or less	

\$/ton = dollar(s) per ton
CO_2e = carbon dioxide equivalent

3.6.1.1.2 Grants and Funding Availability

This decision variable was based on the federal and state grants or other funding sources that can be applicable to the solution. In the 1 to 5 scale, 5 represents a variety of reliable funding sources available, while 1 represents no available funding sources that we are aware of besides internal UTA funding.

The number of grants reflects the funding sources that were available in January 2025, but Table 3-12 indicates whether the grants are likely to be available in the next 4 years.

Table 3-12. Grants and Funding Availability Scoring Definition

Score	Value	Assigned weight
1	No grants or funding available.	20%
2	One to two grants potentially available, not covering the full cost of the initiative and potentially unreliable.	
3	Two to three grants potentially available, not covering the full cost of the initiative and potentially unreliable.	
4	Three to four grants potentially available, covering major parts of the initiative and reliable.	
5	Four to five grants potentially available, covering major parts of the initiative and reliable.	

3.6.1.2 Environmental

These decision variables support the 2022 to 2030 strategic priority: **Achieving Organizational Excellence**, in particular Optimizing Our Operations.

Portion of Environmental Footprint Addressed

This decision variable was based on the results of the sustainability audit, in particular the percentage of the footprint that will be addressed by the solution. For example, solutions that apply to supply chain emissions reduction address a high percentage of the total GHG footprint. The percentages were translated to a 1 to 5 scale for the decision analysis. The environmental footprint addressed by solutions and the corresponding scoring are presented in Table 3-13.

Table 3-13. Portion of Environmental Footprint Addressed Scoring Definition

Score	GHG	Water	Waste	Assigned weight
1	< 1% of emissions	< 2% of water use	Low amounts of material	30%
2	1% to 3% of emissions	2% to 25% of water use	-	
3	3% to 10% of emissions	25% to 50% of water use	Medium amount of material that is estimated to be significant	
4	10% to 35% of emissions	50% to 70% of water use	-	
5	35% to 100% of emissions	70% to 100% of water use	High amount of waste generated	

3.6.1.2.1 Potential Environmental Co-Benefits

This decision variable qualitatively indicates if the solution can have additional environmental co-benefits, such as improving air quality or increasing biodiversity, on a 1 to 5 scale. The scoring and the corresponding environmental co-benefit values are presented in Table 3-14.

Table 3-14. Potential Environmental Co-Benefits Scoring Definition

Score	Value	Assigned weight
1	No environmental co-benefits	10%
2	-	
3	Some co-benefits possible, but minor	
4	-	
5	Multiple environmental co-benefits, including biodiversity, air quality, water quality, and heat mitigation	

3.6.1.3 Social

These decision variables support the 2022 to 2030 strategic priority: **Building Community Support**.

3.6.1.3.1 Benefit to Broader Salt Lake City Metropolitan Area

This decision variable qualitatively evaluates if the solution only benefits UTA as an institution or if its impacts span across the Wasatch front. It is measured on a 1 to 5 scale. The scoring and the corresponding benefit to broader Salt Lake City Metropolitan Area values are presented in Table 3-15.

Table 3-15. Benefit to Broader Salt Lake City Metropolitan Area Scoring Definition

Score	Value	Assigned weight
1	Only benefiting UTA	10%
2	-	
3	Benefiting those near UTA infrastructure or indirectly benefiting those in the broader Wasatch Front community	
4	-	
5	Benefiting the broader Wasatch Front and communities across it	

3.6.1.3.2 Benefit to Utah Transit Authority Employees and Culture

This decision variable qualitatively evaluates if the solution supports employee engagement and education or if no employees outside of the core sustainability committee is involved in the solutions. It is measured on a 1 to 5 scale. The scoring and the corresponding benefit to Utah Transit Authority Employees and Culture values are presented in Table 3-16.

Table 3-16. Benefit to Utah Transit Authority Employees and Culture Scoring Definition

Score	Value	Assigned weight
1	No impact on UTA employees or culture/no visibility to majority of employees	10%
2	-	
3	Some positive impact on employees and culture (H&S, mental health, training, retention, ability to give back)	
4	-	
5	Greater positive impact on employees and culture (H&S, mental health, training, retention, ability to give back)	

H&S = health and safety

Using the aforementioned decision variables, each of the sustainability initiatives that were identified in the Sustainability Initiatives Memorandum were assigned a score, as shown on Figure 3-11, with notes justifying the score. Those scores and the corresponding decision variable weights were applied to form the final initiative score, and the initiatives were ranked according to those. The scoring and ranking were reviewed by Jacobs subject matter experts and UTA stakeholders and used to create prioritization quadrants, which show the impact and importance of the initiative based on the scores and ease of implementation. Each section presents the corresponding initiative prioritization charts (Figure 3-9 and corresponding figures in water, waste, and overarching sections). The color coding (shown on Figure 3-12) on the figures illustrates which initiatives are already planned and will be prioritized by UTA and which may be considered in the long term.

Figure 3-11. Example of Sustainability Initiative Scoring for Further Prioritization

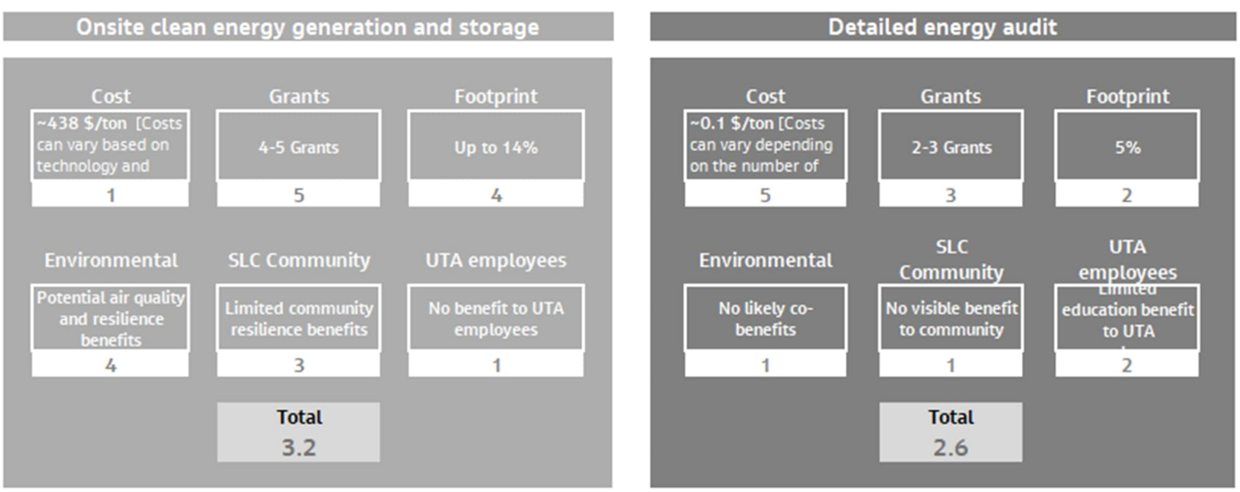


Figure 3-12. Color Definitions for Initiative Prioritization Figures

UTA is implementing or planning to implement.	UTA would like to implement in the long term.	Enabling initiative such as data storage and dashboards.

3.6.2 Meeting Utah Transit Authority GHG Targets with Prioritized Initiatives

Overall, UTA has set goals for Scopes 1 and 2 emissions, targeting a 6% absolute reduction by 2025 and 25% absolute reduction by 2030 from an assumed 2023 base year. The Baseline scenario assumes reaching those goals, and the Future and Future+ scenarios expand on the actions to further decrease the footprint, recognizing agency growth and requiring progressively more action to reduce absolute emissions. Furthermore, the Future and Future+ scenarios include actions to reduce Scope 3 emissions, which would impact the region and supporting industries.

To evaluate the scale of the initiatives and their corresponding budgets, Table 3-17 summarizes the relative contributions of the initiatives to GHG reductions. While UTA strives to reduce its GHG footprint, the agency is expanding the services it is offering. According to the 5-year plan from 2025 to 2029,[2] the agency expects additional miles of service and new routes. Unless the expansion is paired with low-carbon solutions and technology, the emissions will likely continue to grow. Although the increased emissions may not be directly proportionate to the miles of service, Jacobs assumes that by 2030 the growth in service of the revenue fleet from 40 million revenue miles to 49 million revenue miles, will potentially increase Scopes 1 and 2 emissions to an estimated 146,000 tons of carbon dioxide equivalent (tCO_2e) in 2030. This increase results in approximately 21,350 tCO_2e additional emissions beyond the 31,200 that need to be reduced from the baseline to meet UTA's goal of a 25% reduction in emissions by 2030. Similarly, by 2025 Jacobs assumes that the revenue vehicle miles will grow from 40 million to 41 mission, resulting in approximately 127,000 tons of tCO_2e in Scopes 1 and 2 emissions. The recommendations for initiatives the 2030 reduction goal are based on that assumed growth of revenue miles. These reductions are summarized in Table 3-17 and on Figures 3-13 through 3-15. More details on implementation are listed in Tables 3-18 through 3-20 for the corresponding scenarios.

If UTA decides to set GHG reduction targets beyond 2030, it can be beneficial to develop detailed emissions projections accounting for factors such as population growth, change in population density, aging and availability of other modes of transportation. An example methodology on how long-term projections can be estimated can be found in Oregon Department of Transportation's 2050 Vision for Greenhouse Gas Emissions Reduction.[3] For suggested long-term targets and other considerations when setting a decarbonization goal, see Appendix G.

[2] https://www.rideuta.com/-/media/Files/Current-Projects/Five-Year-Service-Plan/UTA_Five_Year_Service_Plan_Final_2.pdf

[3] https://www.oregon.gov/odot/climate/Documents/Oregon_Statewide_Transportation_Strategy.pdf

Table 3-17. Greenhouse Gas Reduction Actions Recommended to Meet Utah Transit Authority Targets

Scenario	2025 Reduction	2030 Reduction
Baseline	Meeting the Target: 6% reduction (7,500 tCO_2e) relative to the 124,650 tCO_2e of Scopes 1 and 2 (market-based) emissions and additional reduction by 2,300 tCO_2e based on the following reductions: ▪ **Clean Electricity Purchase**: For 24% of light rail, resulting in 6,150 tCO_2e[a] reduction. ▪ **Low-Carbon Energy For Fleet**: For 5% of revenue fleet converting to low-carbon fuel, resulting in 3,500 tCO_2e ▪ **Additional Strategies**: LED and other energy efficiency reducing electricity consumption by 2%, resulting in 300 tCO_2e.	Meeting the Target: 25% reduction (31,200 tCO_2e) relative to the 124,650 tCO_2e of Scopes 1 and 2 (market-based) emissions and additional reduction by 21,350 tCO_2e because of the assumed growth based on the following reductions: ▪ **Clean Electricity Purchase**: For 70% of light rail and all other infrastructure, resulting in 32,500 tCO_2e reduction. ▪ **Low-Carbon Energy For Fleet**: for 20% of the revenue fleet and 40% of nonrevenue fleet converting to low-carbon fuel, resulting in 20,000 tCO_2e reduction. ▪ **Additional Strategies:** LED and other energy efficiency reducing electricity consumption by 2%, resulting in 300 tCO_2e.

Scenario	2025 Reduction	2030 Reduction
Future	Meeting the Target: 6% reduction (7,500 tCO_2e) relative to the 124,650 tCO_2e of Scopes 1 and 2 (market-based) emissions and additional reduction by 2,300 tCO_2e based on the following reductions: ▪ **Clean Electricity Purchase**: For 24% of light rail, resulting in 6,150 tCO_2e[a] reduction. ▪ **Low-Carbon Energy For Fleet**: For 5% of revenue fleet converting to low-carbon fuel, resulting in 3,500 tCO_2e ▪ **Additional Strategies**: LED and other energy efficiency reducing electricity consumption by 2%, resulting in 300 tCO_2e.	Exceeding the Target: 40% reduction (50,000 tCO_2e) relative to the 124,650 tCO_2e of Scopes 1 and 2 (market-based) emissions, and additional reduction by 21,350 tCO_2e because of the assumed growth) based on the following reductions: ▪ **Clean Energy Purchase**: For 80% of light rail and all other infrastructure, resulting in 37,200 tCO_2e reduction. ▪ **Low-Carbon Energy For Fleet**: for 35% of the revenue fleet and 60% of nonrevenue fleet converting to low-carbon fuel, resulting in 34,000 tCO_2e reductions ▪ **Additional Strategies:** LED and other energy efficiency reducing electricity consumption by 2%, resulting in 300 tCO_2e. ▪ **Procurement Engagement and Construction Materials Alternatives:** Supporting Scope 3 footprint reduction, these strategies initiate stakeholder engagement in the value chain. They may not initially result in actual emissions reductions, but obtaining actual emission values for the products and materials that UTA uses may decrease the footprint relative to the base year. ▪ **Employee Commuting:** Supporting and tracking employee commuting is likely to result in more accurate and lower Scope 3 emissions. The reductions will depend on staff number and extent of commuting incentives. ▪ **Optimized Charging:** Initiatives in optimizing battery life and charging time are most likely to support battery health and will be minor contributor to emissions reduction.

Scenario	2025 Reduction	2030 Reduction
Future+	Meeting the Target: 6% reduction (7,500 tCO_2e) relative to the 124,650 tCO_2e of Scopes 1 and 2 (market-based) emissions and additional reduction by 2,300 tCO_2e based on the following reductions: ▪ **Clean Electricity Purchase**: For 24% of light rail, resulting in 6,150 tCO_2e[a] reduction. ▪ **Low-Carbon Energy For Fleet**: For 5% of revenue fleet converting to low-carbon fuel, resulting in 3,500 tCO_2e ▪ **Additional Strategies**: LED and other energy efficiency reducing electricity consumption by 2%, resulting in 300 tCO_2e.	Exceeding the Target: 62% reduction (78,500 tCO_2e) relative to the 124,650 tCO_2e of Scopes 1 and 2 (market-based) emissions and additional reduction by 21,350 tCO_2e because of the assumed growth) based on the following reductions: ▪ **Clean Energy Purchase**: For 100% of light rail and all other infrastructure, resulting in 45,000 tCO_2e reduction. ▪ **Low-Carbon Energy For Fleet**: for 50% of the revenue fleet and 100% of nonrevenue fleet converting to low-carbon fuel, resulting in 50,000 tCO_2e reductions. ▪ **Energy Efficiency Upgrades Based On The Energy Audit:** 50% of natural gas-related emissions to be reduced through energy efficiency or potential electrification efforts, resulting in 1,760 tCO_2e reductions. ▪ **Onsite Clean Energy (onsite solar photovoltaic or other technologies):** For 10% of the existing infrastructure electricity consumption, and assuming electrification of 50% of the building equipment that currently uses natural gas, resulting in 3,340 tCO_2e reductions. ▪ **Additional Strategies:** LED and other energy efficiency reducing electricity consumption by 2%, resulting in 300 tCO_2e. ▪ **Procurement Engagement and Construction Materials Alternatives:** Supporting Scope 3 footprint reduction these, strategies initiate stakeholder engagement in the value chain. The initial implementation is assumed to reduce Scope 3 emissions by at least 25%. ▪ **Employee Commuting:** Supporting and tracking employee commuting is likely to result in more accurate and lower Scope 3 emissions. The reductions will depend on staff number and extent of commuting incentives. ▪ **Optimized Charging:** Initiatives in optimizing battery life and charging time are most likely to support battery health and will be minor contributors to emissions reduction.

[a] Here and across the document, the emissions savings estimates are based on the data received from UTA and based on the assumptions that could be made based on publicly available information.

LED = light-emitting diode

Figure 3-13. Baseline Emissions Reduction Pathway to 2030

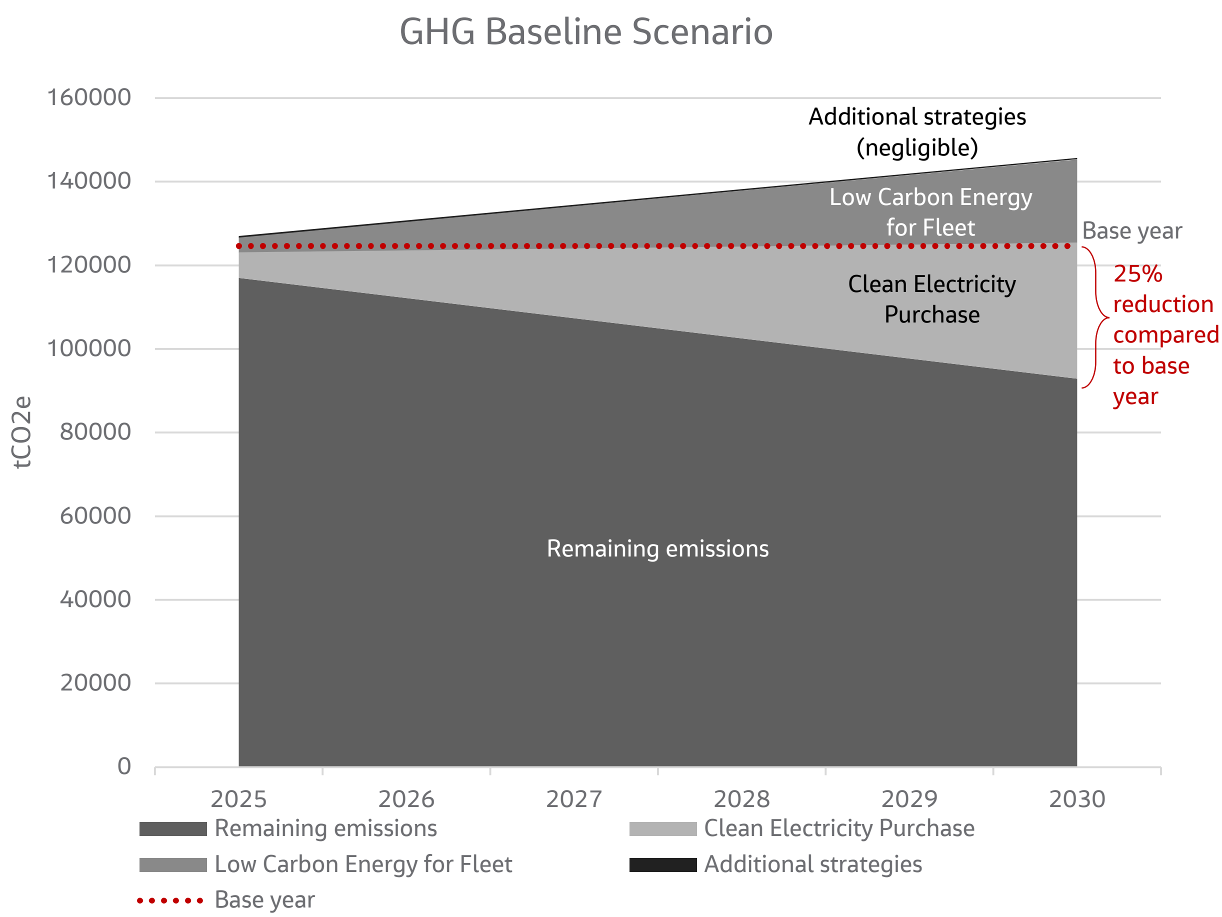


Figure 3-14. Future Scenario Emissions Reduction Pathway to 2030

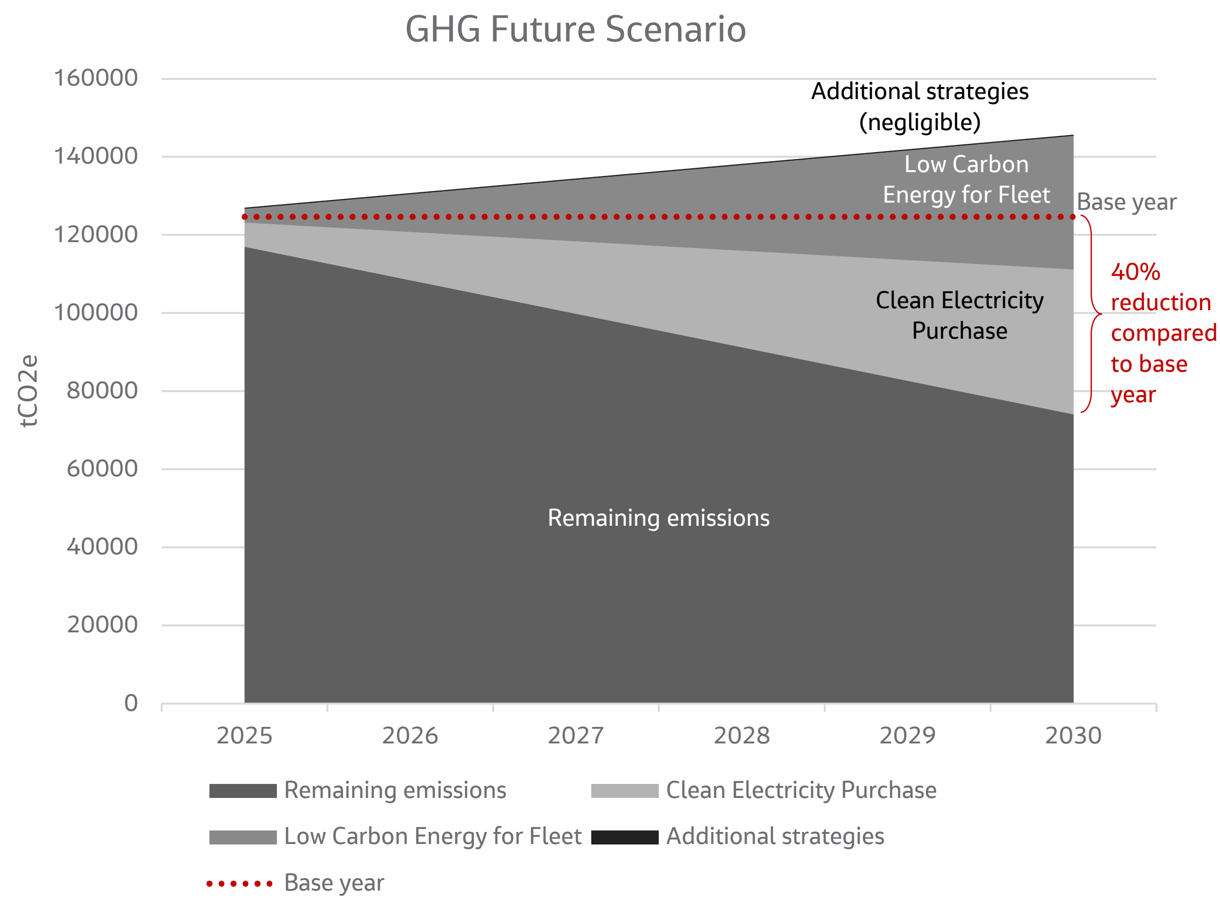
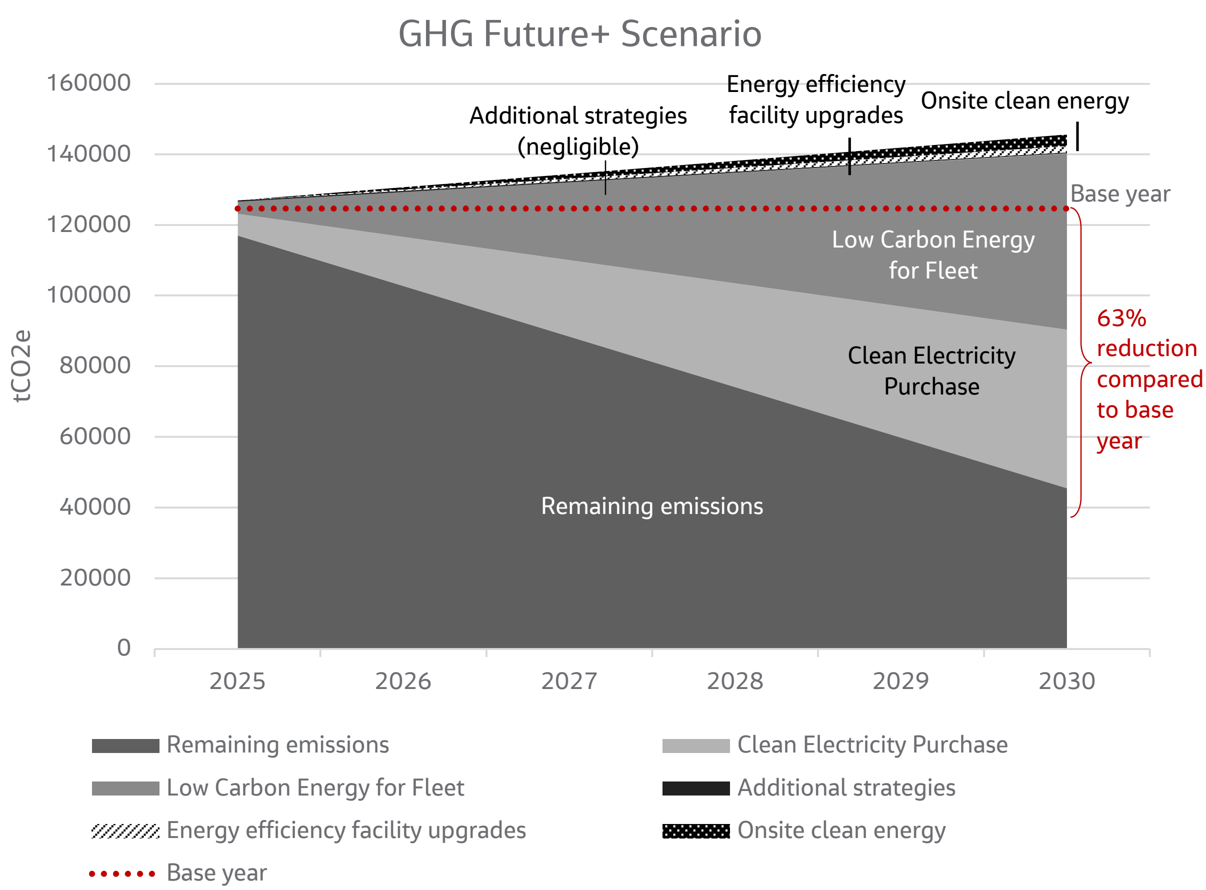


Figure 3-15. Future+ Scenario Emissions Reduction Pathway to 2030



3.6.3 Prioritized Initiatives – Baseline

The Baseline scenario describes the activities that are already planned and the scale of the actions needed to meet UTA's GHG reduction goals. This scenario addresses only Scopes 1 and 2 emissions. Table 3-18 lists GHG initiatives for the Baseline scenario.

Table 3-18. Greenhouse Gas Initiatives for Baseline Scenario

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Clean Electricity Purchase	Acquire clean energy from renewable sources such as solar, wind, hydro, and geothermal. Partnering with Rocky Mountain Power to take advantage of programs, like the "Subscriber Solar" program, could provide support for regional renewable energy projects and reduce UTA's Scope 2 footprint.	Short- to medium-term solution. Starting in 2025 and continuing through 2030. Milestones: ▪ Transition to clean electricity sources for more than 70% of UTA's light rail and infrastructure by 2030. ▪ Continue to acquire clean energy to keep pace with Salt Lake City's community-wide target of providing 100% renewable electricity by 2032.	Continue to strengthen partnership with Rocky Mountain Power. Transition to clean energy sources and reduce Scope 2 emissions. Keep pace with Salt Lake City's community-wide target.	Total 2025 budget: $133K for initial purchase of electricity for light rail, assuming $35.5/ton; with a premium of $71.1 per MWh from Rocky Mountain Power. As the region works toward a reduced electricity footprint, the regular electricity price may apply to low-carbon electricity on the grid.	No grants.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Low-carbon energy for the fleet	Transition transit fleets to clean fuels using alternative fuels, such as electric, hydrogen, biofuels, and other low-emission technologies, instead of traditional diesel or gasoline to reduce direct emissions that UTA produces, in particular Scope 1 emissions. The GHG intensity of low-carbon fuels can vary, with potential zero operational emissions for green hydrogen or renewable electricity for electric buses, while biodiesel has operational emissions factor of 0.63 kg CO_2/gallon[4](depending on the feedstock), and renewable diesel has the operational emissions factor of 0.14 kg CO_2/gallon, compared to current diesel emissions factor of 10.21 kg CO_2/gallon or CNG emissions factor of 7.57 kg CO_2/gallon.	Ongoing, short to medium-term solution. Initial activities in 2025, continuing through 2030. Milestones: ▪ Transition 20% of revenue fleet to zero or low-carbon energy sources by 2030.	Reduce vehicle-based emissions. Serve as an example of energy transition in the transportation sector. Continue to transition specific bus routes to clean energy vehicles until the fleet consists of 100% low-carbon energy.	Total 2025 Budget: $164K, assuming use of drop-in renewable diesel, approximately $48/ton and renewable diesel/biodiesel premium of $0.5 per gallon.	Up to eight grants. Programs that may provide some funding include: USDOT TCP,[a] FTA Low-No, TIFIA (loans), FTA Buses and Bus Facilities Competitive Program, CMAQ program, NCMM Ready-to-Launch Grant, Utah DEQ Diesel Equipment Upgrade Reimbursement, Utah DEQ Alternative Fuel Heavy-Duty Vehicle Tax Credit Program, EPA Diesel Emissions Reduction Act Grant.

[4] UK Government GHG Conversion Factors for Company Reporting 2024. https://www.gov.uk/government/publications/greenhouse-gas-reporting-conversion-factors-2024

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Energy audit	Conduct thorough energy audit across UTA facilities and infrastructure. Best practices should include: ▪ 36 months of historic electric kW demand, kWh, natural gas, and other utility bills to calibrate baseline energy models ▪ Identify zones in each facility served by different types of HVAC systems. ▪ Identify malfunctioning and inefficient equipment by visual inspections. ▪ Identify facility equipment that can be put on a schedule instead of letting them be run 24 hours per day, 7 days per week. ▪ Identify equipment and control systems past useful life.	Short-term solution, to be conducted in 2025-2026. Milestones: ▪ Complete audit in 1 year. ▪ Analyze results, identify methods of improvement, and report out findings in 4 months. ▪ Conduct energy audit/data collection. ▪ Complete report to share results and conclusions of the audit with stakeholders and to monitor progress.	Identify energy use patterns, such as peak consumption times, seasonal variations, and areas of inefficiency. Benchmark energy consumption against industry standards or similar transit authorities. Select energy-efficient alternatives.	$0 (assumed free from Rocky Mountain Power).	Up to five grants. Programs that may provide some funding include: DOE Energy Efficiency and Conservation Block Grants, DOE BENEFIT Grant Program,[a] DOE C-SITE Grant Program,[a] USDOT TCP Grant Program,[a] FTA Low-No.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
LED and daylight sensors	Implement high-efficiency lighting technology to consume less energy, increase lighting life span, and produce less heat at UTA facilities.	Short-term solution, to continue the rollout through 2026, and be applied in all buildings by 2029. Milestones: ▪ Conduct lighting audits at all UTA facilities within 8 months of kicking-off the initiative. ▪ Install energy-efficient LED lighting in phases, starting with the facilities that have the most outdated lighting. Update all facilities within 2 years of kicking-off the initiative. Complete internal audit on existing lighting systems and controls. ▪ Replace outdated lighting with energy-efficient LED lighting based on the results of the internal audit. ▪ Complete report to share results of lighting upgrades with stakeholders and to monitor energy efficiency progress.	Calculate necessary amount of light based on occupancy or natural light availability. Track reductions in energy consumption. Reduce the load on cooling systems. Reduce the frequency of replacements.	Total 2025 Budget: $2,000, assuming $7/ton.	Three to four grants. Generally, for these programs, this type of project should be incorporated as part of a more comprehensive project. TIFIA (loan); Buses and Bus Facilities Competitive Program (as part of bus facilities improvement); Energy Efficiency and Conservation Block Grants. DOE BENEFIT Grant Program[a] and DOE C-SITE[a] could be possibilities if applying with a local agency partner.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Policies and capital design criteria (LEED, Envision)	Incorporate policies and technical requirements such as LEED and Envision into UTA's capital design criteria to help UTA achieve measurable environmental benefits. Leverage various policies, standards, and technical requirements that provide frameworks for sustainability and environmental responsibility.	Short to medium-term solution. Initial activities 2025-2026, and organization-wide rollout by 2029. Milestones: ▪ Identify and select key elements of LEED and Envision requirements that support UTA sustainability for current and future projects ▪ Assess condition of equipment at UTA per LEED and Envision standards within 8 months of kicking-off the initiative. ▪ Complete internal review of existing equipment. ▪ Identify areas of investment for existing buildings and future projects. ▪ Prioritize improvements. ▪ Implement new policies and technologies.	Follow principles of LEED and Envision to review sustainable design checklists and policies in new buildings, retrofitting existing buildings, and designing any new infrastructure. Prioritize energy efficiency.	Total budget: $0 to $20,000 for certification cost, assuming approximately $2.4/ton	Zero to two grants. DOE BENEFIT[a] and DOE C-SITE[a] would be possibilities if applying with a local partner.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Refresh of anti-idling policy implementation	Restrict UTA vehicles and fleet from idling for extended periods of time while waiting or parked, encouraging drivers to turn off engines.	Short-term solution. Implemented in 2025. Milestones: ▪ Develop training and schedule sessions over 6 months. ▪ Identify pathways to enforce compliance with policy, and support implementation.	Reduce fuel use and GHG emissions by limiting idling. Improve engine life, contributing to better vehicle performance and longevity.	No cost.	No grants.

[a] Program unlikely to be funded in the next 5 years.

BENEFIT = Building Energy Efficiency Frontiers & Innovation Technologies
C-SITE = Communities Sparking Investments in Transformative Energy
CMAQ = Congestion Mitigation and Air Quality
DEQ = Department of Environmental Quality
Low-No = Low- or No-Emission Grant Program
MWh = megawatt-hour(s)
NCMM = National Center for Mobility Management
TCP = Thriving Communities Program
TIFIA = Transportation Infrastructure Finance and Innovation Act
USDOT = U.S. Department of Transportation

3.6.4 Prioritized Initiatives - Future

The Future scenario builds on the actions listed in the Baseline scenario but expands them in volume and impact. Furthermore, this scenario begins to address Scope 3 emissions to influence the value chain. Table 3-19 lists the initiatives for the Future Scenario.

Table 3-19. Greenhouse Gas Initiatives for Future Scenario

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Expanding Baseline scenario activities	The solutions that are listed in the Baseline scenario are expanded to a wider reach/higher percentage of the organization that implements the solution.	Short to medium-term solution. Starting in 2025 and continuing through 2030. Milestones: ▪ Transition to clean electricity sources for more than 80% of UTA's light rail and infrastructure by 2030. ▪ Continue to acquire clean energy to keep pace with Salt Lake City's community-wide target of providing 100% renewable electricity by 2032. ▪ Transition 35% of revenue fleet and 60% of nonrevenue fleet to zero or low-emission energy sources by 2030.	Continue to strengthen partnership with Rocky Mountain Power. Transition to clean energy sources and reduce Scope 2 emissions. Keep pace with Salt Lake City's community-wide target. Identify source of drop-in fuel. Continue to transition specific bus routes to clean energy vehicles until the fleet consists of 100% low-carbon energy.	Same 2025 cost as in the Baseline scenario. Additional budget will be needed for 2030 transition depending on the extent of renewable electricity mix on the Rocky Mountain Power grid service.	Refer to the grants listed in Baseline scenario

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Sustainability tracking and requirements for procurement	Assess and manage the sustainability of products and services purchased, in particular the embodied carbon of the materials, allowing UTA to establish processes and criteria for procurement.	Long-term solution. Initial activities 2025-2028, and organization-wide implementation 2029 onward. Milestones: ▪ Engage suppliers through voluntary GHG or sustainability questionnaires, partnerships, and policies/standards and requirements by 2026. ▪ Deploy training and education to ensure understanding of sustainability criteria. ▪ Ensure that all suppliers comply with sustainability criteria as part of procurement requirement by 2028.	Track metrics in procurement, providing a clearer view of the supply chain and the environmental impact of purchases. Assess suppliers for sustainability to identify risks related to environmental/social compliance and supply chain disruptions.	The implementation will be gradual and, depending on selected tools, approximately \$0 to \$120/ton. The higher cost assumes \$100K for a software solution and policies. There could be a premium for more sustainable products/ materials; this cost assumes a 15% premium, potentially adding up to \$15M and reducing emissions by up to 126,000 tons.	No grants.
Construction materials policy/standards	Outline the criteria and guidelines for selecting and using materials in construction projects to minimize environmental impact and carbon emissions.	Long-term solution. Initial activities 2025-2028, and organization-wide implementation 2029 onward. Milestones: ▪ Develop specifications for sustainable sourcing, material efficiency, recyclability, and lifecycle management.	Prioritize sustainable materials to lower the carbon footprint of construction projects. Encourage the use of more efficient materials, ultimately reducing waste and optimizing resource consumption. Sustainable materials will contribute to better building performance, including energy efficiency, durability, and indoor air quality.	The implementation will be gradual and, depending on selected tools, approximately \$0 to \$315/ton. The higher estimate assumes a 20% cost premium for construction materials, contributing to \$30M and avoiding 95,000 tons.	No grants.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Optimized bus charging	Monitor and optimize the time of charging to prolong battery life (for example, charging batteries to 80%), access electricity during times when more renewable power is available on the grid, consider grid load and energy prices, or in cold weather, pre-warming batteries for faster charging.	Medium-term solution. Implemented in 2025 through 2027. Milestones: ▪ Establish optimized charging policy and procedure to monitor implementation ▪ Observe expected maximum service life of electric bus batteries because of the best practices for maintaining battery health.	Maximize electric bus battery life. Optimize electricity consumption and electricity rates related to electric bus charging.	Minimal, with potential cost savings from optimized bus charging.	No grants.
Employee commuting incentive	Provide employee incentives to support alternative commuting, and conduct surveys to understand the employee commuting patterns or needs. Such work can be done internally, or with outside platforms like RideAmigos.	Short-term solution. Implemented in 2025 through 2027. Milestones: ▪ Obtain statistically significant survey results on employee commuting patterns. ▪ Identify and implement effective incentives to encourage alternative commuting for employees. ▪ Communicate successful results with broad community to set the example, and share knowledge.	Reduce employee commuting-related emissions. Engage employees in sustainability GHG-reduction actions. Set an example of encouraging alternative transportation in the community. Continue incentivizing employee vehicle charging stations.	Depending on the incentives provided and the use of proprietary surveying and incentivization tools, the budget can range from $10k to $40k.	No grants.

3.6.5 Prioritized Initiatives - Future +

The Future+ scenario includes actions expanded beyond the Baseline and Future scenarios but is also intended to be the most ambitious of the action scenarios; hence it has the greatest potential GHG reduction. Table 3-20 lists the initiatives for the Future+ scenario.

Table 3-20. Greenhouse Gas Initiatives for Future+ Scenario

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Expanding Future scenario activities	The solutions that are listed in the Baseline scenario are expanded to a wider reach/higher percentage of the organization that implements the solution.	Short to medium-term solution. Starting in 2025 and continuing through 2030. Milestones: ▪ Transition to clean electricity sources for 100% of UTA's light rail and infrastructure by 2030. ▪ Continue to acquire clean energy to keep pace with Salt Lake City's community-wide target of providing 100% renewable electricity by 2032. ▪ Transition 50% of revenue fleet and 100% of nonrevenue fleet to zero or low-emission energy sources by 2030.	Continue to strengthen partnership with Rocky Mountain Power. Transition to clean energy sources and reduce Scope 2 emissions. Keep pace with Salt Lake City's community-wide target. Identify source of drop-in fuel. Continue to transition specific bus routes to clean energy vehicles until the fleet is comprised of 100% low-carbon energy.	Same 2025 cost as in the Baseline scenario. Additional budget will be needed for 2030 transition, depending on the extent of renewable electricity mix on the Rocky Mountain Power grid service.	Refer to grants listed in Baseline scenario.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Energy efficiency upgrades based on energy audit	Perform upgrades to HVAC systems, improve insulation, and install energy-efficient lighting to drive energy efficiency at UTA facilities.	Long-term solution. Pilot solutions implemented in 2028 through 2030, and organization-wide upgrades starting 2030. Milestones: ▪ Reduce 50% of natural gas-related emissions through energy efficiency or potential electrification efforts, resulting in 1,760 tCO2e reductions. ▪ Coordinate energy efficiency or electrification updates. ▪ Prioritize schedule to phase out/stagger the projects. ▪ Perform updates. ▪ Engage stakeholders by communicating UTA's energy performance and sustainability efforts and fostering transparency and accountability.	Use baseline data, benchmarking, and energy consumption patterns to identify areas of improvement. Target specific systems that significantly contribute to energy use and enable upgrades. Track progress through updated energy reports to help UTA facilities monitor energy efficiency and carbon reduction goals.	Specific budgets to be identified based on the energy audit	Dependent on types of upgrades, location, partners, and impact on community. Potential programs include: TIFIA (loan); Buses and Bus Facilities Competitive Program (as part of bus facilities improvement); Energy Efficiency and Conservation Block Grants; DOE BENEFIT Grant Program[a] (as community partner); DOE C-SITE[a] (as community partner); Energy Improvements in Rural or Remote Areas.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Onsite clean energy	Use onsite clean energy generation to allow UTA and its facilities to reduce reliance on fossil fuels, lower GHG emissions, and enhance energy independence. This solution assumes the use of onsite solar photovoltaic or other technologies paired with energy storage, like "Wattsmart Batteries".	Long-term solution. Initial pilot in 2028 through 2030, and large-scale implementation 2030 onward. Milestones: ▪ Align with the statewide efforts to reduce GHG emissions, and the Salt Lake City Climate Positive 2040 focus of growing rooftop solar. ▪ Generate enough onsite electricity by 2030 to support the demand of 10% of the existing infrastructure electricity consumption, assuming electrification of 50% of the building equipment that currently uses natural gas, resulting in 3,340 tCO2e reductions. ▪ Design, coordinate, and receive approval for onsite energy project. ▪ Install onsite energy project and integrate new power source.	Supplement the existing energy use. Implement rooftop solar installations on garages and take advantage of Rocky Mountain Power incentives for battery storage (such as "Wattsmart Batteries") using lithium-ion or other battery technologies to store excess energy for later use. Reduce carbon footprint. Enhance energy independence.	Potential 2030 budget of $1.5M, which assumes a cost of approximately $438/ton. Costs can vary based on technology and whether battery storage is used. This cost assumes National Renewable Energy Laboratory's commercial photovoltaic levelized cost of energy of $74/MWh generating with 6-hour battery storage at $174/kWh, where every day 120 MWh are stored. Avoided cost of electricity is assumed to be $0.12/kWh.	USDOT TCP[a]; TIFIA (loan); FTA Low-No; FTA Buses and Bus Facilities; DOE BENEFIT[a] (as community partner); DOE C-SITE[a] (as community partner); EDA PWEAA; FEMA BRIC; EPA SWIFR (not a primary applicant and must involve waste reduction strategies).

[a] Program unlikely to be funded in the next 5 years.

BRIC = Building Resilient Infrastructure and Communities
EDA = U.S. Economic Development Administration
FEMA = Federal Emergency Management Agency
PWEAA = Public Works and Economic Adjustment Assistance
SWIFR = Solid Waste Infrastructure for Recycling

4. Water Footprint

4.1 Water Footprint 2023

Jacobs calculated the 2023 water footprint across UTA operations, including the indoor and outdoor water use. The results of those calculations are presented in Table 4-1 and on Figure 4-1. For planning purposes, water footprint includes adjustment factors for population growth and climate risk to help plan for the potential future impact of water use across the region. For similar purposes, Table 4-2 includes the projections of future water use due to the assumed population growth.

Table 4-1. UTA Water Footprint in 2023 and Projections for 2030 Water Impact

Source of Water Use	Initial Total (Million Gals)	Climate Risk Adj. (Million Gals)	Pop. Growth to 2030 Adj. (Million Gals)	Adj. Total Water Footprint (Million Gals)	% of Subtotal	% of Total
UTA Facilities						
Indoor Water Use	14.0	14.0	2.2	30.2	34.4%	18.0%
Vehicle Washing	13.1	13.1	2.1	28.4	32.3%	16.9%
Outdoor Water Use (Irrigation)	13.6	13.6	2.1	29.3	33.3%	17.4%
UTA Facilities Total Water Use	40.7	40.7	6.4	87.8	100%	52%
Park-and-Rides and Rail Stations						
Indoor Water Use	1.5	1.5	0.23	3.2	4.0%	1.9%
Outdoor Water Use (Irrigation)	35.8	35.8	5.6	77.2	96.0%	45.9%
Park-and-Rides and Rail Stations Total Water Use	37.3	37.3	5.9	80.4	100%	48%
Total	**78.0**	**78.0**	**12.3**	**168.2**		**100%**

Figure 4-1. UTA Water Use Breakdown in 2023

Table 4-2. Future Projections for Water Use by Type of Use

Year	UTA Facilities			Park-and-Rides and Rail Stations	
	Indoor Water Use	Vehicle Washing	Outdoor Water Use	Indoor Water Use	Outdoor Water Use
2023	28,002,822	26,294,074	27,140,448	2,964,824	71,559,994
2024	28,307,296	26,579,970	27,435,546	2,997,060	72,338,065
2025	28,615,081	26,868,973	27,733,852	3,029,647	73,124,596

Year	UTA Facilities			Park-and-Rides and Rail Stations	
	Indoor Water Use	Vehicle Washing	Outdoor Water Use	Indoor Water Use	Outdoor Water Use
2026	28,926,212	27,161,119	28,035,402	3,062,589	73,919,679
2027	29,240,727	27,456,442	28,340,231	3,095,888	74,723,406
2028	29,558,661	27,754,975	28,648,374	3,129,550	75,535,873
2029	29,880,052	28,056,755	28,959,867	3,163,577	76,357,174
2030	30,204,937	28,361,816	29,274,747	3,197,975	77,187,404
Difference 2030 and 2023	**2,202,115**	**2,067,741**	**2,134,299**	**233,151**	**5,627,410**

Salt Lake County is growing at a rate of 1.09% year over year, according to University of Utah long-term projections.

4.2 Peer Comparison

To evaluate the relative water use of UTA against peer agencies, a peer comparison was conducted. The different water use metrics are summarized in Table 4-3 and on Figures 4-2 and 4-3.

Table 4-3. UTA Peer Agencies Water Use

GHG Value	UTA	Sound Transit	MARTA	COTA	VTA
Total Annual Water Use Million Gallons	77.98	18.03	23.52	7.82	37.4
Annual Water Use Per Person Gallon/Person in Service Area	38.99	5.46	13.84	6.51	19.68
Annual Water Use Per VRM Gallon/Vehicle Revenue Mile	2.17	0.91	0.48	0.57	1.99

Figure 4-2. Annual Per Capita Water Use Across Peer Agencies

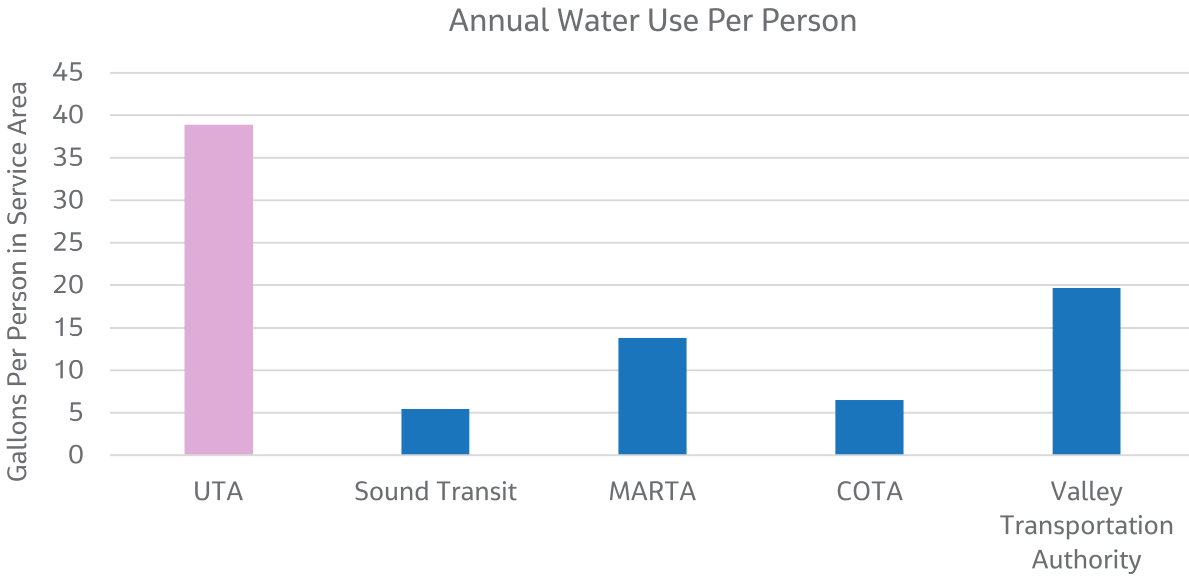
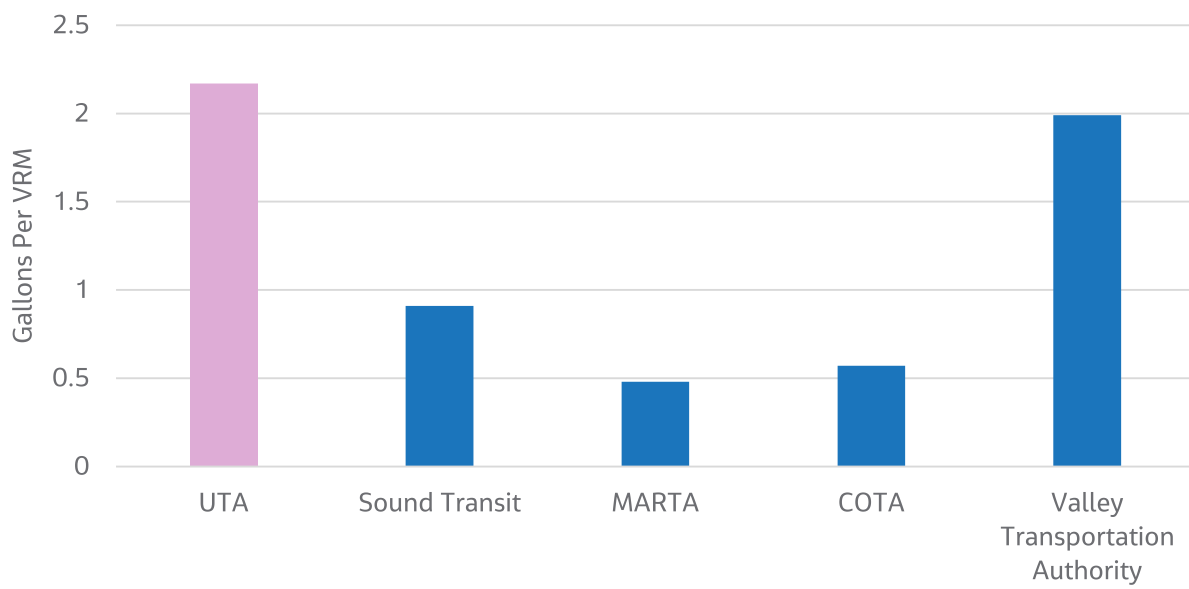


Figure 4-3. Annual Water Use Per VRM



UTA’s overall water use and water use per person or VRM are relatively high when compared to peers; however, UTA's normalized water use per person or per VRM are in line with metrics from the California peer (VTA), where similar climate conditions and water availability exist.

Based on the peer comparison, Jacobs’ recommendation is that alongside future annual inventories, measure and estimate water reused for vehicle washing and grey water captured for irrigation. Also, minimize leaks and breaks at rail stations and park-and-ride facilities.

4.3 Inventory Management Plan

4.3.1 Introduction

The Utah Transit Authority provides multimodal public transit services that greatly improve the quality of the environment in the communities served. UTA's mission emphasizes a constant focus on fostering a sustainable quality of life for employees, customers, stakeholders, and communities.

Mission Statement: Utah Transit Authority strengthens and connects communities, enabling individuals to pursue a fuller life with greater ease and convenience by leading in partnering, planning, and wise investment of physical, economic, and human resources.

The objective of the water sustainability inventory is to provide transparency and document the methodology for developing the annual water use estimate associated with UTA's operations annually. The IMP serves as a companion document to the Annual Report, providing the comprehensive technical foundation that supports and validates the water sustainability audit results. By detailing the guiding principles, information sources, boundaries, calculation methodology, quality assurance procedures, and processes used to develop the water use inventory, the IMP enables reproducibility for annual reporting and inventory calculations. While the Annual Report will comprehensively document the water sustainability audit results for the most recent calendar year, the IMP functions as the underlying working document that ensures methodological consistency and transparency. For the purposes of UTA's water sustainability inventory assessment, the total water use is inclusive of the total water withdrawal, consumed water, and return flow, within defined boundaries. The IMP supports UTA's goal of improved understanding of water use patterns as well as improved future water use efficiency. This IMP may be updated or modified to reflect changes in regulatory context, business activities or assets, and inventory development standards or metrics to maintain consistency with the latest approach.

The 2023 water sustainability audit is based on information from several sources at various levels of maturity, with data provided by UTA assumed to be accurate. Where uncertainty exists or data were lacking, reasonable attempts may be made to ensure that estimates are conservatively high, thus minimizing the chances for an underestimation of the inventory. Publicly available data were incorporated to supplement internal information and reduce potential gaps in the calculations. Uncertainty in some elements of the assessment is intended be minimized as additional data become available in the future through improved tracking systems or streamlined internal reporting processes. In some cases, recommendations are made to use updated data when/if available, compared to data used as part of a previous water use assessment.

The IMP is intended to be a living document that will be updated to reflect new decisions, data, processes, guidance, and expectations as they evolve or become available. It is expected that the IMP will be updated periodically as the inventory progresses and recommendations for improving the assessment process, data quality, and accuracy of calculations in future iterations are integrated.

4.3.2 Protocols and Methods

4.3.2.1 General Accounting Principles

The accounting for the water use inventory assessment used five principles to shape the results. These included relevance, completeness, consistency, transparency, and accuracy as a foundation. These overarching accounting and reporting principles provide the framework to support a fair account of water use. The following descriptions of each principle were used to guide the water inventory assessment:

- Relevance—The water use inventory will appropriately reflect UTA's material water use and will be organized to reflect the areas over which UTA exerts control and holds responsibility, to serve the decision-making needs of users.
- Completeness—All water use within the inventory boundary is documented and specific exclusions are justified and disclosed.
- Consistency—Consistent methodologies will be used in the identification of boundaries, analyses of data, and quantification of emissions to enable meaningful analysis of performance trends over time, demonstration of reductions, and comparisons of emissions to peers or other actors. Changes to data, inventory boundary, methods, or relevant factors in subsequent inventories will be disclosed.
- Transparency—Relevant issues are addressed and documented factually and coherently to provide a trail for review and replication. Relevant data sources and assumptions are documented, along with specific descriptions of methodologies and data sources used.
- Accuracy—UTA's water use is quantified systematically with the aim of neither overestimating nor underestimating actual water use as much as can be judged and reducing uncertainties as much as practicable to enable users to make decisions with reasonable assurance as to the integrity of the reported information.
- The 2023 water sustainability audit was developed in line with these principles to the extent practicable, and future annual iterations of the water use assessment may further integrate the principles of accuracy, consistency, and completeness as more data become available and water use trends can be tracked over time.

4.3.2.2 Water Use Assessment Guiding Principles

The water use assessment methods and protocols were guided by the following principles, which should be considered when performing future updates to the water inventory as part of the IMP:

- There should be alignment with prevailing water stewardship standards, including the following:
  - Alliance for Water Stewardship[5]
  - Net-Zero Water Building Strategies[6]
  - Context-Based Water Targets[7]
  - World Resources Institute (WRI) Volumetric Benefit Accounting[8]
  - Carbon Disclosure Project Water[9]
- There should be no conflict with GHG inventory boundaries.

[5] https://a4ws.org/

[6] https://www.energy.gov/eere/femp/net-zero-water-building-strategies

[7] https://ceowatermandate.org/site-targets-guide/

[8] https://www.wri.org/research/volumetric-water-benefit-accounting-vwba-method-implementing-and-valuing-water-stewardship

[9] https://www.cdp.net/en/water

- Compliance with local stormwater and wastewater regulations is a prerequisite.
- Conservative estimates should be used to accommodate for future population growth and regional water stress without the need for annual adjustments.
- Regional variability based on water-related risk must be accommodated.
- Social, cultural, and economic outcomes should be supported as well as environmental outcomes.
- All water use calculations and estimates will be converted to and reported in gallons.

4.3.3 Inventory Boundaries

To develop a water use inventory, organizations must first set appropriate boundaries for the assessment. This may include the types and classification of water uses that are relevant to stakeholders and should be included. The boundaries established as part of the initial 2023 inventory should be applied consistently to future annual water use inventories developed by UTA. Any adjustments will need to be transparently explained and justified and may require recalculation of the base-year inventory to support accurate calculation of water use trends. Therefore, these boundaries form the basis for tracking of water use that UTA will be responsible for addressing to meet future water reduction targets.

UTA's water sustainability audit is based on total water use. This includes water use at locations such as UTA facilities, park-and-ride sites, and rail stations. UTA will focus on identifying water-saving best practices to reduce water use at these sites.

4.3.4 Data Management

This IMP and the accompanying water use inventory are by necessity based on information from several sources at various levels of maturity. Some water use information was estimated based on data provided by UTA personnel via interview and tracking spreadsheets. Where data were missing or unclear, estimates were derived based on agreed-upon assumptions, known proxy data, or industry averages and were omitted only if not enough information was available to make assumptions or estimates. These estimates were developed for completeness and to provide a starting point for UTA to understand their water use impact and potentially develop water reduction targets.

Where uncertainty exists, attempts have been made to ensure that estimates are conservatively high, thus minimizing the chances for an underestimation in the inventory. Uncertainty in some elements of the inventory may be eliminated once additional data become available via improved tracking systems or streamlined internal reporting processes. Some elements of the inventory will continue to be estimated as part of the water use assessment. For example, UTA will continue to use published literature sources to estimate irrigation water use across UTA facilities.

4.3.4.1 Calculations

Table 4-4 lists and describes the water uses at UTA facilities.

Table 4-4. UTA Facilities

Type of Water Use at UTA Facilities	Use Description
Vehicle Washing	Water used for vehicle washing was estimated based on data from the Depot District and Meadowbrook facilities. Results from these locations were used to estimate water use at other vehicle washing locations based on a linear scaling approach. The percentage of water used at these sites for vehicle washing was applied to the other facilities with washing sites.
Outdoor Water Use	Estimation of UTA's irrigation water use relied on EPA data and UTA's usage patterns. EPA estimates outdoor water use accounts for up to one-third of residential water use, 28% in schools, and 22% in office buildings.[10] UTA's data show a similar trend, with about one-third of annual consumption occurring in summer months, exceeding regular indoor use. This aligns closely with EPA's residential estimates. Considering these factors, it was estimated that approximately one-third of UTA facility total annual water use was for outdoor water use.
Indoor Water Use	Following the estimation of water use for vehicle washing and outdoor usage, the residual water use at UTA facilities was classified as indoor water use.

Table 4-5 lists and describes the water uses at UTA park-and-ride and rail station facilities.

Table 4-5. Park-and-Ride and Rail Stations

Type of Water Use at Park-and-Ride and Rail Stations	Use Description
Outdoor Water Use	Outdoor water use at park-and-ride and rail stations was estimated based on billing data. Seasonal trends in water use were noted. These patterns are characterized by minimal to no water use during colder months, followed by increased usage during summer months. Sites exhibiting this pattern were classified as primarily outdoor water users. UTA personnel confirmed that this usage trend typically indicates water use primary for irrigation or other outdoor purposes.
Indoor Water Use	Indoor water use at park-and-ride and rail stations was estimated based on annual billing data provided by UTA. These sites exhibited relatively consistent water usage across all seasons, without substantial various between summer and winter months. This regular consumption trend suggests that water use at these locations is primarily used for indoor purposes, such as restrooms, drinking fountains, and other interior facilities. UTA personnel confirmed that sites displaying this consistent usage pattern typically represent locations where water is primarily consumed indoors, with minimal to no outdoor or irrigation use.

[10] https://www.epa.gov/watersense/types-facilities

4.3.4.2 Adjustment Factors

4.3.4.2.1 Climate Risk Adjustment

As organizations face increasing environmental challenges, understanding localized water risks has become crucial for comprehensive sustainability planning. Water-related risks vary significantly depending on an organization's specific geographical location and water use activities over time. For this reason, two water risk factors were applied to UTA's water use based on the WRI Aqueduct tool (Version 4.0). Table 4-6 summarizes the baseline water stress scaling factors that were applied based on office location and information from the WRI Aqueduct tool. Baseline water stress is a measure of total annual water withdrawals (municipal, industrial, and agricultural) relative to the total annual available flow. Tables 4-6 and 4-7 summarize the baseline and future climate change risk scaling factors applied based on office location and information from WRI Aqueduct. If an increase in baseline water stress was reported between 2023 and 2080, a scaling factor of 50% was applied; otherwise, no scaling factor was applied.

Table 4-6. Baseline Water Stress Scaling Factors

WRI Baseline Water Stress Qualitative Rating	Water Footprint Scaling Factor (Multiplier)
Extremely High	2.0
High	2.0
Medium High	2.0
Low Medium	1.0
Low	1.0

The initial water footprint is multiplied by 1 or 2 depending on the office location and associated WRI data.

Baseline water stress is a measure of total annual water withdrawals (municipal, industrial, and agricultural) relative to the total annual available flow. The measure/rating is expressed both quantitatively and qualitatively. This measure is used by WRI as part of the Aqueduct tool.[11]

Table 4-7. Future Water Stress Scaling Factors

Climate Change Scenarios	Water Footprint Scaling Factor (Multiplier)
No change or decrease in baseline water stress between 2023 and 2080	0% (0)
Increase in baseline water stress between 2023 and 2080	50% (0.5)

If an increase in baseline water stress was reported between 2023 and 2080, a scaling factor of 50% was applied, otherwise no scaling factor was applied. The initial water footprint is multiplied by 0% (0) or 50% (0.5) depending on the facility location and associated WRI data.

4.3.4.2.2 2030 Population Adjustment

Population growth is a critical factor in projecting future water demand and future water use impact, as institutional water use is influenced by the number of people using facilities and services. Beyond direct consumption, population changes may also increase pressure on local water sources like the Great Salt Lake. By incorporating these considerations into UTA's water use assessment, UTA demonstrates its commitment to long-term and responsible water stewardship through proactive environmental resource management.

[11] WRI. 2023. Aqueduct Water Risk Atlas Tool v4.0. https://www.wri.org/aqueduct/tools.

Following the local water risk adjustment, a 1.09% compounded population growth factor was calculated using the updated water footprint quantity between the assessment years of 2023 and 2030. The population projection was derived from Kem C. Gardner Policy Institute State and County Projections for Salt Lake County.[12]

4.3.5 Inventory Considerations and Tracking Over Time

To enhance the water use analysis, the following data can be collected.

- **Consumptive Water Use Estimation:**

  The proposed approach estimates consumptive water use by focusing on water loss through evaporation in outdoor water use. This analysis would provide valuable insights into the actual water consumption and environmental impact. Established methodologies, such as those from the Utah State University Extension, can be used to calculate evapotranspiration rates accurately.

- **Vehicle Washing Efficiency Metrics:**

  Preliminary analysis indicates an average water use of approximately 42 gallons per bus wash at the Depot and Meadowbrook facilities. Tracking this metric over time is recommended as a key performance indicator for operational efficiency. Continued data collection will refine this estimate and potentially identify opportunities for water conservation in vehicle maintenance.

- **Water Use Intensity per Rider:**

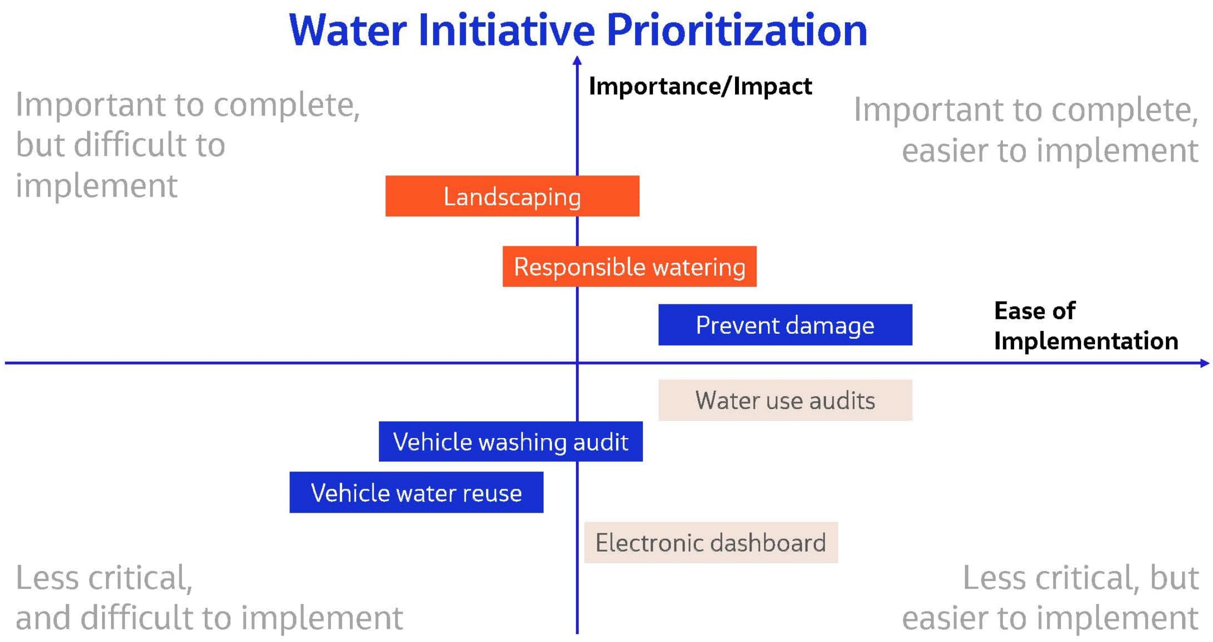
  To better contextualize water usage relative to service provision, developing a metric for water use per rider is suggested. This would involve collecting annual ridership data and calculating a water use intensity figure (for example, gallons per rider). This metric would allow for tracking water efficiency over time, particularly as ridership grows, providing insights into the balance between service expansion and water conservation efforts.

4.4 Sustainability Strategies

Water-related initiatives were considered to support UTA's goal of reducing water use by 15% by 2025. The prioritized water initiatives are presented in Figure 4-4.

[12] https://gardner.utah.edu/utah-demographics/population-projections/state-and-county-projections-tableau/

Figure 4-4. Water Initiative Prioritization



4.4.1 Infrastructure

4.4.1.1 Prevent Damage to Water Infrastructure

This recommendation involves installing protective structures to prevent damage to water infrastructure on UTAs campus and facilities. The protection of water distribution systems is essential for delivering clean water and handling wastewater effectively. According to UTA, it is not uncommon for vehicles to hit and damage onsite water infrastructure. These collisions can cause pipe breaks that may go undetected for up to a month, resulting in the waste of over 1 million gallons annually, according to utility data. Protective barriers around water infrastructure at park-and-ride and rail stations can help prevent breaks and leaks caused by vehicle collisions.

Goals and Objectives: Prevent water loss because of breaks and leaks, enhance UTA's campus and facility resilience, and reduce water use at park-and-ride and rail stations.

High-Level Cost: Medium (installation of protective barrier at approximately 60 sites).

Key Features and Benefits: Installing protective barriers around water infrastructure at park-and-ride and rail stations will enhance security and resilience. Reducing water use at these locations may contribute significantly to water conservation efforts. Climate adaptation strategies can be implemented to address changing environmental conditions, while wastewater management and integrated resource management can improve overall efficiency.

Potential Challenges: The potential challenges associated with this initiative may include high up-front costs that can be a barrier to implementation.

4.4.1.2 Conduct Comprehensive Water Use Audits

This initiative encourages performing comprehensive audits of UTA's water use, including identifying sources of water, analyzing consumption patterns, and pinpointing areas where water is wasted or inefficiently used. A detailed water audit will identify opportunities to reduce water consumption and improve overall water management, potentially recommending to add more sensors and/or meters to improve accuracy and precision of the data.

Goals and Objectives: Reduce water consumption and improve overall water management.

High-Level Cost: Low initial cost to perform the audit; additional costs depend on the audit's results.

Key Features and Benefits: Creating a detailed water audit will potentially identify inefficiencies within the system, leading to significant cost savings. Improved resource management may be achieved through this process, and data-driven decision-making will likely enhance overall operational efficiency.

Potential Challenges: Initial costs can be a significant barrier, and the complexity of data collection may pose difficulties. Additionally, ongoing monitoring may require sustained effort and resources to ensure continued effectiveness.

4.4.1.3 Electronic Dashboard to Notify of Leaks

Implementing an electronic dashboard will provide UTA with real-time notifications of leaks and breaks and help identify areas for water use reductions. This tool can help UTA minimize water loss by delivering immediate alerts about potential infrastructure issues. A detailed water audit will inform the Jacobs team about existing metering equipment and identify capabilities that need enhancement or recalibration.

Goals and Objectives: Effective water management.

High-Level Cost: High initial cost and medium cost to maintain operations, depending on the technology.

Key Features and Benefits: Implementing a dashboard to notify of leaks will potentially enable rapid leak detection, significantly reducing water waste. This initiative may lead to substantial cost savings and enhanced operational efficiency. Additionally, the use of data analytics will likely provide valuable insights for better resource management.

Potential Challenges: Initial costs can be a significant barrier, and ongoing maintenance may require continuous effort and resources. Data overload can pose difficulties in managing the information effectively, and integrating the dashboard with existing systems may present additional complexities.

4.4.2 Fleet

4.4.2.1 Vehicle Washing Water Reuse

This initiative involves the implementation of water reuse to collect and treat water used in washing vehicles to be reused for subsequent washing cycles or other non-potable applications. UTA already uses water recycling systems for bus washes, but the amount of water reused is not tracked, and similar solutions are not applied for other fleets. Install reverse osmosis (RO) units at vehicle washing stations to reuse water or reclaim systems using screening/setting followed by filtration.

Goals and Objectives: Aim to reuse water for fleet wash and rinse water; this is aligned with the California water code.[13]

High-Level Cost: Approximately $80,000. If installing RO units at nine sites, the cost is $5,000 to $8,000 for each for unit and installation.

Key Features and Benefits: Implementing vehicle washing water reuse will potentially promote water conservation and lead to significant cost savings. This initiative may minimize wastewater production and enhance compliance with environmental regulations.

Potential Challenges: Costs can be a significant barrier, and water quality concerns may arise.

4.4.2.2 Internal Audit of Vehicle Washing Equipment

UTA can evaluate the efficiency and effectiveness of the equipment used in vehicle washing operations and ensure best management practices are in place at UTA sites with vehicle washing stations. Such evaluation can be part of the comprehensive water use audit but providing more details into the specific vehicle washing equipment. Best management practices include changing spray nozzles annually, repairing water leaks as they occur, and ensuring hoses are shut off when not attended to. All hoses will use an automatic shut-off value; handheld hoses have a flow no greater than 3 gallons per minute.

Goals and Objectives: Prevent significant water loss because of leaks and equipment mismanagement. Operate at a similar standard to car washes in drought-prone locations.

High-Level Cost: Low (annual nozzle replacement and any immediate repairs/installations).

Key Features and Benefits: Conducting an internal audit of vehicle washing equipment will potentially prevent significant water loss because of leaks and equipment mismanagement, allowing operations to meet standards similar to car washes in drought-prone locations. This initiative may identify inefficiencies, leading to cost savings and improved equipment performance. Data-driven decisions could enhance operational efficiency.

Potential Challenges: It can be resource-intensive, and costs may be a significant barrier. Data management can pose difficulties, requiring effective strategies to handle the information efficiently.

4.4.3 Landscape

4.4.3.1 Improve Landscape Practices

Current water-intensive landscaping practices have been established in line with municipal planning or zoning codes at the time of site development. The landscaping standards and expectations have since evolved and there is a great opportunity to reduce water use associated with landscaping. This initiative focuses on redesigning or renovating outdoor spaces to enhance sustainability and resource efficiency. It may include the selection of native plants, implementing xeriscaping, and incorporating permeable surfaces. Adopting these practices can greatly impact water conservation. These initiatives should adhere to landscape standards for park strips, yards, and buffers, with park strips requiring a minimum vegetation coverage of 33%. For a more detailed evaluation of potential landscaping changes, see Appendix F.

[13] https://law.justia.com/codes/california/code-wat/division-6/part-2-12/section-10951/#:~:text=Water%20Code%20-%20WAT,Section%2010951.&text=This%20media-neutral%20citation%20is,not%20necessarily%20the%20official%20citation.&text=Previous%20Next-,10951.,Effective%20January%201%2C%202013.)&text=Disclaimer:%20These%20codes%20may%20not,Please%20check%20official%20sources

Goals and Objectives: Update landscaping on UTA land to align with the Landscaping and Buffers Standards of SLC to promote water conservation and other environmental benefits. Follow irrigation and irrigation system requirements. Follow park strip, yard, and buffer landscape standards[14] for water conservation, improved air quality, reducing urban heat island, reducing stormwater runoff.

High-Level Cost: High.

Key Features and Benefits: Updating landscaping will potentially promote water conservation and improve air quality. Prioritizing trees may reduce the urban heat island effect and decrease stormwater runoff. This initiative could lead to reduced maintenance costs, enhanced biodiversity, and improved carbon sequestration. Additionally, it will likely provide aesthetic and community benefits.

Potential Challenges: Initial costs could be a significant barrier, and the design complexity might pose difficulties. Maintenance of new systems could require ongoing effort and resources to ensure their effectiveness.

4.4.3.2 Practice Responsible Watering

Implementing efficient irrigation practices is essential for minimizing water usage while ensuring plants receive adequate moisture and supporting ecosystem health. Responsible watering methods include proper aeration, installing efficient sprinkler heads, using water absorption techniques, watering between 8 p.m. and 10 a.m., and using software to optimize the watering schedule.

Goals and Objectives: Practice responsible watering to reduce outdoor water use. Practice proper aeration, install efficient sprinkler heads, use water absorption projects, water between 8 p.m. and 10 a.m., and use software to inform water schedule. This initiative also provides an opportunity to collaborate locally. Objectives centered in this recommendation were inspired by the SLC Public Lands Department's responsible water practices.

High-Level Cost: Low to medium (cost of software).

Key Features and Benefits: Implementing responsible watering practices will potentially enhance water efficiency and lead to significant cost savings. This initiative may result in healthier landscapes and increased drought resilience.

Potential Challenges: Costs can be a significant barrier, and monitoring and management might require continuous effort. Knowledge gaps can also pose difficulties in effectively implementing responsible watering practices.

[14] https://codelibrary.amlegal.com/codes/saltlakecityut/latest/saltlakecity_ut/0-0-0-70284#JD_21A.48.060

4.5 Actions Recommended for Implementation

4.5.1 Prioritized Initiatives – Baseline

The Baseline scenario includes water reduction activities that are planned or in process by UTA. The activities proposed for the Baseline scenario are listed in Table 4-8.

Table 4-8. Prioritized Water Initiatives for Baseline Scenario

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level budget	Grants
Practice responsible watering	Practice responsible watering to reduce outdoor water use. Practice proper aeration, install efficient sprinkler heads, use water absorption projects, water between 8 p.m. and 10 a.m., and possibly use software to inform watering schedule. Salt Lake City Public Lands Department's responsible water practices can serve as a reference to refine the implementation.	Estimated 3 months to implement internal policy and fully adopt practice of proper aeration and water during the window of 8 p.m. and 10 a.m. across all sites. Within a year of kickoff, assess and install efficient sprinkler heads as needed in addition to installing irrigation software. Planning and research conducted 2025-2026, and pilot implementation 2026-2027. Milestones: ▪ Publish internal policy on responsible watering. ▪ 100% of UTA sites practice responsible watering.	Track the monthly water use at each UTA site. Document new watering practices as they are initiated at specific sites to assess effectiveness of responsible watering.	Low cost to medium cost, depending on the use of software to optimize the watering schedule.	May be included with TIFIA or Buses and Bus Facilities if combined with other projects.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level budget	Grants
Improve landscape practices	Conduct an internal audit of the current landscape practices and vegetation at UTA facilities. Evaluate the existing conditions to determine beneficial vegetation and landscape design updates. Redesign or renovate outdoor spaces to enhance sustainability and resource efficiency. It may include the selection of native plants, implementing xeriscaping, and incorporating permeable surfaces. These initiatives should adhere to landscape standards for park strips, yards, and buffers, with park strips requiring a minimum vegetation coverage of 33%. The initiative could be aligned with landscaping practices with Salt Lake City Council updated Landscaping and Buffers chapter in the Zoning Code[a].	Estimate 6 months to complete audit of current landscaping conditions. Estimate 6 months to create an inventory of existing vegetation and assess current landscaping/ hardscaping design. Planning and research conducted 2025-2026, and pilot implementation 2026-2027. Milestones: ▪ Initial landscaping audit and site maps completed. ▪ Vegetation and hardscaping inventory completed. ▪ Decision matrix to prioritize landscaping projects completed.	Track water use per irrigation area per month to estimate watering needs and mitigate excessive irrigation. Take inventory of the current vegetation types and quantities (acres/square feet) through detailed site maps. Note drainage patterns, irrigation systems, and soil composition. Assess the existing site maps and vegetation to identify water-intensive plants, non-native species, and overall plant health. Review hardscaping elements and evaluate opportunities for permeable surfaces and water capture.	High initial cost. However, UTA could experience savings because of reduction in water use that could offset initial cost.	Possibly Utah Division of Forestry, Fire, and State Lands Community Forestry Partnership Grants or Tree Species Diversity Grant Program.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level budget	Grants
Prevent damage to water infrastructure	Install protective structures to prevent damage to water infrastructure on UTAs campus and facilities. The protection of water distribution systems is essential for delivering clean water and handling wastewater effectively. According to UTA, it is not uncommon for vehicles to hit and damage onsite water infrastructure. Protective barriers around water infrastructure at park-and-ride and rail stations can help prevent breaks and leaks caused by vehicle collisions.	1 month to survey UTA sites and flag vulnerable water infrastructure. 3 months to install protective barriers at identified sites. Site surveys conducted in 2025, and implementation in 2025-2026. Milestones: ▪ Complete site surveys. ▪ Complete installation of protective barriers.	Prevent water loss because of breaks and leaks. Enhance UTA's campus and facility resilience.	Medium cost	Must be part of more comprehensive facilities improvement project. Possibly TIFIA, PWEAA, Buses and Bus Facilities, USDOT Joint Highway Committee Funding.

[a] https://codelibrary.amlegal.com/codes/saltlakecityut/latest/saltlakecity_ut/0-0-0-70213

4.5.2 Prioritized Initiatives - Future

Building on the Baseline activities, the Future scenario expands the baseline activities to cover a wider area and adds other activities that can help identify exact locations of water leaks. The Future Scenario activities are described in Table 4-9.

Table 4-9. Prioritized Water Initiatives for Future Scenario

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Expanding Baseline activities	Based on audit of landscaping practices and vegetation at UTA facilities, evaluate the decision matrix and begin efforts to update landscaping. Develop internal landscaping standards to ensure policies are sustained.	Estimate 1 year to update landscaping. Pilot activities carried out 2025-2027, and organization-wide implementation in 2027-2029. Milestones: ▪ Hire contractor to design and coordinate improved landscapes. ▪ Prioritize schedule to phase out/stagger the sites of focus. ▪ Construct new landscaping. ▪ Publish internal landscaping standards.	Select native plants, implement xeriscaping, and incorporate permeable surfaces/green infrastructure. Update landscaping on UTA land to align with the Landscaping and Buffers Standards of Salt Lake City to promote water conservation and other environmental benefits.	High initial cost, but initiative could lead to reduced maintenance costs, reduced water costs, enhanced biodiversity, and improved carbon sequestration.	Refer to Baseline grants.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Conduct comprehensive water use audits	Perform comprehensive audits of UTA's water use, including identifying sources of water, analyzing consumption patterns, and pinpointing areas where water is wasted or inefficiently used. Identify opportunities to reduce water consumption and improve overall water management, potentially recommending adding more sensors or meters to improve accuracy and precision of the data.	Engage water utility or third-party consultant to perform audit. 6 months to complete audit. 2 months to analyze results and identify methods of improvement. Audit implementation 2026-2027. Milestones: ▪ Hire contractor to conduct onsite water use audit. ▪ Conduct water audits/data collection. ▪ Complete internal report to share results and conclusions of the audit.	Analyze consumption patterns and areas of inefficient use. Benchmark water consumption against similar transit authorities. Identify areas to focus reduction efforts. Improve data availability and collection.	Low cost. Determined by the contract established between UTA and the selected water use auditor.	No grants.

4.5.3 Prioritized Initiatives - Future+

The Future+ scenario includes the activities that were identified in the Baseline and Future scenarios and includes near real-time tracking of water use and potential water leaks for immediate action. The Future+ activities are described in Table 4-10.

Table 4-10. Prioritized Water Initiatives for Future+ Scenario

Continuation of Future Activities

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Electronic dashboard to notify of leaks	Implement an electronic dashboard to provide UTA with real-time notifications of leaks and breaks and help identify areas for water use reductions. This tool can help UTA minimize water loss by delivering immediate alerts about potential infrastructure issues. A detailed water audit will inform the Jacobs team about existing metering equipment and identify capabilities that need enhancement or recalibration.	3 months to conduct site visits to document capabilities of existing metering equipment. Capture equipment that requires enhancement or recalibration. 6 months to install dashboard software and integrate into existing systems. Conduct training or hiring to ensure effective software management. Initial activities and pilot in 2026-2027, and implementation of dashboard 2027-2029. Milestones: ▪ Complete site visits. ▪ Complete dashboard integration. ▪ Complete software management training.	Enable rapid leak detection. Enhanced operational efficiency. Improve overall resource management and tracking.	High initial cost and medium cost to maintain operations, depending on the technology.	Must be part of more comprehensive facilities improvement project. Possibly TIFIA or PWEAA.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Capital investments in new technologies	Based on the results of the water audit, identify areas of excessive water consumption and invest in new technologies like smart metering to improve water use efficiency.	Medium-term solution. Pilot activities in 2028-2030, and organization-wide updated 2030 onward. Milestones: ▪ Identify areas of investment. ▪ Prioritize improvements. ▪ Install new technologies.	Enhanced operational efficiency. Improve overall resource management and tracking.	High cost, which will be determined by the water use audit.	Must be part of more comprehensive facilities improvement project. Possibly TIFIA or PWEAA.

5. Waste Footprint

5.1 Waste Footprint 2023

5.1.1 Introduction

As part of the Sustainability Audit study, Jacobs has developed a summary of site visit observations and analysis of data for the waste footprint. UTA's operations include 5 service lines and 10 properties spread across an area approximately 47 square miles. Different types and quantities of waste are generated across UTA properties, and management of this waste varies by location. For this initial waste assessment, Jacobs requested and reviewed waste-related information provided by UTA, including an internal Recycling Report prepared by UTA. A site visit focused on waste management practices was also conducted on May 20, 2024 to observe and document current (baseline) practices and to identify potential areas for process improvements that could result in reduced quantities waste and of material going to landfill. Findings from the data analysis and site visits are discussed in this memorandum.

5.1.2 Waste Data Analysis

5.1.2.1 Republic Service Invoices

While only limited tonnage data were available, invoices from Republic Services provided information on service levels and associated costs for municipal solid waste (MSW) and recyclables across UTA facilities. An analysis of these invoices from 2023 indicates the average monthly volumes collected of MSW and recycling were 641 cubic yards (yd^3) for MSW and 63 yd^3 for recycling collection. Figure 5-1 shows the relative amounts of MSW service compared with recycling over the first 11 months of 2023.

Notable in these data is that 91% of the container volume collected is for MSW, compared with 9% for recycling; though, some variation was seen between months. Analysis of average monthly costs shows a similar trend, with data indicating UTA spends on average of about 92% on MSW and 8% for recycling collection. UTA may want to review with Republic Services the pricing structure for waste and recycling service to see whether there may be opportunities to increase recycling service without increasing overall collection costs.

The data included tonnage of MSW whenever a container exceeded 1 ton. Over the period that data were provided, Mobility Center and Meadowbrook facilities generated highest weight of waste and can be top candidates for a more detailed waste characterization study, and for piloting waste and recycling solutions. A complete list of facilities that have tracked waste tonnage is provided in Table 5-1, listed in descending order based on total waste weight.

Figure 5-1. Solid Waste and Recycling Collection Amounts by Month

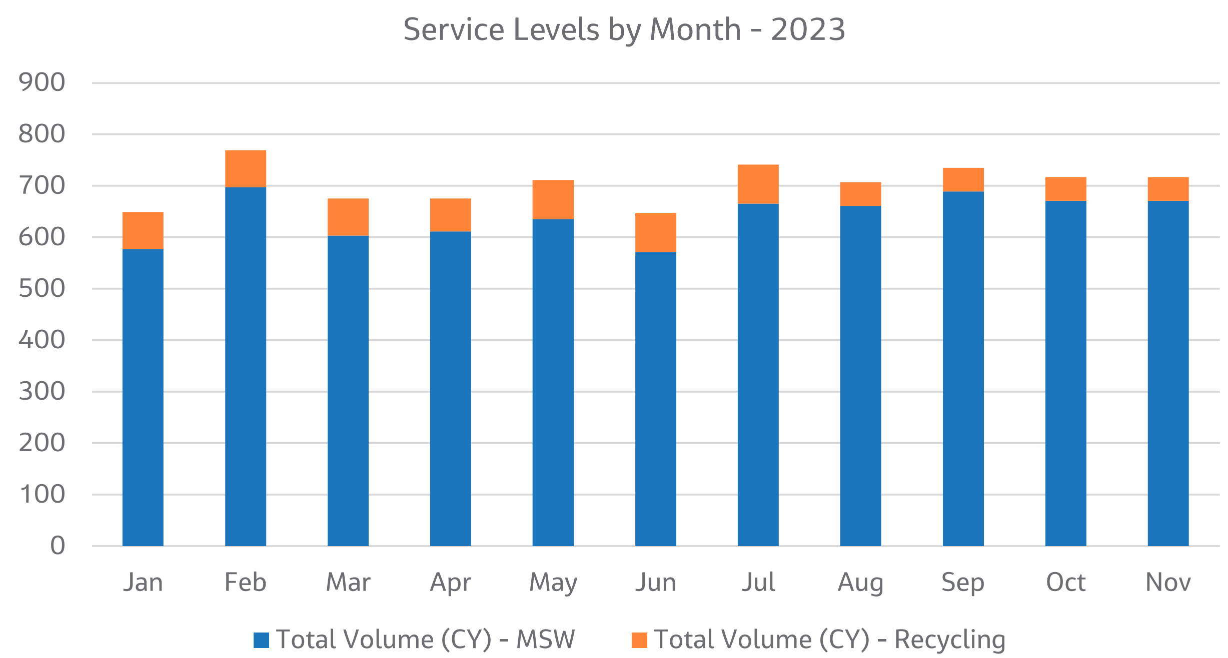


Table 5-1. Solid Waste Tonnage by Facility January to November 2023

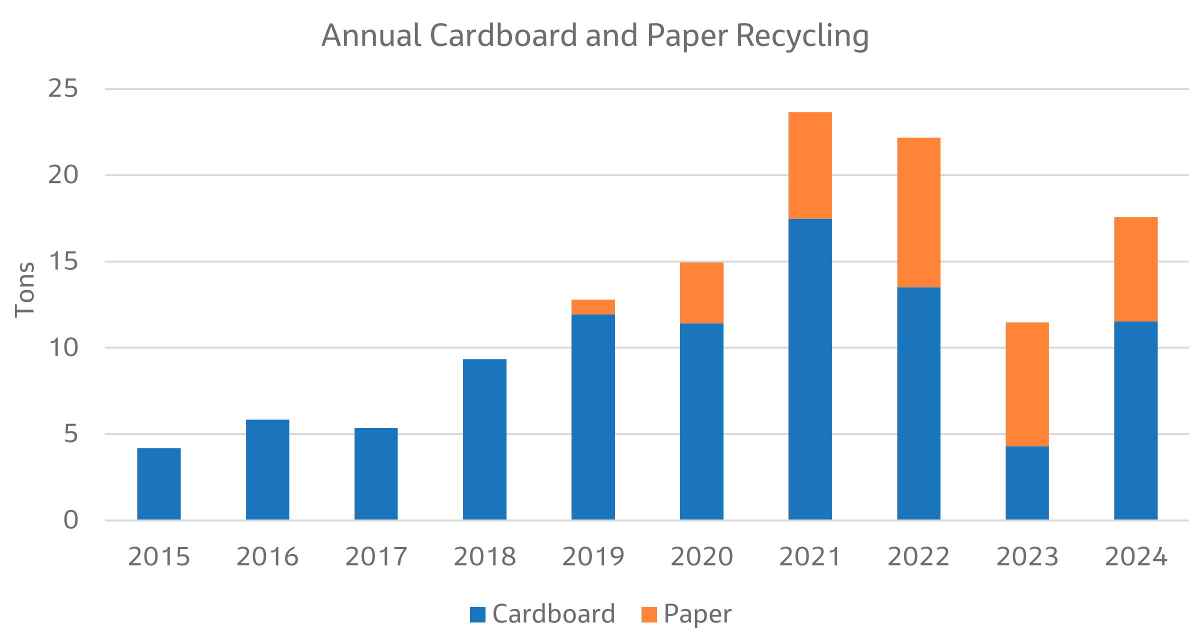
Facility	Waste Sent to Landfill (Total Tons)
Mobility Center	168.7
Meadowbrook	167.3
Firehouse 1819 N Beck St	101.7
Jordan River	83.1
Mt Ogden	63.7
Warm Springs	53.1
Rail Service	49.4
Central Hub	41.2
Timpanogos	40.2
Headquarters	36.1
Firehouse 2340 S 900	21.6
Temp 2264 S 900 W	8.5
613 W 6960 S	4.1

5.1.2.2 Cardboard and Paper Collection Logs

Quantities of cardboard (2015 to 2024) and paper (2019 to 2024) collected and recycled were provided by UTA warehouse, as shown on Figure 5-2. Based on this information, approximately 45 tons of cardboard and 32 tons of paper were recycled during those periods. These data are collected to track sales of baled cardboard to a local vendor.

It is unclear which locations contribute cardboard and paper to the warehouse or how representative the data are of recycling collection across UTA facilities. Notably, reported quantities of paper and cardboard appeared to increase until 2021, when they began decreasing through 2023. Quantities began increasing again in 2024. The reasons for this variation are not known and merit further review by UTA.

Figure 5-2. Cardboard and Paper Recycling Across Utah Transit Authority



5.1.3 Materials Recycled at Garages

A qualitative summary of materials recycled or reused was provided for eight garage sites, along with associated hauling companies. The list of materials includes metals, oil, batteries, and tires, which are retreaded under a program with Goodyear. Those materials are summarized by garage in Table 5-2.

If material quantities collected at the garages can be measured going forward, this would allow for a better understanding of baseline conditions, which could then be used to set and measure future targets such as increasing waste diversion from landfill by reusing or recycling the materials.

Table 5-2. Materials Recycling at Each Garage

Waste Category	Depot District	Jordan River	Midvale	Warm Springs	Riverside	Ogden	Meadowbrook	Timpanogos
Mixed Metal	Recycled (through Warehouse)	Recycled (through Wasatch Metals)	Recycled (through Republic Services)	Recycled	Recycled	Recycled (through Metro Recyclers)	-	Recycled (through Wasatch Recycling)
Tires	Recycled (through Goodyear)	-	-	-	-	Recycled (through Goodyear)	-	Recycled (through Goodyear)
Antifreeze	Recycled (through Emerald)	-	-	-	-	Recycled (through Safety-Kleen)	-	-
Oil	-	Recycled	Recycled (through Crus Oil)	Recycled (through Crus Oil)	Recycled	Recycled (through Tri-State or Emerald Services)	-	Recycled
Batteries	Recycled (through Interstate or Battery Systems)	Recycled	Recycled	Recycled	Recycled (back to manufacturer)	Recycled (through Interstate or Battery Systems)	-	Recycled (through Battery Systems)
Pallets	-	-	-	-	-	-	-	-

5.1.4 Site Visit Findings

For this initial waste assessment, site visits were conducted at UTA headquarters and the Meadowbrook Bus Garage, which is UTA's largest bus garage on May 20, 2024. Photo documentation collected during these site visits is presented in Appendix C.

Based on site visit observations and discussions with UTA staff, it is evident that efforts are underway to increase recycling rates and improve solid waste management practices. Examples of this include an active Green Team, consisting of UTA staff volunteers, and the existence of a community garden. These existing resources and the enthusiasm among involved staff could be leveraged to increase sustainable materials management efforts across UTA, including diversion of organic materials.

Recycling bins were observed in several locations within the headquarters. Signage for paper, metal, and used oil was also observed. However, it was noted that the signage and bin colors were not consistent across the facility.

Currently, janitorial staff are not contracted to collect recyclables, but it was reported that the contract could be changed to include separation of recyclables. Engaging janitorial staff in recycling efforts with associated training could result in significantly higher diversion levels in the future.

5.1.5 Source Reduction

Discussion with UTA staff indicates significant source reduction has been achieved for some materials. For example, there has been an 80% reduction in office paper use compared with pre-COVID quantities at both the headquarters and Meadowbrook.

Establishing a comprehensive baseline of materials currently used across UTA facilities will allow for evaluation of ways to expand source reduction. Coordination of efforts with procurement staff could help identify additional source reduction opportunities.

5.1.6 Reuse

Reuse is an important element of sustainable material management. Information on current reuse efforts across UTA is limited. Pallets are reportedly reused; although, specific quantities of pallets reused versus quantities disposed of were not available. Tires are also reportedly retreaded by Goodyear for reuse on buses at some garages. Verifying the relative number of tires retreaded compared with those disposed of would provide valuable insight on the effectiveness of this program.

A brainstorming session is recommended to identify materials currently disposed of that could be reused. A tracking system could then be developed for these materials. As an example of the possibilities, Los Angeles Metro created tote bags from retired bus seats. The totes were made available to staff at no charge.

5.1.7 Utah Transit Authority Recycling Report

UTA's Recycling Report produced by Claire Peterson (UTA) documents observations about UTA's current waste management practices and provides findings from research on recycling policy and design practiced at other relevant organizations, including transit agencies, universities, and corporations. Findings and recommendations from this research can inform UTA's future policy efforts.

The importance of developing quantifiable metrics to track progress was noted among the agencies reviewed. Having clear guidelines regarding materials that can and cannot be recycled was also noted as an important element of a successful recycling program.

Additional recommendations from the report include the following:

- Reviewing and standardizing recycling bin colors, labels, and placement
- Developing recycling policies and guidelines
- Establishing partnerships with other transit agencies and universities in the region, as well as nonprofit organizations that promote zero waste practices.

5.1.8 Conclusions and Recommendations

For this Waste Assessment, Jacobs reviewed information provided by UTA and conducted site visits at UTA Headquarters and the Meadowbrook Bus Garage. This assessment represents an important step in identifying current waste management practices within UTA and creates a foundation for future improvements.

While the data provided was limited, collectively, the information indicates that UTA has taken initial steps, including the use of recycling bins, to facilitate diversion of various recyclable materials. Source reduction of paper and cardboard was also reported, along with reuse of pallets and tires. In reviewing invoices from Republic Services, UTA's primary waste hauler, it appears that significantly more material is currently disposed of than recycled. Engaging waste haulers and other stakeholders can help to identify opportunities to decrease waste disposal relative to recycling.

Collection and tracking of additional information on the types and quantities of materials generated at UTA will further clarify opportunities for improvements and allow for the establishment of a baseline to measure future results against. A waste characterization study is another tool that could help UTA better understand how materials are being managed. Pilot initiatives can also be implemented at targeted locations before rolling these out on a larger scale. It is recommended that any future actions taken align with organizational priorities and are supported by guidelines, policies and staff education and training.

5.2 Additional Waste Assessment

5.2.1 Introduction

As a follow up to the Initial Waste Assessment and site visit conducted in May 2024, Jacobs performed a more detailed waste audit from December 9 to 10, 2024, at the two locations with the largest volumes of waste collection. The locations selected for this assessment were Meadowbrook and the combined Mobility Center and Roadhouse complex.

For this waste assessment, Jacobs staff (Golan Kedan and Sarah Reddinger) conducted visual inspection of both outside and inside areas and documented waste characteristics observed in each of the containers collected by Republic Services (Republic), as well as containers inside the buildings where UTA staff collect material for disposal and recycling. Jacobs staff were escorted by Sarah Ross of UTA during these site visits.

In the office spaces and garages, containers were observed and counted. Additionally, informal interviews were conducted with UTA staff to learn more about current waste management practices. Merchants Building Maintenance (Merchants) is the janitorial service provider at both facilities, and one of their responsibilities is to empty the contents of office waste and recycling bins into the larger containers collected by Republic.

Findings from the site visits, including interviews with UTA staff, are presented in this memorandum. Additional photos and documentation from the site visit are presented in the Appendix D. This memo builds on the Waste Assessment Memorandum that is provided in Chapter 5.1.

5.2.2 Mobility Center and Roadhouse Building

This section provides background about the Mobility Center and the Roadhouse Building.

5.2.2.1 Background

The Mobility Center and Roadhouse are adjacent to each other in Murray, Utah. These facilities serve different functions but share disposal and recycling bins in the lot east of the buildings. Republic services these bins as described in Section 2.2.

The Mobility Center supports UTA's Paratransit Service *Americans with Disabilities Act* (ADA) program. The facility has a variety of functions including providing evaluations and training for riders with disabilities so they can better use UTA's services or so that appropriate accommodations can be made for individual riders as needed. It was reported that approximately 30 employees work in this facility. The facility includes offices, areas for conducting ADA evaluation and training, and break areas for staff with vending machines and multiple trash and recycling receptables.

The Roadhouse serves as both a storage location for UTA equipment and a base area for field staff tasked with servicing bus and train stops. The Roadhouse includes a main building with offices and three Quonset huts used primarily for material and equipment storage, including for various vehicles, road signs, and waste bins. Equipment, including machinery slated for auction, is also stored in the lot to the west of the main building. Six staff work at this facility on alternating schedules. Chad Havey, who escorted the Jacobs team during the site visit to both the Roadhouse and Mobility Center, serves as the Passenger Facilities Road Crew Supervisor.

Most of the content in the roll-off bins comes from bus stops and train stations. UTA has a full-time crew of approximately 30 staff that collects waste from over 5,300 bus stops and 66 train stops on a continual basis. These UTA staff drive between stops and empty bagged waste from metal bins into a larger container in the back of their vehicle. This bin is then emptied into one of the 30-yd^3 roll-off bins serviced by Republic. The waste bins located at service stops are made from perforated metal with thick clear plastic bags inside so waste is visible to UTA collection staff. Two bags are placed within each trash bin, and the inner bag is collected and disposed of while the outer bag prevents any liquid from leaking onto the surrounding area. Figure 5-3, taken at Roadhouse, shows examples of the style of collection bin used at UTA bus and train stops.

While most of the bus and train stops include waste collection bins for system users, approximately 30% of stops lack amenities, including trash bins. At stops without trash cans, UTA staff monitor for and collect loose waste from the areas inside and around the bus and train stop.

Figure 5-3. Examples of Metal Trash Receptable with Visible Content

5.2.2.2 Bins Observed and Collection Frequency

A review of the hauler schedule indicates that one of the two 30- yd^3 bins are collected twice weekly (Tuesdays and Fridays), and the 4-yd^3 recycling bin is collected once per month. It appears that UTA and janitorial staff fill one of the 30-yd^3 bins fully before starting on the second one. During each scheduled collection, the more filled bin is replaced with a new empty bin of the same size.

5.2.2.2.1 Waste Collection

The waste assessment was conducted on a Monday to maximize material observed in the roll-off bins before their scheduled disposal on Tuesday. As shown on Figure 5-4, the bin to the right is full and will be replaced the following day. Figure 5-5 provides a closer view of the contents observed in this bin. All the material observed in this bin was contained in clear liner bags, as shown on Figure 5-6.

Figure 5-4. Roll-Off Bins Outside Roadhouse and Mobility Center

Figure 5-5. Closer View of Roadhouse Roll-Off Bin Contents

The contents of visible waste observed in the roll-off bins was a mix of passenger and office waste, along with recyclable materials. Among the nonrecyclable or difficult-to-recycle items observed were food/candy wrappers, film plastic, food-soiled paper containers, and plastic or mixed paper-plastic beverage cups. Potentially recyclable items observed included aluminum cans, plastic bottles, cardboard, and paper. It is estimated that up to half of the material observed could be recycled.

The second roll-off bin, shown on Figure 5-6, was approximately 20% filled and included a section of fencing, along with other construction-related debris (wood and drywall scrap). The fencing material presumably could have been collected as scrap metal. A cardboard box and aluminum can were also visible in this bin. Because these items are loose, they likely were not collected from bus or train stop bins and presumably could have easily been placed in the adjacent recycling bin.

Figure 5-6. Contents from Second Roll-Off Bin at Roadhouse

5.2.2.2.2 Recycling Collection

Recyclables from the Mobility Center and Roadhouse, shown on Figure 5-7, are placed into a 4-yd^3 container near the 30-yd^3 roll-offs. This bin is normally collected once per month and was last picked up approximately 2 weeks before our site visit.

Figure 5-7. Recycling Container for Mobility Center and Roadhouse

A closer look inside the recycling bin indicates it was only about 20% filled. Among the visible items were cardboard boxes and metal cans. Three large black trash bags were also observed in this bin, the contents of which could not be observed.

Ideally, recyclable material would be placed directly into the bin rather than in plastic bags. Depending on the recycling facility, plastic bags may not be recycled (that is, they would be diverted to a landfill), and the use of bags necessitates an extra step that impedes recycling of the contents within them because of the effort required to open the bags and release their contents. Additionally, cardboard boxes could be flattened to facilitate recycling.

It is unclear what portion of the recyclables was placed in the bin by UTA staff versus janitorial staff. It is also unknown why this cart was not fuller or if any of the recyclable material was taken to a different location.

Table 5-3 presents a summary of bins collected by Republic at the Roadhouse and Mobility Center.

Table 5-3. Summary of Republic Bins at the Roadhouse and Mobility Center

Bin Location	Bin Size and Type	Percent Filled	Additional Observations
Facility management parking lot	30-yd^3 roll-off	100	Bagged trash
Facility management parking lot	30-yd^3 roll-off	20	Building materials, bagged trash
Facility management parking lot	4-yd^3 recycling	20	Mixed trash with recyclables

5.2.2.2.3 Collection of Materials in Offices and Buildings

A variety of bins are used to collect waste and recyclables inside the office and storage buildings comprising the Mobility Center and Roadhouse. These containers vary in size from approximately 3- to 100-gallon capacity and come in different colors, including black, gray, blue, and green. A bin for biohazardous waste and sharps was also seen in the Roadhouse. Examples of bins observed in the

Roadhouse are shown on Figures 5-9 and 5-10. Figure 5-8 shows a single black bin used to collect waste in the breakroom, and Figure 5-9 shows a gray bin with a recyclable cardboard box included.

Figure 5-8. Bin Collected in Roadhouse Breakroom

Figure 5-9. Trash Receptable in Roadhouse, Containing Recyclable Cardboard and Paper

Figure 5-10 provides examples of collocated trash and recycling bins. While the approach of collocating bins can facilitate increased recycling, there was little difference in the contents observed in the recycling and trash bins.

Figure 5-10. Collocated Trash and Recycling Bins at Mobility Center and Roadhouse

Clear and consistent signage for recycling bins was notably lacking throughout in both the Roadhouse and Mobility Center. Increased signage on or near recycling bins coupled with additional training for UTA and janitorial staff could help drive increased recycling participation and a corresponding increase in use of the 4-yd^3 recycling bin.

Most of the content from the bins inside buildings is assumed to be collected and consolidated by the janitorial staff and then disposed of in the larger outside containers. It is unclear to what extent the janitorial staff separates recyclables and places them in the recycling cart outside. Janitorial staff were not available to discuss how they manage material. Interviews with janitorial staff could help uncover knowledge gaps and inform development of more effective signage and training material.

5.2.2.3 Material and Equipment Reuse

UTA has an established program with a third-party vendor to facilitate reuse of equipment and materials, thereby reducing the likelihood of functioning equipment going to landfill. The yard behind the Roadhouse serves as a storage facility for various UTA equipment no longer used and set to be sold through an auction process that occurs on an ongoing basis. The type of equipment stored in this area includes trailers, motorized equipment such as snow blowers, and various types of vehicles such as street sweepers.

Wooden pallets were also observed in this area. Chad indicated that delivery drivers are encouraged to take back pallets when they make a delivery, but often, this does not occur, resulting in a surplus of pallets. The number of pallets reused is not recorded.

Motor oil collected from vehicles and other machinery is either taken by a third-party vendor (Thermal Fluids) to be recycled/reused, or it is taken to Meadowbrook, where it is burned to generate heat or energy. Whether reused for fuel or sold, the oil goes through multiple filter systems, and these filters are separately disposed of by a third-party vendor.

5.2.2.4 Interviews with Staff

Chad and Nathan Hayes provided insights about the waste management practices at the Roadhouse and Mobility Center and those encountered by the crew collecting material from bus platforms and train stops. Information shared in these discussions included the following:

- Theft of liner bags, particularly among unhoused individuals, has been an ongoing challenge. It was reported that these heavy-duty liners are taken and used for rain protection. To discourage this practice, UTA staff often transfer a small amount of trash to the new bag when replacement occurs.
- Because of worker health and safety concerns, it is not currently feasible or practical to collect recyclables from bus or train stops. Biohazards, including needles and material containing bodily fluids, are the primary health and safety concerns encountered at bus and train stops. Separate collection of recyclables would also require additional effort from UTA staff, along with the associated cost. It is also assumed that dedicated recycling containers placed at stops would have high contamination levels, thereby decreasing the value of the material collected.

5.2.2.5 Potential Action Items

Significant amounts of recyclable materials from UTA bus and train stops are being collected with trash and not recycled. Dedicated recycling bins are not provided at service stops based in part on an assumption that the contents from dedicated recycling bins would be highly contaminated (either with trash or biohazardous waste) and thus not worth collecting separately. An effective way to test the viability of providing recycling bins is through targeted pilot studies.

Sarah mentioned an initial pilot study of recycling implementation in an area of corporate downtown. Review of data collected from this study can inform planning for pilot-scale recycling implementation at bus and train stops. **Conducting research, including interviews, with other transit agencies** that offer recycling in public areas will help to provide insights for **expanding recycling collection pilot studies**.

Criteria for selecting pilot study areas for recycling collection at bus or train stops could include factors such as rider usage, lighting in and around the bus or train stop, and relative crime. Implementing collection of recyclables at bus and train stops in a phased approach will allow for consideration of lessons learned and improved practices over time.

Observations from within the Roadhouse and Mobility Center buildings suggest that **clear and consistent signage and bin type coupled with training** could increase recycling participation within the buildings by UTA and janitorial staff. Engagement with Merchants can help make the signage and training more effective.

5.2.3 Meadowbrook

This section provides background about the Meadowbrook campus.

5.2.3.1 Background

The Meadowbrook facility is a campus with eight buildings at 3600 S 700 W in South Salt Lake. This campus includes an outdoor area for bus parking and offices and covered buildings where bus maintenance activities and vehicle washing occur.

A site walk was conducted around the perimeter of Meadowbrook on December 9, 2025, and a second site visit was done through the interior of the buildings on December 10, 2025. An aerial image of the Meadowbrook campus was provided by UTA with waste and recycling collection bins noted (Figure 5-11).

Some discrepancies were found between the aerial image and what was observed during the site walk, both in terms of the number of bins and their locations. It is unknown if bins were moved by Republic or UTA staff.

A wide range of stored materials were observed around the perimeter of the campus, both uncovered and in storage sheds. Visible items stored around the campus perimeter included tires, ice melt, pallets, baled cardboard, and bins containing scrap metal. **Conducting an inventory of contents** in these storage sheds could highlight material that could be reused or that may require disposal, potentially freeing up this space for other uses.

Figure 5-11. Aerial View of Meadowbrook Campus

5.2.3.2 Bins Observed and Collection Frequency

A review of the hauler schedule indicates that Republic collects bins three times per week as follows:

- 3, 4, and 6-yd^3 waste bins are collected on Tuesday and Friday.
- 4-yd^3 recycling is collected on Tuesday.
- 30-yd^3 roll-off is collected on Thursday.

We observed 10 waste bins ranging from 3 to 6 yd^3 across Meadowbrook, along with three 30-yd^3 roll-offs and three 4-yd^3 recycling bins. This suggests there is either a rotation schedule for bin collection or that the pickup driver has discretion to select which bins to empty on a given collection day. A summary of the Republic waste and recycling bins is provided in Table 5-4.

Table 5-4. Summary of Trash Bins at Meadowbrook

Bin Location	Bin Size	Percent Filled	Additional Observations
Northwest corner	6 yd^3	10	Mixed trash
Northeast of Building 8	4 yd^3	0	Bin was empty
East of Building 8	6 yd^3	90	Mixed trash, construction debris (wood scrap and pipe/conduit insulation), cardboard, glass
East of Building 8	30 yd^3	10	Cardboard, mixed trash bags
Shipping/receiving	6 yd^3	20	Cardboard, mixed trash bags
Northeast of Building 5	30 yd^3	15	Mixed trash bags
East of Building 8	6 yd^3	20	Cardboard, mixed trash bags, foam, lights
East of Building 5	6 yd^3	50	Cardboard, mixed trash bags, foam, lights
South of Building 4	6 yd^3 x2	80; 0	Passenger trash, bins next to bus wash station
Southeast of Building 3	6 yd^3	70	Mixed trash bags
South of Bus Schedule building	6 yd^3	50	Mixed trash bags

5.2.3.2.1 Waste Collection

Waste collection bins are spread around the Meadowbrook campus to facilitate ease of access by UTA staff in the different buildings. Waste bins varied from empty to approximately 80% full, with a mix of trash and some recyclable material.

Contents observed in these bins varied corresponding to different sources of the material. Cardboard and other potentially recyclable material was observed in nearly all waste bins. It is unknown what proportion of recyclable material is placed in waste bins by UTA versus janitorial staff. Figure 5-12 shows one of the roll-off bins.

Figure 5-12. 30-Cubic-Yard Roll-Off Bin at Meadowbrook

5.2.3.2.2 Recycling Collection

Three recycling bins were observed at the Meadowbrook campus, two of which appeared to be mostly filled. Significant amounts of cardboard were visible in each bin, along with some closed trash bags with unknown contents and construction-related material. Table 5-5 summarizes the recycling bins at the Meadowbrook campus.

Table 5-5. Summary of Recycling Bins at Meadowbrook

Bin Location	Bin Size	Percent Filled	Additional Observations
West of Office Building	4 yd^3	90	Bin was inaccessible and could only be viewed from a distance, appeared full, only cardboard was visible
South of Building 4, along fence line	4 yd^3	15	Cardboard, trash bag
South of Bus Schedule Building	4 yd^3	80	Cardboard, paper, wood, trash bag

A cardboard compactor and baler was observed outside of Building 8, as shown on Figure 5-13, along with a finished cardboard bale. An additional cardboard compactor is in Building 3. Baled cardboard is collected, and weights are tracked.

Figure 5-13. Cardboard Baler and Finished Bale at Meadowbrook

5.2.3.2.3 Collection of Materials in Offices and Buildings

An assortment of bins for trash, recycling, and collection of special materials were observed inside each building visited. Bin sizes, color, and associated signage lack uniformity, as noted from the previous site visit. Good housekeeping and organization of space was observed within all the buildings visited. There was uncertainty around how much of the material collected inside was taken to outside bins by UTA staff versus janitorial staff.

One notable finding was that UTA staff are separately collecting aluminum cans and taking them directly to a recycling center to raise funds for employee events. It is unknown if or how the quantity of recycled aluminum is tracked. Figure 5-14 shows an example of aluminum can collection at Meadowbrook.

Figure 5-14. Aluminum Cans Collected by Utah Transit Authority Staff

5.2.3.2.4 Scrap Metal

Scrap metal bins are at multiple locations throughout Meadowbrook, as shown on Figure 5-15. Bins are picked up by Metro Recyclers upon request. It is unclear if UTA pays for this service or if the material is purchased by Metro Recyclers, thus serving as a revenue source.

Figure 5-15. Scrap Metal Collection Bin

5.2.3.2.5 Interviews with Staff

Informal interviews were conducted with UTA staff at Meadowbrook regarding waste collection practices across this campus. Some of the findings from these interviews include:

- Quantity and Location of Republic Bins
  - Two staff (D. Locke and G. Miner) suggested that the number of Republic trash containers at Meadowbrook could be reduced, which would save money by reducing costs associated with bin rental. This is supported by the observation of multiple bins that were only partially filled. The location of some bins could also be improved to facilitate access.
  - It was noted that UTA may have some leverage over Republic following a recent contract renewal that resulted in reduction of some base rates.

- Role of Merchants in handling recyclables
  - Contract with Merchants includes a requirement that staff collect recyclables separately from trash and place this material in the correct bin for collection by Republic; however, there is a belief by some staff that this is not being done correctly or consistently.
  - In the Transit Communication Center (TCC), recycling bins that had been there were removed because janitorial staff reportedly were not reliably collecting the material resulting in overfilled bins.
  - On the other hand, in the customer service center (Meadowbrook Building 1), UTA staff reported that the janitorial staff kept trash and recyclables separate.
- Material and Equipment Reuse and Repair
  - In the Building 1 mailroom, it was reported that cardboard boxes from shipments received to the facility were saved and reused to send package material for delivery to other UTA locations, as seen on Figure 5-16. This is an example of UTA staff taking a proactive approach to improving material management through reuse, resulting in cost savings by requiring less cardboard to be purchased.
  - Another staff in Building 3 shared that they were working on repairing a mechanical part that had stopped working correctly.
  - UTA staff commented that internal communication around material and equipment reuse could be improved. For example, it was noted that new replacement parts are often purchased when spare parts may be available at other UTA locations. An electronic inventory tracking system for spare parts could reduce the number of new items purchased and would result in cost savings.
  - Older equipment can potentially be sold to generate revenue; although it was noted that some restrictions on equipment sale exist for items acquired through certain funding sources (for example, some federal grants).

Figure 5-16. Collection of Cardboard Boxes for Reuse in Meadowbrook Mailroom

5.2.3.3 Potential Action Items at Meadowbrook

Similar to the Roadhouse and Mobility Center, a variety of bins are used with inconsistent signage. Providing **uniform bins with clear, consistent signage** regarding what contents to place within bins could improve recycling among staff across the Meadowbrook campus. Likewise, reiterating the importance of material separation and placement of material in the correct outside bins by janitorial staff could improve recycling. **A review and potential enhancement of training materials** for both UTA and janitorial staff can result in improved messaging.

In addition, it was discovered that a significant amount of aluminum cans are taken by staff at Meadowbrook to a recycling center where they are sold to raise funds for employee events. Encouraging staff to track this material stream will provide a more accurate picture of agency-wide landfill diversion.

Meadowbrook serves as a hub for vehicles, equipment, and material used by UTA. The status of these items is tracked in separate systems. A **data tracking system** has been proposed for sustainability metrics at UTA. Integration of equipment and material for reuse at Meadowbrook into a future data tracking system can facilitate a more accurate understanding of current practices, which can then be tracked and measured over time.

5.2.4 Conclusions and Recommendations

Through this targeted Waste Assessment, valuable insights were uncovered regarding UTA's current waste management practices at the two locations with the largest volume of waste collection. As noted in the initial waste assessment, UTA's current contract with Republic is for approximately 90% waste collection and 10% recycling.

However, the material collected by Republic alone does not reflect the full waste management picture across UTA operations. UTA uses additional vendors to collect scrap metal, used oil, and other specialized wastes, which contributes to increased landfill diversion levels. There is also an established tire retread program that prolongs the overall life of tires and an auction program to extend the life of equipment no longer needed by UTA. It also appears that a significant number of aluminum cans are taken by employees to a recycling center and thus are not collected by Republic.

Notable in the waste assessment were cardboard and other recyclable materials visible in trash bins. This suggests that recycling participation could increase with improved waste education for UTA staff and contractors. Implementing a uniform bin structure with clear signage would further support recycling efforts leading to increased waste diversion.

This waste assessment further underscores the potential value of acquiring more detailed data from companies that haul this material offsite. Some of the desired information, such as the weight of each roll-off collected by Republic, should be readily available but just needs to be requested. Collection of additional data from vendors combined with enhanced tracking of material and equipment reuse across UTA will enable UTA to better understand baseline conditions and set meaningful targets for future improvement. Integrating additional data into an electronic tracking system will increase transparency and accountability.

Another potentially impactful next step is to explore ways to introduce recycling at public-facing locations including bus and train stops through a pilot program approach. The desire to better manage material generated by system users must be balanced against worker safety concerns and the cost to implement. Engagement with other agencies that collect recyclables can also provide valuable information to support UTA's efforts.

The vision for enhanced waste management practices can be described within a future waste management plan that lays out agency-wide policies and establishes a road map to achieve actionable goals that align with overall sustainability goals. Any plan should include engagement with a wide range of stakeholders, including regular training sessions for both UTA and janitorial staff.

Additional waste assessments and pilot phase programs can be valuable methods to gain deeper understanding and test new ideas.

5.3 Peer Comparison

Peer comparison of waste footprint across UTA peers included those peers that calculate and publish waste diversion rates publicly. Those rates are listed in Table 5-6 and on Figure 5-17.

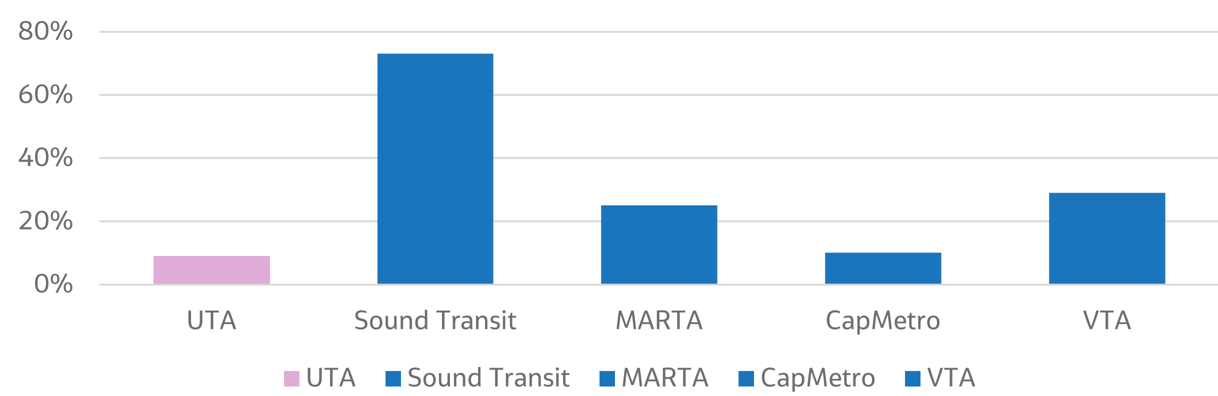
Table 5-6. Waste Diversion Rates Among UTA Peers

Waste Diversion Value	UTA	Sound Transit	MARTA	CapMetro	VTA
Waste Diversion Rate	9%	73%	25%	10%	29%

Note:

UTA's recycling rate is likely significantly higher, but data are available only for Republic Services. This is the ratio of garbage to recycling collection by Republic Services, but it does not account for recycling that is picked up by other haulers.

Figure 5-17. Annual Waste Diversion Rates Among UTA Peers

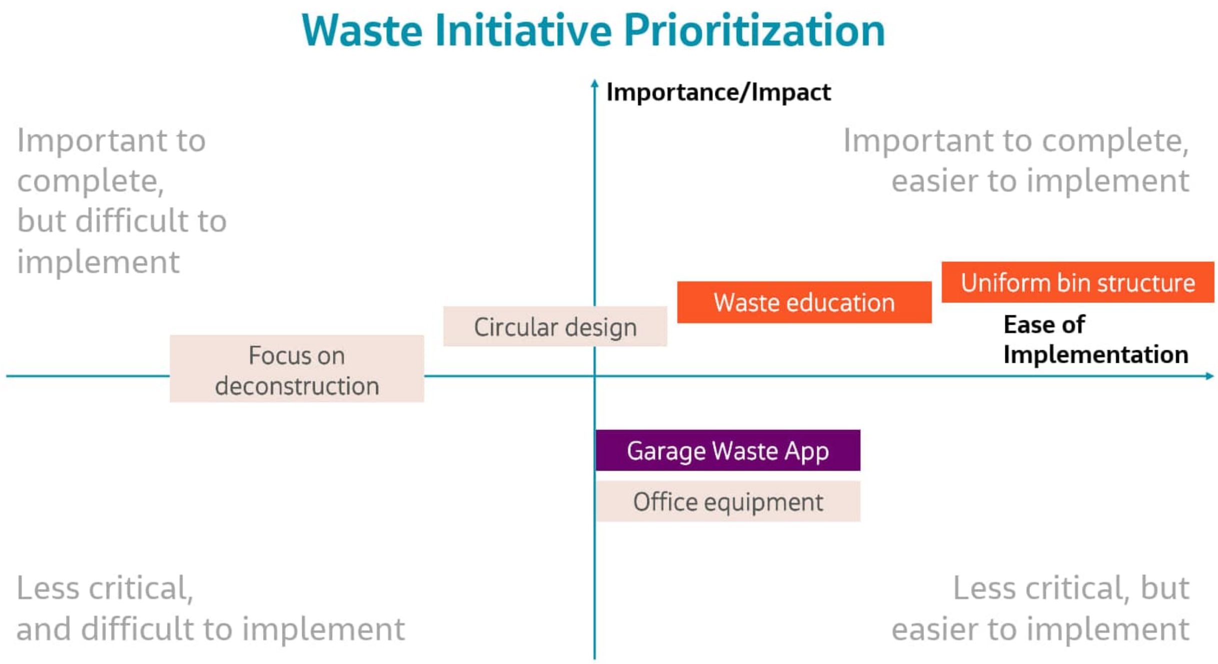


UTA's waste diversion rates are keeping pace with peers, though on the lower end of the spectrum. The diversion rates may be higher than currently estimated if garage waste recycling is quantified. Jacobs' recommendations are to begin tracking additional waste data, particularly weights of different materials collected, to provide a better picture of current practices and identify opportunities to increase overall diversion rate.

5.4 Sustainability Strategies

UTA has taken meaningful steps toward sustainable materials management practices, including recycling a range of materials and reuse of office and transportation-related equipment. At the same time, knowledge gaps and opportunities for improvement have been identified. The initiatives shown in the matrix on Figure 5-18 align with opportunities for improvement.

Figure 5-18. Prioritized Waste Initiatives



During multiple site visits, it was noted that waste and recycling bins and associated signage lacked uniformity, and there were many examples of materials placed in the wrong bin. Baseline initiatives address this issue by focusing on development of education and training materials coupled with implementing uniform bin types and signage, as described in Table 5-7. An initial pilot phase for these initiatives will occur at UTA headquarters (HQ). Based on the results of the pilot phase, the Waste Education and Uniform Bin Structure Initiatives will be expanded to other locations. The expansion of these two initiatives is addressed in the Future scenario, as described in Table 5-8.

Improved tracking of material types and quantities and how those are processed (reused, collected for recycling or disposal) across UTA facilities is another priority that will allow UTA to better understand current baseline conditions and set targeted material management goals that drive future improvements. Ideally, a comprehensive dashboard will facilitate improved analyses and the ability to share data between UTA divisions and stakeholders. Important data elements for the dashboard include tonnages of both waste and recyclables collected by Republic Services, scrap metal collected by Metro, and collection of other recyclable materials, including baled cardboard, recovered oil, and electronics. If feasible, the dashboard should also capture metrics on reuse of materials and equipment across UTA operations, including items sold through auction.

The Future+ scenario includes expansion of UTA recycling to public-facing locations, including bus and train stops, and is described in Table 5-9. Initial pilot studies can provide valuable insights that allow for a more successful rollout of these programs across multiple service areas.

5.4.1 Buildings and Infrastructure

5.4.1.1 Focus on Deconstruction Rather than Demolition

Deconstruction involves carefully dismantling a building to salvage valuable materials for reuse or recycling, rather than demolishing it in a way that typically results in waste. This approach emphasizes preserving the integrity of materials and components, which can then be repurposed in new construction or renovation projects.

Goals and Objectives: Implement deconstruction frameworks into UTA's construction and renovation policies.

High-Level Cost: Low to Medium. Cost for additional planning and time required for deconstruction can be partially offset by potential revenue from sale of recovered material or cost savings from reuse of construction material.

Key Features and Benefits: UTA can reduce waste by lowering the amount of debris sent to landfills. Resource recovery will involve salvaging and reusing materials, reducing the need for new resources and minimizing the environmental impact of extraction and processing. These practices could lead to cost savings and reduce construction costs.

Potential Challenges: Challenges may include higher labor costs because deconstruction can be more labor-intensive and may require additional experience or training. There may be skill and knowledge gaps because of a lack of workers trained in deconstruction. Coordinating the deconstruction process, including the storage and transportation of salvaged materials, can be complex and require careful planning. Regulatory hurdles may arise because local regulations and building codes may not always support deconstruction practices.

5.4.1.2 Circular Design in Every Phase of Building

Circular design considers the entire lifecycle of a building or other infrastructure (for example, rail line or bus stop platform) from conception to end of life, emphasizing the reuse, recycling, and regeneration of materials. This philosophy aims to minimize waste and maximize the lifecycle value of materials, ensuring they remain in use as long as possible.

Goals and Objectives: Implement circular design concepts into all new construction and renovations.

High-Level Cost: Low to medium. Cost for additional time and effort required to develop and implement circular design initiatives can be offset by cost savings associated with decreased disposal fees, decreased energy associated with improved efficiency and savings from reuse instead of purchasing new materials.

Key Features and Benefits: UTA could minimize waste through circular design, ensuring materials are reused or recycled at the end of their life. Resource efficiency will be achieved by designing buildings and other structures for longevity and adaptability, allowing them to be repurposed rather than demolished. Buildings designed with circular principles will be more adaptable to environmental conditions and changes, enhancing their resilience.

Potential Challenges: Challenges may include the initial design complexity, which may require specialized experience and training, as well as collaboration among stakeholders. Higher initial design costs may also be a factor. The market for recycled materials may be limited and inconsistent in demand. Additionally, there may be a lack of awareness and education within the construction industry regarding circular design principles.

5.4.1.3 Maximize Recycling and Reuse of Assets

Implement strategies to recover materials and components from existing buildings and infrastructure, and use in new projects where possible. This can include both onsite practices during renovation or deconstruction and offsite recycling efforts. Rider-specific education and campaigns that are picture-based and provide tips are encouraged.

Goals and Objectives: Reduce that amount of material generated at UTA facilities that goes to landfills by increasing rates of material reuse and recycling. Provide consistent guidance for reuse and recycling including oil. Promote retrofitting of older buses, metal recycling, and reuse of used tires.

High-Level Cost: Medium initial cost associated with development of standard protocols, training materials and purchase of new collection containers. Costs can potentially be offset by decreased need for new materials or by revenue generated from sale of recovered material.

Key Features and Benefits: Maximizing asset recycling and reuse will potentially lead to significant waste reduction and cost savings. This initiative may contribute to more sustainable resource management and financial efficiency.

Potential Challenges: The challenges can include materials collected at transit stop and from vehicles. Currently, all material collected from bus platforms and train stations is treated as waste and not recycled due to potential health risks associated with handling of this material which can include biological waste. In addition, bins are required to be transparent so that material placed within them is visible to workers collecting the material. An example bin is shown on Figure 5-19. Collection of recyclables from bus and train stops would require purchase or modification (for example, color coding) of many bins as well as adequate training of staff who would collect and transport this material. Initial implementation of this initiative is therefore assumed to be for UTA office buildings and garages. Future implementation at bus or train stops could initially be done on a limited pilot-scale basis at strategically selected locations.

Figure 5-19. Example Waste Bin at Bus Stops

5.4.2 Education

5.4.2.1 Waste Education

This includes the promotion of awareness and understanding of waste management practices among employees, system users, and other stakeholders, including educating individuals about the impact of waste on the environment and the importance of reducing, reusing, and recycling. The janitorial service providers (Merchants) are a key stakeholder and must be adequately trained and engaged to support this initiative. Waste education is mostly focused on UTA staff, but can also involve community education to reduce waste collected at stations and bus stops, and can be integrated with other Community Education efforts described in the following sections.

Goals and Objectives: Provide clear guidance and resources so that individuals can make informed decisions about waste management, leading to reduced waste generation and contribute to UTA's carbon footprint goals.

High-Level Cost: Low to medium initial cost associated with development of material collection strategy and education materials, benchmarking research of other agencies including conducting interviews. Ongoing costs associated with conducting training sessions on material management for new staff, and periodic refresher courses.

Key Features and Benefits: Implementing waste education initiatives will potentially drive behavioral change and enhance participation in waste management programs. This initiative may improve resource management and foster community engagement, leading to more sustainable practices.

Potential Challenges: Varied levels of knowledge among participants can mean that a variety of educational formats or languages may need to be used. The program may be resource-intensive because educational materials and communications would need to be in place in many locations. Additionally, maintaining ongoing commitment will be necessary to ensure the long-term success of waste education efforts.

5.4.2.2 Clearly Defined Bin Structure

Providing adequate numbers of bins that are uniformly color-coded and consistently labeled to indicate which material types to place in which bin will improve material recycling rates and overall waste management efforts. Informing individuals about the purpose and proper use of different material collection bins within UTA's campus and the surrounding community will help to reduce the amount of material taken to landfill. This initiative requires a method for monitoring placement of bins and replacing bins that are damaged or lost.

Goals and Objectives: Provide clear guidance and resources so individuals can make informed decisions about waste management, leading to reduced waste generation and improved recycling rates.

High Level Cost: Low to medium initial cost associated with purchase of additional material collection bins

Key Features and Benefits: Establishing a clear bin structure will potentially increase recycling rates and reduce contamination. This initiative may streamline waste management processes, making them more efficient and effective.

Potential Challenges: Design and placement of bins may pose difficulties, and initial confusion may arise among users. Maintaining consistency and addressing behavioral habits will be necessary to ensure the success of the bin structure. Refer to prior discussion regarding bin requirements at bus and train stops.

5.4.3 Data and Tools

5.4.3.1 Waste Tracking Application/Dashboard for Garages

This is a digital tool designed to monitor, measure, and analyze waste generation and disposal practices within UTA's organization. This dashboard can provide real-time data on waste streams and help UTA understand their waste management performance, identify areas for improvement, and develop strategies to reduce waste. This dashboard can be part of the Central Repository for Environmental Data as one of the stages of Repository development.

Goals and Objectives: Monitor, measure, and analyze waste generation and disposal to understand waste management performance and improve waste reduction.

High Level Cost: Medium initial cost associated with design of dashboard and related digital tools.

Key Features and Benefits: Implementing a waste tracking app will potentially enable data-driven decision-making by providing insights into waste generation patterns. This initiative may improve accountability by assigning responsibility for waste management efforts and enhance reporting processes. Additionally, it can identify specific areas where waste can be reduced, leading to more efficient resource management. This tool can also promote material reuse by matching excess material with those looking for these resources.

Potential Challenges: Initial setup and costs may be a significant barrier, requiring up-front investment. Ensuring data accuracy may be difficult because employees must be diligent in tracking waste. Encouraging consistent use of the app may pose engagement challenges, and integrating the app with existing systems may present technical difficulties.

5.4.3.2 Office Assets Inventory Tool

This is an inventory tool system for UTA to track and manage the inventory of physical assets within UTAs organization, like office furniture and equipment, or other assets that are currently not tracked and/or used. This will allow UTA to understand lifecycle and usage to make informed decisions about resource efficiency, waste reduction, and sustainability initiatives. The office assets inventory tool can be combined into a larger asset-tracking tool to include garages.

Goals and Objectives: Resource optimization

High-Level Cost: Medium initial cost associated with design of dashboard and related digital tools.

Key Features and Benefits: Implementing an office assets inventory tool will potentially optimize resource use by identifying underutilized items, allowing for better allocation. Lifecycle management may be improved, enabling more effective planning for replacements, repairs, and upgrades. This initiative could lead to cost savings through reduced procurement needs and lower maintenance costs. Enhanced reporting and compliance will likely facilitate tracking sustainability metrics related to resource use and waste generation. Additionally, improved planning will support future purchases and resource needs.

Potential Challenges: Initial implementation can be resource-intensive, potentially requiring a comprehensive audit of existing assets. Data management may pose difficulties in maintaining an accurate and up-to-date inventory. Integration with existing systems may present technical challenges that need to be addressed.

5.5 Actions Recommended for Implementation

5.5.1 Prioritized Initiatives – Baseline

The Baseline scenario actions described in Table 5-7 focus on the activities that are already planned for implementation and the pilot scale of activities.

Table 5-7. Waste Initiatives Prioritized for the Baseline Scenario

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Waste education (pilot at HQ)	Review existing training material and supporting materials (for example, fact sheets, brochures, posters describing what goes where); make updates to reflect current knowledge and goals; identify target audience (UTA staff, janitorial staff, and other contractors) and methods for training sessions (in-person, virtual); and conduct training sessions and update supporting materials.	Estimated 6 months to develop training materials and make updates to supporting materials, identify target audience, and begin scheduling sessions. Pilot implementation 2025-2026. Milestones: ▪ Update supporting materials and develop training. ▪ Complete initial training session. ▪ Provide availability of an online course. ▪ Achieve 50% participation rate among staff in HQ.	Number or percentage of staff receiving training. Survey results following training sessions. Increased recycling levels achieved. Reduced contamination in recycling bins.	Cost to develop updated supporting materials and training session curricula. Cost to hold sessions and track attendance, either in person or online.	Up to two programs. EPA SWIFR with waste reduction program and EPA Consumer REO Grant Program (as community partner).

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Uniform bin structure (pilot at HQ)	Develop asset inventory of current trash and recycling bins; evaluate options for purchasing bins (cost, size, color); determine optimal number of bins by location; purchase new bins; develop uniform labels showing what goes in each bin; donate or repurpose old bins; perform periodic visual audits; track performance and adjust as needed.	Estimated 6 months to complete asset inventory and evaluate options for purchase. Bin labels can be developed concurrently and printed/ordered so they are available when bins arrive. Pilot implementation 2025-2026. Milestones: ▪ Place new bins with uniform labels.	Number of uniform bins by type and location. Increased recycling levels achieved. Reduced contamination in recycling bins.	Cost of new bins. Cost of ordering or printing signage.	Up to two programs. EPA SWIFR and EPA Consumer REO Grant Program (as community partner).
Data collection –Republic engagement	Discuss priorities with Republic; confirm available tonnage data (roll-offs only versus all bin types); make formal request for waste and recycling tonnages; establish expectations for data specifications and frequency; review data monthly to ensure it includes requested information in the correct format; and request modifications to data as needed.	Continuous implementation, starting 2025. Milestones: ▪ Submit data request shortly after discussing data needs with Republic. ▪ Receive requested data from Republic. ▪ Track changes in collection of different material types over time.	Tonnages of solid waste and recyclable material collected by Republic, by location.	Costs for time to set up and maintain data tracking system (either as a standalone system or integrated with another tracking system).	No grants.

REO = Recycling Education and Outreach

5.5.2 Prioritized Initiatives - Future

Building on the initial activities in the Baseline scenario, the Future scenario suggests more wide-spanning activities and ambitious actions. Table 5-8 shows the waste initiatives for the Future scenario.

Table 5-8. Waste Initiatives Prioritized for the Future Scenario

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Waste education – expanded	Identify locations to implement additional training; expand UTA and staff education/training and distribution of supporting materials to other facilities; and make course improvements based on experience and feedback from initial pilot.	Within 1 year of implementation at HQ, identify locations for training and distribution of supporting materials and target UTA and janitorial staff, and then begin staff training at these locations over the next 6 months. Pilot implementation 2025-2026, and organization-wide implementation 2026 onward. Milestones: ▪ Achieve 50% participation rate among staff at each offering of the training.	Number or percentage of staff receiving training. Survey results following training sessions. Increased recycling levels achieved. Reduced contamination in recycling bins.	Cost to hold sessions and track attendance, either in person or online, and distribute updated supporting materials.	Refer to Baseline opportunities.
Uniform bin structure – expanded	Identify additional UTA locations to place uniform bins; determine number of bins needed; order bins; print or order bin labels; place bins; perform periodic visual audits; and track performance and adjust as needed. Perform monthly spot checks to assess recycling bin usage and contamination levels.	Within 1 year of implementation at HQ, identify locations for implementation of uniform bin structure, order new bins, prepare signage, and place bins over the next 6 to 12 months. Pilot implementation 2025-2026, and organization-wide implementation 2026 onward. Milestones: ▪ Place new bins with uniform labels.	Number of uniform bins by type and location. Increased recycling levels achieved. Reduced contamination in recycling bins.	Cost of new bins. Cost of ordering or printing signage. Costs to establish and maintain tracking systems.	Refer to Baseline opportunities.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Expanded data collection	Request additional waste and recycling data from Meadowbrook, garages, and other facilities, including scrap metal, oil, e-waste, cardboard and paper. Aluminum cans will be collected separately by UTA staff. Monitor recycling and contamination levels as part of data collection.	Continuous implementation starting 2025. Milestones: ▪ Submit data request shortly after discussing data needs with Republic. ▪ Receive requested data from Republic. ▪ Track changes in collection of different material types over time.	Tonnages of solid waste and recyclable material collected by Republic, by location. Contamination levels monitored.	Costs for time to set up and maintain data tracking system	No grants.
Expand circular economy/ deconstruction practices	Review existing standard procurement documents (for example, RFPs and contracts) and construction policies for mention of circular economy deconstruction, or reuse of materials; develop new draft guidelines; develop new standard language to incorporate into procurement documents, identify list of upcoming construction or deconstruction projects; discuss new guidelines with responsible staff for upcoming projects; and review project practices for compliance with guidelines.	6 months to collect and review any existing guidelines/policies; 6 months to develop new standard language and guidelines and identify upcoming projects to apply policies; and review compliance with policies over next 12-months and make updates based on findings. Initial activities in 2025-2027, and organization-wide implementation 2027 onward. Milestones: ▪ Develop final guidelines for implementing Circular Economy/Deconstruction Practices. ▪ Develop standard procurement language. ▪ Complete first project that uses guidelines.	Reduce waste associated with construction projects. Increase C&D material reuse and recycling.	Costs for time to set up guidelines, standard procurement language, and track data received.	No grants.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Office asset inventory/reuse	Review existing policies and systems for office asset inventory tracking, and update or develop new processes to facilitate communication between UTA staff.	6 months to collect and review any existing guidelines/policies, and 6 months to develop new guidelines and identify upcoming projects to apply policies. Initial pilot in 2025-2027, and organization-wide implementation 2027 onward. Milestones: ▪ Establish tracking system.	Amount/Number of office assets that are reused (versus new purchases).	Costs for time to set up guidelines and track data received. If external vendor used to develop a tool, $10K-$20K for tool development.	No grants.

C&D = Construction and Demolition
RFP = Request for Proposal

5.5.3 Prioritized Initiatives - Future +

The Future+ scenario presents the most ambitious version of the implementation scenarios, adding public-facing actions such as having waste reduction and recycling to support public use by Salt Lake City Winter Olympics 2034. Table 5-9 shows the waste initiatives for the Future+ scenario.

Table 5-9. Waste Initiatives Prioritized for the Future+ Scenario

Expanding Baseline and Future Scenario Activities

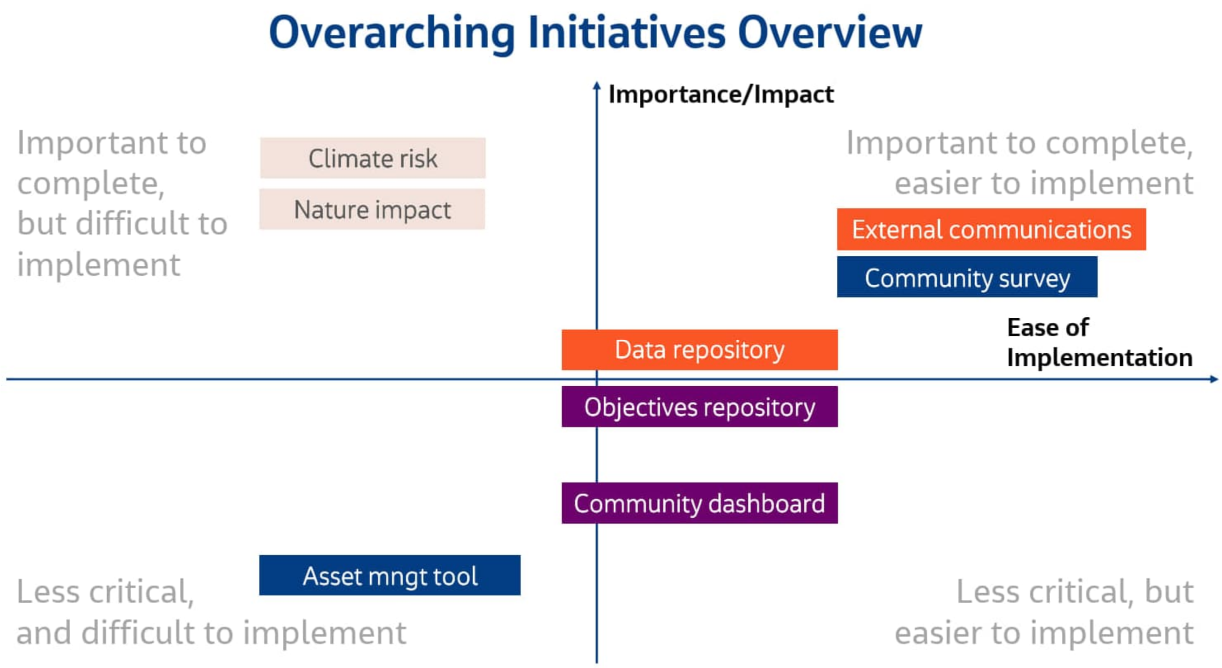
Initiative	Implementation Description	Timelines	Metrics and Objectives	High-Level Budget	Grants
Expanded recycling collection (public facing)	Identify public-facing locations (for example, bus and train stops) with favorable characteristics for collection of recyclables; evaluate bin and signage options, order bins and signage, and train staff on collection/handling of material; place bins and signage at initial pilot locations; perform periodic visual audits; and track performance and make adjustments as needed.	Estimated 6 months to confirm locations and number of stops for pilot program; 6 months to order bins and train collections staff; and place bins and track results. Initial pilot activities to be implemented 2026-2030, with a community-wide implementation 2030 onward.	Increase UTA recycling levels by collecting at public-facing locations (for example, bus and train stops). Reduce levels of contamination (for example, trash in recycling bins).	Costs for purchase of bins.	Up to two programs. EPA SWIFR and EPA Consumer REO Grant Program (as community partner).

6. Additional Organization-wide initiatives

6.1 Sustainability Strategies

The team has identified other types of actions UTA could take to be a leader in environmental and social sustainability. Those initiatives are presented on Figure 6-1.

Figure 6-1. Initiative Prioritization for Overarching Initiatives



6.1.1 Data

6.1.1.1 Central Repository for Environmental Data, with Submetering

A centralized repository for UTAs environmental data could collect, store, and manage various types of environmental data related to UTAs operations, energy consumption, water usage, waste generation, emission, and compliance metrics. This can be a tool for tracking performance and decision-making and can reduce/eliminate estimates for waste or water that is not billed in detail, increase data quality, centralize environmental data for use, and decrease data lag. It could also capture waste, water, energy, and other activities that are outside billing details via a simple application that sites can use as energy, water and waste is generated, recycled, reused, disposed of, or consumed. Submetering can help provide better visibility to target, monitor and validate efforts of various efficiency improvements. The repository can be developed in phases (for example, by first creating a GHG/energy/water/waste dashboard).

Goals and Objectives: Improve data accuracy and timeliness, create ownership for energy, water and waste and other activities at sites.

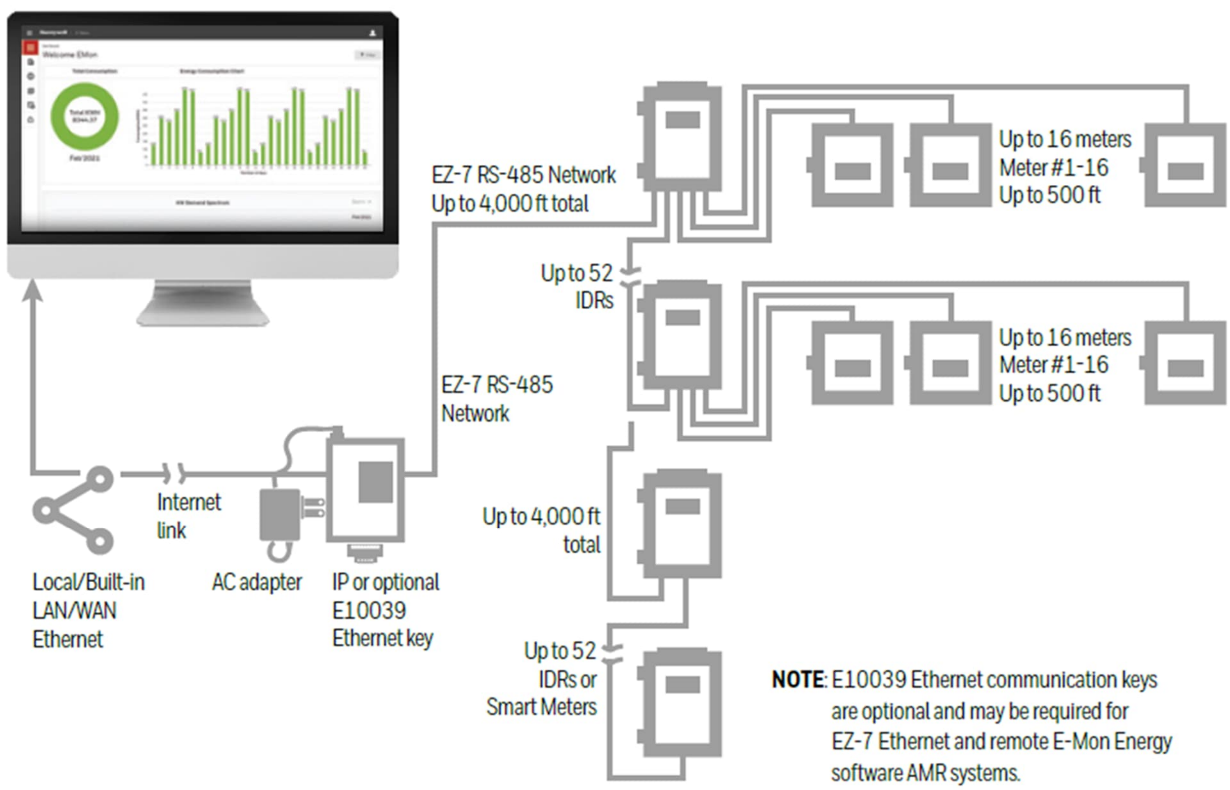
High-Level Cost: $25K to $50K for initial set up and $25K to $50K per year for SaaS fees depending on scope of data and full workflow. Submetering costs can vary from medium to high, depending on results of detailed energy audit and condition of existing electrical panels/switchgear, wiring, trenching requirements, control hardware, and networking infrastructure.

Key Features and Benefits: UTA can establish a centralized environmental data repository to improve data accuracy and timeliness, creating ownership for energy, waste, water, and other activities at the site. This repository will enhance data quality and accessibility, allowing for holistic analysis and facilitating benchmarking across various metrics.

A sample commercial submetering architecture is on Figure 6-2; note that Jacobs does not endorse specific metering equipment manufacturers.

Figure 6-2. Sample Submetering and Remote Monitoring Network Architecture

Source: Honeywell



Potential Challenges: Challenges may include the costs associated with setting up and maintaining the centralized data repository. Integrating data from various sources may be complex, and ongoing maintenance will be required to ensure the system remains functional. Ensuring user adoption and effective use of the repository will also be crucial.

6.1.1.2 Central Objectives and Performance Tracking System

All sustainability data can be centralized and visualized through one system to track objectives and progress toward goals. Establish data governance and integration from systems of record. This could be inclusive of carbon dioxide (CO_2) emission performance and overall sustainability performance.

Goals and Objectives: One system of record for sustainability, establish data security, data lineage, auditability. Create ownership and accountability through visibility. Streamline external reports.

High-Level Cost: $250K to $750K, depending on solution chosen and volume of reports and integration.

Key Features and Benefits: UTA can implement a central performance tracking system, including submeters, to serve as a single system of record for sustainability. This system will establish data security, data lineage, and auditability, creating ownership and accountability through visibility. It will streamline external reports and ensure goal alignment. Performance measurement will be enhanced, leading to increased accountability and improved communication. The system will support continuous improvement in sustainability practices.

Potential Challenges: Challenges may include the complexity of setting goals within the system. Allocating resources to implement and maintain the system may be demanding. Ensuring data accuracy will be crucial for the system's effectiveness and reliability.

6.1.1.3 Facility Management/Asset Management Tool

UTA currently uses the Alerton system by Honeywell, but the extent of that system use is unclear. An asset management tool can help UTA manage physical assets and facilities efficiently. This tool will track the lifecycle of assets, energy consumption, maintenance schedules, and compliance with sustainability standards.

Goals and Objectives: Optimize resource use and improve data management and goal alignment.

High-Level Cost: $40K to $120K.

Key Features and Benefits: UTA could implement an asset management tool to centralize and manage all asset data needed for reporting and objective management, improving facility management practices and overall efficiency. The tool will support lifecycle management, leading to cost savings. Enhanced reporting capabilities will provide comprehensive insights into asset performance and management.

Potential Challenges: Challenges may include the costs associated with implementing the asset management tool. Integrating the tool with existing systems may be complex, and user training will be necessary to ensure effective use. Managing the data within the tool will require ongoing effort to maintain accuracy and reliability.

6.1.2 Community

6.1.2.1 External Storytelling

UTA can effectively communicate its sustainability efforts, purpose, successes, and challenges to the community and broader audiences.

Goals and Objectives: Build awareness, engagement, and support for UTA’s initiatives.

High-Level Cost: Minimal.

Key Features and Benefits: UTA could create effective external storytelling reports to increase awareness and engage the community. These reports will inspire action and help build partnerships by showcasing UTA's sustainability efforts and achievements. By sharing compelling stories, UTA could foster a deeper connection with the community and encourage collaborative efforts toward sustainability goals.

Potential Challenges: Challenges may include balancing transparency with the need to present information in an engaging manner. Ensuring consistent audience engagement will require ongoing effort and creativity. Allocating resources to produce high-quality reports may be demanding, and maintaining consistency in messaging and reporting standards will be crucial.

6.1.2.2 Community-Facing Education Dashboard

An interactive, community-facing education dashboard can provide information on UTAs sustainability initiatives, carbon footprint or other environmental metrics, and educational resources.

The UTA website can be updated with a centralized space or interactive dashboard to communicate public-facing initiatives and customer impacts. The initiatives can be published publicly on a developed interface on the UTA website so customers/stakeholder can easily learn about GHG reduction and community engagement programs. A possible dashboard layouts are presented in Figures 6-3 and 6-4.

Goals and Objectives: Empower community members with knowledge about sustainability and how it can enhance the community. Enable greater visibility and engagement in initiatives with the public.

High-Level Cost: $10K to 20K, depending on the solution chosen and full scope of engagement.

Key Features and Benefits: UTA could create a community-facing sustainability dashboard to increase accessibility and enhance public education and engagement by promoting data transparency based on real-time information. It will also provide opportunities for collaboration between UTA and community members, fostering a sense of shared responsibility and involvement in sustainability efforts.

Potential Challenges: Challenges may include the costs associated with developing and maintaining the dashboard. Effective data management will be crucial to ensuring accuracy and reliability. Engaging users and maintaining their interest in the dashboard may require ongoing effort. Additionally, addressing accessibility issues to ensure the dashboard is usable by all community members will be important.

Figure 6-3. Example Dashboard

Source: Department of Energy/Federal Energy Management Program MACH Energy

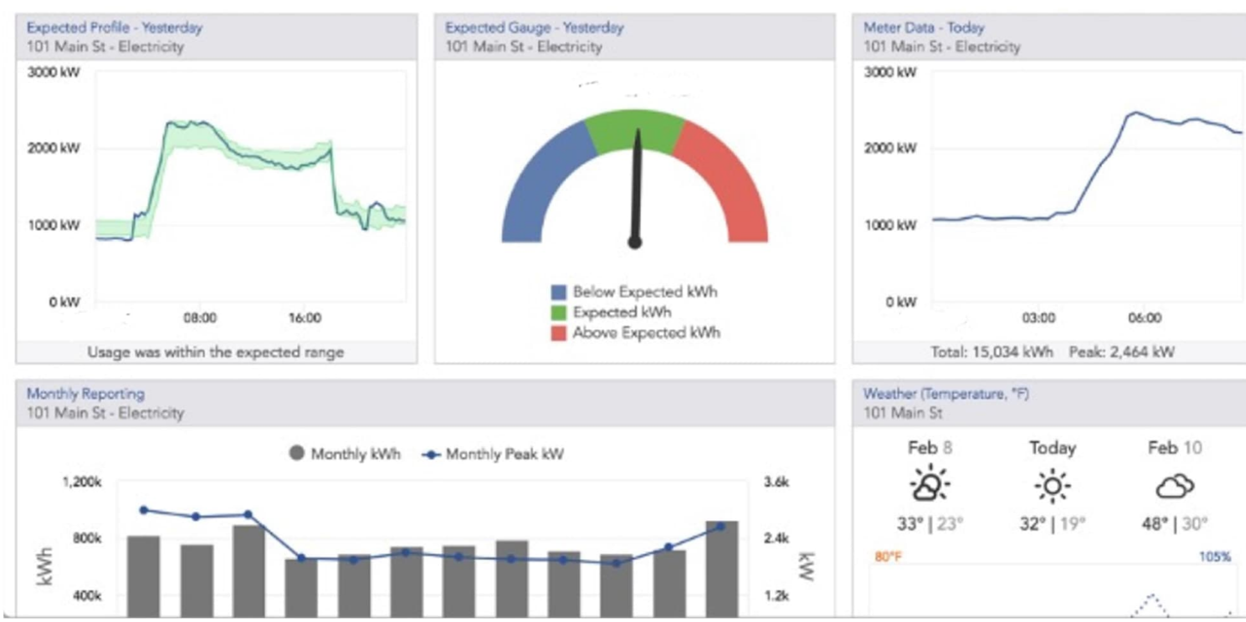
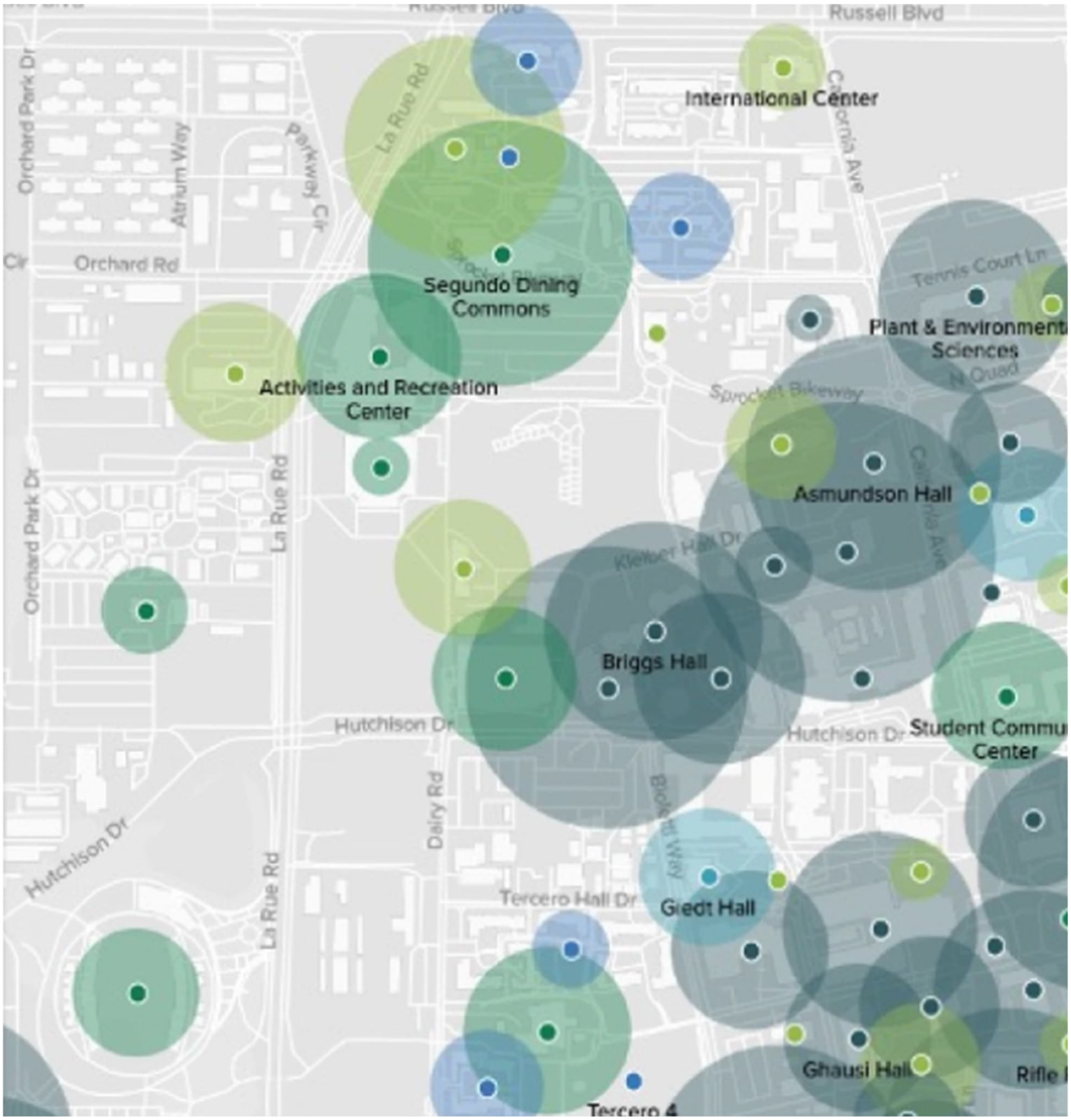


Figure 6-4. Example of Key Performance Indicator Visualization Derived from Dashboards to Show Facilities with Largest Energy/Water Intensity

Larger circles indicate larger intensity, color coded for facility types, for example office or warehouse.

Source: Department of Energy/Federal Energy Management Program University of California Davis



6.1.2.3 Leverage Ridership Surveys to Meet Community Needs

The greatest contribution UTA makes in its sustainability footprint is providing mobility and supporting local communities. Continuing the focus on communities through initiatives can be key to UTA's social impact. The first step to such initiatives can begin with soliciting input from those communities about their needs or the types of impacts UTA can make.

Goals and Objectives: Identify opportunities to enhance public transit services, increase ridership and reduce reliance on single-occupancy vehicles while empowering local communities.

High-Level Cost: Minimal.

Key Features and Benefits: UTA can use transit ridership surveys to improve service planning, leading to increased ridership and better community engagement. Data-driven decision-making will be enhanced, allowing for more effective and equitable transit services. These surveys can help UTA understand and meet the diverse needs of the community, ensuring services are accessible and beneficial to all.

Potential Challenges: Challenges may include ensuring sufficient survey participation and accurately interpreting the collected data. Allocating resources effectively based on survey results can be complex, and addressing the diverse needs of the community may require significant effort and flexibility.

6.1.3 Climate Risk

6.1.3.1 Conduct Climate Risk Assessment and Build Resilience

UTA can identify potential vulnerabilities to climate change impacts, such as extreme weather events, rising temperatures, and resource scarcity. By understanding these risks, UTA can develop strategies to mitigate their carbon footprint while enhancing their ability to adapt to changing environmental conditions.

Goals and Objectives: Proactively build resilience to climate change impacts by conducting climate risk assessments and identifying mitigations to climate hazards.

High-Level Cost: Wide range depending on the assessment and the actions that follow the assessment.

Key Features and Benefits: UTA could prioritize informed decision-making by evaluating climate risks, enhancing resilience, and mitigating risks associated with climate impacts. Focusing on the most critical assets and services can serve as a starting point to evaluate the potential impact of climate change. Furthermore, understanding climate impacts on underserved communities UTA serves can to help build community resilience.

Potential Challenges: Challenges may include the availability and quality of data needed for accurate climate risk assessments. The complexity of climate risks and resource constraints may pose difficulties. Uncertainty in climate projections can complicate planning, and integrating climate risk assessments into business practices may require significant effort. Long-term commitment to these initiatives will be necessary to ensure their success.

6.1.4 Nature

6.1.4.1 Evaluate and Improve Impact on Nature

Acknowledge the interdependence between human activities, natural ecosystems, and climate change to support an evaluation of how UTA operations affect biodiversity, ecosystems, and natural resources so UTA can make informed decisions to mitigate negative impacts while enhancing sustainability practices.

Goals and Objectives: Create positive impact on nature by considering UTA's impact on the regional and local ecosystems.

High-Level Cost: Wide range depending on the assessment and the actions that follow the assessment.

Key Features and Benefits: UTA could prioritize biodiversity conservation and the protection of ecosystem services when evaluating the impact of infrastructure on nature. The first step in such a process can be determining what impact UTA currently has on nature, biodiversity, and the surrounding ecosystems. Based on such assessment, UTA can determine whether there are specific projects or policies that can be implemented to enhance/protect nature. Sustainable resource management will be implemented to maintain ecological balance and support long-term environmental health.

Potential Challenges: Challenges may include the complexity of conducting thorough assessments and the availability of accurate data. Costs associated with these evaluations may be significant. Measuring the success of conservation and sustainability efforts can be difficult, and balancing competing interests, such as development needs and environmental protection, may pose additional challenges.

6.2 Actions Recommended for Implementation

6.2.1 Prioritized Initiatives – Baseline

The Baseline scenario initiatives summarize the actions that UTA is planning to take, in particular establishing a common data repository of all environmental data and communicating UTA sustainability journey to the general public. Table 6-1 shows the other/foundational initiatives prioritized for the Baseline scenario.

Table 6-1. Prioritized Other/Foundational Initiatives for Baseline Scenario

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level budget	Grants
Environmental Data Repository	Design and deploy a solution to visualize data across environmental objectives into one location.	3 to 6 months. Initial data repository built in 2025-2026, and new data added in 2027. Milestones: ▪ Requirements documented. ▪ Overall design, governance and technology approach completed. ▪ Repository build completed. ▪ Visuals (Power BI) build completed.	One central location to store all reported data, consistency and governance across UTA. Visuals that drive behavior and decision-making.	The budget can depend on whether only internal teams are engaged in the work or if outside support is solicited. If outside support is solicited, the budget is expected to be $25K to $50K to establish requirements, select software, design the overall approach, and define data governance; and $1K to $8K per report/dashboard (Power BI assumed).	EPA EJG2G Grant Program[a]

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level budget	Grants
External Communication and Storytelling	Develop communications materials to educate and describe sustainability efforts to engage community.	Continuous solution. Initial pilot implemented 2025-2026, and program established for continuous engagement in 2027. Milestones: ▪ Establish an effective community storytelling method (such as advertisements, reports, or participation in events) ▪ Evaluate community perception of UTA through community surveys.	Build awareness of the outside community of UTA sustainability journey. Set example of sustainability action across local organizations.	The costs can range depending on whether only internal communication teams are engaged or if external communication services are used.	EPA EJG2G[a] Most grants will require or encourage some level of this as part of the grant-funded project.

[a] Program unlikely to be funded in the next 5 years.

EJG2G = Environmental Justice Government-to-Government

6.2.2 Prioritized Initiatives - Future

Future scenario builds on the activities that can be conducted in the Baseline scenario, but adds more proactive strategies, in particular by helping UTA understand climate change impacts on the organization and UTA's impact on nature. Table 6-2 shows the other/foundational initiatives prioritized for the Future scenario.

Table 6-2. Prioritized Other/Foundational Initiatives for Future Scenario

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Data Repository and Dashboarding and Objectives tracking – Expanding baseline activities	Design and implement a "simple" digital data collection approach to replace manual data collection for top priority data; design and build integrations to automate flow of priority data already captured in a system (UTA or vendor) into the repository.	3 to 6 months implementation. Initial data repository built in 2025-2026, and new data, dashboards and objectives tracking added in 2027. Milestones: ▪ "Simple" data collection strategy, design, build, and deploy. ▪ Additional visuals designed/built per priority (Power BI).	Digitize and automate manual data collection/ ingestion activities. Automated data flow from external sources for priority data.	$10K to $40K for simple digital solution to capture data. $5K to $15K per integration connection.	EPA EJG2G[a]; USDOT SMART[a] Grant Program for conducting demonstration projects focused on advanced smart community technologies and systems to improve transportation efficiency and safety.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Climate risk assessment	Assess climate-related risks and hazards, the vulnerability of UTA as an organization and its assets to those hazards, and identify resiliency mitigation measures. Also evaluate potential climate-related benefits to UTA.	2027 to 2029 and initial implementation 2030 and beyond. Milestones: ▪ Selected the time frame for climate change assessment and climate change scenarios to evaluate. ▪ List of key hazards to which UTA's services and assets are most vulnerable. ▪ List of strategies to build resilience to those vulnerabilities.	Identify vulnerabilities to climate hazards. Identify resilience measures to reduce climate vulnerabilities. Identify climate-related opportunities.	The costs can range depending on whether only internal teams are used to conduct the assessment and if the climate risk assessment is general (region-wide identification of hazards) or if building-specific vulnerabilities are inspected and included in the assessment.	FEMA BRIC Grant (Capacity and Capability Activities); FHWA PROTECT Grant (Planning Grant); EPA EJG2G[a].

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Evaluate impact on nature	Evaluate the impact UTA has on nature and surrounding ecosystems and the dependency the agency has on ecosystem services provided by nature. Identify measures that can support and strengthen ecosystems that UTA depends on.	2027 to 2029 and initial implementation 2030 and beyond. Milestones: ▪ List of ecosystems that UTA impacts through its operations, and characterization of that impact. ▪ List of strategies to maximize beneficial impact on nature and limit negative impact on nature ▪ Evaluation of the UTA's dependency on nature for its operations.	Identify the impact UTA has on nature, and the dependency on it. Identify actions to benefit nature and its services.	The costs can range depending on whether only internal teams are used to conduct the assessment, and if the impact on nature assessment is general (region-wide identification of hazards) or if building-specific interactions with nature and ecosystems are assessed.	Evaluation could be part of a FEMA BRIC grant (Capacity and Capability Activities) or EPA EJG2G[a].

[a] Program unlikely to be funded in the next 5 years.

FHWA = Federal Highway Administration
PROTECT = Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation
SMART = Strengthening Mobility and Revolutionizing Transportation
USDOT = U.S. Department of Transportation

6.2.3 Prioritized Initiatives - Future+

Building on the activities identified in the Future scenario, Future+ Scenario puts many of the identified next steps into action, in particular for building organizational resilience. Table 6-3 shows the other/foundational initiatives prioritized for the Future+ scenario.

Table 6-3. Prioritized Other/Foundational Initiatives for Future+ Scenario

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Data repository – Expand Future activities	Select off-the-shelf enterprise grade technology and implement solution(s) for end-to-end management of environmental data, linking to and enhancing the existing data repository.	9 to 18 months. Initial data repository built in 2025-2026, and new data and dashboard added in 2027. Select enterprise grade technology to be tested in 2028-2029 and implemented in 2030. Milestones: ▪ Select software. ▪ Design solution. ▪ Prioritize schedule/phases. ▪ Build and deploy. ▪ Additional visuals and integration built and deployed.	Select, design, and deploy and enterprise-level platform to manage data capture, governance, and reporting Additional visuals and integrations designed/built per priority	\$20 to \$50K per year SaaS fees depending on software chosen and number of business processes. \$40 to \$150K external services to build/deploy.	Refer to Future scenario.

Initiative	Implementation Description	Timelines and Milestones	Metrics and Objectives	High-Level Budget	Grants
Build climate resilience	Based on the findings of climate risk assessment, identify resilience practices that can be implemented.	Long-term solution. Implemented in 2030 and beyond. Milestones: ▪ Establish resilience program structure and governance. ▪ Identify priority actions to build climate resilience. ▪ Implement pilot projects and monitor performance. ▪ Expand implementation across the organization.	Reduced harm and asset loss from climate-related hazards. Lower cost to recovery from climate impacts.	Costs will be determined as part of the climate risk assessment.	Up to four grants. FEMA BRIC, FHWA PROTECT, USDOT BUILD, TIFIA, EPA EJG2G.[a]
Improve impact on nature	Based on the assessment of the impact on nature, identify and implement initiatives and practices that increase the beneficial impact on nature.	Long-term solution. Implemented in 2030 and beyond. Milestones: ▪ Establish nature program structure and governance. ▪ Identify priority actions to support positive impact on nature. ▪ Implement pilot projects and monitor performance. ▪ Expand implementation across the organization.	Continuing access to ecosystem services that UTA depends on. Community-wide benefits of ecosystem services that UTA supports.	Costs will be determined as part of the assessment of the impact on nature.	FEMA BRIC, USDOT TCP[a], and EPA EJG2G.[a]

[a] Program unlikely to be funded in the next 5 years.

BUILD = Better Utilizing Investments to Leverage Development
SaaS = software as a service

7. Grants and Funding

7.1 Introduction

The UTA is in the process of a sustainability audit of its operations and assets, including facilities and fleet, performed by Jacobs under this work order. As part of Task 4 – Sustainability Framework, Jacobs has reviewed UTA's past and current grant funding, highlighted potential sustainability needs and projects based on the results of the sustainability audit, identified possible grant opportunities for alignment to sustainability improvements, and outlined best practices for pursuing state and federal grants.

This technical memorandum aims to support UTA staff in the planning and implementation of UTA-wide funding strategy for capital improvement projects (CIP) and operational improvements that promote or enhance UTA's sustainability goals. The recommendations in this memorandum are intended to facilitate the development of the Baseline, Future, and Future+ planning scenarios, which introduce progressively more advanced actions that address greenhouse gas (GHG) emissions, water, and waste reduction.

7.2 Utah Transit Authority Grants Baseline

UTA has experience monitoring, applying for, and receiving federal and state discretionary grants and formula funding for its capital projects. The organization has an existing grant prioritization process, which ensures appropriate funding streams can be identified and is critical for successful grant applications.

The grant prioritization process takes place once per year to review grant announcements expected for the upcoming year. UTA's internal process requires that projects be included in the Five-Year Capital Plan to be eligible to apply for a grant. The Sustainability Plan is included in the Capital Plan; thus, sustainability projects may be considered for the grants process. During the annual prioritization process, all the potential eligible project opportunities are ranked by stakeholder groups.

The primary federal agencies that issue grants relevant to UTA's projects include the Federal Transit Administration (FTA), Federal Railroad Administration (FRA), U.S. Department of Transportation (USDOT) Office of the Secretary, and EPA. Several state and local agencies also regularly award grants, such as Utah Department of Transportation (UDOT), Mountainland Association of Governments (MAG), and Wasatch Front Regional Council (WFRC).

A detailed spreadsheet export from UTA's IPCS database of all UTA grant applications from 2012 to present, including grant program names, project codes, required matches, and funding amounts, was reviewed to inform this memorandum. The total number of grants in UTA's database that have been awarded, active, waiting for results, not selected, and closed includes discretionary, formula, and congressionally -directed spending (earmarks). Additionally, the projects represented are not exclusive to sustainability projects, though there is often a nexus with sustainability because they serve a transit agency, which helps to reduce reliance on personal vehicles and thus reduce GHG emissions.

UTA has 38 grants "Selected for Award" (awaiting incoming funds) and received $112.9 million in awards supporting a total of $167.6 million in investments, including matching funds, as shown in Figures 7-1 and 7-2. These grants have come from WFRC, MAG, UDOT, USDOT, and FTA. UTA recently received $3.19 million from the FTA FY2024 Low or No Emissions Grant Program for 15 zero-emission battery electric buses and $17 million for CNG buses in Fiscal Year (FY)2023. Some other selected awards include $4 million from three On-Route Chargers Installation grant awards from WFRC and $2.5 million from three USDOT CMAQ On-Route Electric Bus Infrastructure grants from WFRC, and $279,690 for a FY2023 Historic Utah Southern Railroad Trail Feasibility Study from MAG. Most grant applications thus far have focused on the fleet vehicles rather than facilities, except for the Climate Pollution Reduction Grant, for which UTA applied for both 15 electric buses and solar installations for the bus depot and a microgrid.

Forty-two active grants (obligated awards; projects underway) equal to $213.3 million are supporting $319.6 million in total investments, with funding from the USDOT, FTA, UDOT, DEQ, Utah Clean Air Partnership, Governor's Office of Planning and Budget, Weber Area Council of Governments, and Utah Department of Health and Human Services.

An additional 10 grant applications are waiting for an announcement, with a total request of $42.7 million and total investment of $55.6 million, with funding from FTA, Rocky Mountain Power (RMP), WFRC, MAG, and legislative earmarks (otherwise known as Congressionally directed spending). Two of the application submissions are for the FY2022 RMP Bus Charging Infrastructure for Orange Street and Wasatch 3900 South and FY2024 RMP Electric Vehicle Charging Infrastructure for Tooele, both from Rocky Mountain Power.

One challenge that was identified when pursuing federal grants for transit improvement projects was the Buy America, Build America Act requirements, which are perceived as limiting for several stakeholder groups.

Figure 7-1. Value ($) of Utah Transit Authority Grant Applications by Status (2012 to 2024)

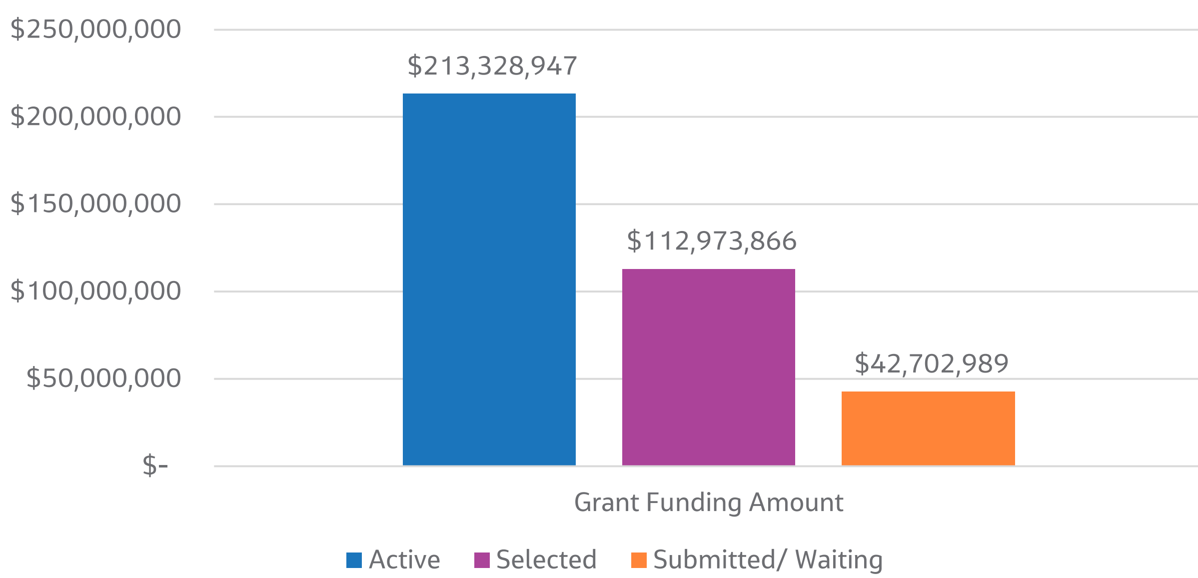
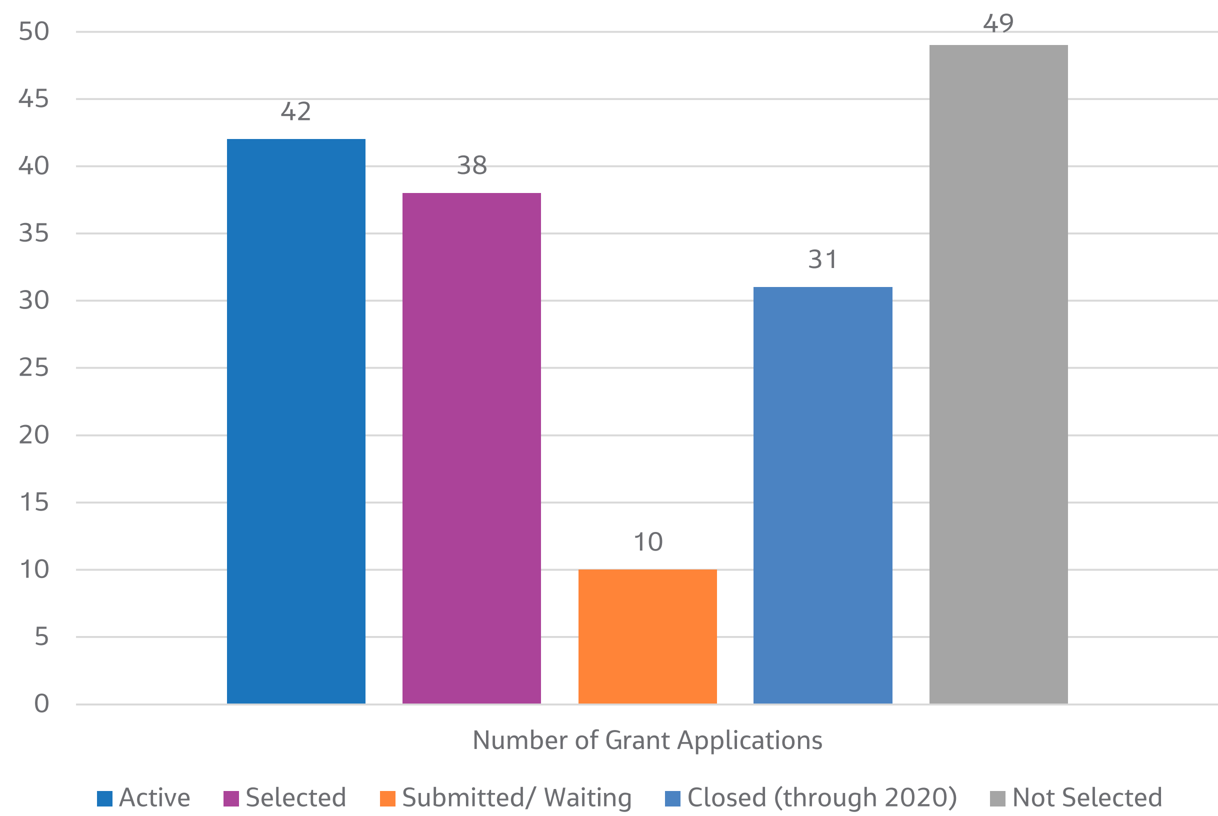


Figure 7-2. Number of Utah Transit Authority Grant Applications by Status



7.3 Sustainability Needs and Project Opportunities

Sustainability needs and project opportunities, including UTA's unfunded or underfunded needs, were identified through a review of UTA documents, existing grant pursuits, and sustainability audit reports conducted in Task 3, complemented with ideas based on the consultant's experience with transit agency-related sustainability improvements. A thorough description of these opportunities is presented in Sustainability Initiatives Memo presented here in Chapters 3.5, 4.4 and 5.5. The opportunities for improvement were used as the basis for a search for available and applicable funding sources. The funding sources are outlined in Funding Programs Aligned to Sustainability Needs and documented in Appendix E.

Sustainability needs and project opportunities are broken into a few categories by type, including Facilities and Infrastructure, Fleet, and Services and Community. These are further divided into subcategories that may correlate to eligible activities or expenses under funding programs, including, but not limited to, energy, water, materials and solid waste, GHG reduction, public education and outreach, active transportation, and workforce/economic development. Though not emphasized in this memorandum, there are also climate and hazard resilience elements to some grants that could be emphasized in project development.

Additional studies, audits, or strategy development may be needed to advance a project to be eligible for some grant or loan funding programs, while some funding programs may fund such studies and project development. UTA may deem other project opportunities ready to proceed for planning, design, or implementation or construction.

Though the sustainability needs and project opportunities are shown here by category, there may be potential to combine or "bundle" related activities and projects for the purpose of funding applications to optimize, or increase, the potential size of the grant award. This strategy may help when funding is more plentiful for certain types of activities over others. In some cases, bundling also increases the competitiveness of an application because the individual projects grouped together might score points for different selection criteria. A connection must be shown between the projects, such as benefits to the geographic or population service area, environmental benefits, reduced construction timeline, or cost-savings from combining the projects.

7.3.1 Facilities and Infrastructure

The Facilities and Infrastructure category consists of two subcategories: (1) Rail and Transportation Infrastructure and (2) Buildings and Utilities, which includes Energy, Water, and Materials and Solid Waste. Though these are separate from the Services and Community category, projects may primarily benefit the community/public in some cases where UTA must act as a sub-applicant or partner yet still fall under this category. Examples may include new or upgraded energy installations or solid waste and recycling treatment facilities from which UTA may benefit.

7.3.1.1 Rail and Transportation Infrastructure

The Rail and Transportation Infrastructure subcategory includes all road-, rail-, and transit-related hard infrastructure planning and capital projects. This category may also include climate and hazard resilience of transportation infrastructure to minimize risk of damage or injury and may include hardening or nature-based solutions.

7.3.1.2 Buildings and Utilities

This subcategory concerns structures and utilities for buildings and land. This includes associated operations and utilities, such as water and landscaping, energy, solid waste, and materials for building envelopes, interiors, and grounds of offices, garages, and stations. There may also be opportunities for planning and strategy development, such as updating facilities plan that includes strategic siting opportunities. Energy, water, and materials and solid waste projects may occur solely on UTA properties for UTA benefit, or they may be a community project to implement new energy sources, reuse water, or recycle materials but also have a benefit to UTA. In the latter case, UTA may be a sub-applicant or partner on grant applications or a beneficiary.

7.3.1.2.1 Energy

The Energy subcategory includes suggestions for studies and projects for both energy demand, consumption, reduction strategies, and energy supply improvements to power UTA's facilities. Studies could include energy usage audit, which is a possible opportunity for partnership with a university or other local organization. Project opportunities for facilities generally fall under two categories: energy supply creation and energy demand reduction. Energy supply may include solar, geothermal, or other renewable sources of energy supply to power facilities and battery storage systems. Energy demand projects are meant to reduce energy needs and demand, improve efficiency, and thus, create savings, such as insulation; centralized heating, ventilation, and air conditioning (HVAC); automation; lighting upgrades; windows; and rapid roll doors. Many of these projects can be done when replacements are needed or new buildings are constructed.

It should also be noted that UTA was identified as a potential recipient of the State of Utah's Beehive Project awarded through the EPA Climate Pollution Reduction Grant, with bus electrification as the awarded project.

7.3.1.2.2 Water

The Water subcategory includes all water usage, though sustainability improvements are likely to be realized primarily through landscaping and irrigation, where there is the most potential to reduce water consumption and convert from potable water usage to recycled water. This subcategory includes studies for responsible water strategies, which offers opportunities for possible partnerships with a university or local organizations to conduct studies or additional audits. Project opportunities may include stormwater and water capture improvements, irrigation improvements to reuse water or convert landscaping to drought-tolerant or shade-providing vegetation, and water reclamation systems.

7.3.1.2.3 Materials and Solid Waste

This subcategory includes materials lifecycle studies and projects as they relate to sorting and hauling waste, recycling, and reusing to improve the efficiency of waste management processes and reduce waste. Potentially fundable activities include adding recycling and waste bins to transit facilities and offices, promoting better recycling through education and outreach, reusing oil, and implementing eco-friendly materials, such as green concrete.

7.3.2 Fleet

The Fleet category includes the Energy, Materials and Solid Waste, and Service and Fleet Expansion subcategories with opportunities for UTA's fleet.

7.3.2.1 Energy

The Energy subcategory may include projects related to identifying stationary combustion sources, GHG reduction and air quality improvement, electrification (including hydrogen-electric and battery electric) or renewable natural gas for fleet vehicles, optimization of air conditioning on light rail compartments, and air quality sensors.

7.3.2.2 Materials and Solid Waste

The Materials and Solid Waste subcategory may include a materials lifecycle analysis and waste and vehicles recycling and reuse.

7.3.2.3 Service and Fleet Expansion

The Service and Fleet Expansion subcategory includes any opportunities to increase UTA's service area or its number of fleet vehicles to reach more users or increase frequency. In many cases, this may be combined with new electric or renewable energy fleet vehicles.

7.3.3 Service and Community

The Service and Community category is the broadest and typically involves engaging other partners external to UTA. This category includes connecting communities via transit and improving accessibility, developing partnerships, conducting public education and outreach about services, improving safety and well-being, and developing pilot programs. Projects should encourage community members to use buses, rail, or light rail services, along with active transportation options to and from transit and destinations. Potentially fundable project types may include the following:

- Land use analysis and strategy development for transit-oriented development (TOD) or transit-oriented communities (TOC), as well as for active transportation and/or evacuation routes (resilience planning).
- Education and outreach through public campaigns to showcase the existing transit network and the benefits of transit; Science, Technology, Engineering, and Mathematics [STEM] in schools; or partnerships with local universities.
- Connectivity/Active transportation/Intermodal improvements such as advocating for complete streets, including bus and light rail facilities and urban greening elements, encouraging ridesharing, bus/car pooling to and from transit, and expanding bike routes, parking at stations, and bike racks on buses across city to improve connectivity.
- Improved *Americans with Disabilities Act* accessibility to stations and services and to other community locations served by transit.
- Encouragement to non-vehicular travel through increased mixed-use development (TOD/TOC) and greater density around transit centers and multimodal corridors.
- Workforce/Economic development such as developing programs to hire, train, and retain workers for well-paying transit-related jobs from the communities UTA serves.
- Asset Management—Improvements in efficiency and management to keep assets in service longer.
- Intelligent Transportation Systems (ITSs)—Technology solutions for safety and efficiency improvements.

7.4 Funding Programs Aligned to Sustainability Needs

There are numerous external funding opportunity types to supplement UTA's capital budget for sustainability needs. First and, most prominently, are discretionary grants and, to some extent, formula grants. For a regional transit agency, relevant grants are typically found at the state and federal level through agencies such as UDOT, USDOT, and FTA.

The Infrastructure Investment and Jobs Act (IIJA), also known as the Bipartisan Infrastructure Law (BIL), and the Inflation Reduction Act (IRA) made available historic levels of funding for sustainability across many funding agencies and programs. Though we will likely see a sunset on this level of funding and funding directed toward sustainability by the end of FY2026, there are currently several "nontraditional" opportunities for UTA to tap into. These include programs from agencies such as the EPA, U.S. Department of Energy (DOE), and the EDA. The programs identified also address a range of issues and activities, such as emissions reduction, electrification, active transportation connections, and workforce development, that UTA might not otherwise be able to fund without federal, state, or other partners.

Based on a high-level review of areas identified for improvement through the sustainability audits, the Jacobs team identified potential funding opportunities for sustainability needs across all categories identified in Sustainability Needs and Project Opportunities, with targeted focus where there appears to be the most availability and overlapping priorities and eligibility criteria. Consideration is given to projects that are more likely to be implemented and "reach" projects that require more planning effort and partnerships. Potential funding sources were selected and revised according to the eligibility and applicability to UTA and priority projects. Jacobs reviewed funding programs from a wide variety of funding sources; applicable opportunities were found to be primarily those from UDOT, USDOT, FRA, FTA, FHWA, EPA, and DOE, though a few other programs were identified.

Appendix E provides a full list of grant funding opportunities with a grant funding matrix. The first sheet of this matrix, "Grant Program Details," outlines the details of each program (as available at the time of this memorandum), including the following:

- Funding agency
- Program name
- Short program description
- Total available funding
- Minimum and maximum award
- Percent cost share
- Estimated number of awards
- Eligible applicants
- Eligible projects
- Expected Notice of Funding Opportunity (NOFO) announcement
- Expected application submission deadline
- Expected award announcement
- Period of performance
- Benefit-cost analysis or other special requirements
- Program weblink
- Partnership opportunities (or requirements)
- Past UTA awards, applications not selected, and applications submitted waiting for results

Additionally, the "Project Opportunities" sheet in the matrix outlines the sustainability project opportunities discussed in Section 3 and aligns them to potentially relevant grant programs.

These programs are outlined in the following subsections by agency and include the projects that may align with them and past UTA applications or awards. Many programs identified require or benefit from a partnership. Projects related to the Services and Community category are often not in direct ownership of a transit agency, such as complete streets with active and public transportation improvements, where UTA would be a co-applicant or provide support to the lead applicant.

7.4.1 Federal Funding

7.4.1.1 Current Federal Funding Landscape

The Trump Administration has made recent changes to the federal funding landscape in just a few short weeks in office. Departing from distributing IIJA and Inflation Reduction Act (IRA) funding, the current administration is limiting federal disbursements of grant funds as well as limiting federal funding in general. There has been a series of court challenges to these actions, and some funds have begun flowing again while others continue to be subject to a funding freeze and review. While the federal funding landscape is uncertain in the near term, the consultant team expects that there will be a funding "thaw" with NOFOs beginning to appear again as early as April 2025.

In his first day in office, President Trump signed an executive order pausing the disbursement of funds authorized by the IIJA related to the "Green New Deal" and all IRA funding. While the "Green New Deal" is not specifically defined, the executive order does cite electrification-focused grants including the National Electric Vehicle Infrastructure (NEVI) and Charging and Fueling Infrastructure (CFI) programs. The full executive order, titled Unleashing American Energy, can be viewed here: https://www.whitehouse.gov/presidential-actions/2025/01/unleashing-american-energy/. Two days later, the Office of Management and Budget (OMB) released a memo directing federal agencies to pause ALL federal funds. This directive was paused by the courts and later rescinded. At the same time, the President empowered the Department of Governmental Efficiency (DOGE) to take additional cost-cutting measures across numerous federal agencies. It is not yet clear how DOGE could affect federal transportation funding, if at all; while some contracts have been canceled, changes to funding levels in grant programs would typically require Congressional approval. However, changes in program priorities and requirements can and likely will happen through federal agencies to align with new executive orders. Federal formula funds, including FTA funds, may attract less scrutiny than discretionary grant funds and may therefore be a more reliable source of funding.

All of these initiatives point to the new administration's strong commitment to cutting costs across all federal programs, including discretionary grants where possible. In addition, changes to the federal workforce are expected to delay grant agreements as fewer staff are available to assist recipients. Given the current atmosphere at the federal level, it would be prudent for UTA to look for potential state and local funding sources, especially for sustainability efforts.

7.4.1.2 Updated Federal Funding Priorities

Transportation Secretary Sean Duffy was confirmed by the Senate and sworn in on January 28, 2025. Shortly afterward, Secretary Duffy released multiple memos laying out new USDOT priorities and a plan for implementing executive orders related to climate and equity signed by President Trump. The full text of the memos can be viewed at the USDOT website here.

While the memos only apply to USDOT, they may provide insight into new administration priorities across other agencies as well. These priorities are summarized as follows:

- **Emphasis on Cost-Benefit Analyses:** The administration will prioritize projects with a positive benefit-cost ratio and include a benefit-cost analysis requirement in all grant programs when permitted. This may be a departure from the Biden Administration, which allowed funding for projects with lower Benefit-Cost Ratios (BCRs) or even BCRs below one in disadvantaged communities for some grant programs. For UTA, this may result in a higher level of effort to pull together applications for some federal grant programs. EPA programs released under the IRA in particular often did not include a benefit-cost analysis requirement.
- **Marriage and Birth Rates:** The memo states that USDOT will give preference to communities with marriage and birth rates higher than the national average. While it is not yet clear how this will be implemented in specific NOFOs, the consultant team has begun analyzing census data related to fertility and marriage rates and can provide details on areas across UTA's service aera and the region with higher marriage and fertility rates as needed.
- **Mask and Vaccine Mandates:** USDOT will prohibit funding recipients from implementing vaccine or mask mandates. This requirement may affect transit agencies that require masks on buses and trains under pandemic conditions, although few still require these actions.
- **Longstanding USDOT Goals:** The memo emphasized some longstanding USDOT goals, such as safety and economic opportunity. The memo also states that goals include alleviating poverty and raising the standard of living for communities and families.
- **Environmental Considerations:** USDOT will no longer emphasize greenhouse gas emissions reduction. However, the memos do cite reducing noise and water pollution in communities as priorities. These priorities may align with some UTA sustainability goals.
- **User-Pay Models**: The memo also states that USDOT will prioritize user-pay models for funding.
- **Opportunity Zones**: Finally, the memo brings back the emphasis on Opportunity Zones seen during the previous Trump Administration. A mapping tool showing Opportunity Zones can be found at the Department of Housing and Urban Development (HUD) website here.

Drawing from recent USDOT memos and the RAISE/BUILD NOFO revision in January 2025, the following strategies are recommended if UTA wishes to continue pursuing federal funding:

- Work closely with government relations teams to stay up to date on developments in Washington
- Gather data on Areas of Persistent Poverty and marriage and fertility rates by census tract to factor these metrics into project prioritization
- Begin cataloging economic development and economic opportunity benefits for sustainability projects, including benefits for families and businesses
- Explore alternative funding options such as formula funds, congressionally directed spending (also known as "earmarks"), and state grant programs

7.4.2 Utah Department of Transportation

Relevant UDOT programs include the following.

7.4.2.1 Safe Routes to School Program

Partnership is likely needed.

Provides funding for infrastructure improvements and educational programs to promote safe walking and bicycling to and from schools. Focuses on improving safety in school zones. Eligible projects may be those under the Services and Community category, such as education and outreach and connectivity/active transportation improvements. This grant would necessitate a partnership with cities, counties, metropolitan planning organizations, regional transportation planning organizations as a lead applicant.

7.4.2.2 Transportation Alternatives Program (TAP) - Region Two

Partnership is likely needed.

Provides funding for projects that improve non-driver access to public transportation and enhance mobility, including pedestrian and bicycle facilities. Focuses on safety and connectivity. Eligible projects may be those under the Services and Community category, such as bike facilities, trails, sidewalks, Safe Routes to School projects near transit. However, this is a very small grant award, up to $150,000, and only local municipalities are eligible. UTA may be a lead applicant or a sub-applicant or partner with a city to implement these projects. UTA was not selected for two applications but has received four past awards since 2012, including FY2018 CMAQ/Surface Transportation Block Grant (STBG)/TAP-SLC TRAX Crosswalk Project ($186,460 award), FY2023 CMAQ/STBG/TAP UTA Onboard Tech Transit Management System Urbanized Area SLC ($1,000,000 award), FY2023 MAG/TAP Historic Utah Southern Railroad Trail Feasibility Study ($279,690 award), and PROG2022/APP2019 and 2021 CMAQ/TAP/Surface Transportation Program Flex Funds—Capital, Transportation Investment Generating Economic Recovery (TIGER) Ped Bridge Projects ($4,898,959 award).

7.4.2.3 Joint Highway Committee Funding

Partnership is likely needed.

Provides federal funds for transportation facilities in rural and small urban areas of Utah. Includes specific funds for bridges and state park access. This grant may fund projects under the Services and Community category, such as accessibility improvements or transportation facilities. UTA would have to partner or be a sub-applicant with an eligible local government as the lead applicant to implement these projects.

7.4.3 U.S. Department of Transportation

Relevant USDOT programs include the following.

7.4.3.1 Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation Program

Currently paused and under review; expected to either be canceled or heavily revised to remove emphasis on disadvantaged communities and climate change.

The Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program funds projects that address the climate crisis by improving the resilience of and reduce damage and disruption to the surface transportation system, including highways, public transportation, ports, and intercity passenger rail, as well as improve the safety of the traveling public and equity by addressing the needs of disadvantaged populations that are often the most vulnerable to hazards. Projects should be grounded in the best available scientific understanding of climate change risks, impacts, and vulnerabilities and utilize innovative and collaborative approaches to risk reduction, including the use of natural infrastructure, or nature-based solutions. They should support the continued operation or rapid recovery of crucial local, regional, or national surface transportation facilities. Eligible project types may include planning or implementation of those under the rail and transportation infrastructure under Infrastructure/Transit Facilities as they relate to climate and hazard resiliency, as well as Service and Community category.

7.4.3.2 Better Utilizing Investments to Leverage Development (BUILD) Program (Formerly RAISE)

FY25 NOFO revised January 2025 and closed 1/30/25; FY26 NOFO Expected November 2026.

Previously known as the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) and TIGER discretionary grant program. The BUILD (formerly RAISE) Grant Program from USDOT is expected to make available $1.5B in IIJA funding for FY 2026. The timing of the program is mandated by Congress, and the Notice of Funding Opportunity is required to be posted by the end of November 2025. The BUILD program can support any type of road, rail, transit, and other surface transportation investment. This program provides planning and implementation grants for surface transportation infrastructure projects with significant local or regional impact. The program focuses on improving safety, environmental sustainability, quality of life, and economic competitiveness. Eligible projects may include those within the Facilities and Infrastructure and Services and Community categories related to road, rail, transit, and port infrastructure, such as active transportation improvements, multi-use trails/greenways, traffic congestion reduction, upgrading transit facilities for passengers or maintenance, and upgrading bus stops. This may be a good opportunity for a partnership with local communities but is not required. Transit agencies performed well under the previous administration, but there may be a renewed emphasis on traditional roadway projects in the upcoming funding round. Funding is available through IIJA for the BUILD program through FY26. However, the future of the BUILD program is uncertain after IIJA funding expires in FY26.

A revised NOFO was released for this grant program just a few days after President Trump's inauguration. Key changes to the program are as follows:

- The title of the grant program was changed from RAISE to BUILD. This is consistent with the last time Trump was in office.
- USDOT will now use Areas of Persistent Poverty rather than the Climate and Economic Justice Screening Tool (CEJST) to define disadvantaged communities. Areas of Persistent Poverty are included

in the USDOT Grant Project Location Verification mapping tool: https://maps.dot.gov/BTS/GrantProjectLocationVerification/

- Terms such as climate, equity, active transportation, disadvantaged business enterprises (DBEs), electrification, and environmental justice were eliminated from the revised NOFO.

UTA submitted two applications for RAISE that were not selected and one application that was awarded $950,000 for the FY2021 Techlink Corridor.

7.4.3.3 Strengthening Mobility and Revolutionizing Transportation Grants Program

The Stage I grant program is closed and UTA is not eligible for the Stage II program.

The Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program provides grants to eligible public sector agencies to conduct demonstration projects focused on advanced smart community technologies and systems. Aims to improve transportation efficiency and safety. Eligible projects may include those under the Fleet and Services and Community categories, such as ITS solutions for system integration, smart grid, and transit innovation projects. Final awards for SMART Stage I were recently announced and agencies that have not won Stage I are not eligible to apply for Stage II. This program may no longer be funded after the conclusion of the IIJA funding, but consider looking for updates or similar programs to be announced.

UTA submitted two applications for SMART that were not selected.

7.4.3.4 Thriving Communities Program (TCP)

Expected to be discontinued.

This program provides funding to National and Regional Capacity Builders to provide technical assistance, planning, and capacity-building support to disadvantaged communities adversely affected by environmental, climate, and human health policy outcomes. The program aims to help these communities compete for federal aid and deliver quality infrastructure projects that enhance mobility, reduce pollution, and expand affordable transportation options. This is not a typical grant program to fund UTA projects, but may support projects under the Facilities and Infrastructure or Services and Community categories that enhance mobility, reduce pollution, expand affordable transportation options, address critical infrastructure needs in disadvantaged communities, mitigate environmental impacts and improve climate resilience, or improve public health and safety through better transportation infrastructure.

7.4.3.5 Transportation Infrastructure Finance and Innovation Act

The Transportation Infrastructure Finance and Innovation Act (TIFIA) is a credit assistance program that can be used to leverage limited federal resources and stimulate capital market investment in transportation infrastructure by providing credit assistance in the form of direct loans, loan guarantees, and standby lines of credit (rather than grants) to projects of national or regional significance. The program funds a wide variety of capital projects up to 49%, including most of those from the Facilities and Infrastructure, Fleet, and Service and Community categories. TOD projects may be especially favorable for TIFIA terms at this time. UTA may access funding directly.

7.4.4 Federal Railroad Administration

The FRA is an agency of the USDOT which administers its own programs. Relevant FRA programs include the following.

7.4.4.1 Consolidated Rail Infrastructure and Safety Improvements Program

Currently subject to 60- to 90-day pause on new NOFOs, expected to reopen later in 2025 with $1B in funds remaining.

Provides funding for projects that improve the safety, efficiency, and reliability of intercity passenger and freight rail. Applications should fall under one of the following tracks:

- Track 1—Systems Planning and Project Planning
- Track 2—Project Development
- Track 3— Final Design/Construction
- Track 4—Research, Workforce Development, Safety Programs, and Institutes (Non-railroad Infrastructure)
- Track 5—Deployment of Magnetic Levitation Transportation Projects.

Projects eligible for funding under this grant program may include those under the Facilities and Infrastructure or Service and Community categories but are not limited to capital projects for intercity passenger rail service or projects that reduce congestion and facilitate ridership growth along heavily traveled rail corridors or improve short-line or regional railroad infrastructure. Other eligible projects may include regional rail and corridor service development plans and environmental analyses; projects that enhance multimodal connections or facilitate service integration between rail service and other modes; workforce development and training activities; and research, development, and testing to advance and facilitate innovative rail projects.

UTA submitted three applications for the Consolidated Rail Infrastructure and Safety Improvements Program (CRISI) (FY2021, FY2022, and FY2024) that were not selected.

7.4.5 Federal Transit Administration

The FTA is an agency of the USDOT which administers its own programs. Relevant FTA programs include the following:

7.4.5.1 Buses and Bus Facilities Competitive Program

This is a longstanding program and a NOFO is expected later in 2025, likely combined with the Low- or No- Emissions Bus NOFO as in prior years

Provides funding to replace, rehabilitate, and purchase buses and related equipment and to construct bus-related facilities. Supports projects that improve bus transit systems. This grant may fund projects under the Facilities and Infrastructure and Fleet categories. The NOFO for this grant opportunity is typically combined with the Low or No Emissions (Low-No) Grant Program described in this subsection. An applicant may submit a low or no emissions project to both the Buses and Bus Facilities Program and the Low-No Program, or submit the project only to the Low-No Program or only to the Buses and Bus Facilities Program. Approximately $470 million was made available for this program in the last round.

UTA received one formula award under this program in FY2014 ($3,066,157) and was awarded a competitive grant award of $18 million in July 2024 to replace older diesel buses with new battery electric buses, which will be housed at the Meadowbrook facility. This project will reduce harmful emissions, while serving disadvantaged communities within Salt Lake County. Five previous applications were not selected.

7.4.5.2 Capital Investment Grants Program—New Starts, Small Starts and Core Capacity Improvements

Funds transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit. Federal transit law requires transit agencies seeking capital investment grant (CIG) funding to complete a series of steps over several years. For New Starts and Core Capacity projects, the law requires completion of two phases in advance of receipt of a construction grant agreement: Project Development and Engineering. For Small Starts projects, the law requires completion of one phase in advance of receipt of a construction grant agreement: Project Development. Projects are broken into three types: New Starts (projects that involve the construction of new fixed guideway systems or extensions to existing systems), Small Starts (projects are smaller in scale and involve the construction of new fixed guideway systems or extensions and corridor-based bus rapid transit projects), and Core Capacity (projects aimed to increase the capacity of existing fixed guideway systems by at least 10%). UTA eligible projects may include those under the Facilities and Infrastructure or Services and Community categories for rail or bus rapid transit improvements, but they may require a partnership.

UTA received two awards under this program for FY2023: MidValley Connector Bus Rapid Transit Small Starts (CIG) ($10,168,250) and UTA Provo-Orem Bus Rapid Transit – Small Starts ($70,981,999).

7.4.6 Low or No Emissions Bus Grant Program

This is a longstanding program and a NOFO is expected later in 2025, likely combined with the Bus and Bus Facilities NOFO as in prior years. There may be an emphasis on Low Emissions technologies rather than electrification given new administration priorities.

Provides funding for the purchase or lease of zero-emission and low-emission transit buses and supporting facilities. Aims to reduce air pollution and promote clean energy. This grant may fund projects under the Facilities and Infrastructure and Fleet categories. This grant program NOFO is typically combined with the Buses and Bus Facilities Grant Program. Approximately $1.5B is available through the Low-No and Bus and Bus Facilities programs each year through FY2026 in IIJA. UTA has already been successful in receiving funding from this grant program. As one of the largest discretionary grant programs available to transit agencies, the Low-No program is an excellent opportunity and should be a top focus for UTA.

UTA was awarded three times for FY2021, 5339(c), Low- and No-Emission Vehicle Program | Tooele Electric Vehicle Microtransit ($1,378,896 award), FY2023 5339(c), CNG—Low- or No-Emission Grant Program ($17,055,353 award), and FY2024 Low or No Emissions, 15 Zero-Emission Battery Electric Buses ($18,112,632 award). Four previous applications were not selected.

7.4.7 Federal Highway Administration

FHWA is an agency of the USDOT which administers its own programs. Relevant FHWA programs include the following.

7.4.7.1 Active Transportation Infrastructure Investment Program

Partnership is likely needed.

This program is most likely discontinued.

Funds projects to construct safe and connected active transportation facilities in networks or spines. Aims to improve safety, connectivity, and quality of life. This grant may fund projects under the Services and

Community category with UTA as a sub-applicant or partner to the state, local governments, tribes, MPOs, or regional planning organizations.

7.4.7.2 Congestion Mitigation and Air Quality (CMAQ) Improvement Program

CMAQ is a federal formula program that provides funds to states, metropolitan planning organizations (MPOs), and transit agencies for a variety of transportation projects designed to reduce traffic congestion and improve air quality, particularly in areas of the country that do not attain national air quality standards. CMAQ provides a large amount of funding apportioned by urbanized area; UTA is able to access this funding directly through the regional MPO, WFRC. Eligible projects may be in various phases between planning, design, and implementation and include those in the Facilities and Infrastructure for infrastructure/transit facilities, Fleet, and Service and Community categories. Funding is typically distributed as part of the Transportation Improvement Program.

UTA has three active awards from CMAQ, including FY 2019 CMAQ for Locomotive Overhaul ($ 2,360,053), PROG2022/APP2019&2021 CMAQ/TAP/STP Flex Funds--Capital, TIGER Ped Bridge Projects ($4,898,959), and FY2019 CMAQ Clearfield FrontRunner Station Pedestrian and Bike Trail Design and Construction ($1,650,000). There are also 18 projects that have been selected for award, two waiting for announcement, and 15 not awarded.

7.4.8 National Center for Mobility Management

7.4.8.1 Ready-to-Launch Grants

Partnership is likely needed.

Provides funding and technical assistance to pilot promising mobility solutions inspired by community research. Aims to develop solutions that are operationally feasible, desirable, and financially viable. This grant offers flexibility in terms of project types for piloting mobility solutions, and eligible projects may be those falling under the Services and Community category. However, this is a small grant, up to $75,000, and UTA may be best suited as a partner or sub-applicant to a nonprofit or local government.

7.4.9 PeopleForBikes

7.4.9.1 PeopleForBikes Community Grant Program

Partnership is likely needed.

Supports bicycle infrastructure projects and targeted advocacy initiatives that make it easier and safer for people of all ages and abilities to ride. This grant may support those projects under the Services and Community category, such as bike paths, lanes, trails, and bridges, bike racks, bike parking, bike repair stations and bike storage; programs that transform city streets; and campaigns to increase the investment in bicycle infrastructure. This is a very small grant award, up to $10,000, so UTA would be best suited as a partner to a nonprofit organization with a focus on bicycling, active transportation, or community development or a city or county agency or department focused on these implementation strategies.

7.4.10 U.S. Department of Energy

The following DOE programs may be at risk of being discontinued or modified.

7.4.10.1 Energy Efficiency and Conservation Block Grants (EECBG)

Partnership is likely needed.

May be temporarily paused or canceled; previously this NOFO had been opened but has been removed.

Assists states, local governments, and tribes in implementing strategies to reduce energy use and fossil fuel emissions and improve energy efficiency. EECBG is funded through the BIL. This grant may fund projects under the Facilities and Infrastructure category, such as renewable energy projects, but would require UTA to be a sub-applicant or partner with a government agency to implement.

7.4.10.2 Energy Improvements in Rural or Remote Areas

Partnership is likely needed.

NOFO is currently open with 8/28/2025 deadline. A concept paper was due on 2/27/2025.

Aims to improve the resilience, reliability, and affordability of energy systems in rural and remote communities. It is funded through the BIL. This grant may fund projects under the Facilities and Infrastructure or Services and Community categories, such as community-driven clean energy projects. This grant is less likely to serve UTA directly, but UTA may be a beneficiary of energy improvements if it serves these rural or remote areas. UTA would need to be a sub-applicant or, most likely, a partner to institutions of higher education, for-profit and non-profit organizations, state, local governments, or tribal nations.

7.4.10.3 Buildings Energy Efficiency Frontiers & Innovation Technologies Grant Program

Invests across five topic areas to allow all interested parties to research and develop high-impact, cost-effective technologies and practices that will reduce carbon emissions, improve flexibility and resilience, and lower energy costs. Building Technologies Office's overall goal is to improve the energy productivity of buildings without sacrificing occupant comfort or product performance. The objective of this Funding Opportunity Announcement is to research and develop next-generation building technologies that have the potential for significant energy savings and improved demand flexibility, affordability, and occupant comfort. An additional goal is to advance building construction, remodeling, and retrofit practices, and associated workforces. This program may fund pilot projects under the Facilities and Infrastructure or Services and Community categories, such as renewable energy, building/HVAC innovations, and workforce development. UTA would need to be a sub-applicant or partner with a non-profit, city or county government, or institution of higher education.

7.4.10.4 Communities Sparking Investments in Transformative Energy

Partnership is likely needed.

Provides funding and technical assistance for community-identified energy projects. Focuses on building efficiency, electrification, renewable energy, and resilience. Eligible projects under this program be those under the Facilities and Infrastructure category, such as energy infrastructure upgrades, microgrid development, and renewable energy projects benefiting the community. UTA would need to be a sub-applicant or partner with a local government or tribe.

7.4.11 U.S. Economic Development Agency

7.4.11.1 Public Works and Economic Adjustment Assistance

Supports economic development projects that create jobs and stimulate private investment in distressed communities. This program focuses on infrastructure improvements and economic resilience. Eligible projects may be those under the Facilities and Infrastructure or Services and Community categories. This program would necessitate a partnership or UTA to serve as a sub-applicant with a state or local governments, tribes, nonprofits, or institutions of higher education.

7.4.12 Federal Emergency Management Agency

7.4.12.1 Building Resilient Infrastructure and Communities

Partnership is likely needed.

Provides grants to support states, local communities, tribes, and territories in undertaking hazard mitigation projects or capacity and capability building activities to reduce risks from natural hazards. This program aims to enhance resilience and reduce disaster losses. Eligible projects may be those under the Facilities and Infrastructure or Services and Community categories for any infrastructure that serves the community and is highly vulnerable to a hazard. This grant would require UTA to be a partner with the state, local communities, or tribes.

7.4.13 Utah Department of Environmental Quality

7.4.13.1 Alternative Fuel Heavy-Duty Vehicle Tax Credit Program

Provides an income tax credit for the qualified purchase of a natural gas, a 100% electric, or a hydrogen-electric heavy-duty vehicle (Class 7 and Class 8 vehicles). This may be relevant for large buses or heavy-duty equipment used for construction or in the yards. The State of Utah's tax credit is authorized for tax year 2021 through 2030, becoming progressively lower. For 2025, the tax credit is $9,000 per vehicle, followed by $7,500 in 2026, and so forth.

7.4.13.2 Diesel Equipment Upgrade Reimbursement

Provides reimbursements up to 45% for all new electric vehicles, 35% for new California Air Resources Board low-nitrogen oxides vehicles, and 25% for new diesel vehicles through the Utah DEQ. Eligible vehicles include: on-highway, Class 5 to 8 diesel vehicles, engine model years 2009 and older; school, shuttle, and transit buses; and medium-heavy-duty or heavy-heavy-duty diesel trucks. Equipment: nonroad diesel equipment, including less than 50 to 751 and greater horsepower nonroad engines or equipment, engine model years 1986+, used in: construction; handling of cargo (including at a port or airport); agriculture; mining; or energy production (including stationary generators and pumps).

7.4.14 U.S. Environmental Protection Agency

7.4.14.1 Solid Waste Infrastructure for Recycling (SWIFR)

Partnership is likely needed.

Provides grants to support improvements to local post-consumer materials management and recycling programs. This program aims to implement the National Recycling Strategy and improve local waste management systems. Eligible projects may be those under the Facilities and Infrastructure or Services and Community categories related to materials and waste management (recycling initiatives), such as bins or new waste processing facilities, and education. UTA would need to be a sub-applicant or partner with the state, local governments, or tribes. This program may not be available after the conclusion of the IIJA funding, or by 2026.

7.4.14.2 Consumer Recycling Education and Outreach Grant Program

Partnership is likely needed.

Provides funding to improve consumer education and outreach on waste prevention, reuse, recycling, and composting. This program aims to increase recycling rates and reduce contamination in the recycling stream. Similarly to SWIFR, this program would allow for education and outreach projects under the Facilities and Infrastructure or Services and Community categories and require UTA to be a sub-applicant or partner to receive benefits. This program may not be available after the conclusion of the IIJA funding, or by 2026.

7.4.14.3 Diesel Emissions Reduction Act Grant

Funds grants and rebates to reduce harmful emissions from diesel engines, improving air quality and protecting human health. Supports projects that retrofit or replace older diesel engines that may fall under the Fleet category.

7.4.14.4 Environmental Justice Government-to-Government Program

Partnership is likely needed.

Expected to be discontinued; this program was funded by IRA and all funding was already distributed to FY2023 awardees.

Provides funding to support government activities that lead to measurable environmental or public health impacts in communities disproportionately burdened by environmental harms. Aims to integrate environmental justice considerations into governmental decision-making. Eligible projects may be those under the Services and Community category, including community-led air and other pollution monitoring, prevention, and remediation, investments in low- and zero-emission and resilient technologies, and related infrastructure and workforce development that help reduce GHG emissions and other air pollutants. This grant would require UTA to be a partner or sub-applicant to the state, local, territorial, and tribal governments in partnership with community-based nonprofits.

7.4.15 U.S. Department of Defense

7.4.15.1 Defense Community Infrastructure Program

Partnership is likely needed.

The Defense Community Infrastructure Program office recommends beginning work to prepare applications now based on the FY24 NOFO for the FY25 funding opportunity.

Provides funding for community infrastructure projects that support military installations, enhance military value, and improve quality of life for service members and their families. It is a competitive grant program. Potentially eligible projects may be those under the Facilities and Infrastructure or Services and Community categories, such as transportation projects, community support facilities, and utility infrastructure that also serve a nearby military installation or its service members. UTA may be a sub-applicant or partner to the state, local governments, or nonprofits as the lead.

7.5 Best Practices for Grant Applications and External Funding

7.5.1 Project Development and Readiness

The sustainability needs should be developed into comprehensive projects with a conceptual design, if applicable, an estimated budget and schedule, and other project materials. UTA should further analyze the available funding programs and use the evaluation criteria and selection factors to evaluate the project's eligibility and competitiveness.

While a project does not need to be designed around a particular funding source, understanding eligibility requirements or evaluation criteria can inform aspects of project development and components that would otherwise not be considered but make the project more competitive. There is a "sweet spot" of project readiness to submit applications for the major federal grant programs. A project needs to be far enough along in definition and environmental studies to plausibly be able to be completed within the execution deadlines/timeframes that most funding programs have and ready to proceed upon award. But for many of the funding programs, it is important to secure the funding before construction activity is initiated.

To maximize opportunities for flexibility in responding to changing dynamics of external funding programs from year to year, it would be advisable for UTA to advance more projects identified as priorities to the "application ready" stage of development by completing planning, early design, and environmental studies for those projects. For example, UTA could complete preliminary design or obtain relevant permits before applying for funding for final design and construction. This would, in effect, create a larger base of projects that could be submitted during the next year or so as the final tranches of BIL funding are made available through FY2026.

7.5.2 Continue Monitoring Availability of Funding Programs

The specific number of applications UTA should submit each year will vary from year to year depending on outside funding program context issues and readiness of UTA projects for submission. UTA should consider the following:

1. **Specific Funding Levels for the Federal Programs May Vary from Year to Year:** Grant programs established under the IIJA, IRA, and other federally-funded programs have consistently prioritized projects with sustainability, equity, community engagement, and state of good repair aspects and have been good indicators for projects across the board, though this will likely change under the new federal administration and congress. It would be prudent for UTA to plan for continuing an increased number of annual applications to submit, at least through FY2026 when the annual commitments of large funding allocations committed through the BIL legislation run out. The annual appropriations

provided through BIL and IRA legislation will be supplemented in some cases by recycled funds not used in previous cycles.

2. **Changing Program Criteria and Rules for Competition:** Several of the funding programs identified as promising funding programs for UTA projects periodically update the criteria for selection and weights given to the criteria. In addition, there have been some very important, sweeping rule changes regarding identifying the most cost-beneficial projects for some of the funding programs, such as significant reductions in the discount rate for benefit-cost analyses (BCAs), which will affect the competing projects for federal grant programs that require BCAs as part of the application processes. These changes in criteria, weights, and application process rules can influence the relative competitiveness of UTA projects for funding, so monitoring further changes will be important input to deciding which applications to submit.

3. **Schedules for Priority Funding Programs:** The level of activity that needs to be devoted to grant strategy work and grant application development each year will be governed by the application cycles and deadlines. The cycles and deadlines vary from program to program. Some funding programs are on an annual application cycle, with a single deadline each year, some funding programs have multiple opportunities for applications, and others are on a rolling application basis, where applications are accepted and reviewed throughout the year. The current or expected application cycles for the outside funding programs identified as possible components of UTA's funding strategy in Section 7.4 are identified in Appendix E.

    a. Given the number of variables and uncertainties related to both the outside funding programs and UTA's projects, the outside funding schedule will likely need to be revisited and updated several times each year. Even so, it will be helpful to develop a schedule to allow for more orderly planning for both internal and external resources to support the process. It is recommended the schedule be revisited quarterly or sooner if there are significant deviations from the expected NOFO release dates, particularly for priority outside funding programs targeted in each year's outside funding schedule and NOFOs for new funding programs that may be announced, sometimes with little advance warning. It is recommended the initial schedule for each FY be developed in conjunction with development of the CIP and annual capital and operating budget updates. This approach will align the planned funding submittals that require local matching shares with UTA's overall budget planning processes and will address possible rate increases that may be needed to support local matching shares.

4. **Start Applications Early:** Based on the number of applications UTA targets for a given FY and the submission requirements of programs with specific application deadlines, it may be possible to begin development of some priority applications ahead of formal NOFOs notices for priority grant programs/projects UTA knows it wants to submit. Particularly where applications deadlines may be expected to converge, getting a head start in developing the applications can help to avoid the peak demands on both internal and external resources needed to develop competitive applications.

7.5.3 Project Bundling

Bundling related projects for the purpose of funding applications can help to increase the potential size of the grant award; in some cases, bundling also increases the competitiveness of an application because the individual projects grouped together might score points for different selection criteria. A connection must be shown between the projects, such as benefits to the geographic or population service area, environmental benefits, reduced construction timeline, or cost savings from combining the projects. In those cases where projects are combined, fewer actual application documents will need to be completed, but the actual amount of funding requested may be increased.

The grant programs listed in Section 7.4 describe which categories and project opportunities may be funded by each. Our suggestion is that UTA consider programs that allow multiple needs or benefits to be achieved at the same time by bundling.

7.5.4 Partnerships

It is recommended that UTA seek relevant partners who can bolster its competitiveness in obtaining grant funding and help achieve shared regional goals. Partnerships may come from government agencies, community-based organizations, and higher education entities and research institutions, among others. Some grant programs require a partnership between certain types of entities. Partnerships can also be used to leverage a matching contribution when required to show applicants have some commitment to a project. Some entities, such as universities and research institutions, may be able to provide additional, independent studies or audits needed to advance a project.

UTA can begin the process of building relationships with potential partners by hosting a working group with regional stakeholders and funding agency representatives. Working group partners can help identify or narrow down project opportunities, develop close working relationships that can spawn into a joint application or provide letters of support, and be used as evidence for collaborative decision-making or community engagement.

7.5.5 Matching Requirements

UTA should understand any matching share requirements for grant programs it is considering applying to for several reasons. The need to provide matching shares affects the decision of which programs to apply to and how much funding to request from programs that require matches. It is also important to understand so appropriate provision of the required matches is included in UTA's annual budget processes. Refer to Appendix E for applicable matching requirements of each grant program.

The timing for some applications may be influenced by the local matching requirements. For example, if several of the priority projects are ready for application in any given year and the outside funding programs, while promising, all have significant local share matching requirements, UTA may need to spread the applications across multiple years based on how the matching share requirements fit within the overall capital and operating budget limitations the agency needs to work within.

7.5.6 Federal Requirements

The following are requirements for federal grant-awarded projects that should be considered when putting forward eligible projects:

- National Environmental Policy Act
- American Iron and Steel Requirement
- Davis-Bacon Wage Requirement
- National Historic Preservation Act
- Environmental Justice
- Endangered Species Act
- All Civil Rights Acts
- Clean Water Act
- Clean Air Act
- Safe Drinking Water Act
- Coastal Zone Management Act
- Protection of Wetlands

- Magnuson-Stevens Fishery Conservation and Management Act
- Wild and Scenic Rivers Act
- Archaeological and Historic Preservation Act
- Farmland Protection Policy Act

7.5.7 Capital Stacking

For high-cost projects, UTA may consider applying for multiple grants to cover different activities or phases of a project. Beyond grant programs, there has also been considerably more funding channeled through federal and state loan programs, such as state revolving funds, green banks, and tax credits/reimbursements for sustainability. In the right circumstances, these other financial tools can be valuable components of UTA's overall outside funding program.

In addition to typically having interest rates lower than municipal bond market financing, there are some favorable repayment options for low-interest loans that provide additional benefits. The USDOT's TIFIA is an example of a low-interest loan program for transportation projects. While offering these significant interest rate and payment term advantages to issuing traditional municipal bonds, some loan programs require several federal flow-through requirements be implemented, including those listed in Section 7.5.6. If implemented without federal funding, many of UTA's projects could be constructed without complying with many of these federal flow-through requirements, which add administrative, compliance, and sometimes real costs to total project cost requirements. Because of this approach for using loan interest loan programs, it is recommended that the possibility of including applications for low-interest loans be considered for inclusion in the funding plan when either the aforementioned single project or multiple project criteria identified are satisfied when UTA develops its annual budget and funding plan for each year.

Utah DEQ's Alternative Fuel Heavy-Duty Vehicle Tax Credit Program and Diesel Equipment Upgrade Reimbursement are examples of tax credit and reimbursement programs, respectively, for transportation projects. A tax credit is a reduction on annual tax returns for payment equal to the amount you would typically pay, while a reimbursement is repaid in the eligible amount after the up-front purchase is made.

7.5.8 Seek Debriefs and Revise Applications

Many of the federal and state agencies that offer grants provide an opportunity for debriefs for unsuccessful applications. Valuable insights can be gained in these debrief sessions, and there are many success stories of agencies resubmitting to the same program in future years and securing funding when applications were initially declined funding. Also, there may be useful insights gained that could improve the opportunity to secure funding for other projects that UTA may want to submit to the same agency.

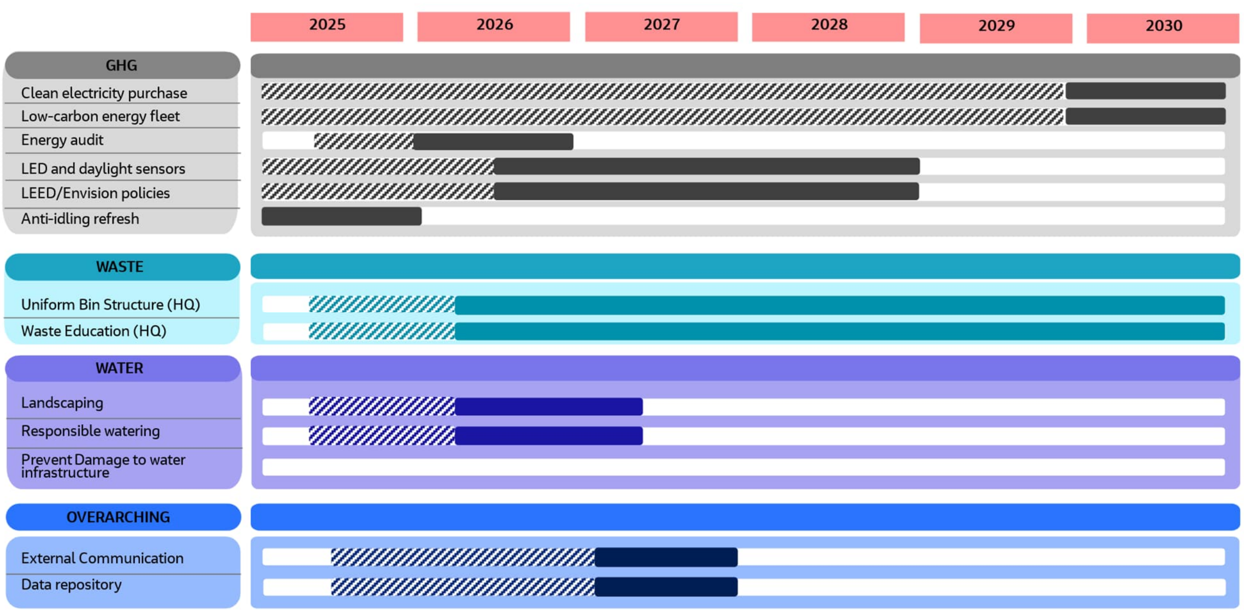
Whether a debrief is provided or not, applications that were submitted and not awarded should be reviewed and considered for whether they can be repurposed into a new application for a future round of funding of the same or a different grant program. Typically, applications provide valuable content that can be reused. However, the applications should be modified as appropriate to fit the criteria that may change with each NOFO.

8. Summary of Implementation Recommendations

UTA requested support from Jacobs to evaluate a variety of sustainability initiatives and recommend a potential pathway to implement those initiatives to improve the organization's GHG, water, and waste footprint. To guide the selection, Jacobs organized sustainability initiatives in a decision support tool, and the prioritized initiatives were considered for implementation planning. Three different scenarios were considered for implementation, ranging from "Baseline," which reflects the activities UTA is currently planning or has budgeted for, to "Future" and "Future+," which show increasing ambition in impact and sustainability action.

Figures 8-1 through 8-3 and the following sections describe key elements of implementation. On Figure 8-1, the Baseline scenario is described with a range of pilot and full-scale implementation of GHG, water, waste, and overarching initiatives. The scenario assumes a 5-year planning horizon because the actions outlined are focused on activities that are planned or in the process of being implemented.

Figure 8-1. Baseline Scenario Sustainability Initiatives



Figures 8-2 and 8-3 present the Future and Future+ scenarios, which have long-term planning horizons, seeking to present a greater ambition and long-term actions. By pursuing the initiatives in Future and Future+ scenarios, UTA could have a greater beneficial impact on the surrounding communities, could set the example of action across other transit agencies, and future-proof its operations to the potential resource shortages, policy changes, and new weather/nature-related risks. UTA's choice of next steps and implementation scenario could be influenced by leadership ambition, organizational capacity, and budget availability.

Figure 8-2. Future Scenario Sustainability Initiatives

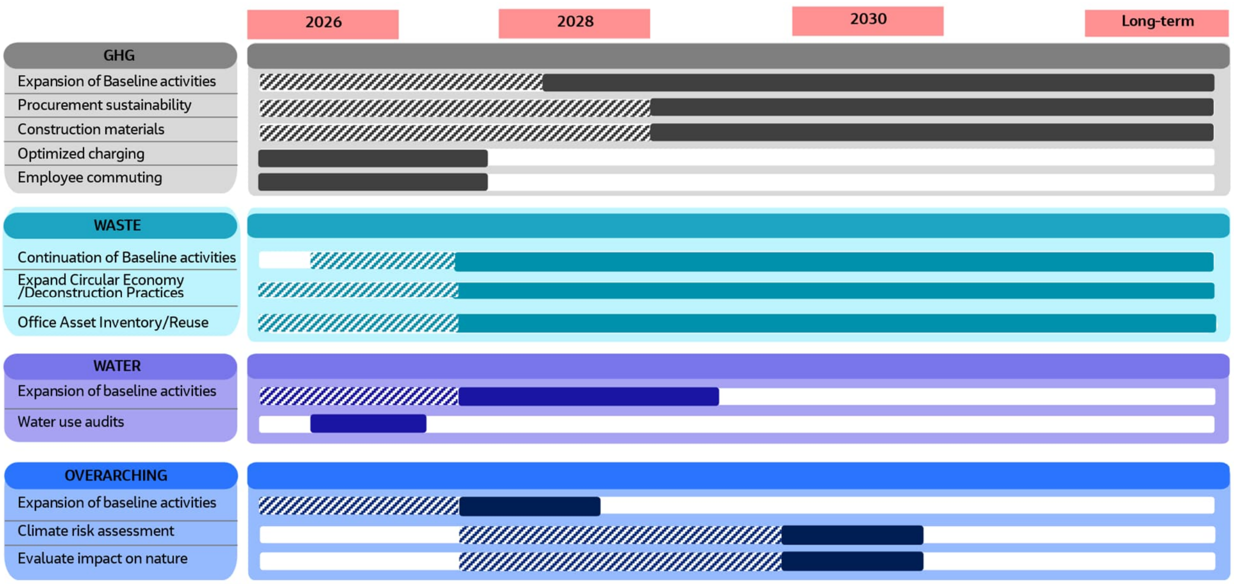
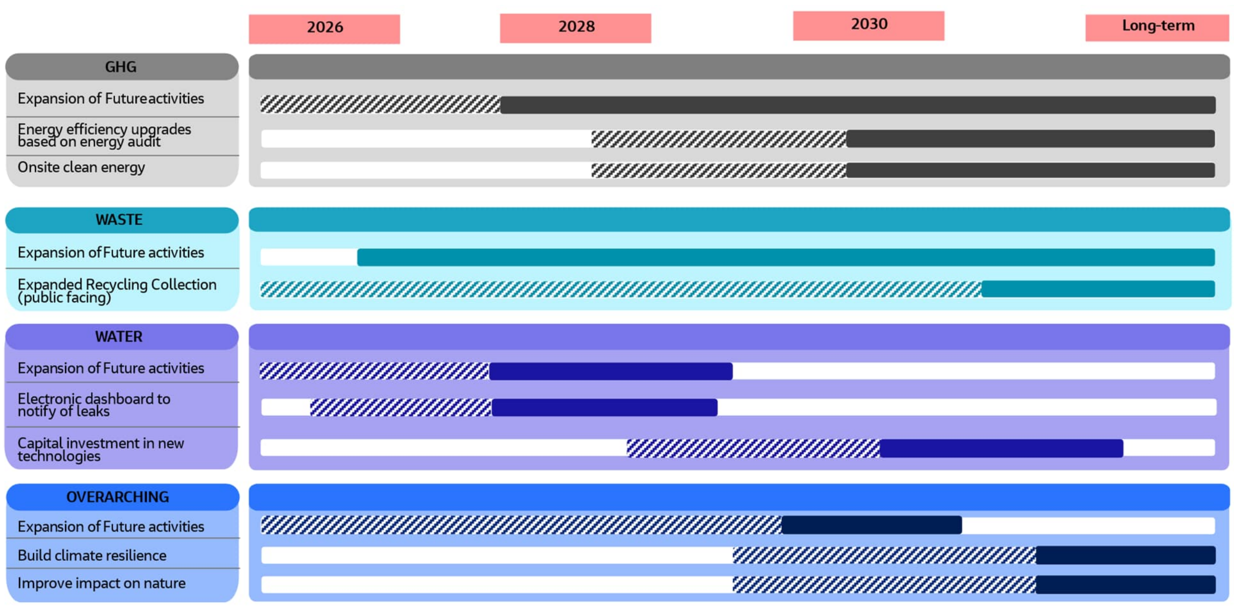


Figure 8-3. Future+ Scenario Initiatives



UTA would like to pursue "Future Scenario" as the next actions to accomplish. The initiatives identified in "Future+ Scenario" will serve as the stretch goals for the organization. Beyond 2030, UTA will need to determine the preferred targets and goals, and ambition of future action.

Appendix A.
Detailed Peer Priorities

Appendix A. Detailed Peer Priorities

Table A-1. Detailed Peer Priorities

Denver	Weber State University	Sound Transit	Valley Transportation Authority	Austin, Texas CAP Metro	Greater Columbus and Central Ohio, COTA – Central Ohio Transit Authority
Environmental					
GHG Emissions Reduction					
▪ RTD operates several types of transit services (light rail, commuter rail, and electric buses) that are powered by electricity and therefore have no tailpipe emissions. In 2019, electric transit accounted for 43% of boardings and 26% of revenue miles for RTD's fixed route services. RTD's fleet of 36 battery electric buses operating the Free MallRide service is one of the largest electric bus fleets in the country. ▪ Installing EV charging stations at Park and Rides that are available for public use and at own maintenance facilities ▪ Solar panels on East Metro Bus Maintenance Facility's roof has displaced over 2,800 tons of carbon dioxide (CO2) that would have been emitted by coal and natural gas electricity generation (Xcel). By installing solar panels, RTD generates renewable energy and offsets the cost of electricity at the East Metro Facility. ▪ A joint program of RTD and the Colorado School of Mines, the High Altitude Test Lab is the only high altitude test lab for heavy-duty engines in the world. The lab uses chassis and engine dynamometers to evaluate new engine technologies and fuels under real conditions.	Goal: Carbon Neutral by 2040. From the baseline year of 2007 WSU has reduced electricity consumption by 36%, reduced natural gas consumption by 35%, and total GHG emissions by 34% ▪ The university has set intermediate targets for reducing GHG from a 2007 baseline: 51% by 2025, 64% by 2030, and 70% by 2035 ▪ Electrification Plan emphasized eliminating fossil fuel usage by electrifying all energy end uses on campus, including heating and transportation, to facilitate a transition to carbon neutral operations. Goal: Source nearly 100% of WSU energy from renewable sources, Purchase carbon offsets for the remaining GHG emissions that cannot be eliminated, carbon neutral by 2040. ▪ Energy Efficiency: Key measure include upgrading to high insulation standards, efficient windows, LED lighting, and implementing water cooled, ground sourced variable refrigerant flow (VRF) systems for heating, ventilation, and air conditioning. Currently, 70% of campus lighting is LED, and 37% of the HVAC systems are VRF.	Goal: Achieve Carbon-Free Operations ▪ Reduce greenhouse gas emissions by 10% ▪ Reduce greenhouse gas emissions by increasing direct purchases of clean energy from utility providers, upgrading Sounder locomotives, and replacing Sound Transit (ST) Express buses with newer technology ▪ Plan Sound Transit bus bases for convertibility to accommodate future zero-emission technologies ▪ Plan how future Sound Transit bus bases can accommodate zero-emission technologies, including costs and evaluation of risks. ▪ Determine battery electric bus feasibility for ST bus services ▪ Evaluate feasibility, including cost-effectiveness and maturity, of battery electric bus technology. If analysis proves feasible, pilot battery electric bus. ▪ Collaborate in regional strategic planning and coordination for battery electric bus infrastructure ▪ Collaborate with partner agencies and jurisdictions to develop strategic, coordinated efforts to implement battery electric bus infrastructure across the region.	Goals: ▪ Reduce GHG emissions generated by 60% below FY 2009 levels by FY 2025. Sources of GHG emissions generated by VTA include the operation of revenue and nonrevenue fleets, building energy use, waste, employee commute, and water. In FY 2022, VTA generated 46,648 MT CO2e of GHG. This is 33% lower than the GHG emissions generated in FY 2009. ▪ Reduce building energy consumption by 15% below FY 2009 levels by FY 2025. ▪ Reduce revenue fleet energy consumption by 35% below FY 2009 levels by FY 2025. (on track) ▪ Reduce revenue fleet energy consumption by 35% below FY 2009 levels by FY 2025. (on track) ▪ VTA's fleet includes nonrevenue vehicles, buses, paratransit vehicles, and light rail trains. Fleet energy includes the consumption of fuel and electricity VTA's sustainability targets focus on improving efficiency of the revenue fleet which consists of bus, paratransit, and light rail service VTA is committed to a full transition of its fleet to zero-emission vehicles	Goal: Net Zero by 2040. In order to meet this goal. Activities: ▪ Reduce emissions, use renewable energy, and implement other methods to prevent or remove emissions in the atmosphere. ▪ Procure 197 new electric buses over the next 5 years. ▪ Attain 100% zero-emission revenue and nonrevenue fleets. ▪ Attain 100% zero-emission light rail. ▪ Install public charging infrastructure at public facilities for customers and the community. ▪ Readied North Ops Electric Bus Depot for 179 electric buses. • ▪ Launched an electric vehicle program, purchased electric fleet vehicles, and installed charging stations for employee use of our fleet vehicles. ▪ Expanding on current fleet of 8 electric Nissan Leaf staff fleet vehicles with 15 plug-in hybrid vehicles. ▪ Expanding charging infrastructure for nonrevenue vehicle fleets and staff members.	Goal: Net-Zero Greenhouse Gas (GHG) Emissions by 2045. ▪ Reduced GHG emissions per vehicle mile by 11% since 2013. ▪ A 17% reduction in fleet GHG emissions ▪ An 11% GHG emissions reduction overall ▪ A 73% reduction in pollution emissions ▪ Pollution reductions fostered more than $10 million dollars in community savings through avoided work disruptions and medical costs within Franklin County. • Collaborative engagement in regional development through LinkUS, Columbus Downtown Development Corporation, and other initiatives ▪ Opportunities for reducing GHG emissions related to electricity use is currently under investigation. This will result in a capture or identification of facility improvements that maximize energy efficiency. This investigation will also include onsite renewable energy, storage, offsite renewable energy, and emission-free supplier contracts. In the long term, success will require a combination of these options in conjunction with the GHG reductions occurring within the electricity grid itself.

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▪ Colorado Climate Action Plan: This legislation seeks to mitigate climate change impacts by increasing renewable energy generation and eliminating statewide greenhouse gas emissions. The Bill sets ambitious goals to reduce greenhouse gas pollution by at least 26% by 2025, 50% by 2030, and 90% by 2050 (compared to 2005 levels). The plan states that transit fleets should transition to 100% zero-emission vehicles (ZEV) no later than 2050, with an interim target of at least 1,000 ZEVs by 2030. RTD will play a major role in reducing greenhouse gas emissions produced by vehicles since public transportation provides a low-carbon alternative to driving. Since RTD operates almost half of the transit vehicles in the state, it will be a key partner in accomplishing these goals. ▪ RTD was the first in the transit industry to use a refrigerant recovery system to capture and recycle Freon for reuse. We were also the first in the transit industry to buy new buses using HFC-134a in our air conditioning systems. Plus, all of our buses previously equipped with Freon R-12 have been converted to HFC-134a or FR-12. Both of these refrigerants are environmentally friendly.	▪ Renewable energy sourcing: WSU plans to meet its energy needs through ground source energy fields and onsite solar energy generation, supplemented by wind and solar energy sourced through utility programs Goal: Reduce university owned mobile source emissions by transitioning vehicles and equipment over to alternatively fueled versions. WSU is transitioning to all electric landscape equipment, has passed an anti-idling policy for campus, improved micro-transit infrastructure and provided students, faculty, and staff with UTA passes and Frontrunner passes. ▪ WSU is in collaboration with UTA, Ogden City and other partners to install a new electric bus rapid transit system, with will increase alternative transportation ridership. Additionally WSU incentivizes carpooling, provides electric vehicle charging stations, and gives discounts on parking for hybrid and electric vehicles. Goal: Reduce faculty, staff, and student commuting-related GHG emissions by 50% by 2030 Goal: Source nearly 100% of WSUs energy from renewable sources, Purchase Carbon offsets for the remaining GHG emissions that cannot be eliminated.	▪ Assess the viability of powering Sounder locomotives with battery electric engine technology. ▪ Purchase available cost-effective, carbon-free electricity ▪ Work with energy utilities to purchase renewable and carbon-free electricity via alternative rate structures and programs such as power purchase agreements. ▪ Decrease total energy use 5% for all facilities built before 2018 ▪ Implement energy efficiency projects at existing facilities (prior to 2018) to reduce energy use by 5%. ▪ Increase production from solar panels to 750 KW ▪ Plan and implement 1,000 KW of solar panel arrays at existing and new stations.		▪ Reduced criteria air pollutants (NOx) by 63% since 2016. • Reduced GHG emissions with electrification. ▪ Reduced emissions, fuel cost, and routine maintenance. ▪ Implement MetroBike shared bike system strategic expansion plan and increase the number of e-bikes and dock systems. ▪ Increase the number of bike-transit trips and MetroBike trips. • Provide safe and secure bike parking at MetroRail and MetroRapid facilities, transit centers and park-and-rides. ▪ Installed three-bike racks/storage on all buses and rail. • Developed partnership between CapMetro/ATD/Bike Share of Austin MetroBike; improved and expanded system. ▪ Conducted active planning to connect transit facilities to the bike and trail networks. • Hiring MetroBike Program Manager to coordinate internal and external bike activities. • Achieved League of American Cyclists Bicycle Friendly Business at the Gold Level since 2016. ▪ Added mobility options and connectivity to transit routes. Efficient and flexible transit mode. ▪ Energy Conservation, efficiency, renewables Goal: Use 100% renewable energy for all electric sources. • Achieve net-zero carbon/energy buildings and facilities. ▪ In 2021, 97% of purchased electricity originated from Texas wind farms, totaling around 8.7 million kilowatt hours of energy	▪ Natural gas energy efficiency opportunities are also being investigated. It is expected that in the long-term natural gas equipment will need to be replaced with equivalents that consume emission free electricity. Pursuit of this transition is not an immediate priority. Objectives: ▪ Continue phasing out diesel vehicles. To maximize the CNG investment, investigate the benefits and risks of purchasing renewable energy supplies for electricity through supplier contracts or Renewable Energy Certificates (RECs) and natural gas through acquisition of Renewable Natural Gas (RNG). ▪ Determine energy efficiency measures to implement at facilities, onsite generation capabilities, and clean energy procurement strategies. ▪ Pursue and support Columbus Climate Action Plan's goals. ▪ Increase passenger miles traveled by 20% by 2030. ▪ Increase passenger miles traveled by 50% by 2050. ▪ Implementation of three regional high-capacity rapid transit lines by 2030. ▪ Implementation of at least five high-capacity rapid transit lines and up to eight by 2050.

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	▪ WSUs five-point plan to achieve carbon neutral includes implementing energy efficiency and conservation projects, electrifying all end use sources of energy, sourcing 100% of the remaining needed energy from renewable sources, reinvesting the utility savings from these projects into new projects until WSUs entire infrastructure has been transitioned and utilize the purchase of carbon offsets as method of last resort to neutralize WSUs remaining GHG emissions.			▪ 100% powered by Austin Energy Green Choice. Meeting environmental and consumer-protection standards. • Installed over 200 solar bus stop lighting systems and information displays. • Completed energy upgrades such as LED lighting at park-and-rides. • Partnered with the State Energy Conservation Office to audit and analyze all facilities and identify ways to reduce the Agency's energy load. • Reduced energy by 34% since 2014 (normalized to revenue miles traveled). • Reduced carbon emissions/GHG by 32% since 2016. ▪ Lower operating costs with conservation, efficiency, and renewable energy. Increased resilience through distributed energy systems.	
	Reduce culinary water consumption by 30% per weighted campus user and by 30% per square foot by 2025 ▪ Meet and exceed all stormwater management regulations. ▪ Maintain sustainably managed land and grounds. ▪ Key strategies include facilities upgrades, efficiency measures and improved stormwater management, improved metrics, planning, and management. A water action plan to address water quality with the goal to meet or exceed all state and federal stormwater management regulations.	Reduce total water use by 10% at all existing facilities and sites established before 2018 % change in agency water use ▪ Implement conservation across all agency facilities to reduce overall water consumption by 10%	Reduce potable water use by 45% below FY 2009 levels by FY 2025. Target Met ▪ VTA used 21 million gallons of potable water4 for landscaping, washing vehicles, and operating facilities in FY 2022, representing a decrease of 61% in potable water usage from the baseline year.	▪ Sustainably manage water resources and enhance nature and natural systems through conservation and green infrastructure. ▪ Protect and enhance habitat and natural areas. • Increase tree canopy. ▪ Increase use of native plants and sustainable landscaping. • Reduce water used in operations and landscaping. • Increase the amount of captured and recycled water used at our facilities. ▪ Reduced facility water consumption by 2.8 million gallons annually	Water ▪ Interim goal of 2% reductions per year in water consumption ▪ Establish a water end use breakdown that identifies each portion of water usage across the building portfolio by the function is supports. • Update interim goal to be a technically and financially achievable percent reduction from the 2013 baseline as informed by the end use breakdown analysis. • Establish protocols to capture and record all facility water use. ▪ Installation and use of water reclamation and recycling for the vehicle wash systems at both bus facilities.

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Water Stewardship					
				▪ • Upgraded all bus washes with efficient low-water high-pressure systems. • Installed water efficient irrigation systems in all new capital projects; conducted irrigation audits of all existing systems. • Adopting "Grow Green" landscaping best practices, procuring native pollinator friendly plants. • Partnering with Texan by Nature to identify ways to protect and enhance habitats and conserve natural resources. ▪ Reduced water and wastewater utility cost. Reduced maintenance cost. Healthier workplace.	
Waste Management					
	Improve data quality and reliability ▪ Implement 100% food waste reduction and diversion program ▪ Achieve 75% construction waste diversion rate ▪ Improve waste reduction and reuse through marketing, education and coordination. ▪ Improve recycling rates through marketing, education, and coordination. ▪ Goal to divert 50% of waste from landfill by 2025. Current diversion rate is 31%. ▪ Reduce waste production to 0.05 tons per weighted campus user per year. Currently WSU produces 0.08 tons per weighted campus user (WCU) per year.	Divert 50% of office waste to recycling or compost ▪ Increase staff engagement efforts and implement logistical waste collection changes to increase diversion rates.	Increase waste diversion rate to 50% by FY 2025 ▪ VTA is working together with several partners to change people's attitudes and behaviors toward throwing litter on the highways instead of in garbage cans or recycling containers. ▪ The program includes organizing monthly popup cleanup events in cities and towns throughout Santa Clara County, installing No Dumping enforcement signs at frequently littered locations, and forming local volunteer groups to help keep the community highways clean.	90% reduction of waste to landfills by 2040, consistent with City of Austin Zero Waste Strategic Plan. ▪ Implement system wide public recycling at high rider volume locations. ▪ Reduce packaging and single use food service items from breakrooms and food service areas. ▪ Expand our current organics composting program to include food waste. ▪ Establish process to measure waste reduction from surplus and construction recycling. ▪ Reduce operational waste by 50% from baseline. ▪ Reduce construction waste by 90% from baseline. ▪ Achieve zero waste to landfill.	Achieve a 100% waste diversion rate from landfills by 2045. ▪ Work with local stakeholders like Solid Waste Authority of Central Ohio (SWACO) to identify any support or grant opportunities that would support waste-related activities and their application timetable. ▪ Conduct a waste assessment to identify all waste streams generated, quantify the streams in tons, record current management practices, and select waste streams where opportunities for improvement should next be investigated. ▪ Revenue is generated from scrap metal and paper and cardboard recycling.

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				▪ Strengthen procurement policies to encourage circular economy and local sustainable economy development. ▪ Recycled 10% of the agency's administrative and public facility waste in 2021 ▪ Reduced overall solid waste by nearly 90,000 pounds annually ▪ Established a robust surplus materials program. ▪ Integrated zero waste guidelines into procurement policy. • Implementing a pilot public facilities' recycling program. • Recycling bus shelters and amenities at the end of useful life. • Implementing contracts to maximize construction and demolition recycling. ▪ Lower landfill cost. Safer, cleaner, and healthier workplace. Circular economy supported	▪ Several recycling and waste diversion programs are already in place including recycling of yard waste, waste oil, transmission fluids and oil filters, wooden pallets, and fluorescent lamps. Tires are recycled through a contract with Goodyear.
Sustainable Buildings and Infrastructure					
Established plan for transit oriented development (TOD). Facilitate TOD opportunities that increase ridership or enhance transit investments through the District through station design and close coordination with local jurisdictions and developers.	▪ Ensure all new construction and major building renovations are sustainably built. ▪ Ensure all existing buildings are sustainably operated and maintained. As of 2020 26% of WSUs buildings have all electric mechanical systems, which makes them carbon neutral capable. ▪ 59% of building are built to Utah high performance standards ▪ 41% are LEED Gold	Implement sustainable design guidelines and processes for renovation projects; Pursue LEED Existing Building Operations and Maintenance (EBOM) certification at Union Station; pursue LEED EBOM certification at Union Station. Seek LEED EBOM certification for one of the agencies key facilities.	Reduce building energy consumption by 15% below FY 2009 levels by FY 2025 Needs Improvement ▪ Buildings and facilities are powered by electricity,2 natural gas, and propane. Net grid3 electricity use decreased by 37% in FY 2022 compared to baseline. ▪ This reduction is mostly attributed to the temporary closure of Guadalupe Division for part of FY 2022. ▪ Compared to the baseline, natural gas use increased by 2% in FY 2022, and propane use decreased by 4%. ▪ These changes are mostly attributed to weather conditions as natural gas and propane are used for heating facilities.	Use sustainable design guidelines and rating systems (Envision, Austin Energy Green Building, LEED) to guide all capital projects. ▪ Increase use of sustainable building materials and reduce the embodied carbon in new construction. • Achieve a minimum AEGB 3 star LEED, SITES, or Envision Silver for capital projects. • Use universal design standards to prioritize sustainable, resilient and regenerative design. • Implement smart technology to enhance energy conservation and sustainability, optimize operations and maintenance, and enhance employee well-being and performance.	Committed to the goal of upgrading all COTA facilities to healthy building standards

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			▪ Overall, VTA was able to achieve a 6% reduction in building energy consumption in FY 2022 compared to the baseline year. ▪ VTA is currently not on track to meet the FY 2022 target of reducing emissions by 41% and therefore may not meet the short-term target in FY 2025 of reducing by 60% below FY 2009 levels. While this may not be achievable, VTA can make progress toward the long-term FY 2040 target by focusing on decarbonizing existing buildings; upgrading outdoor lighting at buildings, park-and-ride lots, and stations; prioritizing projects to retrofit buildings with energy-saving features and appliances; and implementing conservation best practices through occupant behavioral changes and energy management systems.	▪ Launched Envision for Sustainable Infrastructure "university" to raise awareness about sustainability best practices and train design teams and partners involved in project implementation. ▪ Guided project design using sustainability frameworks (Envision, AEGB, LEED, SITES) for Plaza Saltillo, Richard A. Moya Eastside Bus Depot, Downtown Station, McKalla Station, and the Project Connect bus rapid transit routes. ▪ Integrated sustainability standards into MetroRail Design Guide and capital project proposals. ▪ Completed retro-commissioning of key facilities to identify areas for additional conservation and efficiency improvements. ▪ Lower operating costs and improved asset management. Reduced materials costs, enhanced durability with innovative design. Healthier workplace	

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Air Quality					
▪ RTD pioneered the use of electronically controlled engines and transmissions in order to provide:• More efficient equipment operation• Reduced exhaust emissions• RTD is currently replacing older engines with advanced clean-burning, low-emission, electronically controlled engines from Detroit Diesel and Cummins. These engines reduce particulate emissions by 70% and Allow RTD to meet EPA standards without using particulate traps, which can reduce fuel mileage. ▪ RTD uses premium diesel fuel during high pollution months (October thru March). Premium diesel provides a low sulfur and aromatic content, reduces smoke, and improves air quality.• All buses are tested annually to insure they meet RTD standards that are twice as strict as state standards. Supervisors are trained to make on-street visual evaluations that may result in: A bus is immediately removed from service if State Standards are exceeded; A repair scheduled within 5 days of a reported violation ▪ All buses are tested annually to insure they meet RTD standards that are twice as strict as state standards. Supervisors are trained to make on-street visual evaluations that may result in: - A bus is immediately removed from service if State Standards are exceeded ▪ A repair scheduled within 5 days of a reported violation	Air quality is a recurring issue in Utah that Weber State University is choosing to address by taking part in the Clear the Air Challenge and through education of students and the community. Actions include: - The Energy and Sustainability Office has installed 8-10 purple air quality monitors so the campus and community can see what the current air quality is like, 24/7. - The Mow Electric exchange allowed over 1,000 community members to trade out their gasoline-powered mowers for zero emission electric mowers. - Healthy competition among departments, clubs, and students in the Clear the Air Challenge helped WSU students, staff and faculty save thousands of tons of greenhouse gas emissions and thousands of dollars in transportation costs.	Key performance indicator for Planet include Criteria pollutants: Particulate matter: 30% decrease. Volatile organic compounds: 28% decrease. Nitrogen oxides: 11% decrease. Carbon monoxides: 5% increase. Sulfur oxides: 15% decrease.	Reduce criteria air pollutant emissions generated 80% below FY 2009 levels by FY 2025. Target Met ▪ In FY 2022, VTA emitted 41 tons of criteria air pollutants through the operation of its vehicle fleet and employee commute. This is an 88% reduction from the baseline year and achieves the target set for FY 2025 With the implementation of the Zero-Emission Bus Rollout Plan, it is likely that VTA will also achieve the FY 2040 target of 95% reduction.	Air Quality and Emissions Reductions: ▪ Reduced transit bus particulate matter emissions by 96% ▪ Reduced transit bus ghg emissions by 15% ▪ Reduced transit bus NOx emissions by 70% ▪ Reduced facility ghg emissions by 11% ▪ Purchased 12 electric buses in 2021 to reduce overall fleet emissions ▪ Fleet will grow to nearly 200 electric buses by 2026	Net-Zero Particulate Matter 2.5 (PM2.5) Emissions by 2045. Reduced PM2.5 per vehicle mile, a local pollutant, by 73% since 2013 ▪ Pollution reductions fostered more than $10 million dollars in community savings through avoided work disruptions and medical costs within Franklin County. ▪ Collaborative engagement in regional development through LinkUS, Columbus Downtown Development Corporation, and other initiatives

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Climate Resilience					
		Sound Transit initiated its effort to integrate climate vulnerability considerations into the revision of its design requirements. Sustainability staff worked with subject matter experts across the agency to ensure that the design requirements address effects of future heat waves, localized flooding, and sea level rise into the agency's design standards. This approach helps the agency not only prepare for current climate events, but also makes the system resilient to the increased effects of climate change expected in our region. In addition, percentage of projects that include climate change vulnerability assessments is one of the agency's Sustainability Plan KPIs.	VTA has a Climate Action and Adaptation Plan, completed in 2024, which includes a climate change vulnerability assessment and adaptation strategies.	Prioritize planning for potential climate impacts in CapMetro emergency response plans. ▪ Launch a CapMetro climate resilience action planning process to prepare for future conditions. ▪ Prioritize a resilient energy management planning for rail and bus electrification. ▪ Explore "resiliency hubs" and vehicle to building energy systems for community emergencies. ▪ Design future facilities to reduce heat island impact and consider customer comfort. ▪ Integrate green infrastructure and urban tree canopy to mitigate the impacts of a changing climate. CapMetro participated in City of Austin climate resilience planning process to identify critical infrastructure for review for climate impact. ▪ Capital project and operation risk assessments of key projects and assets, that include a resilience component and a review of the most current Atlas 14 flood maps. • Bus shelter design includes additional shade cover and weather protection.	Support COTA's Business Continuity Plan by continually evaluating how best to build out a resilient vehicle portfolio, backup power contingencies, and climate change adaptation planning. ▪ Continually collect information on long-term trends that could threaten COTA's operations. ▪ Resiliency management is already in place through COTA's Business Continuity Plan

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Biodiversity & Land Use					
RTD uses low-maintenance, low-water usage landscaping at its Park and Rides.		▪ Evaluate feasibility of an advanced ecosystem mitigation approach for Tacoma Dome Link Extension or Everett Link Extension and Operations and Maintenance Facility North, complete ecosystem services pilot study and determine related assessment tools for all mitigation sites. ▪ Establish a baseline to quantify 'ecosystem service' benefits ▪ Determine the value of ecological services provided by the agency's environmental mitigation sites. ▪ Establish a baseline to quantify 'ecosystem service' benefits ▪ Determine the value of ecological services provided by the agency's environmental mitigation sites.		One of CapMetro's overarching sustainability strategic values is Water and Nature, which the agency defines as sustainably managing water resources and enhance nature and natural systems through conservation and green infrastructure.	
Food Sustainability and Security					
	▪ Increase the proportion of plant based and sustainably ethically produced foods from 9% to 25% by 2025. ▪ Facilitate and encourage nutritious, balanced eating. Approximately 25% of WSU students reported that they have experienced food insecurity while attending WSU. Over 43% stated that they sometimes to regularly cannot afford to eat balanced nutritious meals. Increase the plant-based meals available while cutting food waste.				

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Social					
Health, Safety & Well-Being					
In the Denver Metro Region, transportation emissions are a major source of particulate matter and nitrogen oxides (a main ingredient in ozone) which lead to poor health outcomes. RTD provides an alternative to driving which helps reduce transportation emissions. RTD also provides critical access to health facilities in the region. Quality of Life Study: a multi-year monitoring program that began in 2006 to evaluate the progress toward meeting the FasTracks Program goals. Each annual report focuses on the "quality of life" in the context of those areas most affected by transit improvements and those specifically addressed in the FasTracks Plan: mobility, environment, economic activity, development, and land use.	Maintain a sustainable working environment for all employees.	Develop a well-being program to improve the attraction and retention of employees across demographic, social, and economic profiles ▪ Expand well-being program to cover areas of interest to various demographic groups of employees, such as enhancing programs for flexible schedules.	Updating Safety Plan; Safety Railing Pilot Project	Leverage transit resources to enhance sustainability, connectivity, and access to opportunities; and create livable places, especially in historically disinvested communities. ▪ Identify opportunities for equitable distribution of urban trees and green infrastructure analysis. ▪ Create a training academy to grow a local workforce to support planning and implementing our transit infrastructure. ▪ Advance accessibility and connect transit services to bikeways that accommodate all ages and abilities. ▪ Grow our local green economy and creating sustainability markets. ▪ Developing an Equitable Transit-Oriented Development (ETOD) tool to guide transit investments.	

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				▪ Supporting local and underserved business development through our disadvantaged business enterprise/ small business enterprise program. ▪ Participation in the Austin Climate Equity Plan, identifying and supporting climate strategies through community input. ▪ Integrating equity as a decision-making lens in the MetroBike Strategic Plan. ▪ Implementing significant outreach efforts through our ETOD program with a goal to increase participation from black, Indigenous, and people of color (BIPOC) populations, seniors, and low-income populations. ▪ Partnering with Central Texas Food Bank to convert a bus into a mobile food pantry to bring fresh and healthy food to identified food deserts.	
Increasing Ridership					
▪ TOD is a sustainable approach to developing the built environment that integrates higher density new construction with transit. ▪ Since 2005, 68% of all new office and 44% of all new housing in Metro Denver has located within 1 half mile of an RTD station. ▪ Since 2005, 68% of all new office and 44% of all new housing in Metro Denver has located within 1 half mile of an RTD station.	Weber State University encourages its community to increase the use of public transportation through the following measures: ▪ All full time faculty, staff, and students are eligible for the UTA Ed Pass, which provides you free unlimited access to all Utah public transit, including buses, the Front Runner & Trax. ▪ Intercampus Lyft Program which offers discounted rides between campuses.	▪ Explore strategies to enhance use of property designated for parking, such as shared use, integrated development or development of air rights. ▪ Design new parking facilities to be more dynamically integrated with development. ▪ Complete System Access Strategic Plan and adopt update to agency's System Access Policy	Transit-Oriented Communities - link development within a half mile of transit stations to their surrounding neighborhoods to create areas with access to multiple housing choices, jobs, parks, and open space, and infrastructure for bicyclists and pedestrians. In June 2022, VTA updated its TOC Policy to include the following goals: ▪ Increase ridership overall and throughout non-commute periods.	Equity and Livable Communities ▪ Leverage transit resources to enhance sustainability, connectivity, and access to opportunities; and create livable places, especially in historically disinvested communities. ▪ Identify opportunities for equitable distribution of urban trees and green infrastructure analysis. ▪ Create a training academy to grow a local workforce to support planning and implementing our transit infrastructure. ▪ Advance accessibility and connect transit services to bikeways that accommodate all ages and abilities.	Ridership ▪ Aspirational pursuit of annual increase of 2% for COTA's internal ridership Performance Incentive Compensation metric of annual unlinked passenger trips per total payroll hours ▪ Assess aspirational ridership goal and adopt or revise the targeted annual increase based upon that engagement. Generate a mode shift factor for use in capturing impact of increased ridership on regional emissions goals, which has already been initiated. Continue and increase engagement with regional initiatives to identify collaborators in reducing regional emissions through mode shift.

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		▪ The System Access Strategic Plan outlines the agency's approach to investments in passenger access to Sound Transit and partner agency services. The Plan will provide a clear basis for equitably allocating resources and implementing investments. The agency's existing System Access Policy may be updated, as per the findings and outcomes of the Plan.	▪ Leverage Transit-Oriented Development projects as catalysts to create equitable and complete TOCs around transit stations that include housing affordable to all income levels, and balance employment, housing, institutional uses, and other services. ▪ Generate revenues to sustain transit capital investment and operations.	▪ Grow our local green economy and creating sustainability markets. ▪ Developing an ETOD tool to guide transit investments. ▪ Supporting local and underserved business development through our disadvantaged business enterprise/ small business enterprise program. ▪ Participation in the Austin Climate Equity Plan, identifying and supporting climate strategies through community input. • Integrating equity as a decision-making lens in the MetroBike Strategic Plan. ▪ Implementing significant outreach efforts through our ETOD program with a goal to increase participation from BIPOC populations, seniors, and low-income populations. ▪ Partnering with Central Texas Food Bank to convert a bus into a mobile food pantry to bring fresh and healthy food to identified food deserts.	▪ Collaboration in the development of the LinkUS initiative which will develop multiple high volume transit corridors within the Columbus region. • Collaboration in the City of Columbus Climate Action Plan which has laid out increased ridership targets through 2050. ▪ Expand access to underserved individuals and communities. ▪ Establishing EDI, surrounded by COTAs four guiding principles, as the central characteristic of its strategic plan. ▪ Expand access to underserved communities through increased accessibility to critical destinations and affordability
Community Engagement					
	▪ Increase the number of students and faculty annually engaging in sustainability programs, events, clubs and initiatives. ▪ Increase engagement and collaboration with diverse populations on campus. Create Community sustainability solutions center. ▪ Partner with municipalities and organizations in implementing sustainability and climate action oriented practices		Transit-Oriented Communities. link development within a half mile of transit stations to their surrounding neighborhoods to create areas with access to multiple housing choices, jobs, parks, and open space, and infrastructure for bicyclists and pedestrians.		Increase participation and engagement of employee resource groups in implementation of the sustainability plan.

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	▪ Inform and support individuals and households in being sustainable. ▪ •Measure campus sustainability literacy and culture every three (3) years				
Diversity, Equity & Inclusion					
	▪ Create an investment strategy that aligns with WSUs sustainability goals. ▪ Support WSU EDI team to help create and implement programs that support underrepresented groups. ▪ Maintain sustainable working environment for all WSU employees. ▪ Achieve Sustainability Tracking Assessment and Rating System (STARS) gold certification by 2025 ▪ Help Northern Utah region stive for carbon neutrality by 2050. ▪ 11% diverse or underrepresented staff and faculty ▪ 77.98% full-time and part-time employees earning a living wage. ▪ 2.25 million in sustainable investments.	Meet or exceed workforce diversity goals for construction contractors•% of hours worked by diverse communities on ST job sites•Sound Transit's Project Labor Agreement contains the following workforce diversity goals for all of our Capital Construction projects: ▪ 21% of all construction hours worked should be worked by people of color. ▪ 12% of all construction hours worked should be worked by women. ▪ 20% of all construction hours should be worked by Washington State approved apprentices. ▪ 33% of all apprentice hours should be worked by women or people of color ▪ 50% of all first period apprentice hours should be worked by women or people of color ▪ Implement Workforce Initiative by partnering with new organizations to retention of apprentices in the region. ▪ Strategically invest $850,000 across Pierce, King, and Snohomish counties to address the upcoming workforce shortage. ▪ Partner with organizations across the region to ensure we are building and maintaining a necessary pipeline of apprentices. ▪ Expand our network and reach to ensure success by partnering with new organizations that are key partners in this work.		One of CapMetro's five sustainability goals is regarding Equity and Livable Communities. The agency seeks to leverage transit resources to enhance sustainability, connectivity, access to opportunities, and create livable places; especially in historically disinvested communities.	COTA's strategic plan placed EDI at the center of institutional decision-making as reflected in the strategic plan compass. ▪ COTA created a Chief Equity Officer and an EDI program. ▪ Engagement has been initiated through four Employee Resource Groups (ERGs). ▪ Engagement with external partners and entities to advance equity. ▪ Pursuing a public policy agenda at local, state, and federal levels that continue to support and advance equitable access to public transit. ▪ Disadvantaged Business Enterprise (DBE) program.

Denver	Weber State University	Sound Transit	Valley Transportation Authority	Austin, Texas CAP Metro	Greater Columbus and Central Ohio, COTA – Central Ohio Transit Authority
		▪ Implement an Equity and Inclusion Policy, Strategy and Steering Committee ▪ Through the new Office of Equity and Inclusion, develop and implement an agency-wide strategy on Equity and Inclusion. Charter a Steering Committee to guide policy and strategy development. ▪ Enhance compensation and performance management programs while continuing to recognize staff equity in pay practices and career pathing ▪ Continue to evaluate staff pay equity across gender, race, age and other demographics. Make meaningful changes to address any identified disparities in pay equity.			
Sustainability Engagement					
	▪ Increase the number of students who understand sustainability. ▪ Promote and support sustainability and research ▪ Provide high-impact educational experiences for students ▪ 3.7% of WSU students engage with sustainability-based clubs, events, and activities ▪ 52% of employees participate in the Green Department Certification Program. ▪ 3,000 pounds of waste was diverted from landfills because of sustainable clubs	Build staff awareness and capacity to integrate equity into all business lines ▪ % of staff trained in equity and inclusion ▪ Conduct trainings at various staff levels and across various topic areas to increase staff awareness to incorporate equity into all business lines. ▪ Certify key staff to green design and building management professional accreditations ▪ % of staff trained to sustainable professional accreditations ▪ Support key staff to receive training and accreditation to green building and sustainable infrastructure professional certifications such as ENVISION SP, LEED GA/NC/EBOM, Sustainable Sites			

Denver	Weber State University	Sound Transit	Valley Transportation Authority	Austin, Texas CAP Metro	Greater Columbus and Central Ohio, COTA – Central Ohio Transit Authority
		▪ Develop program for agency staff to research new sustainability solutions ▪ Identify and enable staff interested in developing independent research projects allowable time to conduct research. ▪ Establish agency 'green team' to deepen staff engagement on sustainability ▪ Recruit a "Green Team" from across the agency. Provide team with change management training and enable them to lead sustainability-focused staff events to increase participation in recycling, green design trainings, and other Sustainability events.			
Governance					
Environmental Compliance					
To be in compliance with the MS4 permit, RTD must implement programs under Six Minimum Control Measures to control pollutants in storm water. RTD has programs in place to ensure compliance in each of these areas. These six control measures are as follows: ▪ Public Education and Outreach ▪ Public Participation/Involvement ▪ Illicit Discharge Detection and Elimination ▪ Construction Site Storm Water Runoff Control ▪ Post-Construction Storm Water Management ▪ Pollution Prevention/Good Housekeeping for Municipal Operations	Stormwater Management Program	Goal: Achieve 100% environmental compliance (zero fineable violations) ▪ Metric: # of fineable environmental compliance violations ▪ Ensure that facilities and construction sites are within compliance for applicable environmental permits.	Stormwater Management Program ▪ Designing projects that incorporate stormwater features and onsite treatment measures, Continually educating VTA employees, contractors, and the general public on best management practices to reduce runoff ▪ Installing devices to capture trash before it enters receiving waters ▪ Organizing cleanup events in partnership with agencies ▪ Participating in regional efforts to collect trash data and reduce litter.		

Denver	Weber State University	Sound Transit	Valley Transportation Authority	Austin, Texas CAP Metro	Greater Columbus and Central Ohio, COTA – Central Ohio Transit Authority
			This Program has a goal of achieving 100% trash load reduction, or full trash capture equivalency by 2030. ▪ This goal will be achieved by installing Trash Full Capture Systems (FCS) and performing regular operations and maintenance activities at designated "hot spot" locations. Trash FCS include storm drain inlet inserts and multi-benefit treatment systems such as bioretention facilities and hydrodynamic separators. Operation and maintenance activities include inspection of facilities and landscaping, litter removal, cleaning out drain inlets, and general housekeeping ▪ Education and outreach efforts are continually underway to raise awareness about protecting our waterways. These include the posting of educational signs in work areas, annual staff trainings, new employee orientation, employee surveys, and a public-facing website with resources and tips to reduce stormwater runoff at home and in the community.		
Supply Chain Sustainability					
	Stormwater Management Program ▪ Designing projects that incorporate stormwater features and onsite treatment measures, Continually educating VTA employees, contractors, and the general public on best management practices to reduce runoff ▪ Installing devices to capture trash before it enters receiving waters	▪ Develop and implement an approach to financial analysis for material agency decisions that incorporates total life cycle costs, as well as social and environmental considerations where appropriate ▪ Create a methodology for agency staff to calculate total life cycle costs as well as guidance about what decisions warrant this analysis.			COTA sustainability goals include implementing green procurement and purchasing.

Denver	Weber State University	Sound Transit	Valley Transportation Authority	Austin, Texas CAP Metro	Greater Columbus and Central Ohio, COTA – Central Ohio Transit Authority
	▪ Organizing cleanup events in partnership with agencies ▪ Participating in regional efforts to collect trash data and reduce litter.	▪ Incorporate sustainability priorities into the agreements process. Include green methods or features in at least 75% of all new agency procurement. ▪ Incorporate sustainability priorities into the agreements process ▪ Include green methods or features in at least 75% of all new agency procurements ▪ Identify and incorporate sustainability into the process for agency agreements such as interlocal, intergovernmental and third-party agreements.			
Sustainability Governance					
	Create an investment strategy that aligns with WSUs sustainability goals. Financial reinvestment: Funds saved through energy efficiencies and other sustainable practices are reinvested into the university's green initiatives, including a $5 million revolving green fun dedicated to sustainability projects.	▪ Create affordable home ownership opportunities on surplus properties. ▪ Through TOD transactions, create opportunities for affordable homeownership alongside apartment rentals. ▪ Contribute to a revolving loan fund for affordable housing revolving loan fund ▪ •Contribute a total of $20 million over five years for tools and programs that advance affordable housing development around transit stations		Sustainability Valuation ▪ Develop a Sustainability Valuation framework based on anticipated projects and policies for evaluation, as well as data availability. ▪ Review existing sustainability valuation tools and develop tools for CapMetro projects and policies, which may include S-ROI or a multi-criteria decision-making approach that supports the integration of both qualitative and quantitative data in decision-making. Select projects to evaluate as a pilot program: ▪ Fleet transition alternatives, new facilities. ▪ Projects for potential funding through the Sustainability Action Fund. ▪ Integrate sustainability valuation methodology into the project selection and management process and, over time, as part of broader capital investment planning.	

Denver	Weber State University	Sound Transit	Valley Transportation Authority	Austin, Texas CAP Metro	Greater Columbus and Central Ohio, COTA – Central Ohio Transit Authority
Data Protection & Privacy					
		Establish a Safety Management System	Yes/no management system established		
Asset Management					
		▪ Establish a scalable Asset Management Program ▪ Implement an agency-wide Asset Management Program in alignment with ISO 55001 to ensure the agency provides safe, reliable, sustainable service for many years to come.			
Risk Management					
		Develop staff awareness of individual roles in emergency preparedness to increase agency resilience during critical and emergency events•Complete tri-county Threat Hazard Identification Risk Analysis and publish a Hazard Mitigation and Response Plan•Coordinate with all three counties to identify and rank possible hazards. ▪ Draft a plan to mitigate or respond to those identified issues and maintain ongoing awareness of issues to change or adapt as needed. ▪ Update the Climate Adaptation Strategy to reflect current scientific data and regional design standards ▪ Ensure that agency climate adaptation resources and design criteria reflect latest climate science and regional design standards that have been amended to reflect best available science.			

Denver	Weber State University	Sound Transit	Valley Transportation Authority	Austin, Texas CAP Metro	Greater Columbus and Central Ohio, COTA – Central Ohio Transit Authority
		▪ Conduct a Climate Change Vulnerability Assessment as part of each major system capital expansion project•Assess whether projected climate change impacts such as localized flooding should be incorporated into project alignment and design considerations ▪ Develop staff awareness of individual roles in emergency preparedness to increase agency resilience during critical and emergency events ▪ Coordinate with Communications unit to develop internal marketing plan to increase employee awareness of emergency management issues. Increase involvement in agency-wide events, and training opportunities to support employee awareness and knowledge.			
Technology & Innovation					
		▪ Conduct a pilot to allow design and construction contractors to propose and implement sustainability improvements ▪ The Sustainability Cost Allowance for capital projects will fund betterments to incentivize the creativity and expertise of construction contracts teams in achieving additional sustainability goals beyond what is included in the project requirements on major light rail expansion projects			

Denver	Weber State University	Sound Transit	Valley Transportation Authority	Austin, Texas CAP Metro	Greater Columbus and Central Ohio, COTA – Central Ohio Transit Authority
Environmental Management System					
		Sound Transit relies on a robust ISO 14001 Environmental and Sustainability Management System to control the environmental effects of our construction as we build the largest transit expansion in the country.		Establish an internal ESMS team and implement ISO 14001-certified ESMS system. ▪ Design all new facilities to support operational procedures to integrate best practices with environmental and sustainability management. Integrate environmental and sustainability best practices into all operational procedures. ▪ Adopted ESMS Policy and included ESMS requirements in service operations contracts. ▪ Established a utility and resource management database (Energy, Water, Waste, Fuel, GHG) to track metrics and establish key performance indicators. ▪ Implemented best practices for pollution prevention and resource conservation, such as recycling at administrative and maintenance facilities. ▪ Required LEED-compatible best practices and implementation of less toxic cleaning processes in custodial services contract. ▪ Lower operating and maintenance costs. Improved asset management. Safter cleaner and healthier workplace.	COTA plans to develop an environmental management system.

ESMS = Environmental and Social Management System

Appendix B.
Emission Factors and Global Warming Potentials

Appendix B. Emission Factors and Global Warming Potentials

Table B-1. Global Warming Potential

Greenhouse Gas	Global Warming Potential (Potential/Mass of Gas in Tons)
CO_2	1
CH_4	28
N_2O	265
R-134a (HFC-134a)	1,300
R-410A	1,924

Source:

EPA Center for Corporate Climate Leadership. Emission Factor Hub. Tables 11 and 12. Global Warming Potential (GWP). Last modified June 2024. https://www.epa.gov/climateleadership/ghg-emission-factors-hub.

The World Bank Group Greenhouse Gas Emissions Inventory Management Plan for Internal Business Operations 2020. https://documents1.worldbank.org/curated/en/099601406212237480/pdf/IDU1a33e626c104b3142cb1a4b6196e230b605c5.pdf?_gl=1*11az9yg*_gcl_au*MTY3Njc2OTk2Mi4xNzI1MDM1NDMz.

Table B-2. Electricity

Emission Factor Type	Emission Factors (kg/MWh)			
	CO_2	CH_4	N_2O	CO_{2e}
Location-based Method – Grid Average	273.1	0.025	0.004	274.7
Market-based Method – Utility-Specific				572.9
Market-based Method – Grid Average	296.6	0.025	0.004	298.2

Source:

EPA eGRID2022, January 2024 (Summary Tables - Table 1. Subregion Total Output Emission Rates). https://www.epa.gov/system/files/documents/2024-01/egrid2022_summary_tables.xlsx.

PacifiCorp 2022 Power Content Label: https://www.pacificpower.net/content/dam/pcorp/documents/en/pacificpower/rates-regulation/california/PP_CA_PCL_Bill_Insert_PAC-23052_FNL.pdf.

2023 Green-e® Residual Mix Emission Rates (2021 Data): https://www.green-e.org/2023-residual-mix.

Table B-3. Fuel Combustion

Energy Type	Emission Factors			Units
	CO_2	CH_4	N_2O	
Stationary Combustion				
Natural gas (Stationary Combustion)	53.06	0.001	0.0001	kg/MMBtu
Mobile Combustion				
Motor gasoline	8.78			kg/gallon

Energy Type	Emission Factors			Units
	CO_2	CH_4	N_2O	
Diesel	10.21			kg/gallon
CNG	0.05444			kg/gallon

Source:

EPA Center for Corporate Climate Leadership. Emission Factor Hub (Last Modified June 2024). https://www.epa.gov/climateleadership/ghg-emission-factors-hub.

Table B-4. Vehicle Miles Traveled

Energy Type	Model Year	Emission Factors		
		CH_4	N_2O	Units
Gasoline Light-Duty Vehicles	2015	0.009438	0.003126	grams/mile
Gasoline Heavy-Duty Vehicles	2015	0.033184	0.002105	grams/mile
Diesel Light-Duty Vehicles	2007-2021	0.029	0.0214	grams/mile
Diesel Medium and Heavy-Duty Vehicles	2007-2021	0.0095	0.0431	grams/mile
Diesel Locomotive	All	0.8	0.26	gram/gallon
CNG Bus	All	2.753	0.017	grams/mile

Source:

EPA Center for Corporate Climate Leadership. Emission Factor Hub (Last Modified June 2024). https://www.epa.gov/climateleadership/ghg-emission-factors-hub.

Table B-5. Fuel- and Energy-related Activities

Energy Type	Emissions Type	CO2 Emissions Value	Unit
Electricity	WTT emissions	66.80	g CO2e per kWh
Electricity	T&D losses	25.50	g CO_2e per kWh
Natural gas	WTT emissions	15.30	g CO2e per MJ
Diesel	WTT emissions	25.59	g CO2e per MJ
Gasoline	WTT emissions	26.88	g CO2e per MJ
CNG	WTT emissions	18.48	g CO2e per MJ

Source:

Electricity: IEA, Life Cycle Upstream Emission Factors (Pilot Edition), IEA, Paris https://www.iea.org/data-and-statistics/data-product/life-cycle-upstream-emission-factors-pilot-edition, License: Terms of Use for Non-CC Material.

Fuels: GREET® Model (Greenhouse gases, Regulated Emissions, and Energy use in Technologies), the Department of Energy's (DOE's) Argonne National Laboratory (Argonne), Fuel-cycle model 2023.

Table B-6. Supply Chain GHG Emissions Factor

Code and Description	Supply Chain GHG Emission Factor Name	NAICS Code	Emission Factor (kg CO2e/$1)
50496-60 Reorganization Remodel	Commercial and Institutional Building Construction	236220	0.206
50403-91 Antifreeze	All Other Miscellaneous Chemical Product and Preparation Manufacturing	325998	0.459
50411-91 Purchase Tires	Tire Manufacturing (except Retreading)	326211	0.253
50453-90 Shop Tools	Saw Blade and Handtool Manufacturing	332216	0.205
50455-90 Hardware	Hardware Manufacturing	332510	0.175
50455-91 Software	Software and Other Prerecorded Compact Disc, Tape, and Record Reproducing	334614	0.058
69500-0 Equipment	All Other Transportation Equipment Manufacturing	336999	0.179
50499-90 Supplies: Admin Office	Office Supplies (except Paper) Manufacturing	339940	0.243
50459-93 Products/Supplies	Other Professional Equipment and Supplies Merchant Wholesalers	423490	0.068
50942-92 Tangible Gifts	Gift, Novelty, and Souvenir Stores	453220	0.102
50420-90 Freight Charges	General Freight Trucking, Long-Distance, Truckload	484121	0.546
50498-90 Publications	All Other Publishers	511199	0.099
50945-91 Movie Tickets	Motion Picture Theaters (except Drive-Ins)	512131	0.048
50521-90 Utilities: Telephone	Wireless Telecommunications Carriers (except Satellite)	517312	0.088
50353-90 Contract Service: Bank Fees	Commercial Banking	522110	0.054
50353-99 Cost of Fare Collections	Financial Transactions Processing, Reserve, and Clearinghouse Activities	522320	0.066
50336-90 Services: Insurance	All Other Insurance Related Activities	524298	0.027

Code and Description	Supply Chain GHG Emission Factor Name	NAICS Code	Emission Factor (kg CO2e/$1)
50325-90 Services Agency Fees	Trusts, Estates, and Agency Accounts	525920	0.200
50353-97 External Legal Services	All Other Legal Services	541199	0.038
50981-90 Media Fees	Media Representatives	541840	0.078
50341-90 Temp Help	Temporary Help Services	561320	0.047
50945-92 Other	Professional Employer Organizations	561330	0.047
50361-61 Custodial Services	Janitorial Services	561720	0.196
50358-61 Contr. Maint: Landscaping	Landscaping Services	561730	0.196
50353-92 Other Contract Services	All Other Support Services	561990	0.117
50942-90 Holiday Celebrations	All Other Amusement and Recreation Industries	713990	0.216
50500-91 Food For Meetings	Food Service Contractors	722310	0.121
50921-92 Per Diem (travel meals)	Full-Service Restaurants	722511	0.178
99540-I Maint Labor - Indirect	Other Automotive Mechanical and Electrical Repair and Maintenance	811118	0.094
50353-96 Glass/Windshields	Automotive Glass Replacement Shops	811122	0.094
50421-24 Repair Parts:	All Other Automotive Repair and Maintenance	811198	0.094
50929-91 External Training at UTA	Professional Organizations	813920	0.117

Source: EPA Office of Research and Development (ORD), Supply Chain Greenhouse Gas Emission Factors v1.3 by NAICS-6.

Table B-7. Appendix C. Equipment Embodied Carbon

Supply Chain GHG Emission Factor Name	NAICS Code	Emission Factor (kg/2023 USD purchaser price)
Industrial Building Construction	236210	0.219
All Other Specialty Trade Contractors	238990	0.203
Software and Other Prerecorded Compact Disc, Tape, and Record Reproducing	334614	0.058
Mixed Mode Transit Systems	485111	0.519
Engineering Services	541330	0.094
Security Guards and Patrol Services	561612	0.068
General Automotive Repair	811111	0.094

Source: EPA ORD, Supply Chain Greenhouse Gas Emission Factors v1.3 by NAICS-6.

Table B-8. Waste Generated Emissions

Supply Chain GHG Emission Factor Name	NAICS Code	Emission Factor (kg CO_2e/$1)
Solid Waste Landfill	562212	0.91

Source: EPA Office of Research and Development (ORD), Supply Chain Greenhouse Gas Emission Factors v1.3 by NAICS-6.

Table B-9. Appendix C. Business Travel Emissions

Supply Chain GHG Emission Factor Name	NAICS Code	kgCO_2e/$1 2023 Purchaser Price
Scheduled Passenger Air Transportation	481111	0.591
Hotels (except Casino Hotels) and Motels	721110	0.133

Source: EPA ORD, Supply Chain Greenhouse Gas Emission Factors v1.3 by NAICS-6.

Appendix C.
Waste Assessment Site Visits Photo Log

Appendix C. Waste Assessment Site Visits Photo Log

Photograph 1: Recycling at Building 8

Taken by: Veronika Vazhnik *Date taken: May 20, 2024*

Photograph 2: Example of Collection of Recyclables

Taken by: Veronika Vazhnik *Date taken: May 20, 2024*

Photograph 3: Example of Mixed Metal Collection Bins

Taken by: Veronika Vazhnik *Date taken: May 20, 2024*

Photograph 4: Used Oil Is Recycled to Heat the Building

Taken by: Veronika Vazhnik *Date taken: May 20, 2024*

Photograph 5: Example of Mixed Metal Recycling at Garage

Taken by: Veronika Vazhnik *Date taken: May 20, 2024*

Appendix D.
Methodology and Assumptions for Visual Waste Assessment

Appendix D. Methodology and Assumptions for Visual Waste Assessment

D.1 Objectives

- Gain information on waste practices to assist in establishing baseline levels for future assessment
- Identify opportunities for improvement (actionable steps)

D.2 Approach

- Conduct visual waste assessment at two locations within UTA (Mobility Center and Meadowbrook) to observe/characterize:
  - Material currently being sent to landfill (black bin)
  - Material placed in recycling bins (blue bin)
- Visual assessment to be conducted as close to pick up as possible (ideally the day before) to provide complete picture of quantity and type of material in bins
- Meet with UTA staff/stakeholders to discuss waste management practices
- Review previous site information received before being on site
- Report on findings
  - Note instances of items placed in incorrect bin
  - Present photo observations
  - Present actionable next steps

D.3 Assumptions

- Two Jacobs staff conduct assessment
- Full site assessment (outside and inside) conducted over 2 days
  - Travel over 3 days/2 nights (each traveling staff: airfare, rental car, hotel (2 nights), meals, transport to airport and parking (or per diem mileage + time)
  - Information on approximate number of bins provided prior to visit
  - 30 to 50 bins visually inspected
  - Communication with hauler was done ahead of time to ensure activity during site visit

Table D-1. Detailed Bin Log – Mobility Center and Roadhouse

Site: Mobility Center & Roadhouse (Dec 9, 2024)

Bin #	Bin Location	Bin Size	% Filled	Additional Observations
1	Facility management, break area	60-gal, plastic	10	
2	Facility management	15-gal, plastic	1	
3	Facility management	60-gal, plastic	5	
4	Facility management	60-gal, plastic	80	
5	Facility management	70-gal, plastic	40	

Bin #	Bin Location	Bin Size	% Filled	Additional Observations
6	Facility management, shop/parts	60-gal, plastic	50	Cardboard box, paper
7	Facility management, shop/parts	N/A		
8	Outdoor canopy (auction side)	N/A		
9	Road crew hut	60-gal, plastic	10	Paper, cardboard
10	Road crew hut	30-gal, metal	50	Collected from woodworking
11	Road crew hut	60-gal, plastic	10	Lunch trash, precut packages
12	Facility crew hut (middle of 3)	60-gal, plastic	30	
13	Facility crew hut (3 of 3)	60-gal, plastic	100	Cardboard
14	Facility crew hut (3 of 3)	60-gal, plastic	30	
15	Mobility Center Shop	60-gal, plastic	30	
16	Mobility Center Shop	60-gal, plastic	70	Cardboard, cans, lunch trash, paper
17	Mobility Center Shop	10-gal, plastic	100	Cans, lunch trash
18	Mobility center office area/break room	5-gal, plastic, x2	0	
19	Mobility center office area/break room	60-gal, plastic, x2	0; 10	Cardboard
20	Mobility center office area/break room	60-gal, plastic	20	Paper, cardboard
21	Mobility center office area/break room	100-gal, plastic	60	Paper, cardboard
22	Misc. office areas	5-gal; 15-gal, plastic		Misc. daily trash
23	Facility management parking lot	30-yd^3 roll-off	100	Bldg. materials, bagged trash
24	Facility management parking lot	4-yd^3	20	Mixed trash with recyclables

N/A = Not available

Table D-2. Detailed bin log – Meadowbrook

Site: Meadowbrook (Dec 9-10, 2024)

Bin #	Bin Location	Bin Size & Type	Material Type (Intended)	% Filled	Additional Observations	Collection Frequency
1	NW corner	6 yd	trash	10	Regular, mixed trash	
2	NE of building 8	4 yd	trash	0		
3	East of building 8	6 yd	trash	90	Construction debris, lunch, misc. trash, cardboard, glass	
4	East of building 8	8-10 yd; 3 bins	Metal only	30, 70, 90	Rims, scrap metal, pipes, metal bike locker	

Bin #	Bin Location	Bin Size & Type	Material Type (Intended)	% Filled	Additional Observations	Collection Frequency
5	East of building 8	30 yd	Trash	10	Cardboard, mixed trash bags	
6	Shipping/ receiving	6 yd	Trash	20	Cardboard, mixed trash bags	
7	NE of building 5	30 yd	Trash	15	Trash bags	
8	East of building 8	6 yd	Trash	20	Cardboard, mixed trash bags, foam, lights	
9	East of building 5	6 yd	Trash	50	Cardboard, mixed trash bags, foam, lights	
10	N of building 5	4-6 yd	Metal only	100	Metal scrap, gas cannisters	
11	S of building 4	6 yd, x2	Trash	80; 0	Passenger trash, bins next to bus wash station	
12	S of building 4	55-gal, x3	Trash	50; 0; 0	Passenger trash, bins next to bus wash station	
13	S of building 4, along fence line	4 yd	Recycling	15	Cardboard, trash bag	
14	SE of building 3	6 yd	Trash	70	Mixed trash bags	
15	W of office building	4 yd	Recycling	90	Inaccessible, visual assessment; only cardboard visible	
16	Bus canopies	60-gal, x20	Trash	0-80	Passenger trash from buses	
17	S of bus schedule building	6 yd	Trash	50	Mixed trash bags	
18	S of bus schedule building	4 yd	Recycling	80	Cardboard, paper, wood, trash bag	
19	Inside of bus sched building, building 7	60-gal	Recycling	30	Paper, plastic bottles, but did have trash bag liner	

Bin #	Bin Location	Bin Size & Type	Material Type (Intended)	% Filled	Additional Observations	Collection Frequency
20	Building 1 - break room	2x 20-gal	Trash	20		
21	Building 1 - univ	50-gal	Trash	0		Daily (M-F)
22	Building 1 - customer service	5-gal	Paper recycling	1	Paper only	
23	Building 1 - customer service	20-gal x5		90	Recyclables but not marked; grey bin and blue lid - seemingly for recycling	
24	Building 1 - break room	50-gal x3	Trash	1		Daily (M-F)
25	Building 1 - rideshare	5-gal	Recycling	5	Paper	
26	Building 1 - rideshare	50-gal	Trash	20		Daily (M-F)
27	Building 1 - hallway/mail	5-gal	Recycling	0		
28	Building 1 - hallway/mail	20-gal	Recycling	80	Paper, cardboard cans	
29	Building 1 - break, courtyard	3-segregated (one lid)	Paper/aluminum/plastic	50	Trash, boxes, electrical cords	
30	Building 1 - printer rm	20-gal	Recycling	70	Not labeled, but grey plastic with blue lid	
31	Building 1 - bus training	50-gal	Recycling	10	Paper	
32	Outside of Building 1	50-gal	Trash	50		
33	Building 3 - bus maintenance	50-gal x2	Trash	50; 80	Lunch trash, nitrile gloves for mechanics, paper	
34	Building 3 - bus maintenance	100-gal	Metal only	100	Metal scrap	

Bin #	Bin Location	Bin Size & Type	Material Type (Intended)	% Filled	Additional Observations	Collection Frequency
35	Building 3 - bus maintenance	50-gal	Cardboard	100	Overflowing	
36	Building 3 - bus maintenance	96-gal x3	Recycling	40; 50; 90	Cans, collected and recycled by employees for slush fund	
37	Building 3 - parts area	96-gal x2	Recycling	50; 70	Cans, collected and recycled by employees for slush fund	
38	Building 3 - garage	96-gal	Recycling	50	General recycling materials	
39	Building 4 - bus cleaning	50-gal x2		90	Mixed trash, cans	
40	Building 4 - bus cleaning	50-gal x2		10	Mixed trash	
41	Building 4 - bus cleaning	50-gal x2	Recycling	40; 10	Paper	
42	Building 5	50-gal x4	Trash	100	Paper, lunch, salt bags	
43	Building 8 - break room	50-gal	Recycling	90		
44	Building 7	20-gal		unknown; could not access	Grey with blue lid, not labeled; unclear what waste is intended	

Appendix E.
UTA Grants Funding Matrix

Appendix E. UTA Grants Funding Matrix

Table E-1. Funding Agency - UDOT

Program Name	Safe Routes to School Program	Transportation Alternatives Program (TA) - Region Two	Joint Highway Committee Funding
Description	Provides funding for infrastructure improvements and educational programs to promote safe walking and bicycling to and from schools. Focuses on improving safety in school zones.	Provides funding for projects that improve non-driver access to public transportation and enhance mobility, including pedestrian and bicycle facilities. Focuses on safety and connectivity.	The Utah Joint Highway Committee administers several types of federal funds for transportation projects in rural and small urban areas. For the current fiscal year, the total available funding includes: ▪ STP Non-urban Funds: For areas with populations less than 5,000, programmed through 2026. ▪ TAP Small Urban Funds: For areas with populations between 5,000 and 50,000, programmed through 2025. ▪ TAP Non-urban Funds: For areas with populations less than 5,000, programmed through 2025. ▪ State Park Access Funds: For facilities accessing state parks, programmed through 2026. ▪ Off-system Bridge Funds: For bridges on local/rural minor collector roads, programmed through 2025. ▪ The exact total funding amount can vary each year based on federal allocations and state contributions.
Total Available Funding (Annual)	Varies annually	$19,067,820 (as of June 2023)	▪ STP Non-urban Funds: $50 million ▪ TAP Small Urban Funds: $7 million ▪ TAP Non-urban Funds: $11.5 million ▪ State Park Access Funds: $3 million ▪ Off-system Bridge Funds: $19 million
Minimum and Maximum Award	▪ Infrastructure Projects: $50,000 up to $1.5 million ▪ Non-infrastructure Projects: No minimum	Up to $150,000 (Region Two contribution)	▪ STP Non-urban Funds: $5,000 to $2 million (approx.) ▪ TAP Small Urban Funds: $400,000 to $1.5 million (approx.) ▪ TAP Non-urban Funds: $300,000 to $2.7 million (approx.) ▪ State Park Access Funds: $250,000 to $1 million (approx.) ▪ Off-system Bridge Funds: $1 million to $4 million (approx.)
% Cost Share	20% local	60% UDOT, 40% local	▪ STP Non-urban Funds: 6.77% ▪ TAP Small Urban Funds: 20% ▪ TAP Non-urban Funds: 20% ▪ State Park Access Funds: 50% ▪ Off-system Bridge Funds: 20%
Estimated Number of Awards	10 to 15	10 to 15	▪ STP Non-urban Funds: 28 (approx.) ▪ TAP Small Urban Funds: 4 (approx.) ▪ TAP Non-urban Funds: 9 (approx.) ▪ State Park Access Funds: 4 (approx.) ▪ Off-system Bridge Funds: 4 (approx.)

Program Name	Safe Routes to School Program	Transportation Alternatives Program (TA) - Region Two	Joint Highway Committee Funding
Eligible Applicants	Local government agencies (for example, cities, counties), school districts, nonprofit organizations that partner with local agencies or schools	Local municipalities, regional transportation authorities, transit agencies, natural resource or public land agencies, school districts, tribal governments	Counties, cities, towns, regional transportation authorities, transit agencies, natural resource or public land agencies, school districts, tribal governments
Eligible Projects	Both non-infrastructure (education and encouragement programs), and infrastructure (physical improvements – primarily new sidewalks, but also school pavement markings, signage, bicycle parking, etc.) type projects.	▪ Bike Facilities: Both on-road and off-road bike paths ▪ Trails: Multi-use trails for pedestrians, cyclists, and other non-motorized users ▪ Sidewalks: Sidewalk projects that are off-state routes ▪ Vehicle-caused Wildlife Mortality Reductions: Projects aimed at reducing wildlife-vehicle collisions ▪ Safe Routes to School: Projects that improve safety and accessibility for children walking or biking to school ▪ Other Qualifying Transportation Alternative Projects: Various other projects that enhance transportation alternatives	▪ Transportation Facilities ▪ Road Improvements ▪ Bridges ▪ Pedestrian and Bicycle Facilities ▪ Other Transportation Infrastructure ▪ State Park Access
NOFO Announcement	November 2025 (est.)	December 2024 (est.)	Fall 2025 (est.)
Expected Submission Deadline	December 2025 (est.)	January 2025 (est.)	January 2026 (est.)
Expected Award Announcement	February 2026 (est.)	July 2025 (est.)	Spring 2026 (est.)
Period of Performance (maximum)	24 months	24 months	36 months
Benefit-Cost Analysis or Other Special Requirements	No.	No.	No.
Program Weblink	https://www.udot.utah.gov/connect/business/public-entities/safe-routes-to-school-srts-program/	https://www.udot.utah.gov/connect/business/public-entities/r2-funding-opportunities/	https://www.udot.utah.gov/connect/business/public-entities/local-government-program-assistance/
Partnership Opportunity	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.	UTA may be a lead applicant or a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.	UTA may be a lead applicant or a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.
Past UTA Awards	None	▪ FY2018 CMAQ/STBG/TAP- SLC TRAX Crosswalk Project ($186,460 award) ▪ FY2023 CMAQ/STBG/TAP UTA Onboard Tech Transit Management System UZA SLC ($1,000,000 award) ▪ FY2023 MAG/TAP Historic Utah Southern Railroad Trail Feasibility Study ($279,690 award) ▪ PROG2022/APP2019&2021 CMAQ/TAP/STP Flex Funds--Capital, TIGER Ped Bridge Projects ($4,898,959 award)	None
UTA Applications Not Selected	None	▪ PRO2024/APP2022 CMAQ/STBG/TAP- Active Transportation Study POM SL/WV ▪ FY2022 CMAQ/STBG/TAP-Mt. Ogden Facility Expansion	None
Submitted Waiting for Results	None	None	None

Acronyms applicable to Table E-1 through Table E-8.
AI = artificial intelligence
BCA = benefit-cost analysis
BIL = Bipartisan Infrastructure Law
BRT = bus rapid transit
BTO = Building Technologies Office
CARB = California Air Resources Board
CEDS = Comprehensive Economic Development Strategies
CMAQ = Congestion Mitigation and Air Quality
CNG = compressed natural gas

CRISI = Consolidated Rail Infrastructure and Safety Improvements
DEQ = Department of Environmental Quality
DoD = Department of Defense
DOE = Department of Energy
EAA = Economic Adjustment Assistance
EDA = U.S. Economic Development Administration
EPA = U.S. Environmental Protection Agency
EV = electric vehicle
FD = final design
FEMA = Federal Emergency Management Agency
FHWA = Federal Highway Administration
FOA = Funding Opportunity Announcement
FRA = Federal Railroad Administration
FTA = Federal Transit Administration
FY = fiscal year
GWP = global warming potential
ICAM = Innovative Coordinated Access and Mobility
ITS = Intelligent Transportation Systems
LRV = light rail vehicle
MAG = Mountainland Association of Governments
MPO = Metropolitan Planning Organization
MRF = material recovery facilities
N/A = not applicable
NCMM = National Center for Mobility Management
NEPA = National Environmental Policy Act
NOFO = Notice of Funding Opportunity
NO_x = nitrous oxides
O/L = Ogden / Layton
POM = polycyclic organic matter
RAISE = Rebuilding American Infrastructure with Sustainability and Equity
RLF = revolving loan funds
SL/WV = Salt Lake / West Valley
SLC = Salt Lake City (or County)
SMART = Strengthening Mobility and Revolutionizing Transportation
STBG = Surface Transportation Block Grant
STP = Surface Transportation Program
TAP = Transportation Alternatives Program
TCP = Thriving Communities Program
TIFIA = Transportation Infrastructure Finance and Innovation Act
TIGER = Transportation Investment Generating Economic Recovery
TIP = Transportation Improvement Program
TOD = transit-oriented development
TTEC = Transit Technical Education Center
UDOT = Utah Department of Transportation
USDOT = U.S. Department of Transportation
UTA = Utah Transit Authority
UZA = urbanized area

Table E-2. Funding Agency - USDOT

Program Name	Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program	BUILD (formerly RAISE) Grant Program	Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program	Thriving Communities Program (TCP)	Transportation Infrastructure Finance and Innovation Act (TIFIA)
Description	Funds projects to improve the resilience of and reduce damage and disruption to the surface transportation system, including highways, public transportation, ports, and intercity passenger rail, as well as improve the safety of the traveling public and equity by addressing the needs of disadvantaged populations that are often the most vulnerable to hazards. Projects should support the continued operation or rapid recovery of crucial local, regional, or national surface transportation facilities.	Provides grants for surface transportation infrastructure projects with significant local or regional impact. Focuses on improving safety, environmental sustainability, quality of life, and economic competitiveness.	Provides grants to eligible public sector agencies to conduct demonstration projects focused on advanced smart community technologies and systems. Aims to improve transportation efficiency and safety.	The USDOT TCP provides technical assistance, planning, and capacity-building support to disadvantaged communities adversely affected by environmental, climate, and human health policy outcomes. The program aims to help these communities compete for federal aid and deliver quality infrastructure projects that enhance mobility, reduce pollution, and expand affordable transportation options.	TIFIA can be used to leverage limited Federal resources and stimulate capital market investment in transportation infrastructure by providing credit assistance in the form of direct loans, loan guarantees, and standby lines of credit (rather than grants) to projects of national or regional significance.
Total Available Funding (Annual)	TBD	$1.5 billion annually	$100 million annually (Stage 2)	$25 million	Up to $1.435 billion in capital over five years
Minimum and Maximum Award	▪ Project Size: Planning grants - Min: $125,000 / Capital grants - Min: $625,000 ▪ Award Size: Planning grants - Min: $100,000 / Max: None; Capital grants - Min: $500,000 / Max: None	▪ Minimum Award: $5 million for projects in urban areas and $1 million for projects in rural areas ▪ Maximum Award: $25 million per project.	▪ Stage 1: up to $2 million ▪ Stage 2: up to $15 million	▪ Minimum Award: $5 million ▪ Maximum Award: $8 million	Minimum: $50 million (or $10 million for rural infrastructure projects)
% Cost Share	20% non-federal with discounts if projects are included in a resilience improvement plan	Urban areas: 20% Rural areas: Not required	Not required	Covers up to 100% through a monthly reimbursement model	Credit assistance limited to 33% of reasonably anticipated eligible project costs (unless the sponsor provides a compelling justification for up to 49%, the project meets certain rural, transit or transit-oriented development eligibility or is part of the Rural/INFRA/Mega grant Extra programs)

Program Name	Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program	BUILD (formerly RAISE) Grant Program	Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program	Thriving Communities Program (TCP)	Transportation Infrastructure Finance and Innovation Act (TIFIA)
Estimated Number of Awards		148 projects in FY2024	50 to 90	64 in Round 1; 112 in Round 2	Varies; typically 75 to 100 per year
Eligible Applicants	States, MPOs, Local governments, special purpose districts or public authorities with a transportation function, Tribal governments, and federal land management agencies	States, local governments, tribes, transit agencies, port authorities	Public sector agencies	Local, state, or tribal governments, including pueblos or villages; U.S. territories; MPOs, transit agencies; other political subdivisions of state or local governments; nonprofit organizations, philanthropic entities; other technical assistance providers, such as private firms and academic institutions	State governments, state infrastructure banks, private firms, special authorities, local governments, transportation improvement districts
Eligible Projects	There are a variety of activities aimed at enhancing the resilience of surface transportation infrastructure. ▪ Resilience Planning: Projects that involve planning activities to improve the resilience of transportation systems ▪ Resilience Improvements: Enhancements to existing infrastructure to make it more resilient to natural hazards such as sea level rise, flooding, wildfires, and extreme weather events. ▪ Community Resilience and Evacuation Routes: Projects that strengthen and protect evacuation routes and improve community resilience to natural disasters. ▪ At-Risk Coastal Infrastructure: Projects specifically aimed at protecting coastal infrastructure that is vulnerable to natural hazards. ▪ Technology Demonstrations and Deployment: Initiatives that demonstrate and deploy new technologies to improve transportation resilience. ▪ Operations and Maintenance: Activities that ensure the continued resilience and functionality of transportation systems.	▪ Highway, Bridge, and Road Projects: Improvements to highways, bridges, and other road infrastructure ▪ Public Transportation Projects: Enhancements to public transit systems ▪ Passenger and Freight Rail Projects: Investments in rail infrastructure for both passenger and freight services ▪ Port Infrastructure Investments: Upgrades and expansions of port facilities ▪ Intermodal Projects: Projects that integrate multiple modes of transportation ▪ Surface Transportation Projects on Tribal Land: Infrastructure projects on tribal lands	Demonstration projects for smart community technologies. Must demonstrate at least one of the following technology areas: ▪ Coordinated Automation: Projects that integrate automated transportation systems. ▪ Connected Vehicles: Initiatives that enhance vehicle-to-everything communication ▪ Sensors: Deployment of advanced sensor technologies for transportation ▪ Systems Integration: Projects that improve the integration of various transportation systems ▪ Delivery/Logistics: Innovations in transportation logistics and delivery systems ▪ Innovative Aviation: Projects involving new aviation technologies ▪ Smart Grid: Integration of smart grid technologies with transportation systems	Projects that focus on: ▪ Transportation and community revitalization: Projects that enhance mobility, reduce pollution, and expand affordable transportation options ▪ Infrastructure improvements: Initiatives that address critical infrastructure needs in disadvantaged communities ▪ Environmental and climate resilience: Projects aimed at mitigating environmental impacts and improving climate resilience ▪ Human health and safety: Efforts to improve public health and safety through better transportation infrastructure	▪ Highways and Bridges ▪ ITS ▪ Intermodal Connectors ▪ Transit Vehicles and Facilities ▪ Intercity Buses and Facilities ▪ Freight Transfer Facilities ▪ Pedestrian Bicycle Infrastructure Networks ▪ TOD ▪ Rural Infrastructure Projects ▪ Passenger Rail Vehicles and Facilities ▪ Surface Transportation Elements of Port Projects ▪ Airports
NOFO Announcement	October 25, 2024	November 1, 2024	Summer 2025 (est.)	TBD	Rolling application process - Applicants must submit detailed letters of interest when a

Program Name	Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program	BUILD (formerly RAISE) Grant Program	Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program	Thriving Communities Program (TCP)	Transportation Infrastructure Finance and Innovation Act (TIFIA)
Expected Submission Deadline	Funding opportunity has been paused and NOFO archived; new deadline TBD	January 30, 2025	August 2025 (est.)	TBD	project is able to provide sufficient information to satisfy statutory eligibility requirements, such as creditworthiness and readiness to proceed; after invitation from the TIFIA Joint Program Office, a formal application is required.
Expected Award Announcement	TBD	6/1/2025	March 2026 (est.)	TBD	
Period of Performance (maximum)	Varies depending on funding source	For FY26 funds, obligation deadline will be 2030 and expenditure deadline will be 2035 (5+ years period of performance depending on obligation date)	Stage 2: 36 months	36 months	TIFIA loans have a maximum term of 35 years from substantial completion; the project itself, including construction and any necessary ramp-up periods, should be completed within this timeframe
Benefit-Cost Analysis or Other Special Requirements	BCA required with some exceptions for projects included in resilience improvement plans.	BCA required except for planning grants	None		Minimum Anticipated Project Costs - $10 million for TOD, local, and rural Projects - $15 million for ITS Projects - $50 million for all other eligible Surface Transportation Projects ▪ Investment Grade Rating - Senior debt and TIFIA loan must receive investment grade ratings from at least two nationally recognized credit rating agencies (only one rating required if less than $75 million) ▪ Dedicated Repayment Source - The project must have a dedicated revenue source pledged to secure both the TIFIA and senior debt financing ▪ Applicable Federal Requirements - Including, but not limited to, Civil Rights, NEPA, Uniform Relocation, Buy America, Titles 23 and 49
Program Weblink	https://www.transportation.gov/rural/grant-toolkit/promoting-resilient-operations-transformative-efficient-and-cost-saving	https://www.transportation.gov/RAISEgrants	https://www.transportation.gov/grants/SMART	https://www.transportation.gov/grants/thriving-communities/information-for-technical-assistance-seekers	https://www.transportation.gov/buildamerica/financing/tifia/tifia-credit-program-overview
Partnership Opportunity	UTA may apply as an applicant or sub-applicant.	Depending on the ownership of the land or facilities in question, UTA may choose to apply in partnership with another entity either as a lead or sub-applicant.	UTA is not eligible (only applicants who won a Stage I grant are eligible)	Depending on the ownership of the land or facilities in question, UTA may choose to apply in partnership with another entity either as a lead or sub-applicant.	Foster partnerships that attract public and private investment for the project.

Program Name	Promoting Resilient Operations for Transformative, Efficient, and Cost-Saving Transportation (PROTECT) Program	BUILD (formerly RAISE) Grant Program	Strengthening Mobility and Revolutionizing Transportation (SMART) Grants Program	Thriving Communities Program (TCP)	Transportation Infrastructure Finance and Innovation Act (TIFIA)
Past UTA Awards		FY2021 RAISE Techlink Corridor Study ($950,000 award)	None	None	None
UTA Applications Not Selected		▪ FY2021 UDOT RAISE 5600 W West Side Express ▪ FY2022 UDOT RAISE 5600 W West Side Express	▪ Improving Transit Performance and Safety in Utah ▪ FY2023 SMART AI Assisted Rail Inspection - Stage One	None	None
Submitted Waiting for Results		None	None	None	None

Note:

Gray = Grants are likely to not be available in the next 5 years

Table E-3. Funding Agencies – USDOT FRA and USDOT FTA

Program Name	USDOT FRA	USDOT FTA		
	Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program	Buses and Bus Facilities Competitive Program	Capital Investment Grants Program New Starts, Small Starts and Core Capacity Improvements	Low- or No-Emission Grant Program
Description	This program provides funding for projects that improve the safety, efficiency, and reliability of intercity passenger and freight rail. Applications should fall under one of the following tracks: ▪ Track 1—Systems Planning and Project Planning ▪ Track 2—Project Development ▪ Track 3—FD/Construction ▪ Track 4—Research, Workforce Development, Safety Programs and Institutes (Non-railroad Infrastructure) ▪ Track 5—Deployment of Magnetic Levitation Transportation Projects	Provides funding to replace, rehabilitate, and purchase buses and related equipment, and to construct bus-related facilities. Supports projects that improve bus transit systems.	▪ This FTA discretionary grant program funds transit capital investments, including heavy rail, commuter rail, light rail, streetcars, and bus rapid transit. Federal transit law requires transit agencies seeking CIG funding to complete a series of steps over several years. For New Starts and Core Capacity projects, the law requires completion of two phases in advance of receipt of a construction grant agreement: Project Development and Engineering. ▪ For Small Starts projects, the law requires completion of one phase in advance of receipt of a construction grant agreement: Project Development.	Provides funding for the purchase or lease of zero-emission and low-emission transit buses and supporting facilities. Aims to reduce air pollution.
Total Available Funding (Annual)	$2.5 billion (FY2023 to 2024)	$469 million (approximately)	$3 billion+	$1.5 billion

Program Name	USDOT FRA	USDOT FTA		
	Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program	Buses and Bus Facilities Competitive Program	Capital Investment Grants Program New Starts, Small Starts and Core Capacity Improvements	Low- or No-Emission Grant Program
Minimum and Maximum Award	$1 million to $100 million (approx.)	Minimum: $250,000 Maximum: $25 million	Small Starts: Projects with a total estimated cost of less than $400 million and seeking CIG funding of less than $150 million New Starts: Projects with a total estimated cost of $400 million or more, or seeking CIG funding of $150 million or more Core Capacity: Projects that improve capacity by at least 10% in existing fixed guideway systems	▪ Minimum: None ▪ Maximum Award: No single grant recipient will be awarded more than 10% of the total amount made available for the program
% Cost Share	20%	80% federal, 20% local	Maximum federal share: ▪ New Starts: 60% ▪ Small Starts and Core Capacity projects: 80%	85% for buses, 90% for facilities
Estimated Number of Awards	45 to 70 (122 in FY2203 to 2024)	117 projects in FY2024	FTA has signed 120 Full Funding Grant Agreements for New Starts projects and 20 grant agreements for Small Starts projects.	100 (est.)

Program Name	USDOT FRA	USDOT FTA		
	Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program	Buses and Bus Facilities Competitive Program	Capital Investment Grants Program New Starts, Small Starts and Core Capacity Improvements	Low- or No-Emission Grant Program
Eligible Applicants	▪ State ▪ Group of states ▪ Interstate Compact ▪ Public agency or publicly chartered authority established by one or more states ▪ Political subdivision of a state ▪ Amtrak or another rail carrier that provides intercity rail passenger transportation ▪ Class II railroad or Class III railroad or a holding company of a Class II or Class III railroad, or an association representing a Class II or III railroad ▪ Federally recognized tribe ▪ Any rail carrier or rail equipment manufacturer in partnership with at least one of the entities described in (1) through (5) ▪ Transportation Research Board together with any entity with which it contracts in the development of rail-related research, including cooperative research programs ▪ University transportation center engaged in rail-related research ▪ Nonprofit labor organization representing a class or craft of employees of rail carriers or rail carrier contractors	States, local governments, transit agencies, tribes	State and local governments, public transportation agencies, other public entities with the authority to carry out transit projects	State and local governmental authorities, tribes

Program Name	USDOT FRA	USDOT FTA		
	Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program	**Buses and Bus Facilities Competitive Program**	**Capital Investment Grants Program** **New Starts, Small Starts and Core Capacity Improvements**	**Low- or No-Emission Grant Program**
Eligible Projects	Projects eligible for funding under this grant program include, but are not limited to, the following: ▪ Deployment of railroad safety technology ▪ Capital projects for intercity passenger rail service ▪ Capital projects that address congestion challenges affecting rail service, reduce congestion and facilitate ridership growth along heavily traveled rail corridors, or improve short-line or regional railroad infrastructure ▪ Highway-rail grade crossing improvement projects ▪ Rail line relocation and improvement projects ▪ Regional rail and corridor service development plans and environmental analyses ▪ Any project necessary to enhance multimodal connections or facilitate service integration between rail service and other modes ▪ Development and implementation of a safety program or institute ▪ Development and implementation of measures to prevent trespassing ▪ Any research that the Secretary considers necessary to advance any particular aspect of rail-related capital, operations, or safety improvements ▪ Workforce development and training activities, coordinated to the extent practicable with the existing local training programs supported by the USDOT, the Department of Labor, and the Department of Education ▪ Research, development, and testing to advance and facilitate innovative rail projects ▪ Preparation of emergency plans for communities where hazardous materials are transported by rail ▪ Rehabilitating, remanufacturing, procuring or overhauling locomotives for emissions reduction ▪ Deployment of Magnetic Levitation Transportation Projects	Capital projects for buses and bus facilities; eligible project types include the following: ▪ Replacing, rehabilitating, purchasing, or leasing buses, vans, and related equipment ▪ Constructing, rehabilitating, purchasing, or leasing bus-related facilities ▪ Technological changes or innovations to modify low- or no-emission vehicles or facilities ▪ Workforce development and training activities related to zero-emission vehicles	▪ New Starts: These are projects that involve the construction of new fixed guideway systems or extensions to existing systems. Examples include heavy rail, commuter rail, light rail, streetcars, and bus rapid transit systems that operate on a dedicated right-of-way ▪ Small Starts: These projects are smaller in scale and involve the construction of new fixed guideway systems or extensions, as well as corridor-based bus rapid transit projects that operate in mixed traffic but represent a substantial investment in the corridor ▪ Core Capacity: These projects aim to increase the capacity of existing fixed guideway systems by at least 10%. They are designed for corridors that are currently at capacity or will be within the next 10 years	Purchase or lease of low- or no-emission buses, construction or leasing of supporting facilities

Program Name	USDOT FRA	USDOT FTA		
	Consolidated Rail Infrastructure and Safety Improvements (CRISI) Program	Buses and Bus Facilities Competitive Program	Capital Investment Grants Program New Starts, Small Starts and Core Capacity Improvements	Low- or No-Emission Grant Program
NOFO Announcement	March 2025 (est.)	February 2025 (est.)	Often in the first quarter of the year	January 2025 (est.)
Expected Submission Deadline	May 2025 (est.)	April 2025 (est.)	July (est.)	April 2025 (est.)
Expected Award Announcement	October 2025 (est.)	July 2025 (est.)	October (est.)	July 2025 (est.)
Period of Performance (maximum)	60 months	Up to 36 months	Varies; typically 5 to 10 years for larger projects	36 months
Benefit-Cost Analysis or Other Special Requirements	BCA.	No BCA is required	Financial plan, analysis of VMT reduction	BCA not required. GHG emissions calculations required; FTA provides a worksheet to calculate this based on inputs such as age of vehicles being replaced.
Program Weblink	https://railroads.dot.gov/grants-loans/consolidated-rail-infrastructure-and-safety-improvements-crisi-program	https://www.transit.dot.gov/bus-program	https://www.transit.dot.gov/CIG	https://www.transit.dot.gov/lowno
Partnership Opportunity	Depending on the ownership of the land or facilities in question, UTA may choose to apply in partnership with another entity either as a lead or sub-applicant.	UTA may be eligible to apply without a partnership.	Depending on the ownership of the land or facilities in question, UTA may choose to apply in partnership with another entity either as a lead or sub-applicant.	UTA may be eligible to apply without a partnership.
Past UTA Awards	None	FY2014 5339 Bus and Bus Facilities Formula ($3,066,157)	▪ FY2023 MidValley Connector BRT Small Starts (CIG) ($10,168,250) ▪ UTA Provo-Orem Bus Rapid Transit - Small Starts ($70,981,999)	▪ FY2021 - 5339(c) – Low- and No-Emission Vehicle Program | Tooele EV Microtransit ($1,378,896 award) ▪ FY2023 5339(c) - CNG – Low- or No-Emission Grant Program ($17,055,353 award) ▪ FY2024 Low or No Emissions - 15 Zero-Emission Battery Electric Buses ($18,112,632 award)
UTA Applications Not Selected	▪ FY2021 FRA CRISI Sharp-TinTic Railroad ▪ FY2022 CRISI-Sharp TinTic Railroad Connection Project ▪ FY2024 ICAM Referral Line Crisis Trips (Rides and Promotion)	▪ FY2021 5339(b) Bus and Bus Facilities - TTEC ▪ FY22 5339 (b) Bus and Bus Facilities ▪ FY2022 5339(b) Bus and Bus Facilities - TTEC ▪ FY2023 5339(b) Bus & Bus Facilities - TTEC ▪ FY2023 5339(b) - TTEC - Competitive Bus and Bus Facilities program	▪ None	▪ FY2022 FTA 5339(c) Low or No Emissions ▪ FY2022 5339(c) Low or No Electric Buses and Chargers ▪ FY2023 5339(c) - EV - Low or No Emission Grant Program ▪ FY2024 FTA Rail Vehicle Replacement: Replacing 20 High Floor LRVs with Low-Floor Vehicles
Submitted Waiting for Results	None	FY2024 5339(b) Bus and Bus Facilities Mt. Ogden O/L	None	None

Table E-4. Funding Agencies – USDOT FHWA, NCMM, People for Bikes

Program Name	USDOT FHWA		NCMM	People for Bikes
	Active Transportation Infrastructure Investment Program	Congestion Mitigation and Air Quality (CMAQ) Improvement Program	Ready-to-Launch Grants	PeopleForBikes Community Grant Program
Description	Funds projects to construct safe and connected active transportation facilities in networks or spines. Aims to improve safety, connectivity, and quality of life.	A federal formula program that provides funds to states, MPOs, and transit agencies for a variety of transportation projects designed to reduce traffic congestion and improve air quality, particularly in areas of the country that do not attain national air quality standards. Funding is apportioned by FHWA to states, which is then distributed to MPOs to allocate to projects. For the Salt Lake City region, the MPO is Wasatch Front Regional Council (WFRC).	Provides funding and technical assistance to pilot promising mobility solutions inspired by community research. Aims to develop solutions that are operationally feasible, desirable, and financially viable.	The PeopleForBikes Community Grant Program supports bicycle infrastructure projects and targeted advocacy initiatives that make it easier and safer for people of all ages and abilities to ride.
Total Available Funding (Annual)	TBD	$2.7 billion (U.S.). Each State's CMAQ apportionment is calculated based on a ratio specified in law. Approximately $3,000,000 is allocated each year to the Ogden/ Layton Urbanized Area and approximately $5,500,000 in the Salt Lake Urbanized Area. Funds are programmed over a six-year period and applicants currently will be applying for funds available in federal fiscal year 2031.	$300,000	$3.5 million funded since inception
Minimum and Maximum Award	TBD	Not specified	Up to $75,000	Typically $5,000 to $10,000
% Cost Share	80% federal, 20% local	20%	No cost share required	>50% local
Estimated Number of Awards	30 to 40	Not specified	4	10 to 15
Eligible Applicants	State and local governments, tribes, MPOs, regional planning organizations	State Departments of Transportation (DOTs), MPOs, local governments, transit agencies, regional transportation authorities, nonprofit organizations (in partnership with a public agency)	Nonprofits, government agencies	Nonprofit organizations with a focus on bicycling, active transportation, or community development; city or county agencies or departments; state or federal agencies working locally

Program Name	USDOT FHWA		NCMM	People for Bikes
	Active Transportation Infrastructure Investment Program	Congestion Mitigation and Air Quality (CMAQ) Improvement Program	Ready-to-Launch Grants	PeopleForBikes Community Grant Program
Eligible Projects	Planning, design, and construction of active transportation networks and spines. Eligible projects include the following: ▪ Construction of safe and connected active transportation facilities such as sidewalks, bikeways, and trails that link key destinations like schools, workplaces, residences, businesses, recreation areas, and medical facilities ▪ Development of active transportation spines that connect two or more communities, metropolitan regions, or states ▪ Planning and design of active transportation networks to enhance connectivity and safety ▪ Integration of active transportation facilities with transit services to improve access to public transportation	Examples of eligible projects include the following: ▪ Transportation control measures in the State Air Quality Implementation Plan (SIP); ▪ Construction/purchase of new public transportation facilities and equipment; ▪ Construction of bicycle or pedestrian facilities serving commuter transportation needs; ▪ Promotion of alternative travel modes, including ridesharing; ▪ Intelligent Transportation Systems (ITS); ▪ Certain traffic control measures, such as traffic signal coordination, intersection improvements, and incident management.	Pilot mobility solutions for underserved communities; projects should focus on one or more of the following: ▪ Access to Economic Opportunity: Projects that help community members reach training, education, and job opportunities ▪ Health and Well-Being: Initiatives that improve access to healthcare facilities, peer support groups, and other health-related destinations ▪ Community and Social Opportunities: Solutions that enhance access to social, recreational, and community activities ▪ Other Social Determinants of Health: Projects addressing broader social determinants of health, such as housing, food security, and social inclusion These projects should be innovative, community-driven, and designed to meet local needs. They should also demonstrate potential for operational feasibility, customer desirability, and financial viability.	▪ Bike paths, lanes, trails, and bridges ▪ Mountain bike facilities ▪ Bike parks and pump tracks ▪ BMX facilities ▪ End-of-trip facilities such as bike racks, bike parking, bike repair stations and bike storage ▪ Programs that transform city streets, such as Ciclovías or Open Streets Days ▪ Campaigns to increase the investment in bicycle infrastructure Requests must support a specific project or program; grants do not fund for general operating costs.
NOFO Announcement	TBD		October 2025 (est.)	September 2025 (est.)
Expected Submission Deadline	TBD	Reach out to WFRC for updated submission requirements. Must submit a Letter of Intent. Required to submit a new and/or updated "Project Evaluation Concept Report," "Cost Estimation Form," and "Emissions Analysis Form" for each project by WFRC specified deadline.	November 2025 (est.)	October 2025 (est.)
Expected Award Announcement	TBD	Funds typically distributed as part of the TIP process	January 2026 (est.)	December 2025 (est.)
Period of Performance (maximum)	24 months for planning; 60 months for construction	Typically two to four years	12 months	12 to 18 months
Benefit-Cost Analysis or Other Special Requirements	TBD	No.	No.	No.
Program Weblink	https://www.transportation.gov/rural/grant-toolkit/active-transportation-infrastructure-investment-program-atiip	https://wfrc.org/programs/transportation-improvement-program/congestion-mitigation-air-quality-program/	https://nationalcenterformobilitymanagement.org/ready-to-launch-grants-2024/	https://www.peopleforbikes.org/grant-guidelines
Partnership Opportunity	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.	UTA may receive funding directly through WFRC.	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.	UTA may be a lead applicant, but more likely a sub-applicant/partner to a primary eligible applicant to co-develop project deliverables.

Program Name	USDOT FHWA		NCMM	People for Bikes
	Active Transportation Infrastructure Investment Program	Congestion Mitigation and Air Quality (CMAQ) Improvement Program	Ready-to-Launch Grants	PeopleForBikes Community Grant Program
Past UTA Awards	None	▪ FY 2019 CMAQ for Locomotive Overhaul ($2,360,053) ▪ FY 2019 CMAQ for Locomotive Overhaul ($2,360,053) ▪ PROG2022/APP2019 & 2021 CMAQ/TAP/STP Flex Funds–Capital, TIGER Ped Bridge Projects ($4,898,959) ▪ FY2019 CMAQ Clearfield FrontRunner Station Pedestrian and Bike Trail Design and Construction ($1,650,000)	None	None
UTA Applications Not Selected	None	15 past projects were not awarded.	None	None
Submitted Waiting for Results	None		None	None

Table E-5. Funding Agency - DOE

Program Name	Energy Efficiency and Conservation Block Grants	Energy Improvements in Rural or Remote Areas	Buildings Energy Efficiency Frontiers & Innovation Technologies Grant Program	Communities Sparking Investments in Transformative Energy
Description	Assists states, local governments, and tribes in implementing strategies to reduce energy use, fossil fuel emissions, and improve energy efficiency. Funded through the BIL.	Aims to improve the resilience, reliability, and affordability of energy systems in rural and remote communities. Funded through the BIL.	Invests across five topic areas to allow all interested parties to research and develop high-impact, cost-effective technologies and practices that will reduce carbon emissions, improve flexibility and resilience, as well as lower energy costs. BTO's overall goal is to improve the energy productivity of buildings without sacrificing occupant comfort or product performance. The objective of this FOA is to research and develop next-generation building technologies that have the potential for significant energy savings and improved demand flexibility, affordability, and occupant comfort. An additional goal is to advance building construction, remodeling, and retrofit practices, and associated workforces.	Provides funding and technical assistance for community-identified energy projects. Focuses on building efficiency, electrification, renewable energy, and resilience.
Total Available Funding (Annual)	$550 million	$1 billion	$45.2 million	$18 million
Minimum and Maximum Award	▪ Minimum: $50,000 ▪ Maximum: $2 million	▪ Minimum: $500,000 ▪ Maximum: $5 million	Maximum: $2.5 million	▪ Minimum: $900,000 ▪ Maximum: $3.6 million
% Cost Share	20%	No cost share required	No cost share required	5%
Estimated Number of Awards	294 (FY2024)	10 to 100	45 to 65	20

Program Name	Energy Efficiency and Conservation Block Grants	Energy Improvements in Rural or Remote Areas	Buildings Energy Efficiency Frontiers & Innovation Technologies Grant Program	Communities Sparking Investments in Transformative Energy
Eligible Applicants	States, local governments, tribes	Institutions of higher education, for-profit and nonprofit organizations, state, local governments, tribal nations	Nonprofit, town, city or county government, institution of higher education	Local governments, tribes
Eligible Projects	Energy efficiency improvements, renewable energy projects: ▪ Development and implementation of an energy efficiency and conservation strategy, ▪ Retaining technical consultant services to assist the eligible entity in the development of such a strategy, ▪ Conducting residential and commercial building energy audits, ▪ Establishment of financial incentive programs for energy efficiency improvements	Community-driven clean energy projects to enhance energy systems in rural and remote communities, including the following: ▪ Microgrid Designs and Service Models: Projects that enable cost-competitive deployment of microgrids to rural or remote communities. ▪ Small Hydropower Systems: Initiatives that provide community benefits through small-scale hydropower. ▪ Hybrid Configurations of Distributed Energy Resources: Projects that combine different energy resources to ensure operability during extreme weather events. ▪ Transmission and Distribution Upgrades: Siting or upgrading transmission and distribution lines to improve energy reliability and resilience. ▪ Greenhouse Gas Emission Reduction: Projects that reduce emissions from energy generation, including geothermal projects. ▪ Cost-Effectiveness Improvements: Initiatives aimed at improving the overall cost-effectiveness of energy generation, transmission, or distribution systems.	Projects aimed at advancing building energy efficiency and decarbonization and providing substantial improvements in building energy performance, occupant comfort, and resilience to extreme weather events, including the following: ▪ Commercial Boiler Decarbonization: Innovations to improve the availability, affordability, and simplicity of electrified boiler replacement options ▪ Cooling in High-Humidity Climates: Performance and cost improvements for cooling systems in high humidity environments ▪ High-Efficiency Refrigerants: Development of heat pump and heat pump water heater systems with low GWP refrigerants ▪ Air-Water Heat Pumps: Advancements in design and performance rating for residential and commercial air source heat pumps ▪ Medium-to-High Temperature Heat Pumps: Reducing form factor for heat pumps in commercial buildings ▪ Roof and Attic Retrofits: Innovative, low-cost solutions for improving energy efficiency and addressing air and water infiltration ▪ Building Resilience and Peak Load Management: Behind-the-meter electrical systems for building resilience and load management ▪ Resilient Cooling Solutions: Affordable, energy-efficient cooling solutions for overheating protection during heat waves and power outages ▪ Commercial Lighting Retrofits: Advancements in lighting technology to reduce barriers to adoption and improve occupant health	Eligible project types include the following: ▪ Building Efficiency and Electrification: Projects that improve energy efficiency in buildings or transition to electric systems ▪ Clean Transportation: Initiatives that promote electric vehicles and other clean transportation solutions ▪ Energy Infrastructure Upgrades: Enhancements to existing energy infrastructure to improve reliability and efficiency ▪ Microgrid Development and Deployment: Projects that develop and implement microgrids to provide resilient and reliable energy ▪ Renewable Energy: Installation and integration of renewable energy sources like solar, wind, or geothermal ▪ Resilience Hubs: Establishing community centers that provide essential services and energy during emergencies ▪ Workforce Development: Programs that train and develop the local workforce in clean energy technologies and practices These projects should demonstrate strong community engagement, provide significant local benefits, and have the potential to attract additional investments.
NOFO Announcement	Various dates	October 2025 (est.)	November 2025 (est.)	February 2025 (est.)
Expected Submission Deadline	Rolling basis; May 31, 2025 (for tribes)	October 2025 (est.)	December 2025 (est.)	May 2025 (est.)
Expected Award Announcement	Rolling basis	February 2026 (est.)	August 2026 (est.)	September 2025 (est.)

Program Name	Energy Efficiency and Conservation Block Grants	Energy Improvements in Rural or Remote Areas	Buildings Energy Efficiency Frontiers & Innovation Technologies Grant Program	Communities Sparking Investments in Transformative Energy
Period of Performance (maximum)	36 months	36 to 60 months	36 months	36 months
Benefit-Cost Analysis or Other Special Requirements	Requires submission of a concept paper before being invited to submit the application.	Requires submission of a concept paper before being invited to submit the application.	Requires submission of a concept paper before being invited to submit the application.	BCAs not required. Requires submission of a concept paper before being invited to submit the application.
Program Weblink	https://www.energy.gov/scep/energy-efficiency-and-conservation-block-grant-program	https://www.energy.gov/oced/era	https://www.energy.gov/eere/buildings/articles/bto-announces-benefit-2024-funding-opportunity-30-million-advance	https://www.energy.gov/scep/about-funding-opportunity-communities-sparking-investments-transformative-energy-c-site
Partnership Opportunity	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables. Projects should emphasize community-oriented partnerships and equitable decarbonization solutions.	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.
Past UTA Awards	None	None	None	None
UTA Applications Not Selected	None	None	None	None

Table E-6. Funding Agencies – EDA and FEMA

Program Name	EDA	FEMA
	Public Works and Economic Adjustment Assistance	Building Resilient Infrastructure and Communities
Description	Supports economic development projects that create jobs and stimulate private investment in distressed communities. Focuses on infrastructure improvements and economic resilience. Two sub-programs: 1) Public Works program and 2) Economic Adjustment Assistance program. Applicants may submit one application and the EDA will decide which is a better fit.	Provides grants to support states, local communities, tribes, and territories in undertaking hazard mitigation projects to reduce risks from natural hazards. Aims to enhance resilience and reduce disaster losses.
Total Available Funding (Annual)	$121.5 million for the Public Works program and $39.5 million for the EAA program	$1 billion (FY2024)
Minimum and Maximum Award	Maximum: $30 million	Maximum: $50 million
% Cost Share	Up to 80% federal; 20% local	Up to 90% federal share for Economically Disadvantaged Rural Communities; 75% federal share for other applicants
Estimated Number of Awards	700 to 800	56 projects across national competition; 656 sub-applications selected across categories
Eligible Applicants	State and local governments, tribes, nonprofits, institutions of higher education	States, local communities, tribes, territories

Program Name	EDA Public Works and Economic Adjustment Assistance	FEMA Building Resilient Infrastructure and Communities
Eligible Projects	Includes a wide range of activities aimed at supporting economic development and recovery, including infrastructure improvements. ▪ Public Works Program - Infrastructure Improvements: Projects that develop or upgrade public infrastructure such as water and sewer systems, roads, and bridges - Industrial and Commercial Facilities: Construction or expansion of facilities to support industrial or commercial enterprises - Land Acquisition and Development: Projects that involve acquiring and preparing land for industrial or commercial use ▪ Economic Adjustment Assistance Program - Planning and Technical Assistance: Development of CEDS and other planning activities - Workforce Development: Initiatives aimed at improving workforce skills and employment opportunities - Entrepreneurship Support: Programs that foster entrepreneurship and support small businesses - RLFs: Capitalization or recapitalization of RLFs to provide loans to small businesses	Hazard mitigation projects, capacity and capability building activities. ▪ Mitigation Projects - Infrastructure Projects: Upgrading or constructing infrastructure to withstand natural hazards - Flood Risk Reduction: Projects like levees, floodwalls, and stormwater management systems - Wildfire Management: Activities such as creating defensible spaces and fuel breaks - Utility and Infrastructure Protection: Protecting critical utilities and infrastructure from hazards ▪ Nature-based Solutions - Ecosystem Restoration: Projects that restore wetlands, forests, and other natural systems to reduce hazard impacts - Green Infrastructure: Implementing green roofs, rain gardens, and permeable pavements to manage stormwater ▪ Building Codes and Standards - Adoption and Enforcement: Enhancing building codes to improve resilience against hazards - Training and Technical Assistance: Providing training for building code officials and other stakeholders ▪ Community Resilience - Planning and Capacity Building: Developing hazard mitigation plans and conducting risk assessments - Public Awareness Campaigns: Educating the public about hazard risks and mitigation strategies
NOFO Announcement	Ongoing	February 2025 (est.)
Expected Submission Deadline	Ongoing	March 2025 (est.)
Expected Award Announcement	Ongoing	August 2025 (est.)
Period of Performance (maximum)	36 months	36 months
Benefit-Cost Analysis or Other Special Requirements	BCA not required but may improve application.	BCA required.
Program Weblink	https://www.eda.gov/funding/funding-opportunities/fiscal-year-2023-public-works-and-economic-adjustment-assistance	https://www.fema.gov/grants/mitigation/learn/building-resilient-infrastructure-communities
Partnership Opportunity	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.
Past UTA Awards	None	None
UTA Applications Not Selected	None	None
Submitted Waiting for Results	None	None

Table E-7. Funding Agency - EPA

Program Name	Environmental Justice Government-to-Government Program	Solid Waste Infrastructure for Recycling	Consumer Recycling Education and Outreach Grant Program	Diesel Emissions Reduction Act Grant
Description	Provides funding to support government activities that lead to measurable environmental or public health impacts in communities disproportionately burdened by environmental harms. Aims to integrate environmental justice considerations into governmental decision-making.	Provides grants to support improvements to local post-consumer materials management and recycling programs. Aims to implement the National Recycling Strategy and improve local waste management systems.	Provides funding to improve consumer education and outreach on waste prevention, reuse, recycling, and composting. Aims to increase recycling rates and reduce contamination in the recycling stream.	Funds grants and rebates to reduce harmful emissions from diesel engines, improving air quality and protecting human health. Supports projects that retrofit or replace older diesel engines.
Total Available Funding (Annual)	$70 million	$275 million over 5 years	$39 million	Approximately $115 million
Minimum and Maximum Award	Up to $1 million	$500,000 to $5 million	$30 million to $34.094 million for national campaign; $5 million to $9.094 million for composting projects	Minimum: $100,000 Maximum: $4 million
% Cost Share	No cost share required	No cost share required	No cost share required	▪ Varies depending on the type of project: ▪ Vehicle or Equipment Replacement with EPA Certified Engine: 75% ▪ Vehicle or Equipment Replacement with CARB Certified Low-NOx Engine: 65% ▪ Vehicle or Equipment Replacement with Zero-tailpipe Emission Power Source: 55% ▪ Engine Replacement with EPA Certified Engine: 60% ▪ Engine Replacement with CARB Certified Low-NOx Engine: 50% ▪ Engine Replacement with Zero-tailpipe Emission Power Source: 40%
Estimated Number of Awards	40 to 60	20 to 30	25	40 to 70
Eligible Applicants	State, local, territorial, and tribal governments in partnership with community-based nonprofits	States, territories, local governments, tribes	States, territories, local governments, tribes, nonprofits, public-private partnerships	Regional, state, local agencies, tribal governments, port authorities, nonprofit organizations

Program Name	Environmental Justice Government-to-Government Program	Solid Waste Infrastructure for Recycling	Consumer Recycling Education and Outreach Grant Program	Diesel Emissions Reduction Act Grant
Eligible Projects	Activities aimed at addressing environmental and public health issues in communities disproportionately burdened by environmental harms. ▪ Air and Water Quality - Air Monitoring and Remediation: Projects that involve monitoring air quality and implementing measures to reduce air pollution - Water Quality Improvement: Initiatives to improve drinking water quality and manage stormwater ▪ Pollution Prevention and Cleanup - Small-scale Cleanups: Removing nonhazardous waste like scrap tires and construction debris - Pollution Mitigation: Efforts to reduce pollution from various sources ▪ Community Education and Capacity Building - Public Education Campaigns: Raising awareness about environmental justice issues and promoting community involvement - Training Programs: Providing training for community members on environmental monitoring and mitigation techniques ▪ Green Infrastructure and Resilience - Green Jobs and Infrastructure: Creating jobs and infrastructure projects that support environmental sustainability - Climate Resilience Planning: Developing plans to enhance community resilience to climate change impacts ▪ Health and Safety - Healthy Homes Initiatives: Projects focused on testing and mitigating hazards like asbestos, lead, and radon in homes - Emergency Preparedness: Preparing communities for environmental emergencies and natural disasters	Recycling infrastructure improvements, including the following: ▪ Collection and Processing - Expansion of Collection Programs: Enhancing curbside recycling, drop-off centers, and other collection methods - Processing Facility Upgrades: Improving or expanding MRFs to handle more recyclables. ▪ Infrastructure Development - Composting and Anaerobic Digestion: Developing facilities for composting organic waste and anaerobic digestion to manage food waste - Recycling Facilities: Planning and constructing new recycling facilities or upgrading existing ones ▪ Education and Outreach - Public Education Campaigns: Initiatives to educate the public about recycling practices and the benefits of waste reduction - Technical Assistance: Providing training and support to local governments and organizations to improve recycling programs ▪ Market Development - End Market Development: Projects that create or expand markets for recycled materials. - Product Development: Initiatives to develop new products from recycled materials	▪ Project 1: Develop and Implement a National Consumer Wasted Food Reduction Campaign. This project's objective is to decrease wasted food from households. ▪ Project 2: Expand the Market and Sales of Compost. This project's objective is to expand markets for and sales of compost. ▪ Project 3: Increase Education and Outreach to Households on Composting. This project's objective is to: - Inform the public about new or existing residential food waste composting programs. - Provide information about the materials that are accepted as part of a residential food waste composting program. - Increase collection rates and decrease physical contamination in residential food waste composting programs.	Retrofit or replacement of diesel engines, vehicles, and equipment. ▪ School Buses: Replacing older diesel school buses with new, cleaner models.= ▪ Heavy-duty Highway Vehicles: Replacing Class 5 to Class 8 trucks with newer, lower-emission vehicles ▪ Nonroad Engines and Equipment: Replacing engines and equipment used in construction, agriculture, mining, and other sectors ▪ Engine Replacements: Replacing older diesel engines with newer, cleaner engines ▪ Retrofit Technologies: Installing verified exhaust after-treatment technologies, such as diesel particulate filters and selective catalytic reduction systems ▪ Idle Reduction: Implementing technologies that reduce unnecessary idling of diesel engines, such as auxiliary power units and automatic shut-off systems ▪ Aerodynamic Technologies: Adding devices like trailer skirts and gap reducers to improve vehicle aerodynamics ▪ Low-rolling Resistance Tires: Using tires that reduce friction and improve fuel efficiency ▪ Fuel Upgrades: Switching to cleaner fuels or using fuel additives that reduce emissions
NOFO Announcement	January 2025 (est.)	September 2025 (est.)	September 2025 (est.)	October 2025 (est.)
Expected Submission Deadline	April 2025 (est.)	December 2025 (est.)	December 2025 (est.)	December 2025 (est.)
Expected Award Announcement	September 2025 (est.)	September 2026 (est.)	September 2026 (est.)	Summer 2026 (est.)

Program Name	Environmental Justice Government-to-Government Program	Solid Waste Infrastructure for Recycling	Consumer Recycling Education and Outreach Grant Program	Diesel Emissions Reduction Act Grant
Period of Performance (maximum)	36 months	36 months	60 months	6 months
Benefit-Cost Analysis or Other Special Requirements	BCA not required but may improve application. A partnership, Logic Model, and Quality Assurance Project Plan are required.	Not required.	Not required.	Not required.
Program Weblink	https://www.epa.gov/environmentaljustice/environmental-justice-government-government-program	https://www.epa.gov/infrastructure/solid-waste-infrastructure-recycling-grant-program	https://www.epa.gov/infrastructure/consumer-recycling-education-and-outreach-grant-program	https://www.epa.gov/dera
Partnership Opportunity	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.	UTA may be a lead applicant, or a sub-applicant/ partner to a primary eligible applicant to co-develop project deliverables.
Past UTA Awards	None	None	None	None
UTA Applications Not Selected	None	None	None	None
Submitted Waiting for Results	None	None	None	None

Table E-8. Funding Agencies – DoD and Utah DEQ

Program Name	DoD	Utah DEQ	
	Defense Community Infrastructure Program	Alternative Fuel Heavy-Duty Vehicle Tax Credit Program	Diesel Equipment Upgrade Reimbursement
Description	Provides funding for community infrastructure projects that support military installations, enhance military value, and improve quality of life for service members and their families. Competitive grant program.	The Utah Alternative Fuel Heavy-Duty Vehicle Tax Credit Program offers an income tax credit for the purchase of new Category 7 or 8 heavy-duty vehicles powered by natural gas, 100% electric, or hydrogen-electric. The credit amount decreases annually, starting at $15,000 in 2021 and reducing to $1,500 by 2030.	This program provides reimbursements up to 45% for all new electric, 35% for new CARB Low-NOx, and 25% for new diesel vehicles.
Total Available Funding (Annual)	$100 million	Decreases each year; $12,000 allocated per vehicle in FY2023	$12,000 allocated per vehicle in FY2023
Minimum and Maximum Award	Minimum: $250,000 Maximum: $20 million	Varies and decreases by year until 2030; funds up to 10 vehicles per applicant annually	Reimbursements up to 45% for all new electric, 35% for new CARB Low-NOx, and 25% for new diesel vehicles.
% Cost Share	30% from states or local governments	N/A	N/A
Estimated Number of Awards	14 awards in FY2024	N/A	N/A
Eligible Applicants	State, local governments, nonprofits	Individuals and businesses; public entities	Individuals and businesses; public entities
Eligible Projects	▪ Transportation Projects: Complete and usable projects such as roads, bridges, and public transit systems ▪ Community Support Facilities: Schools, hospitals, police and fire stations, emergency response centers, and other community support buildings ▪ Utility Infrastructure: Water, wastewater, telecommunications, electric, gas, and other utility projects, including necessary cyber safeguards	Qualified purchase of a natural gas, a 100% electric, or a hydrogen-electric heavy-duty vehicle (Class 7 and Class 8 vehicles). This may be relevant for large buses or heavy-duty equipment used for construction or in the yards.	Eligible vehicles include: On-highway, Class 5 to 8 diesel vehicles, engine model years 2009 and older; school, shuttle, and transit buses; and medium-heavy-duty or heavy-heavy-duty diesel trucks. Equipment: Nonroad diesel equipment, including less than 50 to 751 and more horsepower nonroad engines or equipment, engine model years 1986+ used in construction; handling of cargo (including at a port or airport); agriculture; mining; or energy production (including stationary generators and pumps).

Program Name	DoD	Utah DEQ	
	Defense Community Infrastructure Program	Alternative Fuel Heavy-Duty Vehicle Tax Credit Program	Diesel Equipment Upgrade Reimbursement
NOFO Announcement	March 2025 (est.)	N/A	N/A
Expected Submission Deadline	April 2025 (est.)	Qualified purchases must be made by December 31 of each tax year	Qualified purchases must be made by December 31 of each tax year
Expected Award Announcement	August 2025 (est.)	N/A	N/A
Period of Performance (maximum)	60 months	N/A	N/A
Benefit-Cost Analysis or Other Special Requirements	Must include a letter of support from the local installation commander representing the installation benefiting from the proposed project.	N/A	N/A.
Program Weblink	https://oldcc.gov/defense-community-infrastructure-program-dcip	https://deq.utah.gov/air-quality/incentive-programs-aq/alternative-fuel-heavy-duty-vehicle-tax-credit-program	https://deq.utah.gov/air-quality/incentive-programs-aq/utah-clean-fleet-program
Partnership Opportunity	UTA may be a sub-applicant or partner to a primary eligible applicant to co-develop project deliverables.	UTA may be eligible to apply to receive these credits without a partnership.	UTA may be eligible for reimbursements without a partnership.
Past UTA Awards	None	None	None
UTA Applications Not Selected	None	None	None
Submitted Waiting for Results	None	None	None

Table E-9. Project Opportunities – Utah Department of Transportation, U.S. Department of Transportation and Federal Railroad Administration

Project Type	Utah Department of Transportation			U.S. Department of Transportation					U.S. Department of Transportation Federal Railroad Administration
	Safe Routes to School Program	Transportation Alternatives Program - Region Two	Joint Highway Committee Funding	PROTECT Program	BUILD (formerly RAISE) Grant Program	SMART Grants Program	Thriving Communities Program (TCP)	TIFIA	Consolidated Rail Infrastructure and Safety Improvements Program
Facilities and Infrastructure				**X**	**X**		**X**	**X**	**X**
Infrastructure/Transit Facilities				X	X		X	X	X
Rail and Transportation Infrastructure (including resilience improvements)				X	X		X	X	X
Buildings/Utilities							X	X	
Energy							X	X	
Audit/Studies							X		
Supply (that is, solar, geothermal, other renewable sources, microgrids, battery energy storage)							X	X	
Demand (that is, building shell, HVAC, insulation, lighting)								X	
Water								X	

Project Type	Utah Department of Transportation			U.S. Department of Transportation					U.S. Department of Transportation Federal Railroad Administration
	Safe Routes to School Program	Transportation Alternatives Program - Region Two	Joint Highway Committee Funding	PROTECT Program	BUILD (formerly RAISE) Grant Program	SMART Grants Program	Thriving Communities Program (TCP)	TIFIA	Consolidated Rail Infrastructure and Safety Improvements Program
Materials and Solid Waste								X	
Fleet						**X**	**X**	**X**	**X**
GHG Reduction						X	X	X	
Electrification						X	X	X	
Renewable Natural Gas							X	X	
Service/Fleet Expansion							X	X	X
Service and Community	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**
Land use analysis and recommendations for TOD/TOC; planning for active transportation; evacuation routes	X	X		X	X		X		X
Education and Outreach	X	X		X	X	X	X		X
Connectivity/Active Transportation/Intermodal	X	X	X		X	X	X	X	X
Accessibility		X	X			X	X	X	X
TOD/TOC							X	X	
Workforce/Economic Development					X	X	X	X	X
Asset Management				X		X		X	X
ITS						X	X	X	X

Cells in grey represent grants that will likely not be available in the next 5 years.

Abbreviations applicable to Table E-9 through Table E-11.

HVAC = heating, ventilation, and air conditioning
ITS = Intelligent Transportation System

TOC = transit-oriented community
TOD = transit-oriented development

Table E-10. Project Opportunities – Federal Transit Administration, Federal Highway Administration, National Center for Mobility Management, People for Bikes, and U.S. Department of Energy

Project Type	Federal Transit Administration			Federal Highway Administration		National Center for Mobility Management	People for Bikes	U.S. Department of Energy			
	Low- or No-Emission Grant Program	Buses and Bus Facilities Competitive Program	Capital Investment Grants Program New Starts, Small Starts and Core Capacity Improvements	Active Transportation Infrastructure Investment Program	Congestion Mitigation and Air Quality (CMAQ) Improvement Program	Ready-to-Launch Grants	Community Grant Program	Energy Efficiency and Conservation Block Grants	Energy Improvements in Rural or Remote Areas	Buildings Energy Efficiency Frontiers & Innovation Technologies Grant Program	Communities Sparking Investments in Transformative Energy
Facilities and Infrastructure	**X**	**X**	**X**	**X**	**X**	**X**		**X**		**X**	**X**
Infrastructure/Transit Facilities	X	X	X	X	X	X		X			
Rail and Transportation Infrastructure (including resilience improvements)	X	X	X	X		X					
Buildings/Utilities	X	X						X	X	X	
Energy	X	X						X	X	X	X
Audit/Studies	X							X		X	X
Supply (that is, solar, geothermal, other renewable sources, microgrids, battery energy storage)	X	X								X	X
Demand (that is, building shell, HVAC, insulation, lighting)	X	X						X	X	X	X
Water	X	X									
Materials and Solid Waste	X	X									
Fleet	**X**	**X**	**X**		**X**	**X**		**X**	**X**		
GHG Reduction	X	X			X	X					
Electrification	X	X			X			X			
Renewable Natural Gas	X	X			X						
Service/Fleet Expansion	X	X	X			X					
Service and Community	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**	**X**		**X**
Land use analysis and recommendations for TOD/TOCs; planning for active transportation; evacuation routes			X	X	X						
Education and Outreach				X	X		X		X		X
Connectivity/Active Transportation/Intermodal	X	X	X	X	X	X	X	X			
Accessibility				X	X	X					
TOD/TOCs					X						

Project Type	Federal Transit Administration			Federal Highway Administration		National Center for Mobility Management	People for Bikes	U.S. Department of Energy			
	Low- or No-Emission Grant Program	Buses and Bus Facilities Competitive Program	Capital Investment Grants Program New Starts, Small Starts and Core Capacity Improvements	Active Transportation Infrastructure Investment Program	Congestion Mitigation and Air Quality (CMAQ) Improvement Program	Ready-to-Launch Grants	Community Grant Program	Energy Efficiency and Conservation Block Grants	Energy Improvements in Rural or Remote Areas	Buildings Energy Efficiency Frontiers & Innovation Technologies Grant Program	Communities Sparking Investments in Transformative Energy
Workforce/Economic Development	X	X	X		X						X
Asset Management					X						
ITS					X						

Table E-11. Project Opportunities – U.S. Economic Development Administration, Federal Emergency Management Agency, U.S. Environmental Protection Agency, U.S. Department of Defense, and Utah Department of Environmental Quality

Project Type	U.S. Economic Development Administration	Federal Emergency Management Agency	U.S. Environmental Protection Agency				U.S. Department of Defense	Utah Department of Environmental Quality	
	Public Works and Economic Adjustment Assistance	Building Resilient Infrastructure and Communities	Environmental Justice Government-to-Government Program	Solid Waste Infrastructure for Recycling	Consumer Recycling Education and Outreach Grant Program	Diesel Emissions Reduction Act Grant	Defense Community Infrastructure Program	Alternative Fuel Heavy-Duty Vehicle Tax Credit Program	Diesel Equipment Upgrade Reimbursement
Facilities and Infrastructure	**X**	**X**	**X**	**X**	**X**		**X**		
Infrastructure/Transit Facilities	X	X					X		
Rail and Transportation Infrastructure (including resilience improvements)	X	X							
Buildings/Utilities	X	X	X	X	X		X		
Energy	X	X	X				X		
Audit/Studies									
Supply (that is, solar, geothermal, other renewable sources, microgrids, battery energy storage)	X	X	X	X					
Demand (that is, building shell, HVAC, insulation, lighting)			X				X		
Water	X	X	X						
Materials and Solid Waste	X		X	X	X				

Project Type	U.S. Economic Development Administration	Federal Emergency Management Agency	U.S. Environmental Protection Agency				U.S. Department of Defense	Utah Department of Environmental Quality	
	Public Works and Economic Adjustment Assistance	Building Resilient Infrastructure and Communities	Environmental Justice Government-to-Government Program	Solid Waste Infrastructure for Recycling	Consumer Recycling Education and Outreach Grant Program	Diesel Emissions Reduction Act Grant	Defense Community Infrastructure Program	Alternative Fuel Heavy-Duty Vehicle Tax Credit Program	Diesel Equipment Upgrade Reimbursement
Fleet			**X**	**X**		**X**	**X**	**X**	**X**
GHG Reduction			X	X		X		X	X
Electrification			X			X	X	X	X
Renewable Natural Gas				X		X		X	X
Service/Fleet Expansion							X	X	
Service and Community	**X**	**X**	**X**	**X**	**X**		**X**		
Land use analysis and recommendations for TOD/TOC; planning for active transportation; evacuation routes			X						
Education and Outreach		X	X	X	X				
Connectivity/Active Transportation/Intermodal		X	X				X		
Accessibility			X						
TOD/TOCs			X						
Workforce/Economic Development	X		X	X					
Asset Management									
ITS									

Appendix F. Outdoor Water Use Reduction

F.1 Outdoor Water Use Reduction

Jacobs calculated the 2023 water footprint across Utah Transit Authority (UTA) operations, including the indoor and outdoor water use. UTA's water use is significantly impacted by outdoor water use (irrigation). For park-and-rides and rail stations, outdoor water use accounts for 96% of their total water consumption. Overall, this represents 46% of UTA's total water footprint. These results highlight outdoor irrigation at these facilities as a key opportunity for significantly reducing UTA's overall water footprint.

To optimize outdoor water usage at UTA's park-and-ride and rail station facilities, this initiative analyzed current outdoor water consumption, evaluated common landscape typologies, estimated reasonable watering needs for each landscape typology, proposed sustainable landscaping options, and identified opportunities for submetering. As part of this effort, local landscaping and xeriscaping standards in the communities where UTA operates were reviewed to determine common typologies that align across relevant standards.

An overview of objectives is as follows:

- Review local landscaping code and xeriscaping criteria across UTA locations and identify three typologies for landscaping that cover all local standards.
- Estimate the amount of water required per square foot based on the proposed typologies.
- Determine the proportion of trees, shrubs, newly planted landscape, and groundcover for each typology and provide examples of suitable plants.
- Identify locations for submetering due to excessive water consumption.
- Propose an outdoor water use reduction goal.

F.1.1 Review of Landscaping Criteria and Typologies

UTA provided the relevant landscaping requirements across locations in which UTA operates. These requirements were compiled and filtered into three potential landscape typologies that are comprehensive of the standards across UTA locations. Importantly, these typologies do not necessarily align with existing landscape conditions at UTA sites. It should be noted that Millcreek does not permit xeriscaping, but all other UTA locations allow this landscaping method or are already employing it. Ogden and Lehi do not specify a stance on xeriscaping.

F.1.1.1 Typology Scenario 1

In alignment with Salt Lake City landscaping requirements, Typology Scenario 1 consists of the following:

- One tree and two shrubs every 140 square feet (ft^2).
- Rock used as mulch is limited to 20% of the area requiring landscaping.
- No turfgrass is allowed.

F.1.1.2 Typology Scenario 2

In alignment with areas like South Salt Lake City, West Jordan, West Valley City, and Layton, Typology Scenario 2 includes the following:

- 50% of the landscaped area must be covered by living plants.
- Other 50% can be covered by mineral or nonliving organic permeable materials.
- Although not encouraged, 20% of the area can be covered by turfgrass at a maximum.

F.1.1.3 Typology Scenario 3

In alignment with towns such as Ogden, Midvale, and Draper, Typology Scenario 3 consists of the following:

- One shade tree is allowed per island.
- Live plants must cover 50% of the island or landscaped surface.
- Nonliving materials are permitted for the remaining 50% of the bed area.
- No turfgrass is allowed in parking lot landscaping.

F.1.1.4 Baseline Conditions

To assess the potential water needs for the proposed landscaping typologies, it was assumed that the current landscaping at UTA facilities primarily consists of turfgrass, ensuring a conservative estimate. Therefore, the baseline landscaping conditions include 100% turfgrass.

F.1.2 Estimated Annual Irrigation Needs by Vegetation Type

To estimate watering needs for the aforementioned landscape typologies, we used the Utah State University (USU) Landscape Irrigation Calculator. This tool averages monthly irrigation data for various vegetation categories from 2000 to 2020, sourced from the USU climate website. To estimate annual irrigation estimates for each vegetation type per square foot, we selected the following inputs:

- Selected location was set to the weather station nearest to the relevant county.
- Drip irrigation system efficiency was assumed to be 100%.
- Annual irrigation was not adjusted based on historical monthly precipitation data.

Table F-1 presents the annual irrigation results for each vegetation category across the relevant counties in which UTA operates.

Table F-12. Annual Irrigation per Vegetation Category

Vegetation Category	Annual Irrigation (gal/ft^2/year)			
	Weber County	Davis County	Salt Lake County	Utah County
Cool season turf	21.7	20.0	22.5	24.8
Warm season turf	13.6	12.5	14.1	15.5
Low water use turf	16.3	15.0	16.9	18.6
Newly planted landscape or annual flowers	24.4	22.5	25.3	27.9
Low water use or native trees or native shrubs	8.1	7.5	8.4	9.3
Mature broadleaf non-native trees	13.6	12.5	14.1	15.5
Mature non-native shrubs	13.6	12.5	14.1	15.5
Vegetables and fruit	23.1	21.2	23.9	26.4
Average	**16.8**	**15.4**	**17.4**	**19.2**

gal/ft^2/year = gallon(s) per square foot per year

F.1.3 Estimated Annual Irrigation Needs by Utah Transit Authority County per Typology Scenario

The results displayed in Table F-2 informed the calculations for the annual irrigation needs of each typology scenario. Based on the requirements of these scenarios, planting ratios were determined, and are listed in Table F-3. The annual irrigation per square foot was then multiplied by the estimated percentage of vegetation coverage. Because irrigation metrics vary by county, this process was performed separately for Weber County, Davis County, Salt Lake County, and Utah County.

Table F-2. Primary Requirements and Assumptions of Typology Scenarios

Existing Conditions	Typology Scenario 1	Typology Scenario 2	Typology Scenario 3
▪ Assumption: - 100% turfgrass per square foot	▪ Primary Requirements: - One tree and two shrubs every 140 ft^2 ▪ Assumption: - 100% trees or shrubs per square foot	▪ Primary Requirements: - 50% of the landscaped area covered by living plants ▪ Assumption: - 50% newly planted landscape (groundcovers and perennials), 20% turfgrass (included for a conservative water estimate), and 30% nonliving materials per square foot	▪ Primary Requirements: - One shade tree per island. 50% of the landscaped area covered by living plants. No turf. ▪ Assumption: - 25% trees or shrubs, 50% newly planted landscape, and 25% nonliving materials per square foot

Table F-3. Annual Irrigation per Landscape Typology

Vegetation Category	Existing Conditions	Typology Scenario 1	Typology Scenario 2	Typology Scenario 3
Utah State Landscape Calculator Vegetation Category	**Percent coverage per ft^2**			
Turf (average warm, cool, and low water)	100%		20%	
Newly planted landscape or annual flowers			50%	50%
Trees or shrubs (average of native and non-native)		100%		25%
Nonliving Materials			30%	25%
Total	100%	100%	100%	100%
Annual Irrigation Needs per UTA Facility	**gal/ ft^2/year**			
Weber County				
Turf (average warm, cool, and low water)	17.2		3.4	
Newly planted landscape or annual flowers			12.2	12.2
Trees or shrubs (average of native and non-native)		10.9		2.7

Vegetation Category	Existing Conditions	Typology Scenario 1	Typology Scenario 2	Typology Scenario 3
Total irrigation per ft^2 (gallons)	17.2	10.9	15.7	14.9
Davis County				
Turf (average warm, cool, and low water)	15.8		3.2	
Newly planted landscape or annual flowers			11.2	11.2
Trees or shrubs (average of native and non-native)		10.0		2.7
Total irrigation per ft^2 (gallons)	15.8	10.0	14.4	13.9
Salt Lake County				
Turf (average warm, cool, and low water)	17.8		3.6	
Newly planted landscape or annual flowers			12.7	12.7
Trees or shrubs (average of native and non-native)		11.3		2.8
Total irrigation per ft^2 (gallons)	17.8	11.3	16.2	15.5
Utah County				
Turf (average warm, cool, and low water)	19.7		3.9	
Newly planted landscape or annual flowers			14.0	14.0
Trees or shrubs (average of native and non-native)		12.4		3.1
Total irrigation per ft^2 (gallons)	19.7	12.4	17.9	17.1
Annual Irrigation Totals				
Min annual irrigation (gal/ ft^2/year)	15.8	10.0	14.4	13.9
Avg annual irrigation (gal/ ft^2/year)	17.6	11.1	16.0	15.4
Max annual irrigation (gal/ ft^2/year)	19.7	12.4	17.9	17.1

Based on the aforementioned scenarios and the corresponding potential water usage for landscaping, UTA could set **a threshold of 18 gal/ft^2/year for land that is not further landscaped (remains turfgrass), and as 16 gal/ft^2/year for newly landscaped plots** to monitor excessive water use. If a specific area exceeds those thresholds, there might be a potential leak or issue with watering patterns. The specific typologies suggested for each site are listed in Table F-4.

Table F-4. Utah Transit Administration Locations and Landscape Types Compliant with Local Regulations

UTA Address	Location Type (Facility/Station)	Landscape Typology
Draper		
12997 S Frontrunner Boulevard	Park-and-Ride	Already xeriscaped
1086 East Draper Parkway	Station and Park-and-Ride	Already xeriscaped
11868 South 700 East	Park-and-Ride	Typology Scenario 3
680 East Kimballs Lane	Park-and-Ride	Typology Scenario 3

UTA Address	Location Type (Facility/Station)	Landscape Typology
1134 East Pioneer Road	Station	Already xeriscaped
Midvale		
180 West 7200 South	Park-and-Ride	Typology Scenario 3
95 West Center Street	Park-and-Ride	Typology Scenario 3
7387 South Bingham Junction Boulevard	Park-and-Ride	Already xeriscaped
Millcreek		
3900 South Wasatch Boulevard	Park-and-Ride	No xeriscape allowed
Murray		
100 West Fireclay Avenue	Station and Park-and-Ride	Typology Scenario 1
151 West Vine Street	Station and Park-and-Ride	Typology Scenario 1
5144 South Cottonwood Street	Station and Park-and-Ride	Typology Scenario 1
222 West Winchester Street	Station and Park-and-Ride	Typology Scenario 1
6395 South Cottonwood Street	Station and Park-and-Ride	Typology Scenario 1
Salt Lake City		
200 North 500 West	Station	Typology Scenario 1
1098 West North Temple Street	Station	Typology Scenario 1
1905 West North Temple Street	Station	Typology Scenario 1
2063 West North Temple Street	Bus Stop	Typology Scenario 1
776 North Terminal Drive	Station	Typology Scenario 1
125 South 400 West	Station	Typology Scenario 1
540 West 200 South	Station	Typology Scenario 1
217 East 400 South	Station	Typology Scenario 1
607 East 400 South	Station	Typology Scenario 1
873 East 400 South	Station	Typology Scenario 1
480 South Orange Street	Bus Charging	Typology Scenario 1
850 South 200 West	Station	Typology Scenario 1
182 West 1300 South	Park-and-Ride	Typology Scenario 1
1555 West North Temple Street	Station	Typology Scenario 1
1349 East 500 South	Station	Typology Scenario 1
Sandy		
160 East 9400 South	Station	If parkstrip greater than 8 feet wide, Typology Scenario 3.

UTA Address	Location Type (Facility/Station)	Landscape Typology
		If not, Scenario 2.
9345 South 150 East	Station	If parkstrip greater than 8 feet wide, Typology Scenario 3.
		If not, Scenario 2.
10011 Beetdigger Boulevard	Park-and-Ride	Already xeriscaped
135 Midvillage Boulevard	Station and Park-and-Ride	Already xeriscaped
2054 East 9400 South	Park-and-Ride	If parkstrip greater than 8 feet wide, Typology Scenario 3.
		If not, Scenario 2.
361 East 11400 South	Station and Park-and-Ride	Already xeriscaped
South Jordan		
10367 S Jordan GTWY	Station	Already xeriscaped
11424 S Grandville Avenue Build	Station and Park-and-Ride	Any scenario
South Salt Lake City		
3900 S West Temple Street	Park-and-Ride	Typology Scenario 2
210 West 3300 South	Station and Park-and-Ride	Already xeriscaped
West Jordan		
5650 W Old Bingham Highway	Station and Park-and-Ride	Typology Scenario 2
4973 Old Bingham Highway	Station and Park-and-Ride	Typology Scenario 2
8628 South 3420 West	Station	Typology Scenario 2
8640 South 3260 West	Station	Typology Scenario 2
8628 Jordan Loop Lane	Station	Typology Scenario 2
8643 South 3410 West	Station	Typology Scenario 2
8351 South 2700 West	Station and Park-and-Ride	Typology Scenario 2
8021 South Redwood Road	Station and Park-and-Ride	Typology Scenario 2
1127 West 7800 South	Station and Park-and-Ride	Typology Scenario 2
3242 West Haun Drive	Station	Typology Scenario 2
West Valley City		
5551 West 3500 South	Park-and-Ride	Typology Scenario 2
3580 South 2820 West	Park-and-Ride	Typology Scenario 2
3650 South 2820 West	Park-and-Ride	Typology Scenario 2

UTA Address	Location Type (Facility/Station)	Landscape Typology
1755 West 2770 South	Park-and-Ride	Typology Scenario 2
Ogden		
2249 Wall Avenue	Station	Typology Scenario 3
4415 Events Center Drive	Bus stop	
Layton		
70 South Main Street	Park-and-Ride	Typology Scenario 2
150 South Main Street	Station and Park-and-Ride	Typology Scenario 2
American Fork		
782 West 200 South	Station & Park-and-Ride	Already xeriscaped
Lehi		
2821 West Executive Parkway	Station	Typology Scenario 3
3101 N. Ashton Boulevard	Park-and-Ride	Typology Scenario 3
Orem		
951 South 1350 West	Station and Park-and-Ride	Already xeriscaped
Provo		
633 South Freedom Boulevard	Station	Already xeriscaped
55 West 750 South	Station and Park-and-Ride	Already xeriscaped
155 West 750 South	Station	Already xeriscaped
Vineyard		
130 East Market Street	Station	Typology Scenario 2
150 East Avenue One	Station	Typology Scenario 2

F.1.4 Suitable Plants and Management Approach

In collaboration with a Jacobs regenerative landscape architect, we compiled a list of suitable plant species (Table F-5) and suggested performance principles that emphasize a management approach with minimal human intervention.

The proposed planting list focuses on creating diverse and layered plant communities that are suited to the native context. Using species that have historically thrived as an assemblage and are native to the region naturally requires less water, fewer chemicals, with less overall maintenance over time. When native species are sited and designed within their native assemblages, this approach supports and builds healthy soils, improves water retention for reduced or eliminated irrigation, and reduces weed growth through competition, further minimizing human intervention and maintenance. This moves site operations and maintenance to a management approach. For UTA, this means lower long-term costs and resource use. Key principles include denser planting, reduced or eliminated turf usage, and executing an overall site design approach that considers vegetation as natural infrastructure in site design in parallel with decisions around circulation and built infrastructure. This regenerative site approach, which designs with management in mind, goes beyond traditional site planting, which often focuses on native plant use alone with a strong focus on aesthetics only. Instead, this approach strives to balance aesthetics and landscape performance for minimal maintenance intervention to generate long-term value for UTA.

Key advantages include the following:

- **Water Conservation**: Reduces or eliminates the need for irrigation after plants are established, with adequate soil volume.
- **Reducing Maintenance Labor and Cost**: Minimizes weeding, chemical use, and mulch replacement through natural plant layering and density.
- **Improving Plant Health**: Supports healthier, longer-living plants with healthier soils, airflow, and species compatibility.
- **Operational Efficiency:** Shifts from high human intervention to a management-based model that works with natural processes.
- **Smarter Site Design**: Balances space for circulation, infrastructure, and vegetation—ensuring site design does not approach species planting in areas leftover after circulation and infrastructure are adequately sited and sized during site design.
- **Ecosystem Health Enhancement**: Improves soil quality, groundwater recharge, and air quality—creating a positive cycle where healthy environments help plants thrive, and thriving plants further strengthen local ecosystems and biodiversity.
- **Resilient Landscapes**: Creates self-sustaining systems that perform better over time and reduce the need for maintenance.

Key terms include the following:

- **Nitrogen-fixing species** are plants that have the ability to pull nitrogen from the air and distribute in soils. These species minimize chemical fertilizer treatments as they provide nutrients naturally.
- **Champion species** are plants that have superior resilience and adaptability to the local environments in which they are native.
- **Keystone species** are plants that provide ecological benefits to the environments in which they are found, including habitat, food sources, shelter, and other benefits to symbiotic or companion species (moisture, nutrients).

Table F-5. Plant Assemblage Palette

Botanical Name	Common Name	Light	Mature Size (height by width)	Notes
Trees – Evergreen (Utah Native)				
Pinus edulis	Pinyon Pine	Full sun	20 to 30 feet by 10 to 20 feet	None
Juniperus scopulorum	Rocky Mountain Juniper	Full sun	20 feet by 10 feet	Nitrogen fixing, Champion species
Pinus ponderosa	Ponderosa Pine	Full sun	80 feet by 25 feet	None

Botanical Name	Common Name	Light	Mature Size (height by width)	Notes
Pinus monophylla	Single-needled Pine	Sun to light shade	30 feet by 20 feet	None
Picea pungens	Blue Spruce	Full to part sun	30 to 50 feet by 10 feet	Keystone species, typically grown with Quaking Aspen
Trees – Deciduous (Utah Native)				
Quercus gambelii	Gambel Oak	Full sun	15 to 20 feet by 15 to 20 feet	Keystone species
Amelanchier spp	Serviceberry	Sun to shade	15 feet by 10 to 15 feet	None
Celtis reticulata	Netleaf Hackberry	Full to part sun	20 to 30 feet by 20 feet	None
Populus tremuloides	Quaking Aspen	Sun to shade	40 feet by 20 feet	Keystone species, typically grown with Blue Spruce
Shrubs – Evergreen (Utah Native)				
Juniperus osteosperma	Utah Juniper	Full sun	15 feet by 10 feet	None
Arctostaphylos patula	Greenleaf manzanita	Sun to light shade	3 feet by 6 feet	Champion species
Paxistima myrsinites	Mountain Lover	Part to full shade	3 feet by 4 to 5 feet	None
Atriplex canescens	Fourwing Salt Bush	Full sun	2 to 6 feet by 4 feet	Keystone species; also Gardner's Saltbush and Shadscale
Shrubs – Deciduous (Utah Native)				
Amelanchier utahensis	Utah Serviceberry	Sun to shade	4 to 8 feet by 6 feet	None
Rhus trilobata	Oakbrush Sumac, Skunkbrush	Sun to part shade	3 to 6 feet by 5 feet	None
Artemisia tridentata	Big Basin Sage	Full sun	4 feet by 4 feet	Big Sagebrush is a keystone species
Cercocarpus spp.	Mountain Mahogany	Full sun	8 feet by 6 feet	Nitrogen fixing, Keystone species (Alderleaf Mountain Mahogany)
Eriogonum spp.	Buckwheat	Full sun	3 to 4 feet by 3 to 4 feet	Keystone species

Botanical Name	Common Name	Light	Mature Size (height by width)	Notes
Perennials – Utah Native				
Gaillardia aristata	Blanket Flower	Full sun	2 to 3 feet by 2 to 3 feet	Living mulch, design layer
Heliomeris multiflora	Showy Goldeneye	Full sun	24 inches by 36 inches	Design layer
Asclepias speciosa	Showy milkweed	Sun to light shade	3 feet by 3 feet	Keystone species.; also Antelopehorn Milkweed and Horsetail Milkweed
Epilobium canum or Zauschneria spp.	Hummingbird Trumpet	Sun to part shade	1 to 2 feet by 2 to 4 feet	None
Lupinus caespitosus var. utahensis	Utah Lupine	Full to part sun	8 inches by 1 foot	Nitrogen fixing
Penstemon spp.	Beardtongue	Full to part sun	1 to 4 feet by 1 to 2 feet	Firecracker Penstemon is a Champion species; Keystone species include Dusty Penstemon and Thickleaf Penstemon
Pseudoroegneria spp. Or Elymus spp.	Wheatgrass	Full to part sun	1 to 2 feet by 1 to 2 feet	Keystone species; (living mulch, design layer) Particularly Western Wheatgrass and Bluebunch Wheatgrass
Achnatherum hymenoides	Indian Ricegrass	Full sun	1 to 2.5 feet by 1.5 feet	Keystone species
Rudbeckia spp.	Coneflower	Full to part sun	3 to 4 feet by 1 to 2 feet	Keystone species; Prairie Coneflower and Nuttall's Sunflower
Solidago spp.	Goldenrod	Full sun	Varies by genus	Keystone species
Symphyotrichum spp.	Aster	Full to part sun	Varies by genus	Keystone species
Bouteloua gracilis	Blue Grama	Full to part sun	6 inches to1.5 feet by 1 to 1.5 feet	None
Bouteloua curtipendula	Sideoats Grama	Full to part sun	1 to 3 feet by 1 to 2 feet	None
Festuca glauca	Blue Fescue	Full to part sun	1 to 1.5 feet by 1 foot by 1.5 feet	None

F.1.5 Submetering and Water Reduction Opportunities

After analyzing outdoor water use across UTA locations, we flagged sites with excessive water use for further review. Initially, we identified 23 sites using more than 50 gal/ft^2/year. We then raised the threshold to 100 gal/ft^2/year, and 14 sites exceeded this amount. Table F-6 lists these 14 sites with water usage over 100 gal/ft^2 in 2024. It should be noted, some sites reported the landscaped area as 1 ft^2, resulting in a disproportionately high water consumption ratio. We recommend considering submetering at the sites bolded below due to their significantly high water consumption to landscaped area ratio.

If UTA reduces water usage to 50 gal/ft^2/year at the 23 sites currently exceeding this ratio, the total water consumption for all UTA landscaped areas in 2024 would decrease by nearly 30%. Note that based on the data provided, some of the original watering practices resulted in less than 1 gal/ft^2/year. To set a quantitative target for water use reduction, better quality data on water use and landscaping area is needed.

Table F-6. List of UTA Utah Transit Authority Locations with Landscaping Water Use Exceeding 100 Gallons per Square Foot

UTA Address	2024 Water Use per Landscaped ft^2 (gallons)	Comments
12997 S Frontrunner Boulevard	163	
200 North 500 West	748	Landscaped area was noted as 1 ft^2.
776 North Terminal Drive	21,692	Landscaped area was noted as 1 ft^2.
125 South 400 West	368	**Consider submetering.**
540 West 200 South	482	**Consider submetering.**
217 East 400 South	185	
607 East 400 South	141	
873 East 400 South	2,513	**Consider submetering.**
1349 East 500 South	20,944	Landscaped area was noted as 1 ft^2.
160 East 9400 South	1,243	**Consider submetering.**
3900 S West Temple Street	105	
4973 Old Bingham Highway	108	
3580 South 2820 West	140	
1755 West 2770 South	1,061,000	Landscaped area was noted as 1 ft^2.

Bold = sites that have a significantly high water consumption to landscaped area ratio and are recommended for submetering

F.1.6 Potential Incentives

Reducing landscaping-related water use can not only reduce operating costs to UTA but can also be supported by incentives across the cities and towns that UTA serves. Through the Utah Water Savers Landscape Incentive Program, UTA could receive up to $50,000 of institutional incentive per year for the initiative to remove grass and install water-efficient landscape design. To qualify for the incentive, the property owner needs to submit an application for the property that has a living, maintained grass. Landscaping can only start after the water conservation technician has conducted an inspection of the property. The detailed incentives for each county and city are provided in Table F-7.

Table F-7. Potential Incentives for Landscaping Changes

UTA Location	Conservancy District	Potential Incentives	Source
Weber County			
Ogden	Weber Basin Water Conservancy District	None - only available in South Ogden, not in Ogden	Weber Basin Water Conservancy District n.d https://weberbasin.gov/ Conservation/Rebates
Davis County			
Layton	Weber Basin Water Conservancy District	None – not offered in Layton	Weber Basin Water Conservancy District n.d https://weberbasin.gov/ Conservation/Rebates
Salt Lake County			
Draper	Jordan Valley Water Conservancy District	$3/ft^2$ for turn replacement and $1/ft^2$ for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/jvwcd-landscape-incentive-program-details
Midvale	Jordan Valley Water Conservancy District	$3/ft^2$. for turn replacement and $1/ft^2$ for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/jvwcd-landscape-incentive-program-details
Millcreek	Central Utah Water Conservancy district	$3/ft^2$ for turn replacement and $1/ft^2$ for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/cuwcd-landscape-incentive-program-details
Murray	Either Central Water or Jordan Valley Water Conservancy District	$0.5 to $3/ft^2$ depending on location	Murray City Utah n.d. https://www.murray.utah.gov/2054/Other-Landscape-Incentives
Salk Lake City	Central Utah Water Conservancy district	$3/ft^2$ for turn replacement and $1/ft^2$ for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/cuwcd-landscape-incentive-program-details

UTA Location	Conservancy District	Potential Incentives	Source
Sandy	Central Utah Water Conservancy district	$3/ft^2 for turn replacement and $1/ft^2 for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/cuwcd-landscape-incentive-program-details
South Jordan	Jordan Valley Water Conservancy District	$3/ft^2 for turn replacement and $1/ft^2 for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/jvwcd-landscape-incentive-program-details
South Salt Lake	Jordan Valley Water Conservancy District	$3/ft^2 for turn replacement and $1/ft^2 for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/jvwcd-landscape-incentive-program-details
West Jordan	Jordan Valley Water Conservancy District	$3/ft^2 for turn replacement and $1/ft^2 for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/jvwcd-landscape-incentive-program-details
West Valley City	Jordan Valley Water Conservancy District	$3/ft^2 for turn replacement and $1/ft^2 for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/jvwcd-landscape-incentive-program-details
Utah County			
American Fork	Central Utah Water Conservancy district	$3/ft^2 for turn replacement and $1/ft^2 for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/cuwcd-landscape-incentive-program-details
Lehi	Central Utah Water Conservancy district	$3/ft^2 for turn replacement and $1/ft^2 for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/cuwcd-landscape-incentive-program-details
Orem	Central Utah Water Conservancy district	$1.5/ft^2 for turn replacement and $0.5/ft^2 for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/central-utah-water-conservancy-district-lip-details-rural

UTA Location	Conservancy District	Potential Incentives	Source
Provo	Central Utah Water Conservancy district	None—not available in Provo	N/A
Vineyard	Central Utah Water Conservancy district	\$3/ft^2 for turn replacement and \$1/ft^2 for switching to drip irrigation	Utah Water Savers n.d. https://www.utahwatersavers.com/cuwcd-landscape-incentive-program-details

ft^2 = square foot (feet)
N/A = not applicable

F.2 References

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Appendix G. Greenhouse Gas Reduction Goals Memorandum

Greenhouse Gas Reduction Goals Memorandum

G.1 Introduction

Utah Transit Authority (UTA) has set a near-term greenhouse gas (GHG) reduction target of 25% reduction by 2030, relative to a 2023 base year. Many organizations also set a long-term goal for 2050 or interim milestones beyond 2030. This memorandum provides information to support UTA's consideration of a long-term GHG reduction goal. It summarizes similar goals from other Utah agencies, industry-wide benchmarks, and peer transit associations and provides examples of the actions needed to achieve them.

As this memorandum shows, climate goals vary significantly across organizations. These differences typically reflect each organization's operational context, emissions profile, and level of climate ambition.

Recent climate goals tend to align with the Paris Agreement, which aims to limit global temperature increases to 1.5 degrees Celsius (°C) by 2100. Achieving this level of ambition at a global level typically involves reducing GHG emissions by around 50% by 2030 from a recent baseline year and reaching net zero by 2050. Some organizations adopt goals aligned with a 2°C pathway, which typically targets an 80% reduction in emissions by 2050. While both pathways aim to avoid the worst impacts of climate change, 1.5°C-aligned net-zero goals are more ambitious, with the aim of reducing global risk and frequency of extreme weather events.

This memorandum also outlines potential pathways to reach climate goals, using the same GHG reduction technologies considered in UTA's sustainability audit. These example pathways are focused solely on consideration of emissions reductions. More research and market analysis would be needed to determine operational and supply chain feasibility and the costs required to reach the various climate goals.

G.2 Utah Transit Authority Existing Climate Goal and Peer Comparison

Table 2-1 compares near-term and long-term GHG emissions reduction goals for other Utah agencies, industry-wide benchmarks, and peer transit associations. Highlights include the following:

- Salt Lake City's community goal is an 80% reduction below baseline by 2040 (and 50% by 2030).
- State of Utah has endorsed an 80%-reduction goal by 2050 and a 50% reduction by 2050.
- Transit peers with goals have set voluntary net-zero GHG targets by 2050 or earlier and a near-term goal of 50% reduction. However, others have not set absolute emissions reduction goals and instead have **specific targets for energy efficiency and fuel and energy supply.**
- UTA's near-term goal of 25% GHG emissions reduction by 2030 is aligned with Science-Based Targets Initiative's (SBTi's) requirements for the land transportation sector according to preliminary results from the SBTi Sectoral Decarbonization Approach Transport Tool. SBTi is a reputable and science-based initiative for GHG emissions goalsetting and is often considered a high standard for climate ambition.

GHG reduction goals are typically set for Scope 1 and Scope 2 boundaries—emissions from direct combustion of fuels, fugitive gas loss (refrigerants), and purchased energy—because these emissions are directly under an organization's operational control. Scope 1 and Scope 2 emissions goals are therefore the focus of this memorandum and the basis of most of the goals summarized in Table G-1.

Table G-1. Summary of Climate Goals for Related Jurisdictions and Peer Agencies

Organization	Goal Description	
	Near-Term	Long-Term
UTA existing	25% by 2030 (2023 base year)	
Salt Lake City	50% by 2030 (2009 base year)[a]	80% by 2040
State of Utah	50% by 2030 (2005 base year)[b]	80% by 2050
U.S. Paris Commitment	50% by 2030 (2005 base year)	Net zero by 2050
SBTi – Transportation Sector	25% by 2030 (2023 base year)	Near zero by 2050
Transit Peers and Associations		
RTD-Denver	None, but related targets	
Weber State University	64% by 2030 (2007 base year)	Net zero by 2040
Sound Transit	None, but related targets	
Valley Transportation Authority	62% by 2030 (2009 base year)	Net zero by 2045
CAP Metro		Net zero 2040 (2019 base year)
Central Ohio Transit Authority		Net zero by 2045 (2013 base year)
APTA Sustainability Commitment	None, but encourages setting reduction goal	
FTA Sustainable Transit Challenge	50% by 2030	Net zero by 2050

[a] SLC's Climate Plan | Sustainability

[b] The Utah Roadmap: Positive Solutions on Climate and Air Quality

APTA = American Public Transportation Association
CAP Metro = Capital Metropolitan Transportation Authority
FTA = Federal Transit Administration
RTD = Regional Transportation District

Although most of the aforementioned goals are based only on Scope 1 and Scope 2 emissions, it is important to note that Scope 3 emissions—indirect emissions from sources outside of an organization's direct control but within its organization's value chain—are increasingly being included in organizational goals to better reflect the full impact of an organization's operations.

One notable example is the SBTi, which is a global nonprofit that helps public and private organizations set GHG targets and goals that are aligned with the latest climate science. SBTi requirements increasingly include Scope 3 emissions. For example, SBTi's requirements for the passenger transportation sector require that goals include direct emissions from fuel combustion and Scope 3, Category 3 emissions from the upstream production of fuels in targets and goals.

G.3 Example Quantified Emissions Goals

Emissions reductions needed to achieve two of the most common types of near-term/long-term goals are quantified and compared in Table G-2, and near-term targets are shown on Figure G-1 for illustrative purposes.

Table G-2 compares UTA's baseline emissions (in metric tons of carbon dioxide equivalent [MT CO2e]) to future emissions needed to achieve various goals. Note that goals can have different baseline years and levels of ambition for reducing emissions. For example, aligning with a 2009 baseline like Salt Lake City would require greater absolute emissions reduction because emissions were lower for UTA in 2009 versus 2023. Salt Lake City's long-term goal is an 80% reduction by 2040, while the State of Utah's goal also seeks to achieve an 80% reduction—but 10% by 2050.

Table G-2. Utah Transit Authority Baseline Emissions (MT CO_2e) Compared to Emissions Levels Needed to Achieve Goals

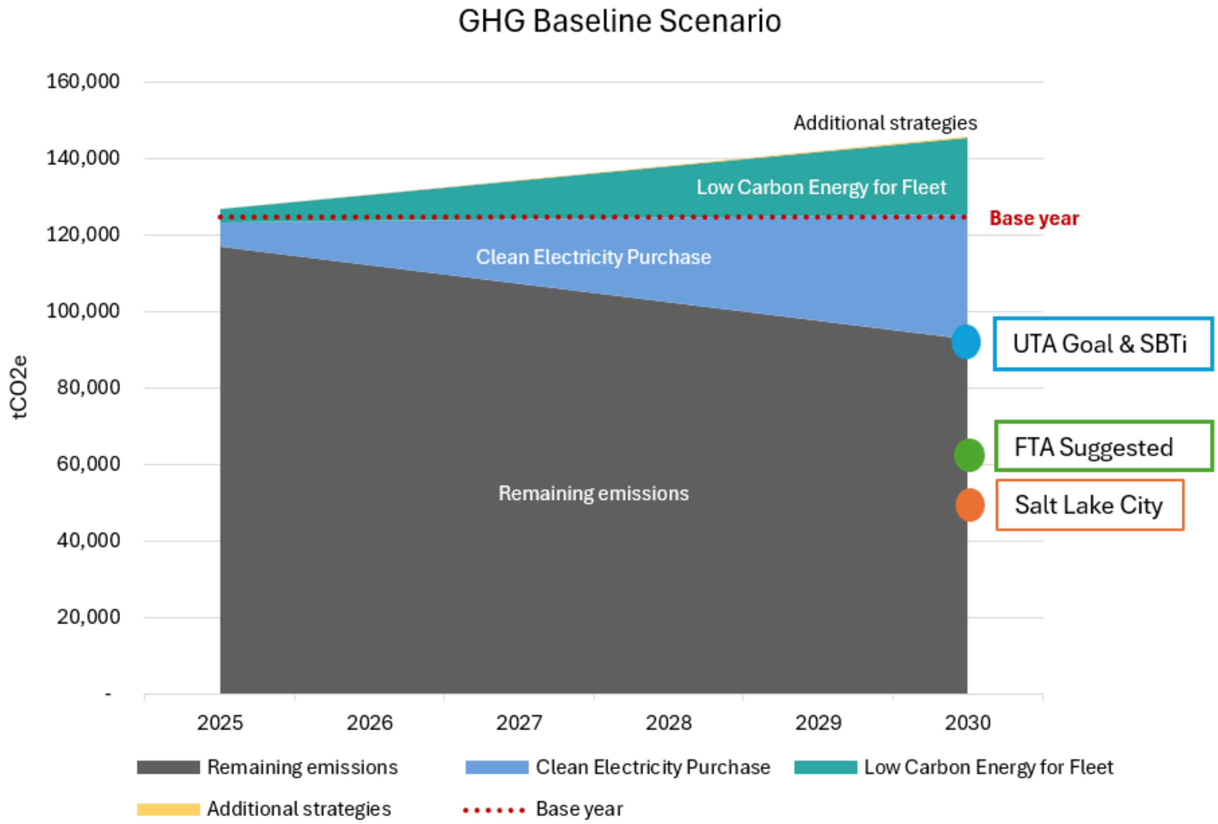
Goal Source	UTA Scope 1 and Scope 2 Emissions (base year)	Near-Term Goal 2030 (percent reduction)	Long-Term Goal 2040 or 2050 (percent reduction)
UTA	124,651 (2023)	93,448 (25%)	To be determined
Salt Lake City (80% by 2040) *Adjusted Base Year Example*	94,826 (2009) *124,651 (2023)*	47,413 (50%) *62,326 (50%)*	18,965 (80%) *24,930 (80%)*
FTA (Sustainable Transit Challenge)	124,651 (2023)	62,326 (50%)	Net Zero[1] by 2050 12,465 (90%)

UTA's existing 2030 goal, 25% by 2030, appears to be aligned with SBTi's Transportation Sector Guidance. Note: A preliminary assessment was completed for this memorandum, but communication with SBTi will be needed to confirm this finding.

Other organizations have set near-term goals of 50% by 2030—aligned with the UN 2015 Paris Agreement.

[1] According to SBTi, the state of net-zero emissions is when organizations set one or more targets to reach a state of net-zero emissions, which involves: (1) reducing Scope 1, 2 and 3 emissions to zero or a residual level (90% reduction) consistent with reaching net-zero emissions at the global or sector level in eligible 1.5°C scenarios or sector pathways, and (2) neutralizing any residual emissions at the net-zero target date—and any GHG emissions released into the atmosphere thereafter.

Figure G-1. Comparison of Utah Transit Authority's Near-Term 2030 Goal to Other Goals



G.4 Long-Term Goals and Action Required

UTA's near-term (2030) goal is to reduce emissions by 25% compared to 2023 emissions. Using a combination of clean electricity, electric vehicles, and low-carbon fuels, UTA is anticipated to meet that goal. The same technologies can be used to achieve long-term goals.

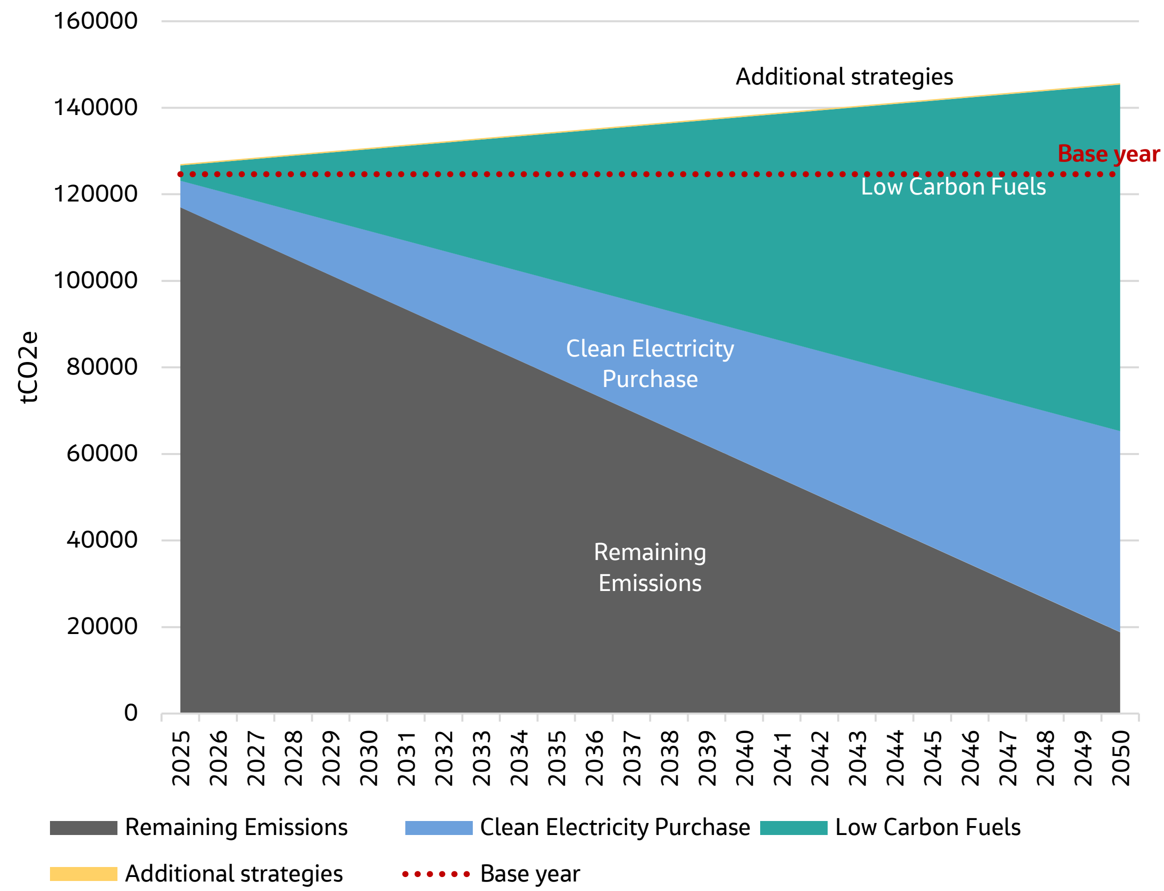
G.4.1 Eighty Percent by 2050 (or sooner)

Reducing emissions by 80% is possible with today's technologies. It will require a combination of the following:

- 100% renewable electricity supply
- Vehicle electrification as planned (UTA Zero-Emissions Plan)
- Purchasing 100% renewable diesel blend for 100% fuel (or another low-carbon fuel)

This emissions reduction trajectory is illustrated in Figure G-2 and assumes that by 2050, 100% of the climate impact of refrigerants will have been phased out. The remaining emissions are assumed to be for compressed natural gas (CNG) and building natural gas use.

Figure G-2. GHG emissions reduction scenario of 80% by 2050

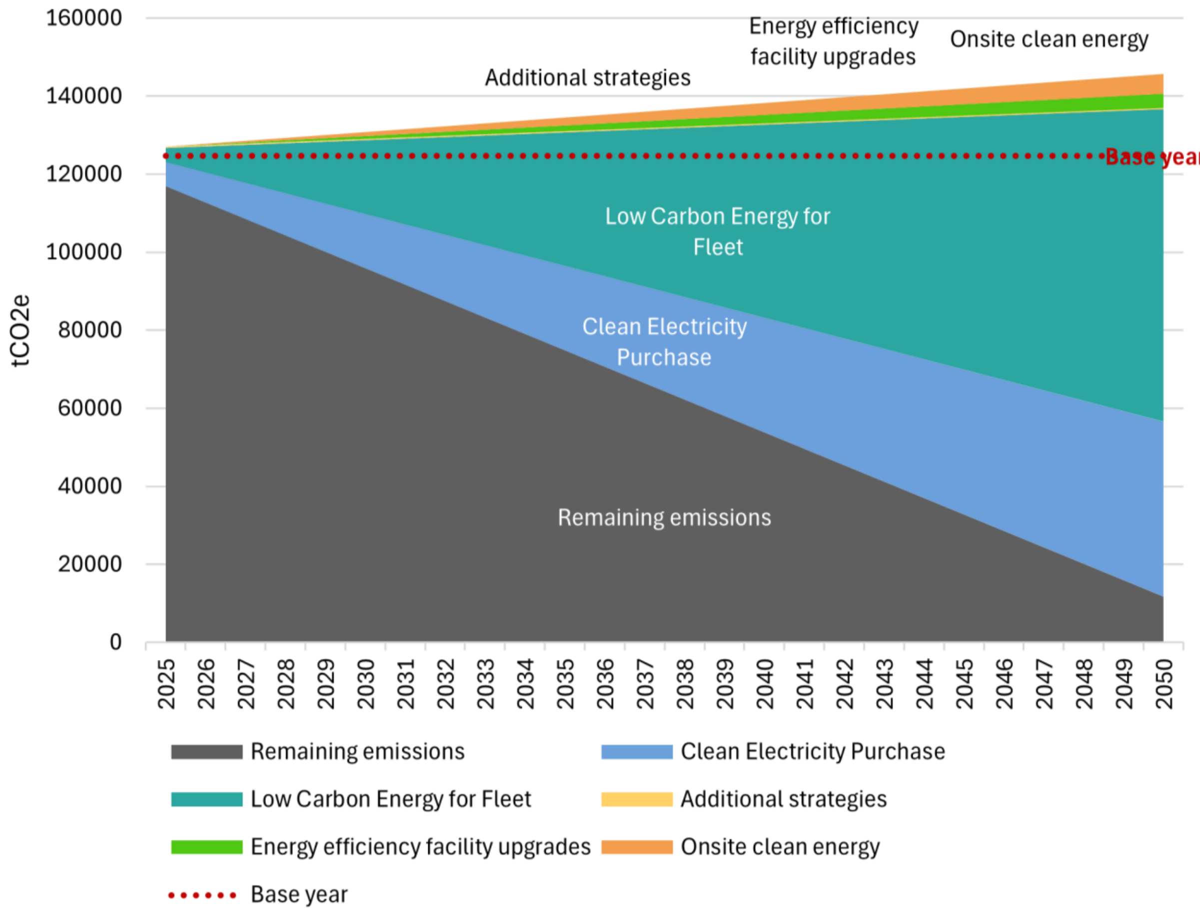


Note: Figure is provided for illustrative purposes using the 2030 forecast for vehicle miles traveled.

G.4.2 Net Zero[1] by 2050 (or Sooner)

The emissions reduction trajectory shown on Figure G-3 requires the previously described actions, with the addition of 100% electrification of building systems—either alone or combined with a reduced number of CNG vehicles compared to current plans. These actions are forecast to reduce emissions by 90% as illustrated in Figure G-3. It is assumed that UTA's remaining emissions in 2050 are from CNG buses. If a low-carbon fuel substitute is not available from natural gas suppliers by 2050, remaining emissions may be offset by purchasing certified carbon removals to achieve the goal of net-zero emissions.

Figure G-3. GHG Emissions reductions scenario with most ambitious actions



Note: Figure is provided for illustrative purposes using the 2030 forecast for 2030 vehicle miles traveled.

G.4.3 Supporting Local and Regional Activities

Several local and regional programs can support UTA in long-term decarbonization, in particular focused on low-carbon energy sources, and they include the following:

- **Renewable Electricity**: Salt Lake City is working with Rocky Mountain Power to achieve 100% renewable electricity for the Salt Lake community (Salt Lake City n.d.)
- **Renewable Diesel:** Rio Tinto is using 100% renewable diesel at the Kennecott copper mine. The scale of fuel use and related supply chain may provide renewable diesel procurement opportunities with local vendors (Utah Manufacturers Association 2023).
  - While not local, Oregon provides a helpful model: several public fleets partnered to aggregate demand and negotiate a supply contract (GOFC n.d.).
  - Two of Oregon's largest transit agencies—Portland TriMet and Lane Transit District—also use renewable diesel in their fleets (York 2022; LTD 2022).

G.5 Utah Transit Authority Long-Term Goal Recommendation

To align with Salt Lake City's goal, we recommend that UTA consider adopting a long-term goal of 80% GHG reductions by 2040, based on Scope 1 and Scope 2 market-based emissions and relative to a 2023 baseline.

To align with best-available science, we encourage UTA to go further and adopt a net zero by 2050 goal. While the path to addressing UTA's remaining natural gas/CNG emissions is not yet fully defined, a net-zero goal would signal its ambition and a commitment to continuous improvement, and the purchase of certified carbon removal credits could be secured for any remaining emissions in 2050.

Either goal could include a commitment to track and reduce Scope 3 upstream fuel and energy emissions (also referred to as well-to-tank) by requesting data from vendors and pursuing reductions where feasible. Scope 3 goals could also include other material Scope 3 categories, such as capital goods or employee commute.

UTA might also consider setting GHG intensity target(s) for the revenue fleet per passenger mile or vehicle mile traveled. An intensity target per passenger mile considers GHG emissions and highlights the importance of passenger capacity to maximize community emissions reductions with public transit.

G.6 References

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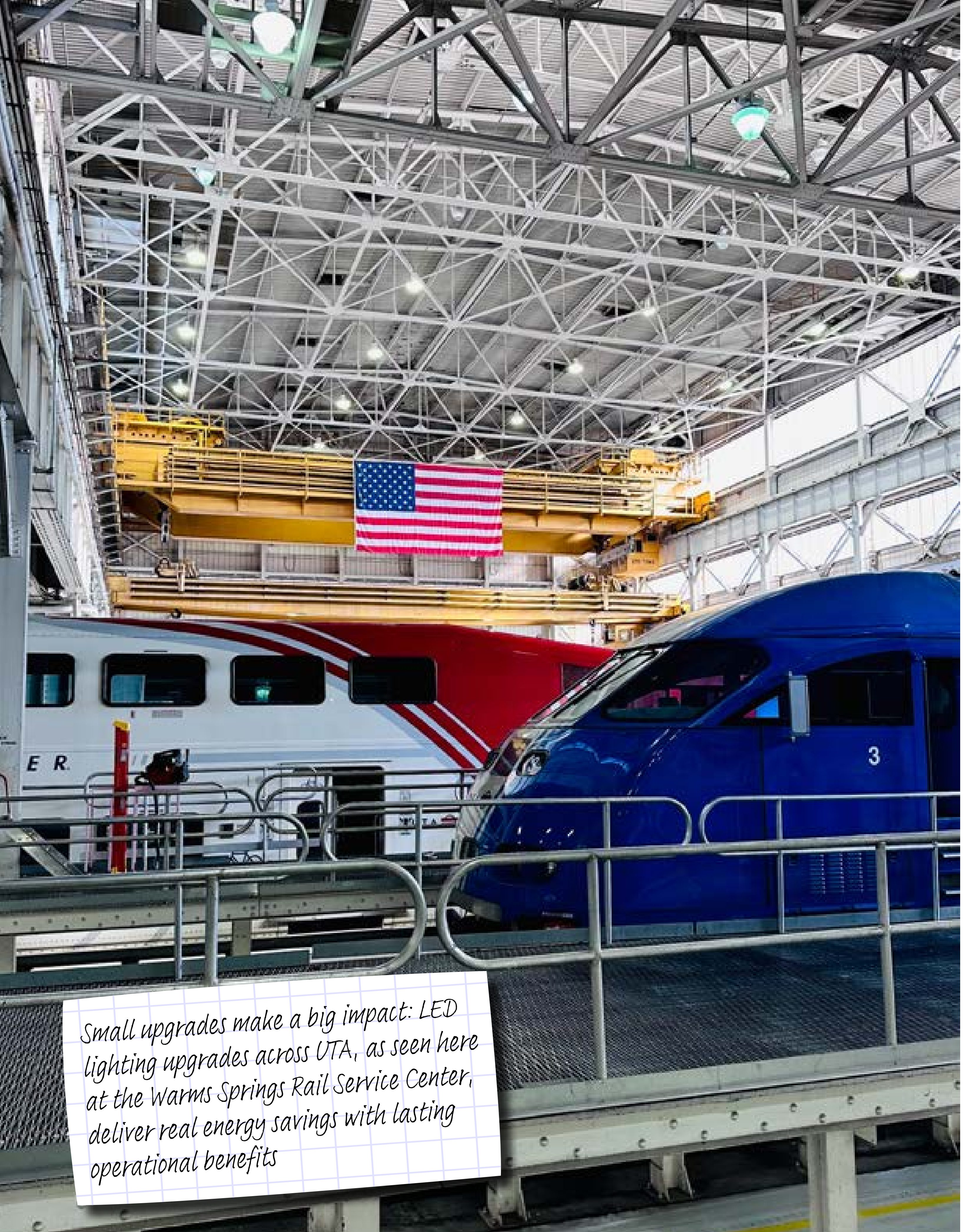
UTAH TRANSIT AUTHORITY

SUSTAINABILITY PLAN

UTA

rideuta.com

CONTENTS



Small upgrades make a big impact: LED lighting upgrades across UTA, as seen here at the Warms Springs Rail Service Center, deliver real energy savings with lasting operational benefits

EXECUTIVE SUMMARY

At the Utah Transit Authority (UTA), sustainability is not just a goal—it is a commitment to protecting the environment, serving local communities, and supporting economic vitality throughout UTA's six-county service area. Building on the foundation of the 2022-2030 Strategic Plan, UTA's Sustainability Plan outlines a clear path forward to strengthen environmental responsibility, enhance operational performance, and deepen community trust.

With a focus on actionable goals over the next five years and a long-term outlook through 2050, the plan targets critical areas where UTA can lead in sustainability: **Reduce greenhouse gas emissions, Increase energy efficiency, Conserve water, Minimize waste, and Expand access**.

Each strategy is supported by measurable performance metrics to ensure transparency, enable consistent tracking, and support continuous improvement.

These efforts align with major upcoming milestones—including the 2034 Olympic and Paralympic Games in Salt Lake City and system-wide expansion—all while positioning UTA as a leader in sustainable mobility. The plan is more than a roadmap; it reflects UTA's values and commitment to building a resilient, accessible, and future-ready transit network. Community and partners are encouraged to join UTA on this journey toward a more sustainable future that benefits all who rely on UTA services every day.

CARBON FOOTPRINT
Reduce greenhouse gas emissions

ENERGY EFFICIENCY
Increase energy efficiency

WATER FOOTPRINT
Conserve water

WASTE & RECYCLING
Minimize waste

SUSTAINABILITY INFRASTRUCTURE
Expand access

INTRODUCTION

UTA serves as a vital connector along the Wasatch Front, linking communities from Ogden to Provo. As the region experiences rapid population growth, transit plays an increasingly important role in improving mobility, air quality, and access to opportunities. To meet today's challenges and prepare for a more resilient tomorrow, UTA is committed to incorporating sustainability into every aspect of its operations and planning.

UTA's approach is grounded in the three interconnected pillars of sustainability: fostering healthy environments, supporting thriving communities, and advancing shared prosperity. These pillars guide UTA's efforts and reflect the broader impact transit has on protecting the environment, supporting the community, and creating lasting economic value.

It begins with the environment. By reducing reliance on single-occupancy vehicles, UTA helps cut greenhouse gas emissions and improve air quality—a top concern along the Wasatch Front. Investments in cleaner fleets, renewable energy, and energy-efficient infrastructure protect natural resources, improve air quality, and contribute to a healthier region for current and future generations.

However, a sustainable future also depends on the strength and well-being of Utah's communities. UTA is committed to making transit more accessible and reliable—ensuring individuals of all backgrounds, incomes, and abilities can access jobs, education, healthcare, and recreation. Multimodal connections such as biking and walking paths further promote active lifestyles and safe, connected neighborhoods.

Finally, sustainability involves creating lasting economic value. Efficient transit systems encourage smart land use, attract business investment, and support job creation—benefiting not only those who ride but the regional economy as a whole.

Through this plan, UTA embraces its responsibility to shape a more sustainable and resilient future—one where environmental protection, resource accessibility, and economic opportunity move forward together.

Crushed aluminum cans at the Salt Lake City MRF, where the Green Team saw learned firsthand how effective recycling reduces waste and lowers greenhouse gas emissions across UTA's operations.

BASELINE ASSESSMENT

To chart an effective course forward, UTA began with a comprehensive assessment of current sustainability performance. In 2025, UTA partnered with Jacobs Engineering, LLC, to audit operations and establish baseline data across key areas: **greenhouse gas emissions, energy use, water consumption, waste management, and sustainability infrastructure**. These findings provide a clear snapshot of current performance, highlight opportunities for improvement, and will guide UTA's strategic investment.

Carbon Footprint

Tracking greenhouse gas (GHG) emissions allows UTA to understand its contribution to climate change and identify opportunities to reduce its environmental impact. GHGs, such as carbon dioxide and methane, trap heat in the atmosphere and are major drivers of climate change. By establishing a clear emissions baseline, UTA can monitor progress toward sustainability goals, improve operational efficiency, and reduce long-term risks and costs.

In 2023, UTA's direct and energy-related GHG emissions—Scope 1 and Scope 2—added up to 99,225 metric tons (MT) of carbon dioxide equivalent (CO_2e). CO_2e is a standard way of measuring GHGs by expressing them in terms of the amount of carbon dioxide that would have the same impact on global warming.

The majority of these emissions came from operating UTA's fleet of buses, TRAX light rail trains, paratransit vehicles, and vanpool vehicles, which made up 77% of total Scope 1 and 2 emissions. Energy use in UTA's buildings and facilities contributed another 15%.

Understanding UTA's Greenhouse Gas Emissions: Scopes 1 and 2

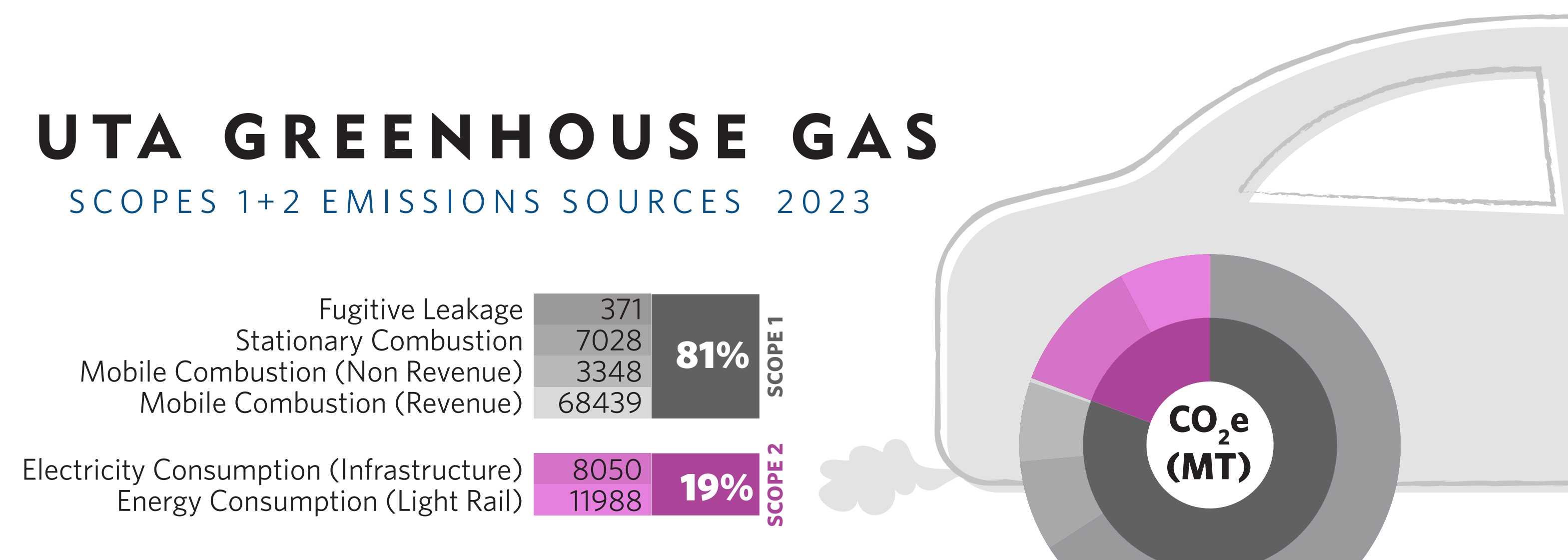
GHG emissions are categorized based on their source and the level of influence UTA has to change them.

Scope 1: Direct Emissions
Emissions from sources owned or controlled by UTA, such as fuel used by buses, trains, paratransit, service vehicles, and on-site heating systems.

Scope 2: Indirect Emissions From Energy Use
Emissions from generated electricity purchased by UTA to power trains, buildings, and other systems.

UTA GREENHOUSE GAS

SCOPES 1+2 EMISSIONS SOURCES 2023



TOTAL: 99,225 CO_2e (MT)

Beyond these categories, UTA also produces emissions indirectly through activities such as purchased goods, employee commuting, and waste—known as Scope 3 emissions. While these could not be fully calculated, initial estimates suggest that including Scope 3 would increase UTA's total emissions footprint to about 271,288 MT CO_2e. Although UTA does not currently have the ability to fully capture comprehensive Scope 3 emissions data, one of the strategies outlined in this plan is to improve the identification, collection, and tracking of Scope 3 factors over time to more accurately understand UTA's full greenhouse gas impact.

Emissions per Passenger Mile

While total GHG emissions provide an important picture of UTA's environmental impact, breaking down emissions by passenger mile offers additional insight into transit system efficiency. This metric calculates the amount of carbon dioxide equivalent emitted per mile traveled by a single passenger across UTA's services.

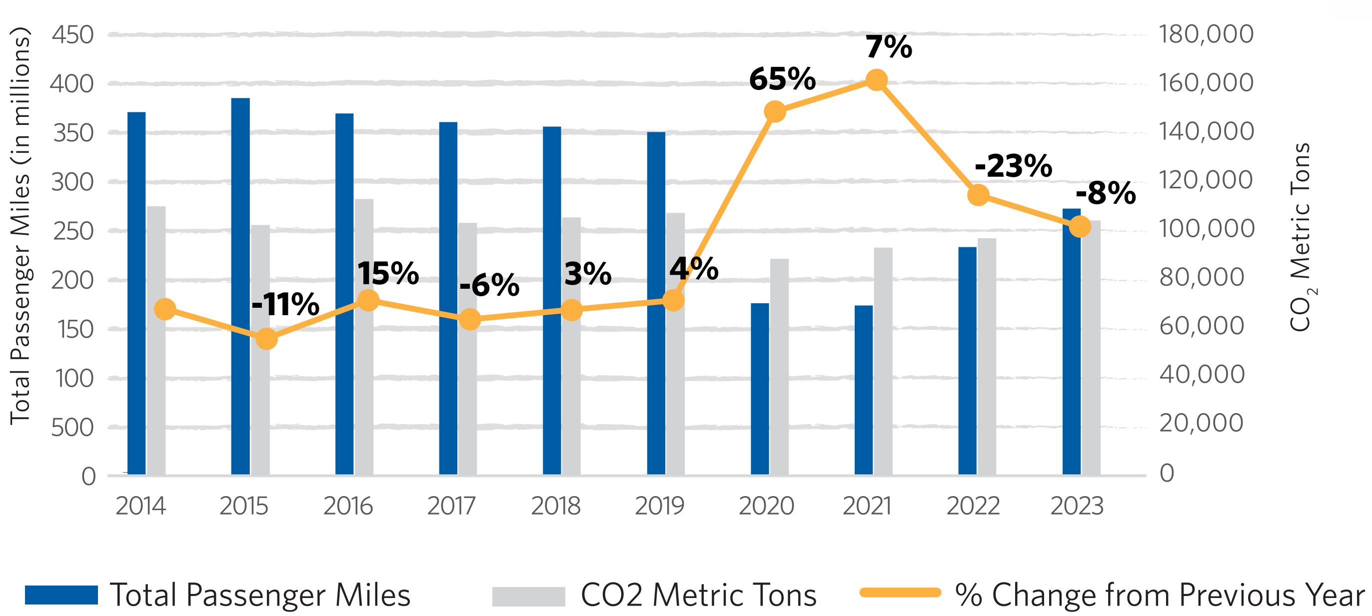
By normalizing emissions data in this way, UTA can:

- **Benchmark Efficiency:** Compare the environmental performance of different transit modes (e.g., bus vs. light rail vs. vanpool) and identify where efficiency improvements will have the greatest impact.
- **Track Progress Over Time:** Understand how operational changes, ridership growth, or vehicle upgrades affect emissions on a per-passenger basis, regardless of fluctuations in overall service levels.
- **Contextualize Transit Benefits:** Demonstrate how UTA's services compare to single-occupancy vehicle travel. For example, even if a bus emits more total GHGs than a car, when it carries dozens of passengers, its emissions per person are substantially lower—underscoring the climate benefits of public transit.
- **Support Informed Decision-Making:** Help prioritize investments in fleet modernization, service design, and rider experience by linking them to measurable emissions reductions.

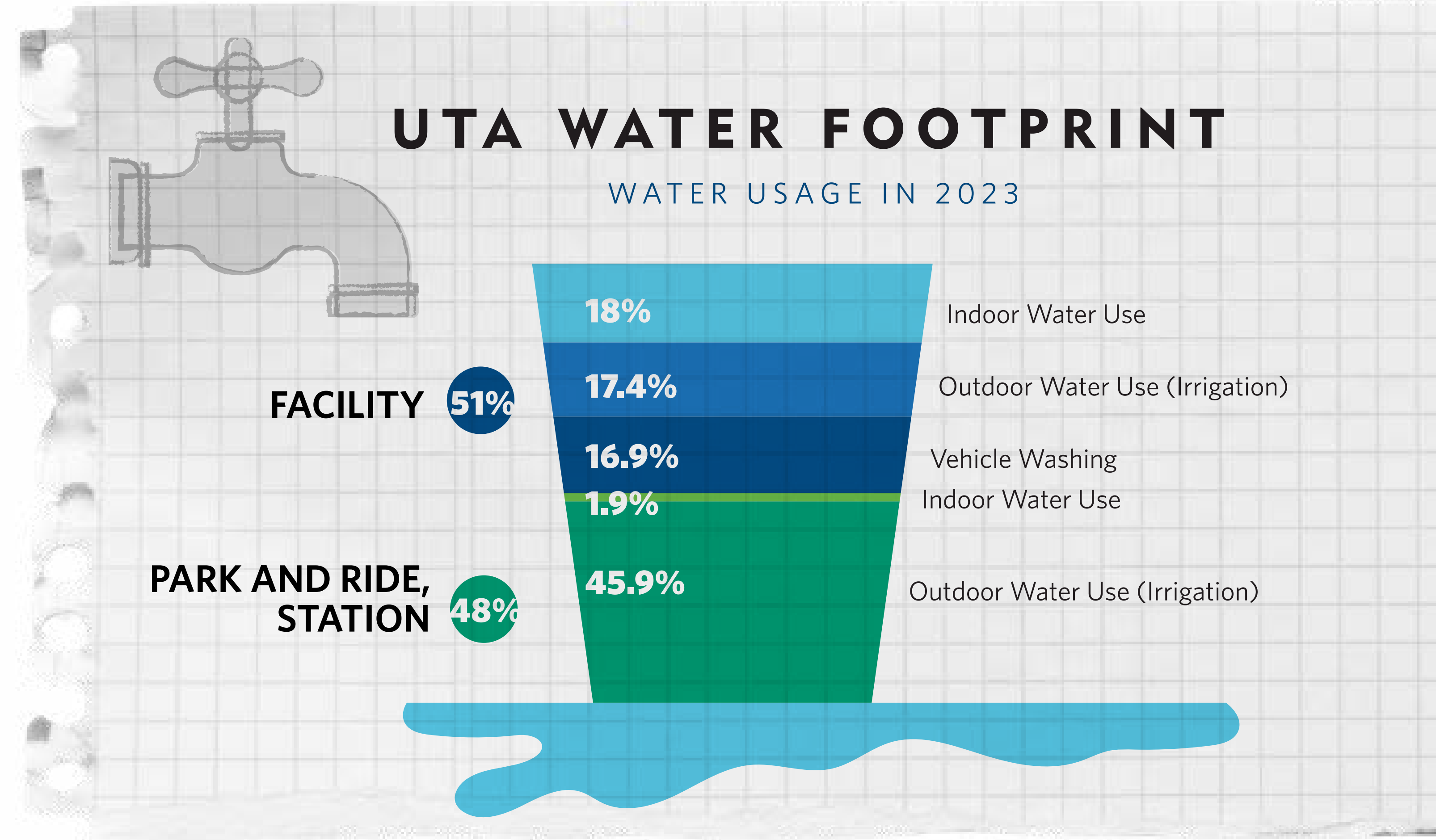
This approach reflects UTA's commitment to not only reducing emissions system-wide, but also maximizing the sustainability impact of every trip UTA provides. As UTA continues to refine its emissions tracking and data systems, passenger-mile metrics will be a key tool in evaluating performance, supporting transparent reporting, and making evidence-based decisions for a low-carbon future.

UTA EMISSIONS PER PASSENGER

PER MILE TRAVELLED



** Ridership declined significantly during the COVID-19 pandemic (2020–2022), resulting in temporarily elevated emissions per passenger mile.*



Water Footprint

UTA used 78 million gallons of water in 2023, equivalent to about 118 Olympic-sized swimming pools, with irrigation comprising 63% of total consumption Infrastructure damage contributed to over 1 million gallons of annual water loss. Key opportunities for conservation include drought-tolerant landscaping, upgraded irrigation systems, leak detection dashboards, and water reuse at vehicle washing facilities.

Waste and Recycling

Data shows that 91% of materials currently go to landfill, with only 63 cubic yards recycled from an average monthly waste volume of 640 cubic yards of municipal solid waste (MSW). These numbers reflect a lack of data tracking when it comes to UTA's waste diversion. Inconsistent bin systems and labeling also contribute to low participation and contamination. UTA will improve waste outcomes through standardization, education, tracking tools, and reuse programs like office asset inventories.

UTA WASTE MANAGEMENT

MSW versus RECYCLING IN 2023

An electric bus charging at UTA's Salt Lake Central Station, reflecting the continued growth of UTA's low and no-emission fleet and its contribution to improved air quality along the Wasatch Front.

SUSTAINABILITY STRATEGIES

UTA has identified five priority areas for its sustainability strategy: **carbon footprint, energy efficiency, water footprint, waste and recycling, and sustainability infrastructure.** Each area includes a 2030 goal to build short-term momentum and a 2050 goal to guide long-term vision. These goals are supported by clear strategies and measurable performance metrics.

While target years enable accountability, the plan remains adaptable. Goals and strategies will evolve with new technologies, ideas, and community priorities. Together, these efforts will shape a more sustainable, efficient, and resilient transit system.

UTA is planning for a cleaner future. Our Fleet Transition Plan outlines how we'll upgrade our vehicles over time to reduce emissions and improve every trip.

Carbon Footprint

By 2030, UTA will reduce emissions by 25% through operational improvements, clean energy adoption, and employee engagement. By 2050, UTA aims to cut emissions by 40% from the 2023 baseline by embedding sustainability into planning, procurement, and fleet operations. Scope 3 emissions will be incorporated into future tracking.

CARBON FOOTPRINT

By 2030: Reduce agency carbon footprint by **25%.**

Reduction Strategies	Metrics
Purchase clean electricity for all TRAX lines.	# of TRAX lines running on clean energy
Refresh anti-idling practices for all revenue and non-revenue fleet vehicles.	# of employees to complete anti-idling training # of UTA fleet vehicles with anti-idling signage
Implement the research and trial run of renewable-diesel (R99).	% decrease of C02 combustion rates between fuel types
Incentivize employee commuting.	% increase of employee active and public transit commuting

By 2050: Reduce agency carbon footprint by **40%.**

Reduction Strategies	Metrics
Set procurement sustainability standards.	# of SOPs created for procurement standards
Establish sustainability standards for construction materials to reduce environmental impact and promote resource-efficient building practices.	# of SOPs for construction material procurement # of policies adopted to guide construction material procurement
Update fleet transition plan to include 85% electric, CNG, or renewable fuel buses.	Updated and adopted fleet plan
Analyze UTA properties for the possibility of solar panel projects.	# of properties assessed for potential solar projects
Update non-revenue fleet transition plan to include hybrid and clean fuel vehicles.	Updated and adopted NRF vehicle plan
Include Scope 3 emissions in carbon footprint calculations.	Tracking method developed for Scope 3 emissions

Energy Efficiency

By 2030, UTA will reduce energy use through smarter systems and upgrades, including optimized fleet charging, energy audits, and smart lighting. By 2050, all park and ride as well as platform facilities will transition to LED lighting, supporting cost-effective, energy-smart operations.

ENERGY EFFICIENCY

By 2030: Improve UTA's energy efficiency through smart technologies and optimized energy use.

Reduction Strategies	Metrics
Implement optimized charging strategies for electric fleet systems to reduce peak energy demand, lower operational costs, and extend battery life.	# of operations employees trained in electric fleet operations and systems
	Electric fleet training created for new drivers
Conduct comprehensive energy audits across all facilities to identify opportunities for improved energy efficiency.	# of facilities audited
	# of facilities transitioned to LED lighting systems
Implement the research and trial run of renewable-diesel (R99).	% of renewable energy sourced through URC program

By 2050: Achieve a **decrease of 75%** energy consumption across all facilities.

Reduction Strategies	Metrics
Transition all platforms and park and ride lots to LED lighting.	# of platforms with LED lighting
Implement energy-saving technologies such as daylight harvesting, occupancy sensors, and smart lighting controls across facilities to reduce electricity use and improve operational efficiency.	# of facilities assessed for energy saving technologies
	# of facilities transitioned to energy-saving technologies

Water Footprint

By 2030, UTA will improve its understanding of total water use through audits and smart metering. Conservation efforts will include landscape upgrades and water reuse. By 2050, UTA will reduce water consumption through data-informed decision-making and adaptive, efficient infrastructure.

WATER FOOTPRINT

By 2030: Reduce outdoor water use by **25%.**

Reduction Strategies	Metrics
Evaluate irrigation systems and landscaping practices across facilities to ensure alignment with water conservation best practices.	Policy on watering and landscape practices
	# of municipalities partnered with to support water conservation
Conduct comprehensive water use audits at all UTA properties to identify inefficiencies and opportunities for water use reduction.	100% of UTA properties audited on water consumption
Implement water recycling systems at all fleet washing facilities to reduce potable water use.	100% of fleet washing facilities with installed and functioning water recycling
Transition landscaping to desertscape or xeriscape designs where feasible to support long-term water efficiency and climate resilience.	# of UTA properties transitions to desertscape or xeriscape
Review the performance and efficiency of water recycling equipment at UTA vehicle wash stations. Ensure that all sites follow best management practices to maximize water reuse and reduce waste.	100% of vehicle washing stations assessed

By 2050: Use data to reduce water use through efficiency, landscaping, and smart management.

Reduction Strategies	Metrics
Invest in smart water metering technologies to enhance tracking, improve efficiency, and support data-driven water management.	# of sites to have smart water metering technology installed
Develop an electronic dashboard to provide real-time alerts and monitoring for water leaks across the system.	Water monitoring dashboard has been developed and is functional

Waste & Recycling

By 2030, UTA will build a consistent, systemwide approach to reduce landfill impact and promote reuse. Key efforts include standardized bins, employee training, asset inventory systems, and targeted programs for high-waste departments. By 2050, UTA will expand diversion efforts into public spaces, further advancing a circular materials approach.

WASTE & RECYCLING

By 2030: Improve waste reduction and recycling through standardized systems, education, and reuse initiatives.

Reduction Strategies	Metrics
Implement a standardized recycling and waste bin system across all UTA facilities to improve consistency and reduce contamination.	# of UTA facilities with standardized recycling and waste bins
	# custodial crew trainings completed
Provide comprehensive waste and recycling education for all employees and custodial staff to support proper sorting and participation.	Waste and recycling education created
	# of employees to sign recycling commitment form
Establish an office asset inventory system to reduce waste and promote the reuse of equipment and supplies.	Inventory system created and launched agencywide
Launch a food waste reduction initiative for UTA-hosted events to minimize landfill impact and support sustainability goals.	Pounds of food waste diverted from the landfill
	# of UTA events (annually) to implement food diversion practices
Develop a targeted cardboard recycling program for IT and other departments with high-volume packaging waste.	Pounds of cardboard diverted from the landfill

By 2050: Integrate waste reduction practices into public-facing areas.

Reduction Strategies	Metrics
Encourage recycling on all TRAX and FrontRunner platforms.	# of platforms with accessible and effective recycling
	# of municipalities partnered with

Sustainability Infrastructure

UTA will strengthen its sustainability foundation by centralizing environmental data and enhancing internal and external communication. By 2030, these improvements will enable better tracking, storytelling, and transparency. In parallel, UTA will conduct a resilience assessment to guide future planning and risk management.

SUSTAINABILITY INFRASTRUCTURE

By 2030: Strengthen sustainability through centralized data and clear, inclusive communication.

Reduction Strategies	Metrics
Create a centralized data repository to consolidate all agency data related to emissions, energy use, water consumption, and waste and recycling.	Centralized database is created
	Dashboard is visible to employees
Develop diverse and effective internal and external communication strategies to share UTA's sustainability goals, initiatives, and progress with employees, riders, and the communities UTA serves.	# of stories shared with the public
	# of education or training shared with employees
	Sustainability page added to official website
Apply for the APTA Sustainability Commitment with the goal of achieving silver or higher recognition by demonstrating measurable short- and long-term sustainability achievements and targeted improvements.	Awarded silver or higher level of recognition
Host a Zero Fare Day on Earth Day (April 22) to demonstrate environmental stewardship, strengthen community connections, and promote shared prosperity by making public transit more accessible and increasing ridership.	# of riders participating on Zero Fare day

By 2050: Build long-term resilience by identifying vulnerabilities and planning for future risks.

Reduction Strategies	Metrics
Conduct an operational resiliency assessment to identify and evaluate vulnerabilities across UTA's operations, assets, and services, guiding future resilience planning and adaptation strategies.	Risk assessment completed
Develop an Operational Resilience Plan to identify systems susceptible to the effects of climate change.	Completion of plan

UTA's Green Team removed almost 700 lbs of debris from the Jordan River during a volunteer canoe clean-up in the fall of 2025.

IMPLEMENTATION & MONITORING

Reporting

A successful sustainability program depends on coordinated implementation, consistent tracking, and continuous learning. UTA has established a framework to connect strategic goals with day-to-day actions across departments.

Phased Implementation. Actions will roll out in phases aligned with staff capacity, funding, and priorities. Initial efforts will focus on pilot projects, standardization, education, and foundational upgrades. Medium-term strategies will expand integration into capital planning, project delivery, and procurement. Long-term efforts will support major transitions such as fleet electrification and resilience planning.

Roles and Coordination. Each strategy will be led by responsible departments, with oversight from a Sustainability Steering Committee. This group will promote alignment, share best practices, and help prioritize actions based on feasibility, impact, and equity.

Performance Tracking. All strategies are linked to measurable metrics. A centralized data dashboard will support real-time monitoring, internal visibility, and public reporting. Progress will inform planning cycles, budget development, and resource allocation.

Reporting and Accountability. UTA will publish an annual sustainability report to share progress, data trends, and success stories. This report will recognize internal champions, foster engagement, and support transparency.

Continuous Improvement. Sustainability at UTA is a dynamic process. As technologies and community needs evolve, UTA will revisit and revise strategies and metrics. Lessons learned from pilots, audits, and partnerships will guide future refinement.

From bison to shorelines, UTA's Green Team toured Antelope Island to understand the ecology and watershed feeding the Great Salt Lake—turning learning into advocacy.

Community Partners

UTA works with many partners on the local, state, and national scale, including non-profits and public sector entities to help UTA achieve its sustainability goals, as well as better the overall Wasatch Front environment, economy, and standard of living.

American Public Transportation Association (APTA). UTA is a Founding Signatory of the APTA Sustainability Commitment. The APTA Sustainability Commitment recognizes members who commit to becoming more sustainable in their operations and practices by providing a common framework that helps define, initiate, and advance sustainability in the public transportation industry. UTA currently sits at the Bronze recognition level, meaning the core principles have been adhered to and five action items have been achieved, in addition to the commitment of five additional items and reduction targets of 2% over baseline for two indicators.

Rocky Mountain Power. In 2020, UTA partnered with Rocky Mountain Power's Wattsmart Communities program to develop the agency's first energy action plan to accelerate the transition to clean energy. The energy plan has four main focus areas: energy efficiency, electric vehicles, electrical infrastructure, and grid resilience. Along with the Wattsmart program, Rocky Mountain Power has helped UTA lead to the discovery of innovative solutions to the shared concerns of public safety, equal access and opportunity, air quality, and the demands of population growth.

GREENbike. UTA has partnered with GREENbike, Salt Lake City's non-profit bike share program, to offer employees free annual membership. The free membership for employees encourages a healthy lifestyle while reducing emissions associated with driving to work. GREENbike stations can be found near transit stops, further promoting the reduction of single-occupancy vehicles.

Utah State University. Utah State University's Research and strategic planning efforts from the Advancing Sustainability through Powered Infrastructure for Roadway Electrification (ASPIRE) Center is the leading institution in building Utah's Intelligent Electrified Transportation Plan. As a UTA partner, ASPIRE has developed an energy management system for the intermodal hub at Salt Lake Central Station that mitigates peak load impacts.

Funding and Grants

UTA has developed a robust and proactive approach to securing external funding for sustainability initiatives. Through an annual grant prioritization process, UTA ensures that projects included in its Five-Year Capital Plan—such as those focused on emissions reduction, water conservation, and waste management—are aligned with available state and federal funding opportunities.

As of 2024, UTA has 38 grants selected for award, totaling nearly $113 million in funding and supporting over $167 million in investments. Additionally, 42 active grants are currently underway, representing over $213 million in funding. Ten more applications are pending, with a combined request of $42.7 million.

Recent awards have supported the purchase of zero-emission and CNG buses, the installation of on-route charging infrastructure, and feasibility studies for sustainable transit corridors. UTA's primary funding sources include the Federal Transit Administration (FTA), U.S. Department of Transportation (USDOT), Environmental Protection Agency (EPA), and Utah Department of Transportation (UDOT), among others.

Jacobs' audit highlights that UTA is well-positioned to take advantage of expanded funding made available through the Infrastructure Investment and Jobs Act (IIJA) and the Inflation Reduction Act (IRA), particularly in areas such as renewable energy, electrification, and workforce development. The report also emphasizes the importance of bundling related projects to enhance grant competitiveness and recommends continued attention to federal compliance requirements, such as Buy America provisions. Overall, UTA's funding strategy is a critical enabler of its long-term sustainability goals.

Green Team tour of Warms Springs Rail Service Center, March 20


Public transit and active transportation go hand in hand. FrontRunner's bike access helps reduce car trips, improve health, and keep the Wasatch Front's air cleaner.

CONCLUSION

As the Wasatch Front continues to grow and evolve, UTA is proud to play a central role in building a more sustainable region—protecting resources, connecting people, and strengthening communities. This Sustainability Plan charts a clear path forward, rooted in the same three pillars: healthy environments, thriving communities, and shared prosperity.

Through targeted actions—like reducing emissions, conserving energy and water, investing in cleaner technologies, and minimizing waste—we're helping to improve air quality and preserve the natural beauty of Utah for generations to come. By enhancing access to and reliability of transit services, UTA ensures that every community member, regardless of background or ability, has the opportunity to thrive. And by fostering economic vitality through smart land use and efficient mobility, UTA supports a strong regional economy that benefits everyone who lives and works here in Utah.

The challenges ahead are complex, but UTA's role as a connector—between people, cities, and possibilities—has never been more important. Together with employees, partners, and riders, UTA is moving toward a future where sustainability isn't a separate goal but a core principle behind every decision. With shared purpose and enduring commitment, UTA is shaping a healthier, more inclusive, and more resilient Wasatch Front—one ride at a time.

UTA is taking meaningful steps to improve recycling across our operations—because even small changes can make a big difference for Utah's environment.

SUSTAINABILITY PLAN

Priority	2030 Strategy	2030 Sustainability Plan	2050 Strategy	2050 Sustainability Plan
CARBON FOOTPRINT	**Reduce agency carbon footprint by 25%.**	• Clean electricity purchase for all TRAX lines • Anti-idling refresh for all revenue and non-revenue fleet vehicles • Install small solar projects where feasible across UTA facilities • Implement the research and trial run of renewable-diesel (R99) • Employee commuting incentives	**Reduce agency carbon footprint by 40%.**	• Set procurement sustainability standards • Establish sustainability standards for construction materials to reduce environmental impact and promote resource-efficient building practices • Update fleet transition plan to include 85% electric, CNG, or renewable fuel buses • Analyze UTA properties for the possibility of solar panel projects • Update non-revenue fleet transition plan to include hybrid/clean fuel vehicles • Include scope 3 emissions in our Carbon Footprint calculations
ENERGY EFFICIENCY	**Improve UTA's energy efficiency through smart technologies and optimized energy use.**	• Implement optimized charging strategies for electric fleet systems to reduce peak energy demand, lower operational costs, and extend battery life • Conduct comprehensive energy audits across all facilities to identify opportunities for improved energy efficiency • Join the Utah Renewable Communities program and transition to net-100% renewable electricity in partnership with Rocky Mountain Power and local municipalities where feasible in UTA's service area • Apply for the APTA Sustainability Commitment with the goal of achieving Silver or higher recognition by demonstrating measurable short- and long-term sustainability achievements and targeted improvements	**Achieve a decrease of 75% energy consumption across all facilities.**	• Transition all platforms and Park-n-Rides to LED lighting • Implement energy-saving technologies such as daylight harvesting, occupancy sensors, and smart lighting controls across facilities to reduce electricity use and improve operational efficiency
WATER FOOTPRINT	**Reduce outdoor water use by 25%.**	• Evaluate irrigation systems and landscaping practices across facilities to ensure alignment with water conservation best practices • Conduct comprehensive water use audits at all UTA properties to identify inefficiencies and opportunities for water use reduction • Implement water recycling systems at all fleet washing facilities to reduce potable water use • Transition landscaping to desertscape or xeriscape designs where feasible to support long-term water efficiency and climate resilience • Review the performance and efficiency of water recycling equipment at UTA vehicle wash stations. Ensure that all sites follow best management practices to maximize water reuse and reduce waste.	**Use data to reduce water use through efficiency, landscaping, and smart management.**	• Invest in smart water metering technologies to enhance tracking, improve efficiency, and support data-driven water management • Develop an electronic dashboard to provide real-time alerts and monitoring for water leaks across the system
WASTE & RECYCLING	**Improve waste reduction and recycling through standardized systems, education, and reuse initiatives.**	• Implement a standardized recycling and waste bin system across all UTA facilities to improve consistency and reduce contamination • Provide comprehensive waste and recycling education for all employees and custodial staff to support proper sorting and participation • Establish an office asset inventory system to reduce waste and promote the reuse of equipment and supplies • Launch a food waste reduction initiative for UTA-hosted events to minimize landfill impact and support sustainability goals • Develop a targeted cardboard recycling program for IT and other departments with high-volume packaging waste	**Integrate waste reduction practices into public-facing areas.**	• Recycling on all TRAX and FrontRunner platforms
SUSTAINABILITY INFRASTRUCTURE	**Strengthen sustainability through centralized data and clear, inclusive communication.**	• Create a centralized data repository to consolidate all agency data related to emissions, energy use, water consumption, and waste and recycling • Develop diverse and effective internal and external communication strategies to share UTA's sustainability goals, initiatives, and progress with employees, riders, and the communities we serve • Host a Free Fare Day on Earth Day (April 22) to demonstrate environmental stewardship, strengthen community connections, and promote shared prosperity by making public transit more accessible and increasing ridership.	**Build long-term resilience by identifying vulnerabilities and planning for future risks.**	• Conduct an operational resiliency assessment to identify and evaluate vulnerabilities across UTA's operations, assets, and services, guiding future resilience planning and adaptation strategies • Develop an Operational Resilience Plan to identify systems susceptible to the effects of climate change • Reinvest rebates, incentives, and verified cost savings generated from sustainability projects into future sustainability initiatives.

ACKNOWLEDGEMENTS

UTA extends its sincere appreciation to Jacobs Engineering LLC for the sustainability audit and foundational data collection that made this plan possible. We thank UTA's Board of Trustees and Executive Team for championing sustainability and setting agency goals that strengthen transportation and quality of life along the Wasatch Front.

We recognize the invaluable collaboration of UTA's Facilities Department and Data Team, whose commitment to gathering and refining operational data deepened our understanding of UTA's daily impacts and current sustainability standing. We also thank the Sustainability Steering Committee for guiding the audit and planning process with thoughtful leadership and expertise.

We offer special appreciation to UTA's core sustainability team—Sarah Ross, Ethan Ray, Jacob Ekker, Autmn Hu, and Patti Garver—for their dedication and guidance in shaping UTA's first agency-wide sustainability plan.

Finally, we extend heartfelt thanks to UTA employees, especially the Green Team, whose voices, concerns, and passion for environmental stewardship inspired and shaped this plan. Your commitment made this work possible—thank you for continuing to advocate for a more sustainable UTA.

APPENDIX

UTA.01.09 Sustainability UTA Policy	UTA, 2023
UTA Sustainability Audit	Jacobs Engineering, 2025
UTA No. 4.4.13 Vehicle Anti Idling	UTA, 2008
UTA 2025 Non-revenue Vehicle Fleet Plan	UTA, 2025
UTA Facilities Strategic Plan	UTA, 2025
UTA Light Rail Strategic Plan	UTA & Hatch, 2023
Front Runner Forward	UTA & UDOT, 2023
Zero Emission Bus Transition Plan	UTA, 2023
UTA Strategic Plan	UTA, 2022

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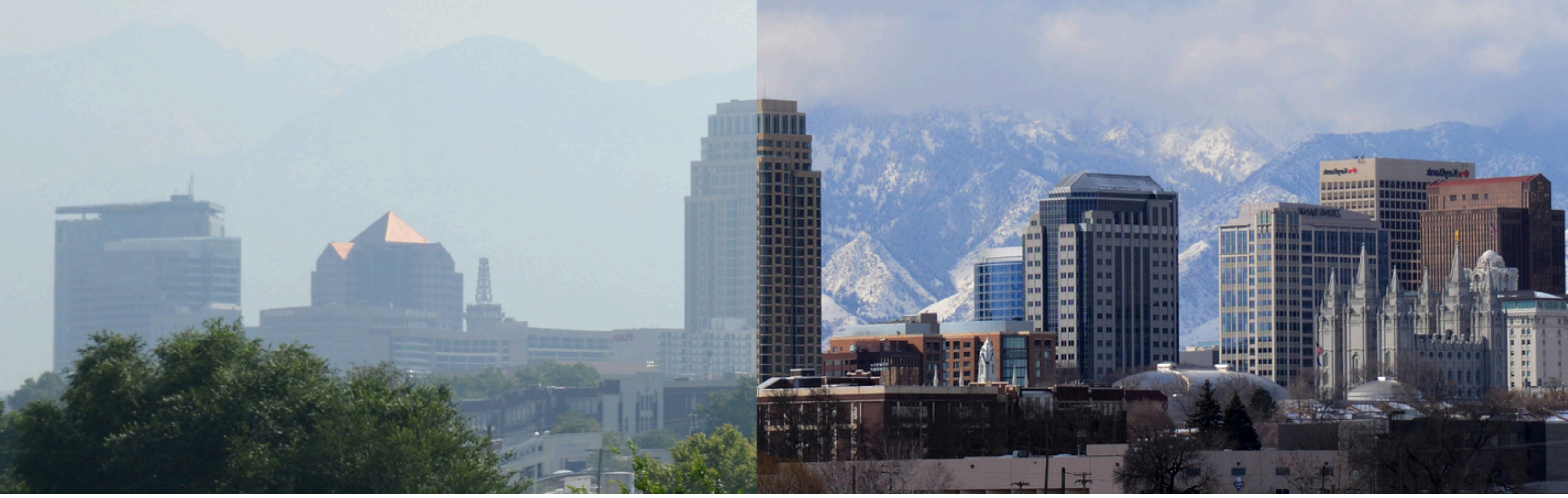
UTAH TRANSIT AUTHORITY



2024 SUSTAINABILITY

	2023	2024	% Change from 2023 to 2024
Total Emissions	**Total Emissions** 99,225 MT (facilities and all transit)	**Total Emissions** 96,569 MT (facilities and all transit)	**Change from 2023** -2.68 %
Emissions per PMT	**Emissions per PMT** .80 lbs/PMT	**Emissions per PMT** .69 lbs/PMT	**Change from 2023** -13.75%
Water Footprint	**Water Footprint** 77,973,081 Gal. (facilities and landscaping)	**Water Footprint** 74,176,278 Gal. (facilities and landscaping)	**Change from 2023** - 4.86%
Energy Use	**Energy Use** 12.67 kWh/sq.ft. (facilities)	**Energy Use** 12.20 kWh/sq.ft. (facilities)	**Change from 2023** -3.80%
Total Ridership	**Total Ridership** 35,059,930	**Total Ridership** 40,478,945	**Change from 2023** + 15.5%